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A Portfolio-Risk Analysis of Electricity Supply Options in the Commonwealth of Virginia

Prepared for the Chesapeake Climate Action Network

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EXECUTIVE SUMMARY

This report applies mean-variance portfolio (MVP) theory to an analysis of electricity generation planning for the Commonwealth of Virginia. MVP analysis is an established methodology used for financial portfolio optimization that has also been applied to capital budgeting, project valuation, energy planning, and climate change mitigation risks. MVP analysis facilitates the evaluation of investments in terms of their relative cost and risk contributions to the overall portfolio. Financial planners use MVP analysis to deal with uncertainty. They have learned that a diversified asset portfolio provides the best means of hedging risk.

Electricity generating technology portfolios in most states have been designed without an analytical assessment of risk and Virginia is no exception. The State's current mix of generating technologies is dominated by fossil fuels and nuclear power, and is particularly vulnerable to fuel price increases. In particular, natural gas prices are known to be both highly volatile, which leaves the Virginia's citizens and businesses vulnerable to potentially significant and detrimental increases in electricity prices.

This portfolio-risk analysis has three objectives: i) to highlight the benefits of applying MVP optimization to assessing the costs and risks of future generating portfolios; ii) to demonstrate a new rationale for renewable energy technologies that goes beyond the least-cost planning arguments that have dominated the debate on this subject to date; and iii) to create a vehicle for constructive dialogue with the Virginia Corporation Commission and the State's electric utilities. In particular, this analysis examines a number of renewable energy portfolios that could be included in Renewable Portfolio Standard (RPS) legislation being considered by the Virginia legislature.

The report examines the impacts that these possible RPS portfolios would have on the expected cost and risk of electricity generation in the Commonwealth in 2015 relative to a baseline projection from the Energy Information Administration (EIA). The MVP model was used to identify optimal RPS solutions, and the results shows that the optimized RPS generating mixes significantly reduce electricity cost-risk while increasing cost only slightly. Specifically, the 15% RPS scenario reduces the portfolio risk by 25% to 30% while increasing portfolio cost by a mere 0.2 to 0.3 mills[1] per kWh over the 2015 EIA mix. The 20% RPS scenario reduces portfolio risk by 30% to 35% at a cost of only 0.4 to 0.5 mills per kWh.

Figure ES-1 plots the range of the "optimal" mixes for both the 15% and the 20% RPS scenarios along with the "Efficient Frontier," which represents the minimum portfolio cost for any given level of portfolio risk. For reference, the figure also contains the 2003 current mix point and the 2015 EIA mix. Figure ES-2 shows the technology mixes for the EIA baseline portfolio and the range of optimal RPS portfolios.

Studies from other states with RPS legislation have found that increased levels of renewable energy production put downward pressure on natural gas prices so that each MWh of renewable energy-based electricity results in an indirect savings to consumers. On a regional basis, these savings benefits had a high of ~$5/MWh; for Virginia, a consumer savings of $3/MWh from renewable energy generation has been assumed. Therefore, when the slight increase in cost of instituting an RPS is combined with the consumer savings from lower natural gas prices, the result is a net savings to Virginia consumers and businesses of over $30 million and $18 million respectively for the 15% and 20% RPS scenarios.

[1] One mill is equal to one-tenth of a cent.

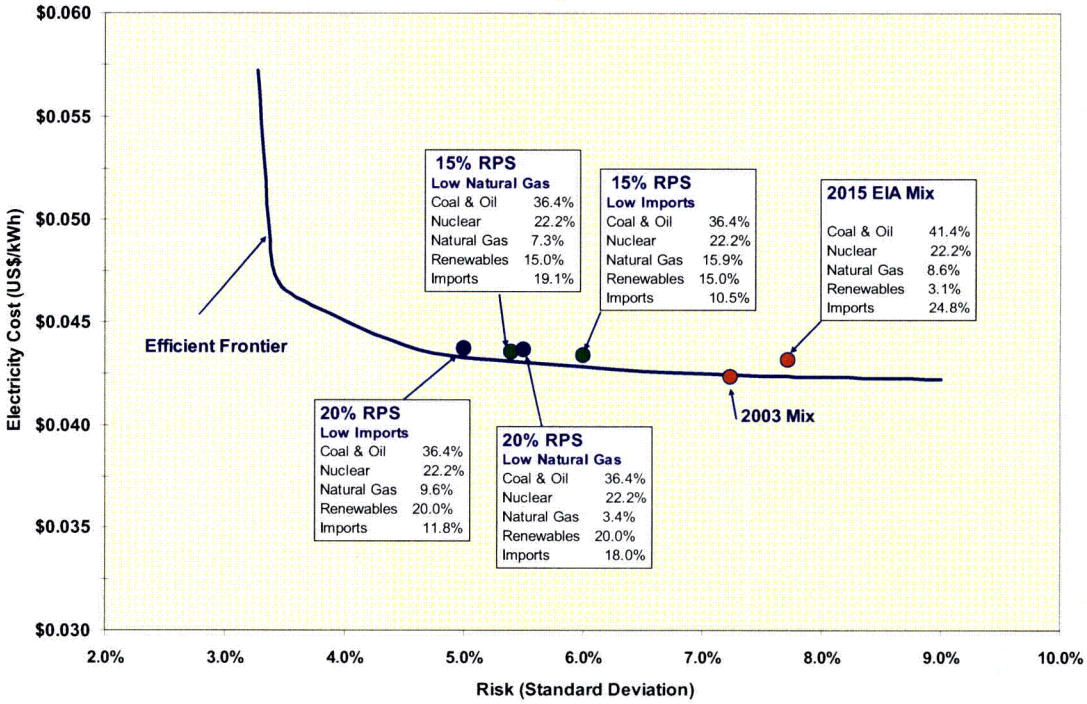

Figure ES 1: Cost and Risk for Possible 2015 Electricity Portfolios for Virginia

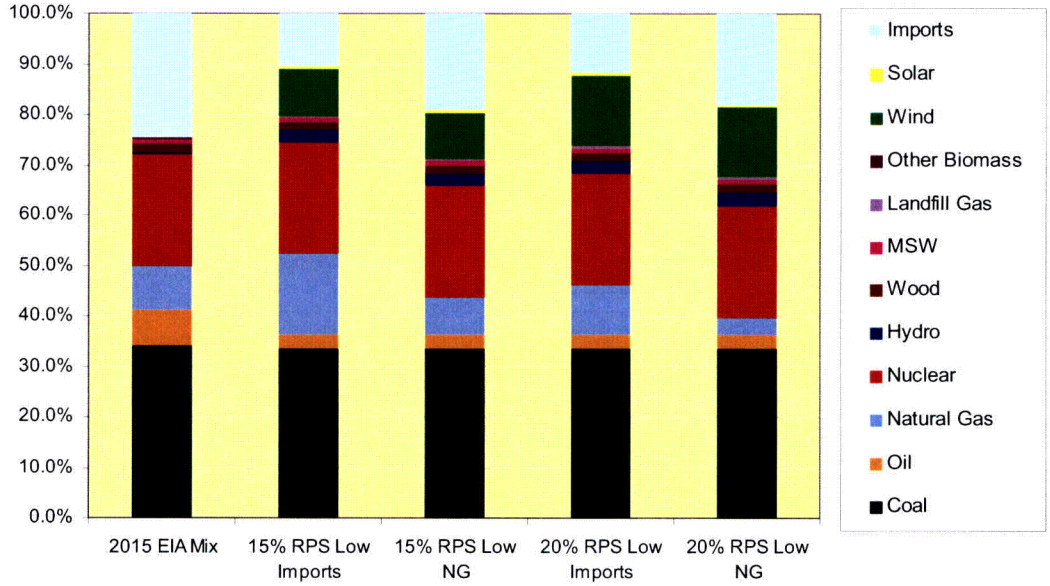

Figure ES 2: Technology Mixes for 2015 Electricity Portfolios for Virginia

The two RPS mixes also significantly reduce carbon dioxide (CO_2) emissions from power generation in the state. In 2015, the 15% RPS portfolio reduces CO_2 emissions by 10 million tons per year compared to the 2015 EIA mix. The 20% RPS portfolio results in a CO_2 emission

reduction of over 13 million tons per year in 2015, which is only a 1 million ton-per-year increase over 2003 levels.

The MVP analysis shows that current and planned generating mixes for Virginia create unnecessary exposure to fossil fuel price risk. Fixed-cost, low-risk renewable energy technologies can significantly reduce this risk to Virginia consumers and businesses with only very minor increases in electricity costs. Furthermore, because implementing renewable energy technologies will reduce the demand and price for natural gas, Virginia consumers and businesses are likely see a significant net savings from the steady introduction of renewable energy technologies in the state.

In addition to the economic and climate change benefits highlighted in this report, it should be noted that there are other justifications for implementing an RPS in Virginia that have not been addressed. These include the stimulation of jobs and economic development in rural areas of the state, reductions in air pollution emissions and the resulting health and quality of life impacts, and increased energy security. These other benefits are also quite real, and add more weight to the need to move quickly to implement RPS legislation in Virginia.

1. INTRODUCTION

Decisions regarding the nature of the electricity supply mix in Virginia have long-term implications regarding our economic prosperity, environmental health, and social well being, and government has a legitimate role to play in addressing the inability of the markets to recognize the public impacts of technologies. Market competition is good at forcing companies to be efficient and responsive to customer needs, but in general, markets do not incorporate the costs of pollution or the benefits of local job creation and a cleaner environment.

The current mix of generating technologies in the Commonwealth of Virginia is dominated by fossil fuels and nuclear power, but there is a large consortium of experts and citizens who contend renewable energy technologies should play a larger role in the future. However, many decision makers perceive renewable energy technologies to be too expensive, and even though they provide environmental benefits, these are difficult to quantify. Much of Virginia's new electricity generation is planned to be fuelled by natural gas, and prices for natural gas are known to be highly volatile. This leaves the state's citizens and businesses vulnerable to potentially significant and detrimental increases in electricity prices at some point in the future.

The analysis presented in this report applies mean-variance portfolio (MVP) theory to the problem of electricity generation capacity planning. Mean-variance portfolio analysis is an established part of modern finance theory[2] and is widely used for financial portfolio optimization. It has also been applied to capital budgeting and project valuation [Seitz and Ellison, 1995], utility fossil fuel planning [Bar-Lev and Katz, 1976, Humphreys, McLain, 1998], valuing offshore oil leases [Helfat, 1988], energy planning [Awerbuch and Berger, 2003], quantifying climate change mitigation risks [Springer, 2003], and optimizing real (physical) and derivative electricity trading options [Kleindorfer and Li, 2005].

1.1 Background

Dealing with uncertainty is a necessity for financial planners, and they have learned that a diversified asset portfolio provides the best means of hedging future risk. MVP analysis allows them to evaluate individual investments in terms of their relative cost and risk contributions to the overall portfolio mix. Considering only the potential return to a stock would lead one to hold nothing but risky high-growth stocks. By considering both risk and return, MVP leads to balanced, diversified portfolios that are optimized to the investor's appetite for risk.

Given the inherent uncertainty about the future cost and performance of electricity generating technologies and the diverse mix of potential options, it makes sense to shift electricity planning from its current emphasis on stand-alone evaluations of alternative technologies, to an evaluation of alternative generating portfolios and technology strategies [Awerbuch, 2005]. Mean-variance portfolio theory is highly suited to the problem of planning and evaluating electricity portfolios and strategies.

Electricity capacity expansion planning in the U.S., even when conducted under Integrated Resource Planning procedures, is still largely based on *least-cost* principles, under which planners evaluate generating alternatives using their stand-alone costs.[3] Least-cost analysis may have worked sufficiently well in previous technological eras that were marked by relative cost

[2] Mean-variance portfolio theory is based on the pioneering work of Nobel Laureate Harry Markowitz conducted about 50 years ago [Fabozzi, Gupta and Markowitz, 2002, and Varian, 1993].

[3] IRP filings increasingly claim to use a "portfolio approach" [Awerbuch, 2005] although they do not incorporate the essential mean-variance portfolio concepts used in this analysis. Rather, they perform the traditional sensitivity-based risk analyses, which can be quite misleading [Awerbuch 1993, 1995, 1995a].

certainty, low rates of technological progress, technologically homogeneous generating alternatives, and stable energy prices [Awerbuch, 1995a]. However, today's electricity planner faces a broadly diverse range of resource options and a dynamic, complex, and uncertain future. Attempting to identify least-cost alternatives in this environment is virtually impossible [Awerbuch, 1996].

MVP optimization can address the inherently different nature of many of today's generating options, such as conventional fossil fuel technologies with low capital cost and high fuel costs, and renewable alternatives which tend to have high capital costs but low (or no) fuel costs. Furthermore, the MVP analysis evaluates the options not on the basis of their *stand-alone* cost, but on the basis of their portfolio cost—i.e. their contribution to overall portfolio generating cost relative to their contribution to overall portfolio risk. At any given time, some alternatives in the portfolio may have higher costs while others have lower costs, yet over time, the appropriate combination of resources serves to minimize overall expected generation cost relative to the risk.

1.2 Study Objectives

This portfolio-risk analysis for the Commonwealth of Virginia has been conducted with the following objectives in mind:

1. Using the MVP principles to exemplify a new analytical methodology that explores both the costs and risks of possible future generating portfolios;
2. Demonstrating a new rationale for renewable energy options that goes beyond the least-cost planning arguments that have dominated the debate on this subject to date;
3. Creating a vehicle for constructive dialogue with the Virginia Corporation Commission and the electric utilities in the state.

This report examines several possible renewable energy portfolios that could be included in Renewable Portfolio Standard (RPS) legislation being considered by the Virginia legislature. It suggests that relative to the projected baseline generating mix for the state, there exist portfolio options with greater renewable energy shares that exhibit less risk and that cost no more. The report examines the impacts that these possible RPS portfolios would have on the expected cost and risk of electricity generation in the Commonwealth in 2015. The analysis suggests that the RPS electricity-generating mixes will significantly reduce the electricity cost risk while only increasing cost slightly. Furthermore, the report explores the economic and environmental benefits of the electricity cost risk reduction that RPS legislation could produce.

2. MVP Model for Virginia

This section provides a short description of mean-variance portfolio theory and summarizes the data and structure of the MVP analytical model for Virginia. The analysis uses 2003 as the base year and analyzes different portfolios for the year 2015.

A portfolio analysis can be performed on the basis of generating capacity or on the basis of electricity consumption. The present analysis is based on electricity consumption, as it provides a more appropriate comparison between technologies with different annual capacity factors, and because renewable portfolio standards are generally based on target percentages of total electricity consumption in the region.

2.1 MVP Theory[4]

MVP theory was initially conceived in the context of financial portfolios, where it relates the expected portfolio return to the total portfolio risk, which is defined as the standard deviation of the portfolio returns. The portfolio analysis seeks to maximize return for a given level of risk, or minimize risk for a desired level of return. In the context of electricity generating options, the expected portfolio cost, which can be defined as the inverse of the return, is used rather than the return, and the optimization seeks to minimize the expected portfolio cost.

The following discussion of MVP theory is based on a simple, two-asset portfolio. In general, the expected portfolio cost is the weighted average cost of the individual expected costs of the generating mix components. For this two-technology generating mix example, the Expected Portfolio Cost, E(Cp), can be written as:

$$E(C_p) = X_1 \bullet E(C_1) + X_2 \bullet E(C_2) \qquad \text{(Eq. 1)}$$

Where: X_1 and X_2 are the fractional proportional shares of the two technologies in the mix, and

$E(C_1)$ and $E(C_2)$ are the expected generating costs for those technologies.

The Expected Portfolio Risk, σ_p, is a weighted average of the individual technology cost variances, as tempered by their co-variances:

$$\sigma_p = \sqrt{X_1^2\sigma_1^2 + X_2^2\sigma_2^2 + 2X_1X_2\rho_{12}\sigma_1\sigma_2} \qquad \text{(Eq. 2)}$$

Where: X_1 and X_2 are the fractional proportional shares of the two technologies in the mix,

σ_1 and σ_2 are the standard deviations of the holding period returns (HPR)[5] of the annual costs of technologies 1 and 2, and

ρ_{12} is their correlation coefficient.

For each technology, risk is the year-to-year variability (holding period standard deviation) of the three generating cost inputs: fuel, operation and maintenance (O&M), and capital (or construction period risk). Fossil fuel standard deviations are estimated from historic data while standard deviations for capital and O&M are estimated using proxy procedures (see Awerbuch and Berger, , 2003). The construction period risk for existing technologies is zero. Therefore, new technologies in this analysis are generally riskier than existing ones—e.g. new coal is riskier than existing coal. Furthermore, capital-intensive renewable technologies have cost structures that are nearly fixed over time. They might cost a little more on a stand-alone basis, but their costs are fixed or essentially *riskless*.[6] More importantly, renewable energy technologies are uncorrelated to fossil fuel price risk.

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[4] This section taken from Awerbuch, Jansen et. al. 2005).

[5] The *Holding Period Return* is defined as HPR = (EV – BV)/BV, where *EV* is the ending value and *BV* the beginning value (see: Seitz and Ellison (1995), Brealey and Myers (1994), or any finance text). A detailed discussion of its relevance to portfolios is given in Awerbuch and Berger (2003).

[6] The term *riskless* is used in the finance theory sense to mean that their costs are at least *systematically* riskless (e.g. $\beta = 0.0$), if not entirely fixed. Where costs fluctuate, their movements either represent a very small proportion of total cost, or are uncorrelated with costs of major risk drivers such as fossil fuel costs. A technology whose costs move slightly, but not in unisón with the costs of the predominant fossil technologies, is almost as desirable as one with fixed costs (See Awerbuch, Jansen et. al. 2005, and Awerbuch 2000).

The correlation coefficient (covariance) is a measure of diversity. Lower correlation among portfolio components is a result of greater diversity, which serves to reduce portfolio risk. Stated another way, increasing diversity, as measured by an absence of correlation between portfolio components, reduces the portfolio risk. Adding a fixed-cost technology to a risky generating mix, even if it costs *more* than other alternatives, has the remarkable effect of *lowering* expected portfolio cost at any level of risk. A pure fixed-cost technology has $\sigma_i = 0$ and $\rho_{ij} = 0$. This lowers the portfolio risk (since two terms in Equation 2 reduce to zero), which allows other higher cost technologies into the optimal mix.

2.2 Portfolio Data for Virginia

2.2.1 Electricity Consumption

The baseline amount of electricity consumption for Virginia was developed from the Energy Information Administration (EIA) State Electricity Profiles for 2002, which provide total net electricity generation in megawatt-hours (MWh) and total electricity retail sales for every state. This overall data was combined with another set of data tables from EIA, which provide power production by producer type and energy source for Virginia (also in MWh) from 1990 to 2003. This historical data is plotted in Figure 1. Note that conventional hydroelectric goes negative in the latter years because the data includes pumped storage.

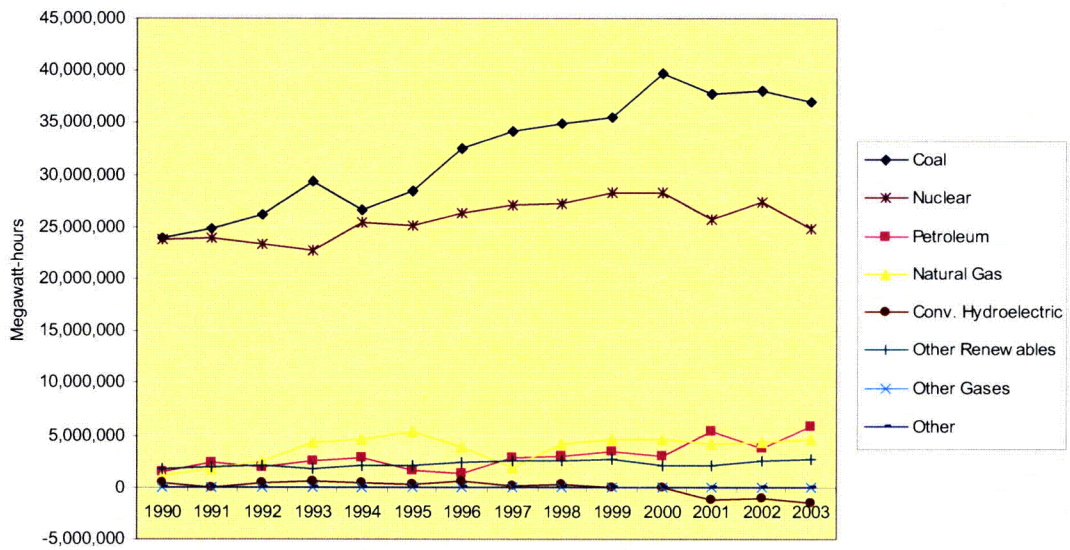

Figure 1: Historical Electricity Generation by Fuel Type in Virginia

Projections from the EIA National Energy Modelling System[7] (NEMS) for the Southeastern Electric Reliability Council (SERC) region were used to calculate the overall growth in electricity consumption and the baseline growth rates for each electricity generating source. The annual electricity consumption growth rate for this period is 1.8%, which results in a 2015 consumption of 124.5 billion kWh for Virginia. The EIA projections were also used to determine what new generating capacity additions and retirements were expected between 2003 and 2015. This resulted in the baseline projections for electricity generation and consumption in Virginia and the

[7] Table 68: Electric Power Projections for Electricity Market Module Region, Southeastern Electric Reliability Council, 2005 Annual Energy Outlook.

fractional proportional shares of consumption, X_i, as shown in Table 1. Note that the EIA projection does not show any planned addition of coal power plants until 2014, but it does show a steady increase in electricity generation from coal, which is attributed to efficiency and capacity factor improvements. For the purposes of this analysis, the one planned SERC region coal plant addition was allocated entirely to Virginia.

Table 1: Virginia Electricity Consumption in 2003 and Baseline Projection for 2015

Technology	2003		2015	
	MWh	%	MWh	%
Existing Coal	37,093,331	36.9%	41,600,617	33.4%
New Coal			981,120	0.8%
Existing Oil	5,780,336	5.7%	7,435,454	6.0%
New Oil			1,490,639	1.2%
Existing Natural Gas	4,622,025	4.6%	4,146,653	3.3%
New Natural Gas			6,515,265	5.2%
Existing Nuclear	24,816,022	24.7%	27,642,562	22.2%
New Nuclear				0.0%
Conventional Hydro	283,410	0.3%	392,987	0.3%
Small Hydro				0.0%
Existing Wood Residue	1,507,922	1.5%	1,719,031	1.4%
New Wood Residue			371,910	0.3%
Existing MSW	1,098,198	1.1%	1,251,945	1.0%
New MSW				0.0%
Existing Landfill Gas	104,048	0.1%	118,614	0.1%
New landfill Gas			25,662	0.0%
Existing Other Biomass	4,129	0.0%	4,707	0.0%
New Other Biomass			1,018	0.0%
Wind	0	0.0%	0	0.0%
Solar	0	0.0%	0	0.0%
Total Renewables	2,997,706	3.0%	3,885,875	3.1%
Total Generation	75,309,420	74.9%	93,698,185	75.2%
Imports	25,231,316	25.1%	30,843,689	24.8%
Total Consumption	100,540,736	100%	124,541,874	100%

Other than some small additions of renewable power plants (biomass and landfill gas), the only other planned capacity additions come from combustion turbines (oil) and natural gas combined-cycle plants. Also for this analysis, the pumped storage portion of the hydropower component was removed, and only the conventional generation portion of hydropower was included. The table shows both the generation from existing technologies and from new technologies, since these have different costs and risks in the MVP analysis. Finally, Virginia currently imports about 25% of its electricity consumption, and imported electricity was treated as an independent supply option, which fills the gap between the projected consumption and the total in-state electricity generation. As a result, imports continue to grow, but at a slightly slower rate than total consumption.

2.2.2 Technology Generating Costs

Expected generating costs, $E(C_i)$, for the existing and potential new generating technologies in the state were developed from several local and national sources. The investment, fixed O&M, and variable O&M costs for new technologies were assembled from Electric Power Research Institute (EPRI) and Department of Energy (DOE) sources, which also provided plant efficiencies and capacity factors. The fuel costs were developed from two different EIA sources. Historical fuel prices in the electric sector were taken from EIA State Energy Data[8] for Virginia, and the projected future fuel costs were taken from the 2005 Annual Energy Outlook.[7] The electricity cost for each technology was calculated using a standard engineering cost methodology. The resulting electricity generation costs for each technology are shown in Table 2 and plotted in ascending order in Figure 2.

Table 2: Electricity Generating Costs for Existing and New Technologies in 2015

2015 Technology Cost (2003 $/kWh)		
Technology	**Existing**	**New**
Coal	0.043	0.054
Oil	0.061	0.067
Natural Gas	0.045	0.047
Nuclear	0.034	0.059
Hydro	0.025	0.048
Wood Residue	0.050	0.057
MSW	0.041	0.066
Landfill Gas	0.042	0.044
Other Biomass	0.050	0.058
Imports	0.045	NA
Wind Classes 4 & 5 Onshore		0.064
Wind Classes 4 & 5 Offshore		0.087
Wind Classes 6 & 7		0.051
Solar PV		0.139

The capital cost for new technologies was levelized at a 15% capital carrying charge rate. For existing technologies, a utility-costing approach was used that reflects the idea that in their electricity purchases, utility consumers pay a set of capital charges that decline over time as assets age and book depreciation is charged. In effect, the capital recovery charges decline over the life of the asset. This was approximated by using a 10% capital carrying charge rate for the existing

[8] Table 6: Electric Power Sector Price and Expenditure Estimates by Source, Selected Years 1970-2001, Virginia

technologies. Levelized fuel costs were developed from AOE 2005 projections for the SERC region. Note that wind technology was divided into three categories by the strength of the wind resource and its location. Only solar photovoltaic (PV) systems were included as there is not a good resource in Virginia for concentrating solar technologies. Geothermal technology was not included as the resource in Virginia appears suited only to heating applications and not electricity generation. Ocean energy was not included as it was considered too new to have an impact by 2015.

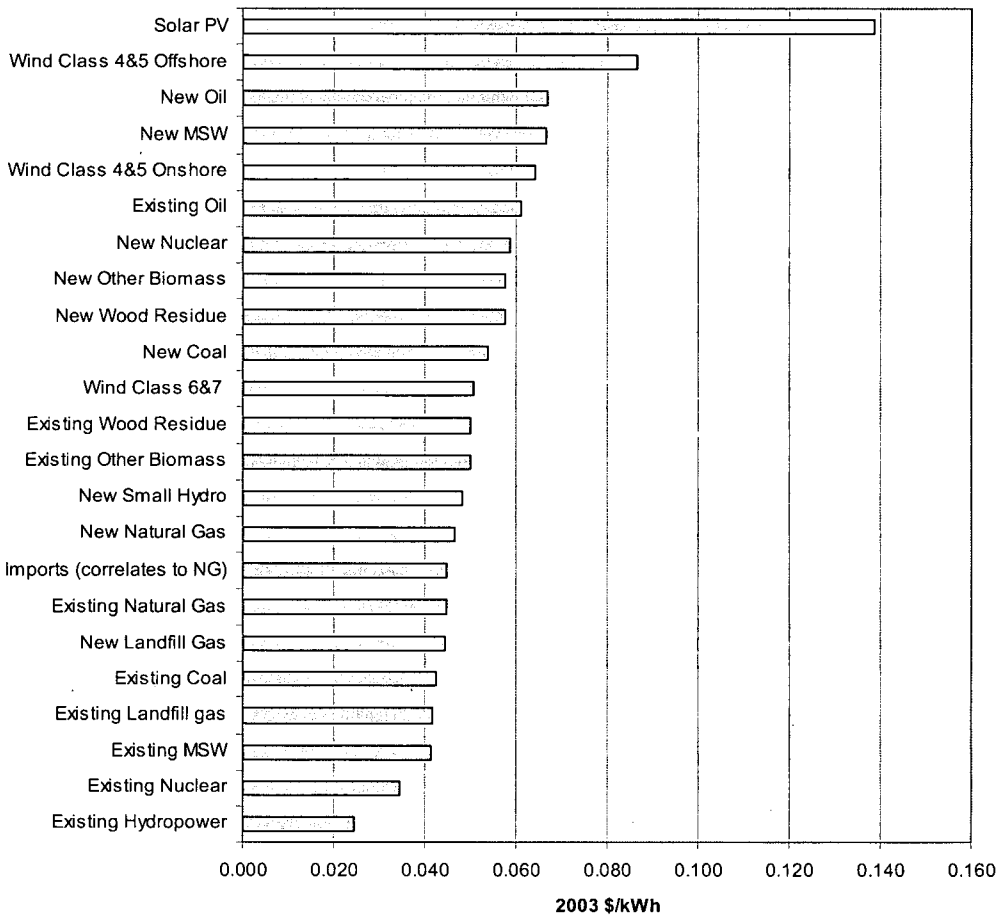

Figure 2: Electricity Generating Costs for Technology Types in 2015

2.2.3 Technology Cost Risks

Technology risk, σ_i, is the year-to-year variability (holding period standard deviation) of the components of the electricity generation cost: capital, O&M, and fuel. Table 3 shows the estimates of technology risk used in the analysis for each technology. Note that because capital investment risk only takes place during the construction period, the capital risk for existing technologies is zero. The fossil fuel risk is calculated from the historic fuel data for Virginia, which is provided by EIA for the electric sector in Virginia.[8] The standard deviations for capital and O&M have been previously estimated using proxy procedures (see Awerbuch and Berger, 2003). The most important variations between technologies are in the capital investment risk, where the length of the construction period is one of the critical factors impacting the risk.

Table 3: Components of Electric Generating Technology Risk

Technology Risk Estimates (Holding Period Standard Deviation) (a)				
	Investment (b)	Fuel (c)	Variable O&M	Fixed O&M
Coal	0.20	0.125	0.2	0.087
Oil	0.20	0.760	0.2	0.087
Natural gas	0.15	0.740	0.2	0.087
Nuclear	0.20	0.052	0.2	0.087
Hydropower	0.20	0.000	0.2	0.087
Wood residue	0.20	0.084	0.2	0.087
MSW	0.20	0.000	0.2	0.087
Landfill gas	0.15	0.000	0.2	0.087
Other biomass	0.20	0.084	0.2	0.087
Wind (All Classes)	0.05	0.000	0.2	0.087
Solar PV	0.05	0.000	0.2	0.087
Imports	0.00	0.740	0.0	0.000
(a)	Based on estimation procedure by Awerbuch and Berger (2003)			
(b)	Investment risk for Existing technologies is zero			
(c)	Empirical estimates based on 1985 - 2001 data			

2.2.4 Correlation Coefficients

The correlation coefficients, ρ_{ij}, are a measure of whether changes in two components are correlated, i.e. whether they change within the same period and by the same proportional amount. Previous analyses by Awerbuch and Berger [IEA, 2003] have shown that changes in investment cost for different technologies are rather highly correlated, changes between investment cost and O&M cost for various technologies are only slightly correlated, and that investment and O&M are not correlated at all with fuel costs. Table 4 shows the matrix of these correlation factors.

Table 4: Technology Correlation Factors for Electric Sector Investment and O&M

Technology Correlation Factors (a)					
		Technology B			
		Investment	Fuel	Variable O&M	Fixed O&M
Technology A	Investment	0.700	0.000	0.100	0.100
	Fuel	0.000	Fuel dependent	0.000	0.000
	Variable O&M	0.100	0.000	0.700	0.100
	Fixed O&M	0.100	0.000	0.100	0.700
	(a)	Based on estimation procedure by Awerbuch and Berger (2003)			

Correlation factors between fuel costs vary significantly, and for this analysis, have been calculated from the historic fuel data, as tabulated by EIA for the electric sector in Virginia.[8] Table 5 shows the matrix of fuel correlation factors. These are calculated for the fossil fuels, enriched nuclear fuel, and wood. Hydro and the other renewable energy technologies do not have fuel costs, so their correlation factors are zero and are not shown. The other item for which a fuel correlation factor was calculated is electricity imports, which represent a significant fraction of

the state's electricity supply. Currently, imports originate in electricity markets such as the PJM Interconnection. The price for electricity from these markets is set by the marginal cost of the last increment of generation for any period, and increasingly natural gas generation is at the margin. Therefore, the price response of imports is nearly identical to natural gas generation, and the fuel correlation factors for natural gas were used for electricity imports.

Table 5: Fuel Correlation Factors for the Virginia Electric Sector

Fuel Correlation Factors						
	Coal	**Oil**	**Gas**	**Nuclear**	**Wood**	**Imports**
Coal	1.00	-0.15	-0.03	0.07	-0.47	-0.03
Oil	-0.15	1.00	0.83	-0.09	-0.18	0.83
Gas	-0.03	0.83	1.00	-0.31	0.02	1.00
Nuclear	0.07	-0.09	-0.31	1.00	-0.19	-0.31
Wood	-0.47	-0.18	0.02	-0.19	1.00	0.02
Imports	-0.03	0.83	1.00	-0.31	0.02	1.00

2.3 Technology Cost and Risk

The cost-risk coordinates for the technologies used in the MVP analysis are shown in Figure 3. The costs are the same as those shown in Figure 2. However, adding the risk dimension provides significant new insight into the technology choices and how they are likely to influence the overall portfolio risk.

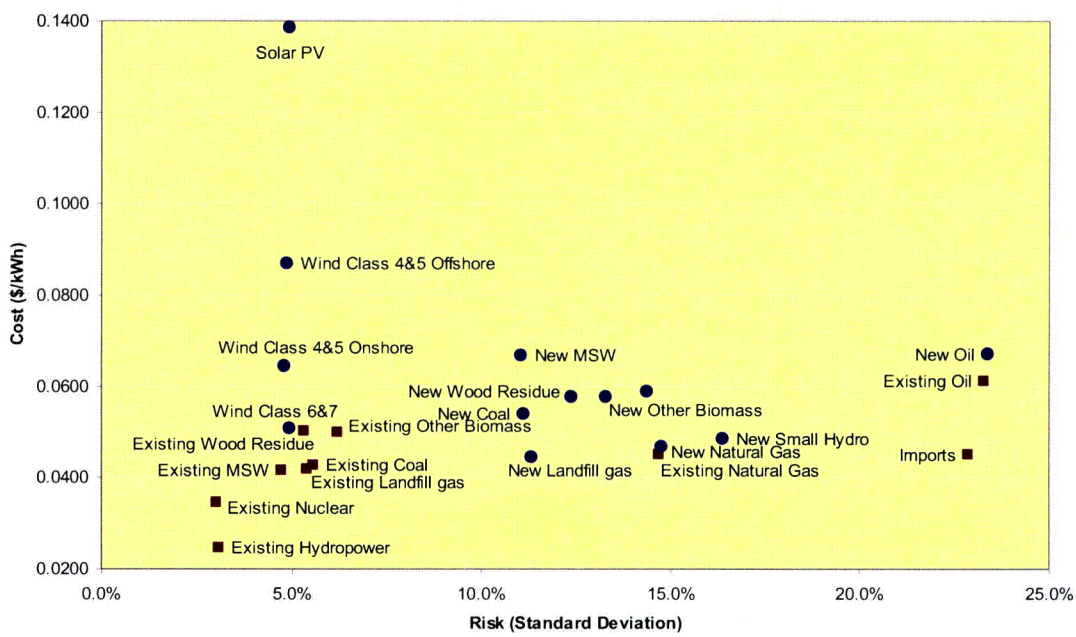

Figure 3: Technology Cost and Risk

2.4 Virginia MVP Model Structure

The Virginia MVP model built for this analysis is an Excel workbook containing supporting data and model inputs as described above, along with future portfolio options and the optimized portfolio results. The essence of the model is its calculation of the portfolio cost and risk. The model evaluates options for 23 technologies consisting of the existing and new generating options and imports. These are run through a series of matrix calculations with 23 x 23 elements, with a fourfold sub-matrix in each component. The internal solver function is used to locate minimum cost portfolios at a specified level of risk and other constraints.

3. VIRGINIA PORTFOLIO OPTIMIZATION

3.1 Portfolio Constraints

In theory, any one technology could provide the entire electricity needs for the state, but in practice every technology has certain constraints that must be recognized and accounted for in the development of realistic portfolios.

3.1.1 Renewable Energy Technologies

Deployment of renewable energy technologies can be limited by their resource availability and/or the practical limitations of project development and equipment supply. Table 6 shows the renewable energy generating potentials for the Commonwealth of Virginia as constrained only by the availability of the renewable resource.

Table 6: Renewable Energy Technology Generating Potentials (GWh)

Generating Technology	Potential (GWh)	% of 2015 Consumption
New Small Hydro	2,701	2.2%
New Wood Residue	3,500	2.8%
New MSW	6,227	5.0%
New Landfill Gas	471	0.4%
New Other Biomass	5,808	4.7%
Wind Class 4&5 Onshore	54,032	43.4%
Wind Class 4&5 Offshore	50,852	40.8%
Wind Class 6&7	17,310	13.9%
Solar PV	6,227	5.0%

The hydropower resource estimates for Virginia were developed by the Idaho National Engineering and Environmental Laboratory [Conner and Francfort, 1997]. Of a total technical potential of 1250 MW, 617 MW was evaluated as developable and consisted of 88 sites on 10 river basins. Only five of these sites have a potential generating capacity over 25 MW and only one is larger than 100 MW. No information was provided on the potential electricity generation from these sites, so a 50% capacity factor was used to estimate the maximum generation potential for hydropower.

Woody biomass resources in the U.S. have been estimated by Oak Ridge National Laboratory [Walsh et al., 2000] for each state and for a variety of sources including urban wood wastes, mill residues, forest residues, agricultural residues, and two varieties of energy crops. The total available (unused) resource in Virginia for urban wood wastes, mill residues, and forest residues was used as the upper limit for new wood residue plants, and the total available (unused) resource

in Virginia for agricultural residues and energy crops was used as the upper limit for the new other biomass[9] category.

The potential for landfill gas projects to generate electricity was derived from the EPA's Landfill Methane Outreach Program[10] survey of existing landfills in Virginia and that program's estimates of the potential generating capacity that could be installed at each site. A 65% capacity factor was used to calculate the potential electricity generation from landfill gas power projects.

Wind is fast becoming one of the most cost-effective renewable energy technologies, and given its likely importance to future RPS scenarios, a special investigation of its resource potential was performed as part of this study. A "Wind Resource Map of Virginia" that was developed by AWS TrueWind is available from the National Renewable Energy Laboratory (NREL) wind resource web site[11]. Although the map indicates where the wind resource is located, it does not provide an estimate of the potential energy generation from wind. In addition, knowing where the wind resource is located is not sufficient to estimating the wind potential because many areas that have good wind resource are not suitable for development. To address these land suitability issues, the Virginia Wind Energy Collaborative (VWEC) developed a landscape classification system [VWEC 2005] as a public resource to facilitate the inclusion of environmental information into macro-siting decisions of utility-scale wind power. The landscape classification system defines three categories according to their potential for conflict between utility-scale wind farms and other existing or potential uses. The categories are: Unsuitable for Development, Flagged for Potential Use Conflict, and Unclassified.

The James Madison University Office of the Virginia Wind Energy Collaborative was tasked to overlay the Virginia wind resource map and the three category areas defined by the landscape classification system in their geographical information system (GIS) database. They then determined the areas of developable wind potential for Class 4, Class 5, and Classes 6 & 7 winds in the state for both onshore and offshore resources after 100% of the Unsuitable category lands were removed and after 50% of the Flagged and Unclassified lands were removed. The remaining areas were converted to potential wind generation using standard conversion factors recommended by NREL. This work is documented in a report that is available on written request to the Chesapeake Climate Action Network.

For this portfolio analysis, Class 4 and 5 wind areas were combined but the onshore and offshore resources were kept separate because of the different technology costs for these resources. The Class 6 & 7 resource is all onshore as there are no wind resources that strong off the Virginia coast.

Resource limits were not calculated for either municipal solid waste (MSW) or solar PV. In the case of MSW, the amount of MSW being land-filled at Virginia facilities between 1998 and 2004 increased 6.2% annually to almost 18 million tons in 2004. However, the annual amount of MSW burned in waste-to-energy power plants is just over 1 million tons per year.[12] Therefore, the resource is not a limiting constraint on the potential for MSW power plants. Instead, there are political and environmental factors that appear likely to limit the growth of this technology, and

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[9] Other biomass also includes agricultural waste, straw, tires, fish oils, paper pellets, sludge waste, digester gas, and waste alcohol.

[10] EPA's LMOP Landfill Database, sorted by state and project, is available at http://www.epa.gov/lmop/proj/xls/lmopdata.xls.

[11] http://rredc.nrel.gov/wind/

[12] Data derived from the Virginia Department of Environmental Quality's Annual Solid Waste Reports, available at http://www.deq.virginia.gov/waste/aswrs.html.

an upper bound of 5% of total 2015 consumption was used, which is about 6,227 GWh. For solar PV, the resource is also not a limitation. Instead, cost and technology applicability are the limitations, and an upper bound of 5% was also used.

3.1.2 Conventional Technologies

Theoretically, the coal, oil, natural gas, and nuclear technologies have no upper bounds, but they do have practical limits for this portfolio analysis. A lower bound is needed for the existing technologies to prevent the model from retiring existing operating plants, and an upper bound for the new technologies is needed that corresponds to the development difficulties and lead times for building new power plants. Table 7 provides these bounds in terms of the proportions of the portfolio that these technologies can assume. The upper bounds for the existing technologies were calculated on the basis of no retirements of existing plants. The lower bounds for existing plants allow some retirements of coal, oil, and natural gas plants, but not for other technologies. Upper bounds for the new technologies were selected to allow a wide range of portfolio options to be explored.

Table 7: Lower and Upper Bounds for the Proportions of Conventional Technologies

Technology	Lower Bound (%)	Upper Bound (%)
Existing Coal	25.0%	33.4%
Existing Oil	3.0%	6.0%
Existing Natural Gas	3.0%	3.3%
Existing Nuclear	19.9%	22.2%
Existing Hydropower	0.2%	0.3%
Existing Wood Residue	1.2%	1.4%
Existing MSW	0.9%	1.0%
Existing Landfill gas	0.1%	0.1%
Existing Other Biomass	0.003%	0.004%
New Coal	0.0%	15.0%
New Oil	0.0%	2.0%
New Natural Gas	0.0%	25.0%
New Nuclear	0.0%	5.0%
Imports	0.0%	50.0%

3.2 Efficient Frontier

Portfolio optimization locates minimum cost-generating portfolios at any level of risk. These optimal or *efficient* mixes lie along a line referred to as the Efficient Frontier. Figure 4 shows the Efficient Frontier for Virginia in relationship to the individual technology cost-risk points. The Efficient Frontier is quite flat over large regions, increasing just slightly more than a mill[13] per kWh between 9% risk (the minimum cost point) and 5% risk.

The changes in the least-cost portfolio technology shares along the Efficient Frontier are shown in Figure 5. The highest risk portfolios consist almost exclusively of coal, nuclear, natural gas, and imports, with imports driving the risk at the upper end of the range. Below 7% risk, renewable technologies begin to replaces new natural gas generation and imports. First small hydro and landfill gas are added followed by increasing amounts of wind. At 4.5% risk new coal is added as

[13] One mill is equal to one-tenth of one cent.

wind class 6&7 is exhausted, but this is replaced at lower levels of risk by wind class 4&5. At the lowest level of risk achievable, solar is added to displace existing coal.

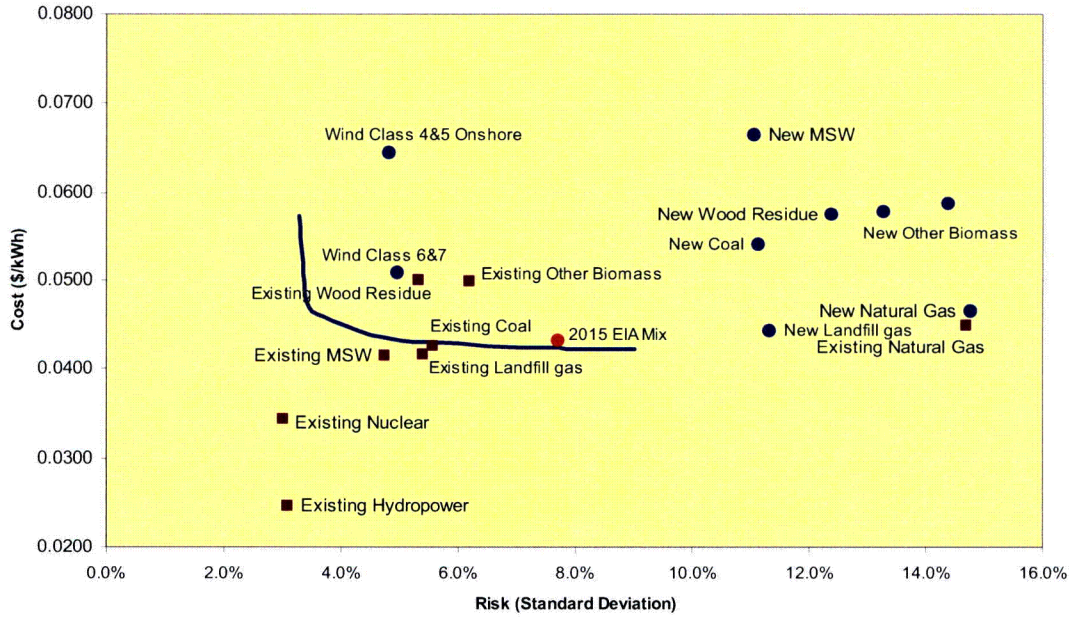

Figure 4: Virginia Portfolio Analysis - Efficient Frontier

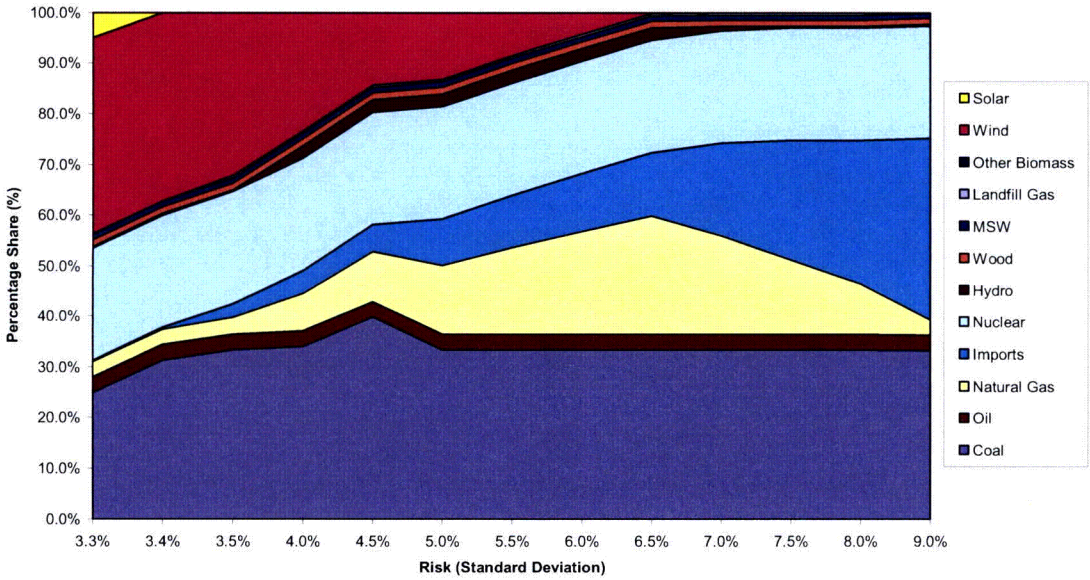

Figure 5: Portfolio Mixes along the Efficient Frontier

In general, the upper and lower bounds on the existing and new technologies do not affect the Efficient Frontier with the exception of existing oil. The model would retire all existing oil use for electricity generation at every level of risk.

3.3 Virginia Portfolio Options in 2015

Three principal scenarios for the 2015 electricity generation mix were investigated: the baseline EIA projection, a 15% RPS scenario, and a 20% RPS scenario. The MVP model was used to identify optimal RPS solutions, and the model results indicated that a range of possible solutions existed for each scenario that primarily varied the mix of new natural gas and imports. Therefore, the range of the "optimal" mixes for both the 15% and the 20% RPS scenarios are plotted on the same chart as the Efficient Frontier in Figure 6 along with the 2003 current mix point and the 2015 EIA mix.

Figure 6 shows that the state's 2003 mix is efficient from a cost perspective, but is unnecessarily risky at a 7.2% standard deviation. Furthermore, the 2015 EIA mix, while still relatively efficient, actually increases the portfolio risk to 7.7%. On the other hand, the 15% RPS scenario reduces the portfolio risk to between 5.4% and 6.0% while only increasing the portfolio cost by 0.2 to 0.3 mills per kWh over the 2015 EIA mix. The 20% RPS scenario reduces the portfolio risk to between 5.0% and 5.5% at a cost of 0.4 to 0.5 mills per kWh. Thus, the RPS scenarios reduce portfolio risk by between 30% and 35% with a very small increase in cost.

It is important to note that an infinite number of optimized portfolios exist that meet the technology-share requirements of the 15% or 20% RPS constraints. These mixes lie on two lines that are parallel and slightly above the Efficient Frontier in Figure 6. However, we show only two optimized mixes for each RPS case, one with low imports and the other with low natural gas use.

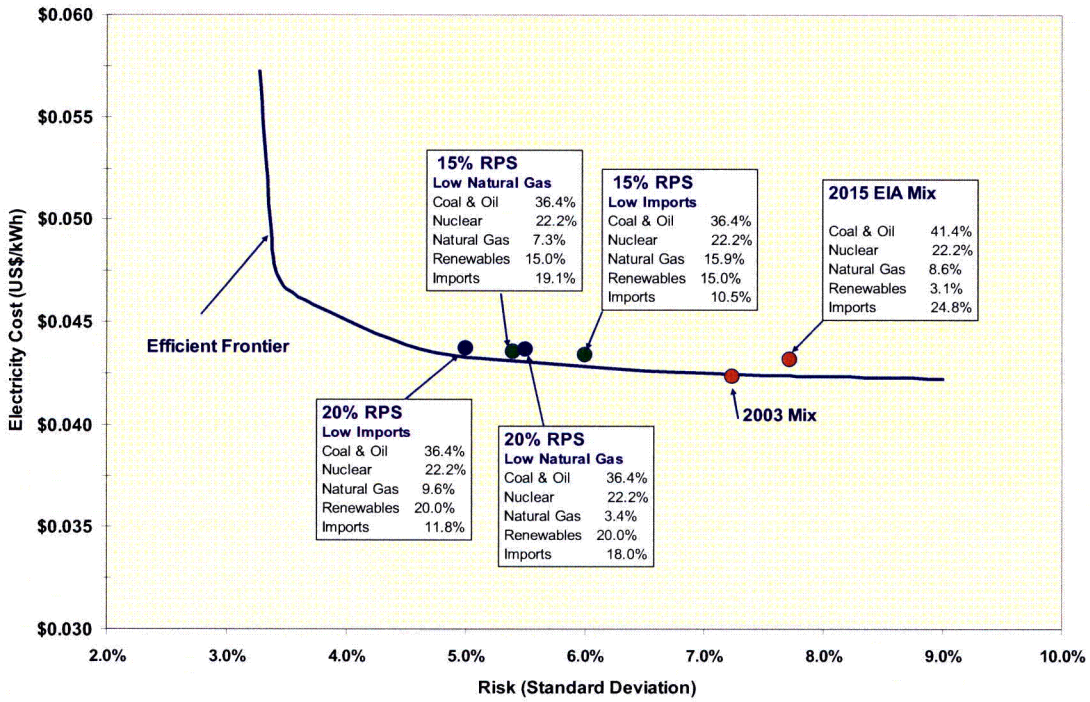

Figure 6: 2015 Portfolio Options for Virginia

The generation output from each technology for the various portfolios analysed is shown in Figure 7, and the percentage output from each technologies can be seen in Table 8.

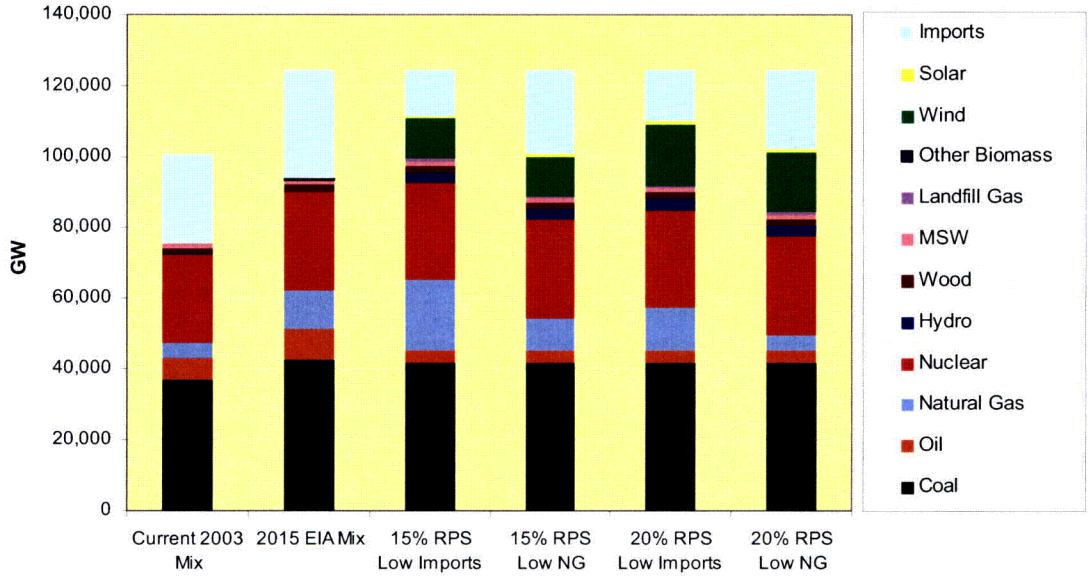

Figure 7: Virginia Portfolio Options for 2015

Table 8: Portfolio Option Technology Shares

Technology	Current 2003 Mix	2015 EIA Mix	15% RPS Initial	15% RPS Optimal	20% RPS Initial	20% RPS Optimal
Coal	36.9%	34.2%	33.4%	33.4%	33.4%	33.4%
Oil	5.7%	7.2%	3.0%	3.0%	3.0%	3.0%
Natural Gas	4.6%	8.6%	15.9%	7.3%	9.6%	3.4%
Nuclear	24.7%	22.2%	22.2%	22.2%	22.2%	22.2%
Hydro	0.3%	0.3%	2.5%	2.5%	2.5%	2.5%
Wood	1.5%	1.7%	1.4%	1.4%	1.6%	1.6%
MSW	1.1%	1.0%	1.0%	1.0%	1.0%	1.0%
Landfill Gas	0.1%	0.1%	0.5%	0.5%	0.5%	0.5%
Other Biomass	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wind	0.0%	0.0%	9.2%	9.2%	13.9%	13.9%
Solar	0.0%	0.0%	0.5%	0.5%	0.5%	0.5%
Imports	25.1%	24.8%	10.5%	19.1%	11.8%	18.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

3.4 Portfolio CO_2 Emissions

Carbon dioxide (CO_2) emissions from power generation are the largest single component of all greenhouse gas emissions, which many believe are producing significant climate change. Figure 8 shows the total CO_2 emission from electricity consumption for each of the scenarios modelled above. With the 2015 EIA mix the state's CO_2 emissions would increase from 57 million tons

per year in 2003 to 71.7 million tons per year in 2015. The 15% RPS solutions results in 2015 CO_2 emissions of 61.5 million tons per year, which is slightly more that a 10 million ton-per-year reduction from emissions under the 2015 EIA mix. However, it is still a 4 million ton-per-year increase over the 2003 emission levels. The 20% optimal RPS mix results in 2015 CO_2 emissions of 58.4 million tons per year, which is only a 1 million ton-per-year increase over 2003 levels.

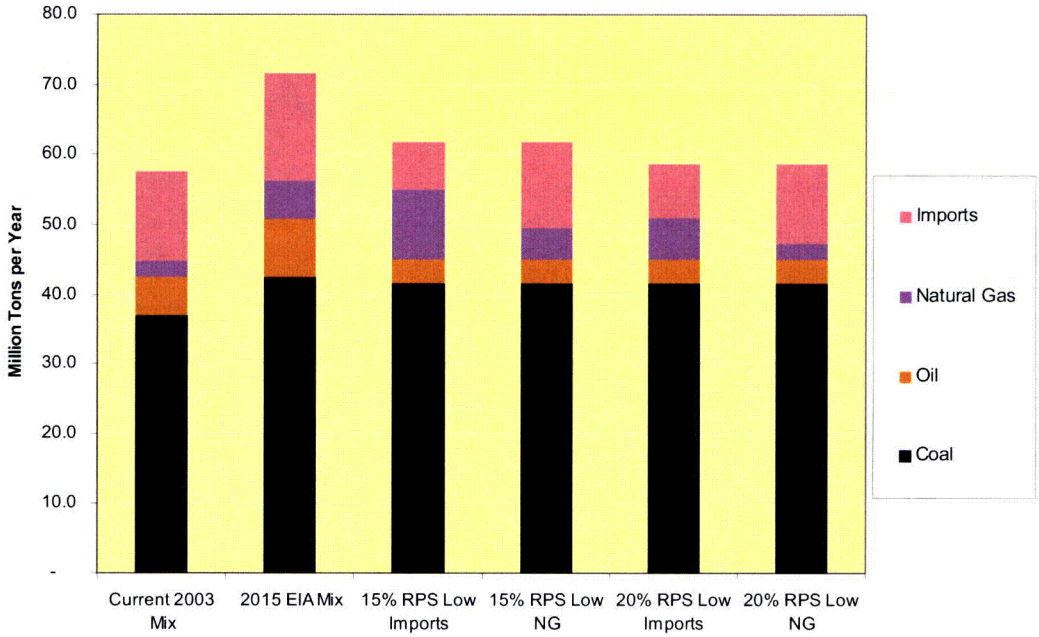

Figure 8: Annual CO_2 Emissions from Virginia Portfolio Options

3.5 Economic Value of Electricity Price Risk Reduction

The MVP analysis shows that significant reductions in electricity price-risk can be achieved at very small increments in the overall cost of electricity to Virginia consumers. This risk reduction is largely the result of lower oil and natural gas shares for electricity production. In addition to risk reduction benefits, reducing gas-oil shares for electricity generation produces other benefits for consumers. Studies from other states with RPS legislation have found that increased levels of renewable energy production put downward pressure on natural gas prices [Wiser, et al., 2005, and Bolinger, Wiser and Golove, 2004] so that each MWh of renewable energy-based electricity saves U.S. consumers between $7.50/MWh and $20/MWh on a national basis. On a regional basis, the savings benefits are more modest because of the smaller consumer base, and the indicated savings had a high of ~$5/MWh.

For Virginia, a consumer savings of $3/MWh from renewable energy generation has been assumed, and the resulting consumer savings are shown in Table 9 to be over $30 million and $18 million respectively for the 15% and 20% RPS scenarios using the low natural gas cases. Because the 20% RPS creates almost 50% greater savings of natural gas, its per-MWh benefit may be even greater than was assumed here. In any event, both scenarios show a significant economic benefit to Virginia consumers through both the optimizing of the electric generating

portfolio to reduce vulnerability to future natural gas price shocks, and lowering prices for natural gas by easing the overall demand.

Table 9: Annual Savings in 2015 of an RPS Compared to the EIA Mix

2015 Annual Savings Compared to EIA Mix		
	15% RPS	**20% RPS**
Renewable Energy Generation (GWh)	18,681	24,908
Savings at $3 per MWh	$ 56,044,000	$ 74,725,000
Incremental Cost compared to 2015 EIA Mix	$ 25,789,000	$ 56,565,000
Net Consumer Benefit	$ 30,255,000	$ 18,160,000

4. CONCLUSIONS

Past approaches for evaluating and planning future energy choices, based on stand-alone comparisons of technologies, have been consistently biased in favor of risky fossil fuel alternatives. The MVP analysis described here shows that the current and planned generating technology mixes for Virginia create unnecessary exposure to fossil fuel price risk. Fixed-cost, low-risk renewable energy technologies can significantly reduce this risk to Virginia consumers and businesses with only very minor increases in electricity costs. Furthermore, because implementing renewable energy technologies will reduce the demand and price for natural gas, Virginia consumers and businesses are likely see a significant net savings from the steady introduction of renewable energy technologies in the state.

The benefits of renewable energy are a "common" good that accrues to all and cannot be captured by individual investors. The result is an under-investment in renewable energy relative to societally desirable levels. Government action is required that sets the rules for electricity suppliers to systematically implement renewable energy technologies. The Renewable Portfolio Standard (RPS) scenarios modeled in this report represent one such government policy that has already been accepted in 20 other states and the District of Columbia. The results of this report demonstrate ample economic justification for adoption of similar legislation by the Commonwealth of Virginia.

It should be noted that there are other justifications for implementing an RPS in Virginia that have not been addressed in this report. These include the stimulation of jobs and economic development in rural areas of the state, reductions in air pollution emissions and the resulting health and quality of life impacts, and increased energy supply security. These other benefits are also quite real, and add more weight to the need to move quickly to implement RPS legislation in Virginia.

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State Electricity Profiles 2004

May 2006

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Quality

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For general inquiries about energy data, please contact the National Energy Information Center at (202/586-8800). Internet users may contact the center at: infoctr@eia.doe.gov.

Preface

The State Electricity Profiles 2004 presents a summary of State statistics. The objective of the publication is to provide industry decisionmakers, government policymakers, analysts, and the general public with historical data that may be used in understanding U.S. electricity markets. The State Electricity Profiles is prepared by the Electric Power Division; Office of Coal, Nuclear, Electric and Alternate Fuels; Energy Information Administration (EIA); U.S. Department of Energy.

Data in this report can be used in analytic studies to evaluate new legislation and are used by analysts, researchers, statisticians, and other professionals with regulatory, policy, and program responsibilities for Federal, State, and local governments.

The State Electricity Profiles presents a summary of the key State statistics for the reporting year contrasted with 2 prior years within the past 10 years. The tables present summary statistics; ten largest plants by generating capacity; top five entities ranked by retail sales; electric power industry generating capacity by primary energy source; electric power industry generation of electricity by primary energy source; utility delivered fuel prices for coal, petroleum, and natural gas; electric power emissions estimates; retail sales, revenue, and average revenue per kilowatthour by sector; and utility retail sales statistics. Monetary values in this publication are expressed in nominal terms.

Data published in the State Electricity Profiles are compiled from five forms filed annually by electric utilities and other electric power producers.

Data Sources

Table 1
Form EIA-767, "Steam-Electric Plant Operation and Design Report"
Form EIA-860, "Annual Electric Generation Report"
Form EIA-861, "Annual Electric Power Industry Report"
Form EIA-906, "Power Plant Report"
Form EIA-920, "Combined Heat and Power Plant Report"

Table 2
Form EIA-860, "Annual Electric Generation Report"

Table 3
Form EIA-861, "Annual Electric Power Industry Report"

Table 4
Form EIA-860, "Annual Electric Generation Report"

Table 5
Form EIA-906, "Power Plant Report"
Form EIA-920, "Combined Heat and Power Plant Report"

Table 6
FERC Form 423, "Cost and Quality of Fuels for Electric Plants"
Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report"

Table 7
Form EIA-767, "Steam-Electric Plant Operation and Design Report"
Form EIA-906, "Power Plant Report"
Form EIA-920, "Combined Heat and Power Plant Report"

Table 8
Form EIA-861, "Annual Electric Power Industry Report"

Table 9
Form EIA-861, "Annual Electric Power Industry Report"

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Alabama		
NERC Region(s)		SERC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	30,647	9
Electric Utilities	23,186	8
Independent Power Producers & Combined Heat and Power	7,460	15
Net Generation (megawatthours)	137,354,771	8
Electric Utilities	124,554,606	3
Independent Power Producers & Combined Heat and Power	12,800,165	22
Emissions (thousand metric tons)		
Sulfur Dioxide	409	10
Nitrogen Oxide	136	9
Carbon Dioxide	80,165	10
Sulfur Dioxide (lbs/MWh)	6.6	16
Nitrogen Oxide (lbs/MWh)	2.2	29
Carbon Dioxide (lbs/MWh)	1,287	31
Total Retail Sales (megawatthours)	86,870,519	14
Full Service Provider Sales (megawatthours)	86,870,519	14
Direct Use (megawatthours)	6,487,857	5
Average Retail Price (cents/kWh)	6.08	40

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Alabama			
1. Browns Ferry	Nuclear	Tennessee Valley Authority	3,297
2. James H Miller Jr	Gas,Coal	Alabama Power Co	2,750
3. Barry	Gas,Coal	Alabama Power Co	2,520
4. E C Gaston	Petroleum,Coal	Alabama Power Co	1,897
5. Joseph M Farley	Nuclear	Alabama Power Co	1,711
6. Widows Creek	Petroleum,Coal	Tennessee Valley Authority	1,603
7. Colbert	Gas,Petroleum,Coal	Tennessee Valley Authority	1,561
8. Greene County	Petroleum,Gas,Coal	Alabama Power Co	1,249
9. Gorgas	Petroleum,Coal	Alabama Power Co	1,235
10. H Allen Franklin Combined Cycle	Gas	Southern Power Co	1,139

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Alabama						
1. Alabama Power Co	Investor-Owned	54,243,900	17,368,321	14,016,449	22,859,130	0
2. Tennessee Valley Authority	Federal	6,158,370	0	0	6,158,370	0
3. Huntsville City of	Public	4,791,461	2,172,652	1,574,741	1,044,068	0
4. Decatur Utilities	Public	1,422,879	366,117	305,356	751,406	0
5. Joe Wheeler Elec Member Corp	Cooperative	1,160,849	568,519	244,564	347,766	0
Total Sales, Top Five Providers		67,777,459	20,475,609	16,141,110	31,160,740	0
Percent of Total State Sales		78.0	68.0	76.3	87.5	.0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Alabama									
Electric Utilities	**20,023**	**20,463**	**22,366**	**22,532**	**23,429**	**23,007**	**23,186**	**97.5**	**75.7**
Coal	11,777	11,669	11,301	11,362	11,246	11,217	11,238	57.3	36.7
Petroleum	16	18	34	34	34	34	34	.1	.1
Natural Gas	0	509	1,456	1,572	2,605	1,976	2,119	.0	6.9
Dual Fired	449	478	1,585	1,585	1,577	1,574	1,507	2.2	4.9
Nuclear	4,847	4,835	4,976	4,966	4,966	4,972	5,008	23.6	16.3
Hydroelectric	2,934	2,955	3,014	3,014	3,002	3,234	3,280	14.3	10.7
Independent Power Producers and Combined Heat and Power	**522**	**983**	**1,172**	**1,303**	**3,157**	**7,154**	**7,460**	**2.5**	**24.3**
Coal	23	23	108	23	19	14	132	.1	.4
Petroleum	0	0	4	6	7	7	9	.0	*
Natural Gas	53	166	523	546	1,820	5,113	4,823	.3	15.7
Other Gases	90	122	80	0	0	4	84	.4	.3
Dual Fired	0	2	0	296	765	1,472	1,858	.0	6.1
Other Renewables	354	671	457	432	543	544	555	1.7	1.8
Total Electric Industry	**20,544**	**21,446**	**23,539**	**23,835**	**26,586**	**30,162**	**30,647**	**100.0**	**100.0**
Coal	11,800	11,692	11,409	11,385	11,265	11,231	11,370	57.4	37.1
Petroleum	16	18	38	39	41	41	43	.1	.1
Natural Gas	54	674	1,979	2,118	4,425	7,090	6,943	.3	22.7
Other Gases	90	122	80	0	4	4	84	.4	.3
Dual Fired	449	480	1,585	1,881	2,342	3,046	3,365	2.2	11.0
Nuclear	4,847	4,835	4,976	4,966	4,966	4,972	5,008	23.6	16.3
Hydroelectric	2,934	2,955	3,014	3,014	3,002	3,234	3,280	14.3	10.7
Other Renewables	354	671	457	432	543	544	555	1.7	1.8

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Alabama									
Electric Utilities	**76,231,696**	**99,589,284**	**118,037,076**	**118,744,284**	**123,739,223**	**126,845,720**	**124,554,606**	**95.7**	**90.7**
Coal	53,301,276	68,553,249	76,930,683	71,483,576	71,630,811	76,238,978	74,475,725	66.9	54.2
Petroleum	91,916	101,716	240,527	262,600	184,379	195,363	111,271	.1	.1
Natural Gas	420,115	680,468	3,679,672	8,284,663	11,242,320	6,069,559	7,705,600	.5	5.6
Nuclear	12,051,882	20,752,341	31,368,563	30,357,063	31,856,926	31,676,953	31,635,789	15.1	23.0
Hydroelectric	10,366,507	9,501,510	5,817,631	8,356,382	8,824,787	12,664,867	10,626,221	13.0	7.7
Independent Power Producers and Combined Heat and Power	**3,420,437**	**5,600,082**	**6,368,264**	**6,600,829**	**9,181,447**	**10,641,502**	**12,800,165**	**4.3**	**9.3**
Coal	356,839	494,385	587,031	714,538	410,853	457,413	340,959	.4	.2
Petroleum	46,173	99,822	125,628	171,949	127,669	141,281	158,252	.1	.1
Natural Gas	600,599	852,916	1,348,539	1,328,019	4,661,745	6,174,039	8,340,232	.8	6.1
Other Gases	269,476	347,027	230,143	189,147	112,541	170,368	181,942	.3	.1
Other Renewables	2,147,350	3,805,932	4,076,165	4,196,702	3,750,350	3,698,401	3,768,839	2.7	2.7
Other	0	0	758	474	118,289	0	9,942	.0	*
Total Electric Industry	**79,652,133**	**105,189,366**	**124,405,340**	**125,345,113**	**132,920,670**	**137,487,222**	**137,354,771**	**100.0**	**100.0**
Coal	53,658,115	69,047,634	77,517,714	72,198,114	72,041,664	76,696,391	74,816,684	67.4	54.5
Petroleum	138,089	201,538	366,155	434,549	312,048	336,644	269,523	.2	.2
Natural Gas	1,020,714	1,533,384	5,028,211	9,612,682	15,904,065	12,243,598	16,045,832	1.3	11.7
Other Gases	269,476	347,027	230,143	189,147	112,541	170,368	181,942	.3	.1
Nuclear	12,051,882	20,752,341	31,368,563	30,357,063	31,856,926	31,676,953	31,635,789	15.1	23.0
Hydroelectric	10,366,507	9,501,510	5,817,631	8,356,382	8,824,787	12,664,867	10,626,221	13.0	7.7
Other Renewables	2,147,350	3,805,932	4,076,165	4,196,702	3,750,350	3,698,401	3,768,839	2.7	2.7
Other	0	0	758	474	118,289	0	9,942	.0	*

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Alabama							
Coal (cents per million Btu)	184.3	156.0	141.0	141.1	W	W	W
Average heat value (Btu per pound)	12,094	11,861	10,951	10,991	11,245	10,977	10,878
Average sulfur Content (percent)	1.5	1.2	.9	.9	.9	.9	.8
Petroleum (cents per million Btu)	506.6	375.6	651.7	552.1	W	W	W
Average heat value (Btu per gallon)	130,100	138,278	137,397	144,476	140,117	141,395	142,757
Average sulfur Content (percent)	.9	.2	.1	.1	.1	.1	.1
Natural Gas (cents per million Btu)	215.6	197.7	437.5	505.5	345.7	561.5	606.3
Average heat value (Btu per cubic foot)	1,030	1,016	1,034	1,035	1,027	1,039	1,035

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Alabama							
Sulfur Dioxide							
Coal	485	458	485	443	421	425	385
Petroleum	1	1	2	3	1	1	1
Natural Gas	*	*	*	*	*	*	*
Other	19	25	23	23	25	26	23
Total	506	483	509	469	447	453	409
Nitrogen Oxide							
Coal	210	252	169	157	150	141	124
Petroleum	*	*	*	1	*	1	*
Gas	2	4	7	10	7	5	6
Other	6	9	8	8	8	6	5
Total	218	266	185	176	165	152	136
Carbon Dioxide							
Coal	50,665	64,957	75,139	70,707	71,169	73,413	71,096
Petroleum	228	389	475	619	417	493	1,193
Gas	1,106	2,313	4,692	6,484	8,375	6,359	7,837
Geothermal	0	0	0	0	0	0	0
Other	4	0	0	0	11	59	39
Total	52,004	67,658	80,306	77,810	79,972	80,325	80,165

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Alabama									
Retail Sales (thousand megawatthours)									
Residential	20,719	24,314	28,756	27,802	30,022	29,416	30,109	34.6	34.7
Commercial	10,979	12,284	19,057	18,868	19,666	20,411	21,166	18.3	24.4
Industrial	27,618	32,847	35,034	31,949	32,615	34,017	35,595	46.1	41.0
Other	610	561	677	739	764	NA	NA	1.0	NA
Total	59,926	70,007	83,524	79,358	83,067	83,844	86,871	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,366	1,631	2,028	1,950	2,138	2,175	2,295	40.9	43.5
Commercial	738	827	1,254	1,233	1,305	1,399	1,506	22.1	28.5
Industrial	1,199	1,332	1,357	1,212	1,244	1,355	1,477	35.9	28.0
Other	34	41	48	53	57	NA	NA	1.0	NA
Total	3,338	3,831	4,687	4,448	4,745	4,929	5,278	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	6.59	6.71	7.05	7.01	7.12	7.39	7.62	NA	NA
Commercial	6.72	6.73	6.58	6.53	6.63	6.85	7.12	NA	NA
Industrial	4.34	4.05	3.87	3.79	3.81	3.98	4.15	NA	NA
Other	5.61	7.35	7.13	7.11	7.46	NA	NA	NA	NA
Total	5.57	5.47	5.61	5.60	5.71	5.88	6.08	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Alabama								
Number of Entities	1	36	1	24	NA	NA	NA	62
Number of Retail Customers	1,379,154	481,484	22	506,635	NA	NA	NA	2,367,295
Retail Sales (thousand megawatthours)	54,244	15,896	6,158	10,572	NA	NA	NA	86,871
Percentage of Retail Sales	62.44	18.30	7.09	12.17	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	3,293	992	201	792	NA	NA	NA	5,278
Percentage of Revenue	62.38	18.80	3.82	15.00	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	6.07	6.24	3.27	7.49	NA	NA	NA	6.08

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Alaska		
NERC Region(s)		--
Primary Energy Source		Gas
Net Summer Capability (megawatts)	1,851	48
Electric Utilities	1,722	40
Independent Power Producers & Combined Heat and Power	129	48
Net Generation (megawatthours)	6,526,717	48
Electric Utilities	5,866,420	42
Independent Power Producers & Combined Heat and Power	660,297	46
Emissions (thousand metric tons)		
Sulfur Dioxide	5	48
Nitrogen Oxide	10	47
Carbon Dioxide	4,712	46
Sulfur Dioxide (lbs/MWh)	1.5	43
Nitrogen Oxide (lbs/MWh)	3.3	15
Carbon Dioxide (lbs/MWh)	1,592	18
Total Retail Sales (megawatthours)	5,788,484	50
Full Service Provider Sales (megawatthours)	5,788,484	49
Direct Use (megawatthours)	1,079,118	30
Average Retail Price (cents/kWh)	10.99	6

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Alaska			
1. Beluga	Gas	Chugach Electric Assn Inc	344
2. George M Sullivan Generation Plant 2	Petroleum,Gas	Municipality of Anchorage	220
3. Bradley Lake	Hydroelectric	Homer Electric Assn Inc	126
4. North Pole	Petroleum	Golden Valley Elec Assn Inc	96
5. Snettisham	Hydroelectric	Alaska Electric Light&Power Co	78
6. Bernice Lake	Gas	Chugach Electric Assn Inc	62
7. Anchorage 1	Petroleum,Gas	Municipality of Anchorage	62
8. Eklutna Hydro Project	Hydroelectric	Municipality of Anchorage	44
9. International	Gas	Chugach Electric Assn Inc	42
10. Nikiski Co-Generation	Gas	Homer Electric Assn Inc	38

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Alaska						
1. Chugach Electric Assn Inc	Cooperative	1,225,049	571,320	615,973	37,756	0
2. Golden Valley Elec Assn Inc	Cooperative	1,146,138	316,259	142,209	687,670	0
3. Municipality of Anchorage	Public	955,267	150,534	804,733	0	0
4. Matanuska Electric Assn Inc	Cooperative	618,676	393,646	225,030	0	0
5. Homer Electric Assn Inc	Cooperative	495,003	168,678	171,334	154,991	0
Total Sales, Top Five Providers		4,440,133	1,600,437	1,959,279	880,417	0
Percent of Total State Sales		77	78	75	78	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Alaska									
Electric Utilities	**1,542**	**1,732**	**1,794**	**1,770**	**1,740**	**1,753**	**1,722**	**84.4**	**93.0**
Coal	56	54	25	25	25	25	25	3.1	1.4
Petroleum	456	534	572	527	522	529	517	25.0	27.9
Natural Gas	486	484	492	511	526	532	606	26.6	32.7
Dual Fired	308	308	308	308	270	270	179	16.9	9.7
Hydroelectric	236	353	396	399	396	396	395	12.9	21.3
Other Renewables	0	0	0	0	0	1	1	.0	.1
Independent Power Producers and Combined Heat and Power	**284**	**277**	**314**	**305**	**266**	**143**	**129**	**15.6**	**7.0**
Coal	61	57	83	61	61	60	61	3.3	3.3
Petroleum	85	47	57	56	55	50	48	4.7	2.6
Natural Gas	100	100	136	188	151	32	20	5.5	1.1
Dual Fired	37	37	38	1	0	0	0	2.0	.0
Other Renewables	2	37	0	0	0	0	0	.1	.0
Total Electric Industry	**1,826**	**2,009**	**2,108**	**2,075**	**2,006**	**1,895**	**1,851**	**100.0**	**100.0**
Coal	117	110	108	85	85	85	85	6.4	4.6
Petroleum	541	581	630	583	577	579	565	29.6	30.5
Natural Gas	586	584	628	699	677	564	626	32.1	33.8
Dual Fired	345	345	346	309	271	271	179	18.9	9.7
Hydroelectric	236	353	396	399	396	396	395	12.9	21.3
Other Renewables	2	37	0	0	0	1	1	.1	.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Alaska									
Electric Utilities	**4,493,024**	**4,846,922**	**4,937,687**	**5,416,191**	**5,471,990**	**5,673,462**	**5,866,420**	**80.2**	**89.9**
Coal	311,960	309,232	184,901	194,008	204,490	167,555	211,075	5.6	3.2
Petroleum	336,905	486,640	557,013	847,761	875,153	775,374	681,848	6.0	10.4
Natural Gas	2,869,638	2,678,935	3,193,954	3,027,807	2,952,996	3,147,997	3,475,477	51.2	53.3
Hydroelectric	974,521	1,372,115	1,001,819	1,345,665	1,439,351	1,582,536	1,498,020	17.4	23.0
Other Renewables	0	0	0	950	0	0	0	.0	.0
Independent Power Producers and Combined Heat and Power	**1,106,482**	**1,179,194**	**1,218,838**	**1,327,575**	**1,295,335**	**665,271**	**660,297**	**19.8**	**10.1**
Coal	198,613	219,698	353,772	370,585	370,798	382,109	437,352	3.5	6.7
Petroleum	160,211	133,924	83,188	89,228	87,216	70,900	65,775	2.9	1.0
Natural Gas	596,623	700,638	781,878	867,762	825,166	206,485	147,954	10.7	2.3
Other Renewables	151,035	124,934	0	0	12,155	5,777	9,215	2.7	.1
Total Electric Industry	**5,599,506**	**6,026,116**	**6,156,525**	**6,743,766**	**6,767,325**	**6,338,732**	**6,526,717**	**100.0**	**100.0**
Coal	510,573	528,930	538,673	564,593	575,288	549,664	648,427	9.1	9.9
Petroleum	497,116	620,564	640,201	936,989	962,369	846,274	747,623	8.9	11.5
Natural Gas	3,466,261	3,379,573	3,975,832	3,895,569	3,778,162	3,354,482	3,623,431	61.9	55.5
Hydroelectric	974,521	1,372,115	1,001,819	1,345,665	1,439,351	1,582,536	1,498,020	17.4	23.0
Other Renewables	151,035	124,934	0	950	12,155	5,777	9,215	2.7	.1

e footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Alaska							
Natural Gas (cents per million Btu)	0.0	128.6	177.1	236.1	W	229.0	278.6
Average heat value (Btu per cubic foot)	0	1,002	1,000	1,016	1,018	1,000	1,000

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Alaska							
Sulfur Dioxide							
Coal	14	10	4	4	4	2	2
Petroleum	4	*	1	3	3	3	2
Natural Gas	*	*	*	*	*	*	*
Other	1	1	0	0	0	0	0
Total	19	11	5	7	7	5	5
Nitrogen Oxide							
Coal	6	6	6	5	4	4	5
Petroleum	1	1	1	1	1	1	1
Gas	6	5	6	6	6	3	4
Other	*	*	0	0	0	*	*
Total	13	12	13	12	10	8	10
Carbon Dioxide							
Coal	1,244	1,456	1,416	1,406	1,249	1,221	1,280
Petroleum	750	641	585	786	812	716	650
Gas	2,376	2,087	2,468	2,390	2,342	2,007	2,783
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	4,370	4,183	4,469	4,582	4,403	3,944	4,712

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Alaska									
Retail Sales (thousand megawatthours)									
Residential	1,661	1,713	1,855	1,891	1,932	1,987	2,062	39.0	35.6
Commercial	1,972	2,200	2,236	2,289	2,238	2,473	2,601	46.4	44.9
Industrial	459	546	1,037	1,079	1,088	1,104	1,126	10.8	19.5
Other	161	172	182	194	207	NA	NA	3.8	NA
Total	4,254	4,632	5,310	5,454	5,465	5,564	5,788	100.0	100.0
Retail Revenue (million dollars)									
Residential	168	192	212	229	233	238	256	41.7	40.3
Commercial	178	210	219	235	227	259	286	44.2	45.0
Industrial	36	46	78	82	83	87	94	8.9	14.8
Other	21	23	26	28	29	NA	NA	5.2	NA
Total	403	471	535	575	572	584	636	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	10.11	11.24	11.45	12.12	12.05	11.98	12.44	NA	NA
Commercial	9.01	9.54	9.77	10.29	10.13	10.49	10.99	NA	NA
Industrial	7.90	8.38	7.56	7.61	7.65	7.86	8.33	NA	NA
Other	13.22	13.26	14.17	14.37	14.04	NA	NA	NA	NA
Total	9.48	10.17	10.08	10.54	10.46	10.50	10.99	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Alaska								
Number of Entities	21	34	NA	18	NA	NA	NA	73
Number of Retail Customers	26,875	56,800	NA	212,683	NA	NA	NA	296,358
Retail Sales (thousand megawatthours)	452	1,454	NA	3,882	NA	NA	NA	5,788
Percentage of Retail Sales	7.81	25.13	NA	67.07	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	60	159	NA	417	NA	NA	NA	636
Percentage of Revenue	9.41	24.95	NA	65.64	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	13.25	10.91	NA	10.75	NA	NA	NA	10.99

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Arizona		
NERC Region(s)		WECC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	24,303	15
Electric Utilities	16,141	15
Independent Power Producers & Combined Heat and Power	8,162	11
Net Generation (megawatthours)	104,564,143	13
Electric Utilities	81,351,521	14
Independent Power Producers & Combined Heat and Power	23,212,622	13
Emissions (thousand metric tons)		
Sulfur Dioxide	55	32
Nitrogen Oxide	78	21
Carbon Dioxide	50,577	18
Sulfur Dioxide (lbs/MWh)	1.2	45
Nitrogen Oxide (lbs/MWh)	1.6	36
Carbon Dioxide (lbs/MWh)	1,066	39
Total Retail Sales (megawatthours)	66,933,251	22
Full Service Provider Sales (megawatthours)	66,933,251	21
Direct Use (megawatthours)	374,187	39
Average Retail Price (cents/kWh)	7.45	18

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Arizona			
1. Palo Verde	Nuclear	Arizona Public Service Co	3,804
2. Navajo	Petroleum,Coal	Salt River Proj Ag I & P Dist	2,250
3. Gila River Power LP	Other,Gas	Panda Gila River LP	2,060
4. Glen Canyon Dam	Hydroelectric	U S Bureau of Reclamation	1,296
5. Mesquite Generating Station	Gas	Mesquite Power LLC	1,073
6. Harquahala Generating Project	Gas	New Harquahala Generating Co, LLC	1,042
7. Hoover Dam	Hydroelectric	U S Bureau of Reclamation	1,040
8. Red Hawk	Gas	Pinnacle West Energy	1,020
9. Cholla	Gas,Petroleum,Coal	Arizona Public Service Co	995
10. West Phoenix	Gas	Arizona Public Service Co	977

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Arizona						
1. Arizona Public Service Co	Investor-Owned	25,507,883	11,527,402	11,402,140	2,578,341	0
2. Salt River Proj Ag I & P Dist	Public	23,830,720	11,342,116	9,737,140	2,751,464	0
3. Tucson Electric Power Co	Investor-Owned	8,542,990	3,459,750	1,787,472	3,295,768	0
4. Morenci Water & Electric Co	Investor-Owned	1,654,444	10,079	13,811	1,630,554	0
5. UNS Electric Inc	Power Marketer	1,462,632	691,948	577,022	193,662	0
Total Sales, Top Five Providers		60,998,669	27,031,295	23,517,585	10,449,789	0
Percent of Total State Sales		91	93	90	88	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Arizona									
Electric Utilities	**14,906**	**15,222**	**15,140**	**15,284**	**15,699**	**16,193**	**16,141**	**99.3**	**66.4**
Coal	5,116	5,159	5,336	5,336	5,336	5,336	5,336	34.1	22.0
Petroleum	75	92	89	88	108	108	108	.5	.4
Natural Gas	303	166	10	105	539	1,003	1,431	2.0	5.9
Dual Fired	3,006	3,110	3,084	3,130	3,060	2,988	2,524	20.0	10.4
Nuclear	3,663	3,810	3,733	3,733	3,733	3,825	3,804	24.4	15.7
Hydroelectric	2,595	2,699	2,705	2,705	2,703	2,706	2,710	17.3	11.2
Other Renewables	0	0	1	5	5	11	12	.0	*
Pumped Storage	148	185	182	182	216	216	216	1.0	.9
Independent Power Producers and Combined Heat and Power	**105**	**161**	**171**	**1,437**	**3,743**	**7,315**	**8,162**	**.7**	**33.6**
Coal	51	51	65	68	68	68	68	.3	.3
Petroleum	8	5	2	4	4	4	4	.1	*
Natural Gas	4	19	61	1,327	3,659	7,232	8,077	*	33.2
Dual Fired	43	86	43	39	13	13	13	.3	.1
Total Electric Industry	**15,011**	**15,382**	**15,311**	**16,721**	**19,442**	**23,510**	**24,303**	**100.0**	**100.0**
Coal	5,167	5,210	5,401	5,404	5,404	5,404	5,404	34.4	22.2
Petroleum	83	97	91	92	112	112	112	.6	.5
Natural Gas	307	184	71	1,431	4,198	8,235	9,509	2.0	39.1
Dual Fired	3,049	3,196	3,127	3,169	3,073	3,001	2,537	20.3	10.4
Nuclear	3,663	3,810	3,733	3,733	3,733	3,825	3,804	24.4	15.7
Hydroelectric	2,595	2,699	2,705	2,705	2,703	2,706	2,710	17.3	11.2
Other Renewables	0	0	1	5	5	11	12	.0	*
Pumped Storage	148	185	182	182	216	216	216	1.0	.9

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percent Share 1990	Percent Share 2004
Arizona									
Electric Utilities	**62,288,980**	**68,966,538**	**88,149,792**	**85,807,868**	**81,710,063**	**80,348,246**	**81,351,521**	**99.2**	**77.8**
Coal	31,636,037	31,710,476	40,662,627	39,731,623	37,957,468	37,739,559	39,419,177	50.4	37.7
Petroleum	116,407	63,610	189,396	311,787	51,061	46,706	39,414	.2	*
Natural Gas	2,271,504	1,729,497	8,274,026	9,106,433	5,238,416	6,580,927	6,812,355	3.6	6.5
Nuclear	20,597,689	26,984,507	30,380,571	28,724,076	30,861,911	28,581,053	28,112,609	32.8	26.9
Hydroelectric	7,417,576	8,288,419	8,354,216	7,623,565	7,427,180	7,074,984	6,973,147	11.8	6.7
Other Renewables	0	0	0	34,090	50,063	41,426	48,259	.0	*
Pumped Storage	249,767	190,029	288,956	276,294	123,964	283,590	−53,440	.4	−.1
Independent Power Producers and Combined Heat and Power	**485,317**	**814,401**	**796,785**	**4,103,404**	**12,421,603**	**14,047,972**	**23,212,622**	**.8**	**22.2**
Coal	279,573	241,183	330,502	329,871	269,163	351,850	394,690	.4	.4
Petroleum	35,460	18,947	927	2,419	6,385	1,970	1,102	.1	*
Natural Gas	62,396	463,450	460,773	3,765,767	12,054,599	12,351,714	21,449,276	.1	20.5
Other Renewables	107,888	90,821	4,583	5,347	91,456	3,843	4	.2	.0
Other	0	0	0	0	0	1,338,595	1,367,550	.0	1.3
Total Electric Industry	**62,774,297**	**69,780,939**	**88,946,577**	**89,911,272**	**94,131,666**	**94,396,218**	**104,564,143**	**100.0**	**100.0**
Coal	31,915,610	31,951,659	40,993,129	40,061,494	38,226,631	38,091,409	39,813,867	50.8	38.1
Petroleum	151,867	82,557	190,323	314,206	57,446	48,676	40,516	.2	*
Natural Gas	2,333,900	2,192,947	8,734,799	12,872,200	17,293,015	18,932,641	28,261,631	3.7	27.0
Nuclear	20,597,689	26,984,507	30,380,571	28,724,076	30,861,911	28,581,053	28,112,609	32.8	26.9
Hydroelectric	7,417,576	8,288,419	8,354,216	7,623,565	7,427,180	7,074,984	6,973,147	11.8	6.7
Other Renewables	107,888	90,821	4,583	39,437	141,519	45,269	48,263	.2	*
Pumped Storage	249,767	190,029	288,956	276,294	123,964	283,590	−53,440	.4	−.1
Other	0	0	0	0	0	1,338,595	1,367,550	.0	1.3

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Arizona							
Coal (cents per million Btu)	143.0	139.4	123.8	125.0	W	W	W
Average heat value (Btu per pound)	10,482	10,274	10,229	10,150	10,151	10,081	10,211
Average sulfur Content (percent)	.5	.5	.6	.6	.6	.6	.6
Petroleum (cents per million Btu)	446.0	510.2	859.9	706.3	W	W	W
Average heat value (Btu per gallon)	142,833	139,934	138,608	143,429	138,007	139,550	133,595
Average sulfur Content (percent)	.5	.3	.1	.8	.1	.2	.3
Natural Gas (cents per million Btu)	236.9	172.9	477.9	460.4	320.1	506.1	572.1
Average heat value (Btu per cubic foot)	1,034	1,022	1,016	1,023	1,018	1,021	1,021

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Arizona							
Sulfur Dioxide							
Coal	113	124	67	68	66	63	55
Petroleum	*	*	*	*	*	*	*
Natural Gas	*	*	*	*	*	*	*
Other	1	1	0	0	0	0	0
Total	115	125	67	69	66	63	55
Nitrogen Oxide							
Coal	145	141	80	77	75	74	75
Petroleum	*	*	*	*	*	*	*
Gas	3	3	13	11	6	6	3
Other	*	*	*	*	*	*	*
Total	149	144	93	88	80	80	78
Carbon Dioxide							
Coal	31,554	31,362	39,540	38,749	37,414	37,544	38,976
Petroleum	137	72	173	297	51	43	37
Gas	1,491	1,257	5,150	6,981	7,850	9,069	11,564
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	108	0	0
Total	33,183	32,691	44,863	46,027	45,424	46,655	50,577

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Arizona									
Retail Sales (thousand megawatthours)									
Residential	15,378	18,036	24,844	26,200	26,413	27,742	28,921	37.1	43.2
Commercial	13,731	16,290	21,411	22,045	22,371	25,425	26,106	33.1	39.0
Industrial	10,034	11,992	11,975	11,377	11,026	10,914	11,906	24.2	17.8
Other	2,327	2,272	2,900	2,652	2,791	NA	NA	5.6	NA
Total	41,470	48,589	61,130	62,274	62,601	64,080	66,933	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,390	1,640	2,096	2,174	2,185	2,316	2,447	43.2	49.1
Commercial	1,139	1,313	1,572	1,624	1,629	1,803	1,901	35.4	38.1
Industrial	560	631	631	597	573	587	637	17.4	12.8
Other	126	117	131	131	127	NA	NA	3.9	NA
Total	3,215	3,700	4,431	4,526	4,514	4,706	4,985	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	9.04	9.09	8.44	8.30	8.27	8.35	8.46	NA	NA
Commercial	8.29	8.06	7.34	7.37	7.28	7.09	7.28	NA	NA
Industrial	5.58	5.26	5.27	5.24	5.20	5.38	5.35	NA	NA
Other	5.41	5.15	4.52	4.93	4.56	NA	NA	NA	NA
Total	7.75	7.62	7.25	7.27	7.21	7.34	7.45	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Arizona								
Number of Entities	5	28	3	9	NA	NA	NA	45
Number of Retail Customers	1,421,900	924,346	20,455	155,573	NA	NA	NA	2,522,274
Retail Sales (thousand megawatthours)	37,181	26,180	1,179	2,393	NA	NA	NA	66,933
Percentage of Retail Sales	55.55	39.11	1.76	3.58	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	2,910	1,824	46	205	NA	NA	NA	4,985
Percentage of Revenue	58.38	36.59	.93	4.10	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	7.83	6.97	3.92	8.55	NA	NA	NA	7.45

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

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Table 7 "Other" includes emissions from municipal solid waste.
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Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Arkansas		
NERC Region(s)		SPP/SERC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	13,538	27
Electric Utilities	9,772	25
Independent Power Producers & Combined Heat and Power	3,767	23
Net Generation (megawatthours)	51,927,632	27
Electric Utilities	45,055,455	23
Independent Power Producers & Combined Heat and Power	6,872,177	31
Emissions (thousand metric tons)		
Sulfur Dioxide	87	27
Nitrogen Oxide	42	34
Carbon Dioxide	27,061	32
Sulfur Dioxide (lbs/MWh)	3.7	32
Nitrogen Oxide (lbs/MWh)	1.8	35
Carbon Dioxide (lbs/MWh)	1,149	37
Total Retail Sales (megawatthours)	43,672,360	30
Full Service Provider Sales (megawatthours)	43,672,360	29
Direct Use (megawatthours)	2,395,564	20
Average Retail Price (cents/kWh)	5.67	46

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Arkansas			
1. Union Power Partners LP	Gas	TPS-Arkansas Operations	2,020
2. Arkansas Nuclear One	Nuclear	Entergy Arkansas Inc	1,837
3. White Bluff	Petroleum,Coal	Entergy Arkansas Inc	1,635
4. Independence	Petroleum,Coal	Entergy Arkansas Inc	1,630
5. Robert E Ritchie	Gas,Petroleum	Entergy Arkansas Inc	883
6. Lake Catherine	Gas	Entergy Arkansas Inc	735
7. KGen Hot Spring Generating Facility	Gas	Cinergy Solutions O&M LLC	652
8. Wrightsville Power Facility	Gas	Wrightsville Power Fac LLC	568
9. Flint Creek	Petroleum,Coal	Southwestern Electric Power Co	480
10. Bull Shoals	Hydroelectric	USCE-Little Rock District	391

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Arkansas						
1. Entergy Arkansas Inc	Investor-Owned	19,734,289	7,027,875	5,702,166	7,004,248	0
2. Southwestern Electric Power Co	Investor-Owned	4,022,330	1,016,033	1,345,846	1,660,451	0
3. Mississippi County Electric Coo	Cooperative	3,291,123	55,219	19,616	3,216,288	0
4. Oklahoma Gas & Electric Co	Investor-Owned	2,601,486	655,588	810,283	1,135,615	0
5. First Electric Coop Corp	Cooperative	1,491,026	966,256	153,970	370,800	0
Total Sales, Top Five Providers		31,140,254	9,720,971	8,031,881	13,387,402	0
Percent of Total State Sales		71	62	75	77	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Arkansas									
Electric Utilities	**9,641**	**9,639**	**9,330**	**9,615**	**9,550**	**9,776**	**9,772**	**96.7**	**72.2**
Coal	3,817	3,817	3,680	3,741	3,757	3,745	3,745	38.3	27.7
Petroleum	202	206	18	18	18	18	18	2.0	.1
Natural Gas	67	32	32	199	199	199	2,089	.7	15.4
Dual Fired	2,571	2,564	2,483	2,457	2,386	2,560	668	25.8	4.9
Nuclear	1,694	1,694	1,694	1,782	1,776	1,840	1,837	17.0	13.6
Hydroelectric	1,262	1,298	1,394	1,391	1,387	1,387	1,387	12.7	10.2
Pumped Storage	28	28	28	28	28	28	28	.3	.2
Independent Power Producers and Combined Heat and Power	**326**	**432**	**392**	**505**	**1,750**	**3,773**	**3,767**	**3.3**	**27.8**
Petroleum	1	4	0	0	0	0	0	*	.0
Natural Gas	49	57	8	234	1,292	3,312	3,312	.5	24.5
Dual Fired	40	35	35	0	156	156	156	.4	1.2
Hydroelectric	0	1	1	1	1	1	1	.0	*
Other Renewables	236	336	348	271	301	304	298	2.4	2.2
Total Electric Industry	**9,967**	**10,071**	**9,722**	**10,120**	**11,300**	**13,549**	**13,538**	**100.0**	**100.0**
Coal	3,817	3,817	3,680	3,741	3,757	3,745	3,745	38.3	27.7
Petroleum	204	210	18	18	18	18	18	2.0	.1
Natural Gas	115	88	40	432	1,490	3,510	5,400	1.2	39.9
Dual Fired	2,611	2,599	2,518	2,457	2,542	2,716	824	26.2	6.1
Nuclear	1,694	1,694	1,694	1,782	1,776	1,840	1,837	17.0	13.6
Hydroelectric	1,262	1,299	1,395	1,392	1,388	1,388	1,388	12.7	10.3
Other Renewables	236	335	348	270	301	303	297	2.4	2.2
Pumped Storage	28	28	28	28	28	28	28	.3	.2

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Arkansas									
Electric Utilities	**37,053,436**	**39,526,825**	**41,486,451**	**44,728,133**	**42,873,364**	**41,636,514**	**45,055,455**	**94.8**	**86.8**
Coal	19,160,989	21,506,397	24,073,573	24,678,344	22,986,650	23,422,401	25,248,810	49.0	48.6
Petroleum	73,856	53,208	206,991	846,105	136,134	263,982	476,133	.2	.9
Natural Gas	2,838,913	3,091,957	3,183,788	1,874,675	1,755,867	597,283	208,148	7.3	.4
Nuclear	11,282,053	11,657,549	11,651,772	14,780,789	14,558,884	14,689,416	15,449,851	28.9	29.8
Hydroelectric	3,654,653	3,217,714	2,370,327	2,548,220	3,435,829	2,653,347	3,647,768	9.3	7.0
Pumped Storage	42,972	0	0	0	0	10,085	24,745	.1	*
Independent Power Producers and Combined Heat and Power	**2,046,162**	**2,445,263**	**2,389,315**	**2,463,902**	**4,738,281**	**8,764,588**	**6,872,178**	**5.2**	**13.2**
Coal	46,946	49,039	94,126	86,127	111,720	81,765	106,722	.1	.2
Petroleum	6,123	14,446	14,737	33,288	23,572	24,924	53,683	*	.1
Natural Gas	739,660	817,393	678,721	832,225	2,847,091	6,703,577	4,844,084	1.9	9.3
Hydroelectric	0	0	156	30	0	1,271	−4,329	.0	*
Other Renewables	1,253,433	1,560,734	1,594,036	1,512,071	1,585,266	1,843,889	1,759,367	3.2	3.4
Other	0	3,651	7,539	161	170,631	109,161	112,649	.0	.2
Total Electric Industry	**39,099,598**	**41,972,088**	**43,875,766**	**47,192,035**	**47,611,645**	**50,401,101**	**51,927,632**	**100.0**	**100.0**
Coal	19,207,935	21,555,436	24,167,699	24,764,471	23,098,370	23,504,166	25,355,532	49.1	48.8
Petroleum	79,979	67,654	221,728	879,393	159,706	288,906	529,816	.2	1.0
Natural Gas	3,578,573	3,909,350	3,862,509	2,706,900	4,602,958	7,300,860	5,052,232	9.2	9.7
Nuclear	11,282,053	11,657,549	11,651,772	14,780,789	14,558,884	14,689,416	15,449,851	28.9	29.8
Hydroelectric	3,654,653	3,217,714	2,370,483	2,548,250	3,435,829	2,654,618	3,643,439	9.3	7.0
Other Renewables	1,253,433	1,560,734	1,594,036	1,512,071	1,585,266	1,843,889	1,759,367	3.2	3.4
Pumped Storage	42,972	0	0	0	0	10,085	24,745	.1	*
Other	0	3,651	7,539	161	170,631	109,161	112,649	.0	.2

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Arkansas							
Coal (cents per million Btu)	161.1	161.1	142.1	87.5	83.6	119.5	122.6
Average heat value (Btu per pound)	8,740	8,687	8,681	8,720	8,694	8,758	8,761
Average sulfur Content (percent)	.3	.3	.3	.3	.3	.3	.3
Petroleum (cents per million Btu)	470.4	417.5	465.7	626.4	550.0	645.5	726.0
Average heat value (Btu per gallon)	138,866	137,716	140,490	151,143	138,705	140,479	140,321
Average sulfur Content (percent)	.3	.2	.5	.4	.4	.4	.5
Natural Gas (cents per million Btu)	154.0	169.7	437.5	429.0	351.4	423.4	602.0
Average heat value (Btu per cubic foot)	1,018	1,023	1,020	1,036	1,019	1,033	1,029

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Arkansas							
Sulfur Dioxide							
Coal	67	70	69	70	67	65	71
Petroleum	*	*	2	4	1	2	3
Natural Gas	*	*	*	*	*	*	*
Other	11	12	13	9	12	12	13
Total	77	82	84	83	80	79	87
Nitrogen Oxide							
Coal	99	100	41	41	37	37	37
Petroleum	*	*	*	1	*	*	1
Gas	7	8	10	3	4	4	1
Other	3	4	3	2	3	4	4
Total	109	111	54	47	44	46	42
Carbon Dioxide							
Coal	19,640	22,275	25,151	25,621	23,880	23,551	24,877
Petroleum	84	50	182	724	187	256	548
Gas	3,227	3,366	3,403	1,852	2,841	3,412	1,635
Geothermal	0	0	0	0	0	0	0
Other	4	*	0	0	0	0	2
Total	22,956	25,691	28,736	28,197	26,909	27,220	27,061

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Arkansas									
Retail Sales (thousand megawatthours)									
Residential	10,558	12,417	14,871	15,104	15,527	15,598	15,619	38.6	35.8
Commercial	6,075	7,147	8,746	9,153	9,304	10,568	10,731	22.2	24.6
Industrial	10,126	14,483	17,268	16,734	16,887	16,942	17,322	37.0	39.7
Other	606	625	726	741	731	NA	NA	2.2	NA
Total	27,365	34,671	41,611	41,732	42,450	43,108	43,672	100.0	100.0
Retail Revenue (million dollars)									
Residential	852	991	1,109	1,165	1,126	1,130	1,150	46.5	46.5
Commercial	422	488	519	567	528	585	605	23.0	24.4
Industrial	516	653	726	741	678	685	720	28.2	29.1
Other	43	42	46	51	48	NA	NA	2.3	NA
Total	1,833	2,174	2,399	2,524	2,380	2,399	2,475	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	8.07	7.98	7.45	7.72	7.25	7.24	7.36	NA	NA
Commercial	6.95	6.83	5.93	6.19	5.68	5.54	5.64	NA	NA
Industrial	5.10	4.51	4.20	4.43	4.01	4.04	4.16	NA	NA
Other	7.08	6.65	6.39	6.91	6.52	NA	NA	NA	NA
Total	6.70	6.27	5.77	6.05	5.61	5.57	5.67	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Arkansas								
Number of Entities	4	15	NA	17	2	NA	NA	38
Number of Retail Customers	840,835	166,745	NA	431,336	2	NA	NA	1,438,918
Retail Sales (thousand megawatthours)	26,497	5,608	NA	11,311	256	NA	NA	43,672
Percentage of Retail Sales	60.67	12.84	NA	25.90	.59	NA	NA	100.00
Revenue from Retail Sales (million dollars)	1,518	303	NA	639	15	NA	NA	2,475
Percentage of Revenue	61.32	12.25	NA	25.82	.61	NA	NA	100.00
Average Retail Price (cents/kWh)	5.73	5.41	NA	5.65	5.90	NA	NA	5.67

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
California		
NERC Region(s)		WECC
Primary Energy Source		Gas
Net Summer Capability (megawatts)	58,306	2
Electric Utilities	23,867	5
Independent Power Producers & Combined Heat and Power	34,440	4
Net Generation (megawatthours)	194,780,355	4
Electric Utilities	75,177,122	15
Independent Power Producers & Combined Heat and Power	119,603,233	4
Emissions (thousand metric tons)		
Sulfur Dioxide	22	41
Nitrogen Oxide	54	31
Carbon Dioxide	60,664	14
Sulfur Dioxide (lbs/MWh)	.2	50
Nitrogen Oxide (lbs/MWh)	.6	47
Carbon Dioxide (lbs/MWh)	687	47
Total Retail Sales (megawatthours)	252,764,015	2
Full Service Provider Sales (megawatthours)	176,854,463	3
Deregulated Sales (megawatthours)	75,909,552	1
Direct Use (megawatthours)	15,199,327	3
Average Retail Price (cents/kWh)	11.45	3

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
California			
1. Moss Landing Power Plant	Gas	Duke Energy North America LLC	2,498
2. Diablo Canyon	Nuclear	Pacific Gas & Electric Co	2,174
3. San Onofre	Nuclear	Southern California Edison Co	2,150
4. AES Alamitos LLC	Gas	AES Alamitos LLC	1,997
5. Ormond Beach	Gas	Reliant Energy Ormond Bch LLC	1,516
6. Castaic	Hydroelectric	Los Angeles City of	1,495
7. Pittsburg Power	Gas	Mirant Delta LLC	1,311
8. AES Redondo Beach LLC	Gas	AES Redondo Beach LLC	1,310
9. Helms Pumped Storage	Pumped Storage	Pacific Gas & Electric Co	1,212
10. Haynes	Gas	Los Angeles City of	1,126

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
California						
1. Pacific Gas & Electric Co	Investor-Owned	53,897,438	21,389,201	25,793,361	6,712,723	2,153
2. Electric Fund (CDWR)	Power Marketer	51,361,387	20,605,766	24,811,029	5,924,088	20,504
3. Southern California Edison Co	Investor-Owned	49,122,593	18,505,296	24,503,514	6,072,819	40,964
4. Los Angeles City of	Public	23,482,342	7,924,805	12,976,003	2,449,396	132,138
5. Sacramento Municipal Util Dist	Public	10,234,662	4,450,692	721,164	5,030,405	32,401
Total Sales, Top Five Providers		188,098,422	72,875,760	88,805,071	26,189,431	228,160
Percent of Total State Sales		74	86	76	53	31

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
California									
Electric Utilities	**43,681**	**43,302**	**24,319**	**24,405**	**24,609**	**23,223**	**23,867**	**82.1**	**40.9**
Petroleum	548	560	184	184	184	185	185	1.0	.3
Natural Gas	16,847	17,153	1,600	1,637	1,572	1,654	2,022	31.7	3.5
Dual Fired	7,221	6,019	4,413	4,436	4,494	3,500	3,657	13.6	6.3
Nuclear	4,746	4,310	4,310	4,324	4,324	4,324	4,324	8.9	7.4
Hydroelectric	9,199	9,807	9,835	9,848	10,040	9,716	9,840	17.3	16.9
Other Renewables	1,595	1,723	248	247	265	156	150	3.0	.3
Pumped Storage	3,526	3,730	3,730	3,730	3,730	3,688	3,688	6.6	6.3
Independent Power Producers and Combined Heat and Power	**9,533**	**10,187**	**27,989**	**30,077**	**32,054**	**34,629**	**34,440**	**17.9**	**59.1**
Coal	431	420	407	362	351	357	389	.8	.7
Petroleum	72	46	295	538	521	507	521	.1	.9
Natural Gas	2,437	3,910	18,617	21,351	23,744	26,084	25,651	4.6	44.0
Other Gases	107	176	395	281	226	225	235	.2	.4
Dual Fired	1,919	963	2,563	2,381	2,034	2,184	2,240	3.6	3.8
Hydroelectric	569	639	476	484	324	232	238	1.1	.4
Other Renewables	3,998	4,024	5,232	4,682	4,838	5,021	5,157	7.5	8.8
Other	0	9	4	0	17	17	8	.0	*
Total Electric Industry	**53,215**	**53,489**	**52,308**	**54,482**	**56,663**	**57,850**	**58,306**	**100.0**	**100.0**
Coal	432	420	407	363	352	358	389	.8	.7
Petroleum	621	606	479	722	705	692	706	1.2	1.2
Natural Gas	19,283	21,063	20,216	22,988	25,317	27,738	27,673	36.2	47.5
Other Gases	107	176	395	281	226	225	235	.2	.4
Dual Fired	9,140	6,983	6,976	6,816	6,527	5,684	5,897	17.2	10.1
Nuclear	4,746	4,310	4,310	4,324	4,324	4,324	4,324	8.9	7.4
Hydroelectric	9,767	10,446	10,311	10,331	10,364	9,947	10,078	18.4	17.3
Other Renewables	5,594	5,746	5,480	4,928	5,102	5,177	5,308	10.5	9.1
Pumped Storage	3,526	3,730	3,730	3,730	3,730	3,688	3,688	6.6	6.3
Other	0	9	4	0	17	17	8	.0	*

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
California									
Electric Utilities	**114,528,000**	**121,881,402**	**85,856,285**	**70,132,656**	**74,588,271**	**81,728,209**	**75,177,122**	**69.1**	**38.6**
Petroleum	4,385,235	488,530	144,590	316,691	43,933	50,996	51,482	2.6	*
Natural Gas	45,221,848	39,089,723	12,411,961	11,918,703	8,808,012	9,873,371	10,759,580	27.3	5.5
Nuclear	32,692,807	30,245,936	35,175,505	33,219,520	34,352,340	35,593,789	30,267,887	19.7	15.5
Hydroelectric	22,808,272	44,928,985	37,041,641	24,817,842	30,236,644	35,782,738	33,608,686	13.8	17.3
Other Renewables	8,433,586	4,621,563	144,648	209,589	1,388,339	1,339,627	1,306,318	5.1	.7
Pumped Storage	986,252	2,506,665	937,940	−349,689	−240,997	−912,313	−816,831	.6	−.4
Independent Power Producers and Combined Heat and Power	**51,256,909**	**59,581,939**	**122,226,198**	**128,463,419**	**109,621,761**	**111,060,334**	**119,603,232**	**30.9**	**61.4**
Coal	2,637,677	2,786,844	2,363,607	2,232,851	2,327,809	2,326,305	2,244,355	1.6	1.2
Petroleum	1,088,617	1,802,598	2,695,204	2,738,202	1,917,132	2,341,252	2,214,436	.7	1.1
Natural Gas	28,946,460	33,489,170	90,807,012	100,013,568	80,816,032	81,558,810	89,695,842	17.5	46.0
Other Gases	2,146,742	2,594,985	2,687,177	1,130,499	1,240,053	1,759,015	1,862,250	1.3	1.0
Hydroelectric	984,295	3,104,145	1,292,145	723,934	903,984	587,965	532,243	.6	.3
Other Renewables	15,453,118	15,788,401	22,359,013	21,607,632	22,292,229	22,442,789	22,868,127	9.3	11.7
Other	0	15,796	22,040	16,733	124,520	44,198	185,980	.0	.1
Total Electric Industry	**165,784,909**	**181,463,341**	**208,082,483**	**198,596,075**	**184,210,031**	**192,788,542**	**194,780,355**	**100.0**	**100.0**
Coal	2,637,677	2,786,844	2,363,607	2,232,851	2,327,809	2,326,305	2,244,355	1.6	1.2
Petroleum	5,473,852	2,291,128	2,839,794	3,054,893	1,961,065	2,392,248	2,265,918	3.3	1.2
Natural Gas	74,168,308	72,578,893	103,218,973	111,932,271	89,624,044	91,432,181	100,455,422	44.7	51.6
Other Gases	2,146,742	2,594,985	2,687,177	1,130,499	1,240,053	1,759,015	1,862,250	1.3	1.0
Nuclear	32,692,807	30,245,936	35,175,505	33,219,520	34,352,340	35,593,789	30,267,887	19.7	15.5
Hydroelectric	23,792,567	48,033,130	38,333,786	25,541,776	31,140,628	36,370,703	34,140,929	14.4	17.5
Other Renewables	23,886,704	20,409,964	22,503,661	21,817,221	23,680,568	23,782,416	24,174,445	14.4	12.4
Pumped Storage	986,252	2,506,665	937,940	−349,689	−240,997	−912,313	−816,831	.6	−.4
Other	0	15,796	22,040	16,733	124,520	44,198	185,980	.0	.1

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
California							
Coal (cents per million Btu)	0.0	0.0	0.0	0.0	180.2	172.7	188.1
Average heat value (Btu per pound)	0	0	0	0	11,868	11,943	12,205
Average sulfur Content (percent)	.0	.0	.0	.0	.5	.7	.8
Petroleum (cents per million Btu)	435.8	.0	619.4	600.8	114.4	266.5	297.5
Average heat value (Btu per gallon)	146,026	0	140,000	131,762	96,990	124,229	134,633
Average sulfur Content (percent)	.3	.0	.0	.9	1.9	.9	1.2
Natural Gas (cents per million Btu)	303.1	222.3	581.1	928.6	372.1	536.7	589.4
Average heat value (Btu per cubic foot)	1,033	1,027	1,012	1,023	1,019	1,026	1,027

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
California							
Sulfur Dioxide							
Coal	32	28	15	14	16	3	2
Petroleum	46	42	26	24	45	13	18
Natural Gas	*	*	*	*	*	*	*
Other	3	2	2	1	1	1	2
Total	82	72	43	40	62	17	22
Nitrogen Oxide							
Coal	16	16	14	13	13	5	5
Petroleum	9	7	6	6	8	7	7
Gas	91	71	60	63	57	43	37
Other	12	10	11	10	10	5	5
Total	128	103	91	92	88	60	54
Carbon Dioxide							
Coal	4,203	4,335	3,858	3,791	3,991	3,851	3,910
Petroleum	5,079	2,983	3,338	3,750	3,018	2,988	2,997
Gas	43,405	42,333	59,193	62,874	50,973	48,319	53,076
Geothermal	373	294	316	313	333	330	333
Other	103	94	92	94	1,311	366	348
Total	53,163	50,039	66,798	70,820	59,625	55,855	60,664

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
California									
Retail Sales (thousand megawatthours)									
Residential	66,575	68,783	79,241	76,209	77,425	80,699	84,966	31.5	33.6
Commercial	79,691	80,874	92,697	101,378	102,838	108,049	117,573	37.8	46.5
Industrial	55,892	57,367	64,311	50,943	48,349	49,153	49,484	26.5	19.6
Other	8,935	5,580	7,808	6,862	7,215	NA	NA	4.2	NA
Transportation	NA	NA	NA	NA	NA	809	741	NA	.3
Total	211,093	212,605	244,057	235,392	235,827	238,710	252,764	100.0	100.0
Retail Revenue (million dollars)									
Residential	6,646	7,983	8,629	9,776	10,031	9,686	10,628	35.6	36.7
Commercial	7,541	8,485	9,502	12,511	13,888	13,167	13,554	40.4	46.8
Industrial	4,071	4,226	4,594	4,585	5,059	4,840	4,710	21.8	16.3
Other	404	376	380	897	480	NA	NA	2.2	NA
Transportation	NA	NA	NA	NA	NA	48	43	NA	.1
Total	18,664	21,070	23,105	27,768	29,458	27,741	28,935	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	9.98	11.61	10.89	12.83	12.96	12.00	12.51	NA	NA
Commercial	9.46	10.49	10.25	12.34	13.50	12.19	11.53	NA	NA
Industrial	7.28	7.37	7.14	9.00	10.46	9.85	9.52	NA	NA
Other	4.53	6.73	4.87	13.07	6.65	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	5.88	5.77	NA	NA
Total	8.84	9.91	9.47	11.80	12.49	11.62	11.45	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
California								
Number of Entities	6	35	1	4	10	13	4	73
Number of Retail Customers	10,976,172	2,997,471	81	15,174	10	62,276	NA	14,051,184
Retail Sales (thousand megawatthours)	112,760	58,925	3,383	282	1,505	75,910	NA	252,764
Percentage of Retail Sales	44.61	23.31	1.34	.11	.60	30.03	NA	100.00
Revenue from Retail Sales (million dollars)	14,009	5,604	59	25	109	6,390	2,740	28,935
Percentage of Revenue	48.41	19.37	.20	.09	.38	22.08	9.47	100.00
Average Retail Price (cents/kWh)	12.42	9.51	1.75	8.80	7.23	8.42	3.61	11.45

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Colorado		
NERC Region(s)		WECC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	11,085	31
Electric Utilities	7,954	28
Independent Power Producers & Combined Heat and Power	3,132	30
Net Generation (megawatthours)	47,869,492	29
Electric Utilities	40,436,218	27
Independent Power Producers & Combined Heat and Power	7,433,274	30
Emissions (thousand metric tons)		
Sulfur Dioxide	59	31
Nitrogen Oxide	66	28
Carbon Dioxide	39,630	24
Sulfur Dioxide (lbs/MWh)	2.7	37
Nitrogen Oxide (lbs/MWh)	3.1	18
Carbon Dioxide (lbs/MWh)	1,825	13
Total Retail Sales (megawatthours)	46,723,841	27
Full Service Provider Sales (megawatthours)	46,723,841	26
Direct Use (megawatthours)	495,780	35
Average Retail Price (cents/kWh)	6.95	24

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Colorado			
1. Craig	Petroleum,Gas,Coal	Tri-State G & T Assn Inc	1,264
2. Cherokee	Gas,Coal	Public Service Co of Colorado	722
3. Fort St Vrain	Gas	Public Service Co of Colorado	691
4. Comanche	Gas,Coal	Public Service Co of Colorado	660
5. Rocky Mountain Energy Center	Gas	Rocky Mountain Energy Ctr LLC	608
6. Rawhide	Petroleum,Gas,Coal	Platte River Power Authority	534
7. Pawnee	Gas,Coal	Public Service Co of Colorado	505
8. Front Range Power Project	Gas	Colorado Springs City of	462
9. Hayden	Petroleum,Gas,Coal	Public Service Co of Colorado	446
10. Cabin Creek	Pumped Storage	Public Service Co of Colorado	324

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Colorado						
1. Public Service Co of Colorado	Investor-Owned	25,748,164	7,954,565	12,669,218	5,105,803	18,578
2. Colorado Springs City of	Public	4,311,782	1,299,046	1,888,631	1,124,105	0
3. Intermountain Rural Elec Assn	Cooperative	1,783,746	1,150,561	524,809	108,376	0
4. Aquila Inc	Investor-Owned	1,735,161	535,180	687,411	512,570	0
5. Fort Collins City of	Public	1,349,613	428,919	463,676	457,018	0
Total Sales, Top Five Providers		34,928,466	11,368,271	16,233,745	7,307,872	18,578
Percent of Total State Sales		75	73	83	63	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Colorado									
Electric Utilities	**6,633**	**6,647**	**7,269**	**7,479**	**7,603**	**7,883**	**7,954**	**95.9**	**71.8**
Coal	4,944	4,954	4,980	4,981	4,891	4,891	4,891	71.5	44.1
Petroleum	141	141	148	146	162	162	166	2.0	1.5
Natural Gas	48	15	525	751	944	944	1,074	.7	9.7
Dual Fired	424	423	423	423	420	699	630	6.1	5.7
Hydroelectric	542	582	614	600	600	601	601	7.8	5.4
Other Renewables	0	0	15	16	24	24	30	.0	.3
Pumped Storage	532	532	562	563	563	563	563	7.7	5.1
Independent Power Producers and Combined Heat and Power	**281**	**633**	**1,124**	**1,431**	**1,832**	**2,486**	**3,132**	**4.1**	**28.3**
Coal	33	33	33	40	40	40	40	.5	.4
Petroleum	3	3	3	2	2	2	2	*	*
Natural Gas	211	534	1,019	1,270	1,426	1,915	2,534	3.1	22.9
Dual Fired	0	28	28	30	298	306	306	.0	2.8
Hydroelectric	29	30	30	43	43	38	42	.4	.4
Other Renewables	5	5	11	46	23	185	207	.1	1.9
Total Electric Industry	**6,914**	**7,280**	**8,393**	**8,910**	**9,435**	**10,370**	**11,085**	**100.0**	**100.0**
Coal	4,977	4,986	5,014	5,021	4,931	4,931	4,931	72.0	44.5
Petroleum	144	144	152	149	164	164	168	2.1	1.5
Natural Gas	260	550	1,545	2,021	2,370	2,859	3,608	3.8	32.5
Dual Fired	424	451	451	453	718	1,005	936	6.1	8.4
Hydroelectric	571	612	644	642	643	639	643	8.3	5.8
Other Renewables	5	5	26	62	47	209	237	.1	2.1
Pumped Storage	532	532	562	563	563	563	563	7.7	5.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Colorado									
Electric Utilities	**31,312,872**	**32,673,972**	**40,108,260**	**41,957,723**	**41,509,933**	**41,226,252**	**40,436,218**	**96.2**	**84.5**
Coal	29,602,738	30,276,010	35,101,982	35,654,162	35,135,198	35,807,527	35,570,358	91.0	74.3
Petroleum	25,129	10,136	91,320	158,742	22,519	33,927	11,797	.1	*
Natural Gas	409,078	286,971	3,539,837	4,884,010	5,321,770	4,369,743	3,899,293	1.3	8.1
Other Gases	0	0	0	0	2,884	4,001	1,753	.0	*
Hydroelectric	1,308,961	2,008,902	1,329,946	1,472,627	1,187,839	1,156,217	1,076,897	4.0	2.3
Other Renewables	164	0	0	38,764	59,987	58,477	67,921	*	.1
Pumped Storage	−33,198	91,953	45,175	−250,582	−220,264	−203,640	−191,801	−.1	−.4
Independent Power Producers and Combined Heat and Power	**1,235,255**	**2,943,262**	**4,057,286**	**4,918,279**	**4,090,455**	**5,390,534**	**7,433,275**	**3.8**	**15.5**
Coal	212,245	216,672	279,237	296,866	253,053	308,096	278,103	.7	.6
Petroleum	2,261	1,576	18,065	17,487	661	67	1,911	*	*
Natural Gas	881,014	2,569,817	3,617,601	4,507,777	3,706,720	4,856,290	6,848,293	2.7	14.3
Hydroelectric	110,909	122,287	124,469	22,070	21,168	105,980	117,768	.3	.2
Other Renewables	28,826	32,910	17,914	74,079	108,853	120,102	187,200	.1	.4
Total Electric Industry	**32,548,127**	**35,617,234**	**44,165,546**	**46,876,002**	**45,600,388**	**46,616,787**	**47,869,492**	**100.0**	**100.0**
Coal	29,814,983	30,492,682	35,381,219	35,951,028	35,388,251	36,115,623	35,848,461	91.6	74.9
Petroleum	27,390	11,712	109,385	176,229	23,180	33,994	13,708	.1	*
Natural Gas	1,290,092	2,856,788	7,157,438	9,391,787	9,028,490	9,226,033	10,747,586	4.0	22.5
Other Gases	0	0	0	0	2,884	4,001	1,753	.0	*
Hydroelectric	1,419,870	2,131,189	1,454,415	1,494,697	1,209,007	1,262,197	1,194,665	4.4	2.5
Other Renewables	28,990	32,910	17,914	112,843	168,840	178,579	255,121	.1	.5
Pumped Storage	−33,198	91,953	45,175	−250,582	−220,264	−203,640	−191,801	−.1	−.4

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Colorado							
Coal (cents per million Btu)	106.1	104.8	92.6	92.2	95.1	96.6	97.2
Average heat value (Btu per pound)	9,808	9,895	9,797	9,783	9,787	9,793	9,824
Average sulfur Content (percent)	.4	.4	.4	.4	.4	.4	.4
Petroleum (cents per million Btu)	534.5	477.2	693.7	721.4	704.6	W	1,129.3
Average heat value (Btu per gallon)	137,006	137,958	135,946	138,952	137,395	123,940	126,438
Average sulfur Content (percent)	.3	*	.2	.2	*	*	.1
Natural Gas (cents per million Btu)	217.3	173.0	403.1	375.4	246.3	429.9	553.7
Average heat value (Btu per cubic foot)	988	1,008	1,021	1,045	1,019	1,027	1,021

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Colorado							
Sulfur Dioxide							
Coal	93	99	83	85	83	70	59
Petroleum	*	*	*	*	*	*	*
Natural Gas	0	*	*	*	*	*	*
Other	*	*	0	0	0	0	0
Total	93	99	83	86	83	70	59
Nitrogen Oxide							
Coal	144	132	66	68	68	67	64
Petroleum	*	*	*	*	0	*	*
Gas	2	3	4	6	6	4	3
Other	*	*	*	*	*	*	*
Total	146	136	71	75	73	71	66
Carbon Dioxide							
Coal	30,004	30,918	35,622	36,544	36,277	35,999	34,602
Petroleum	26	16	157	214	25	32	15
Gas	859	1,605	3,866	5,110	4,661	4,569	5,012
Geothermal	0	0	0	0	0	0	0
Other	*	0	0	0	0	0	0
Total	30,889	32,539	39,645	41,868	40,964	40,599	39,630

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Colorado									
Retail Sales (thousand megawatthours)									
Residential	9,787	11,307	14,029	14,470	15,425	15,725	15,532	31.8	33.2
Commercial	13,553	13,420	17,989	17,890	18,438	19,657	19,498	44.0	41.7
Industrial	6,587	9,706	9,955	10,918	10,672	11,076	11,675	21.4	25.0
Other	867	884	1,047	958	1,401	NA	NA	2.8	NA
Transportation	NA	NA	NA	NA	NA	37	19	NA	.0
Total	30,795	35,317	43,020	44,236	45,937	46,495	46,724	100.0	100.0
Retail Revenue (million dollars)									
Residential	687	839	1,025	1,080	1,137	1,280	1,307	37.9	40.3
Commercial	768	815	998	1,014	1,045	1,298	1,343	42.3	41.4
Industrial	296	438	423	489	483	565	596	16.3	18.4
Other	63	70	81	80	93	NA	NA	3.5	NA
Transportation	NA	NA	NA	NA	NA	3	1	NA	.0
Total	1,814	2,162	2,528	2,662	2,758	3,146	3,247	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.02	7.42	7.30	7.46	7.37	8.14	8.41	NA	NA
Commercial	5.67	6.07	5.55	5.67	5.67	6.60	6.89	NA	NA
Industrial	4.49	4.51	4.25	4.47	4.52	5.10	5.10	NA	NA
Other	7.28	7.87	7.77	8.36	6.64	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	7.32	5.81	NA	NA
Total	5.89	6.12	5.88	6.02	6.00	6.77	6.95	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Colorado								
Number of Entities	2	29	1	28	2	NA	NA	62
Number of Retail Customers	1,386,770	397,403	14	537,712	2	NA	NA	2,321,901
Retail Sales (thousand megawatthours)	27,483	8,233	88	10,593	327	NA	NA	46,724
Percentage of Retail Sales	58.82	17.62	.19	22.67	.70	NA	NA	100.00
Revenue from Retail Sales (million dollars)	1,918	519	2	798	10	NA	NA	3,247
Percentage of Revenue	59.06	15.99	.05	24.58	.31	NA	NA	100.00
Average Retail Price (cents/kWh)	6.98	6.31	1.94	7.54	3.07	NA	NA	6.95

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
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* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Connecticut		
NERC Region(s)		NPCC
Primary Energy Source		Nuclear
Net Summer Capability (megawatts)	7,929	35
Electric Utilities	174	46
Independent Power Producers & Combined Heat and Power	7,756	14
Net Generation (megawatthours)	32,633,408	38
Electric Utilities	45,095	46
Independent Power Producers & Combined Heat and Power	32,588,313	10
Emissions (thousand metric tons)		
Sulfur Dioxide	7	47
Nitrogen Oxide	10	46
Carbon Dioxide	10,262	40
Sulfur Dioxide (lbs/MWh)	.4	47
Nitrogen Oxide (lbs/MWh)	.7	45
Carbon Dioxide (lbs/MWh)	693	46
Total Retail Sales (megawatthours)	32,214,610	33
Full Service Provider Sales (megawatthours)	31,470,175	33
Deregulated Sales (megawatthours)	744,435	16
Direct Use (megawatthours)	1,540,638	24
Average Retail Price (cents/kWh)	10.26	10

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Connecticut			
1. Millstone	Nuclear	Dominion Nuclear Conn Inc	2,037
2. Middletown	Other,Gas,Petroleum	Middletown Power LLC	837
3. Lake Road Generating Plant	Gas	Lake Road Generating Co LP	729
4. Bridgeport Station	Other,Petroleum,Coal	PSEG Power Connecticut LLC	513
5. Montville Station	Gas,Petroleum	NRG Montville Operations Inc	496
6. Milford Power Project	Petroleum,Gas	Milford Power Co LLC	464
7. Bridgeport Energy Project	Gas	Bridgeport Energy LLC	454
8. New Haven Harbor	Petroleum	PSEG Power Connecticut LLC	448
9. Devon Station	Gas,Petroleum	NRG Devon Operations Inc	354
10. NRG Norwalk Harbor	Petroleum	NRG Norwalk Harbor Ops Inc	342

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Connecticut						
1. Connecticut Light & Power Co	Investor-Owned	23,404,183	10,039,484	9,707,644	3,466,987	190,068
2. United Illuminating Co	Investor-Owned	5,952,000	2,347,000	2,648,000	957,000	0
3. Wallingford Town of	Public	635,990	216,216	241,741	178,033	0
4. Groton Dept of Utilities	Public	600,165	113,987	132,161	354,017	0
5. Norwich City of	Public	347,626	125,508	164,487	57,631	0
Total Sales, Top Five Providers		30,939,964	12,842,195	12,894,033	5,013,668	190,068
Percent of Total State Sales		96	97	96	94	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Connecticut									
Electric Utilities	**7,141**	**6,722**	**2,204**	**185**	**34**	**210**	**174**	**92.9**	**2.2**
Coal	385	385	0	0	0	0	0	5.0	.0
Petroleum	2,807	2,200	176	176	25	178	165	36.5	2.1
Natural Gas	0	214	0	0	0	0	0	.0	.0
Dual Fired	528	528	0	0	0	23	0	6.9	.0
Nuclear	3,217	3,194	2,017	0	0	0	0	41.8	.0
Hydroelectric	108	131	10	9	9	9	9	1.4	.1
Other Renewables	64	64	0	0	0	0	0	.8	.0
Pumped Storage	32	6	0	0	0	0	0	.4	.0
Independent Power Producers and Combined Heat and Power	**546**	**674**	**4,243**	**7,105**	**7,366**	**7,364**	**7,756**	**7.1**	**97.8**
Coal	200	200	547	555	553	553	553	2.6	7.0
Petroleum	10	0	1,154	1,153	1,229	2,084	2,035	.1	25.7
Natural Gas	17	95	743	857	832	701	646	.2	8.1
Dual Fired	208	117	1,416	2,137	2,350	1,632	2,149	2.7	27.1
Nuclear	0	0	0	2,006	2,006	1,997	2,037	.0	25.7
Hydroelectric	21	21	132	129	137	137	137	.3	1.7
Other Renewables	89	241	244	260	254	254	192	1.2	2.4
Pumped Storage	0	0	7	7	4	4	4	.0	*
Other	0	0	0	0	1	1	1	.0	*
Total Electric Industry	**7,687**	**7,397**	**6,447**	**7,289**	**7,400**	**7,573**	**7,929**	**100.0**	**100.0**
Coal	585	585	548	555	553	553	553	7.6	7.0
Petroleum	2,817	2,200	1,330	1,328	1,254	2,263	2,200	36.6	27.7
Natural Gas	17	309	743	858	832	701	646	.2	8.1
Dual Fired	736	645	1,416	2,137	2,350	1,654	2,149	9.6	27.1
Nuclear	3,217	3,194	2,017	2,006	2,006	1,997	2,037	41.8	25.7
Hydroelectric	129	151	142	138	146	146	146	1.7	1.8
Other Renewables	154	305	244	260	254	254	192	2.0	2.4
Pumped Storage	32	6	7	7	4	4	4	.4	*
Other	0	0	0	0	1	1	1	.0	*

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percent Share 1990	Percent Share 2004
Connecticut									
Electric Utilities	**32,155,574**	**26,931,900**	**16,992,594**	**2,816,826**	**21,463**	**59,812**	**45,095**	**91.5**	**0.1**
Coal	2,351,049	2,269,352	0	0	0	0	0	6.7	.0
Petroleum	8,632,571	3,397,400	7,726	11,032	928	13,955	9,253	24.6	*
Natural Gas	471,836	1,819,535	0	0	0	0	0	1.3	.0
Nuclear	19,776,250	18,748,900	16,365,334	2,629,741	0	0	0	56.3	.0
Hydroelectric	495,848	305,401	146,980	29,065	20,535	45,857	35,842	1.4	.1
Other Renewables	421,546	403,726	476,922	146,988	0	0	0	1.2	.0
Pumped Storage	6,474	−12,414	−4,368	0	0	0	0	*	.0
Independent Power Producers and Combined Heat and Power	**2,991,673**	**4,540,568**	**15,974,976**	**27,673,820**	**31,289,757**	**29,485,238**	**32,588,311**	**8.5**	**99.9**
Coal	1,243,596	1,588,203	3,186,096	3,735,782	3,227,202	4,200,297	4,256,431	3.5	13.0
Petroleum	241,895	182,063	6,671,306	5,161,903	2,336,957	2,048,713	1,728,466	.7	5.3
Natural Gas	779,643	1,199,708	4,062,029	4,088,228	8,868,471	5,061,613	8,108,840	2.2	24.8
Other Gases	4	79	0	1,498	8,834	0	0	.0	.0
Nuclear	0	0	0	12,798,026	14,918,272	16,078,095	16,539,097	.0	50.7
Hydroelectric	74,771	58,402	379,332	257,308	314,553	518,559	426,770	.2	1.3
Other Renewables	651,764	1,512,113	1,676,213	1,631,075	1,625,668	1,565,942	1,509,036	1.9	4.6
Pumped Storage	0	0	0	0	−10,201	−18	7,715	.0	*
Other	0	0	0	0	0	12,037	11,957	.0	*
Total Electric Industry	**35,147,247**	**31,472,468**	**32,967,570**	**30,490,646**	**31,311,219**	**29,545,050**	**32,633,408**	**100.0**	**100.0**
Coal	3,594,645	3,857,555	3,186,096	3,735,782	3,227,202	4,200,297	4,256,431	10.2	13.0
Petroleum	8,874,466	3,579,463	6,679,032	5,172,935	2,337,885	2,062,668	1,737,719	25.2	5.3
Natural Gas	1,251,479	3,019,243	4,062,029	4,088,228	8,868,471	5,061,613	8,108,840	3.6	24.8
Other Gases	4	79	0	1,498	8,834	0	0	.0	.0
Nuclear	19,776,250	18,748,900	16,365,334	15,427,767	14,918,272	16,078,095	16,539,097	56.3	50.7
Hydroelectric	570,619	363,803	526,312	286,373	335,088	564,416	462,612	1.6	1.4
Other Renewables	1,073,310	1,915,839	2,153,135	1,778,063	1,625,668	1,565,942	1,509,036	3.1	4.6
Pumped Storage	6,474	−12,414	−4,368	0	−10,201	−18	7,715	*	[illegible]
Other	0	0	0	0	0	12,037	11,957	.0	[illegible]

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Connecticut							
Coal (cents per million Btu)	212.9	188.1	0.0	0.0	W	W	W
Average heat value (Btu per pound)	13,233	13,110	0	0	11,309	10,565	10,423
Average sulfur Content (percent)	.5	.6	.0	.0	.9	.5	.5
Petroleum (cents per million Btu)	301.5	264.0	.0	.0	422.4	542.0	568.0
Average heat value (Btu per gallon)	150,789	153,274	0	0	149,929	146,743	147,602
Average sulfur Content (percent)	.9	.7	.0	.0	.4	.4	.3
Natural Gas (cents per million Btu)	270.2	197.8	.0	.0	392.0	W	W
Average heat value (Btu per cubic foot)	1,033	1,017	0	0	1,023	1,020	1,008

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Connecticut							
Sulfur Dioxide							
Coal	11	10	8	9	4	3	3
Petroleum	40	15	26	22	6	5	4
Natural Gas	0	*	*	*	*	*	*
Other	1	*	*	*	*	*	*
Total	52	25	34	31	10	8	7
Nitrogen Oxide							
Coal	14	13	3	4	2	2	2
Petroleum	13	4	7	6	2	2	2
Gas	2	3	3	2	2	1	1
Other	2	3	3	3	3	5	5
Total	32	23	16	15	9	11	10
Carbon Dioxide							
Coal	3,635	3,686	3,332	3,677	3,156	3,926	4,107
Petroleum	7,393	3,205	5,792	4,295	1,975	1,869	1,665
Gas	768	1,790	2,228	2,074	3,948	2,509	3,301
Geothermal	0	0	0	0	0	0	0
Other	665	234	264	262	1,210	1,230	1,188
Total	12,460	8,915	11,616	10,309	10,289	9,534	10,262

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Connecticut									
Retail Sales (thousand megawatthours)									
Residential	10,376	10,760	11,645	11,975	12,473	13,178	13,211	38.2	41.0
Commercial	10,342	10,926	11,932	12,442	12,614	13,094	13,455	38.0	41.8
Industrial	6,100	5,913	5,811	5,572	5,370	5,366	5,358	22.4	16.6
Other	369	370	564	552	548	NA	NA	1.4	NA
Transportation	NA	NA	NA	NA	NA	192	190	NA	.6
Total	27,187	27,970	29,952	30,541	31,005	31,830	32,215	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,038	1,286	1,264	1,306	1,367	1,491	1,537	41.7	46.5
Commercial	943	1,129	1,106	1,152	1,176	1,300	1,332	37.9	40.3
Industrial	461	469	425	425	412	429	423	18.5	12.8
Other	47	53	57	55	57	NA	NA	1.9	NA
Transportation	NA	NA	NA	NA	NA	15	14	NA	.4
Total	2,489	2,938	2,852	2,937	3,012	3,235	3,305	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	10.01	11.95	10.86	10.90	10.96	11.31	11.63	NA	NA
Commercial	9.11	10.33	9.27	9.26	9.32	9.93	9.90	NA	NA
Industrial	7.55	7.94	7.31	7.62	7.68	7.99	7.89	NA	NA
Other	12.83	14.38	10.06	10.00	10.35	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	7.72	7.25	NA	NA
Total	9.15	10.50	9.52	9.62	9.71	10.16	10.26	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Connecticut								
Number of Entities	3	8	NA	NA	NA	4	2	17
Number of Retail Customers	1,485,941	70,134	NA	NA	NA	21,717	NA	1,577,792
Retail Sales (thousand megawatthours)	29,368	2,102	NA	NA	NA	744	NA	32,215
Percentage of Retail Sales	91.16	6.52	NA	NA	NA	2.31	NA	100.00
Revenue from Retail Sales (million dollars)	3,062	169	NA	NA	NA	41	33	3,305
Percentage of Revenue	92.66	5.11	NA	NA	NA	1.23	1.00	100.00
Average Retail Price (cents/kWh)	10.43	8.04	NA	NA	NA	5.46	4.42	10.26

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Delaware		
NERC Region(s)		MAAC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	3,428	44
Electric Utilities	58	48
Independent Power Producers & Combined Heat and Power	3,370	27
Net Generation (megawatthours)	7,855,553	46
Electric Utilities	23,751	48
Independent Power Producers & Combined Heat and Power	7,831,802	29
Emissions (thousand metric tons)		
Sulfur Dioxide	35	37
Nitrogen Oxide	13	42
Carbon Dioxide	6,531	45
Sulfur Dioxide (lbs/MWh)	9.7	8
Nitrogen Oxide (lbs/MWh)	3.7	12
Carbon Dioxide (lbs/MWh)	1,833	11
Total Retail Sales (megawatthours)	11,761,153	43
Full Service Provider Sales (megawatthours)	10,751,187	42
Deregulated Sales (megawatthours)	1,009,966	13
Direct Use (megawatthours)	564,017	34
Average Retail Price (cents/kWh)	7.53	16

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Delaware			
1. Hay Road	Other,Gas	Conectiv Delmarva Gen Inc	1,085
2. Indian River Operations	Petroleum,Coal	Indian River Operations Inc	784
3. Edge Moor	Gas,Petroleum,Coal	Conectiv Delmarva Gen Inc	718
4. Delaware City Plant	Gas,Petroleum	Premcor	386
5. McKee Run	Gas,Petroleum	DE Operating Services, LLC	136
6. NRG Energy Center Dover	Petroleum,Gas,Coal	NRG Energy Center Dover LLC	120
7. Warren F Sam Beasley Generation Station	Petroleum,Gas	Delaware Municipal Electric Corp	49
8. Christiana	Petroleum	Conectiv Delmarva Gen Inc	44
9. Van Sant Station	Petroleum,Gas	DE Operating Services, LLC	39
10. Seaford Delaware Plant	Gas,Petroleum,Coal	Invista	27

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Delaware						
1. Delmarva Power & Light Company	Investor-Owned	8,001,293	2,968,451	3,379,982	1,652,860	0
2. Delaware Electric Coop Inc	Cooperative	1,004,488	831,467	161,289	11,732	0
3. Dover City of	Public	738,673	187,234	238,978	312,461	0
4. Newark City of	Public	389,429	94,943	70,388	224,098	0
5. Select Energy	Power Marketer	321,784	0	3,218	318,566	0
Total Sales, Top Five Providers		10,455,667	4,082,095	3,853,855	2,519,717	0
Percent of Total State Sales		89	95	96	74	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Delaware									
Electric Utilities	**1,965**	**2,239**	**985**	**184**	**58**	**58**	**58**	**91.8**	**1.7**
Coal	919	910	767	0	0	0	0	42.9	.0
Petroleum	227	124	43	9	9	9	9	10.6	.3
Natural Gas	187	399	0	0	0	0	0	8.7	.0
Dual Fired	631	806	175	175	49	49	49	29.5	1.4
Independent Power Producers and Combined Heat and Power	**177**	**177**	**1,430**	**2,517**	**3,332**	**3,334**	**3,370**	**8.3**	**98.3**
Coal	37	37	260	1,034	1,050	1,052	1,070	1.7	31.2
Petroleum	134	134	530	968	561	561	105	6.3	3.1
Natural Gas	0	0	89	515	183	183	79	.0	2.3
Other Gases	1	1	283	0	303	303	307	*	9.0
Dual Fired	4	4	267	0	1,235	1,235	1,809	.2	52.8
Total Electric Industry	**2,141**	**2,416**	**2,414**	**2,700**	**3,390**	**3,392**	**3,428**	**100.0**	**100.0**
Coal	956	947	1,027	1,034	1,050	1,052	1,070	44.7	31.2
Petroleum	361	258	573	977	570	570	114	16.9	3.3
Natural Gas	187	399	89	515	184	184	79	8.7	2.3
Other Gases	1	1	283	0	303	303	307	*	9.0
Dual Fired	635	810	442	175	1,284	1,284	1,858	29.7	54.2

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Delaware									
Electric Utilities	**7,099,663**	**8,324,101**	**4,137,127**	**1,872,053**	**170,994**	**31,107**	**23,751**	**90.5**	**0.3**
Coal	4,904,473	4,226,615	3,319,195	1,626,254	0	0	0	62.5	.0
Petroleum	1,436,186	917,065	398,100	209,088	154,118	9,863	10,083	18.3	.1
Natural Gas	759,004	3,180,421	419,832	36,711	16,876	21,244	13,668	9.7	.2
Independent Power Producers and Combined Heat and Power	**741,837**	**708,736**	**1,850,324**	**4,935,631**	**5,831,495**	**7,361,180**	**7,831,802**	**9.5**	**99.7**
Coal	209,006	212,359	793,101	1,742,253	3,463,565	4,026,496	4,750,119	2.7	60.5
Petroleum	357,620	368,130	450,940	1,497,541	795,577	1,707,001	1,081,258	4.6	13.8
Natural Gas	4,015	5,138	420,676	1,538,775	1,426,007	1,442,536	1,701,094	.1	21.7
Other Gases	164,881	113,827	166,769	157,062	146,346	185,147	299,329	2.1	3.8
Other Renewables	0	0	18,838	0	0	0	0	.0	.0
Other	6,315	9,282	0	0	0	0	0	.1	.0
Total Electric Industry	**7,841,500**	**9,032,837**	**5,987,451**	**6,807,684**	**6,002,489**	**7,392,287**	**7,855,553**	**100.0**	**100.0**
Coal	5,113,479	4,438,974	4,112,296	3,368,507	3,463,565	4,026,496	4,750,119	65.2	60.5
Petroleum	1,793,806	1,285,195	849,040	1,706,629	949,695	1,716,864	1,091,341	22.9	13.9
Natural Gas	763,019	3,185,559	840,508	1,575,486	1,442,883	1,463,780	1,714,762	9.7	21.8
Other Gases	164,881	113,827	166,769	157,062	146,346	185,147	299,329	2.1	3.8
Other Renewables	0	0	18,838	0	0	0	0	.0	.0
Other	6,315	9,282	0	0	0	0	0	.1	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Delaware							
Coal (cents per million Btu)	181.5	161.5	152.1	216.9	W	W	W
Average heat value (Btu per pound)	13,035	13,085	12,995	11,496	12,352	12,803	12,530
Average sulfur Content (percent)	1.0	1.0	1.0	.7	.9	.9	.8
Petroleum (cents per million Btu)	278.2	260.9	445.9	380.5	405.6	576.2	610.6
Average heat value (Btu per gallon)	151,270	152,013	150,486	148,143	146,095	147,895	146,312
Average sulfur Content (percent)	1.2	.8	.5	.8	.7	.5	.4
Natural Gas (cents per million Btu)	257.7	227.2	488.5	427.2	W	W	W
Average heat value (Btu per cubic foot)	1,054	1,032	1,008	1,037	1,023	1,043	1,036

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Delaware							
Sulfur Dioxide							
Coal	38	37	35	29	28	32	33
Petroleum	41	35	4	6	4	4	2
Natural Gas	0	*	*	*	*	0	0
Other	*	*	0	0	0	*	*
Total	80	73	39	35	32	36	35
Nitrogen Oxide							
Coal	22	16	9	8	7	8	9
Petroleum	5	3	3	4	3	4	2
Gas	1	3	*	1	1	1	1
Other	0	0	0	0	0	*	1
Total	27	21	13	13	11	13	13
Carbon Dioxide							
Coal	5,227	4,759	4,368	3,288	3,655	4,153	4,941
Petroleum	2,236	1,836	1,226	1,924	1,278	2,196	781
Gas	438	1,487	448	828	1,078	646	809
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	7,902	8,082	6,042	6,040	6,012	6,996	6,531

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Delaware									
Retail Sales (thousand megawatthours)									
Residential	2,651	3,168	3,575	3,734	4,020	4,190	4,305	32.0	36.6
Commercial	2,311	2,842	4,050	3,605	3,787	3,886	4,033	27.9	34.3
Industrial	3,272	3,511	3,601	3,978	4,151	4,523	3,423	39.5	29.1
Other	50	58	49	62	60	NA	NA	.6	NA
Total	8,284	9,580	11,274	11,379	12,019	12,600	11,761	100.0	100.0
Retail Revenue (million dollars)									
Residential	223	288	305	321	350	360	378	41.7	42.7
Commercial	160	201	239	252	271	284	300	29.9	33.9
Industrial	148	166	134	191	201	233	207	27.7	23.4
Other	5	7	7	9	8	NA	NA	.9	NA
Total	535	662	685	774	830	877	885	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	8.39	9.08	8.54	8.61	8.70	8.59	8.78	NA	NA
Commercial	6.91	7.08	5.89	7.00	7.15	7.31	7.44	NA	NA
Industrial	4.51	4.72	3.73	4.81	4.85	5.15	6.06	NA	NA
Other	10.33	11.95	14.19	14.17	14.13	NA	NA	NA	NA
Total	6.46	6.91	6.08	6.80	6.91	6.96	7.53	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Delaware								
Number of Entities	1	9	NA	1	NA	4	1	16
Number of Retail Customers	285,011	56,249	NA	68,734	NA	9	NA	410,003
Retail Sales (thousand megawatthours)	8,001	1,745	NA	1,004	NA	1,010	NA	11,761
Percentage of Retail Sales	68.03	14.84	NA	8.54	NA	8.59	NA	100.00
Revenue from Retail Sales (million dollars)	587	147	NA	84	NA	65	2	885
Percentage of Revenue	66.36	16.56	NA	9.53	NA	7.34	.21	100.00
Average Retail Price (cents/kWh)	7.34	8.40	NA	8.40	NA	6.43	.19	7.53

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

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W = Withheld to avoid disclosure of individual company data;
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Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
District of Columbia		
NERC Region(s)		MAAC
Primary Energy Source		Petroleum
Net Summer Capability (megawatts)	806	51
Electric Utilities	0	51
Independent Power Producers & Combined Heat and Power	806	41
Net Generation (megawatthours)	36,487	51
Independent Power Producers & Combined Heat and Power	36,487	51
Emissions (thousand metric tons)		
Sulfur Dioxide	*	50
Nitrogen Oxide	*	51
Carbon Dioxide	56	50
Sulfur Dioxide (lbs/MWh)	9.5	10
Nitrogen Oxide (lbs/MWh)	4.4	4
Carbon Dioxide (lbs/MWh)	3,376	1
Total Retail Sales (megawatthours)	11,414,847	44
Full Service Provider Sales (megawatthours)	7,760,518	47
Deregulated Sales (megawatthours)	3,654,329	11
Direct Use (megawatthours)	384	50
Average Retail Price (cents/kWh)	7.47	17

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
District of Columbia			
1. Benning	Petroleum	Potomac Power Resources	550
2. Buzzard Point	Petroleum	Potomac Power Resources	256

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
District of Columbia						
1. Potomac Electric Power Co	Investor-Owned	7,760,518	1,634,261	5,973,243	153,014	0
2. Washington Gas Energy Services	Power Marketer	3,019,480	120,230	2,741,344	157,906	0
3. Constellation NewEnergy, Inc	Power Marketer	298,643	0	0	0	298,643
PEPCO Energy Services	Power Marketer	276,601	126,187	150,414	0	0
Total Sales, Top Five Providers		11,355,242	1,880,678	8,865,001	310,920	298,643
Percent of Total State Sales		99	100	99	100	98

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
District of Columbia									
Electric Utilities	**806**	**806**	**0**	**0**	**0**	**0**	**0**	**99.6**	**0.0**
Petroleum	806	806	0	0	0	0	0	99.6	.0
Independent Power Producers and Combined Heat and Power	**3**	**3**	**804**	**806**	**806**	**806**	**806**	**.4**	**100.0**
Coal	3	3	0	0	0	0	0	.4	.0
Petroleum	0	0	804	806	806	806	806	.0	100.0
Total Electric Industry	**809**	**809**	**804**	**806**	**806**	**806**	**806**	**100.0**	**100.0**
Coal	3	3	0	0	0	0	0	.4	.0
Petroleum	806	806	804	806	806	806	806	99.6	100.0

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
District of Columbia									
Electric Utilities	**361,043**	**188,862**	**97,423**	**0**	**0**	**0**	**0**	**100.0**	**0.0**
Petroleum	361,043	188,862	97,423	0	0	0	0	100.0	.0
Independent Power Producers and Combined Heat and Power	**0**	**0**	**46,951**	**123,239**	**261,980**	**74,144**	**36,487**	**.0**	**100.0**
Petroleum	0	0	46,951	123,239	261,980	74,144	36,487	.0	100.0
Total Electric Industry	**361,043**	**188,862**	**144,374**	**123,239**	**261,980**	**74,144**	**36,487**	**100.0**	**100.0**
Petroleum	361,043	188,862	144,374	123,239	261,980	74,144	36,487	100.0	100.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
District of Columbia							
Petroleum (cents per million Btu)	363.3	309.5	543.4	0.0	W	W	W
Average heat value (Btu per gallon)	143,239	142,998	142,643	0	138,483	142,324	141,352
Average sulfur Content (percent)	.9	1.0	.9	.0	.6	.6	.4

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
District of Columbia							
Sulfur Dioxide							
Coal	0	0	0	0	0	0	0
Petroleum	2	2	1	1	1	*	*
Natural Gas	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	2	2	1	1	1	*	*
Nitrogen Oxide							
Coal	0	0	0	0	0	0	0
Petroleum	*	*	*	*	1	*	*
Gas	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	*	*	*	*	1	*	*
Carbon Dioxide							
Coal	0	0	0	0	0	0	0
Petroleum	399	220	169	162	261	82	56
Gas	0	0	0	0	0	0	0
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	399	220	169	162	261	82	56

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
District of Columbia									
Retail Sales (thousand megawatthours)									
Residential	1,480	1,608	1,624	1,699	1,790	1,754	1,834	15.0	16.1
Commercial	5,073	8,079	8,332	8,539	8,645	8,639	8,994	51.5	78.8
Industrial	2,976	262	273	281	282	267	282	30.2	2.5
Other	319	366	387	362	411	NA	NA	3.2	NA
Transportation	NA	NA	NA	NA	NA	285	304	NA	2.7
Total	9,848	10,316	10,616	10,880	11,129	10,946	11,415	100.0	100.0
Retail Revenue (million dollars)									
Residential	90	123	130	132	143	138	147	15.4	17.3
Commercial	322	578	629	636	633	635	670	55.0	78.6
Industrial	154	11	13	14	14	15	13	26.3	1.5
Other	18	23	26	23	27	NA	NA	3.1	NA
Transportation	NA	NA	NA	NA	NA	22	22	NA	2.6
Total	585	735	798	805	817	810	852	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	6.10	7.62	8.03	7.79	7.98	7.84	8.00	NA	NA
Commercial	6.35	7.15	7.55	7.45	7.32	7.35	7.45	NA	NA
Industrial	5.16	4.36	4.74	4.81	4.95	5.57	4.74	NA	NA
Other	5.78	6.33	6.67	6.39	6.59	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	7.64	7.37	NA	NA
Total	5.94	7.12	7.52	7.40	7.34	7.40	7.47	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
District of Columbia								
Number of Entities	1	NA	NA	NA	NA	3	1	5
Number of Retail Customers	208,145	NA	NA	NA	NA	20,088	NA	228,233
Retail Sales (thousand megawatthours)	7,761	NA	NA	NA	NA	3,654	NA	11,415
Percentage of Retail Sales	67.99	NA	NA	NA	NA	32.01	NA	100.00
Revenue from Retail Sales (million dollars)	579	NA	NA	NA	NA	168	106	852
Percentage of Revenue	67.93	NA	NA	NA	NA	19.69	12.38	100.00
Average Retail Price (cents/kWh)	7.46	NA	NA	NA	NA	4.59	2.89	7.47

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Florida		
NERC Region(s)		FRCC/SERC
Primary Energy Source		Gas
Net Summer Capability (megawatts)	50,654	3
Electric Utilities	42,619	1
Independent Power Producers & Combined Heat and Power	8,035	12
Net Generation (megawatthours)	218,117,928	2
Electric Utilities	193,383,664	1
Independent Power Producers & Combined Heat and Power	24,734,264	12
Emissions (thousand metric tons)		
Sulfur Dioxide	443	9
Nitrogen Oxide	241	2
Carbon Dioxide	130,089	2
Sulfur Dioxide (lbs/MWh)	4.5	26
Nitrogen Oxide (lbs/MWh)	2.4	25
Carbon Dioxide (lbs/MWh)	1,315	28
Total Retail Sales (megawatthours)	218,584,494	3
Full Service Provider Sales (megawatthours)	218,584,494	2
Direct Use (megawatthours)	6,910,150	4
Average Retail Price (cents/kWh)	8.16	13

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Florida			
1. Crystal River	Petroleum,Nuclear,Coal	Florida Power Corp	3,140
2. Martin	Petroleum,Gas	Florida Power & Light Co	2,906
3. Fort Myers	Petroleum,Gas	Florida Power & Light Co	2,399
4. Turkey Point	Gas,Petroleum,Nuclear	Florida Power & Light Co	2,205
5. Sanford	Petroleum,Gas	Florida Power & Light Co	2,018
6. Big Bend	Petroleum,Coal	Tampa Electric Co	1,838
7. Lauderdale	Petroleum,Gas	Florida Power & Light Co	1,699
8. St Lucie	Nuclear	Florida Power & Light Co	1,678
9. Port Everglades	Gas,Petroleum	Florida Power & Light Co	1,653
10. H. L. Culbreath Bayside	Gas	Tampa Electric Co	1,632

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Florida						
1. Florida Power & Light Co	Investor-Owned	99,144,067	52,528,487	42,556,194	3,966,117	93,269
2. Florida Power Corp	Investor-Owned	38,193,103	19,347,267	14,777,209	4,068,627	0
3. Tampa Electric Co	Investor-Owned	18,436,670	8,292,829	7,587,550	2,555,667	624
4. JEA	Public	12,311,409	5,424,326	3,947,739	2,935,037	4,307
5. Gulf Power Co	Investor-Owned	11,046,409	5,215,332	3,718,050	2,113,027	0
Total Sales, Top Five Providers		179,131,658	90,808,241	72,586,742	15,638,475	98,200
Percent of Total State Sales		82	81	84	80	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004

(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Florida									
Electric Utilities	**32,714**	**35,857**	**37,264**	**38,240**	**40,313**	**41,996**	**42,619**	**95.8**	**84.1**
Coal	9,971	10,069	10,783	10,783	11,301	10,223	9,653	29.2	19.1
Petroleum	5,531	5,577	5,714	5,700	4,894	3,033	3,685	16.2	7.3
Natural Gas	1,990	3,563	3,347	3,630	3,570	6,405	7,158	5.8	14.1
Dual Fired	11,362	12,785	13,472	14,177	16,587	18,376	18,162	33.3	35.9
Nuclear	3,813	3,822	3,898	3,898	3,906	3,902	3,902	11.2	7.7
Hydroelectric	48	41	47	47	50	50	55	.1	.1
Other Renewables	0	0	3	5	5	8	5	.0	*
Independent Power Producers and Combined Heat and Power	**1,443**	**3,850**	**4,276**	**4,566**	**6,741**	**7,422**	**8,035**	**4.2**	**15.9**
Coal	242	811	693	806	806	799	769	.7	1.5
Petroleum	32	58	21	18	18	17	17	.1	*
Natural Gas	107	867	744	917	521	694	1,336	.3	2.6
Dual Fired	65	703	1,321	1,725	4,043	4,606	4,664	.2	9.2
Other Renewables	690	1,062	1,134	956	962	895	932	2.0	1.8
Other	307	347	361	144	391	410	315	.9	.6
Total Electric Industry	**34,157**	**39,706**	**41,540**	**42,805**	**47,054**	**49,419**	**50,654**	**100.0**	**100.0**
Coal	10,214	10,881	11,477	11,589	12,107	11,022	10,422	29.9	20.6
Petroleum	5,564	5,635	5,736	5,718	4,912	3,050	3,702	16.3	7.3
Natural Gas	2,096	4,430	4,091	4,547	4,091	7,099	8,494	6.1	16.8
Dual Fired	11,426	13,488	14,793	15,901	20,630	22,982	22,826	33.5	45.1
Nuclear	3,813	3,822	3,898	3,898	3,906	3,902	3,902	11.2	7.7
Hydroelectric	48	41	47	47	50	50	55	.1	.1
Other Renewables	690	1,062	1,138	962	967	903	937	2.0	1.8
Other	307	347	361	144	391	410	315	.9	.6

e footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Florida									
Electric Utilities	**123,623,905**	**147,156,684**	**169,888,638**	**170,966,177**	**182,346,629**	**188,034,719**	**193,383,664**	**94.0**	**88.7**
Coal	59,073,203	61,864,438	67,143,257	63,090,794	60,997,142	62,094,661	60,013,823	44.9	27.5
Petroleum	25,092,296	21,583,186	34,337,080	39,075,398	32,449,236	35,545,897	35,824,155	19.1	16.4
Natural Gas	17,504,242	34,737,603	36,002,612	36,943,903	54,883,087	59,013,591	65,940,807	13.3	30.2
Nuclear	21,779,560	28,740,617	32,291,345	31,583,404	33,704,230	30,979,481	31,215,576	16.6	14.3
Hydroelectric	174,604	230,840	86,769	147,718	184,114	262,667	265,258	.1	.1
Other Renewables	0	0	27,575	124,960	128,820	138,421	124,045	.0	.1
Independent Power Producers and Combined Heat and Power	**7,878,648**	**20,257,688**	**21,927,202**	**19,979,167**	**21,006,145**	**24,575,293**	**24,734,264**	**6.0**	**11.3**
Coal	1,027,054	3,897,403	5,598,572	5,136,944	4,929,251	5,579,919	4,863,044	.8	2.2
Petroleum	442,842	704,315	1,405,950	1,504,541	1,232,115	1,658,672	1,405,828	.3	.6
Natural Gas	1,138,441	8,017,547	7,200,255	6,625,902	8,280,948	9,279,829	10,688,070	.9	4.9
Other Gases	0	31,478	23,471	634	13,079	10,505	10,555	.0	*
Other Renewables	3,817,209	5,579,958	5,662,771	4,918,320	5,014,581	5,667,271	5,690,699	2.9	2.6
Other	1,453,102	2,026,987	2,036,183	1,792,826	1,536,171	2,379,097	2,076,068	1.1	1.0
Total Electric Industry	**131,502,553**	**167,414,372**	**191,815,840**	**190,945,344**	**203,352,775**	**212,610,011**	**218,117,928**	**100.0**	**100.0**
Coal	60,100,257	65,761,841	72,741,829	68,227,738	65,926,393	67,674,580	64,876,867	45.7	29.7
Petroleum	25,535,138	22,287,501	35,743,030	40,579,939	33,681,351	37,204,569	37,229,983	19.4	17.1
Natural Gas	18,642,683	42,755,150	43,202,867	43,569,805	63,164,035	68,293,420	76,628,877	14.2	35.1
Other Gases	0	31,478	23,471	634	13,079	10,505	10,555	.0	*
Nuclear	21,779,560	28,740,617	32,291,345	31,583,404	33,704,230	30,979,481	31,215,576	16.6	14.3
Hydroelectric	174,604	230,840	86,769	147,718	184,114	262,667	265,258	.1	.1
Other Renewables	3,817,209	5,579,958	5,690,346	5,043,280	5,143,401	5,805,692	5,814,744	2.9	2.7
Other	1,453,102	2,026,987	2,036,183	1,792,826	1,536,171	2,379,097	2,076,068	1.1	1.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Florida							
Coal (cents per million Btu)	184.9	178.6	156.9	171.8	176.2	175.5	191.5
Average heat value (Btu per pound)	12,364	12,296	12,330	12,110	12,247	12,281	12,249
Average sulfur Content (percent)	1.7	1.5	1.6	1.5	1.5	1.4	1.4
Petroleum (cents per million Btu)	301.9	247.0	408.8	338.8	324.0	388.6	392.1
Average heat value (Btu per gallon)	151,011	150,634	147,164	150,167	147,664	148,431	148,183
Average sulfur Content (percent)	1.2	1.5	1.5	1.6	1.8	2.0	2.0
Natural Gas (cents per million Btu)	253.3	223.6	433.8	453.2	396.7	573.3	629.0
Average heat value (Btu per cubic foot)	1,011	1,010	1,038	1,042	1,026	1,041	1,032

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Florida							
Sulfur Dioxide							
Coal	436	377	330	293	281	240	235
Petroleum	168	146	225	259	178	213	193
Natural Gas	*	*	*	*	1	*	*
Other	28	35	12	12	15	15	15
Total	633	558	567	564	475	468	443
Nitrogen Oxide							
Coal	217	243	183	181	173	155	141
Petroleum	38	31	71	72	52	62	59
Gas	26	47	36	35	33	24	24
Other	9	12	11	10	11	17	17
Total	290	333	301	298	269	257	241
Carbon Dioxide							
Coal	55,610	61,255	68,141	65,082	64,403	65,078	63,028
Petroleum	22,104	18,994	29,999	32,874	27,850	31,166	31,504
Gas	11,378	21,594	21,352	21,606	29,447	30,220	33,169
Geothermal	0	0	0	0	0	0	0
Other	389	614	568	566	2,560	2,333	2,388
Total	89,481	102,456	120,059	120,127	124,259	128,796	130,089

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Florida									
Retail Sales (thousand megawatthours)									
Residential	71,115	85,770	99,006	101,377	108,164	112,650	112,203	49.5	51.3
Commercial	51,342	60,079	72,130	73,958	77,561	85,257	86,765	35.8	39.7
Industrial	16,605	16,473	18,884	19,854	18,959	19,375	19,518	11.6	8.9
Other	4,473	5,171	5,824	5,563	5,789	NA	NA	3.1	NA
Transportation	NA	NA	NA	NA	NA	97	98	NA	.0
Total	143,535	167,492	195,843	200,752	210,474	217,379	218,584	100.0	100.0
Retail Revenue (million dollars)									
Residential	5,527	6,711	7,696	8,713	8,823	9,636	10,086	54.7	56.6
Commercial	3,421	3,838	4,511	5,239	5,150	6,083	6,601	33.9	37.0
Industrial	844	850	913	1,028	991	1,048	1,140	8.4	6.4
Other	306	346	405	423	430	NA	NA	3.0	NA
Transportation	NA	NA	NA	NA	NA	7	7	NA	.0
Total	10,098	11,745	13,526	15,403	15,394	16,774	17,835	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.77	7.82	7.77	8.59	8.16	8.55	8.99	NA	NA
Commercial	6.66	6.39	6.25	7.08	6.64	7.13	7.61	NA	NA
Industrial	5.08	5.16	4.84	5.18	5.22	5.41	5.84	NA	NA
Other	6.83	6.69	6.96	7.60	7.43	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	7.21	7.45	NA	NA
Total	7.03	7.01	6.91	7.67	7.31	7.72	8.16	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Florida								
Number of Entities	5	32	NA	16	NA	NA	NA	53
Number of Retail Customers	6,818,067	1,217,482	NA	924,478	NA	NA	NA	8,960,027
Retail Sales (thousand megawatthours)	167,587	34,027	NA	16,970	NA	NA	NA	218,584
Percentage of Retail Sales	76.67	15.57	NA	7.76	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	13,874	2,557	NA	1,403	NA	NA	NA	17,835
Percentage of Revenue	77.80	14.34	NA	7.87	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	8.28	7.51	NA	8.27	NA	NA	NA	8.16

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
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* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Georgia		
NERC Region(s)		SERC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	35,338	7
Electric Utilities	25,404	3
Independent Power Producers & Combined Heat and Power	9,934	10
Net Generation (megawatthours)	126,812,715	10
Electric Utilities	117,918,895	5
Independent Power Producers & Combined Heat and Power	8,893,820	27
Emissions (thousand metric tons)		
Sulfur Dioxide	584	4
Nitrogen Oxide	116	12
Carbon Dioxide	81,496	9
Sulfur Dioxide (lbs/MWh)	10.2	6
Nitrogen Oxide (lbs/MWh)	2.0	30
Carbon Dioxide (lbs/MWh)	1,417	25
Total Retail Sales (megawatthours)	129,465,784	8
Full Service Provider Sales (megawatthours)	129,465,784	5
Direct Use (megawatthours)	5,562,700	6
Average Retail Price (cents/kWh)	6.58	29

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Georgia			
1. Scherer	Petroleum,Coal	Georgia Power Co	3,430
2. Bowen	Petroleum,Coal	Georgia Power Co	3,254
3. Vogtle	Nuclear	Georgia Power Co	2,301
4. Wansley	Petroleum,Coal	Georgia Power Co	1,827
5. Edwin I Hatch	Nuclear	Georgia Power Co	1,752
6. Harllee Branch	Petroleum,Coal	Georgia Power Co	1,607
7. Yates	Petroleum,Gas,Coal	Georgia Power Co	1,295
8. Murray Energy Facility	Gas	KGEN Power Partners, LLC	1,244
9. Wansley Combined Cycle	Gas	Southern Power Co	1,066
10. Tenaska Georgia Generation Facility	Petroleum,Gas	Tenaska Georgia Partners LP	933

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Georgia						
1. Georgia Power Co	Investor-Owned	77,904,202	22,930,371	28,436,240	26,357,271	180,320
2. Savannah Electric & Power Co	Investor-Owned	4,422,302	1,899,462	1,682,268	840,572	0
3. Jackson Electric Member Corp	Cooperative	4,205,835	2,423,925	1,252,663	529,247	0
4. Cobb Electric Membership Corp	Cooperative	3,573,782	2,215,550	1,130,752	227,480	0
5. North Georgia Elec Member Corp	Cooperative	2,628,621	1,389,574	482,075	756,972	0
Total Sales, Top Five Providers		92,734,742	30,858,882	32,983,998	28,711,542	180,320
Percent of Total State Sales		72	60	78	80	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Georgia									
Electric Utilities	**20,731**	**22,290**	**24,860**	**24,099**	**25,821**	**24,804**	**25,404**	**95.6**	**71.9**
Coal	12,952	12,551	13,470	13,503	13,498	13,331	13,215	59.7	37.4
Petroleum	926	1,064	990	991	991	991	991	4.3	2.8
Natural Gas	27	33	743	903	2,315	1,721	2,195	.1	6.2
Dual Fired	630	1,408	2,058	1,225	1,225	1,170	1,275	2.9	3.6
Nuclear	3,726	3,900	4,145	4,023	4,023	4,040	4,053	17.2	11.5
Hydroelectric	1,981	2,209	2,329	2,331	2,316	2,097	2,000	9.1	5.7
Pumped Storage	488	1,124	1,124	1,124	1,454	1,454	1,675	2.2	4.7
Independent Power Producers and Combined Heat and Power	**964**	**1,386**	**2,896**	**5,383**	**8,780**	**10,011**	**9,934**	**4.4**	**28.1**
Coal	79	64	261	312	317	317	273	.4	.8
Petroleum	143	192	189	178	253	307	262	.7	.7
Natural Gas	39	26	600	1,443	4,184	5,364	5,269	.2	14.9
Dual Fired	91	400	1,338	3,029	3,613	3,613	3,614	.4	10.2
Hydroelectric	9	13	11	10	10	11	11	*	*
Other Renewables	603	689	497	410	402	399	505	2.8	1.4
Total Electric Industry	**21,696**	**23,675**	**27,756**	**29,482**	**34,601**	**34,815**	**35,338**	**100.0**	**100.0**
Coal	13,030	12,615	13,731	13,816	13,815	13,648	13,488	60.1	38.2
Petroleum	1,070	1,256	1,180	1,168	1,243	1,297	1,252	4.9	3.5
Natural Gas	67	59	1,342	2,346	6,500	7,084	7,463	.3	21.1
Dual Fired	722	1,808	3,397	4,254	4,838	4,784	4,889	3.3	13.8
Nuclear	3,726	3,900	4,145	4,023	4,023	4,040	4,053	17.2	11.5
Hydroelectric	1,991	2,223	2,341	2,341	2,325	2,109	2,012	9.2	5.7
Other Renewables	603	690	497	410	402	399	506	2.8	1.4
Pumped Storage	488	1,124	1,124	1,124	1,454	1,454	1,675	2.2	4.7

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Georgia									
Electric Utilities	**97,565,058**	**102,015,724**	**116,176,834**	**110,564,676**	**111,855,967**	**115,755,114**	**117,918,895**	**95.0**	**93.0**
Coal	67,564,750	65,880,095	79,007,166	73,443,695	77,288,328	77,858,022	79,185,166	65.8	62.4
Petroleum	164,987	218,515	641,415	275,630	233,940	278,618	156,672	.2	.1
Natural Gas	151,615	572,818	1,754,679	1,168,337	1,189,392	890,600	2,044,196	.1	1.6
Nuclear	24,796,884	30,660,626	32,472,935	33,681,769	31,107,735	33,256,649	33,747,705	24.1	26.6
Hydroelectric	4,544,712	4,146,208	2,455,467	2,564,955	2,684,740	4,107,318	3,663,002	4.4	2.9
Pumped Storage	342,110	537,462	−154,828	−569,710	−648,168	−636,093	−877,846	.3	−.7
Independent Power Producers and Combined Heat and Power	**5,121,182**	**5,862,872**	**7,700,579**	**7,752,113**	**14,656,248**	**8,321,720**	**8,893,820**	**5.0**	**7.0**
Coal	980,942	1,062,265	1,093,284	1,117,486	1,539,796	780,467	770,571	1.0	.6
Petroleum	334,493	631,345	979,238	894,909	970,625	915,441	686,118	.3	.5
Natural Gas	678,565	887,066	2,496,398	2,697,536	5,699,758	3,386,391	4,151,766	.7	3.3
Hydroelectric	44,405	50,533	25,330	31,472	30,982	32,952	29,394	*	*
Other Renewables	3,082,776	3,231,663	3,104,799	3,009,307	6,415,087	3,206,469	3,255,971	3.0	2.6
Other	1	0	1,530	1,403	0	0	0	.0	.0
Total Electric Industry	**102,686,240**	**107,878,596**	**123,877,413**	**118,316,789**	**126,512,215**	**124,076,834**	**126,812,715**	**100.0**	**100.0**
Coal	68,545,692	66,942,360	80,100,450	74,561,181	78,828,124	78,638,489	79,955,737	66.8	63.0
Petroleum	499,480	849,860	1,620,653	1,170,539	1,204,565	1,194,059	842,790	.5	.7
Natural Gas	830,180	1,459,884	4,251,077	3,865,873	6,889,150	4,276,991	6,195,962	.8	4.9
Nuclear	24,796,884	30,660,626	32,472,935	33,681,769	31,107,735	33,256,649	33,747,705	24.1	26.6
Hydroelectric	4,589,117	4,196,741	2,480,797	2,596,427	2,715,722	4,140,270	3,692,396	4.5	2.9
Other Renewables	3,082,776	3,231,663	3,104,799	3,009,307	6,415,087	3,206,469	3,255,971	3.0	2.6
Pumped Storage	342,110	537,462	−154,828	−569,710	−648,168	−636,093	−877,846	.3	−.7
Other	1	0	1,530	1,403	0	0	0	.0	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Georgia							
Coal (cents per million Btu)	178.6	166.8	154.2	166.1	W	171.9	180.2
Average heat value (Btu per pound)	11,893	11,576	11,559	11,730	11,698	11,668	11,024
Average sulfur Content (percent)	1.6	.8	.8	.8	.8	.8	.8
Petroleum (cents per million Btu)	485.5	378.1	690.6	668.4	548.6	267.9	288.7
Average heat value (Btu per gallon)	139,814	139,632	138,499	145,857	140,850	134,648	136,533
Average sulfur Content (percent)	.8	.5	.5	.5	.4	4.3	4.2
Natural Gas (cents per million Btu)	296.8	272.1	417.6	327.8	362.3	571.7	664.9
Average heat value (Btu per cubic foot)	1,024	1,024	1,031	1,022	1,022	1,035	1,031

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Georgia							
Sulfur Dioxide							
Coal	805	440	488	468	499	517	524
Petroleum	13	2	25	41	50	42	33
Natural Gas	0	*	*	*	*	*	*
Other	30	39	31	27	48	27	27
Total	849	481	544	535	598	586	584
Nitrogen Oxide							
Coal	292	251	177	159	152	105	102
Petroleum	2	3	4	3	4	5	4
Gas	2	4	5	4	6	2	2
Other	10	10	8	8	14	9	8
Total	306	268	194	174	176	121	116
Carbon Dioxide							
Coal	64,316	66,461	74,418	69,877	75,350	74,703	76,469
Petroleum	1,295	1,878	2,832	2,242	2,478	2,320	1,966
Gas	1,075	1,705	3,197	2,834	3,796	2,175	2,913
Geothermal	0	0	0	0	0	0	0
Other	77	0	15	15	157	159	148
Total	66,764	70,044	80,462	74,968	81,781	79,356	81,496

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Georgia									
Retail Sales (thousand megawatthours)									
Residential	29,933	35,812	44,560	44,380	48,600	48,174	51,124	37.2	39.5
Commercial	22,868	27,741	36,951	37,839	38,887	40,554	42,316	28.4	32.7
Industrial	26,717	31,493	36,085	33,941	34,603	34,768	35,846	33.2	27.7
Other	922	1,145	1,589	1,631	1,699	NA	NA	1.1	NA
Transportation	NA	NA	NA	NA	NA	180	180	NA	.1
Total	80,440	96,192	119,185	117,790	123,789	123,677	129,466	100.0	100.0
Retail Revenue (million dollars)									
Residential	2,233	2,811	3,386	3,428	3,706	3,711	4,016	42.3	47.1
Commercial	1,677	2,031	2,401	2,503	2,513	2,699	2,912	31.8	34.2
Industrial	1,291	1,423	1,481	1,454	1,366	1,397	1,587	24.5	18.6
Other	75	98	135	140	141	NA	NA	1.4	NA
Transportation	NA	NA	NA	NA	NA	9	9	NA	.1
Total	5,275	6,363	7,404	7,524	7,726	7,816	8,525	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.46	7.85	7.60	7.72	7.63	7.70	7.86	NA	NA
Commercial	7.33	7.32	6.50	6.61	6.46	6.66	6.88	NA	NA
Industrial	4.83	4.52	4.10	4.28	3.95	4.02	4.43	NA	NA
Other	8.11	8.60	8.51	8.56	8.31	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	4.81	5.12	NA	NA
Total	6.56	6.61	6.21	6.39	6.24	6.32	6.58	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Georgia								
Number of Entities	2	53	NA	43	NA	NA	NA	98
Number of Retail Customers	2,201,541	333,360	NA	1,729,631	NA	NA	NA	4,264,532
Retail Sales (thousand megawatthours)	82,327	11,753	NA	35,386	NA	NA	NA	129,466
Percentage of Retail Sales	63.59	9.08	NA	27.33	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	5,119	772	NA	2,635	NA	NA	NA	8,525
Percentage of Revenue	60.04	9.05	NA	30.91	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	6.22	6.57	NA	7.45	NA	NA	NA	6.58

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Hawaii		
NERC Region(s)		--
Primary Energy Source		Petroleum
Net Summer Capability (megawatts)	2,311	47
Electric Utilities	1,691	41
Independent Power Producers & Combined Heat and Power	620	43
Net Generation (megawatthours)	11,410,403	44
Electric Utilities	6,982,469	39
Independent Power Producers & Combined Heat and Power	4,427,934	36
Emissions (thousand metric tons)		
Sulfur Dioxide	24	39
Nitrogen Oxide	13	41
Carbon Dioxide	8,912	42
Sulfur Dioxide (lbs/MWh)	4.7	22
Nitrogen Oxide (lbs/MWh)	2.6	23
Carbon Dioxide (lbs/MWh)	1,722	16
Total Retail Sales (megawatthours)	10,731,520	46
Full Service Provider Sales (megawatthours)	10,731,520	43
Direct Use (megawatthours)	480,616	36
Average Retail Price (cents/kWh)	15.70	1

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Hawaii			
1. Kahe	Petroleum	Hawaiian Electric Co Inc	582
2. Waiau	Petroleum	Hawaiian Electric Co Inc	457
3. Maalaea	Petroleum	Maui Electric Co Ltd	190
4. AES Hawaii	Petroleum,Other,Coal	AES Hawaii Inc	180
5. Kalaeola Cogen Plant	Petroleum	Kalaeloa Partners LP	180
6. Honolulu	Petroleum	Hawaiian Electric Co Inc	100
7. Port Allen	Petroleum	Kauai Island Utility Cooperative	96
8. Keahole	Petroleum	Hawaii Electric Light Co Inc	63
9. Hamakua Energy Plant	Petroleum,Gas,Other	Hamakua Energy Partners LP	61
10. H Power	Petroleum,Other	Covanta Honolulu Resource Recovery	60

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Hawaii						
1. Hawaiian Electric Co Inc	Investor-Owned	7,732,834	2,151,329	2,454,705	3,126,800	0
2. Maui Electric Co Ltd	Investor-Owned	1,247,689	440,376	401,018	406,295	0
3. Hawaii Electric Light Co Inc	Investor-Owned	1,082,807	408,963	444,354	229,490	0
4. Kauai Island Utility Coop	Cooperative	446,923	161,486	118,968	166,469	0
Total Sales, Top Five Providers		10,510,253	3,162,154	3,419,045	3,929,054	0
Percent of Total State Sales		98	100	94	100	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Hawaii									
Electric Utilities	**1,487**	**1,602**	**1,626**	**1,622**	**1,622**	**1,624**	**1,691**	**78.8**	**73.2**
Petroleum	1,483	1,598	1,606	1,601	1,618	1,620	1,687	78.6	73.0
Natural Gas	0	0	15	15	0	0	0	.0	.0
Hydroelectric	3	3	4	3	2	2	2	.2	.1
Other Renewables	0	0	2	2	2	2	2	.0	.1
Independent Power Producers and Combined Heat and Power	**400**	**758**	**762**	**669**	**645**	**644**	**620**	**21.2**	**26.8**
Coal	22	213	213	202	202	202	180	1.2	7.8
Petroleum	133	276	331	189	196	212	262	7.1	11.3
Natural Gas	0	0	0	61	67	50	0	.0	.0
Other Gases	8	8	8	9	9	9	9	.4	.4
Hydroelectric	14	25	23	22	22	20	20	.7	.9
Other Renewables	223	236	187	186	148	151	149	11.8	6.4
Total Electric Industry	**1,886**	**2,359**	**2,388**	**2,292**	**2,267**	**2,268**	**2,311**	**100.0**	**100.0**
Coal	22	213	213	202	202	202	180	1.2	7.8
Petroleum	1,616	1,874	1,937	1,790	1,815	1,832	1,949	85.7	84.3
Natural Gas	0	0	15	76	67	50	0	.0	.0
Other Gases	8	8	8	9	9	9	9	.4	.4
Hydroelectric	18	28	26	25	23	22	22	1.0	1.0
Other Renewables	223	237	189	188	150	153	151	11.8	6.5

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Hawaii									
Electric Utilities	**7,996,096**	**6,190,584**	**6,534,692**	**6,383,088**	**7,513,051**	**6,493,205**	**6,982,469**	**82.4**	**61.2**
Petroleum	7,967,354	6,174,627	6,516,929	6,362,846	7,502,913	6,489,565	6,971,259	82.1	61.1
Hydroelectric	22,743	15,957	15,114	18,132	8,533	2,078	9,724	.2	.1
Other Renewables	5,999	0	2,649	2,110	1,605	1,562	1,486	.1	*
Independent Power Producers and Combined Heat and Power	**1,706,656**	**4,113,399**	**4,058,711**	**4,250,005**	**4,150,019**	**4,483,167**	**4,427,934**	**17.6**	**38.8**
Coal	2,381	1,561,204	1,578,585	1,604,764	1,545,797	1,644,137	1,603,811	*	14.1
Petroleum	768,508	1,504,368	1,534,853	1,860,978	1,964,077	2,012,985	1,855,462	7.9	16.3
Natural Gas	0	0	0	0	0	0	125,081	.0	1.1
Other Gases	16,163	69,307	42,173	37,855	40,816	40,251	40,794	.2	.4
Hydroelectric	56,773	81,853	88,344	82,618	86,535	88,427	84,177	.6	.7
Other Renewables	862,831	894,548	814,756	663,790	512,794	695,204	716,377	8.9	6.3
Other	0	2,119	0	0	0	2,162	2,231	.0	*
Total Electric Industry	**9,702,752**	**10,303,983**	**10,593,403**	**10,633,093**	**11,663,070**	**10,976,371**	**11,410,403**	**100.0**	**100.0**
Coal	2,381	1,561,204	1,578,585	1,604,764	1,545,797	1,644,137	1,603,811	*	14.1
Petroleum	8,735,862	7,678,995	8,051,782	8,223,824	9,466,990	8,502,550	8,826,721	90.0	77.4
Natural Gas	0	0	0	0	0	0	125,081	.0	1.1
Other Gases	16,163	69,307	42,173	37,855	40,816	40,251	40,794	.2	.4
Hydroelectric	79,516	97,810	103,458	100,750	95,068	90,505	93,901	.8	.8
Other Renewables	868,830	894,548	817,405	665,900	514,399	696,766	717,863	9.0	6.3
Other	0	2,119	0	0	0	2,162	2,231	.0	*

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Hawaii							
Coal (cents per million Btu)	0.0	0.0	0.0	0.0	W	W	W
Average heat value (Btu per pound)	0	0	0	0	11,454	11,422	11,097
Average sulfur Content (percent)	.0	.0	.0	.0	.3	.4	.5
Petroleum (cents per million Btu)	415.2	298.0	503.9	490.3	W	W	W
Average heat value (Btu per gallon)	148,883	149,392	149,704	146,571	142,633	140,581	140,629
Average sulfur Content (percent)	.5	.4	.4	.5	.4	.4	.4

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Hawaii							
Sulfur Dioxide							
Coal	*	4	2	7	6	1	1
Petroleum	35	25	18	20	18	22	23
Natural Gas	0	0	0	0	0	0	0
Other	*	*	*	*	*	*	*
Total	35	29	19	27	24	23	24
Nitrogen Oxide							
Coal	*	6	4	4	3	2	2
Petroleum	14	9	9	10	10	10	10
Gas	0	0	0	0	0	0	0
Other	1	1	1	1	1	2	1
Total	15	16	14	14	14	13	13
Carbon Dioxide							
Coal	6	1,599	1,621	1,645	1,596	1,699	1,693
Petroleum	8,588	6,424	6,599	6,526	7,350	6,633	6,936
Gas	0	0	0	0	0	0	67
Geothermal	0	6	7	5	2	5	5
Other	66	74	59	99	183	209	210
Total	8,660	8,103	8,286	8,275	9,130	8,545	8,912

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Hawaii									
Retail Sales (thousand megawatthours)									
Residential	2,324	2,606	2,765	2,802	2,898	3,028	3,162	28.0	29.5
Commercial	2,194	2,721	3,036	3,129	3,168	3,517	3,632	26.4	33.8
Industrial	3,734	3,803	3,834	3,790	3,770	3,846	3,937	44.9	36.7
Other	58	57	56	63	55	NA	NA	.7	NA
Total	8,311	9,188	9,691	9,785	9,892	10,391	10,732	100.0	100.0
Retail Revenue (million dollars)									
Residential	238	347	454	458	453	507	571	31.7	33.9
Commercial	223	331	450	464	447	528	588	29.7	34.9
Industrial	283	352	448	443	415	469	526	37.7	31.2
Other	5	7	8	11	9	NA	NA	.7	NA
Total	750	1,038	1,360	1,374	1,325	1,504	1,685	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	10.26	13.32	16.41	16.34	15.63	16.73	18.06	NA	NA
Commercial	10.18	12.16	14.81	14.81	14.11	15.02	16.19	NA	NA
Industrial	7.57	9.27	11.69	11.68	11.02	12.20	13.35	NA	NA
Other	9.40	12.11	14.76	16.81	16.85	NA	NA	NA	NA
Total	9.02	11.29	14.03	14.05	13.39	14.47	15.70	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Hawaii								
Number of Entities	3	NA	NA	1	3	NA	NA	7
Number of Retail Customers	419,228	NA	NA	32,949	14	NA	NA	452,191
Retail Sales (thousand megawatthours)	10,063	NA	NA	447	221	NA	NA	10,732
Percentage of Retail Sales	93.77	NA	NA	4.16	2.06	NA	NA	100.00
Revenue from Retail Sales (million dollars)	1,542	NA	NA	117	26	NA	NA	1,685
Percentage of Revenue	91.52	NA	NA	6.96	1.52	NA	NA	100.00
Average Retail Price (cents/kWh)	15.32	NA	NA	26.22	11.57	NA	NA	15.70

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Idaho		
NERC Region(s)		WECC
Primary Energy Source		Hydro
Net Summer Capability (megawatts)	2,986	45
Electric Utilities	2,394	38
Independent Power Producers & Combined Heat and Power	591	44
Net Generation (megawatthours)	10,863,039	45
Electric Utilities	7,765,655	37
Independent Power Producers & Combined Heat and Power	3,097,384	40
Emissions (thousand metric tons)		
Sulfur Dioxide	7	46
Nitrogen Oxide	3	48
Carbon Dioxide	1,292	49
Sulfur Dioxide (lbs/MWh)	1.4	44
Nitrogen Oxide (lbs/MWh)	.6	46
Carbon Dioxide (lbs/MWh)	262	50
Total Retail Sales (megawatthours)	21,808,674	38
Full Service Provider Sales (megawatthours)	21,767,415	38
Deregulated Sales (megawatthours)	41,259	19
Direct Use (megawatthours)	711,211	31
Average Retail Price (cents/kWh)	4.97	50

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Idaho			
1. Brownlee	Hydroelectric	Idaho Power Co	562
2. Dworshak	Hydroelectric	USCE-North Pacific Division	400
3. Cabinet Gorge	Hydroelectric	Avista Corporation	276
4. Rathdrum Power LLC	Gas	Rathdrum Operating Services Co., Inc.	248
5. Palisades	Hydroelectric	U S Bureau of Reclamation	176
6. Rathdrum	Gas	Avista Corporation	136
7. Lucky Peak Power Plant Project	Hydroelectric	Boise-Kuna Irrigation District	96
8. C J Strike	Hydroelectric	Idaho Power Co	89
9. Bliss	Hydroelectric	Idaho Power Co	80
10. Evander Andrews Power Complex	Gas	Idaho Power Co	76

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Idaho						
1. Idaho Power Co	Investor-Owned	12,574,544	4,389,994	3,411,043	4,773,507	0
2. PacifiCorp	Investor-Owned	3,262,417	611,169	371,308	2,279,940	0
3. Avista Corporation	Investor-Owned	3,239,464	1,054,446	924,071	1,260,947	0
4. Idaho Falls City of	Public	619,763	269,011	292,773	57,979	0
5. Kootenai Electric Coop Inc	Cooperative	333,311	228,475	89,084	15,752	0
Total Sales, Top Five Providers		20,029,499	6,553,095	5,088,279	8,388,125	0
Percent of Total State Sales		92	90	93	93	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Idaho									
Electric Utilities	**2,282**	**2,559**	**2,585**	**2,658**	**2,690**	**2,439**	**2,394**	**87.9**	**80.2**
Petroleum	56	6	6	5	5	5	5	2.2	.2
Natural Gas	0	136	136	212	212	212	212	.0	7.1
Hydroelectric	2,227	2,418	2,444	2,441	2,472	2,221	2,176	85.8	72.9
Independent Power Producers and Combined Heat and Power	**314**	**415**	**432**	**577**	**575**	**563**	**591**	**12.1**	**19.8**
Coal	12	18	18	15	16	17	17	.5	.6
Natural Gas	0	0	24	269	269	269	269	.0	9.0
Hydroelectric	218	251	251	197	193	193	214	8.4	7.2
Other Renewables	69	131	125	82	82	70	78	2.7	2.6
Other	15	15	15	15	15	15	15	.6	.5
Total Electric Industry	**2,596**	**2,974**	**3,017**	**3,236**	**3,264**	**3,002**	**2,986**	**100.0**	**100.0**
Coal	12	18	18	15	16	17	17	.5	.6
Petroleum	56	6	6	5	5	5	5	2.2	.2
Natural Gas	0	136	160	481	481	481	481	.0	16.1
Hydroelectric	2,444	2,669	2,695	2,638	2,665	2,414	2,391	94.1	80.1
Other Renewables	69	130	125	81	81	70	77	2.7	2.6
Other	15	15	15	15	15	15	15	.6	.5

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Idaho									
Electric Utilities	**8,617,977**	**10,062,854**	**10,114,257**	**6,666,589**	**8,164,140**	**7,732,812**	**7,765,655**	**88.9**	**71.5**
Petroleum	615	311	2,792	3,723	65	116	136	*	*
Natural Gas	0	0	0	0	76,168	61,229	27,775	.0	.3
Hydroelectric	8,617,362	10,062,543	10,111,465	6,662,866	8,087,907	7,671,467	7,737,744	88.9	71.2
Independent Power Producers and Combined Heat and Power	**1,073,498**	**1,781,751**	**1,796,185**	**2,680,352**	**1,622,793**	**2,690,124**	**3,097,384**	**11.1**	**28.5**
Coal	44,371	47,527	70,675	72,284	90,673	90,290	100,100	.5	.9
Petroleum	379	253	4,156	0	0	0	0	*	.0
Natural Gas	55,714	167,292	299,053	1,405,286	252,820	1,313,591	1,682,517	.6	15.5
Hydroelectric	497,628	926,791	855,230	560,260	681,414	682,567	723,911	5.1	6.7
Other Renewables	410,203	549,608	483,258	533,335	508,303	540,953	573,736	4.2	5.3
Other	65,203	90,280	83,813	109,187	89,583	62,722	17,119	.7	.2
Total Electric Industry	**9,691,475**	**11,844,605**	**11,910,442**	**9,346,941**	**9,786,933**	**10,422,935**	**10,863,039**	**100.0**	**100.0**
Coal	44,371	47,527	70,675	72,284	90,673	90,290	100,100	.5	.9
Petroleum	994	564	6,948	3,723	65	116	136	*	*
Natural Gas	55,714	167,292	299,053	1,405,286	328,988	1,374,820	1,710,292	.6	15.7
Hydroelectric	9,114,990	10,989,334	10,966,695	7,223,126	8,769,321	8,354,034	8,461,655	94.1	77.9
Other Renewables	410,203	549,608	483,258	533,335	508,303	540,953	573,736	4.2	5.3
Other	65,203	90,280	83,813	109,187	89,583	62,722	17,119	.7	.2

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Idaho							
Natural Gas (cents per million Btu)	0.0	0.0	0.0	0.0	W	W	W
Average heat value (Btu per cubic foot)	0	0	0	0	1,003	1,018	1,024

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Idaho							
Sulfur Dioxide							
Coal	6	5	6	4	8	3	4
Petroleum	*	0	*	0	0	0	0
Natural Gas	0	0	0	0	0	0	0
Other	3	3	3	3	3	3	3
Total	9	8	9	6	11	6	7
Nitrogen Oxide							
Coal	2	1	2	1	2	1	2
Petroleum	0	0	*	0	0	0	0
Gas	*	1	1	1	1	*	*
Other	1	1	1	1	1	1	1
Total	3	3	3	2	3	3	3
Carbon Dioxide							
Coal	312	321	334	266	460	498	481
Petroleum	3	1	18	3	*	*	*
Gas	170	377	468	824	307	605	812
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	486	699	821	1,093	767	1,103	1,292

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Idaho									
Retail Sales (thousand megawatthours)									
Residential	5,626	6,193	7,006	6,906	7,056	7,090	7,314	31.3	33.5
Commercial	4,894	5,291	7,068	6,543	6,963	5,466	5,484	27.2	25.1
Industrial	7,165	7,843	8,408	7,305	6,352	8,663	9,011	39.8	41.3
Other	318	293	352	342	329	NA	NA	1.8	NA
Total	18,003	19,620	22,834	21,096	20,700	21,219	21,809	100.0	100.0
Retail Revenue (million dollars)									
Residential	274	330	377	415	465	443	446	40.0	41.1
Commercial	208	237	300	336	398	304	294	30.4	27.1
Industrial	188	220	262	271	276	360	344	27.4	31.7
Other	15	15	15	16	17	NA	NA	2.2	NA
Total	685	802	953	1,037	1,156	1,107	1,085	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	4.87	5.33	5.39	6.01	6.59	6.24	6.10	NA	NA
Commercial	4.25	4.48	4.24	5.13	5.71	5.56	5.37	NA	NA
Industrial	2.62	2.81	3.11	3.71	4.34	4.16	3.82	NA	NA
Other	4.65	5.13	4.13	4.66	5.18	NA	NA	NA	NA
Total	3.80	4.09	4.17	4.92	5.58	5.22	4.97	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Idaho								
Number of Entities	3	11	NA	16	NA	NA	1	31
Number of Retail Customers	589,163	39,706	NA	72,270	NA	1	NA	701,140
Retail Sales (thousand megawatthours)	19,076	1,004	NA	1,687	NA	41	NA	21,809
Percentage of Retail Sales	87.47	4.61	NA	7.73	NA	.19	NA	100.00
Revenue from Retail Sales (million dollars)	915	66	NA	104	NA	NA	*	1,085
Percentage of Revenue	84.33	6.04	NA	9.63	NA	NA	*	100.00
Average Retail Price (cents/kWh)	4.80	6.52	NA	6.19	NA	NA	.01	4.97

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
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Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Illinois		
NERC Region(s)		MAIN/MAPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	42,032	5
Electric Utilities	2,994	36
Independent Power Producers & Combined Heat and Power	39,037	3
Net Generation (megawatthours)	191,957,778	5
Electric Utilities	19,184,751	36
Independent Power Producers & Combined Heat and Power	172,773,027	3
Emissions (thousand metric tons)		
Sulfur Dioxide	385	11
Nitrogen Oxide	143	8
Carbon Dioxide	100,325	6
Sulfur Dioxide (lbs/MWh)	4.4	27
Nitrogen Oxide (lbs/MWh)	1.6	37
Carbon Dioxide (lbs/MWh)	1,152	36
Total Retail Sales (megawatthours)	139,253,956	7
Full Service Provider Sales (megawatthours)	112,186,918	8
Deregulated Sales (megawatthours)	27,067,038	4
Direct Use (megawatthours)	4,280,370	10
Average Retail Price (cents/kWh)	6.80	28

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Illinois			
1. Braidwood Generation Station	Nuclear	Exelon Generation Co LLC	2,330
2. Byron Generating Station	Nuclear	Exelon Generation Co LLC	2,300
3. LaSalle Generating Station	Nuclear	Exelon Generation Co LLC	2,238
4. Baldwin Energy Complex	Petroleum,Other,Coal	Dynegy Midwest Generation Inc	1,761
5. Dresden Generating Station	Nuclear	Exelon Generation Co LLC	1,734
6. Quad Cities Generating Station	Nuclear	Exelon Generation Co LLC	1,734
7. Powerton	Gas,Coal	Midwest Generations EME LLC	1,538
8. Elwood Energy LLC	Gas	Dominion Elwood Services Co	1,350
9. Kincaid Generation LLC	Gas,Coal	Dominion Energy Services Co	1,168
10. Kendall County Generation Facility	Gas	LSP-Kendall Energy LLC	1,140

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Illinois						
1. Commonwealth Edison Co	Investor-Owned	66,418,606	26,463,440	24,429,450	15,085,364	440,352
2. AmerenIP	Investor-Owned	15,155,999	5,350,137	4,844,352	4,961,456	54
3. Constellation NewEnergy, Inc	Power Marketer	8,572,079	0	2,054,876	6,517,203	0
4. Ameren Energy Marketing Co	Power Marketer	7,121,941	0	1,870,643	5,251,298	0
5. Central Illinois Pub Serv Co	Power Marketer	7,071,764	2,977,527	2,831,143	1,263,094	0
Total Sales, Top Five Providers		104,340,389	34,791,104	36,030,464	33,078,415	440,406
Percent of Total State Sales		75	80	76	69	99

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Illinois									
Electric Utilities	**32,602**	**33,139**	**17,495**	**4,420**	**4,150**	**3,007**	**2,994**	**98.3**	**7.1**
Coal	14,912	14,916	5,473	2,862	2,862	1,866	1,859	45.0	4.4
Petroleum	3,704	2,112	591	427	297	331	314	11.2	.7
Natural Gas	396	2,763	555	403	387	127	185	1.2	.4
Dual Fired	973	733	949	716	593	671	625	2.9	1.5
Nuclear	12,609	12,609	9,915	0	0	0	0	38.0	.0
Hydroelectric	10	6	12	12	12	12	12	*	*
Independent Power Producers and Combined Heat and Power	**548**	**693**	**18,849**	**35,648**	**40,558**	**42,535**	**39,037**	**1.7**	**92.9**
Coal	266	352	10,754	12,937	12,792	13,795	13,832	.8	32.9
Petroleum	9	2	528	998	998	915	739	*	1.8
Natural Gas	91	187	2,906	7,119	11,492	12,163	11,760	.3	28.0
Other Gases	45	50	52	33	40	40	48	.1	.1
Dual Fired	103	53	3,531	3,411	3,763	3,923	1,056	.3	2.5
Nuclear	0	0	930	10,963	11,312	11,465	11,379	.0	27.1
Hydroelectric	17	18	21	23	9	21	21	.1	*
Other Renewables	17	31	127	166	154	214	205	.1	.5
Total Electric Industry	**33,151**	**33,832**	**36,344**	**40,068**	**44,709**	**45,541**	**42,032**	**100.0**	**100.0**
Coal	15,178	15,268	16,227	15,799	15,654	15,661	15,691	45.8	37.3
Petroleum	3,713	2,114	1,119	1,425	1,295	1,246	1,053	11.2	2.5
Natural Gas	486	2,950	3,461	7,521	11,879	12,289	11,944	1.5	28.4
Other Gases	45	50	52	33	40	40	47	.1	.1
Dual Fired	1,076	787	4,481	4,127	4,356	4,594	1,681	3.2	4.0
Nuclear	12,609	12,609	10,845	10,963	11,312	11,465	11,379	38.0	27.1
Hydroelectric	26	24	33	35	21	33	33	.1	.1
Other Renewables	18	31	126	165	154	213	204	.1	.5

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Illinois									
Electric Utilities	**126,977,389**	**145,165,161**	**113,565,741**	**29,835,014**	**17,149,913**	**9,563,746**	**19,184,751**	**98.1**	**10.0**
Coal	53,865,768	62,735,936	30,522,951	29,124,508	16,897,445	9,390,702	18,923,288	41.6	9.9
Petroleum	422,553	888,462	141,130	99,445	34,464	48,792	120,725	.3	.1
Natural Gas	740,926	2,944,310	215,826	546,305	161,134	53,174	62,240	.6	*
Nuclear	71,887,302	78,480,848	82,523,594	0	0	0	0	55.6	.0
Hydroelectric	60,840	47,699	60,354	56,802	56,870	71,078	72,165	*	*
Other Renewables	0	67,906	101,886	7,954	0	0	6,333	.0	*
Independent Power Producers and Combined Heat and Power	**2,415,082**	**3,492,770**	**64,930,340**	**149,414,271**	**170,904,536**	**179,491,514**	**172,773,028**	**1.9**	**90.0**
Coal	1,100,250	1,679,894	51,799,881	50,426,129	69,787,902	78,590,647	75,462,185	.8	39.3
Petroleum	16,031	34,042	491,890	1,406,560	188,219	1,072,125	629,926	*	.3
Natural Gas	678,965	1,030,068	4,449,737	4,059,988	8,917,601	3,849,288	3,314,531	.5	1.7
Other Gases	381,562	396,906	384,398	355,776	232,850	203,627	290,522	.3	.2
Nuclear	0	0	6,914,455	92,358,477	90,860,108	94,733,036	92,047,323	.0	48.0
Hydroelectric	83,086	76,237	83,474	87,225	71,952	67,422	81,364	.1	*
Other Renewables	155,188	275,623	806,505	720,116	845,361	974,495	946,935	.1	.5
Other	0	0	0	0	543	874	241	.0	.0
Total Electric Industry	**129,392,471**	**148,657,931**	**178,496,081**	**179,249,285**	**188,054,449**	**189,055,260**	**191,957,778**	**100.0**	**100.0**
Coal	54,966,018	64,415,830	82,322,832	79,550,637	86,685,347	87,981,349	94,385,473	42.5	49.2
Petroleum	438,584	922,504	633,020	1,506,005	222,683	1,120,917	750,651	.3	.4
Natural Gas	1,419,891	3,974,378	4,665,563	4,606,293	9,078,735	3,902,462	3,376,771	1.1	1.8
Other Gases	381,562	396,906	384,398	355,776	232,850	203,627	290,522	.3	.2
Nuclear	71,887,302	78,480,848	89,438,049	92,358,477	90,860,108	94,733,036	92,047,323	55.6	48.0
Hydroelectric	143,926	123,936	143,828	144,027	128,822	138,500	153,529	.1	.1
Other Renewables	155,188	343,529	908,391	728,070	845,361	974,495	953,268	.1	.5
Other	0	0	0	0	543	874	241	.0	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Illinois							
Coal (cents per million Btu)	175.1	163.4	115.1	119.2	118.5	115.9	114.9
Average heat value (Btu per pound)	10,789	9,970	9,690	9,558	9,151	9,176	9,120
Average sulfur Content (percent)	2.1	1.1	1.1	1.1	.7	.7	.6
Petroleum (cents per million Btu)	394.7	232.0	324.1	578.7	524.5	539.9	463.8
Average heat value (Btu per gallon)	148,831	124,130	96,875	153,333	146,974	147,876	143,595
Average sulfur Content (percent)	.6	1.8	2.2	.3	.1	.5	1.9
Natural Gas (cents per million Btu)	267.0	168.0	469.1	368.5	342.7	567.4	637.6
Average heat value (Btu per cubic foot)	1,021	1,016	1,031	1,020	988	1,016	1,013

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Illinois							
Sulfur Dioxide							
Coal	845	599	419	475	466	367	382
Petroleum	4	13	17	6	1	4	2
Natural Gas	*	*	*	*	*	*	*
Other	0	*	*	*	1	1	1
Total	849	612	437	481	468	372	385
Nitrogen Oxide							
Coal	330	373	226	200	178	139	138
Petroleum	1	2	2	2	*	2	1
Gas	4	7	7	5	6	3	3
Other	1	2	4	4	4	1	1
Total	336	384	238	211	189	144	143
Carbon Dioxide							
Coal	57,322	68,879	88,483	87,739	89,990	90,896	96,960
Petroleum	1,082	1,095	981	1,517	211	1,110	683
Gas	1,594	3,604	4,176	3,159	5,280	2,775	2,549
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	129	160	134
Total	59,998	73,579	93,640	92,415	95,610	94,941	100,325

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Illinois									
Retail Sales (thousand megawatthours)									
Residential	32,871	38,386	40,146	41,820	45,030	43,161	43,443	29.5	31.2
Commercial	31,734	37,217	43,855	43,135	44,244	49,561	47,358	28.4	34.0
Industrial	39,299	42,251	40,939	40,780	39,288	43,042	48,008	35.2	34.5
Other	7,672	8,377	9,756	10,298	9,886	NA	NA	6.9	NA
Transportation	NA	NA	NA	NA	NA	484	445	NA	.3
Total	111,577	126,231	134,697	136,034	138,447	136,248	139,254	100.0	100.0
Retail Revenue (million dollars)									
Residential	3,260	3,982	3,546	3,645	3,778	3,616	3,638	39.0	38.4
Commercial	2,465	2,933	3,207	3,194	3,326	3,618	3,570	29.5	37.7
Industrial	2,122	2,227	2,043	1,896	1,920	2,092	2,232	25.4	23.6
Other	514	570	549	656	581	NA	NA	6.1	NA
Transportation	NA	NA	NA	NA	NA	28	25	NA	.3
Total	8,361	9,712	9,345	9,391	9,605	9,353	9,465	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	9.92	10.37	8.83	8.71	8.39	8.38	8.38	NA	NA
Commercial	7.77	7.88	7.31	7.40	7.52	7.30	7.54	NA	NA
Industrial	5.40	5.27	4.99	4.65	4.89	4.86	4.65	NA	NA
Other	6.70	6.80	5.63	6.37	5.88	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	5.87	5.69	NA	NA
Total	7.49	7.69	6.94	6.90	6.94	6.86	6.80	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Illinois								
Number of Entities	10	41	NA	27	1	11	4	94
Number of Retail Customers	4,956,913	256,841	NA	257,045	1	13,432	NA	5,484,232
Retail Sales (thousand megawatthours)	100,398	6,558	NA	4,715	516	27,067	NA	139,254
Percentage of Retail Sales	72.10	4.71	NA	3.39	.37	19.44	NA	100.00
Revenue from Retail Sales (million dollars)	7,160	430	NA	424	19	1,052	380	9,465
Percentage of Revenue	75.65	4.54	NA	4.48	.20	11.11	4.02	100.00
Average Retail Price (cents/kWh)	7.13	6.56	NA	8.99	3.61	3.89	1.40	6.80

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Indiana		
NERC Region(s)		ECAR
Primary Energy Source		Coal
Net Summer Capability (megawatts)	26,734	13
Electric Utilities	21,126	10
Independent Power Producers & Combined Heat and Power	5,608	20
Net Generation (megawatthours)	127,770,396	9
Electric Utilities	114,690,471	6
Independent Power Producers & Combined Heat and Power	13,079,925	21
Emissions (thousand metric tons)		
Sulfur Dioxide	797	3
Nitrogen Oxide	215	4
Carbon Dioxide	118,901	5
Sulfur Dioxide (lbs/MWh)	13.8	2
Nitrogen Oxide (lbs/MWh)	3.7	13
Carbon Dioxide (lbs/MWh)	2,052	5
Total Retail Sales (megawatthours)	103,094,263	12
Full Service Provider Sales (megawatthours)	103,094,263	10
Direct Use (megawatthours)	4,760,620	7
Average Retail Price (cents/kWh)	5.58	47

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Indiana			
1. Gibson	Petroleum,Coal	PSI Energy Inc	3,131
2. Rockport	Petroleum,Coal	Indiana Michigan Power Co	2,600
3. R M Schahfer	Gas,Petroleum,Coal	Northern Indiana Pub Serv Co	1,780
4. AES Petersburg	Petroleum,Coal	Indianapolis Power & Light Co	1,730
5. Clifty Creek	Petroleum,Coal	Indiana-Kentucky Electric Corp	1,196
6. Cayuga	Petroleum,Gas,Coal	PSI Energy Inc	1,104
7. Harding Street	Petroleum,Gas,Coal	Indianapolis Power & Light Co	1,102
8. PSEG Lawrenceburg Energy Facility	Gas	PSEG Lawrenceburg Engy Co LLC	1,094
9. Merom	Petroleum,Coal	Hoosier Energy R E C Inc	1,000
10. Tanners Creek	Petroleum,Coal	Indiana Michigan Power Co	980

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Indiana						
1. PSI Energy Inc	Investor-Owned	27,737,055	8,451,630	7,833,102	11,452,323	0
2. Northern Indiana Pub Serv Co	Investor-Owned	16,191,338	3,104,271	3,761,025	9,309,406	16,636
3. Indiana Michigan Power Co	Investor-Owned	15,637,703	4,378,347	4,223,514	7,035,842	0
4. Indianapolis Power & Light Co	Investor-Owned	14,590,398	4,984,432	2,034,925	7,571,041	0
5. Southern Indiana Gas & Elec Co	Investor-Owned	5,560,235	1,501,707	1,514,994	2,543,534	0
Total Sales, Top Five Providers		79,716,729	22,420,387	19,367,560	37,912,146	16,636
Percent of Total State Sales		77	72	84	77	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Indiana									
Electric Utilities	**20,588**	**20,712**	**20,554**	**20,616**	**20,802**	**21,016**	**21,126**	**96.4**	**79.0**
Coal	19,556	18,844	18,734	18,734	18,530	18,400	18,426	91.6	68.9
Petroleum	479	486	471	471	473	474	474	2.2	1.8
Natural Gas	171	297	494	557	1,051	1,392	1,531	.8	5.7
Other Gases	0	228	0	0	0	0	0	.0	.0
Dual Fired	316	790	796	796	690	690	635	1.5	2.4
Hydroelectric	66	68	59	58	59	59	59	.3	.2
Independent Power Producers and Combined Heat and Power	**768**	**812**	**3,378**	**3,553**	**4,450**	**4,626**	**5,608**	**3.6**	**21.0**
Coal	206	237	656	723	1,410	1,416	1,290	1.0	4.8
Petroleum	9	11	21	9	9	9	11	*	*
Natural Gas	144	127	1,797	1,960	2,302	2,484	3,480	.7	13.0
Other Gases	307	318	639	589	525	512	624	1.4	2.3
Dual Fired	96	108	232	251	185	185	184	.4	.7
Other Renewables	6	14	32	21	21	19	19	*	.1
Total Electric Industry	**21,356**	**21,524**	**23,932**	**24,168**	**25,252**	**25,641**	**26,734**	**100.0**	**100.0**
Coal	19,763	19,080	19,391	19,457	19,940	19,816	19,716	92.5	73.7
Petroleum	487	496	492	481	482	483	485	2.3	1.8
Natural Gas	315	423	2,291	2,516	3,352	3,876	5,012	1.5	18.7
Other Gases	307	546	639	589	525	512	624	1.4	2.3
Dual Fired	412	897	1,028	1,047	875	875	819	1.9	3.1
Hydroelectric	66	68	59	58	59	59	59	.3	.2
Other Renewables	6	14	32	21	21	19	19	*	.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percent Share	
								1990	2004
Indiana									
Electric Utilities	**97,738,497**	**105,188,892**	**119,721,399**	**114,666,355**	**112,029,989**	**112,395,725**	**114,690,471**	**96.4**	**89.8**
Coal	96,012,872	103,774,522	117,619,535	113,135,350	109,441,044	109,839,659	112,899,892	94.7	88.4
Petroleum	673,984	213,051	845,481	371,623	470,976	407,648	393,135	.7	.3
Natural Gas	610,620	734,058	668,107	588,690	1,706,699	1,724,465	953,723	.6	.7
Hydroelectric	441,021	467,261	588,276	570,692	411,270	423,953	443,721	.4	.3
Independent Power Producers and Combined Heat and Power	**3,678,619**	**3,967,954**	**8,098,117**	**7,903,318**	**13,578,150**	**12,492,493**	**13,079,926**	**3.6**	**10.2**
Coal	912,682	913,544	3,858,349	2,931,162	8,218,656	7,916,625	7,741,075	.9	6.1
Petroleum	194,054	129,570	124,040	119,859	146,156	47,639	57,026	.2	*
Natural Gas	860,217	719,505	1,386,509	1,742,970	2,075,752	1,324,970	1,489,672	.8	1.2
Other Gases	1,674,549	2,120,995	2,599,337	2,978,809	3,005,998	2,592,257	3,115,085	1.7	2.4
Other Renewables	37,117	84,340	129,882	130,518	131,588	134,030	155,390	*	.1
Other	0	0	0	0	0	476,972	521,677	.0	.4
Total Electric Industry	**101,417,116**	**109,156,846**	**127,819,516**	**122,569,673**	**125,608,140**	**124,888,217**	**127,770,396**	**100.0**	**100.0**
Coal	96,925,554	104,688,066	121,477,884	116,066,512	117,659,700	117,756,284	120,640,967	95.6	94.4
Petroleum	868,038	342,621	969,521	491,482	617,132	455,287	450,161	.9	.4
Natural Gas	1,470,837	1,453,563	2,054,616	2,331,660	3,782,451	3,049,435	2,443,395	1.4	1.9
Other Gases	1,674,549	2,120,995	2,599,337	2,978,809	3,005,998	2,592,257	3,115,085	1.7	2.4
Hydroelectric	441,021	467,261	588,276	570,692	411,270	423,953	443,721	.4	.3
Other Renewables	37,117	84,340	129,882	130,518	131,588	134,030	155,390	*	.1
Other	0	0	0	0	0	476,972	521,677	.0	.4

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Indiana							
Coal (cents per million Btu)	136.2	125.5	108.0	113.7	W	W	W
Average heat value (Btu per pound)	10,562	10,338	10,604	10,544	10,326	10,550	10,601
Average sulfur Content (percent)	2.1	1.6	1.5	1.4	1.5	1.5	1.5
Petroleum (cents per million Btu)	191.4	297.5	244.8	220.1	W	W	W
Average heat value (Btu per gallon)	89,742	115,914	90,072	149,929	139,717	138,660	135,267
Average sulfur Content (percent)	4.1	1.5	3.0	3.1	2.0	2.3	2.3
Natural Gas (cents per million Btu)	258.0	244.1	445.3	507.0	323.5	615.9	620.5
Average heat value (Btu per cubic foot)	1,002	1,021	1,023	1,052	1,023	1,014	1,011

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Indiana							
Sulfur Dioxide							
Coal	1,273	833	809	736	718	741	795
Petroleum	3	*	3	2	*	1	*
Natural Gas	*	*	*	*	*	*	*
Other	*	*	*	*	*	1	2
Total	1,277	834	811	738	718	744	797
Nitrogen Oxide							
Coal	484	487	309	290	258	239	208
Petroleum	1	1	1	1	*	*	*
Gas	4	3	22	21	19	3	1
Other	1	1	1	1	1	6	6
Total	490	492	332	313	278	248	215
Carbon Dioxide							
Coal	93,509	102,272	118,292	112,985	111,829	114,014	116,454
Petroleum	753	569	1,226	670	761	497	483
Gas	1,863	1,568	2,550	2,430	2,340	1,772	1,659
Geothermal	0	0	0	0	0	0	0
Other	83	85	80	83	294	307	305
Total	96,208	104,494	122,148	116,168	115,225	116,590	118,901

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Indiana									
Retail Sales (thousand megawatthours)									
Residential	22,111	26,560	28,649	29,420	31,568	30,726	31,192	29.9	30.3
Commercial	15,502	18,123	20,468	25,551	21,790	22,441	22,957	21.0	22.3
Industrial	35,743	41,777	48,040	42,080	47,481	47,284	48,928	48.3	47.5
Other	626	546	618	684	589	NA	NA	.8	NA
Transportation	NA	NA	NA	NA	NA	16	17	NA	.0
Total	73,982	87,006	97,775	97,734	101,429	100,468	103,094	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,519	1,790	1,967	2,037	2,183	2,162	2,277	38.3	39.6
Commercial	938	1,072	1,214	1,351	1,303	1,374	1,448	23.7	25.2
Industrial	1,456	1,645	1,829	1,728	1,877	1,855	2,022	36.7	35.2
Other	51	50	58	62	57	NA	NA	1.3	NA
Transportation	NA	NA	NA	NA	NA	1	1	NA	.0
Total	3,964	4,557	5,068	5,177	5,420	5,393	5,749	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	6.87	6.74	6.86	6.92	6.91	7.04	7.30	NA	NA
Commercial	6.05	5.92	5.93	5.29	5.98	6.12	6.31	NA	NA
Industrial	4.07	3.94	3.81	4.10	3.95	3.92	4.13	NA	NA
Other	8.08	9.11	9.37	9.06	9.75	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	8.36	8.76	NA	NA
Total	5.36	5.24	5.18	5.30	5.34	5.37	5.58	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Indiana								
Number of Entities	6	72	NA	41	NA	NA	NA	119
Number of Retail Customers	2,236,546	256,381	NA	502,723	NA	NA	NA	2,995,650
Retail Sales (thousand megawatthours)	84,374	7,718	NA	11,002	NA	NA	NA	103,094
Percentage of Retail Sales	81.84	7.49	NA	10.67	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	4,569	432	NA	749	NA	NA	NA	5,749
Percentage of Revenue	79.47	7.51	NA	13.02	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	5.41	5.59	NA	6.80	NA	NA	NA	5.58

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Iowa		
NERC Region(s)		MAPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	10,873	32
Electric Utilities	9,895	24
Independent Power Producers & Combined Heat and Power	977	39
Net Generation (megawatthours)	43,248,189	34
Electric Utilities	40,578,049	26
Independent Power Producers & Combined Heat and Power	2,670,140	41
Emissions (thousand metric tons)		
Sulfur Dioxide	135	21
Nitrogen Oxide	79	20
Carbon Dioxide	40,043	23
Sulfur Dioxide (lbs/MWh)	6.9	14
Nitrogen Oxide (lbs/MWh)	4.0	6
Carbon Dioxide (lbs/MWh)	2,041	6
Total Retail Sales (megawatthours)	40,902,773	31
Full Service Provider Sales (megawatthours)	40,902,773	31
Direct Use (megawatthours)	1,352,242	27
Average Retail Price (cents/kWh)	6.40	34

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Iowa			
1. George Neal North	Gas,Coal	MidAmerican Energy Co	950
2. Council Bluffs	Gas,Petroleum,Coal	MidAmerican Energy Co	823
3. Ottumwa	Petroleum,Coal	Interstate Power and Light Co	717
4. Louisa	Petroleum,Gas,Coal	MidAmerican Energy Co	700
5. George Neal South	Petroleum,Coal	MidAmerican Energy Co	644
6. Duane Arnold	Nuclear	Interstate Power and Light Co	563
7. Emery Station	Petroleum,Gas	Interstate Power and Light Co	557
8. Greater Des Moines	Gas	MidAmerican Energy Co	491
9. Lansing	Petroleum,Coal	Interstate Power and Light Co	293
10. Burlington	Gas,Coal	Interstate Power and Light Co	283

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Iowa						
1. MidAmerican Energy Co	Investor-Owned	15,857,878	4,696,080	4,672,762	6,489,036	0
2. Interstate Power and Light Co	Investor-Owned	14,245,634	3,598,684	3,291,809	7,355,141	0
3. Eastern Iowa Light & Power Coop	Cooperative	1,279,093	259,506	34,800	984,787	0
4. Muscatine City of	Public	848,753	93,103	174,677	580,973	0
5. Ames City of	Public	591,983	143,931	305,986	142,066	0
Total Sales, Top Five Providers		32,823,341	8,791,304	8,480,034	15,552,003	0
Percent of Total State Sales		80	70	78	89	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Iowa									
Electric Utilities	**7,952**	**8,237**	**8,508**	**8,352**	**8,407**	**9,093**	**9,895**	**95.7**	**91.0**
Coal	5,860	5,995	5,920	5,668	5,620	5,666	5,741	70.6	52.8
Petroleum	399	491	799	815	846	779	776	4.8	7.1
Natural Gas	159	117	128	128	104	640	853	1.9	7.8
Dual Fired	879	972	1,006	985	1,036	1,202	1,660	10.6	15.3
Nuclear	530	528	520	520	566	562	563	6.4	5.2
Hydroelectric	124	134	131	129	129	136	138	1.5	1.3
Other Renewables	0	0	4	107	107	107	165	.0	1.5
Independent Power Producers and Combined Heat and Power	**354**	**356**	**587**	**830**	**930**	**980**	**977**	**4.3**	**9.0**
Coal	232	288	298	420	420	420	417	2.8	3.8
Petroleum	55	53	79	81	82	89	89	.7	.8
Natural Gas	0	0	0	3	4	5	1	.0	*
Dual Fired	61	3	3	0	0	0	4	.7	*
Hydroelectric	5	5	5	2	2	2	2	.1	*
Other Renewables	0	7	202	324	422	466	466	.0	4.3
Total Electric Industry	**8,306**	**8,593**	**9,095**	**9,183**	**9,338**	**10,074**	**10,873**	**100.0**	**100.0**
Coal	6,092	6,283	6,218	6,088	6,039	6,086	6,157	73.3	56.6
Petroleum	454	544	877	897	929	868	865	5.5	8.0
Natural Gas	159	118	128	131	108	645	854	1.9	7.9
Dual Fired	940	975	1,009	985	1,036	1,202	1,663	11.3	15.3
Nuclear	530	528	520	520	566	562	563	6.4	5.2
Hydroelectric	130	139	136	131	131	138	140	1.6	1.3
Other Renewables	0	7	206	431	529	573	630	.0	5.8

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Iowa									
Electric Utilities	**29,047,940**	**33,501,928**	**39,634,091**	**38,755,520**	**40,051,665**	**39,485,141**	**40,578,049**	**96.7**	**93.8**
Coal	24,879,567	28,426,101	33,851,496	33,471,603	34,033,119	34,288,694	33,757,265	82.8	78.1
Petroleum	51,315	57,750	95,631	94,796	55,552	91,173	99,255	.2	.2
Natural Gas	231,263	277,324	323,197	454,476	406,796	279,206	814,295	.8	1.9
Nuclear	3,011,572	3,729,970	4,452,884	3,852,722	4,573,958	3,987,657	4,928,948	10.0	11.4
Hydroelectric	856,848	991,088	891,344	830,258	936,688	780,322	936,999	2.9	2.2
Other Renewables	17,375	19,695	19,539	51,665	45,552	58,089	41,287	.1	.1
Independent Power Producers and Combined Heat and Power	**996,566**	**1,251,000**	**1,907,919**	**1,902,992**	**2,476,720**	**2,631,051**	**2,670,140**	**3.3**	**6.2**
Coal	872,374	983,603	1,215,597	1,193,492	1,338,940	1,531,251	1,515,020	2.9	3.5
Petroleum	3,156	8,111	6,246	7,832	8,312	10,162	9,309	*	*
Natural Gas	102,127	202,565	110,567	138,376	147,923	33,690	10,376	.3	*
Hydroelectric	18,266	11,886	12,666	14,896	9,695	8,271	8,960	.1	*
Other Renewables	643	44,835	562,843	548,396	971,850	1,047,676	1,126,476	*	2.6
Total Electric Industry	**30,044,506**	**34,752,928**	**41,542,010**	**40,658,512**	**42,528,384**	**42,116,192**	**43,248,189**	**100.0**	**100.0**
Coal	25,751,941	29,409,704	35,067,093	34,665,095	35,372,059	35,819,945	35,272,285	85.7	81.6
Petroleum	54,471	65,861	101,877	102,628	63,864	101,335	108,564	.2	.3
Natural Gas	333,390	479,889	433,764	592,852	554,719	312,896	824,671	1.1	1.9
Nuclear	3,011,572	3,729,970	4,452,884	3,852,722	4,573,958	3,987,657	4,928,948	10.0	11.4
Hydroelectric	875,114	1,002,974	904,010	845,154	946,383	788,593	945,959	2.9	2.2
Other Renewables	18,018	64,530	582,382	600,061	1,017,402	1,105,765	1,167,763	.1	2.7

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Iowa							
Coal (cents per million Btu)	111.8	98.7	81.6	81.4	W	W	W
Average heat value (Btu per pound)	8,892	8,678	8,626	9,001	8,860	8,705	8,665
Average sulfur Content (percent)	.7	.5	.4	.4	.4	.4	.4
Petroleum (cents per million Btu)	518.1	96.3	643.1	617.0	579.0	634.6	459.0
Average heat value (Btu per gallon)	137,943	77,325	138,731	139,619	137,281	139,171	137,162
Average sulfur Content (percent)	.1	5.1	.1	*	*	*	2.1
Natural Gas (cents per million Btu)	304.5	271.0	454.7	477.1	W	593.3	712.5
Average heat value (Btu per cubic foot)	1,006	1,005	1,003	1,018	1,015	1,004	1,003

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Iowa							
Sulfur Dioxide							
Coal	182	171	148	166	166	138	134
Petroleum	*	12	1	*	*	1	1
Natural Gas	0	0	0	0	0	0	*
Other	*	*	*	*	*	*	*
Total	183	183	149	166	166	139	135
Nitrogen Oxide							
Coal	151	161	85	85	87	77	78
Petroleum	*	1	*	*	*	*	*
Gas	1	2	1	2	2	1	1
Other	*	*	*	*	*	*	*
Total	152	164	87	87	89	78	79
Carbon Dioxide							
Coal	28,349	33,698	40,022	39,999	39,880	40,185	39,601
Petroleum	85	78	112	115	81	121	137
Gas	526	915	766	889	934	295	288
Geothermal	0	0	0	0	0	0	0
Other	32	*	0	0	1	15	17
Total	28,992	34,691	40,900	41,003	40,897	40,616	40,043

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Iowa									
Retail Sales (thousand megawatthours)									
Residential	10,513	11,640	12,029	12,430	12,921	12,768	12,625	35.7	30.9
Commercial	6,727	7,607	8,375	8,512	8,803	11,637	10,840	22.9	26.5
Industrial	11,392	13,771	17,127	16,238	16,548	16,803	17,437	38.7	42.6
Other	804	1,284	1,558	2,264	2,626	NA	NA	2.7	NA
Total	29,437	34,301	39,088	39,444	40,898	41,207	40,903	100.0	100.0
Retail Revenue (million dollars)									
Residential	821	959	1,007	1,045	1,079	1,094	1,132	47.0	43.2
Commercial	422	490	551	570	578	726	731	24.2	27.9
Industrial	453	542	665	679	672	699	756	26.0	28.9
Other	49	79	95	128	129	NA	NA	2.8	NA
Total	1,745	2,069	2,319	2,422	2,458	2,519	2,619	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.81	8.24	8.37	8.41	8.35	8.57	8.96	NA	NA
Commercial	6.27	6.44	6.57	6.69	6.56	6.24	6.74	NA	NA
Industrial	3.98	3.93	3.88	4.18	4.06	4.16	4.33	NA	NA
Other	6.04	6.13	6.13	5.67	4.92	NA	NA	NA	NA
Total	5.93	6.03	5.93	6.14	6.01	6.11	6.40	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Iowa								
Number of Entities	3	138	NA	43	1	NA	NA	185
Number of Retail Customers	1,079,272	203,377	NA	208,576	106	NA	NA	1,491,331
Retail Sales (thousand megawatthours)	30,199	5,022	NA	5,394	287	NA	NA	40,903
Percentage of Retail Sales	73.83	12.28	NA	13.19	.70	NA	NA	100.00
Revenue from Retail Sales (million dollars)	1,907	309	NA	385	18	NA	NA	2,619
Percentage of Revenue	72.82	11.78	NA	14.71	.69	NA	NA	100.00
Average Retail Price (cents/kWh)	6.31	6.14	NA	7.14	6.30	NA	NA	6.40

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Kansas		
NERC Region(s)		SPP/MAPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	10,850	33
Electric Utilities	10,705	21
Independent Power Producers & Combined Heat and Power	146	47
Net Generation (megawatthours)	46,782,659	31
Electric Utilities	46,409,328	22
Independent Power Producers & Combined Heat and Power	373,331	48
Emissions (thousand metric tons)		
Sulfur Dioxide	112	23
Nitrogen Oxide	84	19
Carbon Dioxide	37,288	27
Sulfur Dioxide (lbs/MWh)	5.3	19
Nitrogen Oxide (lbs/MWh)	4.0	8
Carbon Dioxide (lbs/MWh)	1,757	15
Total Retail Sales (megawatthours)	37,126,540	32
Full Service Provider Sales (megawatthours)	37,126,540	32
Direct Use (megawatthours)	62,166	49
Average Retail Price (cents/kWh)	6.37	35

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Kansas			
1. Jeffrey Energy Center	Other,Petroleum,Coal	Westar Energy	2,214
2. La Cygne	Petroleum,Coal	Kansas City Power & Light Co	1,362
3. Wolf Creek Generating Station	Nuclear	Wolf Creek Nuclear Optg Corp	1,166
4. Gordon Evans Energy Center	Gas,Petroleum	Kansas Gas & Electric Co	834
5. Lawrence Energy Center	Gas,Coal	Westar Energy	567
6. Hutchinson Energy Center	Gas,Petroleum	Westar Energy	476
7. Holcomb	Gas,Coal	Sunflower Electric Power Corp	360
8. Murray Gill	Gas,Petroleum	Kansas Gas & Electric Co	317
9. West Gardner	Gas	Kansas City Power & Light Co	308
10. Quindaro	Petroleum,Gas,Coal	Kansas City City of	305

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Kansas						
1. Westar Energy	Investor-Owned	9,225,171	3,108,752	4,156,746	1,959,673	0
2. Kansas Gas & Electric Co	Investor-Owned	9,138,913	2,815,831	2,812,260	3,510,822	0
3. Kansas City Power & Light Co	Investor-Owned	5,864,441	2,548,494	2,906,898	409,049	0
4. Kansas City City of	Public	2,338,141	513,453	822,273	1,002,415	0
5. Aquila Inc	Investor-Owned	1,811,047	460,406	583,163	767,478	0
Total Sales, Top Five Providers		28,377,713	9,446,936	11,281,340	7,649,437	0
Percent of Total State Sales		76	76	82	70	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Kansas									
Electric Utilities	**9,578**	**9,675**	**10,086**	**10,223**	**10,244**	**10,730**	**10,705**	**99.6**	**98.7**
Coal	5,064	5,244	5,295	5,295	5,310	5,265	5,222	52.6	48.1
Petroleum	198	211	245	244	265	277	381	2.1	3.5
Natural Gas	579	415	505	754	590	990	991	6.0	9.1
Dual Fired	2,600	2,638	2,871	2,760	2,910	3,032	2,943	27.0	27.1
Nuclear	1,135	1,167	1,170	1,170	1,170	1,165	1,166	11.8	10.7
Hydroelectric	2	0	0	0	0	0	0	*	.0
Other Renewables	0	0	0	0	0	2	1	.0	*
Independent Power Producers and Combined Heat and Power	**43**	**49**	**49**	**153**	**152**	**146**	**146**	**.4**	**1.3**
Petroleum	4	4	1	4	4	0	0	*	.0
Natural Gas	4	1	42	29	29	27	27	*	.2
Dual Fired	35	42	2	5	4	4	4	.4	*
Hydroelectric	0	2	3	2	2	3	3	.0	*
Other Renewables	0	0	0	112	112	112	112	.0	1.0
Total Electric Industry	**9,621**	**9,725**	**10,134**	**10,376**	**10,396**	**10,876**	**10,850**	**100.0**	**100.0**
Coal	5,064	5,244	5,295	5,295	5,310	5,265	5,222	52.6	48.1
Petroleum	203	215	246	249	269	277	381	2.1	3.5
Natural Gas	583	417	547	783	619	1,017	1,018	6.1	9.4
Dual Fired	2,634	2,680	2,873	2,765	2,914	3,036	2,947	27.4	27.2
Nuclear	1,135	1,167	1,170	1,170	1,170	1,165	1,166	11.8	10.7
Hydroelectric	3	2	3	2	2	3	3	*	*
Other Renewables	0	0	0	112	112	114	113	.0	1.0

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Kansas									
Electric Utilities	**33,868,644**	**38,230,483**	**44,764,909**	**44,642,712**	**46,691,936**	**46,155,505**	**46,409,328**	**99.1**	**99.2**
Coal	23,720,258	25,896,959	32,507,051	31,768,001	35,369,189	35,109,616	34,593,346	69.4	73.9
Petroleum	65,744	73,764	420,746	616,418	508,857	963,751	853,742	.2	1.8
Natural Gas	2,196,341	2,197,557	2,776,278	1,911,642	1,772,188	1,190,819	826,668	6.4	1.8
Nuclear	7,874,487	10,062,177	9,060,834	10,346,651	9,041,702	8,889,667	10,132,736	23.0	21.7
Hydroelectric	11,769	0	0	0	0	0	0	*	.0
Other Renewables	45	26	0	0	0	1,651	2,835	.0	*
Independent Power Producers and Combined Heat and Power	**316,213**	**190,222**	**50,996**	**105,811**	**496,510**	**412,056**	**373,331**	**.9**	**.8**
Petroleum	8,282	2,100	626	759	221	381	0	*	.0
Natural Gas	306,466	176,908	35,038	39,658	16,864	34,951	4,987	.9	*
Hydroelectric	1,465	11,214	15,332	25,562	12,746	12,435	12,547	*	*
Other Renewables	0	0	0	39,832	466,679	364,288	355,797	.0	.8
Total Electric Industry	**34,184,857**	**38,420,705**	**44,815,905**	**44,748,523**	**47,188,446**	**46,567,560**	**46,782,659**	**100.0**	**100.0**
Coal	23,720,258	25,896,959	32,507,051	31,768,001	35,369,189	35,109,616	34,593,346	69.4	73.9
Petroleum	74,026	75,864	421,372	617,177	509,078	964,132	853,742	.2	1.8
Natural Gas	2,502,807	2,374,465	2,811,316	1,951,300	1,789,052	1,225,770	831,655	7.3	1.8
Nuclear	7,874,487	10,062,177	9,060,834	10,346,651	9,041,702	8,889,667	10,132,736	23.0	21.7
Hydroelectric	13,234	11,214	15,332	25,562	12,746	12,435	12,547	*	*
Other Renewables	45	26	0	39,832	466,679	365,939	358,632	.0	.8

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Kansas							
Coal (cents per million Btu)	124.2	102.1	98.5	104.8	98.3	101.5	102.8
Average heat value (Btu per pound)	8,948	8,730	8,672	8,704	8,548	8,619	8,626
Average sulfur Content (percent)	.6	.4	.4	.4	.4	.5	.4
Petroleum (cents per million Btu)	540.4	212.2	400.0	336.1	272.7	361.7	406.8
Average heat value (Btu per gallon)	138,177	104,067	154,872	154,357	152,240	156,948	156,855
Average sulfur Content (percent)	.1	2.8	1.5	1.6	1.6	1.6	1.7
Natural Gas (cents per million Btu)	175.8	161.0	414.2	357.8	309.4	529.6	545.9
Average heat value (Btu per cubic foot)	990	980	1,010	1,012	1,000	1,014	1,008

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Kansas							
Sulfur Dioxide							
Coal	77	64	103	103	113	119	104
Petroleum	1	*	3	6	5	9	8
Natural Gas	*	*	*	*	0	0	0
Other	0	0	0	0	0	0	0
Total	79	64	106	109	118	128	112
Nitrogen Oxide							
Coal	120	134	77	72	83	82	81
Petroleum	*	*	1	1	1	3	2
Gas	4	4	6	4	3	2	1
Other	0	0	0	0	0	0	0
Total	125	138	83	77	87	86	84
Carbon Dioxide							
Coal	25,136	27,326	34,495	33,654	36,950	36,784	35,876
Petroleum	337	69	388	576	457	843	816
Gas	1,772	1,709	1,890	1,364	1,148	836	596
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	27,245	29,104	36,773	35,594	38,554	38,463	37,288

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Kansas									
Retail Sales (thousand megawatthours)									
Residential	9,515	10,356	12,528	12,062	12,745	12,602	12,417	35.0	33.4
Commercial	9,169	10,273	12,511	12,787	13,392	13,751	13,831	33.8	37.3
Industrial	8,087	9,356	10,222	10,569	10,195	10,382	10,879	29.8	29.3
Other	378	372	660	429	381	NA	NA	1.4	NA
Total	27,149	30,357	35,921	35,847	36,714	36,735	37,127	100.0	100.0
Retail Revenue (million dollars)									
Residential	745	820	959	925	977	971	962	41.7	40.7
Commercial	609	687	782	793	841	882	893	34.1	37.8
Industrial	400	451	465	481	462	479	510	22.4	21.6
Other	31	34	48	38	35	NA	NA	1.7	NA
Total	1,785	1,992	2,254	2,236	2,315	2,333	2,364	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.83	7.92	7.65	7.66	7.67	7.70	7.74	NA	NA
Commercial	6.64	6.68	6.25	6.20	6.28	6.42	6.45	NA	NA
Industrial	4.94	4.82	4.55	4.55	4.53	4.61	4.69	NA	NA
Other	8.17	9.21	7.29	8.91	9.30	NA	NA	NA	NA
Total	6.57	6.56	6.27	6.24	6.31	6.35	6.37	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Kansas								
Number of Entities	6	119	1	29	1	NA	NA	156
Number of Retail Customers	955,883	235,020	3	213,686	3	NA	NA	1,404,595
Retail Sales (thousand megawatthours)	26,300	6,611	*	4,111	104	NA	NA	37,127
Percentage of Retail Sales	70.84	17.81	*	11.07	.28	NA	NA	100.00
Revenue from Retail Sales (million dollars)	1,581	425	*	353	5	NA	NA	2,364
Percentage of Revenue	66.88	17.96	*	14.93	.23	NA	NA	100.00
Average Retail Price (cents/kWh)	6.01	6.42	1.69	8.59	5.23	NA	NA	6.37

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Kentucky		
NERC Region(s)		ECAR/SERC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	19,627	20
Electric Utilities	15,860	16
Independent Power Producers & Combined Heat and Power	3,767	24
Net Generation (megawatthours)	94,529,947	18
Electric Utilities	82,921,402	13
Independent Power Producers & Combined Heat and Power	11,608,545	25
Emissions (thousand metric tons)		
Sulfur Dioxide	469	6
Nitrogen Oxide	150	7
Carbon Dioxide	87,270	7
Sulfur Dioxide (lbs/MWh)	10.9	5
Nitrogen Oxide (lbs/MWh)	3.5	14
Carbon Dioxide (lbs/MWh)	2,035	7
Total Retail Sales (megawatthours)	86,521,156	15
Full Service Provider Sales (megawatthours)	86,521,156	15
Direct Use (megawatthours)	188,482	43
Average Retail Price (cents/kWh)	4.63	51

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Kentucky			
1. Paradise	Petroleum,Coal	Tennessee Valley Authority	2,201
2. Ghent	Petroleum,Coal	Kentucky Utilities Co	1,945
3. E W Brown	Petroleum,Gas,Coal	Kentucky Utilities Co	1,546
4. Mill Creek	Gas,Coal	Louisville Gas & Electric Co	1,472
5. Trimble County	Petroleum,Gas,Coal	Louisville Gas & Electric Co	1,471
6. Shawnee	Petroleum,Coal	Tennessee Valley Authority	1,330
7. Big Sandy	Petroleum,Coal	Kentucky Power Co	1,060
8. H L Spurlock	Petroleum,Coal	East Kentucky Power Coop Inc	850
9. Riverside Generating LLC	Gas	Riverside Generating Co LLC	825
10. East Bend	Petroleum,Coal	Cincinnati Gas & Electric Co	600

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Kentucky						
1. Kentucky Utilities Co	Investor-Owned	17,285,987	5,754,764	5,651,451	5,879,772	0
2. Tennessee Valley Authority	Federal	13,359,685	0	0	13,359,685	0
3. Louisville Gas & Electric Co	Investor-Owned	11,723,656	3,923,943	4,781,061	3,018,652	0
4. Kenergy Corp	Cooperative	9,359,445	698,432	279,726	8,381,287	0
5. Kentucky Power Co	Investor-Owned	6,976,594	2,411,361	1,384,236	3,180,997	0
Total Sales, Top Five Providers		58,705,367	12,788,500	12,096,474	33,820,393	0
Percent of Total State Sales		68	51	66	79	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Kentucky									
Electric Utilities	**15,511**	**15,425**	**14,781**	**15,229**	**15,418**	**15,349**	**15,860**	**100.0**	**80.8**
Coal	14,306	14,011	12,559	12,561	12,496	12,435	12,441	92.2	63.4
Petroleum	135	134	70	70	70	70	70	.9	.4
Natural Gas	207	92	92	348	673	684	1,306	1.3	6.7
Dual Fired	68	399	1,246	1,430	1,358	1,342	1,217	.4	6.2
Hydroelectric	795	789	814	821	821	818	817	5.1	4.2
Other Renewables	0	0	0	0	0	0	9	.0	*
Independent Power Producers and Combined Heat and Power	**0**	**4**	**2,017**	**2,350**	**3,704**	**3,719**	**3,767**	**.0**	**19.2**
Coal	0	0	1,906	1,716	1,716	1,716	1,716	.0	8.7
Petroleum	0	0	0	0	0	0	65	.0	.3
Natural Gas	0	0	23	518	1,328	1,343	1,343	.0	6.8
Dual Fired	0	0	85	65	609	609	600	.0	3.1
Other Renewables	0	4	4	51	51	51	43	.0	.2
Total Electric Industry	**15,511**	**15,429**	**16,798**	**17,579**	**19,122**	**19,068**	**19,627**	**100.0**	**100.0**
Coal	14,306	14,011	14,465	14,277	14,212	14,151	14,157	92.2	72.1
Petroleum	135	134	70	70	70	70	135	.9	.7
Natural Gas	207	92	115	866	2,001	2,027	2,649	1.3	13.5
Dual Fired	68	399	1,331	1,495	1,967	1,951	1,817	.4	9.3
Hydroelectric	795	789	814	821	821	818	817	5.1	4.2
Other Renewables	0	4	4	51	51	51	52	.0	.3

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Kentucky									
Electric Utilities	**73,807,286**	**86,161,578**	**81,349,922**	**83,677,982**	**80,161,524**	**80,696,982**	**82,921,402**	**100.0**	**87.7**
Coal	70,500,461	82,539,467	78,598,836	79,381,504	75,308,162	76,367,048	78,574,428	95.5	83.1
Petroleum	118,646	130,598	118,876	120,418	135,412	130,280	93,651	.2	.1
Natural Gas	27,796	68,035	307,642	320,552	693,201	229,930	398,814	*	.4
Other Gases	0	0	0	0	0	0	1,701	.0	*
Hydroelectric	3,160,383	3,423,478	2,324,568	3,855,508	4,024,749	3,948,052	3,780,251	4.3	4.0
Other Renewables	0	0	0	0	0	21,672	72,557	.0	.1
Independent Power Producers and Combined Heat and Power	**0**	**4,258**	**11,656,161**	**11,739,644**	**11,945,144**	**11,021,838**	**11,608,545**	**.0**	**12.3**
Coal	0	0	11,464,218	11,417,074	7,966,084	7,693,492	7,546,083	.0	8.0
Petroleum	0	0	25,817	3,142	2,933,086	2,814,631	3,527,448	.0	3.7
Natural Gas	0	0	153,723	309,875	680,509	214,475	180,415	.0	.2
Other Gases	0	0	110	0	0	0	0	.0	.0
Other Renewables	0	4,258	12,293	9,553	365,465	299,240	354,600	.0	.4
Total Electric Industry	**73,807,286**	**86,165,836**	**93,006,083**	**95,417,626**	**92,106,668**	**91,718,820**	**94,529,947**	**100.0**	**100.0**
Coal	70,500,461	82,539,467	90,063,054	90,798,578	83,274,246	84,060,540	86,120,511	95.5	91.1
Petroleum	118,646	130,598	144,693	123,560	3,068,498	2,944,911	3,621,099	.2	3.8
Natural Gas	27,796	68,035	461,365	630,427	1,373,710	444,405	579,229	*	.6
Other Gases	0	0	110	0	0	0	1,701	.0	*
Hydroelectric	3,160,383	3,423,478	2,324,568	3,855,508	4,024,749	3,948,052	3,780,251	4.3	4.0
Other Renewables	0	4,258	12,293	9,553	365,465	320,912	427,157	.0	.5

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Kentucky							
Coal (cents per million Btu)	119.3	110.6	102.3	110.4	118.8	122.8	136.6
Average heat value (Btu per pound)	11,558	11,625	11,604	11,428	11,513	11,498	11,550
Average sulfur Content (percent)	2.6	2.4	2.3	2.1	2.2	2.1	2.1
Petroleum (cents per million Btu)	575.0	318.0	559.3	567.3	464.6	W	W
Average heat value (Btu per gallon)	138,945	118,026	125,374	139,381	133,017	132,664	131,967
Average sulfur Content (percent)	.3	1.9	1.3	.3	1.0	3.9	4.8
Natural Gas (cents per million Btu)	297.5	294.1	495.8	458.9	351.2	657.7	W
Average heat value (Btu per cubic foot)	1,020	1,022	1,025	1,024	1,023	1,017	1,017

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Kentucky							
Sulfur Dioxide							
Coal	818	704	530	486	427	474	460
Petroleum	*	*	*	*	11	7	5
Natural Gas	0	0	0	0	*	0	0
Other	0	0	0	0	2	3	3
Total	819	704	531	486	440	483	469
Nitrogen Oxide							
Coal	301	321	223	210	174	161	145
Petroleum	*	*	*	*	5	6	4
Gas	*	*	1	1	1	*	1
Other	0	*	*	*	1	1	1
Total	301	321	223	211	181	169	150
Carbon Dioxide							
Coal	66,147	76,527	86,846	87,072	82,188	81,565	82,652
Petroleum	94	118	130	96	4,039	3,411	4,126
Gas	15	46	375	403	955	570	472
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	27	20
Total	66,257	76,692	87,351	87,571	87,182	85,573	87,270

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Kentucky									
Retail Sales (thousand megawatthours)									
Residential	16,814	20,537	23,374	23,698	25,347	24,704	25,187	27.5	29.1
Commercial	9,252	10,524	13,933	14,338	14,745	17,946	18,443	15.1	21.3
Industrial	32,543	40,490	37,689	38,676	43,812	42,570	42,891	53.3	49.6
Other	2,488	2,997	3,320	3,263	3,362	NA	NA	4.1	NA
Total	61,097	74,548	78,316	79,975	87,267	85,220	86,521	100.0	100.0
Retail Revenue (million dollars)									
Residential	958	1,155	1,279	1,323	1,431	1,435	1,538	35.0	38.4
Commercial	497	552	717	746	782	963	1,034	18.2	25.8
Industrial	1,165	1,186	1,136	1,176	1,353	1,365	1,432	42.6	35.8
Other	117	140	146	148	155	NA	NA	4.3	NA
Total	2,737	3,034	3,277	3,393	3,721	3,763	4,004	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	5.69	5.62	5.47	5.58	5.65	5.81	6.11	NA	NA
Commercial	5.37	5.25	5.14	5.20	5.30	5.37	5.60	NA	NA
Industrial	3.58	2.93	3.01	3.04	3.09	3.21	3.34	NA	NA
Other	4.69	4.68	4.40	4.53	4.61	NA	NA	NA	NA
Total	4.48	4.07	4.18	4.24	4.26	4.42	4.63	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Kentucky								
Number of Entities	6	30	1	24	NA	NA	NA	61
Number of Retail Customers	1,183,842	203,922	22	759,223	NA	NA	NA	2,147,009
Retail Sales (thousand megawatthours)	41,091	6,560	13,360	25,510	NA	NA	NA	86,521
Percentage of Retail Sales	47.49	7.58	15.44	29.48	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	1,972	363	359	1,310	NA	NA	NA	4,004
Percentage of Revenue	49.26	9.06	8.97	32.71	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	4.80	5.53	2.69	5.13	NA	NA	NA	4.63

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

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W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Louisiana		
NERC Region(s)		SPP/SERC
Primary Energy Source		Gas
Net Summer Capability (megawatts)	26,465	14
Electric Utilities	14,176	17
Independent Power Producers & Combined Heat and Power	12,289	9
Net Generation (megawatthours)	98,172,309	15
Electric Utilities	47,603,602	20
Independent Power Producers & Combined Heat and Power	50,568,707	8
Emissions (thousand metric tons)		
Sulfur Dioxide	132	22
Nitrogen Oxide	88	17
Carbon Dioxide	58,114	16
Sulfur Dioxide (lbs/MWh)	3.0	35
Nitrogen Oxide (lbs/MWh)	2.0	32
Carbon Dioxide (lbs/MWh)	1,305	30
Total Retail Sales (megawatthours)	79,737,112	18
Full Service Provider Sales (megawatthours)	79,737,112	17
Direct Use (megawatthours)	22,071,042	2
Average Retail Price (cents/kWh)	7.13	20

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Louisiana			
1. Willow Glen	Petroleum,Gas	Entergy Gulf States Inc	1,832
2. Big Cajun 2	Petroleum,Coal	Louisiana Generating LLC	1,730
3. Nine Mile Point	Petroleum,Gas	Entergy Louisiana Inc	1,705
4. R S Nelson	Gas,Petroleum,Coal	Entergy Gulf States Inc	1,416
5. Little Gypsy	Gas	Entergy Louisiana Inc	1,198
6. Waterford 3	Nuclear	Entergy Louisiana Inc	1,087
7. Acadia Energy Center	Gas	Calpine Corp	1,063
8. River Bend	Nuclear	Entergy Gulf States Inc	968
9. Rodemacher	Petroleum,Gas,Coal	CLECO Power LLC	963
10. Michoud	Petroleum,Gas	Entergy New Orleans Inc	854

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Louisiana						
1. Entergy Louisiana Inc	Investor-Owned	28,182,541	8,841,949	6,200,592	13,140,000	0
2. Entergy Gulf States Inc	Investor-Owned	19,249,375	4,676,923	4,815,097	9,757,355	0
3. CLECO Power LLC	Investor-Owned	8,860,177	3,507,007	2,450,775	2,902,395	0
4. Entergy New Orleans Inc	Investor-Owned	6,057,248	2,138,663	3,327,536	575,195	15,854
5. Southwestern Electric Power Co.	Investor-Owned	5,353,932	2,228,130	2,303,896	821,906	0
Total Sales, Top Five Providers		67,703,273	21,392,672	19,097,896	27,196,851	15,854
Percent of Total State Sales		85	74	85	96	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Louisiana									
Electric Utilities	**16,751**	**17,019**	**14,317**	**14,165**	**14,233**	**14,090**	**14,176**	**86.0**	**53.6**
Coal	3,343	2,843	1,723	1,723	1,723	1,723	1,723	17.2	6.5
Petroleum	17	16	16	11	16	16	18	.1	.1
Natural Gas	2,645	2,401	1,243	1,238	1,735	1,586	2,637	13.6	10.0
Dual Fired	8,735	9,748	9,324	9,121	8,689	8,698	7,742	44.8	29.3
Nuclear	2,011	2,011	2,012	2,073	2,071	2,067	2,055	10.3	7.8
Independent Power Producers and Combined Heat and Power	**2,727**	**2,794**	**6,797**	**7,556**	**11,400**	**11,660**	**12,289**	**14.0**	**46.4**
Coal	14	8	1,783	1,783	1,730	1,730	1,730	.1	6.5
Petroleum	0	0	0	43	46	46	46	.0	.2
Natural Gas	1,541	1,634	3,800	4,738	8,724	8,996	9,412	7.9	35.6
Other Gases	114	82	105	64	62	63	65	.6	.2
Dual Fired	386	380	601	462	451	433	433	2.0	1.6
Hydroelectric	182	182	182	192	192	192	192	.9	.7
Other Renewables	468	486	304	253	170	175	334	2.4	1.3
Other	21	21	21	22	24	24	77	.1	.3
Total Electric Industry	**19,479**	**19,814**	**21,115**	**21,721**	**25,633**	**25,749**	**26,465**	**100.0**	**100.0**
Coal	3,357	2,851	3,506	3,506	3,453	3,453	3,453	17.2	13.0
Petroleum	17	16	16	54	62	62	64	.1	.2
Natural Gas	4,186	4,035	5,042	5,976	10,458	10,581	12,049	21.5	45.5
Other Gases	114	82	105	64	62	63	65	.6	.2
Dual Fired	9,122	10,128	9,926	9,582	9,140	9,131	8,175	46.8	30.9
Nuclear	2,011	2,011	2,012	2,073	2,071	2,067	2,055	10.3	7.8
Hydroelectric	182	182	182	192	192	192	192	.9	.7
Other Renewables	469	487	304	253	170	175	335	2.4	1.3
Other	21	21	21	22	24	24	77	.1	.3

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percent Share 1990	Percent Share 2004
Louisiana									
Electric Utilities	**58,168,408**	**65,555,229**	**57,601,142**	**50,378,001**	**54,921,960**	**43,485,059**	**47,603,602**	**76.1**	**48.5**
Coal	17,800,084	18,954,264	14,484,315	10,917,220	12,258,694	11,020,325	11,324,239	23.3	11.5
Petroleum	130,260	48,558	625,093	1,722,244	68,460	1,007,874	3,693,520	.2	3.8
Natural Gas	26,041,280	30,866,507	26,695,995	20,402,402	25,085,994	15,093,742	15,138,928	34.1	15.4
Other Gases	0	0	0	0	203,484	236,796	366,934	.0	.4
Nuclear	14,196,784	15,685,900	15,795,739	17,336,135	17,305,328	16,126,322	17,079,981	18.6	17.4
Independent Power Producers and Combined Heat and Power	**18,297,222**	**19,004,495**	**35,264,493**	**37,516,376**	**40,049,003**	**51,399,981**	**50,568,707**	**23.9**	**51.5**
Coal	56,603	35,210	9,004,549	11,050,926	9,792,212	11,868,605	12,328,719	.1	12.6
Petroleum	101,838	1,437,656	1,451,267	1,727,695	1,796,076	1,930,074	152,391	.1	.2
Natural Gas	13,433,586	12,351,240	19,433,248	19,970,352	22,814,853	30,340,456	30,678,522	17.6	31.3
Other Gases	440,700	982,181	1,598,632	440,544	1,294,140	2,450,434	2,827,222	.6	2.9
Hydroelectric	656,492	952,144	532,290	732,217	891,441	891,991	1,098,825	.9	1.1
Other Renewables	2,315,184	2,645,416	2,792,452	2,747,546	2,862,791	3,174,765	2,779,491	3.0	2.8
Other	1,292,819	600,648	452,055	847,096	597,490	743,656	703,537	1.7	.7
Total Electric Industry	**76,465,630**	**84,559,724**	**92,865,635**	**87,894,377**	**94,970,964**	**94,885,040**	**98,172,309**	**100.0**	**100.0**
Coal	17,856,687	18,989,474	23,488,864	21,968,146	22,050,906	22,888,930	23,652,958	23.4	24.1
Petroleum	232,098	1,486,214	2,076,360	3,449,939	1,864,536	2,937,948	3,845,911	.3	3.9
Natural Gas	39,474,866	43,217,747	46,129,243	40,372,754	47,900,847	45,434,198	45,817,450	51.6	46.7
Other Gases	440,700	982,181	1,598,632	440,544	1,497,624	2,687,230	3,194,156	.6	3.3
Nuclear	14,196,784	15,685,900	15,795,739	17,336,135	17,305,328	16,126,322	17,079,981	18.6	17.4
Hydroelectric	656,492	952,144	532,290	732,217	891,441	891,991	1,098,825	.9	1.1
Other Renewables	2,315,184	2,645,416	2,792,452	2,747,546	2,862,791	3,174,765	2,779,491	3.0	2.8
Other	1,292,819	600,648	452,055	847,096	597,490	743,656	703,537	1.7	.7

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Louisiana							
Coal (cents per million Btu)	169.5	154.9	132.0	130.9	W	W	W
Average heat value (Btu per pound)	8,194	8,110	7,933	8,032	7,904	8,023	8,146
Average sulfur Content (percent)	.5	.6	.6	.7	.5	.5	.5
Petroleum (cents per million Btu)	371.5	348.1	459.2	519.0	63.4	246.6	285.6
Average heat value (Btu per gallon)	144,963	141,544	149,843	145,452	140,060	145,807	147,379
Average sulfur Content (percent)	.4	.1	.9	.7	5.4	3.8	3.4
Natural Gas (cents per million Btu)	165.9	180.6	439.6	413.2	342.4	561.2	632.9
Average heat value (Btu per cubic foot)	1,045	1,043	1,034	1,043	1,029	1,033	1,031

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Louisiana							
Sulfur Dioxide							
Coal	91	124	82	79	79	87	87
Petroleum	3	86	80	94	82	83	20
Natural Gas	*	*	*	1	*	*	*
Other	18	20	19	20	19	24	25
Total	112	231	182	193	180	194	132
Nitrogen Oxide							
Coal	83	83	45	40	40	39	37
Petroleum	*	5	5	8	5	10	5
Gas	55	61	69	65	65	39	37
Other	13	6	5	7	6	8	8
Total	152	156	124	119	117	96	88
Carbon Dioxide							
Coal	18,137	20,175	24,282	22,997	22,187	23,593	24,330
Petroleum	201	1,895	2,221	3,523	2,042	3,008	4,353
Gas	25,613	28,909	30,904	27,820	30,495	29,010	29,130
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	162	253	302
Total	43,951	50,979	57,407	54,340	54,886	55,863	58,114

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Louisiana									
Retail Sales (thousand megawatthours)									
Residential	21,434	24,116	27,719	25,800	28,157	28,572	28,863	33.6	36.2
Commercial	13,814	15,575	18,225	17,722	18,686	21,944	22,568	21.6	28.3
Industrial	25,862	30,692	31,950	28,574	29,662	27,251	28,290	40.5	35.5
Other	2,716	2,444	2,795	2,596	2,756	NA	NA	4.3	NA
Transportation	NA	NA	NA	NA	NA	3	16	NA	.0
Total	63,826	72,827	80,690	74,693	79,261	77,769	79,737	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,587	1,744	2,127	2,044	2,000	2,241	2,324	41.4	40.9
Commercial	973	1,055	1,308	1,343	1,242	1,628	1,710	25.4	30.1
Industrial	1,083	1,219	1,599	1,596	1,310	1,518	1,646	28.3	29.0
Other	187	170	195	219	194	NA	NA	4.9	NA
Transportation	NA	NA	NA	NA	NA	0	1	NA	.0
Total	3,830	4,189	5,229	5,201	4,746	5,387	5,682	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.41	7.23	7.67	7.92	7.10	7.84	8.05	NA	NA
Commercial	7.05	6.77	7.18	7.58	6.64	7.42	7.58	NA	NA
Industrial	4.19	3.97	5.00	5.58	4.42	5.57	5.82	NA	NA
Other	6.88	6.97	6.98	8.43	7.05	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	7.32	7.09	NA	NA
Total	6.00	5.75	6.48	6.96	5.99	6.93	7.13	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Louisiana								
Number of Entities	5	22	NA	13	NA	NA	NA	40
Number of Retail Customers	1,632,085	156,039	NA	381,063	NA	NA	NA	2,169,187
Retail Sales (thousand megawatthours)	67,703	4,370	NA	7,664	NA	NA	NA	79,737
Percentage of Retail Sales	84.91	5.48	NA	9.61	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	4,862	305	NA	515	NA	NA	NA	5,682
Percentage of Revenue	85.58	5.36	NA	9.06	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	7.18	6.97	NA	6.72	NA	NA	NA	7.13

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Maine		
NERC Region(s)		NPCC
Primary Energy Source		Gas
Net Summer Capability (megawatts)	4,190	43
Electric Utilities	19	49
Independent Power Producers & Combined Heat and Power	4,170	22
Net Generation (megawatthours)	19,098,885	43
Electric Utilities	1,121	50
Independent Power Producers & Combined Heat and Power	19,097,764	15
Emissions (thousand metric tons)		
Sulfur Dioxide	20	42
Nitrogen Oxide	11	44
Carbon Dioxide	7,043	44
Sulfur Dioxide (lbs/MWh)	2.3	39
Nitrogen Oxide (lbs/MWh)	1.2	42
Carbon Dioxide (lbs/MWh)	813	44
Total Retail Sales (megawatthours)	12,367,668	42
Full Service Provider Sales (megawatthours)	592,783	51
Deregulated Sales (megawatthours)	11,774,885	10
Direct Use (megawatthours)	4,372,401	9
Average Retail Price (cents/kWh)	9.69	11

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Maine			
1. William F Wyman	Petroleum	FPL Energy Wyman LLC	824
2. Westbrook Energy Center	Gas	Calpine Eastern Corp	506
3. Maine Independence Station	Gas	Casco Bay Energy Co LLC	490
4. Bucksport Mill	Petroleum,Other,Gas	International Paper Co- Bucksport	269
5. Rumford Power Associates	Gas	Calpine Corp	254
6. Androscoggin Energy Center	Other,Gas	Calpine Androscoggin Energy	130
7. Great Lakes Hydro America - ME	Hydroelectric	Great Lakes Hydro America LLC	129
8. Somerset Plant	Petroleum,Other	Sappi Fine Paper North America-Somerset	115
9. Millinocket Mill	Petroleum	Katahdin Paper Inc	103
10. Harris	Hydroelectric	FPL Energy Maine Hydro LLC	87

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Maine						
1. Constellation Power Source Inc	Power Marketer	5,815,188	4,203,753	1,540,192	71,243	0
2. Constellation NewEnergy, Inc	Power Marketer	1,617,767	0	1,617,767	0	0
3. WPS Energy Services	Power Marketer	1,197,884	325,636	663,494	208,754	0
4. Independence Power Marketing	Power Marketer	657,667	0	491,310	166,357	0
5. Select Energy	Power Marketer	554,172	0	254,100	300,072	0
Total Sales, Top Five Providers		9,842,678	4,529,389	4,566,863	746,426	0
Percent of Total State Sales		80	100	100	20	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Maine									
Electric Utilities	**2,407**	**2,432**	**21**	**16**	**16**	**19**	**19**	**64.7**	**0.5**
Petroleum	1,126	1,109	18	17	16	19	19	30.3	.5
Nuclear	860	870	0	0	0	0	0	23.1	.0
Hydroelectric	420	421	3	0	0	0	0	11.3	.0
Other Renewables	0	32	0	0	0	0	0	.0	.0
Independent Power Producers and Combined Heat and Power	**1,312**	**1,357**	**4,187**	**4,191**	**4,271**	**4,265**	**4,170**	**35.3**	**99.5**
Coal	100	96	96	85	85	85	85	2.7	2.0
Petroleum	230	181	1,203	1,046	1,097	1,097	998	6.2	23.8
Natural Gas	13	0	1,023	1,338	1,356	1,352	1,259	.3	30.0
Dual Fired	12	15	469	322	319	319	412	.3	9.8
Hydroelectric	338	352	708	682	718	720	722	9.1	17.2
Other Renewables	619	714	688	719	697	693	695	16.6	16.6
Total Electric Industry	**3,719**	**3,790**	**4,208**	**4,208**	**4,288**	**4,285**	**4,190**	**100.0**	**100.0**
Coal	100	96	96	85	85	85	85	2.7	2.0
Petroleum	1,356	1,290	1,221	1,063	1,113	1,116	1,017	36.5	24.3
Natural Gas	13	0	1,023	1,338	1,356	1,352	1,259	.3	30.0
Dual Fired	12	15	469	321	318	318	411	.3	9.8
Nuclear	860	870	0	0	0	0	0	23.1	.0
Hydroelectric	759	773	711	681	718	721	722	20.4	17.2
Other Renewables	619	746	688	720	698	693	695	16.6	16.6

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Maine									
Electric Utilities	**9,063,595**	**2,668,381**	**2,781**	**0**	**865**	**1,409**	**1,121**	**56.8**	*
Petroleum	2,092,804	812,024	0	0	865	1,409	1,121	13.1	*
Nuclear	4,860,727	197,577	0	0	0	0	0	30.5	0.0
Hydroelectric	2,110,064	1,658,481	2,781	0	0	0	0	13.2	.0
Other Renewables	0	299	0	0	0	0	0	.0	.0
Independent Power Producers and Combined Heat and Power	**6,882,419**	**7,094,670**	**14,045,166**	**19,564,821**	**22,534,169**	**18,970,227**	**19,097,765**	**43.2**	**100.0**
Coal	453,218	540,591	649,748	528,412	603,938	376,532	360,821	2.8	1.9
Petroleum	988,296	1,220,208	2,797,329	2,101,522	1,228,621	1,918,139	1,310,330	6.2	6.9
Natural Gas	50,786	7,219	3,044,440	10,052,949	13,503,963	9,438,704	9,826,264	.3	51.4
Other Gases	0	5,290	0	0	48	34	38	.0	.0
Hydroelectric	1,980,472	1,695,431	3,588,034	2,645,123	2,767,847	3,172,623	3,430,249	12.4	18.0
Other Renewables	3,409,647	3,625,931	3,821,868	4,088,415	4,429,752	3,909,608	3,901,212	21.4	20.4
Other	0	0	143,747	148,400	0	154,586	268,851	.0	1.4
Total Electric Industry	**15,946,014**	**9,763,051**	**14,047,947**	**19,564,821**	**22,535,033**	**18,971,635**	**19,098,885**	**100.0**	**100.0**
Coal	453,218	540,591	649,748	528,412	603,938	376,532	360,821	2.8	1.9
Petroleum	3,081,100	2,032,232	2,797,329	2,101,522	1,229,486	1,919,548	1,311,451	19.3	6.9
Natural Gas	50,786	7,219	3,044,440	10,052,949	13,503,963	9,438,704	9,826,264	.3	51.4
Other Gases	0	5,290	0	0	48	34	38	.0	.0
Nuclear	4,860,727	197,577	0	0	0	0	0	30.5	.0
Hydroelectric	4,090,536	3,353,912	3,590,815	2,645,123	2,767,847	3,172,623	3,430,249	25.7	18.0
Other Renewables	3,409,647	3,626,230	3,821,868	4,088,415	4,429,752	3,909,608	3,901,212	21.4	20.4
Other	0	0	143,747	148,400	0	154,586	268,851	.0	1.4

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Maine							
Coal (cents per million Btu)	0.0	0.0	0.0	0.0	241.0	W	W
Average heat value (Btu per pound)	0	0	0	0	12,015	13,124	12,854
Average sulfur Content (percent)	.0	.0	.0	.0	.7	.7	.8
Petroleum (cents per million Btu)	278.5	260.6	.0	.0	388.5	555.7	504.1
Average heat value (Btu per gallon)	149,992	150,613	0	0	147,876	150,319	151,731
Average sulfur Content (percent)	.9	.7	.0	.0	1.1	.8	1.0
Natural Gas (cents per million Btu)	.0	.0	.0	.0	391.3	584.2	627.7
Average heat value (Btu per cubic foot)	0	0	0	0	1,039	1,042	1,044

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Maine							
Sulfur Dioxide							
Coal	5	3	2	6	5	1	2
Petroleum	39	7	29	25	14	9	9
Natural Gas	0	0	*	*	*	*	*
Other	8	11	11	13	12	9	9
Total	52	21	42	44	31	20	20
Nitrogen Oxide							
Coal	3	3	3	3	3	1	1
Petroleum	7	5	5	5	3	3	2
Gas	*	*	1	1	3	1	1
Other	5	6	6	6	7	6	6
Total	14	14	14	15	15	11	11
Carbon Dioxide							
Coal	724	799	847	901	1,370	634	398
Petroleum	4,242	3,703	3,690	2,974	1,949	2,395	1,949
Gas	44	6	1,572	4,485	6,166	4,145	4,247
Geothermal	0	0	0	0	0	0	0
Other	61	78	79	77	625	488	448
Total	5,071	4,586	6,188	8,438	10,110	7,662	7,043

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Maine									
Retail Sales (thousand megawatthours)									
Residential	3,932	3,629	3,737	3,903	4,043	4,219	4,331	34.1	35.0
Commercial	2,673	2,835	3,712	3,779	3,789	3,959	4,325	23.2	35.0
Industrial	4,750	4,959	4,551	4,413	3,550	3,793	3,711	41.2	30.0
Other	174	138	163	57	59	NA	NA	1.5	NA
Total	11,529	11,561	12,163	12,152	11,441	11,972	12,368	100.0	100.0
Retail Revenue (million dollars)									
Residential	366	454	467	512	515	522	527	41.5	44.0
Commercial	214	292	380	440	405	409	428	24.3	35.7
Industrial	283	330	314	315	250	241	244	32.1	20.4
Other	19	22	19	15	14	NA	NA	2.2	NA
Total	882	1,097	1,178	1,282	1,184	1,172	1,198	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	9.29	12.51	12.49	13.13	12.74	12.37	12.16	NA	NA
Commercial	8.02	10.28	10.23	11.64	10.68	10.34	9.89	NA	NA
Industrial	5.96	6.65	6.89	7.15	7.05	6.35	6.56	NA	NA
Other	10.85	15.67	11.45	25.40	23.38	NA	NA	NA	NA
Total	7.65	9.48	9.69	10.55	10.35	9.79	9.68	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Maine								
Number of Entities	2	4	NA	3	1	15	6	31
Number of Retail Customers	1,334	9,860	NA	2,433	1	747,723	NA	761,351
Retail Sales (thousand megawatthours)	275	158	NA	30	130	11,775	NA	12,368
Percentage of Retail Sales	2.22	1.28	NA	.24	1.05	95.21	NA	100.00
Revenue from Retail Sales (million dollars)	15	10	NA	3	5	600	563	1,198
Percentage of Revenue	1.27	.87	NA	.29	.45	50.13	46.99	100.00
Average Retail Price (cents/kWh)	5.55	6.63	NA	11.59	4.16	5.10	4.78	9.69

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Maryland		
NERC Region(s)		ECAR/MAAC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	12,499	28
Electric Utilities	79	47
Independent Power Producers & Combined Heat and Power	12,420	8
Net Generation (megawatthours)	52,052,770	26
Electric Utilities	30,023	47
Independent Power Producers & Combined Heat and Power	52,022,747	7
Emissions (thousand metric tons)		
Sulfur Dioxide	276	14
Nitrogen Oxide	62	30
Carbon Dioxide	31,799	29
Sulfur Dioxide (lbs/MWh)	11.7	3
Nitrogen Oxide (lbs/MWh)	2.6	22
Carbon Dioxide (lbs/MWh)	1,347	26
Total Retail Sales (megawatthours)	66,891,700	23
Full Service Provider Sales (megawatthours)	53,239,637	24
Deregulated Sales (megawatthours)	13,652,063	7
Direct Use (megawatthours)	1,198,292	28
Average Retail Price (cents/kWh)	7.15	19

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Maryland			
1. Chalk Point LLC	Petroleum,Coal	Mirant Chalk Point LLC	2,429
2. Calvert Cliffs Nuclear Power Plant	Nuclear	Calvert Cliffs Nuclear PP Inc	1,735
3. Morgantown Generating Plant	Petroleum,Coal	Mirant Mid-Atlantic LLC	1,492
4. Brandon Shores	Petroleum,Coal	Constellation Power Source Gen	1,286
5. Herbert A Wagner	Gas,Petroleum,Coal	Constellation Power Source Gen	1,004
6. Dickerson	Petroleum,Gas,Coal	Mirant Mid-Atlantic LLC	853
7. Rock Springs Generation Facility	Gas	CED Operating Co LLC	629
8. Conowingo	Hydroelectric	Susquehanna Electric Co	548
9. C P Crane	Petroleum,Gas,Coal	Constellation Power Source Gen	399
10. Perryman	Petroleum	Constellation Power Source Gen	360

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Maryland						
1. Baltimore Gas & Electric Co	Investor-Owned	24,029,003	13,313,800	3,414,109	7,301,094	0
2. Potomac Electric Power Co	Investor-Owned	11,053,887	5,557,133	5,384,686	89,279	22,789
3. Potomac Edison Co	Investor-Owned	9,735,431	3,197,051	1,902,549	4,635,831	0
4. PEPCO Energy Services	Power Marketer	4,939,512	284,941	4,512,335	0	142,236
5. Delmarva Power & Light Company	Investor-Owned	3,576,308	2,204,333	1,187,754	184,221	0
Total Sales, Top Five Providers		53,334,141	24,557,258	16,401,433	12,210,425	165,025
Percent of Total State Sales		80	88	95	58	34

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Maryland									
Electric Utilities	**9,758**	**10,957**	**753**	**70**	**69**	**70**	**79**	**97.0**	**0.6**
Coal	3,975	4,636	0	0	0	0	0	39.5	.0
Petroleum	1,782	1,387	220	50	48	50	50	17.7	.4
Natural Gas	1,079	2,576	0	0	0	0	0	10.7	.0
Dual Fired	843	153	21	21	21	21	30	8.4	.2
Nuclear	1,650	1,675	0	0	0	0	0	16.4	.0
Hydroelectric	428	530	512	0	0	0	0	4.3	.0
Independent Power Producers and Combined Heat and Power	**298**	**363**	**9,770**	**11,859**	**11,791**	**12,402**	**12,420**	**3.0**	**99.4**
Coal	69	60	4,752	4,586	4,897	4,957	4,958	.7	39.7
Petroleum	2	2	322	983	835	835	835	*	6.7
Natural Gas	0	0	478	406	338	972	969	.0	7.8
Other Gases	0	0	163	153	152	152	152	.0	1.2
Dual Fired	162	172	2,234	3,344	3,170	3,090	3,078	1.6	24.6
Nuclear	0	0	1,675	1,675	1,685	1,703	1,735	.0	13.9
Hydroelectric	0	0	19	530	530	566	566	.0	4.5
Other Renewables	65	129	128	183	183	127	127	.6	1.0
Total Electric Industry	**10,056**	**11,321**	**10,523**	**11,930**	**11,859**	**12,472**	**12,499**	**100.0**	**100.0**
Coal	4,045	4,696	4,752	4,586	4,897	4,957	4,958	40.2	39.7
Petroleum	1,784	1,389	542	1,033	883	885	885	17.7	7.1
Natural Gas	1,079	2,576	478	406	338	972	969	10.7	7.8
Other Gases	0	0	163	153	152	152	152	.0	1.2
Dual Fired	1,006	325	2,254	3,365	3,190	3,110	3,107	10.0	24.9
Nuclear	1,650	1,675	1,675	1,675	1,685	1,703	1,735	16.4	13.9
Hydroelectric	428	530	531	530	530	566	566	4.3	4.5
Other Renewables	65	129	128	183	183	127	127	.6	1.0

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percent Share 1990	Percent Share 2004
Maryland									
Electric Utilities	**31,497,406**	**44,658,945**	**31,783,195**	**88,150**	**30,734**	**51,722**	**30,023**	**95.0**	**0.1**
Coal	23,299,412	27,369,905	20,353,004	0	0	0	0	70.3	.0
Petroleum	3,328,080	1,407,598	1,507,860	87,790	30,734	51,722	30,023	10.0	.1
Natural Gas	1,319,588	1,501,465	1,884,407	360	0	0	0	4.0	.0
Nuclear	1,251,416	12,937,971	6,323,940	0	0	0	0	3.8	.0
Hydroelectric	2,298,910	1,442,006	1,713,984	0	0	0	0	6.9	.0
Independent Power Producers and Combined Heat and Power	**1,664,886**	**1,706,698**	**19,362,185**	**48,974,190**	**48,248,354**	**52,192,515**	**52,022,747**	**5.0**	**99.9**
Coal	210,450	225,351	9,098,061	28,379,409	28,712,053	29,939,086	29,215,529	.6	56.1
Petroleum	243,192	71,871	880,735	2,933,849	2,251,698	3,520,461	3,265,890	.7	6.3
Natural Gas	202,855	47,419	968,469	1,760,452	2,214,431	1,195,643	1,183,005	.6	2.3
Other Gases	488,197	685,721	74,572	439,980	504,513	325,355	412,690	1.5	.8
Nuclear	0	0	7,503,303	13,656,267	12,128,005	13,690,713	14,580,260	.0	28.0
Hydroelectric	0	0	18,635	1,183,518	1,660,989	2,646,984	2,507,521	.0	4.8
Other Renewables	520,192	676,336	818,410	620,715	776,665	874,274	857,074	1.6	1.6
Other	0	0	0	0	0	0	777	.0	*
Total Electric Industry	**33,162,292**	**46,365,643**	**51,145,380**	**49,062,340**	**48,279,088**	**52,244,237**	**52,052,770**	**100.0**	**100.0**
Coal	23,509,862	27,595,256	29,451,065	28,379,409	28,712,053	29,939,086	29,215,529	70.9	56.1
Petroleum	3,571,272	1,479,469	2,388,595	3,021,639	2,282,432	3,572,183	3,295,913	10.8	6.3
Natural Gas	1,522,443	1,548,884	2,852,876	1,760,812	2,214,431	1,195,643	1,183,005	4.6	2.3
Other Gases	488,197	685,721	74,572	439,980	504,513	325,355	412,690	1.5	.8
Nuclear	1,251,416	12,937,971	13,827,243	13,656,267	12,128,005	13,690,713	14,580,260	3.8	28.0
Hydroelectric	2,298,910	1,442,006	1,732,619	1,183,518	1,660,989	2,646,984	2,507,521	6.9	4.8
Other Renewables	520,192	676,336	818,410	620,715	776,665	874,274	857,074	1.6	1.6
Other	0	0	0	0	0	0	777	.0	*

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Maryland							
Coal (cents per million Btu)	164.7	150.4	133.0	0.0	163.4	163.0	173.8
Average heat value (Btu per pound)	12,734	12,965	12,945	0	12,971	12,708	12,653
Average sulfur Content (percent)	1.4	1.1	1.2	.0	1.1	1.1	1.3
Petroleum (cents per million Btu)	315.7	274.7	400.7	.0	375.0	533.5	551.6
Average heat value (Btu per gallon)	149,603	150,163	150,182	0	148,567	148,564	149,417
Average sulfur Content (percent)	1.2	.9	.9	.0	.6	.6	.5
Natural Gas (cents per million Btu)	244.7	215.7	442.3	.0	416.3	536.9	552.5
Average heat value (Btu per cubic foot)	1,042	1,039	1,044	0	1,042	1,047	1,048

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Maryland							
Sulfur Dioxide							
Coal	241	200	234	223	226	247	260
Petroleum	26	11	10	9	6	14	13
Natural Gas	*	*	*	0	*	*	*
Other	2	3	2	1	1	3	3
Total	270	213	247	232	233	264	276
Nitrogen Oxide							
Coal	91	85	70	62	65	61	55
Petroleum	7	2	3	3	2	4	4
Gas	3	2	3	2	2	1	1
Other	1	2	2	1	2	3	4
Total	102	92	79	68	71	69	62
Carbon Dioxide							
Coal	22,115	25,349	30,039	26,121	27,269	28,399	27,663
Petroleum	3,852	1,452	2,129	2,649	1,982	2,964	2,805
Gas	1,218	1,133	1,713	1,100	1,359	673	738
Geothermal	0	0	0	0	0	0	0
Other	82	128	153	150	587	595	593
Total	27,267	28,062	34,034	30,020	31,197	32,632	31,799

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Maryland									
Retail Sales (thousand megawatthours)									
Residential	19,102	22,234	23,949	24,294	25,489	26,671	27,952	38.6	41.8
Commercial	10,452	23,096	25,804	26,244	21,044	16,950	17,264	21.1	25.8
Industrial	19,308	10,057	10,066	10,177	20,875	27,176	21,195	39.0	31.7
Other	672	771	858	926	972	NA	NA	1.4	NA
Transportation	NA	NA	NA	NA	NA	461	481	NA	.7
Total	49,534	56,158	60,678	61,640	68,380	71,259	66,892	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,380	1,875	1,905	1,864	1,973	2,060	2,181	44.2	45.6
Commercial	702	1,596	1,691	1,669	1,328	1,178	1,304	22.5	27.3
Industrial	984	425	417	445	836	1,329	1,269	31.5	26.5
Other	56	68	76	87	92	NA	NA	1.8	NA
Transportation	NA	NA	NA	NA	NA	27	31	NA	.6
Total	3,121	3,964	4,089	4,066	4,229	4,594	4,785	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.22	8.43	7.95	7.67	7.74	7.72	7.80	NA	NA
Commercial	6.71	6.91	6.55	6.36	6.31	6.95	7.55	NA	NA
Industrial	5.10	4.23	4.14	4.37	4.01	4.89	5.99	NA	NA
Other	8.31	8.79	8.89	9.42	9.42	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	5.78	6.46	NA	NA
Total	6.30	7.06	6.74	6.60	6.18	6.45	7.15	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Maryland								
Number of Entities	4	5	NA	3	NA	11	4	27
Number of Retail Customers	2,049,057	35,688	NA	178,829	NA	62,303	NA	2,325,877
Retail Sales (thousand megawatthours)	48,395	748	NA	4,097	NA	13,652	NA	66,892
Percentage of Retail Sales	72.35	1.12	NA	6.13	NA	20.41	NA	100.00
Revenue from Retail Sales (million dollars)	3,500	54	NA	293	NA	724	214	4,785
Percentage of Revenue	73.14	1.13	NA	6.12	NA	15.14	4.47	100.00
Average Retail Price (cents/kWh)	7.23	7.23	NA	7.15	NA	5.31	1.57	7.15

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
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Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Massachusetts		
NERC Region(s)		NPCC
Primary Energy Source		Gas
Net Summer Capability (megawatts)	14,002	26
Electric Utilities	981	44
Independent Power Producers & Combined Heat and Power	13,022	7
Net Generation (megawatthours)	47,500,483	30
Electric Utilities	1,524,169	44
Independent Power Producers & Combined Heat and Power	45,976,314	9
Emissions (thousand metric tons)		
Sulfur Dioxide	76	29
Nitrogen Oxide	29	38
Carbon Dioxide	26,113	33
Sulfur Dioxide (lbs/MWh)	3.5	33
Nitrogen Oxide (lbs/MWh)	1.3	39
Carbon Dioxide (lbs/MWh)	1,212	35
Total Retail Sales (megawatthours)	56,142,019	25
Full Service Provider Sales (megawatthours)	43,591,199	30
Deregulated Sales (megawatthours)	12,550,820	9
Direct Use (megawatthours)	2,455,540	18
Average Retail Price (cents/kWh)	10.77	8

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Massachusetts			
1. Mystic Generating Station	Petroleum,Gas	Boston Generating LLC	1,945
2. Brayton Point	Gas,Petroleum,Coal	Dominion Energy New England, LLC	1,523
3. Canal	Gas,Petroleum	Mirant Canal LLC	1,112
4. Northfield Mountain	Pumped Storage	Northeast Generation Services Company	1,080
5. Salem Harbor	Petroleum,Coal	Dominion Energy New England, LLC	743
6. Pilgrim Nuclear Power Station	Nuclear	Entergy Nuclear Generation Co	685
7. Fore River Generating Station	Petroleum,Gas	Boston Generating LLC	668
8. Bear Swamp	Hydroelectric,Pumped Storage	U S Gen New England Inc	563
9. ANP Bellingham Energy Project	Gas	ANP Bellingham Energy Co	484
10. ANP Blackstone Energy Project	Gas	ANP Blackstone Energy Co	441

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Massachusetts						
1. Massachusetts Electric Co	Investor-Owned	15,841,372	8,411,461	5,835,212	1,594,699	0
2. Boston Edison Co	Investor-Owned	11,230,279	4,252,442	6,329,901	647,936	0
3. Constellation NewEnergy, Inc	Power Marketer	4,227,721	0	4,227,721	0	0
4. Western Massachusetts Elec Co	Investor-Owned	3,425,578	1,531,241	1,218,452	675,885	0
5. Commonwealth Electric Co	Investor-Owned	3,265,683	1,787,946	1,312,150	165,587	0
Total Sales, Top Five Providers		37,990,633	15,983,090	18,923,436	3,084,107	0
Percent of Total State Sales		68	81	73	31	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Massachusetts									
Electric Utilities	**9,910**	**9,288**	**996**	**993**	**1,090**	**981**	**981**	**92.5**	**7.0**
Coal	1,723	1,707	145	145	145	145	145	16.1	1.0
Petroleum	3,604	2,499	214	213	305	311	215	33.6	1.5
Natural Gas	118	778	115	115	27	2	0	1.1	.0
Dual Fired	1,784	1,775	476	475	569	479	578	16.6	4.1
Nuclear	831	669	0	0	0	0	0	7.8	.0
Hydroelectric	204	207	46	45	44	44	44	1.9	.3
Pumped Storage	1,647	1,653	0	0	0	0	0	15.4	.0
Independent Power Producers and Combined Heat and Power	**807**	**1,709**	**11,355**	**10,849**	**11,069**	**12,895**	**13,022**	**7.5**	**93.0**
Coal	18	31	1,451	1,501	1,545	1,515	1,578	.2	11.3
Petroleum	52	109	2,071	1,952	1,724	1,408	1,438	.5	10.3
Natural Gas	99	343	1,184	2,416	2,188	4,311	4,218	.9	30.1
Dual Fired	325	856	3,928	2,147	2,782	2,814	2,951	3.0	21.1
Nuclear	0	0	665	667	667	685	685	.0	4.9
Hydroelectric	57	58	209	199	207	217	217	.5	1.5
Other Renewables	256	313	351	315	305	305	293	2.4	2.1
Pumped Storage	0	0	1,495	1,652	1,652	1,643	1,643	.0	11.7
Total Electric Industry	**10,716**	**10,997**	**12,351**	**11,842**	**12,159**	**13,877**	**14,002**	**100.0**	**100.0**
Coal	1,741	1,738	1,596	1,645	1,689	1,659	1,723	16.2	12.3
Petroleum	3,656	2,608	2,285	2,166	2,029	1,718	1,652	34.1	11.8
Natural Gas	216	1,121	1,299	2,532	2,215	4,314	4,218	2.0	30.1
Dual Fired	2,108	2,632	4,403	2,621	3,351	3,292	3,529	19.7	25.2
Nuclear	831	669	665	667	667	685	685	7.8	4.9
Hydroelectric	261	265	255	244	251	261	260	2.4	1.9
Other Renewables	256	312	353	315	305	305	293	2.4	2.1
Pumped Storage	1,647	1,653	1,495	1,652	1,652	1,643	1,643	15.4	11.7

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Massachusetts									
Electric Utilities	**36,478,610**	**26,971,667**	**1,704,653**	**1,566,491**	**1,156,651**	**2,055,622**	**1,524,169**	**91.6**	**3.2**
Coal	11,273,069	10,586,608	1,094,848	1,096,681	0	1,074,514	903,789	28.3	1.9
Petroleum	14,556,403	5,848,663	123,931	131,797	220,435	517,767	290,865	36.6	.6
Natural Gas	5,279,993	6,206,477	307,009	218,432	728,570	234,942	98,542	13.3	.2
Nuclear	5,069,620	4,485,845	0	0	0	0	0	12.7	.0
Hydroelectric	969,108	650,277	299,933	119,581	207,646	228,399	230,973	2.4	.5
Pumped Storage	−669,583	−806,203	−121,068	0	0	0	0	−1.7	.0
Independent Power Producers and Combined Heat and Power	**3,332,401**	**10,682,814**	**36,993,228**	**36,911,943**	**40,859,037**	**46,329,402**	**45,976,313**	**8.4**	**96.8**
Coal	92,824	111,655	10,059,424	9,954,652	11,502,861	9,821,976	9,622,699	.2	20.3
Petroleum	545,389	302,832	8,638,738	8,379,775	6,579,859	6,941,271	7,210,494	1.4	15.2
Natural Gas	852,709	8,028,533	10,400,063	11,478,572	15,140,404	22,188,989	20,911,003	2.1	44.0
Other Gases	830	0	0	0	0	0	0	*	.0
Nuclear	0	0	5,512,255	5,144,033	5,768,766	4,977,955	5,938,600	.0	12.5
Hydroelectric	280,134	218,372	765,226	582,924	655,301	846,783	767,308	.7	1.6
Other Renewables	1,560,515	2,021,422	2,196,818	2,083,336	2,050,777	2,051,084	2,024,535	3.9	4.3
Pumped Storage	0	0	−579,296	−711,349	−842,801	−510,929	−498,326	.0	−1.0
Other	0	0	0	0	3,869	12,273	0	.0	.0
Total Electric Industry	**39,811,011**	**37,654,481**	**38,697,881**	**38,478,434**	**42,015,689**	**48,385,024**	**47,500,483**	**100.0**	**100.0**
Coal	11,365,893	10,698,263	11,154,272	11,051,333	11,502,861	10,896,490	10,526,488	28.5	22.2
Petroleum	15,101,792	6,151,495	8,762,669	8,511,572	6,800,294	7,459,038	7,501,359	37.9	15.8
Natural Gas	6,132,702	14,235,010	10,707,072	11,697,004	15,868,974	22,423,931	21,009,545	15.4	44.2
Other Gases	830	0	0	0	0	0	0	*	.0
Nuclear	5,069,620	4,485,845	5,512,255	5,144,033	5,768,766	4,977,955	5,938,600	12.7	12.5
Hydroelectric	1,249,242	868,649	1,065,159	702,505	862,947	1,075,182	998,281	3.1	2.1
Other Renewables	1,560,515	2,021,422	2,196,818	2,083,336	2,050,777	2,051,084	2,024,535	3.9	4.3
Pumped Storage	−669,583	−806,203	−700,364	−711,349	−842,801	−510,929	−498,326	−1.7	−1.0
Other	0	0	0	0	3,869	12,273	0	.0	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Massachusetts							
Coal (cents per million Btu)	173.4	167.9	174.7	0.0	W	W	196.9
Average heat value (Btu per pound)	13,062	12,698	13,137	0	12,501	12,200	11,793
Average sulfur Content (percent)	1.2	.7	1.0	.0	.7	1.1	.5
Petroleum (cents per million Btu)	286.4	258.7	553.3	494.0	354.9	462.8	450.1
Average heat value (Btu per gallon)	150,311	151,624	143,298	150,167	150,202	149,850	148,871
Average sulfur Content (percent)	1.7	1.0	.3	.3	.9	.8	.8
Natural Gas (cents per million Btu)	240.1	200.6	443.7	347.5	351.4	534.4	638.7
Average heat value (Btu per cubic foot)	1,052	1,026	1,037	1,036	1,019	1,032	1,035

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Massachusetts							
Sulfur Dioxide							
Coal	91	51	59	53	52	48	41
Petroleum	120	32	45	43	32	34	35
Natural Gas	*	*	*	*	*	*	*
Other	1	1	1	1	1	*	*
Total	212	83	105	97	85	82	76
Nitrogen Oxide							
Coal	44	28	20	19	18	15	14
Petroleum	22	7	9	9	7	6	6
Gas	8	15	4	4	5	4	3
Other	3	3	4	4	4	6	6
Total	76	54	37	35	33	33	29
Carbon Dioxide							
Coal	10,179	9,679	10,459	10,025	10,722	9,976	9,618
Petroleum	12,344	5,393	7,346	7,330	5,696	6,390	6,153
Gas	3,656	7,486	5,485	5,912	7,452	9,576	9,056
Geothermal	0	0	0	0	0	0	0
Other	306	362	355	360	1,214	1,256	1,286
Total	26,485	22,921	23,645	23,627	25,084	27,197	26,113

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Massachusetts									
Retail Sales (thousand megawatthours)									
Residential	15,581	15,993	17,562	17,984	18,695	19,591	19,769	34.3	35.2
Commercial	18,565	19,894	23,033	24,127	24,250	25,648	26,020	40.9	46.3
Industrial	10,157	10,026	10,533	9,757	10,087	9,984	9,947	22.4	17.7
Other	1,138	598	644	629	676	NA	NA	2.5	NA
Transportation	NA	NA	NA	NA	NA	292	406	NA	.7
Total	45,442	46,510	51,773	52,496	53,708	55,514	56,142	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,505	1,800	1,850	2,243	2,043	2,272	2,323	37.4	38.4
Commercial	1,590	1,976	2,102	2,807	2,430	2,687	2,858	39.6	47.3
Industrial	802	843	864	915	841	891	844	20.0	14.0
Other	124	86	99	98	89	NA	NA	3.1	NA
Transportation	NA	NA	NA	NA	NA	12	19	NA	.3
Total	4,020	4,705	4,914	6,062	5,404	5,862	6,045	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	9.66	11.26	10.53	12.47	10.93	11.60	11.75	NA	NA
Commercial	8.56	9.93	9.13	11.64	10.02	10.48	10.98	NA	NA
Industrial	7.89	8.41	8.20	9.37	8.34	8.93	8.48	NA	NA
Other	10.90	14.31	15.32	15.52	13.11	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	4.09	4.65	NA	NA
Total	8.85	10.11	9.49	11.55	10.06	10.56	10.77	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Massachusetts								
Number of Entities	7	42	NA	NA	1	11	10	71
Number of Retail Customers	2,495,058	386,293	NA	NA	16	74,120	NA	2,955,487
Retail Sales (thousand megawatthours)	35,547	7,740	NA	NA	304	12,551	NA	56,142
Percentage of Retail Sales	63.32	13.79	NA	NA	.54	22.36	NA	100.00
Revenue from Retail Sales (million dollars)	4,063	748	NA	NA	27	694	512	6,045
Percentage of Revenue	67.22	12.38	NA	NA	.45	11.48	8.46	100.00
Average Retail Price (cents/kWh)	11.43	9.67	NA	NA	8.89	5.53	4.08	10.77

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Michigan		
NERC Region(s)		ECAR/MAPP/MAIN
Primary Energy Source		Coal
Net Summer Capability (megawatts)	30,447	10
Electric Utilities	23,314	7
Independent Power Producers & Combined Heat and Power	7,134	16
Net Generation (megawatthours)	118,487,269	12
Electric Utilities	99,608,512	7
Independent Power Producers & Combined Heat and Power	18,878,757	16
Emissions (thousand metric tons)		
Sulfur Dioxide	351	12
Nitrogen Oxide	121	10
Carbon Dioxide	77,206	11
Sulfur Dioxide (lbs/MWh)	6.5	17
Nitrogen Oxide (lbs/MWh)	2.2	28
Carbon Dioxide (lbs/MWh)	1,437	23
Total Retail Sales (megawatthours)	106,606,040	10
Full Service Provider Sales (megawatthours)	92,614,753	13
Deregulated Sales (megawatthours)	13,991,287	6
Direct Use (megawatthours)	2,922,287	16
Average Retail Price (cents/kWh)	6.94	25

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Michigan			
1. Monroe	Petroleum,Coal	Detroit Edison Co	3,094
2. Donald C Cook	Nuclear	Indiana Michigan Power Co	2,093
3. Ludington	Pumped Storage	Consumers Energy Co	1,872
4. Midland Cogeneration Venture	Petroleum,Gas	Midland Cogeneration Venture	1,821
5. Dan E Karn	Gas,Petroleum,Coal	Consumers Energy Co	1,791
6. St Clair	Gas,Petroleum,Coal	Detroit Edison Co	1,690
7. Belle River	Petroleum,Gas,Coal	Detroit Edison Co	1,499
8. J H Campbell	Petroleum,Coal	Consumers Energy Co	1,448
9. Fermi	Petroleum,Nuclear	Detroit Edison Co	1,162
10. Covert Generating Project	Gas	Covert Generating Co LLC	1,058

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Michigan						
1. Detroit Edison Co	Investor-Owned	39,978,034	15,081,590	13,424,847	11,471,597	0
2. Consumers Energy Co	Investor-Owned	33,039,318	12,346,200	10,997,741	9,695,377	0
3. Quest Energy LLC	Power Marketer	4,043,530	0	2,162,370	1,881,160	0
4. Wisconsin Electric Power Co	Investor-Owned	3,070,726	166,584	150,517	2,753,625	0
5. Indiana Michigan Power Co	Investor-Owned	2,973,957	1,145,732	754,668	1,073,557	0
Total Sales, Top Five Providers		83,105,565	28,740,106	27,490,143	26,875,316	0
Percent of Total State Sales		78	87	71	77	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Michigan									
Electric Utilities	**22,315**	**21,981**	**22,752**	**22,831**	**23,279**	**23,345**	**23,314**	**89.2**	**76.6**
Coal	11,931	11,794	11,636	11,638	11,627	11,636	11,623	47.7	38.2
Petroleum	2,524	2,370	1,741	1,771	1,567	1,598	815	10.1	2.7
Natural Gas	404	405	2,027	2,104	2,132	2,184	2,490	1.6	8.2
Other Gases	10	10	0	0	0	0	0	*	.0
Dual Fired	1,235	1,276	1,307	1,288	1,913	1,867	2,326	4.9	7.6
Nuclear	4,007	3,989	3,930	3,931	3,938	3,971	3,971	16.0	13.0
Hydroelectric	331	263	238	228	229	218	217	1.3	.7
Other Renewables	0	0	1	0	0	0	0	.0	.0
Pumped Storage	1,872	1,872	1,872	1,872	1,872	1,872	1,872	7.5	6.1
Independent Power Producers and Combined Heat and Power	**2,690**	**2,924**	**3,027**	**4,053**	**6,057**	**7,104**	**7,134**	**10.8**	**23.4**
Coal	676	654	330	291	354	354	354	2.7	1.2
Petroleum	0	2	9	9	43	46	64	.0	.2
Natural Gas	1,296	1,764	2,171	3,256	5,157	6,220	6,228	5.2	20.5
Dual Fired	459	76	24	17	86	89	92	1.8	.3
Hydroelectric	27	26	28	25	28	28	28	.1	.1
Other Renewables	232	403	466	455	388	369	368	.9	1.2
Total Electric Industry	**25,005**	**24,906**	**25,779**	**26,884**	**29,335**	**30,450**	**30,447**	**100.0**	**100.0**
Coal	12,608	12,449	11,965	11,929	11,981	11,989	11,976	50.4	39.3
Petroleum	2,525	2,373	1,750	1,779	1,610	1,644	879	10.1	2.9
Natural Gas	1,699	2,169	4,198	5,360	7,289	8,404	8,718	6.8	28.6
Other Gases	10	10	0	0	0	0	0	*	.0
Dual Fired	1,694	1,353	1,332	1,305	2,000	1,957	2,418	6.8	7.9
Nuclear	4,007	3,989	3,930	3,931	3,938	3,971	3,971	16.0	13.0
Hydroelectric	357	288	265	253	257	245	245	1.4	.8
Other Renewables	232	402	467	455	388	368	367	.9	1.2
Pumped Storage	1,872	1,872	1,872	1,872	1,872	1,872	1,872	7.5	6.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Michigan									
Electric Utilities	**89,058,681**	**92,478,772**	**89,572,141**	**97,067,330**	**100,451,718**	**96,634,055**	**99,608,512**	**89.0**	**84.1**
Coal	65,295,742	65,425,002	66,980,252	66,931,691	65,389,899	66,448,916	67,253,690	65.3	56.8
Petroleum	689,461	687,264	993,932	724,313	1,090,767	883,847	714,881	.7	.6
Natural Gas	665,142	1,163,390	2,441,140	2,362,038	2,336,031	1,098,627	735,011	.7	.6
Other Gases	0	0	0	0	0	0	1,082	.0	*
Nuclear	21,610,500	24,448,397	18,882,432	26,710,782	31,087,454	27,953,563	30,561,961	21.6	25.8
Hydroelectric	1,492,822	1,486,539	1,328,083	1,450,093	1,557,942	1,242,987	1,420,178	1.5	1.2
Other Renewables	0	0	0	15,250	25,185	23,361	34,693	.0	*
Pumped Storage	−694,986	−731,820	−1,053,698	−1,126,837	−1,035,560	−1,017,246	−1,112,984	−.7	−.9
Independent Power Producers and Combined Heat and Power	**11,001,056**	**14,965,840**	**14,637,453**	**14,778,280**	**17,437,369**	**14,713,004**	**18,878,758**	**11.0**	**15.9**
Coal	1,771,128	1,775,643	1,286,747	1,331,473	1,309,609	1,328,567	1,368,022	1.8	1.2
Petroleum	172,264	167,990	195,331	25,574	12,718	180,046	178,619	.2	.2
Natural Gas	7,172,814	10,411,464	10,166,124	10,811,473	13,517,387	10,275,917	14,370,729	7.2	12.1
Other Gases	340,949	1,430	0	5,614	10,108	2,193	39,331	.3	*
Hydroelectric	135,096	110,647	99,596	111,830	111,310	142,837	119,406	.1	.1
Other Renewables	1,408,805	2,483,380	2,889,594	2,492,295	2,476,219	2,783,445	2,802,579	1.4	2.4
Other	0	15,286	61	21	18	0	70	.0	.0
Total Electric Industry	**100,059,737**	**107,444,612**	**104,209,594**	**111,845,610**	**117,889,087**	**111,347,060**	**118,487,269**	**100.0**	**100.0**
Coal	67,066,870	67,200,645	68,266,999	68,263,164	66,699,508	67,777,483	68,621,712	67.0	57.9
Petroleum	861,725	855,254	1,189,263	749,887	1,103,485	1,063,893	893,500	.9	.8
Natural Gas	7,837,956	11,574,854	12,607,264	13,173,511	15,853,418	11,374,544	15,105,740	7.8	12.7
Other Gases	340,949	1,430	0	5,614	10,108	2,193	40,413	.3	*
Nuclear	21,610,500	24,448,397	18,882,432	26,710,782	31,087,454	27,953,563	30,561,961	21.6	25.8
Hydroelectric	1,627,918	1,597,186	1,427,679	1,561,923	1,669,252	1,385,824	1,539,584	1.6	1.3
Other Renewables	1,408,805	2,483,380	2,889,594	2,507,545	2,501,404	2,806,806	2,837,272	1.4	2.4
Pumped Storage	−694,986	−731,820	−1,053,698	−1,126,837	−1,035,560	−1,017,246	−1,112,984	−.7	−.9
Other	0	15,286	61	21	18	0	70	.0	

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Michigan							
Coal (cents per million Btu)	159.9	144.9	130.4	127.5	W	134.5	138.8
Average heat value (Btu per pound)	11,131	10,677	10,425	10,236	9,991	10,123	9,967
Average sulfur Content (percent)	.7	.6	.6	.6	.6	.6	.5
Petroleum (cents per million Btu)	320.2	288.2	368.1	398.0	273.8	W	W
Average heat value (Btu per gallon)	146,014	146,081	136,585	148,976	146,871	146,845	146,540
Average sulfur Content (percent)	.7	.8	1.5	1.4	1.9	1.7	1.4
Natural Gas (cents per million Btu)	210.6	199.5	389.9	382.5	352.1	386.2	436.4
Average heat value (Btu per cubic foot)	224	365	710	992	1,007	1,015	1,018

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Michigan							
Sulfur Dioxide							
Coal	363	358	359	342	336	335	322
Petroleum	16	21	23	2	4	24	24
Natural Gas	*	*	*	*	*	*	*
Other	4	4	3	4	3	5	6
Total	383	383	385	348	343	364	351
Nitrogen Oxide							
Coal	295	283	154	138	129	117	108
Petroleum	2	2	2	1	1	3	3
Gas	11	15	12	14	14	5	4
Other	2	4	5	5	5	5	6
Total	311	304	173	158	149	130	121
Carbon Dioxide							
Coal	64,434	65,989	67,248	67,004	64,422	65,246	67,182
Petroleum	1,208	1,366	1,705	778	1,067	1,478	1,418
Gas	5,214	7,066	7,226	7,495	8,256	5,968	8,057
Geothermal	0	0	0	0	0	0	0
Other	73	105	125	56	578	586	549
Total	70,929	74,526	76,304	75,333	74,323	73,278	77,206

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Michigan									
Retail Sales (thousand megawatthours)									
Residential	25,319	28,623	30,707	32,305	34,336	33,669	33,104	30.7	31.1
Commercial	20,610	31,306	35,867	35,025	35,880	35,391	38,632	25.0	36.2
Industrial	35,062	33,921	37,268	34,174	33,537	39,813	34,867	42.6	32.7
Other	1,376	852	930	905	960	NA	NA	1.7	NA
Transportation	NA	NA	NA	NA	NA	3	3	NA	.0
Total	82,367	94,701	104,772	102,409	104,714	108,877	106,606	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,982	2,387	2,618	2,667	2,845	2,813	2,759	33.9	37.3
Commercial	1,679	2,462	2,832	2,640	2,794	2,672	2,925	28.7	39.5
Industrial	2,051	1,739	1,898	1,738	1,684	1,976	1,717	35.1	23.2
Other	137	91	100	94	100	NA	NA	2.3	NA
Total	5,850	6,679	7,449	7,139	7,423	7,461	7,401	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.83	8.34	8.52	8.26	8.28	8.35	8.33	NA	NA
Commercial	8.14	7.86	7.90	7.54	7.79	7.55	7.57	NA	NA
Industrial	5.85	5.13	5.09	5.08	5.02	4.96	4.92	NA	NA
Other	9.98	10.71	10.77	10.38	10.43	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	8.21	7.89	NA	NA
Total	7.10	7.05	7.11	6.97	7.09	6.85	6.94	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Michigan								
Number of Entities	9	41	NA	10	2	13	2	77
Number of Retail Customers	4,167,562	301,014	NA	282,828	2	16,591	NA	4,767,997
Retail Sales (thousand megawatthours)	81,254	7,952	NA	2,892	518	13,991	NA	106,606
Percentage of Retail Sales	76.22	7.46	NA	2.71	.49	13.12	NA	100.00
Revenue from Retail Sales (million dollars)	5,686	543	NA	259	24	686	202	7,401
Percentage of Revenue	76.83	7.33	NA	3.50	.33	9.28	2.73	100.00
Average Retail Price (cents/kWh)	7.00	6.82	NA	8.96	4.69	4.91	1.44	6.94

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Minnesota		
NERC Region(s)		MAPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	11,551	30
Electric Utilities	10,179	23
Independent Power Producers & Combined Heat and Power	1,372	38
Net Generation (megawatthours)	52,364,127	25
Electric Utilities	47,232,462	21
Independent Power Producers & Combined Heat and Power	5,131,665	33
Emissions (thousand metric tons)		
Sulfur Dioxide	108	24
Nitrogen Oxide	90	15
Carbon Dioxide	37,605	26
Sulfur Dioxide (lbs/MWh)	4.5	25
Nitrogen Oxide (lbs/MWh)	3.8	10
Carbon Dioxide (lbs/MWh)	1,583	19
Total Retail Sales (megawatthours)	63,340,315	24
Full Service Provider Sales (megawatthours)	63,340,315	22
Direct Use (megawatthours)	2,931,271	15
Average Retail Price (cents/kWh)	6.24	36

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Minnesota			
1. Sherburne County	Petroleum,Coal	Northern States Power Co	2,302
2. Prairie Island	Nuclear	Northern States Power Co	1,044
3. Clay Boswell	Petroleum,Coal	Minnesota Power Inc	918
4. Allen S King	Gas,Petroleum,Coal	Northern States Power Co	573
5. Monticello	Nuclear	Northern States Power Co	569
6. Black Dog	Petroleum,Gas,Coal	Northern States Power Co	566
7. Lakefield Junction	Petroleum,Gas	Great River Energy	515
8. Pleasant Valley	Petroleum,Gas	Great River Energy	427
9. Riverside	Gas,Petroleum,Coal	Northern States Power Co	387
10. Inver Hills	Petroleum,Gas	Northern States Power Co	361

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Minnesota						
1. Northern States Power Co	Investor-Owned	30,403,203	8,289,361	12,613,671	9,489,401	10,770
2. Minnesota Power Inc	Investor-Owned	8,903,621	967,785	1,236,952	6,698,884	0
3. Otter Tail Power Co	Investor-Owned	1,955,812	502,139	1,027,828	425,845	0
4. Anoka Electric Coop	Cooperative	1,798,419	1,042,616	630,521	125,282	0
5. Dakota Electric Assn	Cooperative	1,675,150	859,923	70,553	744,674	0
Total Sales, Top Five Providers		44,736,205	11,661,824	15,579,525	17,484,086	10,770
Percent of Total State Sales		71	57	76	78	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Minnesota									
Electric Utilities	**8,834**	**8,923**	**9,067**	**10,110**	**10,329**	**10,162**	**10,179**	**93.9**	**88.1**
Coal	5,757	5,630	5,613	5,729	5,726	5,342	5,260	61.2	45.5
Petroleum	844	909	945	975	943	581	593	9.0	5.1
Natural Gas	131	240	284	429	294	539	666	1.4	5.8
Dual Fired	335	349	264	1,020	1,420	1,826	1,776	3.6	15.4
Nuclear	1,540	1,571	1,646	1,646	1,646	1,613	1,613	16.4	14.0
Hydroelectric	137	142	136	132	134	133	133	1.5	1.2
Other Renewables	88	82	178	179	166	129	138	.9	1.2
Independent Power Producers and Combined Heat and Power	**579**	**628**	**1,187**	**965**	**958**	**1,323**	**1,372**	**6.2**	**11.9**
Coal	348	345	354	157	158	358	361	3.7	3.1
Petroleum	14	23	25	29	29	26	27	.1	.2
Natural Gas	37	32	131	145	133	133	130	.4	1.1
Dual Fired	18	20	179	173	172	172	174	.2	1.5
Hydroelectric	60	64	64	42	42	43	43	.6	.4
Other Renewables	102	145	436	410	412	579	626	1.1	5.4
Other	0	0	0	11	11	11	11	.0	.1
Total Electric Industry	**9,412**	**9,551**	**10,255**	**11,075**	**11,287**	**11,485**	**11,551**	**100.0**	**100.0**
Coal	6,105	5,975	5,967	5,886	5,885	5,701	5,621	64.9	48.7
Petroleum	858	932	970	1,005	973	607	620	9.1	5.4
Natural Gas	168	272	415	573	427	672	797	1.8	6.9
Dual Fired	353	369	443	1,193	1,592	1,998	1,950	3.8	16.9
Nuclear	1,540	1,571	1,646	1,646	1,646	1,613	1,613	16.4	14.0
Hydroelectric	197	206	200	173	176	176	176	2.1	1.5
Other Renewables	190	227	614	588	578	708	763	2.0	6.6
Other	0	0	0	11	11	11	11	.0	.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Minnesota									
Electric Utilities	**41,549,628**	**42,502,869**	**46,615,673**	**44,798,014**	**48,568,719**	**49,576,276**	**47,232,462**	**96.5**	**90.2**
Coal	27,587,603	26,820,765	31,731,081	31,037,544	32,200,713	33,157,032	31,477,117	64.1	60.1
Petroleum	440,740	484,708	440,264	599,557	640,129	845,239	752,362	1.0	1.4
Natural Gas	326,083	702,702	433,177	371,643	897,018	1,072,867	923,557	.8	1.8
Nuclear	12,139,302	13,243,469	12,959,976	11,789,027	13,684,824	13,413,828	13,295,502	28.2	25.4
Hydroelectric	657,574	822,599	635,541	619,404	736,795	686,227	549,598	1.5	1.0
Other Renewables	398,326	428,626	415,634	380,839	409,240	401,083	234,326	.9	.4
Independent Power Producers and Combined Heat and Power	**1,520,748**	**2,668,015**	**4,807,666**	**3,725,212**	**4,209,248**	**5,474,720**	**5,131,665**	**3.5**	**9.8**
Coal	588,677	1,243,174	2,017,007	781,619	1,719,496	2,498,497	2,538,896	1.4	4.8
Petroleum	7,074	10,118	34,513	25,499	12,662	27,826	28,418	*	.1
Natural Gas	213,756	327,705	831,844	827,934	694,936	771,569	583,855	.5	1.1
Hydroelectric	199,472	275,526	295,842	212,214	72,289	128,346	188,713	.5	.4
Other Renewables	511,769	811,492	1,628,460	1,877,946	1,667,855	2,009,833	1,706,358	1.2	3.3
Other	0	0	0	0	42,010	38,650	85,425	.0	.2
Total Electric Industry	**43,070,376**	**45,170,884**	**51,423,339**	**48,523,226**	**52,777,965**	**55,050,995**	**52,364,127**	**100.0**	**100.0**
Coal	28,176,280	28,063,939	33,748,088	31,819,163	33,920,209	35,655,529	34,016,013	65.4	65.0
Petroleum	447,814	494,826	474,777	625,056	652,791	873,065	780,780	1.0	1.5
Natural Gas	539,839	1,030,407	1,265,021	1,199,577	1,591,954	1,844,436	1,507,412	1.3	2.9
Nuclear	12,139,302	13,243,469	12,959,976	11,789,027	13,684,824	13,413,828	13,295,502	28.2	25.4
Hydroelectric	857,046	1,098,125	931,383	831,618	809,084	814,573	738,311	2.0	1.4
Other Renewables	910,095	1,240,118	2,044,094	2,258,785	2,077,095	2,410,916	1,940,684	2.1	3.7
Other	0	0	0	0	42,010	38,650	85,425	.0	.2

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Minnesota							
Coal (cents per million Btu)	125.2	114.0	111.1	101.8	W	W	W
Average heat value (Btu per pound)	8,788	8,828	8,929	8,932	8,818	8,895	8,914
Average sulfur Content (percent)	.5	.5	.4	.5	.4	.5	.4
Petroleum (cents per million Btu)	92.5	85.0	53.5	65.5	60.1	W	W
Average heat value (Btu per gallon)	73,720	73,310	72,532	132,857	131,276	133,093	134,967
Average sulfur Content (percent)	5.2	5.1	5.2	5.4	5.8	5.7	5.4
Natural Gas (cents per million Btu)	192.1	176.1	448.6	520.8	W	W	W
Average heat value (Btu per cubic foot)	1,003	1,006	1,011	1,010	1,006	1,007	1,008

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Minnesota							
Sulfur Dioxide							
Coal	95	102	90	99	105	83	87
Petroleum	*	*	12	*	*	27	17
Natural Gas	0	0	0	0	0	*	*
Other	6	8	4	4	2	3	4
Total	102	111	106	104	107	113	108
Nitrogen Oxide							
Coal	156	165	91	83	86	86	82
Petroleum	*	*	1	*	*	3	2
Gas	2	3	2	2	2	2	1
Other	3	4	4	2	2	4	4
Total	161	172	97	87	90	94	90
Carbon Dioxide							
Coal	29,757	31,814	35,507	34,168	34,987	37,048	35,287
Petroleum	84	526	754	687	653	881	825
Gas	767	1,141	1,160	1,078	1,157	1,220	1,133
Geothermal	0	0	0	0	0	0	0
Other	593	52	46	47	493	487	360
Total	31,202	33,533	37,467	35,979	37,291	39,637	37,605

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Minnesota									
Retail Sales (thousand megawatthours)									
Residential	14,858	16,974	18,629	19,400	20,451	20,638	20,507	31.5	32.4
Commercial	8,086	9,700	11,580	19,799	19,457	20,533	20,407	17.1	32.2
Industrial	23,497	26,577	28,842	20,767	21,515	21,916	22,415	49.8	35.4
Other	727	707	730	721	740	NA	NA	1.5	NA
Transportation	NA	NA	NA	NA	NA	0	11	NA	.0
Total	47,167	53,959	59,782	60,687	62,162	63,087	63,340	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,011	1,217	1,400	1,476	1,531	1,579	1,624	40.2	41.1
Commercial	483	601	736	1,193	1,143	1,257	1,287	19.2	32.6
Industrial	973	1,143	1,319	902	875	955	1,038	38.7	26.3
Other	49	51	56	54	54	NA	NA	1.9	NA
Transportation	NA	NA	NA	NA	NA	0	1	NA	.0
Total	2,516	3,011	3,511	3,626	3,604	3,791	3,950	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	6.80	7.17	7.51	7.61	7.49	7.65	7.92	NA	NA
Commercial	5.98	6.19	6.35	6.03	5.88	6.12	6.31	NA	NA
Industrial	4.14	4.30	4.57	4.34	4.07	4.36	4.63	NA	NA
Other	6.72	7.21	7.60	7.43	7.36	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	.00	6.75	NA	NA
Total	5.33	5.58	5.87	5.97	5.80	6.01	6.24	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Minnesota								
Number of Entities	5	125	1	46	NA	NA	NA	177
Number of Retail Customers	1,427,978	343,402	5	695,952	NA	NA	NA	2,467,337
Retail Sales (thousand megawatthours)	42,051	8,906	51	12,332	NA	NA	NA	63,340
Percentage of Retail Sales	66.39	14.06	.08	19.47	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	2,482	564	1	904	NA	NA	NA	3,950
Percentage of Revenue	62.83	14.28	.02	22.88	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	5.90	6.33	1.48	7.33	NA	NA	NA	6.24

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

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Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Mississippi		
NERC Region(s)		SERC/SPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	17,019	23
Electric Utilities	9,015	27
Independent Power Producers & Combined Heat and Power	8,005	13
Net Generation (megawatthours)	43,662,613	33
Electric Utilities	32,838,145	31
Independent Power Producers & Combined Heat and Power	10,824,468	26
Emissions (thousand metric tons)		
Sulfur Dioxide	90	26
Nitrogen Oxide	49	32
Carbon Dioxide	25,295	35
Sulfur Dioxide (lbs/MWh)	4.5	24
Nitrogen Oxide (lbs/MWh)	2.5	24
Carbon Dioxide (lbs/MWh)	1,277	32
Total Retail Sales (megawatthours)	46,032,538	28
Full Service Provider Sales (megawatthours)	46,032,538	27
Direct Use (megawatthours)	2,385,239	21
Average Retail Price (cents/kWh)	7.00	22

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Mississippi			
1. Victor J Daniel Jr	Petroleum,Gas,Coal	Mississippi Power Co	2,136
2. Grand Gulf	Nuclear	Entergy Operations Inc	1,270
3. Baxter Wilson	Gas,Petroleum	Entergy Mississippi Inc	1,190
4. Jack Watson	Petroleum,Gas,Coal	Mississippi Power Co	1,074
5. Magnolia Power Plant	Gas	InterGen North America	863
6. Batesville Generation Facility	Gas	LSP Energy Ltd Partnership	858
7. Caledonia	Gas	Caledonia Operating Serv LLC	783
8. Southaven Power LLC	Gas	Southhaven Operating Services, LLC	783
9. Gerald Andrus	Gas,Petroleum	Entergy Mississippi Inc	741
10. Reliant Energy Choctaw County	Gas	Reliant Energy Power Gen Inc	726

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Mississippi						
1. Entergy Mississippi Inc	Investor-Owned	12,977,759	5,084,819	4,916,155	2,976,785	0
2. Mississippi Power Co	Investor-Owned	9,542,458	2,297,110	3,010,058	4,235,290	0
3. Tennessee Valley Authority	Federal	3,202,841	0	0	3,202,841	0
4. Southern Pine Elec Pwr Assn	Cooperative	1,844,927	906,476	262,515	675,936	0
5. Coast Electric Power Assn	Cooperative	1,517,931	1,013,879	263,533	240,519	0
Total Sales, Top Five Providers		29,085,916	9,302,284	8,452,261	11,331,371	0
Percent of Total State Sales		63	53	66	72	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Mississippi									
Electric Utilities	**7,016**	**7,170**	**7,057**	**7,964**	**8,888**	**9,278**	**9,015**	**95.2**	**53.0**
Coal	2,244	2,255	2,208	2,208	2,225	2,231	2,220	30.4	13.0
Petroleum	31	31	60	54	36	36	32	.4	.2
Natural Gas	487	685	654	1,582	2,180	2,570	2,098	6.6	12.3
Dual Fired	3,112	3,025	2,925	2,910	3,216	3,179	3,395	42.2	19.9
Nuclear	1,142	1,173	1,210	1,210	1,231	1,263	1,270	15.5	7.5
Independent Power Producers and Combined Heat and Power	**355**	**367**	**1,958**	**3,121**	**4,804**	**8,005**	**8,005**	**4.8**	**47.0**
Coal	0	0	0	0	440	440	440	.0	2.6
Petroleum	0	1	6	6	0	0	0	.0	.0
Natural Gas	61	72	1,690	2,860	4,080	7,282	7,332	.8	43.1
Other Gases	0	0	0	0	4	4	4	.0	*
Other Renewables	294	294	263	255	279	279	229	4.0	1.3
Total Electric Industry	**7,371**	**7,536**	**9,015**	**11,084**	**13,691**	**17,282**	**17,019**	**100.0**	**100.0**
Coal	2,244	2,255	2,208	2,208	2,665	2,671	2,660	30.4	15.6
Petroleum	31	32	66	60	36	36	32	.4	.2
Natural Gas	548	756	2,344	4,442	6,260	9,850	9,429	7.4	55.4
Other Gases	0	0	0	0	4	4	4	.0	*
Dual Fired	3,112	3,025	2,925	2,910	3,216	3,179	3,395	42.2	19.9
Nuclear	1,142	1,173	1,210	1,210	1,231	1,263	1,270	15.5	7.5
Other Renewables	294	294	263	255	279	279	229	4.0	1.3

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Mississippi									
Electric Utilities	**22,923,971**	**26,395,165**	**33,896,003**	**47,550,273**	**35,099,283**	**31,358,938**	**32,838,145**	**91.0**	**75.2**
Coal	9,445,584	9,259,980	13,877,065	19,196,065	12,483,658	13,742,273	14,274,786	37.5	32.7
Petroleum	705,474	23,738	2,970,676	5,120,602	26,357	1,620,395	2,763,630	2.8	6.3
Natural Gas	5,350,782	9,098,126	6,353,707	13,309,724	12,529,809	5,093,814	5,566,963	21.2	12.8
Nuclear	7,422,131	8,013,321	10,694,555	9,923,882	10,059,459	10,902,456	10,232,766	29.5	23.4
Independent Power Producers and Combined Heat and Power	**2,277,446**	**2,585,696**	**3,718,560**	**5,896,179**	**7,801,658**	**8,789,340**	**10,824,468**	**9.0**	**24.8**
Coal	80,943	64,972	0	0	2,369,485	3,340,331	3,202,897	.3	7.3
Petroleum	33,497	14,042	10,854	23,088	3,945	11,461	34,038	.1	.1
Natural Gas	568,882	623,044	2,027,402	4,440,828	4,441,588	4,383,419	6,065,043	2.3	13.9
Other Gases	0	0	0	0	37,916	31,799	40,760	.0	.1
Hydroelectric	0	0	0	0	12,129	0	0	.0	.0
Other Renewables	1,594,124	1,883,638	1,680,304	1,432,263	936,595	1,022,331	1,481,730	6.3	3.4
Total Electric Industry	**25,201,417**	**28,980,861**	**37,614,563**	**53,446,452**	**42,900,941**	**40,148,278**	**43,662,613**	**100.0**	**100.0**
Coal	9,526,527	9,324,952	13,877,065	19,196,065	14,853,143	17,082,604	17,477,683	37.8	40.0
Petroleum	738,971	37,780	2,981,530	5,143,690	30,302	1,631,856	2,797,668	2.9	6.4
Natural Gas	5,919,664	9,721,170	8,381,109	17,750,552	16,971,397	9,477,233	11,632,006	23.5	26.6
Other Gases	0	0	0	0	37,916	31,799	40,760	.0	.1
Nuclear	7,422,131	8,013,321	10,694,555	9,923,882	10,059,459	10,902,456	10,232,766	29.5	23.4
Hydroelectric	0	0	0	0	12,129	0	0	.0	.0
Other Renewables	1,594,124	1,883,638	1,680,304	1,432,263	936,595	1,022,331	1,481,730	6.3	3.4

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Mississippi							
Coal (cents per million Btu)	165.4	153.3	152.2	163.5	W	W	W
Average heat value (Btu per pound)	12,543	11,221	11,549	11,672	9,576	9,235	9,087
Average sulfur Content (percent)	1.6	1.0	.8	.7	.6	.6	.6
Petroleum (cents per million Btu)	243.3	374.3	333.3	377.4	427.7	411.9	465.4
Average heat value (Btu per gallon)	151,229	139,508	155,569	154,762	140,924	155,336	155,638
Average sulfur Content (percent)	2.8	.2	2.8	3.0	1.4	2.8	2.8
Natural Gas (cents per million Btu)	176.4	171.0	390.1	344.6	346.4	556.5	594.4
Average heat value (Btu per cubic foot)	1,036	1,039	1,028	1,029	1,026	1,036	1,033

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Mississippi							
Sulfur Dioxide							
Coal	96	72	81	63	61	62	62
Petroleum	11	*	38	64	*	12	16
Natural Gas	*	*	*	*	*	*	*
Other	12	15	13	9	8	12	12
Total	120	87	132	136	69	86	90
Nitrogen Oxide							
Coal	37	49	31	27	28	32	31
Petroleum	1	*	10	16	*	6	10
Gas	11	16	19	11	14	5	5
Other	4	4	3	3	2	3	3
Total	53	70	63	57	43	47	49
Carbon Dioxide							
Coal	9,103	9,136	13,332	18,078	14,021	16,428	16,916
Petroleum	667	46	2,356	4,242	35	1,326	2,243
Gas	4,794	7,169	6,611	8,956	9,288	5,673	6,129
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	1	7
Total	14,564	16,351	22,300	31,276	23,344	23,428	25,295

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Mississippi									
Retail Sales (thousand megawatthours)									
Residential	12,266	14,181	17,193	16,856	17,844	17,670	17,580	38.2	38.2
Commercial	6,746	7,539	11,451	11,357	11,773	12,593	12,750	21.0	27.7
Industrial	12,454	15,477	15,856	15,268	15,021	15,281	15,702	38.8	34.1
Other	661	671	836	805	815	NA	NA	2.1	NA
Total	32,127	37,868	45,336	44,287	45,452	45,544	46,033	100.0	100.0
Retail Revenue (million dollars)									
Residential	845	991	1,191	1,243	1,299	1,343	1,444	43.0	44.8
Commercial	486	529	734	788	804	913	1,019	24.8	31.6
Industrial	579	688	657	672	661	684	759	29.5	23.6
Other	53	57	70	72	71	NA	NA	2.7	NA
Total	1,963	2,265	2,652	2,775	2,835	2,940	3,221	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	6.89	6.99	6.93	7.37	7.28	7.60	8.21	NA	NA
Commercial	7.21	7.01	6.41	6.94	6.83	7.25	7.99	NA	NA
Industrial	4.65	4.44	4.14	4.40	4.40	4.48	4.83	NA	NA
Other	8.03	8.56	8.33	8.95	8.76	NA	NA	NA	NA
Total	6.11	5.98	5.85	6.26	6.24	6.46	7.00	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Mississippi								
Number of Entities	2	23	1	25	NA	NA	NA	51
Number of Retail Customers	612,958	132,454	7	672,591	NA	NA	NA	1,418,010
Retail Sales (thousand megawatthours)	22,520	4,204	3,203	16,105	NA	NA	NA	46,033
Percentage of Retail Sales	48.92	9.13	6.96	34.99	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	1,690	276	98	1,157	NA	NA	NA	3,221
Percentage of Revenue	52.48	8.58	3.04	35.91	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	7.51	6.57	3.06	7.18	NA	NA	NA	7.00

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Missouri		
NERC Region(s)		SPP/MAIN
Primary Energy Source		Coal
Net Summer Capability (megawatts)	20,163	19
Electric Utilities	18,606	13
Independent Power Producers & Combined Heat and Power	1,557	37
Net Generation (megawatthours)	87,632,910	20
Electric Utilities	86,419,717	11
Independent Power Producers & Combined Heat and Power	1,213,193	43
Emissions (thousand metric tons)		
Sulfur Dioxide	270	15
Nitrogen Oxide	117	11
Carbon Dioxide	75,933	12
Sulfur Dioxide (lbs/MWh)	6.8	15
Nitrogen Oxide (lbs/MWh)	2.9	20
Carbon Dioxide (lbs/MWh)	1,910	10
Total Retail Sales (megawatthours)	74,054,296	20
Full Service Provider Sales (megawatthours)	74,054,296	19
Direct Use (megawatthours)	305,146	41
Average Retail Price (cents/kWh)	6.07	41

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Missouri			
1. Labadie	Petroleum,Coal	Union Electric Co	2,421
2. Rush Island	Petroleum,Coal	Union Electric Co	1,194
3. New Madrid	Petroleum,Coal	Associated Electric Coop Inc	1,160
4. Callaway	Nuclear	Union Electric Co	1,137
5. Thomas Hill	Petroleum,Coal	Associated Electric Coop Inc	1,120
6. Hawthorn	Gas,Coal	Kansas City Power & Light Co	988
7. Sioux	Other,Petroleum,Coal	Union Electric Co	978
8. Meramec	Gas,Coal	Union Electric Co	929
9. Iatan	Petroleum,Coal	Kansas City Power & Light Co	671
10. Audrain Generating Station	Petroleum,Coal	NRG South Central Ops Inc	640

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Missouri						
1. Union Electric Co	Investor-Owned	32,150,948	12,415,567	13,685,933	6,039,573	9,875
2. Kansas City Power & Light Co	Investor-Owned	8,179,662	2,354,498	4,175,736	1,649,428	0
3. Aquila Inc	Investor-Owned	7,101,608	3,067,857	2,708,276	1,325,475	0
4. Empire District Electric Co	Investor-Owned	3,810,907	1,507,496	1,407,324	896,087	0
5. Springfield City of	Public	2,865,684	882,709	1,454,774	528,201	0
Total Sales, Top Five Providers		54,108,809	20,228,127	23,432,043	10,438,764	9,875
Percent of Total State Sales		73	65	83	73	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004

(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Missouri									
Electric Utilities	**15,180**	**15,724**	**17,180**	**17,726**	**18,409**	**18,587**	**18,606**	**99.3**	**92.3**
Coal	10,678	10,540	11,032	11,032	11,053	11,172	11,159	69.9	55.3
Petroleum	961	1,351	1,092	1,091	1,121	1,144	1,165	6.3	5.8
Natural Gas	257	324	807	936	1,551	1,494	1,318	1.7	6.5
Dual Fired	1,099	1,275	1,908	2,325	2,342	2,427	2,613	7.2	13.0
Nuclear	1,125	1,125	1,143	1,143	1,143	1,137	1,137	7.4	5.6
Hydroelectric	544	543	543	543	543	556	556	3.6	2.8
Pumped Storage	518	567	657	657	657	657	657	3.4	3.3
Independent Power Producers and Combined Heat and Power	**106**	**109**	**105**	**1,202**	**1,394**	**1,390**	**1,557**	**.7**	**7.7**
Coal	97	96	93	96	96	96	98	.6	.5
Petroleum	1	8	7	9	11	11	11	*	.1
Natural Gas	6	3	4	1,098	1,265	1,261	1,426	*	7.1
Dual Fired	1	1	0	0	23	23	23	*	.1
Total Electric Industry	**15,286**	**15,833**	**17,285**	**18,928**	**19,803**	**19,977**	**20,163**	**100.0**	**100.0**
Coal	10,775	10,636	11,125	11,127	11,148	11,267	11,257	70.5	55.8
Petroleum	962	1,359	1,099	1,099	1,131	1,154	1,176	6.3	5.8
Natural Gas	263	327	811	2,034	2,816	2,755	2,744	1.7	13.6
Dual Fired	1,099	1,276	1,908	2,325	2,365	2,450	2,635	7.2	13.1
Nuclear	1,125	1,125	1,143	1,143	1,143	1,137	1,137	7.4	5.6
Hydroelectric	544	543	543	543	543	556	556	3.6	2.8
Pumped Storage	518	567	657	657	657	657	657	3.4	3.3

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percent Share 1990	Percent Share 2004
Missouri									
Electric Utilities	**59,010,858**	**65,400,254**	**76,283,550**	**78,990,878**	**79,796,801**	**86,102,107**	**86,419,717**	**99.4**	**98.6**
Coal	48,501,751	53,582,211	62,624,807	65,445,161	67,147,996	73,904,272	74,711,159	81.7	85.3
Petroleum	89,342	682,321	247,622	637,504	528,353	155,968	195,098	.2	.2
Natural Gas	265,870	1,015,384	2,938,356	3,634,106	2,477,701	1,820,848	1,978,307	.4	2.3
Other Gases	0	0	0	0	0	1,652	2,400	.0	*
Nuclear	7,998,039	8,241,833	9,991,845	8,384,240	8,389,629	9,699,589	7,830,693	13.5	8.9
Hydroelectric	2,192,115	1,918,507	599,920	1,104,135	1,356,928	652,477	1,479,914	3.7	1.7
Other Renewables	0	24,979	73,095	51,592	55,198	121,291	106,822	.0	.1
Pumped Storage	−36,259	−64,981	−192,095	−265,860	−159,004	−253,991	115,325	−.1	.1
Independent Power Producers and Combined Heat and Power	**341,972**	**320,704**	**310,389**	**553,995**	**1,365,396**	**1,122,980**	**1,213,194**	**.6**	**1.4**
Coal	295,042	278,209	278,750	303,522	286,971	307,512	268,923	.5	.3
Petroleum	691	13,940	5,096	181	1,042	946	3,632	*	*
Natural Gas	46,239	28,056	16,785	239,456	1,066,236	803,502	901,820	.1	1.0
Other Renewables	0	499	9,758	10,836	11,147	11,021	38,819	.0	*
Total Electric Industry	**59,352,830**	**65,720,958**	**76,593,939**	**79,544,873**	**81,162,198**	**87,225,087**	**87,632,910**	**100.0**	**100.0**
Coal	48,796,793	53,860,420	62,903,557	65,748,683	67,434,967	74,211,784	74,980,082	82.2	85.6
Petroleum	90,033	696,261	252,718	637,685	529,395	156,914	198,730	.2	.2
Natural Gas	312,109	1,043,440	2,955,141	3,873,562	3,543,937	2,624,350	2,880,127	.5	3.3
Other Gases	0	0	0	0	0	1,652	2,400	.0	*
Nuclear	7,998,039	8,241,833	9,991,845	8,384,240	8,389,629	9,699,589	7,830,693	13.5	8.9
Hydroelectric	2,192,115	1,918,507	599,920	1,104,135	1,356,928	652,477	1,479,914	3.7	1.7
Other Renewables	0	25,478	82,853	62,428	66,345	132,312	145,641	.0	.2
Pumped Storage	−36,259	−64,981	−192,095	−265,860	−159,004	−253,991	115,325	−.1	.1

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Missouri							
Coal (cents per million Btu)	134.8	98.4	91.8	95.8	W	W	W
Average heat value (Btu per pound)	10,400	9,216	8,913	8,944	8,822	8,865	8,838
Average sulfur Content (percent)	2.0	.6	.3	.4	.4	.4	.4
Petroleum (cents per million Btu)	280.2	110.2	263.3	133.9	117.5	W	279.5
Average heat value (Btu per gallon)	107,892	79,069	94,215	136,857	134,476	137,769	139,288
Average sulfur Content (percent)	2.5	3.9	2.5	3.3	3.3	2.4	3.0
Natural Gas (cents per million Btu)	171.5	168.1	439.0	467.0	W	W	W
Average heat value (Btu per cubic foot)	1,018	1,006	1,007	1,022	1,008	1,016	1,016

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Missouri							
Sulfur Dioxide							
Coal	721	291	212	234	234	255	266
Petroleum	3	4	13	*	*	2	3
Natural Gas	0	0	*	*	*	*	*
Other	0	*	*	*	*	2	1
Total	724	295	225	234	234	258	270
Nitrogen Oxide							
Coal	261	299	146	134	130	135	116
Petroleum	*	2	1	0	*	*	*
Gas	1	2	3	2	1	1	1
Other	0	0	*	*	*	*	*
Total	262	303	149	136	131	136	117
Carbon Dioxide							
Coal	47,115	54,873	64,683	67,114	67,508	74,182	74,293
Petroleum	202	749	252	664	528	155	196
Gas	261	726	1,653	1,794	1,633	1,191	1,342
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	52	112	102
Total	47,579	56,348	66,588	69,572	69,721	75,640	75,933

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Missouri									
Retail Sales (thousand megawatthours)									
Residential	21,652	25,409	29,581	30,168	31,684	31,422	31,351	40.2	42.3
Commercial	18,469	21,606	25,875	26,029	26,796	27,987	28,391	34.2	38.3
Industrial	12,937	14,321	16,080	15,815	15,341	14,831	14,303	24.0	19.3
Other	866	923	1,106	1,201	1,179	NA	NA	1.6	NA
Transportation	NA	NA	NA	NA	NA	0	10	NA	.0
Total	53,925	62,259	72,643	73,213	75,001	74,240	74,054	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,593	1,843	2,084	2,113	2,238	2,186	2,185	45.7	48.6
Commercial	1,193	1,334	1,508	1,533	1,576	1,618	1,648	34.2	36.7
Industrial	640	649	712	695	679	667	661	18.4	14.7
Other	59	65	67	73	73	NA	NA	1.7	NA
Total	3,485	3,892	4,370	4,414	4,565	4,470	4,494	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.36	7.25	7.04	7.00	7.06	6.96	6.97	NA	NA
Commercial	6.46	6.18	5.83	5.89	5.88	5.78	5.80	NA	NA
Industrial	4.95	4.53	4.43	4.39	4.42	4.49	4.62	NA	NA
Other	6.81	7.05	6.02	6.08	6.20	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	.00	4.91	NA	NA
Total	6.46	6.25	6.02	6.03	6.09	6.02	6.07	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Missouri								
Number of Entities	4	88	NA	43	1	NA	NA	136
Number of Retail Customers	1,844,233	401,800	NA	677,591	1	NA	NA	2,923,625
Retail Sales (thousand megawatthours)	51,243	10,413	NA	12,379	20	NA	NA	74,054
Percentage of Retail Sales	69.20	14.06	NA	16.72	.03	NA	NA	100.00
Revenue from Retail Sales (million dollars)	3,064	610	NA	819	1	NA	NA	4,494
Percentage of Revenue	68.19	13.58	NA	18.21	.02	NA	NA	100.00
Average Retail Price (cents/kWh)	5.98	5.86	NA	6.61	3.59	NA	NA	6.07

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Montana		
NERC Region(s)		WECC/MAPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	5,132	40
Electric Utilities	2,189	39
Independent Power Producers & Combined Heat and Power	2,943	31
Net Generation (megawatthours)	26,788,768	41
Electric Utilities	6,066,404	41
Independent Power Producers & Combined Heat and Power	20,722,364	14
Emissions (thousand metric tons)		
Sulfur Dioxide	23	40
Nitrogen Oxide	37	36
Carbon Dioxide	19,088	38
Sulfur Dioxide (lbs/MWh)	1.9	42
Nitrogen Oxide (lbs/MWh)	3.1	17
Carbon Dioxide (lbs/MWh)	1,571	20
Total Retail Sales (megawatthours)	12,956,782	41
Full Service Provider Sales (megawatthours)	10,084,134	45
Deregulated Sales (megawatthours)	2,872,648	12
Direct Use (megawatthours)	155,392	45
Average Retail Price (cents/kWh)	6.40	33

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Montana			
1. Colstrip	Other,Gas,Petroleum	PPL Montana LLC	2,094
2. Noxon Rapids	Hydroelectric	Avista Corporation	535
3. Libby	Hydroelectric	USCE-North Pacific Division	525
4. Hungry Horse	Hydroelectric	U S Bureau of Reclamation	428
5. Yellowtail	Hydroelectric	U S Bureau of Reclamation	287
6. Kerr	Hydroelectric	PPL Montana LLC	212
7. Fort Peck	Hydroelectric	USCE-Missouri River District	200
8. J E Corette Plant	Gas,Coal	PPL Montana LLC	154
9. Thompson Falls	Hydroelectric	PPL Montana LLC	88
10. Glendive GT	Petroleum,Gas	MDU Resources Group Inc	76

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Montana						
1. NorthWestern Energy LLC	Investor-Owned	5,318,700	2,018,578	2,814,194	485,928	0
2. PPL EnergyPlus LLC	Power Marketer	2,362,601	0	0	2,362,601	0
3. Flathead Electric Coop Inc	Cooperative	1,274,131	540,207	383,630	350,294	0
4. MDU Resources Group Inc	Investor-Owned	610,855	143,594	214,006	253,255	0
5. Bonneville Power Admin	Power Marketer	570,960	0	0	570,960	0
Total Sales, Top Five Providers		10,137,247	2,702,379	3,411,830	4,023,038	0
Percent of Total State Sales		78	67	79	88	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Montana									
Electric Utilities	**4,912**	**4,943**	**3,005**	**2,232**	**2,232**	**2,274**	**2,189**	**98.8**	**42.7**
Coal	2,260	2,260	792	52	52	52	52	45.5	1.0
Petroleum	0	0	5	0	0	0	0	.0	.0
Natural Gas	70	70	0	0	0	0	0	1.4	.0
Dual Fired	50	50	58	58	58	97	98	1.0	1.9
Hydroelectric	2,520	2,551	2,150	2,122	2,122	2,124	2,040	50.7	39.8
Other Renewables	13	12	0	0	0	0	0	.3	.0
Independent Power Producers and Combined Heat and Power	**60**	**121**	**2,154**	**2,907**	**2,940**	**2,937**	**2,943**	**1.2**	**57.3**
Coal	39	39	1,501	2,283	2,244	2,248	2,283	.8	44.5
Petroleum	0	61	60	55	90	90	55	.0	1.1
Hydroelectric	11	11	584	558	595	588	588	.2	11.5
Other Renewables	10	10	10	11	11	11	17	.2	.3
Total Electric Industry	**4,972**	**5,064**	**5,160**	**5,139**	**5,172**	**5,210**	**5,132**	**100.0**	**100.0**
Coal	2,299	2,299	2,293	2,335	2,296	2,300	2,335	46.2	45.5
Petroleum	0	61	65	55	90	90	55	.0	1.1
Natural Gas	70	70	0	0	0	0	0	1.4	.0
Dual Fired	50	50	58	58	58	97	98	1.0	1.9
Hydroelectric	2,531	2,562	2,734	2,680	2,717	2,712	2,627	50.9	51.2
Other Renewables	23	23	10	11	11	11	17	.5	.3

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Montana									
Electric Utilities	**25,718,975**	**25,411,151**	**6,627,410**	**4,415,943**	**6,726,239**	**6,020,681**	**6,066,404**	**98.8**	**22.6**
Coal	14,902,659	14,655,727	323,757	311,207	285,747	322,205	347,287	57.3	1.3
Petroleum	27,369	25,051	487	854	720	1,482	1,004	.1	*
Natural Gas	41,173	31,908	13,438	9,979	6,747	17,997	12,532	.2	*
Hydroelectric	10,672,287	10,698,465	6,289,728	4,093,903	6,433,025	5,678,997	5,705,581	41.0	21.3
Other Renewables	75,487	0	0	0	0	0	0	.3	.0
Independent Power Producers and Combined Heat and Power	**310,797**	**550,163**	**19,824,418**	**19,816,542**	**18,747,466**	**20,248,046**	**20,722,364**	**1.2**	**77.4**
Coal	216,960	278,420	15,877,082	16,724,676	15,052,082	16,726,430	17,032,941	.8	63.6
Petroleum	1,613	143,003	519,404	496,760	468,939	400,682	437,035	*	1.6
Natural Gas	14,082	16,830	13,169	10,110	9,931	7,471	19,595	.1	.1
Other Gases	0	8,678	34,311	0	19,160	19,520	22,393	.0	.1
Hydroelectric	44,530	47,388	3,333,529	2,519,571	3,133,884	3,022,775	3,150,450	.2	11.8
Other Renewables	33,612	55,844	46,923	65,425	63,470	71,168	59,950	.1	.2
Total Electric Industry	**26,029,772**	**25,961,314**	**26,451,828**	**24,232,485**	**25,473,705**	**26,268,726**	**26,788,768**	**100.0**	**100.0**
Coal	15,119,619	14,934,147	16,200,839	17,035,883	15,337,829	17,048,635	17,380,228	58.1	64.9
Petroleum	28,982	168,054	519,891	497,614	469,659	402,164	438,039	.1	1.6
Natural Gas	55,255	48,738	26,607	20,089	16,678	25,468	32,127	.2	.1
Other Gases	0	8,678	34,311	0	19,160	19,520	22,393	.0	.1
Hydroelectric	10,716,817	10,745,853	9,623,257	6,613,474	9,566,909	8,701,772	8,856,031	41.2	33.1
Other Renewables	109,099	55,844	46,923	65,425	63,470	71,168	59,950	.4	.2

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Montana							
Coal (cents per million Btu)	67.0	67.3	91.5	94.9	W	W	W
Average heat value (Btu per pound)	8,564	8,520	6,618	8,384	8,461	8,515	8,504
Average sulfur Content (percent)	.6	.7	.5	.5	.6	.6	.6
Petroleum (cents per million Btu)	543.2	490.7	.0	.0	W	W	W
Average heat value (Btu per gallon)	141,000	141,000	0	0	137,748	136,574	137,064
Average sulfur Content (percent)	.0	.0	.0	.0	3.7	.5	.5
Natural Gas (cents per million Btu)	145.2	358.1	510.4	666.4	W	W	W
Average heat value (Btu per cubic foot)	1,218	1,073	1,139	1,021	1,016	1,123	1,095

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Montana							
Sulfur Dioxide							
Coal	16	18	19	31	23	16	19
Petroleum	*	3	3	27	22	2	2
Natural Gas	0	0	0	0	0	0	0
Other	1	2	2	1	1	5	2
Total	17	23	24	60	46	23	23
Nitrogen Oxide							
Coal	85	73	33	38	33	33	35
Petroleum	*	1	1	1	1	1	2
Gas	*	*	*	*	*	*	*
Other	*	1	1	1	1	3	1
Total	86	75	36	40	35	37	37
Carbon Dioxide							
Coal	15,643	15,844	16,699	17,432	15,741	17,898	18,142
Petroleum	42	741	787	808	743	703	822
Gas	169	204	165	75	68	58	124
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	15,854	16,790	17,651	18,315	16,552	18,659	19,088

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Montana									
Retail Sales (thousand megawatthours)									
Residential	3,358	3,640	3,908	3,886	4,031	4,120	4,053	25.6	31.3
Commercial	2,738	3,133	3,792	3,866	4,003	4,438	4,330	20.9	33.4
Industrial	6,529	6,368	6,568	3,370	4,463	4,267	4,574	49.7	35.3
Other	499	278	312	324	335	NA	NA	3.8	NA
Total	13,125	13,419	14,580	11,447	12,831	12,825	12,957	100.0	100.0
Retail Revenue (million dollars)									
Residential	183	222	254	267	291	311	319	35.2	38.4
Commercial	128	166	213	228	251	304	321	24.6	38.7
Industrial	187	219	261	222	165	172	190	36.0	22.9
Other	21	17	2	24	24	NA	NA	4.0	NA
Total	520	624	729	742	732	787	830	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	5.45	6.09	6.49	6.88	7.23	7.56	7.86	NA	NA
Commercial	4.68	5.31	5.60	5.91	6.28	6.85	7.42	NA	NA
Industrial	2.87	3.44	3.97	6.59	3.71	4.03	4.15	NA	NA
Other	4.26	6.21	.68	7.47	7.04	NA	NA	NA	NA
Total	3.96	4.65	5.00	6.48	5.70	6.14	6.40	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Montana								
Number of Entities	4	1	3	30	NA	4	2	44
Number of Retail Customers	331,708	923	19,088	176,269	NA	22	NA	528,010
Retail Sales (thousand megawatthours)	5,766	14	985	3,319	NA	2,873	NA	12,957
Percentage of Retail Sales	44.50	.11	7.60	25.61	NA	22.17	NA	100.00
Revenue from Retail Sales (million dollars)	440	1	37	233	NA	100	20	830
Percentage of Revenue	53.00	.10	4.50	28.04	NA	12.02	2.35	100.00
Average Retail Price (cents/kWh)	7.62	5.70	3.79	7.01	NA	3.47	.68	6.40

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

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Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Nebraska		
NERC Region(s)		WECC/MAPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	6,738	36
Electric Utilities	6,722	29
Independent Power Producers & Combined Heat and Power	15	51
Net Generation (megawatthours)	32,008,709	39
Electric Utilities	31,944,127	33
Independent Power Producers & Combined Heat and Power	64,582	50
Emissions (thousand metric tons)		
Sulfur Dioxide	68	30
Nitrogen Oxide	44	33
Carbon Dioxide	20,698	37
Sulfur Dioxide (lbs/MWh)	4.7	23
Nitrogen Oxide (lbs/MWh)	3.0	19
Carbon Dioxide (lbs/MWh)	1,426	24
Total Retail Sales (megawatthours)	25,875,930	36
Full Service Provider Sales (megawatthours)	25,875,930	36
Direct Use (megawatthours)	72,112	46
Average Retail Price (cents/kWh)	5.70	43

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Nebraska			
1. Gerald Gentleman	Gas,Coal	Nebraska Public Power District	1,365
2. Cooper	Nuclear	Nebraska Public Power District	756
3. North Omaha	Gas,Coal	Omaha Public Power District	663
4. Nebraska City	Petroleum,Coal	Omaha Public Power District	646
5. Fort Calhoun	Nuclear	Omaha Public Power District	476
6. Cass County	Gas	Omaha Public Power District	320
7. Sarpy County	Petroleum,Gas	Omaha Public Power District	314
8. Rokeby	Petroleum,Gas	Lincoln Electric System	249
9. Sheldon	Gas,Coal	Nebraska Public Power District	225
10. C W Burdick	Petroleum,Gas	Grand Island City of	174

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Nebraska						
1. Omaha Public Power District	Public	9,061,216	3,060,536	3,375,302	2,625,378	0
2. Lincoln Electric System	Public	2,970,088	1,042,788	1,368,089	559,211	0
3. Nebraska Public Power District	Public	2,964,170	736,125	989,043	1,239,002	0
4. Loup River Public Power Dist	Public	984,897	210,015	184,008	590,874	0
5. Southern Public Power District	Public	827,124	224,618	28,989	573,517	0
Total Sales, Top Five Providers		16,807,495	5,274,082	5,945,431	5,587,982	0
Percent of Total State Sales		65	60	70	65	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Nebraska									
Electric Utilities	**5,452**	**5,529**	**5,939**	**6,010**	**6,052**	**6,667**	**6,722**	**99.9**	**99.8**
Coal	3,094	3,112	3,181	3,181	3,196	3,196	3,196	56.7	47.4
Petroleum	234	256	299	290	298	297	296	4.3	4.4
Natural Gas	16	11	2	2	2	322	321	.3	4.8
Dual Fired	686	730	1,059	1,137	1,149	1,335	1,395	12.6	20.7
Nuclear	1,254	1,254	1,234	1,234	1,234	1,233	1,232	23.0	18.3
Hydroelectric	168	167	162	162	167	268	266	3.1	3.9
Other Renewables	0	0	3	4	6	16	16	.0	.2
Independent Power Producers and Combined Heat and Power	**8**	**10**	**17**	**18**	**17**	**17**	**15**	**.1**	**.2**
Coal	8	10	7	8	8	8	8	.1	.1
Petroleum	0	0	1	1	1	1	1	.0	*
Natural Gas	0	0	1	1	1	1	0	.0	.0
Dual Fired	0	0	4	4	2	2	2	.0	*
Other Renewables	0	0	3	5	5	5	4	.0	.1
Total Electric Industry	**5,460**	**5,539**	**5,956**	**6,028**	**6,069**	**6,684**	**6,738**	**100.0**	**100.0**
Coal	3,102	3,122	3,189	3,189	3,204	3,204	3,204	56.8	47.6
Petroleum	234	256	300	291	299	298	297	4.3	4.4
Natural Gas	16	11	3	3	3	323	321	.3	4.8
Dual Fired	686	730	1,062	1,141	1,152	1,338	1,397	12.6	20.7
Nuclear	1,254	1,254	1,234	1,234	1,234	1,233	1,232	23.0	18.3
Hydroelectric	168	167	162	162	167	268	266	3.1	3.9
Other Renewables	0	0	6	9	10	21	21	.0	.3

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Nebraska									
Electric Utilities	**21,630,677**	**25,279,277**	**29,045,739**	**30,411,669**	**31,550,226**	**30,367,879**	**31,944,127**	**100.0**	**99.8**
Coal	12,658,464	16,079,519	18,424,799	20,193,542	19,899,803	20,907,970	20,414,960	58.5	63.8
Petroleum	12,981	26,679	53,715	25,154	18,410	47,971	21,004	.1	.1
Natural Gas	307,841	245,305	437,822	340,050	404,106	369,409	288,576	1.4	.9
Other Gases	0	0	0	0	101	206	142	.0	.0
Nuclear	7,511,298	7,485,448	8,628,679	8,726,113	10,122,242	7,996,902	10,241,254	34.7	32.0
Hydroelectric	1,140,093	1,426,058	1,500,724	1,124,122	1,097,486	980,110	913,021	5.3	2.9
Other Renewables	0	16,268	0	2,688	8,078	65,311	65,170	.0	.2
Independent Power Producers and Combined Heat and Power	**2,910**	**25,023**	**64,124**	**73,543**	**68,268**	**88,105**	**64,582**	*	**.2**
Coal	2,686	24,900	33,134	45,164	44,104	46,203	42,125	*	.1
Petroleum	0	0	944	3,035	2,139	881	853	.0	*
Natural Gas	224	123	13,532	8,681	9,032	11,669	8,825	*	*
Other Renewables	0	0	16,514	16,663	12,993	29,352	12,779	.0	*
Total Electric Industry	**21,633,587**	**25,304,300**	**29,109,863**	**30,485,212**	**31,618,494**	**30,455,984**	**32,008,709**	**100.0**	**100.0**
Coal	12,661,150	16,104,419	18,457,933	20,238,706	19,943,907	20,954,173	20,457,085	58.5	63.9
Petroleum	12,981	26,679	54,659	28,189	20,549	48,852	21,857	.1	.1
Natural Gas	308,065	245,428	451,354	348,731	413,138	381,078	297,401	1.4	.9
Other Gases	0	0	0	0	101	206	142	.0	.0
Nuclear	7,511,298	7,485,448	8,628,679	8,726,113	10,122,242	7,996,902	10,241,254	34.7	32.0
Hydroelectric	1,140,093	1,426,058	1,500,724	1,124,122	1,097,486	980,110	913,021	5.3	2.9
Other Renewables	0	16,268	16,514	19,351	21,071	94,663	77,949	.0	.2

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Nebraska							
Coal (cents per million Btu)	75.2	74.8	56.0	56.6	58.1	59.9	65.9
Average heat value (Btu per pound)	8,561	8,594	8,632	8,587	8,593	8,673	8,574
Average sulfur Content (percent)	.4	.3	.3	.3	.3	.3	.3
Petroleum (cents per million Btu)	703.4	224.0	648.5	655.6	554.8	457.2	712.0
Average heat value (Btu per gallon)	138,043	103,081	137,752	138,714	138,150	138,040	136,976
Average sulfur Content (percent)	.3	2.7	.2	.1	.2	.1	.2
Natural Gas (cents per million Btu)	200.8	165.8	460.0	427.6	416.6	563.6	653.9
Average heat value (Btu per cubic foot)	946	998	1,001	1,023	977	998	995

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Nebraska							
Sulfur Dioxide							
Coal	47	57	55	64	62	63	68
Petroleum	*	*	*	*	*	*	*
Natural Gas	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	47	57	55	64	62	63	68
Nitrogen Oxide							
Coal	78	86	39	44	43	46	44
Petroleum	*	*	*	*	*	*	*
Gas	*	*	1	*	*	*	*
Other	0	0	*	*	*	*	*
Total	78	86	39	44	43	46	44
Carbon Dioxide							
Coal	13,157	16,860	19,246	20,959	20,162	21,085	20,519
Petroleum	22	26	52	29	20	44	21
Gas	191	164	328	253	261	248	158
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	13,370	17,050	19,626	21,240	20,442	21,376	20,698

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Nebraska									
Retail Sales (thousand megawatthours)									
Residential	6,800	7,597	8,346	8,638	8,956	8,852	8,757	38.1	33.8
Commercial	5,086	5,986	7,041	7,232	7,384	8,583	8,501	28.5	32.9
Industrial	4,618	5,802	7,276	7,328	7,563	8,421	8,618	25.8	33.3
Other	1,364	1,508	1,686	1,525	1,758	NA	NA	7.6	NA
Total	17,868	20,892	24,349	24,723	25,661	25,857	25,876	100.0	100.0
Retail Revenue (million dollars)									
Residential	423	484	545	562	603	608	610	42.5	41.4
Commercial	292	333	382	396	415	499	497	29.3	33.7
Industrial	194	223	263	276	294	352	369	19.5	25.0
Other	87	88	103	99	112	NA	NA	8.7	NA
Total	996	1,128	1,292	1,333	1,424	1,458	1,475	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	6.23	6.37	6.53	6.50	6.73	6.87	6.96	NA	NA
Commercial	5.73	5.55	5.42	5.48	5.62	5.81	5.84	NA	NA
Industrial	4.19	3.84	3.61	3.76	3.89	4.18	4.28	NA	NA
Other	6.39	5.86	6.10	6.50	6.37	NA	NA	NA	NA
Total	5.57	5.40	5.30	5.39	5.55	5.64	5.70	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Nebraska								
Number of Entities	NA	151	1	10	NA	NA	NA	162
Number of Retail Customers	NA	920,146	16	22,129	NA	NA	NA	942,291
Retail Sales (thousand megawatthours)	NA	25,113	166	597	NA	NA	NA	25,876
Percentage of Retail Sales	NA	97.05	.64	2.31	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	NA	1,426	2	47	NA	NA	NA	1,475
Percentage of Revenue	NA	96.63	.17	3.21	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	NA	5.68	1.47	7.92	NA	NA	NA	5.70

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Nevada		
NERC Region(s)		WECC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	8,670	34
Electric Utilities	5,389	33
Independent Power Producers & Combined Heat and Power	3,281	28
Net Generation (megawatthours)	37,667,435	36
Electric Utilities	24,246,391	35
Independent Power Producers & Combined Heat and Power	13,421,044	20
Emissions (thousand metric tons)		
Sulfur Dioxide	50	34
Nitrogen Oxide	41	35
Carbon Dioxide	25,345	34
Sulfur Dioxide (lbs/MWh)	2.9	36
Nitrogen Oxide (lbs/MWh)	2.4	26
Carbon Dioxide (lbs/MWh)	1,483	21
Total Retail Sales (megawatthours)	31,312,306	34
Full Service Provider Sales (megawatthours)	31,310,598	34
Deregulated Sales (megawatthours)	1,708	21
Direct Use (megawatthours)	232,503	42
Average Retail Price (cents/kWh)	8.56	12

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Nevada			
1. Mohave	Gas,Coal	Southern California Edison Co	1,580
2. Hoover Dam	Hydroelectric	U S Bureau of Reclamation	1,039
3. Clark	Gas	Nevada Power Co	700
4. Bighorn Electric Generating Station	Gas	Reliant Energy Bighorn LLC	570
5. Silverhawk	Gas	Pinnacle West Energy	560
6. Reid Gardner	Petroleum,Coal	Nevada Power Co	555
7. North Valmy	Petroleum,Coal	Sierra Pacific Power Co	522
8. Tracy	Petroleum,Gas	Sierra Pacific Power Co	500
9. Apex Generating Station	Gas	Mirant Las Vegas LLC	494
10. El Dorado Energy	Gas	El Dorado Energy LLC	450

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Nevada						
1. Nevada Power Co	Investor-Owned	19,014,455	7,981,117	4,141,000	6,892,338	0
2. Sierra Pacific Power Co	Investor-Owned	8,627,416	2,034,335	2,840,599	3,752,482	0
3. Colorado River Comm of Nevada	Public	1,563,811	0	670,819	892,992	0
4. Wells Rural Electric Co	Cooperative	654,668	46,511	43,280	564,877	0
5. Valley Electric Assn, Inc	Cooperative	390,600	241,465	127,412	21,723	0
Total Sales, Top Five Providers		30,250,950	10,303,428	7,823,110	12,124,412	0
Percent of Total State Sales		97	97	95	98	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Nevada									
Electric Utilities	**4,944**	**5,556**	**5,434**	**5,388**	**5,384**	**5,323**	**5,389**	**97.0**	**62.2**
Coal	2,692	2,717	2,806	2,747	2,658	2,657	2,657	52.8	30.6
Petroleum	78	48	45	44	43	45	45	1.5	.5
Natural Gas	113	502	292	288	414	190	256	2.2	3.0
Dual Fired	1,031	1,243	1,243	1,261	1,222	1,386	1,386	20.2	16.0
Hydroelectric	1,031	1,046	1,049	1,048	1,048	1,045	1,045	20.2	12.1
Independent Power Producers and Combined Heat and Power	**154**	**748**	**1,282**	**1,495**	**1,472**	**2,185**	**3,281**	**3.0**	**37.8**
Natural Gas	0	133	904	1,121	1,071	1,785	2,915	.0	33.6
Dual Fired	0	383	178	222	222	222	222	.0	2.6
Hydroelectric	4	4	4	4	4	6	2	.1	*
Other Renewables	150	228	196	148	168	172	142	2.9	1.6
Other	0	0	0	0	7	0	0	.0	.0
Total Electric Industry	**5,098**	**6,306**	**6,716**	**6,883**	**6,856**	**7,508**	**8,670**	**100.0**	**100.0**
Coal	2,692	2,717	2,806	2,747	2,658	2,657	2,657	52.8	30.6
Petroleum	78	48	45	44	43	45	45	1.5	.5
Natural Gas	113	636	1,196	1,409	1,485	1,975	3,171	2.2	36.6
Dual Fired	1,031	1,626	1,421	1,483	1,444	1,608	1,608	20.2	18.5
Hydroelectric	1,034	1,050	1,053	1,052	1,052	1,051	1,047	20.3	12.1
Other Renewables	150	228	196	148	168	172	142	2.9	1.6
Other	0	0	0	0	7	0	0	.0	.0

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Nevada									
Electric Utilities	**19,286,260**	**19,997,354**	**29,341,675**	**27,896,065**	**25,008,568**	**24,634,871**	**24,246,391**	**96.2**	**64.4**
Coal	15,053,277	13,971,824	18,931,521	17,736,970	16,413,025	17,085,959	18,257,265	75.1	48.5
Petroleum	284,108	26,549	64,614	911,611	25,472	16,793	95,766	1.4	.3
Natural Gas	2,217,027	4,076,540	7,929,942	6,742,903	6,310,687	5,784,181	4,288,157	11.1	11.4
Hydroelectric	1,731,848	1,922,441	2,415,598	2,504,581	2,259,384	1,747,938	1,605,203	8.6	4.3
Independent Power Producers and Combined Heat and Power	**764,425**	**3,966,640**	**6,143,240**	**5,979,901**	**7,080,367**	**8,560,017**	**13,421,044**	**3.8**	**35.6**
Petroleum	0	4	180	17	0	0	0	.0	.0
Natural Gas	0	2,367,213	4,737,247	4,770,870	5,899,973	7,468,598	12,098,047	.0	32.1
Other Gases	0	0	0	0	44,909	16,941	15,572	.0	*
Hydroelectric	3,233	19,093	13,870	9,141	8,202	8,767	9,920	*	*
Other Renewables	761,192	1,553,696	1,370,791	1,199,873	1,127,283	1,065,711	1,297,504	3.8	3.4
Other	0	26,634	21,152	0	0	0	0	.0	.0
Total Electric Industry	**20,050,685**	**23,963,994**	**35,484,915**	**33,875,966**	**32,088,935**	**33,194,888**	**37,667,435**	**100.0**	**100.0**
Coal	15,053,277	13,971,824	18,931,521	17,736,970	16,413,025	17,085,959	18,257,265	75.1	48.5
Petroleum	284,108	26,553	64,794	911,628	25,472	16,793	95,766	1.4	.3
Natural Gas	2,217,027	6,443,753	12,667,189	11,513,773	12,210,660	13,252,779	16,386,204	11.1	43.5
Other Gases	0	0	0	0	44,909	16,941	15,572	.0	*
Hydroelectric	1,735,081	1,941,534	2,429,468	2,513,722	2,267,586	1,756,705	1,615,123	8.7	4.3
Other Renewables	761,192	1,553,696	1,370,791	1,199,873	1,127,283	1,065,711	1,297,504	3.8	3.4
Other	0	26,634	21,152	0	0	0	0	.0	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Nevada							
Coal (cents per million Btu)	149.1	131.0	126.4	126.2	133.9	141.7	136.1
Average heat value (Btu per pound)	11,122	11,075	11,211	11,214	10,177	11,120	11,118
Average sulfur Content (percent)	.5	.5	.5	.5	.5	.5	.5
Petroleum (cents per million Btu)	314.3	337.2	721.6	585.1	600.2	600.7	472.8
Average heat value (Btu per gallon)	148,234	146,669	139,110	151,833	140,174	138,548	149,914
Average sulfur Content (percent)	.8	.6	.3	.3	.3	.3	.9
Natural Gas (cents per million Btu)	195.6	165.8	475.0	802.5	438.4	510.6	556.2
Average heat value (Btu per cubic foot)	1,031	1,029	1,023	1,026	1,020	1,040	1,036

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Nevada							
Sulfur Dioxide							
Coal	48	46	48	45	45	47	49
Petroleum	1	*	*	4	*	*	*
Natural Gas	*	*	*	*	*	*	*
Other	0	0	0	0	0	0	0
Total	50	46	48	50	45	47	50
Nitrogen Oxide							
Coal	65	67	35	32	35	34	35
Petroleum	*	*	*	1	*	*	*
Gas	3	7	10	9	7	6	6
Other	0	*	0	0	0	0	*
Total	69	74	45	42	42	40	41
Carbon Dioxide							
Coal	16,045	14,601	18,145	17,174	15,082	16,675	17,628
Petroleum	281	24	56	1,036	21	15	79
Gas	1,326	3,350	6,521	5,877	5,901	6,266	7,604
Geothermal	20	40	35	31	29	27	33
Other	0	0	0	0	0	0	0
Total	17,671	18,015	24,757	24,118	21,033	22,982	25,345

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Nevada									
Retail Sales (thousand megawatthours)									
Residential	5,540	6,655	9,406	9,607	9,702	10,340	10,673	33.9	34.1
Commercial	3,866	4,731	6,548	6,693	7,538	8,168	8,275	23.6	26.4
Industrial	6,263	8,496	11,239	11,239	11,373	11,624	12,364	38.3	39.5
Other	684	777	598	628	592	NA	NA	4.2	NA
Total	16,352	20,659	27,792	28,167	29,204	30,132	31,312	100.0	100.0
Retail Revenue (million dollars)									
Residential	316	473	685	872	915	932	1,034	35.9	38.6
Commercial	239	319	441	565	683	718	752	27.2	28.0
Industrial	294	429	560	738	824	849	895	33.4	33.4
Other	31	39	29	39	39	NA	NA	3.5	NA
Total	880	1,260	1,715	2,213	2,460	2,499	2,681	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	5.70	7.11	7.28	9.08	9.43	9.02	9.69	NA	NA
Commercial	6.19	6.75	6.74	8.45	9.06	8.78	9.08	NA	NA
Industrial	4.69	5.05	4.98	6.56	7.25	7.30	7.24	NA	NA
Other	4.49	5.00	4.77	6.15	6.54	NA	NA	NA	NA
Total	5.38	6.10	6.17	7.86	8.42	8.29	8.56	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Nevada								
Number of Entities	2	8	1	8	NA	NA	1	20
Number of Retail Customers	1,009,885	25,128	2	32,283	NA	2	NA	1,067,300
Retail Sales (thousand megawatthours)	27,642	2,191	27	1,451	NA	2	NA	31,312
Percentage of Retail Sales	88.28	7.00	.09	4.63	NA	.01	NA	100.00
Revenue from Retail Sales (million dollars)	2,486	112	*	82	NA	NA	*	2,681
Percentage of Revenue	92.74	4.18	.01	3.07	NA	NA	*	100.00
Average Retail Price (cents/kWh)	8.99	5.12	.54	5.68	NA	NA	2.34	8.56

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
New Hampshire		
NERC Region(s)		NPCC
Primary Energy Source		Nuclear
Net Summer Capability (megawatts)	4,270	42
Electric Utilities	1,121	42
Independent Power Producers & Combined Heat and Power	3,149	29
Net Generation (megawatthours)	23,875,787	42
Electric Utilities	6,169,110	40
Independent Power Producers & Combined Heat and Power	17,706,677	18
Emissions (thousand metric tons)		
Sulfur Dioxide	52	33
Nitrogen Oxide	10	45
Carbon Dioxide	8,172	43
Sulfur Dioxide (lbs/MWh)	4.8	21
Nitrogen Oxide (lbs/MWh)	.9	44
Carbon Dioxide (lbs/MWh)	755	45
Total Retail Sales (megawatthours)	10,973,309	45
Full Service Provider Sales (megawatthours)	10,863,434	41
Deregulated Sales (megawatthours)	109,875	18
Direct Use (megawatthours)	456,052	37
Average Retail Price (cents/kWh)	11.37	4

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
New Hampshire			
1. Seabrook	Nuclear	FPL Energy Seabrook LLC	1,159
2. Granite Ridge	Gas	Granite Ridge Energy LLC	797
3. Newington Power Facility	Petroleum,Gas	Newington Energy LLC	525
4. Merrimack	Petroleum,Coal	Public Service Co of NH	466
5. Newington	Petroleum	Public Service Co of NH	400
6. S C Moore	Hydroelectric	U S Gen New England Inc	191
7. Comerford	Hydroelectric	U S Gen New England Inc	161
8. Schiller	Gas,Petroleum,Coal	Public Service Co of NH	160
9. Berlin Gorham	Petroleum,Other	Fraser NH LLC	35
10. Berlin Gorham	Hydroelectric	Great Lakes Hydro America LLC	29

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
New Hampshire						
1. Public Service Co of NH	Investor-Owned	7,990,059	3,014,751	3,259,035	1,716,273	0
2. Unitil Energy Systems	Investor-Owned	1,221,322	482,768	362,704	375,850	0
3. Granite State Electric Co	Investor-Owned	750,436	286,354	393,462	70,620	0
4. New Hampshire Elec Coop Inc	Cooperative	713,917	434,142	227,885	51,890	0
5. Town of Littleton	Public	75,334	18,974	16,790	39,570	0
Total Sales, Top Five Providers		10,751,068	4,236,989	4,259,876	2,254,203	0
Percent of Total State Sales		98	99	98	97	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
New Hampshire									
Electric Utilities	**2,638**	**2,506**	**2,290**	**1,128**	**1,105**	**1,121**	**1,121**	**90.7**	**26.3**
Coal	622	578	575	575	575	575	575	21.4	13.5
Petroleum	104	66	65	65	48	64	65	3.6	1.5
Dual Fired	441	423	424	425	417	417	417	15.2	9.8
Nuclear	1,150	1,155	1,161	0	0	0	0	39.6	.0
Hydroelectric	319	284	64	64	64	65	64	11.0	1.5
Independent Power Producers and Combined Heat and Power	**269**	**245**	**565**	**1,715**	**2,322**	**3,123**	**3,149**	**9.3**	**73.7**
Petroleum	35	28	24	32	32	32	46	1.2	1.1
Natural Gas	0	0	4	18	543	291	288	.0	6.7
Dual Fired	5	4	14	7	7	1,064	1,067	.2	25.0
Nuclear	0	0	0	1,161	1,161	1,159	1,159	.0	27.1
Hydroelectric	88	88	379	366	449	447	454	3.0	10.6
Other Renewables	142	125	144	132	131	131	136	4.9	3.2
Total Electric Industry	**2,907**	**2,751**	**2,855**	**2,843**	**3,427**	**4,244**	**4,270**	**100.0**	**100.0**
Coal	622	578	575	575	575	575	575	21.4	13.5
Petroleum	140	95	89	97	80	96	111	4.8	2.6
Natural Gas	0	0	4	18	543	291	288	.0	6.7
Dual Fired	446	427	439	431	424	1,481	1,484	15.3	34.8
Nuclear	1,150	1,155	1,161	1,161	1,161	1,159	1,159	39.6	27.1
Hydroelectric	408	371	443	429	514	511	518	14.0	12.1
Other Renewables	141	125	144	132	130	131	136	4.8	3.2

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percent Share 1990	Percent Share 2004
New Hampshire									
Electric Utilities	**10,810,155**	**13,936,033**	**12,701,500**	**13,095,085**	**12,276,456**	**6,231,573**	**6,169,110**	**87.1**	**25.8**
Coal	2,959,203	3,367,488	3,965,476	3,706,399	3,722,386	3,923,303	4,076,075	23.9	17.1
Petroleum	2,293,037	1,003,899	409,661	428,990	595,575	1,976,692	1,770,459	18.5	7.4
Natural Gas	0	201,304	76,789	42,143	95,547	87	78	.0	.0
Nuclear	4,080,691	8,379,376	7,921,880	8,692,743	7,599,861	0	0	32.9	.0
Hydroelectric	1,477,224	983,966	327,694	224,810	263,087	331,491	322,498	11.9	1.4
Independent Power Producers and Combined Heat and Power	**1,595,041**	**1,498,346**	**2,329,999**	**1,979,539**	**3,676,622**	**15,365,534**	**17,706,677**	**12.9**	**74.2**
Petroleum	53,456	60,857	61,667	52,687	54,134	67,834	189,348	.4	.8
Natural Gas	0	0	62,154	76,383	124,822	4,165,378	5,400,332	.0	22.6
Nuclear	0	0	0	0	1,694,756	9,276,288	10,177,573	.0	42.6
Hydroelectric	403,863	385,924	1,099,520	765,769	877,853	999,778	993,258	3.3	4.2
Other Renewables	1,137,722	1,051,565	1,106,658	1,084,700	925,057	856,256	946,165	9.2	4.0
Total Electric Industry	**12,405,196**	**15,434,379**	**15,031,499**	**15,074,624**	**15,953,078**	**21,597,107**	**23,875,787**	**100.0**	**100.0**
Coal	2,959,203	3,367,488	3,965,476	3,706,399	3,722,386	3,923,303	4,076,075	23.9	17.1
Petroleum	2,346,493	1,064,756	471,328	481,677	649,709	2,044,526	1,959,807	18.9	8.2
Natural Gas	0	201,304	138,943	118,526	220,369	4,165,465	5,400,410	.0	22.6
Nuclear	4,080,691	8,379,376	7,921,880	8,692,743	9,294,617	9,276,288	10,177,573	32.9	42.6
Hydroelectric	1,881,087	1,369,890	1,427,214	990,579	1,140,940	1,331,269	1,315,756	15.2	5.5
Other Renewables	1,137,722	1,051,565	1,106,658	1,084,700	925,057	856,256	946,165	9.2	4.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
New Hampshire							
Coal (cents per million Btu)	178.1	158.9	148.5	167.2	180.3	170.3	201.6
Average heat value (Btu per pound)	13,303	13,111	13,114	13,052	13,017	13,262	13,199
Average sulfur Content (percent)	1.8	1.4	1.3	1.3	1.2	1.1	1.2
Petroleum (cents per million Btu)	226.9	232.6	345.3	336.7	370.5	W	W
Average heat value (Btu per gallon)	154,329	154,403	153,741	151,214	149,660	152,724	152,883
Average sulfur Content (percent)	1.9	1.5	1.6	.8	1.5	1.5	1.4
Natural Gas (cents per million Btu)	.0	182.6	315.1	238.7	388.3	W	W
Average heat value (Btu per cubic foot)	0	1,018	1,069	1,018	1,031	1,047	1,045

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
New Hampshire							
Sulfur Dioxide							
Coal	37	33	42	40	35	30	34
Petroleum	23	8	5	4	5	21	17
Natural Gas	0	0	0	0	0	*	*
Other	*	*	*	*	*	1	1
Total	60	41	47	44	40	52	52
Nitrogen Oxide							
Coal	15	8	7	5	5	5	5
Petroleum	3	1	1	1	1	3	3
Gas	0	*	*	*	*	1	*
Other	1	1	1	1	1	1	1
Total	19	11	9	8	7	10	10
Carbon Dioxide							
Coal	2,798	3,272	4,062	3,702	3,668	3,838	4,006
Petroleum	2,060	1,007	499	495	658	1,815	1,825
Gas	0	120	199	195	128	1,838	2,228
Geothermal	0	0	0	0	0	0	0
Other	29	29	29	30	104	109	112
Total	4,887	4,427	4,788	4,422	4,557	7,600	8,172

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
New Hampshire									
Retail Sales (thousand megawatthours)									
Residential	3,444	3,364	3,656	3,789	4,003	4,252	4,282	38.4	39.0
Commercial	2,010	3,226	3,774	3,911	4,024	4,318	4,363	22.4	39.8
Industrial	3,418	2,286	2,597	2,483	2,222	2,403	2,328	38.1	21.2
Other	107	131	131	133	134	NA	NA	1.2	NA
Total	8,980	9,007	10,159	10,316	10,383	10,973	10,973	100.0	100.0
Retail Revenue (million dollars)									
Residential	356	454	481	473	476	509	535	43.6	42.9
Commercial	191	367	408	412	405	445	480	23.4	38.5
Industrial	256	219	238	226	202	234	233	31.4	18.7
Other	14	16	16	18	17	NA	NA	1.7	NA
Total	816	1,056	1,143	1,129	1,100	1,188	1,248	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	10.34	13.50	13.15	12.49	11.89	11.98	12.49	NA	NA
Commercial	9.50	11.38	10.80	10.53	10.06	10.30	10.99	NA	NA
Industrial	7.47	9.56	9.17	9.11	9.09	9.75	10.01	NA	NA
Other	12.74	12.32	12.41	13.28	12.83	NA	NA	NA	NA
Total	9.09	11.72	11.25	10.95	10.60	10.83	11.37	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
New Hampshire								
Number of Entities	3	5	NA	1	2	4	2	17
Number of Retail Customers	585,964	11,232	NA	75,004	3	30	NA	672,233
Retail Sales (thousand megawatthours)	9,961	174	NA	714	15	110	NA	10,973
Percentage of Retail Sales	90.77	1.58	NA	6.51	.14	1.00	NA	100.00
Revenue from Retail Sales (million dollars)	1,128	16	NA	93	2	6	3	1,248
Percentage of Revenue	90.40	1.30	NA	7.45	.17	.48	.20	100.00
Average Retail Price (cents/kWh)	11.32	9.31	NA	13.03	14.17	5.40	2.30	11.37

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
New Jersey		
NERC Region(s)		MAAC
Primary Energy Source		Nuclear
Net Summer Capability (megawatts)	18,164	22
Electric Utilities	1,005	43
Independent Power Producers & Combined Heat and Power	17,160	6
Net Generation (megawatthours)	55,882,342	24
Electric Utilities	1,648,908	43
Independent Power Producers & Combined Heat and Power	54,233,434	6
Emissions (thousand metric tons)		
Sulfur Dioxide	49	35
Nitrogen Oxide	30	37
Carbon Dioxide	21,299	36
Sulfur Dioxide (lbs/MWh)	1.9	41
Nitrogen Oxide (lbs/MWh)	1.2	43
Carbon Dioxide (lbs/MWh)	840	43
Total Retail Sales (megawatthours)	77,593,167	19
Full Service Provider Sales (megawatthours)	59,019,571	23
Deregulated Sales (megawatthours)	18,573,596	5
Direct Use (megawatthours)	2,406,897	19
Average Retail Price (cents/kWh)	10.29	9

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
New Jersey			
1. PSEG Salem Generating Station	Other,Nuclear	PSEG Nuclear LLC	2,342
2. Bergen	Other,Gas	PSEG Fossil LLC	1,242
3. PSEG Hope Creek Generating Station	Nuclear	PSEG Nuclear LLC	1,049
4. PSEG Hudson Generating Station	Other,Petroleum,Gas	PSEG Fossil LLC	991
5. Linden Cogen Plant	Petroleum,Other,Gas	Cogen Technologies Linden Vent	900
6. PSEG Mercer Generating Station	Gas,Coal	PSEG Fossil LLC	777
7. PSEG Linden Generating Station	Other,Gas	PSEG Fossil LLC	775
8. AES Red Oak LLC	Gas	AES Red Oak LLC	766
9. PSEG Kearny Generating Station	Other,Gas	PSEG Fossil LLC	764
10. Oyster Creek	Nuclear	AmerGen Energy Co LLC	619

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
New Jersey						
1. Public Service Elec & Gas Co	Investor-Owned	33,954,980	13,107,934	17,479,976	3,218,492	148,578
2. Jersey Central Power&Light Co	Investor-Owned	16,308,325	8,866,770	6,635,871	805,684	0
3. Atlantic City Electric Co	Investor-Owned	7,680,146	4,257,474	3,032,944	389,728	0
4. Reliant Energy Solutions East	Power Marketer	2,647,191	0	0	2,647,191	0
5. PEPCO Energy Services	Power Marketer	2,323,162	0	2,234,080	0	89,082
Total Sales, Top Five Providers		62,913,804	26,232,178	29,382,871	7,061,095	237,660
Percent of Total State Sales		81	94	77	63	82

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
New Jersey									
Electric Utilities	**13,730**	**13,817**	**1,244**	**1,244**	**1,244**	**1,244**	**1,005**	**94.5**	**5.5**
Coal	1,652	1,629	387	387	387	387	307	11.4	1.7
Petroleum	3,576	2,740	286	286	286	286	232	24.6	1.3
Natural Gas	2,547	3,178	0	0	0	0	0	17.5	.0
Dual Fired	1,762	2,028	171	171	171	171	66	12.1	.4
Nuclear	3,863	3,862	0	0	0	0	0	26.6	.0
Pumped Storage	330	380	400	400	400	400	400	2.3	2.2
Independent Power Producers and Combined Heat and Power	**807**	**3,066**	**15,322**	**15,443**	**17,140**	**17,402**	**17,160**	**5.6**	**94.5**
Coal	0	483	1,702	1,701	1,737	1,737	1,817	.0	10.0
Petroleum	6	25	730	1,909	1,996	1,867	1,906	*	10.5
Natural Gas	48	321	1,715	2,340	3,293	2,871	2,235	.3	12.3
Other Gases	0	0	47	21	21	21	21	.0	.1
Dual Fired	635	2,057	7,054	5,402	6,024	6,783	6,985	4.4	38.5
Nuclear	0	0	3,862	3,875	3,875	3,908	3,972	.0	21.9
Hydroelectric	13	13	13	12	13	14	11	.1	.1
Other Renewables	105	168	200	182	181	200	200	.7	1.1
Other	0	0	0	0	0	0	11	.0	.1
Total Electric Industry	**14,536**	**16,883**	**16,566**	**16,687**	**18,384**	**18,647**	**18,164**	**100.0**	**100.0**
Coal	1,652	2,112	2,088	2,088	2,124	2,124	2,124	11.4	11.7
Petroleum	3,582	2,765	1,016	2,194	2,282	2,153	2,138	24.6	11.8
Natural Gas	2,596	3,499	1,715	2,341	3,293	2,872	2,235	17.9	12.3
Other Gases	0	0	47	21	21	21	21	.0	.1
Dual Fired	2,396	4,085	7,225	5,574	6,195	6,955	7,052	16.5	38.8
Nuclear	3,863	3,862	3,862	3,875	3,875	3,908	3,972	26.6	21.9
Hydroelectric	13	13	13	12	13	14	12	.1	.1
Other Renewables	105	169	200	182	181	200	200	.7	1.1
Pumped Storage	330	380	400	400	400	400	400	2.3	2.2
Other	0	0	0	0	0	0	11	.0	.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
New Jersey									
Electric Utilities	**36,488,596**	**27,087,559**	**25,254,292**	**1,630,319**	**1,569,056**	**1,910,115**	**1,648,908**	**91.3**	**3.0**
Coal	7,057,820	5,105,184	5,317,916	1,439,282	1,416,711	1,792,734	1,800,845	17.7	3.2
Petroleum	1,831,935	884,897	295,097	230,522	202,514	209,017	98,826	4.6	.2
Natural Gas	3,978,001	4,386,493	1,610,650	102,255	95,631	28,246	36,476	10.0	.1
Nuclear	23,770,387	16,805,517	18,171,257	0	0	0	0	59.5	.0
Pumped Storage	−149,547	−94,532	−140,628	−141,740	−145,800	−119,882	−287,239	−.4	−.5
Independent Power Producers and Combined Heat and Power	**3,480,238**	**18,011,099**	**32,830,923**	**57,790,941**	**60,000,330**	**55,489,236**	**54,233,433**	**8.7**	**97.0**
Coal	0	2,060,796	4,772,199	7,879,758	8,188,343	7,996,829	8,521,626	.0	15.2
Petroleum	263,034	837,391	790,179	1,066,103	528,119	1,332,535	1,291,994	.7	2.3
Natural Gas	2,936,324	13,816,028	14,898,599	16,605,946	18,973,727	14,747,331	15,950,119	7.3	28.5
Other Gases	0	64,073	584,734	448,885	90,483	255,374	49,464	.0	.1
Nuclear	0	0	10,406,862	30,469,230	30,865,675	29,709,201	27,081,566	.0	48.5
Hydroelectric	31,351	10,955	14,036	18,002	12,030	38,891	37,503	.1	.1
Other Renewables	249,529	1,221,856	1,364,314	1,303,017	1,330,416	1,398,532	1,301,161	.6	2.3
Other	0	0	0	0	11,538	10,543	0	.0	.0
Total Electric Industry	**39,968,834**	**45,098,658**	**58,085,215**	**59,421,260**	**61,569,387**	**57,399,351**	**55,882,342**	**100.0**	**100.0**
Coal	7,057,820	7,165,980	10,090,115	9,319,040	9,605,054	9,789,563	10,322,471	17.7	18.5
Petroleum	2,094,969	1,722,288	1,085,276	1,296,625	730,633	1,541,552	1,390,820	5.2	2.5
Natural Gas	6,914,325	18,202,521	16,509,249	16,708,201	19,069,358	14,775,577	15,986,595	17.3	28.6
Other Gases	0	64,073	584,734	448,885	90,483	255,374	49,464	.0	.1
Nuclear	23,770,387	16,805,517	28,578,119	30,469,230	30,865,675	29,709,201	27,081,566	59.5	48.5
Hydroelectric	31,351	10,955	14,036	18,002	12,030	38,891	37,503	.1	.1
Other Renewables	249,529	1,221,856	1,364,314	1,303,017	1,330,416	1,398,532	1,301,161	.6	2.3
Pumped Storage	−149,547	−94,532	−140,628	−141,740	−145,800	−119,882	−287,239	−.4	−.5
Other	0	0	0	0	11,538	10,543	0	.0	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
New Jersey							
Coal (cents per million Btu)	180.1	177.6	139.4	227.4	187.3	179.6	204.7
Average heat value (Btu per pound)	13,429	13,282	13,153	13,003	12,853	13,056	12,868
Average sulfur Content (percent)	1.2	1.2	1.1	1.6	1.2	1.1	1.6
Petroleum (cents per million Btu)	359.6	286.2	484.1	454.0	468.0	604.0	601.7
Average heat value (Btu per gallon)	148,299	149,312	149,559	141,857	141,631	139,250	135,095
Average sulfur Content (percent)	.4	.4	.5	.5	.4	.2	.1
Natural Gas (cents per million Btu)	217.2	211.8	430.4	335.6	404.4	619.6	696.2
Average heat value (Btu per cubic foot)	1,032	1,031	1,027	1,038	1,032	1,036	1,031

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
New Jersey							
Sulfur Dioxide							
Coal	63	34	52	44	42	46	47
Petroleum	9	4	2	2	2	3	2
Natural Gas	*	*	*	*	*	*	*
Other	*	*	*	*	*	*	*
Total	71	38	55	46	44	49	49
Nitrogen Oxide							
Coal	35	29	27	24	25	22	20
Petroleum	4	2	1	1	1	1	2
Gas	10	20	7	8	8	4	4
Other	1	2	3	3	4	4	4
Total	50	54	38	36	38	32	30
Carbon Dioxide							
Coal	7,178	7,357	10,611	10,413	9,656	9,837	10,378
Petroleum	2,408	1,560	991	1,376	812	1,475	1,318
Gas	4,483	10,203	9,304	9,180	10,625	8,170	8,906
Geothermal	0	0	0	0	0	0	0
Other	43	242	239	236	878	712	697
Total	14,111	19,362	21,145	21,204	21,971	20,194	21,299

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
New Jersey									
Retail Sales (thousand megawatthours)									
Residential	20,498	22,470	24,547	25,491	27,171	27,367	28,020	32.6	36.1
Commercial	26,839	29,792	33,112	34,445	35,429	36,616	38,074	42.7	49.1
Industrial	15,041	13,989	11,812	12,707	11,476	12,215	11,210	23.9	14.4
Other	479	504	506	534	526	NA	NA	.8	NA
Transportation	NA	NA	NA	NA	NA	184	290	NA	.4
Total	62,857	66,754	69,977	73,177	74,603	76,383	77,593	100.0	100.0
Retail Revenue (million dollars)									
Residential	2,123	2,692	2,522	2,603	2,820	2,921	3,148	37.2	39.4
Commercial	2,400	3,049	3,027	3,132	3,155	3,335	3,793	42.1	47.5
Industrial	1,107	1,140	1,013	1,059	886	976	1,012	19.4	12.7
Other	77	91	61	60	78	NA	NA	1.3	NA
Transportation	NA	NA	NA	NA	NA	13	32	NA	.4
Total	5,707	6,972	6,624	6,853	6,939	7,245	7,984	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	10.36	11.98	10.27	10.21	10.38	10.67	11.23	NA	NA
Commercial	8.94	10.23	9.14	9.09	8.90	9.11	9.96	NA	NA
Industrial	7.36	8.15	8.58	8.33	7.72	7.99	9.03	NA	NA
Other	15.96	18.06	12.11	11.21	14.80	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	7.15	10.94	NA	NA
Total	9.08	10.44	9.46	9.36	9.30	9.48	10.29	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
New Jersey								
Number of Entities	4	9	NA	1	5	16	5	40
Number of Retail Customers	3,639,692	62,337	NA	11,372	5	62,574	NA	3,775,980
Retail Sales (thousand megawatthours)	57,560	1,063	NA	145	252	18,574	NA	77,593
Percentage of Retail Sales	74.18	1.37	NA	.19	.32	23.94	NA	100.00
Revenue from Retail Sales (million dollars)	6,121	114	NA	16	18	1,038	678	7,984
Percentage of Revenue	76.66	1.42	NA	.20	.22	13.00	8.49	100.00
Average Retail Price (cents/kWh)	10.63	10.68	NA	11.10	6.96	5.59	3.65	10.29

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
New Mexico		
NERC Region(s)		SPP/WSCC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	6,329	38
Electric Utilities	5,393	32
Independent Power Producers & Combined Heat and Power	937	40
Net Generation (megawatthours)	32,940,361	37
Electric Utilities	32,242,728	32
Independent Power Producers & Combined Heat and Power	697,633	45
Emissions (thousand metric tons)		
Sulfur Dioxide	35	36
Nitrogen Oxide	68	27
Carbon Dioxide	30,906	30
Sulfur Dioxide (lbs/MWh)	2.3	38
Nitrogen Oxide (lbs/MWh)	4.5	3
Carbon Dioxide (lbs/MWh)	2,068	4
Total Retail Sales (megawatthours)	19,845,735	39
Full Service Provider Sales (megawatthours)	19,845,735	39
Direct Use (megawatthours)	445,845	38
Average Retail Price (cents/kWh)	7.10	21

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
New Mexico			
1. Four Corners	Gas,Coal	Arizona Public Service Co	2,040
2. San Juan	Petroleum,Coal	Public Service Co of NM	1,643
3. Cunningham	Gas	Southwestern Public Service Co	487
4. Escalante	Gas,Coal	Tri-State G & T Assn Inc	247
5. Rio Grande	Petroleum,Gas	El Paso Electric Co	231
6. New Mexico Wind Energy Center	Other	FPL Energy New Mexico Wind LLC	204
7. Maddox	Gas	Southwestern Public Service Co	193
8. Pyramid	Petroleum,Gas	Tri-State G & T Assn Inc	158
9. Reeves	Gas	Public Service Co of NM	154
10. Afton Generating Station	Gas	Public Service Co of NM	141

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
New Mexico						
1. Public Service Co of NM	Investor-Owned	7,471,491	2,498,339	3,689,383	1,283,769	0
2. Southwestern Public Service Co	Investor-Owned	3,535,278	894,457	1,454,336	1,186,485	0
3. El Paso Electric Co	Investor-Owned	1,441,872	509,344	826,909	105,619	0
4. Farmington City of	Public	1,097,570	222,483	358,570	516,517	0
5. Texas-New Mexico Power Co	Investor-Owned	1,087,822	245,616	258,149	584,057	0
Total Sales, Top Five Providers		14,634,033	4,370,239	6,587,347	3,676,447	0
Percent of Total State Sales		74	78	80	62	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
New Mexico									
Electric Utilities	**5,042**	**5,078**	**5,250**	**5,250**	**5,463**	**5,398**	**5,393**	**97.3**	**85.2**
Coal	3,899	3,901	3,942	3,942	3,942	3,942	3,937	75.2	62.2
Petroleum	24	24	0	0	15	35	35	.5	.6
Natural Gas	757	588	925	925	1,048	905	905	14.6	14.3
Dual Fired	307	507	301	301	377	434	434	5.9	6.9
Hydroelectric	56	58	82	82	82	82	82	1.1	1.3
Independent Power Producers and Combined Heat and Power	**141**	**182**	**351**	**409**	**473**	**891**	**937**	**2.7**	**14.8**
Petroleum	26	24	37	10	10	10	10	.5	.2
Natural Gas	85	52	77	213	274	347	332	1.6	5.2
Dual Fired	29	104	234	184	184	325	325	.6	5.1
Other Renewables	2	2	2	2	6	210	270	*	4.3
Total Electric Industry	**5,183**	**5,260**	**5,600**	**5,659**	**5,936**	**6,288**	**6,329**	**100.0**	**100.0**
Coal	3,899	3,901	3,942	3,942	3,942	3,942	3,937	75.2	62.2
Petroleum	49	48	37	10	25	45	45	.9	.7
Natural Gas	841	640	1,002	1,138	1,321	1,251	1,237	16.2	19.5
Dual Fired	336	611	534	485	561	759	759	6.5	12.0
Hydroelectric	56	58	82	82	82	82	82	1.1	1.3
Other Renewables	2	2	2	2	6	210	270	*	4.3

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
New Mexico									
Electric Utilities	**28,491,171**	**29,431,903**	**32,855,587**	**32,210,683**	**29,926,241**	**31,770,151**	**32,242,728**	**98.9**	**97.9**
Coal	25,826,928	26,121,447	29,065,954	28,402,187	26,902,880	28,812,844	29,263,899	89.6	88.8
Petroleum	34,081	23,073	29,529	30,210	30,710	47,860	30,321	.1	.1
Natural Gas	2,424,727	3,023,463	3,538,952	3,540,966	2,728,060	2,738,748	2,809,561	8.4	8.5
Hydroelectric	205,435	263,920	221,152	237,320	264,591	170,699	138,947	.7	.4
Independent Power Producers and Combined Heat and Power	**329,033**	**399,256**	**1,166,433**	**1,400,960**	**735,466**	**965,501**	**697,632**	**1.1**	**2.1**
Petroleum	1,545	4,673	58,582	36,002	2,379	2,809	1,055	*	*
Natural Gas	313,360	385,530	1,099,387	1,346,306	713,679	779,957	183,112	1.1	.6
Other Renewables	14,128	9,053	8,464	18,652	19,408	182,735	513,465	*	1.6
Total Electric Industry	**28,820,204**	**29,831,159**	**34,022,020**	**33,611,643**	**30,661,707**	**32,735,653**	**32,940,361**	**100.0**	**100.0**
Coal	25,826,928	26,121,447	29,065,954	28,402,187	26,902,880	28,812,844	29,263,899	89.6	88.8
Petroleum	35,626	27,746	88,111	66,212	33,089	50,669	31,376	.1	.1
Natural Gas	2,738,087	3,408,993	4,638,339	4,887,272	3,441,739	3,518,705	2,992,673	9.5	9.1
Hydroelectric	205,435	263,920	221,152	237,320	264,591	170,699	138,947	.7	.4
Other Renewables	14,128	9,053	8,464	18,652	19,408	182,735	513,465	*	1.6

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
New Mexico							
Coal (cents per million Btu)	131.8	141.7	137.8	147.4	152.9	142.5	147.7
Average heat value (Btu per pound)	9,117	9,033	9,206	9,252	9,286	9,164	9,225
Average sulfur Content (percent)	.8	.8	.8	.7	.7	.7	.7
Petroleum (cents per million Btu)	524.5	490.4	758.5	631.5	613.9	W	W
Average heat value (Btu per gallon)	138,099	136,000	136,000	139,667	134,398	136,048	136,007
Average sulfur Content (percent)	.8	1.0	.8	1.0	.1	.0	.0
Natural Gas (cents per million Btu)	190.8	154.5	387.7	415.0	303.8	W	W
Average heat value (Btu per cubic foot)	1,034	1,017	1,016	988	993	996	1,000

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
New Mexico							
Sulfur Dioxide							
Coal	54	53	63	57	46	46	35
Petroleum	*	*	*	*	*	*	*
Natural Gas	*	*	*	*	*	*	*
Other	0	0	0	0	0	0	0
Total	54	53	63	57	46	46	35
Nitrogen Oxide							
Coal	122	107	75	72	69	68	65
Petroleum	*	*	*	*	0	*	*
Gas	4	4	5	5	3	3	3
Other	*	*	*	*	*	0	0
Total	125	111	80	77	72	71	68
Carbon Dioxide							
Coal	26,149	25,684	28,509	27,736	26,942	28,977	28,995
Petroleum	30	22	73	57	24	37	23
Gas	1,648	1,994	2,919	2,978	2,170	2,145	1,889
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	27,827	27,700	31,502	30,770	29,135	31,158	30,906

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
New Mexico									
Retail Sales (thousand megawatthours)									
Residential	3,566	4,124	4,937	4,999	5,238	5,418	5,635	25.8	28.4
Commercial	4,464	5,094	6,674	6,844	7,000	8,063	8,239	32.3	41.5
Industrial	4,413	5,651	5,492	5,272	5,316	5,849	5,972	31.9	30.1
Other	1,378	1,547	1,698	1,612	1,653	NA	NA	10.0	NA
Total	13,821	16,416	18,801	18,727	19,207	19,330	19,846	100.0	100.0
Retail Revenue (million dollars)									
Residential	319	368	413	437	445	471	488	32.5	34.6
Commercial	363	403	471	513	505	593	609	37.0	43.2
Industrial	220	249	257	287	238	290	312	22.4	22.1
Other	80	92	96	103	103	NA	NA	8.2	NA
Total	981	1,112	1,237	1,340	1,292	1,354	1,409	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	8.94	8.93	8.36	8.74	8.50	8.69	8.67	NA	NA
Commercial	8.13	7.91	7.06	7.50	7.22	7.36	7.39	NA	NA
Industrial	4.98	4.40	4.69	5.45	4.48	4.95	5.22	NA	NA
Other	5.78	5.95	5.64	6.37	6.23	NA	NA	NA	NA
Total	7.10	6.77	6.58	7.15	6.72	7.00	7.10	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
New Mexico								
Number of Entities	4	8	1	21	NA	NA	NA	34
Number of Retail Customers	640,515	79,220	5	192,464	NA	NA	NA	912,204
Retail Sales (thousand megawatthours)	13,536	2,074	168	4,067	NA	NA	NA	19,846
Percentage of Retail Sales	68.21	10.45	.85	20.49	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	970	152	5	283	NA	NA	NA	1,409
Percentage of Revenue	68.80	10.82	.33	20.05	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	7.16	7.35	2.77	6.95	NA	NA	NA	7.10

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
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* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
New York		
NERC Region(s)		NPCC
Primary Energy Source		Nuclear
Net Summer Capability (megawatts)	37,842	6
Electric Utilities	11,386	20
Independent Power Producers & Combined Heat and Power	26,456	5
Net Generation (megawatthours)	137,964,794	7
Electric Utilities	40,955,819	25
Independent Power Producers & Combined Heat and Power	97,008,974	5
Emissions (thousand metric tons)		
Sulfur Dioxide	236	16
Nitrogen Oxide	77	23
Carbon Dioxide	57,625	17
Sulfur Dioxide (lbs/MWh)	3.8	30
Nitrogen Oxide (lbs/MWh)	1.2	41
Carbon Dioxide (lbs/MWh)	921	41
Total Retail Sales (megawatthours)	145,081,709	5
Full Service Provider Sales (megawatthours)	96,350,591	12
Deregulated Sales (megawatthours)	48,731,118	2
Direct Use (megawatthours)	4,221,296	11
Average Retail Price (cents/kWh)	12.55	2

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
New York			
1. Ravenswood	Gas,Petroleum	KeySpan-Ravenswood Inc	2,386
2. Robert Moses Niagara	Hydroelectric	Power Authority of State of NY	2,253
3. Nine Mile Point Nuclear Station	Nuclear	Nine Mile Point Nuclear Sta LLC	1,756
4. Oswego Harbor Power	Gas,Petroleum	NRG Oswego Harbor Power Operations Inc	1,649
5. Northport	Gas,Petroleum	KeySpan Generation LLC	1,563
6. Astoria Generating Station	Petroleum,Gas	Astoria Generating Co LP	1,275
7. Roseton Generating Station	Gas,Petroleum	Dynegy Northeast Gen Inc	1,207
8. Bowline Point	Gas,Petroleum	Mirant New York Inc	1,139
9. Athens Generating Plant	Gas	Athens Generating Company LLC	1,138
10. Blenheim Gilboa	Pumped Storage	Power Authority of State of NY	1,057

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
New York						
1. Consolidated Edison Co-NY Inc.	Investor-Owned	29,868,303	12,672,846	16,803,719	372,432	19,306
2. Niagara Mohawk Power Corp.	Investor-Owned	19,577,994	10,168,685	6,964,019	2,444,673	617
3. Long Island Power Authority	Public	19,105,719	9,182,520	9,666,377	0	256,822
4. Power Authority of State of NY	Power Marketer	13,940,005	0	7,257,489	4,064,408	2,618,108
5. New York State Electric & Gas	Investor-Owned	10,988,105	5,607,088	3,177,619	2,176,117	27,281
Total Sales, Top Five Providers		93,480,126	37,631,139	43,869,223	9,057,630	2,922,134
Percent of Total State Sales		64	79	59	44	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
New York									
Electric Utilities	**31,224**	**32,147**	**15,806**	**11,572**	**11,675**	**11,902**	**11,386**	**96.3**	**30.1**
Coal	3,887	3,870	668	302	302	302	297	12.0	.8
Petroleum	6,142	4,621	2,353	2,283	2,288	2,320	1,245	19.0	3.3
Natural Gas	2,825	4,661	352	784	889	1,017	925	8.7	2.4
Dual Fired	8,446	6,824	4,556	3,253	3,244	3,258	4,366	26.1	11.5
Nuclear	4,839	4,824	3,223	498	498	498	0	14.9	.0
Hydroelectric	1,645	3,906	3,356	3,155	3,158	3,210	3,256	5.1	8.6
Pumped Storage	3,440	3,440	1,297	1,297	1,297	1,297	1,297	10.6	3.4
Independent Power Producers and Combined Heat and Power	**1,184**	**5,329**	**19,807**	**24,081**	**24,367**	**24,794**	**26,456**	**3.7**	**69.9**
Coal	264	395	3,267	3,812	3,843	3,925	3,904	.8	10.3
Petroleum	42	47	72	1,201	1,263	1,389	672	.1	1.8
Natural Gas	51	2,129	3,696	3,500	2,363	2,199	2,390	.2	6.3
Other Gases	20	20	23	0	0	0	0	.1	.0
Dual Fired	250	1,959	9,546	9,696	11,006	11,430	13,082	.8	34.6
Nuclear	0	0	1,790	4,550	4,550	4,531	5,067	.0	13.4
Hydroelectric	290	367	1,010	958	952	950	954	.9	2.5
Other Renewables	266	413	402	364	390	372	385	.8	1.0
Total Electric Industry	**32,408**	**37,476**	**35,613**	**35,653**	**36,041**	**36,696**	**37,842**	**100.0**	**100.0**
Coal	4,151	4,266	3,935	4,113	4,144	4,226	4,201	12.8	11.1
Petroleum	6,185	4,668	2,425	3,485	3,550	3,708	1,918	19.1	5.1
Natural Gas	2,876	6,789	4,049	4,285	3,253	3,216	3,316	8.9	8.8
Other Gases	20	20	23	0	0	0	0	.1	.0
Dual Fired	8,696	8,783	14,101	12,948	14,251	14,688	17,448	26.8	46.1
Nuclear	4,839	4,824	5,013	5,047	5,047	5,028	5,067	14.9	13.4
Hydroelectric	1,934	4,272	4,366	4,113	4,109	4,160	4,210	6.0	11.1
Other Renewables	266	413	403	365	390	373	386	.8	1.0
Pumped Storage	3,440	3,440	1,297	1,297	1,297	1,297	1,297	10.6	3.4

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
New York									
Electric Utilities	**128,655,291**	**101,160,796**	**73,187,745**	**58,568,850**	**43,466,278**	**41,578,894**	**40,955,819**	**95.1**	**29.7**
Coal	24,616,655	19,943,312	4,025,614	2,087,952	1,682,022	1,693,854	1,707,414	18.2	1.2
Petroleum	33,404,291	7,834,878	11,449,092	9,177,172	7,434,611	9,681,490	9,159,172	24.7	6.6
Natural Gas	21,262,936	23,414,071	8,968,658	8,871,000	10,798,275	7,737,717	7,210,772	15.7	5.2
Nuclear	23,623,356	26,336,172	29,888,320	20,753,492	3,826,848	3,864,019	1,917,259	17.5	1.4
Hydroelectric	26,802,148	24,782,142	19,846,498	18,609,754	20,645,746	19,513,620	21,774,373	19.8	15.8
Other Renewables	0	12,234	0	0	0	0	0	.0	.0
Pumped Storage	−1,054,095	−1,162,013	−990,437	−930,520	−921,224	−911,806	−813,171	−.8	−.6
Independent Power Producers and Combined Heat and Power	**6,690,401**	**32,252,485**	**64,891,330**	**85,345,709**	**96,125,411**	**96,064,422**	**97,008,974**	**4.9**	**70.3**
Coal	1,296,392	2,345,601	20,983,967	21,343,970	21,557,091	21,887,213	21,146,482	1.0	15.3
Petroleum	480,564	433,412	3,496,087	7,334,921	4,099,498	9,610,109	11,998,634	.4	8.7
Natural Gas	1,461,399	25,642,435	30,760,051	29,826,215	27,652,917	20,418,631	20,114,103	1.1	14.6
Other Gases	89,034	96,673	86,201	114,537	0	0	0	.1	.0
Nuclear	0	0	1,619,668	19,641,493	35,790,643	36,815,186	38,723,046	.0	28.1
Hydroelectric	1,386,074	1,211,055	5,063,074	4,474,201	4,402,149	4,755,040	2,215,289	1.0	1.6
Other Renewables	1,976,938	2,523,309	2,882,282	2,610,372	2,623,111	2,578,242	2,811,421	1.5	2.0
Total Electric Industry	**135,345,692**	**133,413,281**	**138,079,075**	**143,914,559**	**139,591,688**	**137,643,316**	**137,964,794**	**100.0**	**100.0**
Coal	25,913,047	22,288,913	25,009,581	23,431,922	23,239,113	23,581,067	22,853,896	19.1	16.6
Petroleum	33,884,855	8,268,290	14,945,179	16,512,093	11,534,109	19,291,599	21,157,806	25.0	15.3
Natural Gas	22,724,335	49,056,506	39,728,709	38,697,215	38,451,192	28,156,348	27,324,875	16.8	19.8
Other Gases	89,034	96,673	86,201	114,537	0	0	0	.1	.0
Nuclear	23,623,356	26,336,172	31,507,988	40,394,985	39,617,491	40,679,205	40,640,305	17.5	29.5
Hydroelectric	28,188,222	25,993,197	24,909,572	23,083,955	25,047,895	24,268,660	23,989,662	20.8	17.4
Other Renewables	1,976,938	2,535,543	2,882,282	2,610,372	2,623,111	2,578,242	2,811,421	1.5	2.0
Pumped Storage	−1,054,095	−1,162,013	−990,437	−930,520	−921,224	−911,806	−813,171	−.8	−.6

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
New York							
Coal (cents per million Btu)	161.3	141.2	149.1	141.6	155.0	159.5	175.6
Average heat value (Btu per pound)	12,846	13,051	13,117	13,029	12,825	12,545	12,063
Average sulfur Content (percent)	1.8	1.8	1.1	2.0	1.8	1.8	1.7
Petroleum (cents per million Btu)	360.3	263.4	430.6	350.2	365.9	493.2	486.2
Average heat value (Btu per gallon)	150,037	148,625	151,162	149,429	148,476	149,998	149,024
Average sulfur Content (percent)	.8	.6	.8	.6	1.0	.7	.9
Natural Gas (cents per million Btu)	238.2	208.0	459.6	404.7	398.7	605.0	652.6
Average heat value (Btu per cubic foot)	1,033	1,026	1,019	1,019	1,019	1,025	1,021

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
New York							
Sulfur Dioxide							
Coal	271	200	201	175	171	187	158
Petroleum	138	27	59	59	42	70	76
Natural Gas	*	*	*	*	*	*	*
Other	8	3	1	1	1	2	2
Total	417	229	261	235	214	259	236
Nitrogen Oxide							
Coal	106	81	53	49	46	39	33
Petroleum	51	12	16	18	11	23	24
Gas	30	50	21	19	21	13	12
Other	6	6	5	4	4	7	8
Total	193	149	94	91	83	81	77
Carbon Dioxide							
Coal	26,040	23,441	25,629	24,411	23,523	24,099	23,388
Petroleum	28,125	7,170	13,013	14,163	10,036	16,322	18,028
Gas	13,072	25,473	21,220	20,189	20,696	14,993	14,605
Geothermal	0	0	0	0	0	0	0
Other	305	396	425	426	1,514	1,531	1,604
Total	67,543	56,480	60,287	59,190	55,769	56,944	57,625

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
New York									
Retail Sales (thousand megawatthours)									
Residential	38,574	39,887	43,018	44,236	46,457	47,116	47,379	29.8	32.7
Commercial	46,921	52,751	59,764	60,806	62,271	72,495	74,378	36.3	51.3
Industrial	31,929	25,317	25,838	25,450	25,148	21,745	20,675	24.7	14.3
Other	11,900	12,515	13,407	13,689	13,565	NA	NA	9.2	NA
Transportation	NA	NA	NA	NA	NA	2,689	2,650	NA	1.8
Total	129,324	130,471	142,027	144,181	147,440	144,045	145,082	100.0	100.0
Retail Revenue (million dollars)									
Residential	4,414	5,544	6,010	6,209	6,295	6,743	6,890	36.4	37.8
Commercial	4,911	6,290	7,562	7,827	7,681	9,372	9,654	40.5	53.0
Industrial	1,846	1,466	1,389	1,414	1,302	1,552	1,455	15.2	8.0
Other	947	1,135	1,206	1,201	1,177	NA	NA	7.8	NA
Transportation	NA	NA	NA	NA	NA	252	210	NA	1.2
Total	12,119	14,435	16,167	16,651	16,454	17,920	18,209	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	11.44	13.90	13.97	14.04	13.55	14.31	14.54	NA	NA
Commercial	10.47	11.92	12.65	12.87	12.33	12.93	12.98	NA	NA
Industrial	5.78	5.79	5.37	5.56	5.18	7.14	7.04	NA	NA
Other	7.96	9.07	8.99	8.77	8.68	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	9.38	7.92	NA	NA
Total	9.37	11.06	11.38	11.55	11.16	12.44	12.55	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
New York								
Number of Entities	9	48	NA	4	4	26	8	99
Number of Retail Customers	6,143,927	1,251,676	NA	17,037	4	374,038	NA	7,786,682
Retail Sales (thousand megawatthours)	72,030	23,762	NA	188	370	48,731	NA	145,082
Percentage of Retail Sales	49.65	16.38	NA	.13	.26	33.59	NA	100.00
Revenue from Retail Sales (million dollars)	9,942	3,052	NA	17	31	3,455	1,712	18,209
Percentage of Revenue	54.60	16.76	NA	.09	.17	18.97	9.40	100.00
Average Retail Price (cents/kWh)	13.80	12.84	NA	8.82	8.42	7.09	3.51	12.55

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
North Carolina		
NERC Region(s)		SERC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	27,110	12
Electric Utilities	23,671	6
Independent Power Producers & Combined Heat and Power	3,439	26
Net Generation (megawatthours)	126,329,957	11
Electric Utilities	118,328,694	4
Independent Power Producers & Combined Heat and Power	8,001,263	28
Emissions (thousand metric tons)		
Sulfur Dioxide	456	7
Nitrogen Oxide	115	13
Carbon Dioxide	72,590	13
Sulfur Dioxide (lbs/MWh)	7.9	12
Nitrogen Oxide (lbs/MWh)	2.0	31
Carbon Dioxide (lbs/MWh)	1,267	33
Total Retail Sales (megawatthours)	125,656,807	9
Full Service Provider Sales (megawatthours)	125,656,807	7
Direct Use (megawatthours)	4,095,759	12
Average Retail Price (cents/kWh)	6.97	23

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
North Carolina			
1. Roxboro	Petroleum,Coal	Carolina Power & Light Co	2,477
2. Belews Creek	Petroleum,Coal	Duke Energy Corp	2,270
3. McGuire	Nuclear	Duke Energy Corp	2,200
4. Marshall	Petroleum,Coal	Duke Energy Corp	2,110
5. Brunswick	Nuclear	Carolina Power & Light Co	1,838
6. Lincoln Combustion	Gas,Petroleum	Duke Energy Corp	1,267
7. Richmond	Petroleum,Gas	Carolina Power & Light Co	1,247
8. G G Allen	Petroleum,Coal	Duke Energy Corp	1,145
9. Rowan	Petroleum,Gas	Progress Energy Ventures	977
10. Harris	Nuclear	Carolina Power & Light Co	900

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
North Carolina						
1. Duke Energy Corp	Investor-Owned	54,462,402	19,170,431	20,102,145	15,189,826	0
2. Carolina Power & Light Co	Investor-Owned	36,224,575	13,862,509	12,626,697	9,735,369	0
3. Dominion Virginia Power	Investor-Owned	4,204,474	1,487,529	924,918	1,792,027	0
4. Fayetteville Public Works Comm	Public	2,086,326	880,609	824,463	381,254	0
5. EnergyUnited Elec Member Corp	Cooperative	2,030,729	1,443,247	462,505	124,977	0
Total Sales, Top Five Providers		99,008,506	36,844,325	34,940,728	27,223,453	0
Percent of Total State Sales		79	71	82	88	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
North Carolina									
Electric Utilities	**20,190**	**20,597**	**22,015**	**23,478**	**23,652**	**23,726**	**23,671**	**94.8**	**87.3**
Coal	12,500	12,440	12,440	12,440	12,440	12,440	12,495	58.7	46.1
Petroleum	299	340	354	354	400	400	403	1.4	1.5
Natural Gas	93	96	929	1,109	2,270	2,270	1,404	.4	5.2
Dual Fired	639	1,554	2,016	3,258	2,176	2,176	2,769	3.0	10.2
Nuclear	4,698	4,639	4,691	4,731	4,731	4,783	4,938	22.1	18.2
Hydroelectric	1,894	1,528	1,490	1,490	1,538	1,562	1,567	8.9	5.8
Other Renewables	0	0	0	2	2	0	0	.0	.0
Pumped Storage	68	0	94	94	94	94	95	.3	.3
Independent Power Producers and Combined Heat and Power	**1,110**	**1,798**	**2,465**	**2,599**	**3,023**	**3,537**	**3,439**	**5.2**	**12.7**
Coal	613	965	925	882	828	828	731	2.9	2.7
Petroleum	6	34	49	45	46	50	49	*	.2
Natural Gas	9	0	17	46	54	566	395	*	1.5
Dual Fired	157	203	876	957	1,415	1,415	1,572	.7	5.8
Hydroelectric	9	362	370	377	377	377	385	*	1.4
Other Renewables	276	196	191	253	266	265	270	1.3	1.0
Other	37	37	37	37	37	37	37	.2	.1
Total Electric Industry	**21,300**	**22,394**	**24,479**	**26,076**	**26,674**	**27,263**	**27,110**	**100.0**	**100.0**
Coal	13,114	13,405	13,365	13,322	13,268	13,268	13,226	61.6	48.8
Petroleum	305	373	403	400	447	451	453	1.4	1.7
Natural Gas	101	96	946	1,156	2,324	2,836	1,799	.5	6.6
Dual Fired	796	1,758	2,892	4,215	3,591	3,591	4,340	3.7	16.0
Nuclear	4,698	4,639	4,691	4,731	4,731	4,783	4,938	22.1	18.2
Hydroelectric	1,903	1,890	1,860	1,867	1,914	1,939	1,951	8.9	7.2
Other Renewables	277	196	191	255	268	264	270	1.3	1.0
Pumped Storage	68	0	94	94	94	94	95	.3	.3
Other	37	37	37	37	37	37	37	.2	.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
North Carolina									
Electric Utilities	**79,845,217**	**96,109,819**	**114,433,191**	**109,807,278**	**115,597,653**	**118,433,112**	**118,328,694**	**94.0**	**93.7**
Coal	46,631,040	55,698,342	71,719,489	68,775,284	71,223,313	70,630,278	71,956,852	54.9	57.0
Petroleum	186,899	234,263	468,482	412,765	376,170	459,947	250,402	.2	.2
Natural Gas	165,362	252,862	839,137	999,515	1,935,684	1,257,328	2,019,290	.2	1.6
Nuclear	25,905,319	35,910,195	39,126,881	37,775,025	39,626,849	40,906,900	40,090,623	30.5	31.7
Hydroelectric	6,776,551	3,846,840	2,171,100	1,844,689	2,410,462	5,059,386	3,933,276	8.0	3.1
Pumped Storage	180,046	167,317	108,102	0	25,175	119,273	78,251	.2	.1
Independent Power Producers and Combined Heat and Power	**5,080,550**	**10,184,837**	**7,841,165**	**7,688,572**	**8,870,376**	**9,149,207**	**8,001,262**	**6.0**	**6.3**
Coal	3,190,555	5,786,656	4,225,974	4,182,483	3,964,428	4,145,953	3,590,713	3.8	2.8
Petroleum	141,126	245,355	357,349	242,979	215,856	323,748	329,825	.2	.3
Natural Gas	38,103	518,826	291,116	534,840	1,625,186	323,038	524,372	*	.4
Other Gases	0	0	0	991	863	17	0	.0	.0
Hydroelectric	42,876	1,673,970	966,716	751,016	1,081,586	2,141,558	1,501,923	*	1.2
Other Renewables	1,464,484	1,700,900	1,773,567	1,780,611	1,818,279	2,031,422	1,842,609	1.7	1.5
Other	203,406	259,130	226,443	195,652	164,178	183,472	211,820	.2	.2
Total Electric Industry	**84,925,767**	**106,294,656**	**122,274,356**	**117,495,850**	**124,468,030**	**127,582,319**	**126,329,957**	**100.0**	**100.0**
Coal	49,821,595	61,484,998	75,945,463	72,957,767	75,187,741	74,776,231	75,547,565	58.7	59.8
Petroleum	328,025	479,618	825,831	655,744	592,026	783,695	580,227	.4	.5
Natural Gas	203,465	771,688	1,130,253	1,534,355	3,560,870	1,580,366	2,543,662	.2	2.0
Other Gases	0	0	0	991	863	17	0	.0	.0
Nuclear	25,905,319	35,910,195	39,126,881	37,775,025	39,626,849	40,906,900	40,090,623	30.5	31.7
Hydroelectric	6,819,427	5,520,810	3,137,816	2,595,705	3,492,048	7,200,944	5,435,199	8.0	4.3
Other Renewables	1,464,484	1,700,900	1,773,567	1,780,611	1,818,279	2,031,422	1,842,609	1.7	1.5
Pumped Storage	180,046	167,317	108,102	0	25,175	119,273	78,251	.2	.1
Other	203,406	259,130	226,443	195,652	164,178	183,472	211,820	.2	.2

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
North Carolina							
Coal (cents per million Btu)	178.0	162.8	142.7	159.3	176.1	178.4	200.0
Average heat value (Btu per pound)	12,544	12,461	12,448	12,383	12,342	12,423	12,345
Average sulfur Content (percent)	1.0	.9	.8	.9	.8	.9	.9
Petroleum (cents per million Btu)	512.1	381.5	615.6	584.3	466.5	622.7	714.8
Average heat value (Btu per gallon)	138,230	138,149	138,361	146,095	145,562	140,848	141,338
Average sulfur Content (percent)	.2	.3	.3	.2	1.0	.5	.7
Natural Gas (cents per million Btu)	.0	232.8	432.2	435.0	343.9	560.4	658.4
Average heat value (Btu per cubic foot)	0	1,033	1,026	1,021	1,010	1,032	1,036

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
North Carolina							
Sulfur Dioxide							
Coal	343	356	438	435	446	437	443
Petroleum	5	1	13	11	9	4	2
Natural Gas	0	0	*	*	*	*	0
Other	16	16	14	13	11	10	11
Total	364	373	464	459	466	450	456
Nitrogen Oxide							
Coal	197	212	167	153	153	133	113
Petroleum	1	1	2	2	1	2	*
Gas	1	1	1	1	1	*	*
Other	4	4	4	4	4	3	1
Total	203	218	174	160	159	138	115
Carbon Dioxide							
Coal	48,081	58,014	71,119	68,341	69,797	69,848	70,338
Petroleum	808	1,181	1,595	1,262	1,069	1,258	957
Gas	226	633	738	932	1,740	789	1,190
Geothermal	0	0	0	0	0	0	0
Other	11	17	11	24	61	82	105
Total	49,126	59,844	73,463	70,559	72,666	71,977	72,590

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
North Carolina									
Retail Sales (thousand megawatthours)									
Residential	33,144	39,506	46,537	46,201	49,854	49,349	51,717	36.9	41.2
Commercial	23,835	29,195	36,859	37,744	39,277	41,672	42,864	26.5	34.1
Industrial	31,265	34,063	34,252	32,931	31,381	30,314	31,075	34.8	24.7
Other	1,681	1,909	2,208	2,151	2,174	NA	NA	1.9	NA
Total	89,924	104,673	119,855	119,027	122,686	121,335	125,657	100.0	100.0
Retail Revenue (million dollars)									
Residential	2,599	3,207	3,709	3,750	4,085	4,106	4,369	45.3	49.9
Commercial	1,531	1,888	2,345	2,423	2,559	2,770	2,871	26.7	32.8
Industrial	1,492	1,652	1,569	1,518	1,474	1,453	1,516	26.0	17.3
Other	118	138	144	144	146	NA	NA	2.1	NA
Total	5,740	6,885	7,767	7,835	8,263	8,329	8,756	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.84	8.12	7.97	8.12	8.19	8.32	8.45	NA	NA
Commercial	6.42	6.47	6.36	6.42	6.51	6.65	6.70	NA	NA
Industrial	4.77	4.85	4.58	4.61	4.70	4.79	4.88	NA	NA
Other	7.00	7.21	6.53	6.68	6.70	NA	NA	NA	NA
Total	6.38	6.58	6.48	6.58	6.73	6.86	6.97	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
North Carolina								
Number of Entities	3	72	1	32	NA	NA	NA	108
Number of Retail Customers	2,979,604	553,037	4	918,410	NA	NA	NA	4,451,055
Retail Sales (thousand megawatthours)	94,891	15,246	5	15,515	NA	NA	NA	125,657
Percentage of Retail Sales	75.52	12.13	*	12.35	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	6,170	1,231	*	1,354	NA	NA	NA	8,756
Percentage of Revenue	70.47	14.06	*	15.47	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	6.50	8.08	4.66	8.73	NA	NA	NA	6.97

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
North Dakota		
NERC Region(s)		MAPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	4,774	41
Electric Utilities	4,673	35
Independent Power Producers & Combined Heat and Power	102	49
Net Generation (megawatthours)	29,936,106	40
Electric Utilities	29,526,814	34
Independent Power Producers & Combined Heat and Power	409,292	47
Emissions (thousand metric tons)		
Sulfur Dioxide	137	20
Nitrogen Oxide	72	24
Carbon Dioxide	30,397	31
Sulfur Dioxide (lbs/MWh)	10.1	7
Nitrogen Oxide (lbs/MWh)	5.3	1
Carbon Dioxide (lbs/MWh)	2,239	2
Total Retail Sales (megawatthours)	10,516,400	47
Full Service Provider Sales (megawatthours)	10,516,400	44
Direct Use (megawatthours)	166,732	44
Average Retail Price (cents/kWh)	5.69	45

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
North Dakota			
1. Coal Creek	Petroleum,Coal	Great River Energy	1,114
2. Antelope Valley	Petroleum,Coal	Basin Electric Power Coop	900
3. Milton R Young	Petroleum,Coal	Minnkota Power Coop Inc	705
4. Leland Olds	Petroleum,Coal	Basin Electric Power Coop	669
5. Garrison	Hydroelectric	USCE-Missouri River District	485
6. Coyote	Petroleum,Coal	Otter Tail Power Co	427
7. Stanton	Petroleum,Coal	Great River Energy	188
8. R M Heskett	Gas,Coal	MDU Resources Group Inc	104
9. FPL Energy North Dakota Wind I/II	Other	FPL Energy North Dakota Wind LLC	62
10. Jamestown	Petroleum	Otter Tail Power Co	43

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
North Dakota						
1. Northern States Power Co	Investor-Owned	2,073,361	719,108	996,599	357,654	0
2. Otter Tail Power Co	Investor-Owned	1,493,625	515,892	917,467	60,266	0
3. MDU Resources Group Inc	Investor-Owned	1,323,280	491,711	702,925	128,644	0
4. Basin Electric Power Coop	Cooperative	865,869	0	0	865,869	0
5. Cass County Electric Coop Inc	Cooperative	710,523	396,508	255,820	58,195	0
Total Sales, Top Five Providers		6,466,658	2,123,219	2,872,811	1,470,628	0
Percent of Total State Sales		61	58	75	49	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
North Dakota									
Electric Utilities	**4,525**	**4,485**	**4,678**	**4,677**	**4,659**	**4,562**	**4,673**	**99.4**	**97.9**
Coal	3,876	3,862	4,107	4,107	4,084	4,107	4,105	85.1	86.0
Petroleum	94	69	65	64	69	72	71	2.1	1.5
Natural Gas	10	10	10	10	10	10	10	.2	.2
Hydroelectric	545	545	497	497	497	371	485	12.0	10.2
Other Renewables	0	0	0	0	0	3	3	.0	.1
Independent Power Producers and Combined Heat and Power	**29**	**35**	**37**	**40**	**40**	**102**	**102**	**.6**	**2.1**
Coal	18	18	20	21	21	21	21	.4	.4
Natural Gas	3	0	0	0	0	0	0	.1	.0
Other Gases	0	7	7	8	8	8	8	.0	.2
Dual Fired	7	0	0	0	0	0	0	.2	.0
Other Renewables	0	9	9	10	10	72	72	.0	1.5
Total Electric Industry	**4,553**	**4,520**	**4,715**	**4,717**	**4,699**	**4,663**	**4,774**	**100.0**	**100.0**
Coal	3,894	3,880	4,127	4,128	4,105	4,129	4,126	85.5	86.4
Petroleum	94	69	65	64	69	72	71	2.1	1.5
Natural Gas	13	10	10	10	10	10	10	.3	.2
Other Gases	0	7	7	8	8	8	8	.0	.2
Dual Fired	7	0	0	0	0	0	0	.2	.0
Hydroelectric	545	545	497	497	497	371	485	12.0	10.2
Other Renewables	0	9	9	10	10	74	74	.0	1.5

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
North Dakota									
Electric Utilities	**26,824,491**	**28,842,021**	**31,122,917**	**30,135,733**	**31,147,221**	**31,075,012**	**29,526,814**	**99.4**	**98.6**
Coal	25,092,696	26,336,456	28,952,976	28,769,721	29,518,865	29,298,347	27,938,264	93.0	93.3
Petroleum	20,682	49,107	47,457	33,850	35,728	45,648	36,565	.1	.1
Natural Gas	–35	–943	–77	86	12	–47	265	.0	*
Hydroelectric	1,711,148	2,457,401	2,122,561	1,332,076	1,592,616	1,723,904	1,545,864	6.3	5.2
Other Renewables	0	0	0	0	0	7,160	5,856	.0	*
Independent Power Producers and Combined Heat and Power	**168,770**	**162,226**	**188,279**	**196,339**	**159,091**	**247,117**	**409,292**	**.6**	**1.4**
Coal	96,307	87,415	116,227	107,454	92,659	128,964	125,960	.4	.4
Petroleum	20,865	8,584	13,500	14,036	2,848	6,244	1,912	.1	*
Natural Gas	51,598	595	2,164	2,450	8,030	9,493	6,485	.2	*
Other Gases	0	43,673	48,413	64,734	55,144	50,096	60,665	.0	.2
Other Renewables	0	21,959	7,975	7,665	410	52,320	214,270	.0	.7
Total Electric Industry	**26,993,261**	**29,004,247**	**31,311,196**	**30,332,072**	**31,306,312**	**31,322,129**	**29,936,106**	**100.0**	**100.0**
Coal	25,189,003	26,423,871	29,069,203	28,877,175	29,611,524	29,427,311	28,064,224	93.3	93.7
Petroleum	41,547	57,691	60,957	47,886	38,576	51,892	38,477	.2	.1
Natural Gas	51,563	–348	2,087	2,536	8,042	9,446	6,750	.2	*
Other Gases	0	43,673	48,413	64,734	55,144	50,096	60,665	.0	.2
Hydroelectric	1,711,148	2,457,401	2,122,561	1,332,076	1,592,616	1,723,904	1,545,864	6.3	5.2
Other Renewables	0	21,959	7,975	7,665	410	59,480	220,126	.0	.7

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
North Dakota							
Coal (cents per million Btu)	68.6	73.3	72.4	74.1	74.3	74.2	77.3
Average heat value (Btu per pound)	6,636	6,585	6,528	6,564	6,523	6,549	6,602
Average sulfur Content (percent)	.8	.7	.7	.7	.7	.7	.7
Petroleum (cents per million Btu)	499.1	417.5	692.3	638.5	572.8	675.9	862.9
Average heat value (Btu per gallon)	139,277	139,176	138,960	142,048	141,343	138,995	138,410
Average sulfur Content (percent)	.7	.4	.4	.4	.4	.4	.4
Natural Gas (cents per million Btu)	386.2	349.4	639.9	687.5	247.9	744.3	778.3
Average heat value (Btu per cubic foot)	1,038	1,066	1,045	1,040	950	1,030	1,034

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
North Dakota							
Sulfur Dioxide							
Coal	133	123	142	144	131	128	137
Petroleum	1	*	*	*	*	*	*
Natural Gas	0	0	0	0	0	0	0
Other	0	0	0	0	0	*	*
Total	133	124	142	144	131	128	137
Nitrogen Oxide							
Coal	68	65	72	73	70	70	72
Petroleum	*	*	*	*	*	*	*
Gas	*	0	*	*	*	*	*
Other	0	0	*	*	0	*	*
Total	69	65	72	73	70	70	72
Carbon Dioxide							
Coal	28,094	29,810	32,840	32,323	32,110	31,684	30,329
Petroleum	113	79	87	75	43	63	39
Gas	121	2	5	6	27	23	29
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	28,328	29,891	32,932	32,404	32,180	31,770	30,397

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
North Dakota									
Retail Sales (thousand megawatthours)									
Residential	2,954	3,384	3,390	3,480	3,664	3,707	3,663	42.1	34.8
Commercial	1,795	2,237	2,554	3,071	3,404	3,800	3,843	25.6	36.5
Industrial	1,760	1,771	3,031	2,753	2,636	2,954	3,010	25.1	28.6
Other	506	490	438	506	516	NA	NA	7.2	NA
Total	7,014	7,883	9,413	9,810	10,219	10,461	10,516	100.0	100.0
Retail Revenue (million dollars)									
Residential	185	211	218	225	234	241	249	45.9	41.6
Commercial	116	139	155	184	199	214	225	28.8	37.6
Industrial	84	80	121	110	105	117	124	20.8	20.7
Other	18	21	18	19	19	NA	NA	4.5	NA
Total	403	450	512	538	557	572	599	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	6.25	6.23	6.43	6.47	6.39	6.49	6.79	NA	NA
Commercial	6.45	6.20	6.08	5.99	5.85	5.64	5.86	NA	NA
Industrial	4.79	4.50	3.98	3.98	3.98	3.96	4.13	NA	NA
Other	3.66	4.21	4.19	3.79	3.68	NA	NA	NA	NA
Total	5.75	5.70	5.44	5.48	5.45	5.47	5.69	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
North Dakota								
Number of Entities	3	12	1	23	NA	NA	NA	39
Number of Retail Customers	215,491	11,420	28	134,068	NA	NA	NA	361,007
Retail Sales (thousand megawatthours)	4,890	270	200	5,157	NA	NA	NA	10,516
Percentage of Retail Sales	46.50	2.56	1.90	49.04	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	297	13	3	285	NA	NA	NA	599
Percentage of Revenue	49.63	2.24	.52	47.61	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	6.07	4.98	1.55	5.53	NA	NA	NA	5.69

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

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Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Ohio		
NERC Region(s)		ECAR
Primary Energy Source		Coal
Net Summer Capability (megawatts)	34,050	8
Electric Utilities	27,684	2
Independent Power Producers & Combined Heat and Power	6,367	17
Net Generation (megawatthours)	148,345,905	6
Electric Utilities	142,305,499	2
Independent Power Producers & Combined Heat and Power	6,040,406	32
Emissions (thousand metric tons)		
Sulfur Dioxide	1,050	1
Nitrogen Oxide	254	1
Carbon Dioxide	123,128	3
Sulfur Dioxide (lbs/MWh)	15.6	1
Nitrogen Oxide (lbs/MWh)	3.8	11
Carbon Dioxide (lbs/MWh)	1,830	12
Total Retail Sales (megawatthours)	154,221,114	4
Full Service Provider Sales (megawatthours)	126,339,309	6
Deregulated Sales (megawatthours)	27,881,805	3
Direct Use (megawatthours)	1,487,894	25
Average Retail Price (cents/kWh)	6.89	26

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Ohio			
1. General James M Gavin	Petroleum,Coal	Ohio Power Co	2,600
2. J M Stuart	Petroleum,Coal	Dayton Power & Light Co	2,350
3. W H Sammis	Petroleum,Coal	Ohio Edison Co	2,233
4. Conesville	Petroleum,Coal	Columbus Southern Power Co	1,925
5. Cardinal	Petroleum,Coal	Cardinal Operating Co	1,800
6. Muskingum River	Petroleum,Coal	Ohio Power Co	1,365
7. Walter C Beckjord	Petroleum,Coal	Cincinnati Gas & Electric Co	1,304
8. W H Zimmer	Petroleum,Coal	Cincinnati Gas & Electric Co	1,300
9. Miami Fort	Petroleum,Coal	Cincinnati Gas & Electric Co	1,300
10. Hanging Rock Energy Facility	Gas	Duke Energy Hanging Rock LLC	1,288

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Ohio						
1. Ohio Power Co	Investor-Owned	27,563,877	7,116,217	5,642,300	14,805,360	0
2. Cincinnati Gas & Electric Co	Investor-Owned	17,388,667	6,862,947	5,784,581	4,741,139	0
3. Columbus Southern Power Co	Investor-Owned	17,204,491	6,900,066	7,573,988	2,730,437	0
4. Ohio Edison Co	Investor-Owned	16,813,264	6,126,329	4,223,782	6,463,153	0
5. Dayton Power & Light Co	Investor-Owned	11,074,096	5,140,258	4,366,968	1,560,049	6,821
Total Sales, Top Five Providers		90,044,395	32,145,817	27,591,619	30,300,138	6,821
Percent of Total State Sales		58	64	61	52	14

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Ohio									
Electric Utilities	**26,996**	**27,365**	**26,302**	**27,081**	**27,885**	**27,694**	**27,684**	**98.8**	**81.3**
Coal	23,086	23,123	21,675	21,675	21,599	21,258	21,366	84.5	62.7
Petroleum	1,113	797	978	985	947	946	958	4.1	2.8
Natural Gas	24	596	582	943	1,834	2,032	1,670	.1	4.9
Dual Fired	515	600	771	1,114	1,140	1,095	1,453	1.9	4.3
Nuclear	2,043	2,042	2,042	2,111	2,111	2,108	2,108	7.5	6.2
Hydroelectric	125	117	164	163	164	162	122	.5	.4
Other Renewables	90	90	90	90	90	94	7	.3	*
Independent Power Producers and Combined Heat and Power	**329**	**328**	**2,199**	**2,472**	**3,593**	**6,366**	**6,367**	**1.2**	**18.7**
Coal	193	198	1,059	1,100	1,100	1,095	1,047	.7	3.1
Petroleum	0	6	55	49	49	49	49	.0	.1
Natural Gas	9	2	899	750	810	3,589	3,578	*	10.5
Other Gases	63	73	82	84	81	81	100	.2	.3
Dual Fired	32	18	86	472	1,535	1,535	1,535	.1	4.5
Hydroelectric	2	3	0	0	0	0	0	*	.0
Other Renewables	29	29	19	18	18	18	58	.1	.2
Total Electric Industry	**27,324**	**27,693**	**28,501**	**29,553**	**31,477**	**34,060**	**34,050**	**100.0**	**100.0**
Coal	23,279	23,320	22,733	22,774	22,698	22,352	22,412	85.2	65.8
Petroleum	1,113	803	1,033	1,034	996	995	1,007	4.1	3.0
Natural Gas	32	598	1,481	1,694	2,644	5,621	5,248	.1	15.4
Other Gases	63	73	82	84	81	81	100	.2	.3
Dual Fired	548	618	857	1,586	2,675	2,630	2,988	2.0	8.8
Nuclear	2,043	2,042	2,042	2,111	2,111	2,108	2,108	7.5	6.2
Hydroelectric	127	120	164	163	164	162	122	.5	.4
Other Renewables	119	119	109	107	107	111	65	.4	.2

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Ohio									
Electric Utilities	**126,509,829**	**137,860,132**	**144,358,306**	**135,484,174**	**139,904,106**	**139,086,083**	**142,305,499**	**98.9**	**95.9**
Coal	115,014,081	120,043,024	126,225,740	118,766,821	127,373,404	129,255,272	124,004,082	89.9	83.6
Petroleum	301,244	298,119	342,319	406,434	380,710	387,257	1,354,023	.2	.9
Natural Gas	91,191	523,480	425,821	336,372	796,761	456,255	266,954	.1	.2
Nuclear	10,663,897	16,768,050	16,781,378	15,463,762	10,864,902	8,475,016	15,950,121	8.3	10.8
Hydroelectric	172,582	227,459	583,048	510,785	488,329	510,835	729,876	.1	.5
Other Renewables	266,834	0	0	0	0	1,448	443	.2	.0
Independent Power Producers and Combined Heat and Power	**1,470,698**	**1,483,770**	**4,701,974**	**6,777,633**	**7,164,743**	**7,552,045**	**6,040,406**	**1.1**	**4.1**
Coal	818,569	586,404	3,352,804	5,446,415	5,579,661	5,513,865	4,212,989	.6	2.8
Petroleum	73,237	31,945	12,093	10,264	8,409	22,897	34,859	.1	*
Natural Gas	150,394	201,341	399,333	588,044	969,893	1,337,328	1,119,303	.1	.8
Other Gases	64,159	139,069	290,353	301,949	206,565	212,523	302,628	*	.2
Hydroelectric	8,813	4,762	0	0	0	0	0	*	.0
Other Renewables	355,526	520,249	647,391	430,961	151,311	439,269	370,625	.3	.3
Other	0	0	0	0	248,904	26,163	0	.0	.0
Total Electric Industry	**127,980,527**	**139,343,902**	**149,060,280**	**142,261,807**	**147,068,850**	**146,638,128**	**148,345,905**	**100.0**	**100.0**
Coal	115,832,650	120,629,428	129,578,544	124,213,236	132,953,065	134,769,137	128,217,071	90.5	86.4
Petroleum	374,481	330,064	354,412	416,698	389,119	410,154	1,388,882	.3	.9
Natural Gas	241,585	724,821	825,154	924,416	1,766,654	1,793,583	1,386,257	.2	.9
Other Gases	64,159	139,069	290,353	301,949	206,565	212,523	302,628	*	.2
Nuclear	10,663,897	16,768,050	16,781,378	15,463,762	10,864,902	8,475,016	15,950,121	8.3	10.8
Hydroelectric	181,395	232,221	583,048	510,785	488,329	510,835	729,876	.1	.5
Other Renewables	622,360	520,249	647,391	430,961	151,311	440,717	371,068	.5	.3
Other	0	0	0	0	248,904	26,163	0	.0	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Ohio							
Coal (cents per million Btu)	151.5	142.0	145.7	131.0	W	121.2	133.2
Average heat value (Btu per pound)	11,882	12,122	11,823	11,553	11,644	12,160	12,098
Average sulfur Content (percent)	2.4	1.9	1.9	2.1	2.0	2.1	2.3
Petroleum (cents per million Btu)	458.8	348.7	634.7	600.9	W	730.9	W
Average heat value (Btu per gallon)	142,918	128,733	133,587	142,310	138,681	137,810	137,986
Average sulfur Content (percent)	.5	.8	.4	.2	.1	.2	.2
Natural Gas (cents per million Btu)	254.6	227.7	485.5	797.2	374.7	598.0	647.8
Average heat value (Btu per cubic foot)	1,008	1,027	1,025	1,019	1,026	1,037	1,034

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Ohio							
Sulfur Dioxide							
Coal	2,008	1,108	1,159	1,075	1,073	1,135	1,044
Petroleum	4	3	*	9	11	4	4
Natural Gas	0	0	*	0	*	*	*
Other	2	7	10	2	2	2	2
Total	2,014	1,118	1,169	1,086	1,085	1,141	1,050
Nitrogen Oxide							
Coal	500	474	354	315	346	330	250
Petroleum	1	1	*	1	1	3	2
Gas	1	1	2	2	1	1	1
Other	2	1	2	1	1	1	1
Total	503	478	358	319	349	335	254
Carbon Dioxide							
Coal	108,067	113,331	122,697	116,286	121,419	126,072	121,249
Petroleum	748	790	382	395	303	408	684
Gas	311	690	1,193	1,162	1,363	1,223	1,180
Geothermal	0	0	0	0	0	0	0
Other	318	9	0	0	0	0	14
Total	109,444	114,820	124,272	117,843	123,085	127,703	123,128

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Ohio									
Retail Sales (thousand megawatthours)									
Residential	37,889	44,010	46,488	47,346	50,864	49,621	50,300	26.6	32.6
Commercial	30,541	35,549	40,757	39,372	39,924	44,737	45,313	21.4	29.4
Industrial	69,682	74,473	74,019	65,099	58,472	57,828	58,558	48.9	38.0
Other	4,354	4,592	3,930	3,981	4,148	NA	NA	3.1	NA
Transportation	NA	NA	NA	NA	NA	5	49	NA	.0
Total	142,465	158,626	165,195	155,798	153,407	152,189	154,221	100.0	100.0
Retail Revenue (million dollars)									
Residential	3,049	3,784	4,002	3,963	4,193	4,100	4,251	36.3	40.0
Commercial	2,269	2,731	3,102	3,333	3,119	3,377	3,510	27.0	33.0
Industrial	2,808	3,104	3,237	2,780	2,845	2,768	2,864	33.5	26.9
Other	267	287	240	233	225	NA	NA	3.2	NA
Transportation	NA	NA	NA	NA	NA	0	5	NA	.0
Total	8,393	9,906	10,581	10,309	10,383	10,246	10,629	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	8.05	8.60	8.61	8.37	8.24	8.26	8.45	NA	NA
Commercial	7.43	7.68	7.61	8.46	7.81	7.55	7.75	NA	NA
Industrial	4.03	4.17	4.37	4.27	4.87	4.79	4.89	NA	NA
Other	6.14	6.26	6.10	5.86	5.41	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	6.17	9.21	NA	NA
Total	5.89	6.24	6.40	6.62	6.77	6.73	6.89	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Ohio								
Number of Entities	9	85	NA	25	1	12	7	139
Number of Retail Customers	3,696,420	372,705	NA	365,176	1	1,008,099	NA	5,442,401
Retail Sales (thousand megawatthours)	109,426	9,611	NA	7,170	132	27,882	NA	154,221
Percentage of Retail Sales	70.95	6.23	NA	4.65	.09	18.08	NA	100.00
Revenue from Retail Sales (million dollars)	7,135	676	NA	527	5	1,139	1,148	10,629
Percentage of Revenue	67.13	6.36	NA	4.96	.04	10.71	10.80	100.00
Average Retail Price (cents/kWh)	6.52	7.03	NA	7.35	3.48	4.08	4.12	6.89

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Oklahoma		
NERC Region(s)		SPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	19,397	21
Electric Utilities	13,550	18
Independent Power Producers & Combined Heat and Power	5,846	19
Net Generation (megawatthours)	60,729,560	22
Electric Utilities	48,298,390	19
Independent Power Producers & Combined Heat and Power	12,431,170	23
Emissions (thousand metric tons)		
Sulfur Dioxide	102	25
Nitrogen Oxide	78	22
Carbon Dioxide	46,580	21
Sulfur Dioxide (lbs/MWh)	3.7	31
Nitrogen Oxide (lbs/MWh)	2.8	21
Carbon Dioxide (lbs/MWh)	1,691	17
Total Retail Sales (megawatthours)	50,942,042	26
Full Service Provider Sales (megawatthours)	50,942,042	25
Direct Use (megawatthours)	1,153,762	29
Average Retail Price (cents/kWh)	6.50	30

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Oklahoma			
1. Muskogee	Gas,Coal	Oklahoma Gas & Electric Co	1,674
2. Northeastern	Petroleum,Gas,Coal	Public Service Co of Oklahoma	1,549
3. Seminole	Gas	Oklahoma Gas & Electric Co	1,541
4. Kiamichi Energy Facility	Gas	Kiowa Power Partners LLC	1,178
5. Redbud Power Plant	Gas	InterGen North America	1,144
6. Oneta Energy Center	Gas	Calpine Central L P	1,082
7. Sooner	Petroleum,Coal	Oklahoma Gas & Electric Co	1,020
8. GRDA	Petroleum,Gas,Coal	Grand River Dam Authority	1,010
9. Riverside	Petroleum,Gas	Public Service Co of Oklahoma	920
10. Horseshoe Lake	Petroleum,Gas	Oklahoma Gas & Electric Co	865

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Oklahoma						
1. Oklahoma Gas & Electric Co	Investor-Owned	20,762,837	7,263,801	7,646,751	5,852,285	0
2. Public Service Co of Oklahoma	Investor-Owned	16,987,554	5,590,361	6,140,170	5,257,023	0
3. Oklahoma Electric Coop Inc	Cooperative	825,129	581,020	179,352	64,757	0
4. City of Edmond	Public	692,953	388,162	231,198	73,593	0
5. Grand River Dam Authority	Public	593,349	0	2,667	590,682	0
Total Sales, Top Five Providers		39,861,822	13,823,344	14,200,138	11,838,340	0
Percent of Total State Sales		78	70	83	83	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Oklahoma									
Electric Utilities	**12,769**	**12,928**	**13,438**	**13,436**	**13,387**	**13,463**	**13,550**	**94.2**	**69.9**
Coal	4,850	4,831	4,856	4,856	4,896	4,941	4,949	35.8	25.5
Petroleum	30	30	29	29	34	36	42	.2	.2
Natural Gas	851	904	1,423	1,422	5,490	5,421	5,973	6.3	30.8
Other Gases	0	52	57	57	61	61	58	.0	.3
Dual Fired	6,034	6,076	6,020	6,019	1,850	1,945	1,481	44.5	7.6
Hydroelectric	744	776	793	793	796	800	788	5.5	4.1
Pumped Storage	260	260	260	260	260	260	260	1.9	1.3
Independent Power Producers and Combined Heat and Power	**787**	**781**	**767**	**1,504**	**2,844**	**4,776**	**5,846**	**5.8**	**30.1**
Coal	434	434	434	391	391	391	391	3.2	2.0
Petroleum	0	0	0	2	2	2	3	.0	*
Natural Gas	259	245	231	1,017	2,350	4,102	5,171	1.9	26.7
Other Gases	19	17	17	17	17	17	17	.1	.1
Dual Fired	0	9	9	3	10	10	10	.0	.1
Other Renewables	76	76	76	75	76	254	254	.6	1.3
Total Electric Industry	**13,557**	**13,709**	**14,204**	**14,941**	**16,232**	**18,238**	**19,397**	**100.0**	**100.0**
Coal	5,284	5,265	5,290	5,247	5,287	5,332	5,340	39.0	27.5
Petroleum	30	30	29	30	36	37	44	.2	.2
Natural Gas	1,110	1,149	1,653	2,440	7,840	9,522	11,144	8.2	57.5
Other Gases	19	69	74	74	78	78	75	.1	.4
Dual Fired	6,034	6,085	6,029	6,022	1,860	1,955	1,491	44.5	7.7
Hydroelectric	744	776	793	793	796	800	788	5.5	4.1
Other Renewables	76	76	76	75	76	255	255	.6	1.3
Pumped Storage	260	260	260	260	260	260	260	1.9	1.3

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Oklahoma									
Electric Utilities	**45,063,182**	**47,955,288**	**51,403,249**	**50,413,729**	**51,218,320**	**49,776,514**	**48,298,390**	**95.7**	**79.5**
Coal	25,188,557	29,714,368	32,852,645	32,164,601	33,444,114	34,200,128	31,240,478	53.5	51.4
Petroleum	49,422	77,528	46,637	146,375	10,311	111,555	21,008	.1	*
Natural Gas	17,074,845	15,448,135	16,354,321	15,886,542	15,953,919	13,872,606	14,294,108	36.3	23.5
Hydroelectric	2,730,594	2,779,920	2,276,933	2,344,690	1,987,844	1,798,412	2,976,676	5.8	4.9
Pumped Storage	19,764	−64,663	−127,287	−128,479	−177,868	−206,187	−233,879	*	−.4
Independent Power Producers and Combined Heat and Power	**2,015,949**	**4,712,079**	**4,168,708**	**4,835,721**	**7,965,099**	**10,850,342**	**12,431,170**	**4.3**	**20.5**
Coal	466,790	3,070,694	2,805,367	2,451,167	2,520,664	2,476,198	2,561,898	1.0	4.2
Petroleum	27,525	21,157	6,283	28,800	39,560	49,655	47,189	.1	.1
Natural Gas	1,161,921	1,267,372	1,148,255	2,057,266	5,095,120	7,950,090	8,991,125	2.5	14.8
Other Gases	88,970	65,000	60,616	67,792	70,710	45,408	0	.2	.0
Other Renewables	270,743	287,856	148,187	230,696	239,045	321,593	822,092	.6	1.4
Other	0	0	0	0	0	7,398	8,867	.0	*
Total Electric Industry	**47,079,131**	**52,667,367**	**55,571,957**	**55,249,450**	**59,183,419**	**60,626,856**	**60,729,560**	**100.0**	**100.0**
Coal	25,655,347	32,785,062	35,658,012	34,615,768	35,964,778	36,676,326	33,802,376	54.5	55.7
Petroleum	76,947	98,685	52,920	175,175	49,871	161,210	68,197	.2	.1
Natural Gas	18,236,766	16,715,507	17,502,576	17,943,808	21,049,039	21,822,696	23,285,233	38.7	38.3
Other Gases	88,970	65,000	60,616	67,792	70,710	45,408	0	.2	.0
Hydroelectric	2,730,594	2,779,920	2,276,933	2,344,690	1,987,844	1,798,412	2,976,676	5.8	4.9
Other Renewables	270,743	287,856	148,187	230,696	239,045	321,593	822,092	.6	1.4
Pumped Storage	19,764	−64,663	−127,287	−128,479	−177,868	−206,187	−233,879	*	−.4
Other	0	0	0	0	0	7,398	8,867	.0	*

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Oklahoma							
Coal (cents per million Btu)	140.4	99.4	94.3	90.6	W	W	W
Average heat value (Btu per pound)	8,894	8,557	8,728	8,912	8,821	8,872	8,854
Average sulfur Content (percent)	.5	.4	.3	.3	.4	.4	.4
Petroleum (cents per million Btu)	320.3	252.9	586.1	632.9	483.8	548.0	609.1
Average heat value (Btu per gallon)	155,949	141,788	140,888	147,429	147,024	142,205	145,071
Average sulfur Content (percent)	1.1	.3	.1	*	*	.4	.6
Natural Gas (cents per million Btu)	300.8	226.5	441.6	448.2	344.1	542.0	594.4
Average heat value (Btu per cubic foot)	1,045	1,034	1,029	1,029	1,025	1,031	1,031

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Oklahoma							
Sulfur Dioxide							
Coal	99	113	94	146	155	106	98
Petroleum	1	*	1	1	1	1	2
Natural Gas	*	*	*	*	*	*	*
Other	2	2	2	2	3	3	3
Total	103	115	98	150	159	110	102
Nitrogen Oxide							
Coal	145	154	72	69	71	66	61
Petroleum	*	*	*	*	*	*	*
Gas	23	20	24	21	21	19	15
Other	1	1	1	1	1	1	1
Total	169	175	98	92	92	86	78
Carbon Dioxide							
Coal	25,776	33,145	36,127	35,930	36,820	36,910	34,523
Petroleum	149	145	80	237	164	265	237
Gas	10,125	9,452	10,227	10,094	11,183	11,346	11,693
Geothermal	0	0	0	0	0	0	0
Other	*	*	*	0	0	0	127
Total	36,050	42,742	46,434	46,261	48,166	48,521	46,580

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Oklahoma									
Retail Sales (thousand megawatthours)									
Residential	17,077	16,319	19,640	19,796	19,927	20,162	19,699	40.2	38.7
Commercial	11,634	11,115	13,115	13,552	13,097	16,958	17,020	27.4	33.4
Industrial	11,764	11,714	13,935	13,356	12,898	13,308	14,223	27.7	27.9
Other	2,029	2,244	2,874	2,963	3,564	NA	NA	4.8	NA
Total	42,504	41,392	49,564	49,667	49,485	50,428	50,942	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,124	1,113	1,380	1,439	1,341	1,507	1,520	48.3	45.9
Commercial	668	642	805	861	753	1,083	1,116	28.7	33.7
Industrial	427	440	570	573	491	611	677	18.3	20.4
Other	108	111	157	160	180	NA	NA	4.6	NA
Total	2,328	2,306	2,912	3,032	2,765	3,201	3,313	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	6.58	6.82	7.02	7.27	6.73	7.47	7.72	NA	NA
Commercial	5.74	5.78	6.14	6.35	5.75	6.38	6.55	NA	NA
Industrial	3.63	3.75	4.09	4.29	3.81	4.59	4.76	NA	NA
Other	5.33	4.93	5.46	5.39	5.06	NA	NA	NA	NA
Total	5.48	5.57	5.88	6.10	5.59	6.35	6.50	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Oklahoma								
Number of Entities	4	62	NA	30	1	NA	NA	97
Number of Retail Customers	1,191,062	189,582	NA	444,479	75	NA	NA	1,825,198
Retail Sales (thousand megawatthours)	38,162	4,466	NA	8,184	131	NA	NA	50,942
Percentage of Retail Sales	74.91	8.77	NA	16.06	.26	NA	NA	100.00
Revenue from Retail Sales (million dollars)	2,387	290	NA	628	8	NA	NA	3,313
Percentage of Revenue	72.05	8.75	NA	18.95	.25	NA	NA	100.00
Average Retail Price (cents/kWh)	6.25	6.49	NA	7.67	6.41	NA	NA	6.50

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
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Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Oregon		
NERC Region(s)		WECC
Primary Energy Source		Hydro
Net Summer Capability (megawatts)	12,093	29
Electric Utilities	9,555	26
Independent Power Producers & Combined Heat and Power	2,538	32
Net Generation (megawatthours)	51,381,278	28
Electric Utilities	39,092,958	28
Independent Power Producers & Combined Heat and Power	12,288,320	24
Emissions (thousand metric tons)		
Sulfur Dioxide	14	44
Nitrogen Oxide	11	43
Carbon Dioxide	9,117	41
Sulfur Dioxide (lbs/MWh)	.6	46
Nitrogen Oxide (lbs/MWh)	.5	48
Carbon Dioxide (lbs/MWh)	391	48
Total Retail Sales (megawatthours)	45,636,448	29
Full Service Provider Sales (megawatthours)	44,791,028	28
Deregulated Sales (megawatthours)	845,420	14
Direct Use (megawatthours)	691,393	32
Average Retail Price (cents/kWh)	6.21	38

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Oregon			
1. John Day	Hydroelectric	USCE-North Pacific Division	2,160
2. The Dalles	Hydroelectric	USCE-North Pacific Division	1,823
3. Bonneville	Hydroelectric	USCE-North Pacific Division	1,093
4. McNary	Hydroelectric	USCE-North Pacific Division	991
5. Hermiston Power Partnership	Gas	Hermiston Power Partnership	615
6. Boardman	Petroleum,Coal	Portland General Electric Co	556
7. Beaver	Petroleum,Gas	Portland General Electric Co	495
8. Klamath Cogeneration Plant	Gas	Pacific Klamath Energy Inc	470
9. Hermiston Generating Plant	Gas	Hermiston Generating Co LP	464
10. Hells Canyon	Hydroelectric	Idaho Power Co	381

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Oregon						
1. Portland General Electric Co	Investor-Owned	17,764,138	7,270,118	7,165,810	3,322,500	5,710
2. PacifiCorp	Investor-Owned	13,133,938	5,218,863	4,739,603	3,165,632	9,840
3. Eugene City of	Public	2,634,133	945,782	930,374	757,977	0
4. Central Lincoln People 's Ut Dt	Public	1,273,662	400,578	199,586	673,498	0
5. Clatskanie Peoples Util Dist	Public	1,000,571	63,961	26,226	910,384	0
Total Sales, Top Five Providers		35,806,442	13,899,302	13,061,599	8,829,991	15,550
Percent of Total State Sales		78	77	83	74	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Oregon									
Electric Utilities	**11,236**	**10,446**	**10,337**	**10,354**	**10,348**	**10,338**	**9,555**	**97.4**	**79.0**
Coal	530	508	557	557	557	556	556	4.6	4.6
Petroleum	6	0	0	0	0	0	0	.1	.0
Natural Gas	148	286	211	211	24	34	34	1.3	.3
Dual Fired	448	583	495	518	729	691	691	3.9	5.7
Nuclear	1,104	0	0	0	0	0	0	9.6	.0
Hydroelectric	8,988	9,031	9,045	9,063	9,033	9,020	8,239	77.9	68.1
Other Renewables	11	38	28	6	6	37	35	.1	.3
Independent Power Producers and Combined Heat and Power	**304**	**352**	**937**	**1,415**	**2,136**	**2,545**	**2,538**	**2.6**	**21.0**
Coal	13	13	13	10	10	10	10	.1	.1
Petroleum	7	0	0	0	0	0	0	.1	.0
Natural Gas	1	23	618	1,018	1,245	2,049	1,997	*	16.5
Dual Fired	0	48	5	3	4	4	50	.0	.4
Hydroelectric	93	109	96	55	55	92	91	.8	.8
Other Renewables	189	158	205	329	352	390	390	1.6	3.2
Total Electric Industry	**11,540**	**10,798**	**11,275**	**11,769**	**12,485**	**12,883**	**12,093**	**100.0**	**100.0**
Coal	543	521	570	567	567	566	566	4.7	4.7
Petroleum	13	0	0	0	0	0	0	.1	.0
Natural Gas	150	310	829	1,229	1,739	2,082	2,030	1.3	16.8
Dual Fired	448	632	500	521	733	695	741	3.9	6.1
Nuclear	1,104	0	0	0	0	0	0	9.6	.0
Hydroelectric	9,082	9,140	9,142	9,118	9,089	9,112	8,330	78.7	68.9
Other Renewables	201	196	234	335	357	427	426	1.7	3.5

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Oregon									
Electric Utilities	**49,171,999**	**44,031,261**	**46,059,938**	**38,059,649**	**39,731,986**	**38,577,937**	**39,092,958**	**97.6**	**76.1**
Coal	1,297,978	1,527,874	3,785,462	4,423,843	3,768,531	4,285,697	3,535,764	2.6	6.9
Petroleum	26,809	4,346	52,038	92,767	5,893	44,035	20,305	.1	*
Natural Gas	811,262	2,084,035	4,440,363	5,183,521	1,799,217	1,232,518	2,605,531	1.6	5.1
Nuclear	6,073,796	0	0	0	0	0	0	12.1	.0
Hydroelectric	40,961,577	40,415,006	37,782,075	28,359,518	34,158,327	32,980,206	32,896,035	81.3	64.0
Other Renewables	577	0	0	0	18	35,481	35,323	*	.1
Independent Power Producers and Combined Heat and Power	**1,200,237**	**1,234,292**	**5,730,037**	**6,992,257**	**7,367,382**	**10,388,202**	**12,288,320**	**2.4**	**23.9**
Coal	19,366	24,617	17,298	21,210	11,153	19,151	19,897	*	*
Petroleum	968	681	16,174	9,456	811	61	42,633	*	.1
Natural Gas	8,066	269,440	4,659,654	5,799,444	6,013,676	9,011,178	10,875,015	*	21.2
Hydroelectric	278,790	349,459	333,555	285,034	254,840	270,126	184,784	.6	.4
Other Renewables	893,047	590,095	703,356	877,113	1,086,902	1,087,685	1,165,990	1.8	2.3
Total Electric Industry	**50,372,236**	**45,265,553**	**51,789,975**	**45,051,906**	**47,099,369**	**48,966,139**	**51,381,278**	**100.0**	**100.0**
Coal	1,317,344	1,552,491	3,802,760	4,445,053	3,779,684	4,304,848	3,555,661	2.6	6.9
Petroleum	27,777	5,027	68,212	102,223	6,704	44,096	62,938	.1	.1
Natural Gas	819,328	2,353,475	9,100,017	10,982,965	7,812,893	10,243,696	13,480,546	1.6	26.2
Nuclear	6,073,796	0	0	0	0	0	0	12.1	.0
Hydroelectric	41,240,367	40,764,465	38,115,630	28,644,552	34,413,167	33,250,332	33,080,819	81.9	64.4
Other Renewables	893,624	590,095	703,356	877,113	1,086,920	1,123,166	1,201,313	1.8	2.3

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Oregon							
Coal (cents per million Btu)	107.9	105.8	106.8	111.0	132.9	125.2	118.5
Average heat value (Btu per pound)	8,348	8,882	8,636	8,711	8,563	8,516	8,402
Average sulfur Content (percent)	.3	.3	.4	.4	.3	.3	.3
Petroleum (cents per million Btu)	347.3	426.7	858.6	636.2	572.3	787.5	869.8
Average heat value (Btu per gallon)	139,000	140,166	140,000	143,286	141,631	138,490	141,074
Average sulfur Content (percent)	.5	.3	.1	.1	*	.2	.1
Natural Gas (cents per million Btu)	.0	129.8	289.6	374.9	328.4	437.0	499.8
Average heat value (Btu per cubic foot)	0	1,012	1,016	1,022	1,019	1,022	1,021

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Oregon							
Sulfur Dioxide							
Coal	7	7	15	18	12	12	12
Petroleum	*	*	*	*	*	*	*
Natural Gas	0	*	*	*	*	*	*
Other	2	2	2	3	3	1	2
Total	9	9	17	21	15	13	14
Nitrogen Oxide							
Coal	6	7	8	10	8	9	7
Petroleum	*	*	*	*	0	*	*
Gas	1	3	5	5	2	2	2
Other	2	1	1	1	1	1	1
Total	9	11	13	16	11	12	11
Carbon Dioxide							
Coal	1,456	1,824	3,835	4,260	3,579	4,244	3,417
Petroleum	55	8	76	115	9	42	71
Gas	453	1,380	4,226	4,862	3,472	4,409	5,562
Geothermal	0	0	0	0	0	0	0
Other	21	19	19	19	67	69	67
Total	1,984	3,232	8,156	9,257	7,126	8,765	9,117

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Oregon									
Retail Sales (thousand megawatthours)									
Residential	15,380	16,315	18,212	17,503	17,554	17,736	18,001	35.8	39.4
Commercial	11,319	12,900	15,289	14,816	14,902	15,483	15,667	26.3	34.3
Industrial	15,498	15,839	16,353	13,084	12,296	11,961	11,954	36.1	26.2
Other	780	672	476	481	503	NA	NA	1.8	NA
Transportation	NA	NA	NA	NA	NA	15	16	NA	.0
Total	42,977	45,725	50,330	45,885	45,255	45,195	45,636	100.0	100.0
Retail Revenue (million dollars)									
Residential	727	895	1,071	1,100	1,249	1,252	1,293	40.5	45.6
Commercial	543	653	774	808	982	988	1,010	30.2	35.7
Industrial	490	550	582	551	581	554	529	27.3	18.7
Other	37	37	34	35	48	NA	NA	2.1	NA
Transportation	NA	NA	NA	NA	NA	1	1	NA	.0
Total	1,797	2,135	2,460	2,494	2,859	2,795	2,833	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	4.73	5.49	5.88	6.28	7.11	7.06	7.18	NA	NA
Commercial	4.79	5.06	5.06	5.45	6.59	6.38	6.45	NA	NA
Industrial	3.16	3.47	3.56	4.21	4.72	4.63	4.43	NA	NA
Other	4.77	5.49	7.10	7.33	9.44	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	6.67	6.49	NA	NA
Total	4.18	4.67	4.89	5.44	6.32	6.18	6.21	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Oregon								
Number of Entities	3	18	1	19	NA	2	2	45
Number of Retail Customers	1,304,888	276,579	1	186,601	NA	7	NA	1,768,076
Retail Sales (thousand megawatthours)	31,494	8,929	3	4,365	NA	845	NA	45,636
Percentage of Retail Sales	69.01	19.57	.01	9.57	NA	1.85	NA	100.00
Revenue from Retail Sales (million dollars)	2,006	483	*	297	NA	37	9	2,833
Percentage of Revenue	70.83	17.04	*	10.49	NA	1.32	.31	100.00
Average Retail Price (cents/kWh)	6.37	5.41	3.64	6.81	NA	4.43	1.05	6.21

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Pennsylvania		
NERC Region(s)		ECAR/MAAC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	45,136	4
Electric Utilities	4,968	34
Independent Power Producers & Combined Heat and Power	40,169	2
Net Generation (megawatthours)	214,658,501	3
Electric Utilities	33,900,004	30
Independent Power Producers & Combined Heat and Power	180,758,497	2
Emissions (thousand metric tons)		
Sulfur Dioxide	931	2
Nitrogen Oxide	184	5
Carbon Dioxide	121,566	4
Sulfur Dioxide (lbs/MWh)	9.6	9
Nitrogen Oxide (lbs/MWh)	1.9	34
Carbon Dioxide (lbs/MWh)	1,249	34
Total Retail Sales (megawatthours)	143,501,493	6
Full Service Provider Sales (megawatthours)	130,848,050	4
Deregulated Sales (megawatthours)	12,653,443	8
Direct Use (megawatthours)	4,483,086	8
Average Retail Price (cents/kWh)	8.00	14

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Pennsylvania			
1. Bruce Mansfield	Petroleum,Coal	Pennsylvania Power Co	2,360
2. PPL Susquehanna	Nuclear	PPL Susquehanna LLC	2,275
3. Limerick	Nuclear	Exelon Generation Co LLC	2,268
4. Peach Bottom	Nuclear	Exelon Generation Co LLC	2,224
5. PPL Martins Creek	Gas,Coal,Petroleum	PPL Martins Creek LLC	2,027
6. Homer City Station	Petroleum,Coal	Midwest Generations EME LLC	1,884
7. Conemaugh	Petroleum,Gas,Coal	Reliant Energy Mid-Atlantic PH	1,712
8. Keystone	Petroleum,Coal	Reliant Energy Mid-Atlantic PH	1,712
9. Beaver Valley	Nuclear	Pennsylvania Power Co	1,652
10. Hatfields Ferry Power Station	Petroleum,Coal	Allegheny Energy Supply Co LLC	1,590

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Pennsylvania						
1. PPL Electric Utilities Corp	Investor-Owned	35,119,228	13,539,496	12,256,460	9,254,992	68,280
2. PECO Energy Co	Investor-Owned	32,970,251	10,349,142	6,933,849	14,956,642	730,618
3. West Penn Power Co	Investor-Owned	19,512,227	6,729,219	4,734,371	8,040,304	8,333
4. Pennsylvania Electric Co	Investor-Owned	12,486,911	4,212,366	4,760,629	3,513,916	0
5. Metropolitan Edison Co	Investor-Owned	12,434,928	5,058,288	4,217,788	3,158,852	0
Total Sales, Top Five Providers		112,523,545	39,888,511	32,903,097	38,924,706	807,231
Percent of Total State Sales		78	79	74	82	98

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Pennsylvania									
Electric Utilities	**33,440**	**33,698**	**13,394**	**4,978**	**4,887**	**4,921**	**4,968**	**94.8**	**11.0**
Coal	17,543	17,503	3,133	2,407	2,360	2,360	2,407	49.7	5.3
Petroleum	4,070	4,018	1,239	0	0	0	0	11.5	.0
Natural Gas	242	242	110	44	0	0	0	.7	.0
Dual Fired	961	1,047	965	7	7	30	30	2.7	.1
Nuclear	8,747	8,956	6,090	1,641	1,641	1,652	1,652	24.8	3.7
Hydroelectric	647	647	444	444	444	444	444	1.8	1.0
Pumped Storage	1,230	1,285	1,412	435	435	435	435	3.5	1.0
Independent Power Producers and Combined Heat and Power	**1,849**	**2,715**	**23,455**	**32,700**	**34,895**	**37,447**	**40,169**	**5.2**	**89.0**
Coal	926	1,565	15,616	16,171	16,025	15,778	16,256	2.6	36.0
Petroleum	19	15	1,142	2,274	2,283	2,283	2,186	.1	4.8
Natural Gas	272	239	493	1,702	2,483	4,063	6,539	.8	14.5
Other Gases	161	257	119	106	105	110	110	.5	.2
Dual Fired	270	269	2,445	3,297	4,821	5,738	5,547	.8	12.3
Nuclear	0	0	2,970	7,489	7,486	7,523	7,577	.0	16.8
Hydroelectric	85	85	255	292	307	307	307	.2	.7
Other Renewables	114	285	395	458	478	576	578	.3	1.3
Pumped Storage	0	0	0	910	910	1,072	1,070	.0	2.4
Other	2	2	17	0	0	0	0	*	.0
Total Electric Industry	**35,290**	**36,413**	**36,848**	**37,678**	**39,783**	**42,368**	**45,136**	**100.0**	**100.0**
Coal	18,469	19,067	18,750	18,578	18,384	18,137	18,662	52.3	41.3
Petroleum	4,088	4,033	2,382	2,274	2,283	2,283	2,187	11.6	4.8
Natural Gas	514	481	604	1,745	2,482	4,062	6,539	1.5	14.5
Other Gases	161	257	119	106	105	110	110	.5	.2
Dual Fired	1,231	1,316	3,411	3,305	4,829	5,768	5,577	3.5	12.4
Nuclear	8,747	8,956	9,060	9,130	9,127	9,175	9,229	24.8	20.4
Hydroelectric	732	732	700	736	751	751	751	2.1	1.7
Other Renewables	114	285	394	458	477	575	578	.3	1.3
Pumped Storage	1,230	1,285	1,412	1,345	1,345	1,507	1,505	3.5	3.3
Other	2	2	17	0	0	0	0	*	.0

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Pennsylvania									
Electric Utilities	**165,682,846**	**168,941,707**	**97,075,771**	**27,633,966**	**30,537,243**	**30,099,444**	**33,900,004**	**94.3**	**15.8**
Coal	101,996,271	96,799,645	36,704,124	13,863,092	15,935,860	15,944,113	18,396,944	58.1	8.6
Petroleum	4,013,814	3,072,153	1,656,505	21,609	39,420	34,944	32,129	2.3	*
Natural Gas	182,957	2,164,830	231,095	1,138	1,934	2,857	25,316	.1	*
Nuclear	57,787,051	66,461,535	57,267,756	13,179,236	13,594,705	12,619,098	13,993,379	32.9	6.5
Hydroelectric	2,582,002	1,683,697	1,626,887	776,727	1,166,959	1,745,193	1,666,727	1.5	.8
Pumped Storage	−879,249	−1,240,153	−410,596	−207,836	−201,635	−246,761	−214,491	−.5	−.1
Independent Power Producers and Combined Heat and Power	**9,940,465**	**16,509,604**	**104,612,209**	**168,942,625**	**173,785,635**	**176,250,070**	**180,758,496**	**5.7**	**84.2**
Coal	4,680,884	9,535,002	79,508,437	98,037,356	97,970,580	100,065,761	98,783,678	2.7	46.0
Petroleum	640,708	575,446	2,091,650	3,540,978	2,693,525	4,500,393	4,090,785	.4	1.9
Natural Gas	2,650,925	2,761,353	2,467,977	3,035,159	6,713,603	5,515,680	9,803,647	1.5	4.6
Other Gases	841,604	781,665	597,995	613,137	568,725	508,176	581,247	.5	.3
Nuclear	0	0	16,503,591	60,551,561	62,494,225	61,741,764	63,465,253	.0	29.6
Hydroelectric	287,190	346,510	663,345	873,277	1,043,604	1,601,074	1,488,611	.2	.7
Other Renewables	838,422	2,464,348	2,730,463	2,661,798	2,757,492	2,809,456	2,995,539	.5	1.4
Pumped Storage	0	0	0	−407,614	−456,119	−492,233	−471,393	.0	−.2
Other	732	45,280	48,751	36,973	0	0	21,131	.0	*
Total Electric Industry	**175,623,311**	**185,451,311**	**201,687,980**	**196,576,591**	**204,322,878**	**206,349,513**	**214,658,501**	**100.0**	**100.0**
Coal	106,677,155	106,334,647	116,212,561	111,900,448	113,906,440	116,009,874	117,180,622	60.7	54.6
Petroleum	4,654,522	3,647,599	3,748,155	3,562,587	2,732,945	4,535,337	4,122,914	2.6	1.9
Natural Gas	2,833,882	4,926,183	2,699,072	3,036,297	6,715,537	5,518,537	9,828,963	1.6	4.6
Other Gases	841,604	781,665	597,995	613,137	568,725	508,176	581,247	.5	.3
Nuclear	57,787,051	66,461,535	73,771,347	73,730,797	76,088,930	74,360,862	77,458,632	32.9	36.1
Hydroelectric	2,869,192	2,030,207	2,290,232	1,650,004	2,210,563	3,346,267	3,155,338	1.6	1.5
Other Renewables	838,422	2,464,348	2,730,463	2,661,798	2,757,492	2,809,456	2,995,539	.5	1.4
Pumped Storage	−879,249	−1,240,153	−410,596	−615,450	−657,754	−738,994	−685,884	−.5	−.3
Other	732	45,280	48,751	36,973	0	0	21,131	.0	*

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Pennsylvania							
Coal (cents per million Btu)	152.2	135.9	114.9	120.6	125.3	122.1	137.2
Average heat value (Btu per pound)	12,241	12,315	12,670	11,245	11,782	11,733	11,615
Average sulfur Content (percent)	2.2	2.1	2.3	2.1	1.9	1.9	2.0
Petroleum (cents per million Btu)	321.7	224.0	291.6	372.9	463.9	466.9	451.3
Average heat value (Btu per gallon)	140,463	128,575	125,114	146,619	143,421	144,660	144,343
Average sulfur Content (percent)	1.3	2.0	2.1	.5	.5	1.3	1.4
Natural Gas (cents per million Btu)	294.9	198.1	370.7	851.4	389.9	624.7	723.2
Average heat value (Btu per cubic foot)	1,032	1,030	1,033	1,029	1,027	1,038	1,033

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Pennsylvania							
Sulfur Dioxide							
Coal	1,169	1,051	842	853	806	890	907
Petroleum	68	50	13	14	6	18	21
Natural Gas	*	*	0	*	*	*	*
Other	2	3	*	*	*	3	3
Total	1,240	1,104	856	867	813	912	931
Nitrogen Oxide							
Coal	435	325	202	193	192	163	168
Petroleum	12	8	4	7	3	5	6
Gas	5	6	3	3	4	2	2
Other	2	5	4	6	6	7	7
Total	453	344	213	209	205	177	184
Carbon Dioxide							
Coal	101,607	101,741	115,470	105,607	111,090	110,511	111,317
Petroleum	6,593	4,491	4,300	3,627	2,953	4,438	4,112
Gas	2,092	3,165	2,126	2,016	3,569	3,023	4,959
Geothermal	0	0	0	0	0	0	0
Other	51	310	337	345	1,162	1,212	1,178
Total	110,343	109,708	122,233	111,596	118,775	119,184	121,566

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Pennsylvania									
Retail Sales (thousand megawatthours)									
Residential	38,164	42,802	45,008	46,030	48,730	49,651	50,663	33.3	35.3
Commercial	29,159	34,544	42,002	40,553	42,632	43,218	44,355	25.4	30.9
Industrial	45,992	47,528	45,449	47,383	47,090	46,773	47,659	40.1	33.2
Other	1,435	1,377	1,387	1,306	1,368	NA	NA	1.3	NA
Transportation	NA	NA	NA	NA	NA	727	823	NA	.6
Total	114,751	126,251	133,845	135,272	139,820	140,369	143,501	100.0	100.0
Retail Revenue (million dollars)									
Residential	3,519	4,161	4,291	4,454	4,747	4,760	4,853	40.1	42.3
Commercial	2,360	2,877	3,238	3,497	3,623	3,724	3,774	26.9	32.9
Industrial	2,748	2,813	2,559	2,731	2,747	2,715	2,799	31.3	24.4
Other	155	155	149	150	159	NA	NA	1.8	NA
Transportation	NA	NA	NA	NA	NA	57	60	NA	.5
Total	8,782	10,006	10,237	10,832	11,276	11,256	11,486	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	9.22	9.72	9.53	9.68	9.74	9.59	9.58	NA	NA
Commercial	8.09	8.33	7.71	8.62	8.50	8.62	8.51	NA	NA
Industrial	5.97	5.92	5.63	5.76	5.83	5.80	5.87	NA	NA
Other	10.80	11.28	10.71	11.46	11.59	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	7.78	7.32	NA	NA
Total	7.65	7.93	7.65	8.01	8.06	8.02	8.00	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Pennsylvania								
Number of Entities	12	35	NA	13	NA	16	9	85
Number of Retail Customers	5,074,162	83,066	NA	209,720	NA	430,097	NA	5,797,045
Retail Sales (thousand megawatthours)	126,982	1,443	NA	2,424	NA	12,653	NA	143,501
Percentage of Retail Sales	88.49	1.01	NA	1.69	NA	8.82	NA	100.00
Revenue from Retail Sales (million dollars)	9,979	121	NA	252	NA	706	428	11,486
Percentage of Revenue	86.88	1.05	NA	2.19	NA	6.15	3.73	100.00
Average Retail Price (cents/kWh)	7.86	8.37	NA	10.38	NA	5.58	3.38	8.00

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Rhode Island		
NERC Region(s)		NPCC
Primary Energy Source		Gas
Net Summer Capability (megawatts)	1,743	49
Electric Utilities	9	50
Independent Power Producers & Combined Heat and Power	1,734	35
Net Generation (megawatthours)	4,939,420	50
Electric Utilities	12,402	49
Independent Power Producers & Combined Heat and Power	4,927,018	34
Emissions (thousand metric tons)		
Sulfur Dioxide	1	49
Nitrogen Oxide	1	49
Carbon Dioxide	2,105	48
Sulfur Dioxide (lbs/MWh)	.4	48
Nitrogen Oxide (lbs/MWh)	.3	50
Carbon Dioxide (lbs/MWh)	939	40
Total Retail Sales (megawatthours)	7,887,575	49
Full Service Provider Sales (megawatthours)	7,043,336	48
Deregulated Sales (megawatthours)	844,239	15
Direct Use (megawatthours)	65,036	48
Average Retail Price (cents/kWh)	10.96	7

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Rhode Island			
1. Rhode Island State Energy Partners	Gas	FPL Energy Operating Serv Inc	515
2. Manchester Street	Petroleum,Gas	Dominion Energy New England, LLC	426
3. Tiverton Power Plant	Gas	Calpine Eastern Corp	250
4. Ocean State Power	Gas	Ocean State Power Co	219
5. Ocean State Power II	Gas	Ocean State Power II	219
6. Pawtucket Power Associates	Gas	Pawtucket Power Associates LP	64
7. Ridgewood Providence Power	Other	Ridgewood Power Management LLC	15
8. Central Power Plant	Other	State of Rhode Island	10
9. Rhode Island Hospital	Gas,Petroleum	Rhode Island Hospital	9
10. Block Island	Petroleum	Block Island Power Co	7

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Rhode Island						
1. Narragansett Electric Co	Investor-Owned	6,981,269	2,965,811	3,051,315	964,143	0
2. Constellation NewEnergy, Inc	Power Marketer	538,495	0	538,495	0	0
3. TransCanada Power Mktg Ltd	Power Marketer	144,391	0	0	144,391	0
4. Select Energy	Power Marketer	119,176	0	95,768	23,408	0
5. Pascoag Utility District	Public	51,236	27,498	6,147	17,591	0
Total Sales, Top Five Providers		7,834,567	2,993,309	3,691,725	1,149,533	0
Percent of Total State Sales		99	100	100	85	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Rhode Island									
Electric Utilities	**263**	**442**	**6**	**7**	**9**	**9**	**9**	**46.7**	**0.5**
Petroleum	29	20	5	6	7	7	7	5.2	.4
Natural Gas	0	420	0	0	0	0	0	.0	.0
Dual Fired	233	0	0	0	0	0	0	41.4	.0
Hydroelectric	1	1	1	1	1	1	1	.2	.1
Independent Power Producers and Combined Heat and Power	**300**	**538**	**1,186**	**1,214**	**1,715**	**1,726**	**1,734**	**53.3**	**99.5**
Petroleum	0	0	2	2	5	5	5	.0	.3
Natural Gas	0	0	692	415	906	917	1,202	.0	69.0
Dual Fired	284	522	474	779	785	785	509	50.4	29.2
Hydroelectric	3	3	3	3	3	3	3	.5	.2
Other Renewables	13	13	15	15	15	15	15	2.3	.9
Total Electric Industry	**563**	**980**	**1,193**	**1,221**	**1,723**	**1,734**	**1,743**	**100.0**	**100.0**
Petroleum	29	20	7	8	12	12	12	5.2	.7
Natural Gas	0	420	693	415	906	917	1,202	.0	69.0
Dual Fired	516	522	475	779	785	785	509	91.7	29.2
Hydroelectric	4	4	4	4	4	4	4	.7	.2
Other Renewables	13	13	15	15	15	15	15	2.3	.9

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percent Share	
								1990	2004
Rhode Island									
Electric Utilities	**591,756**	**653,076**	**10,823**	**0**	**11,836**	**11,771**	**12,402**	**53.4**	**0.3**
Petroleum	158,154	50,334	10,823	0	11,836	11,771	12,402	14.3	.3
Natural Gas	433,602	602,742	0	0	0	0	0	39.2	.0
Independent Power Producers and Combined Heat and Power	**515,560**	**3,835,137**	**5,960,722**	**7,501,892**	**7,044,929**	**5,609,373**	**4,927,018**	**46.6**	**99.7**
Petroleum	27,517	26,739	48,802	70,003	45,697	46,588	36,343	2.5	.7
Natural Gas	443,341	3,719,500	5,791,814	7,325,130	6,310,417	5,454,996	4,783,687	40.0	96.8
Hydroelectric	9,946	9,169	4,867	3,143	3,685	6,021	5,461	.9	.1
Other Renewables	34,756	79,729	115,239	103,616	97,752	101,768	101,526	3.1	2.1
Other	0	0	0	0	587,378	0	0	.0	.0
Total Electric Industry	**1,107,316**	**4,488,213**	**5,971,545**	**7,501,892**	**7,056,765**	**5,621,145**	**4,939,420**	**100.0**	**100.0**
Petroleum	185,671	77,073	59,625	70,003	57,533	58,359	48,745	16.8	1.0
Natural Gas	876,943	4,322,242	5,791,814	7,325,130	6,310,417	5,454,996	4,783,687	79.2	96.8
Hydroelectric	9,946	9,169	4,867	3,143	3,685	6,021	5,461	.9	.1
Other Renewables	34,756	79,729	115,239	103,616	97,752	101,768	101,526	3.1	2.1
Other	0	0	0	0	587,378	0	0	.0	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Rhode Island							
Petroleum (cents per million Btu)	358.9	412.5	0.0	0.0	0.0	W	W
Average heat value (Btu per gallon)	152,447	139,564	0	0	0	140,564	140,562
Average sulfur Content (percent)	.9	*	.0	.0	.0	.1	.1
Natural Gas (cents per million Btu)	216.9	184.9	.0	.0	455.4	650.3	679.9
Average heat value (Btu per cubic foot)	1,033	1,028	0	0	1,018	1,033	1,036

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Rhode Island							
Sulfur Dioxide							
Coal	0	0	0	0	0	0	0
Petroleum	2	1	1	1	1	1	1
Natural Gas	0	*	*	*	*	*	*
Other	0	0	0	0	0	0	0
Total	2	1	1	1	1	1	1
Nitrogen Oxide							
Coal	0	0	0	0	0	0	0
Petroleum	1	*	*	*	*	*	*
Gas	1	4	1	1	1	*	*
Other	*	*	1	*	*	*	*
Total	2	5	2	2	1	1	1
Carbon Dioxide							
Coal	0	0	0	0	0	0	0
Petroleum	279	147	196	242	165	128	164
Gas	536	2,028	2,665	3,191	2,914	2,270	1,940
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	815	2,176	2,861	3,432	3,079	2,398	2,105

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Rhode Island									
Retail Sales (thousand megawatthours)									
Residential	2,376	2,472	2,664	2,699	2,829	2,998	3,000	37.0	38.0
Commercial	2,492	2,625	3,166	3,240	3,316	3,490	3,542	38.8	44.9
Industrial	1,354	1,374	1,394	1,386	1,331	1,309	1,345	21.1	17.1
Other	196	165	78	68	85	NA	NA	3.1	NA
Total	6,419	6,636	7,301	7,393	7,561	7,797	7,888	100.0	100.0
Retail Revenue (million dollars)									
Residential	234	283	301	327	289	348	366	39.9	42.3
Commercial	223	265	301	374	287	352	373	38.0	43.1
Industrial	113	122	122	130	106	116	126	19.3	14.6
Other	18	19	20	16	14	NA	NA	3.1	NA
Total	587	689	743	847	696	816	865	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	9.84	11.47	11.28	12.13	10.20	11.61	12.19	NA	NA
Commercial	8.93	10.08	9.50	11.54	8.65	10.09	10.53	NA	NA
Industrial	8.35	8.87	8.76	9.36	7.96	8.88	9.37	NA	NA
Other	9.06	11.44	25.19	22.86	16.46	NA	NA	NA	NA
Total	9.15	10.38	10.18	11.45	9.20	10.47	10.96	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Rhode Island								
Number of Entities	2	1	NA	NA	NA	3	1	7
Number of Retail Customers	471,973	4,323	NA	NA	NA	2,346	NA	478,642
Retail Sales (thousand megawatthours)	6,992	51	NA	NA	NA	844	NA	7,888
Percentage of Retail Sales	88.65	.65	NA	NA	NA	10.70	NA	100.00
Revenue from Retail Sales (million dollars)	784	5	NA	NA	NA	45	30	865
Percentage of Revenue	90.68	.61	NA	NA	NA	5.23	3.49	100.00
Average Retail Price (cents/kWh)	11.21	10.26	NA	NA	NA	5.35	3.57	10.96

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

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Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
South Carolina		
NERC Region(s)		SERC
Primary Energy Source		Nuclear
Net Summer Capability (megawatts)	22,196	17
Electric Utilities	20,406	11
Independent Power Producers & Combined Heat and Power	1,789	34
Net Generation (megawatthours)	97,939,929	16
Electric Utilities	94,406,828	8
Independent Power Producers & Combined Heat and Power	3,533,101	38
Emissions (thousand metric tons)		
Sulfur Dioxide	221	18
Nitrogen Oxide	65	29
Carbon Dioxide	39,430	25
Sulfur Dioxide (lbs/MWh)	5.0	20
Nitrogen Oxide (lbs/MWh)	1.5	38
Carbon Dioxide (lbs/MWh)	888	42
Total Retail Sales (megawatthours)	79,908,340	17
Full Service Provider Sales (megawatthours)	79,908,340	16
Direct Use (megawatthours)	2,043,966	22
Average Retail Price (cents/kWh)	6.22	37

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
South Carolina			
1. Oconee	Nuclear	Duke Energy Corp	2,538
2. Catawba	Nuclear	Duke Energy Corp	2,258
3. Cross	Petroleum,Coal	South Carolina Pub Serv Auth	1,160
4. Winyah	Petroleum,Coal	South Carolina Pub Serv Auth	1,155
5. Bad Creek	Pumped Storage	Duke Energy Corp	1,065
6. V C Summer	Nuclear	South Carolina Electric&Gas Co	966
7. John S Rainey	Petroleum,Gas	South Carolina Pub Serv Auth	958
8. H B Robinson	Gas,Petroleum,Coal	Carolina Power & Light Co	899
9. Broad River Energy Center	Petroleum,Gas	Broad River Energy LLC	843
10. Darlington County	Petroleum,Gas	Carolina Power & Light Co	812

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
South Carolina						
1. South Carolina Electric&Gas Co	Investor-Owned	21,679,929	7,459,974	7,444,793	6,775,162	0
2. Duke Energy Corp	Investor-Owned	21,312,592	5,923,771	5,349,006	10,039,815	0
3. South Carolina Pub Serv Auth	Public	11,174,969	1,549,655	1,891,532	7,733,782	0
4. Carolina Power & Light Co	Investor-Owned	7,362,122	2,168,027	1,852,843	3,341,252	0
5. Berkeley Electric Coop Inc	Cooperative	1,489,032	1,129,797	167,711	191,524	0
Total Sales, Top Five Providers		63,018,644	18,231,224	16,705,885	28,081,535	0
Percent of Total State Sales		79	65	83	88	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
South Carolina									
Electric Utilities	**14,908**	**16,701**	**17,716**	**18,246**	**19,101**	**19,402**	**20,406**	**97.5**	**91.9**
Coal	4,818	5,352	6,054	6,077	5,925	5,925	5,968	31.5	26.9
Petroleum	274	651	671	669	669	684	684	1.8	3.1
Natural Gas	78	26	18	180	760	760	975	.5	4.4
Other Gases	364	0	0	0	0	0	0	2.4	.0
Dual Fired	846	858	1,046	1,385	1,676	1,963	2,738	5.5	12.3
Nuclear	6,346	6,364	6,445	6,445	6,492	6,472	6,472	41.5	29.2
Hydroelectric	1,031	1,262	1,271	1,271	1,360	1,360	1,316	6.7	5.9
Other Renewables	0	0	0	0	0	3	3	.0	*
Pumped Storage	1,152	2,187	2,211	2,219	2,219	2,235	2,251	7.5	10.1
Independent Power Producers and Combined Heat and Power	**375**	**405**	**968**	**1,181**	**1,262**	**1,257**	**1,789**	**2.5**	**8.1**
Coal	158	131	102	103	103	103	103	1.0	.5
Petroleum	1	1	3	3	3	3	3	*	*
Natural Gas	1	1	101	351	399	95	246	*	1.1
Dual Fired	3	3	505	468	501	800	1,185	*	5.3
Hydroelectric	18	18	26	24	24	24	24	.1	.1
Other Renewables	193	251	231	232	232	232	230	1.3	1.0
Total Electric Industry	**15,283**	**17,106**	**18,685**	**19,427**	**20,363**	**20,659**	**22,196**	**100.0**	**100.0**
Coal	4,976	5,483	6,156	6,180	6,028	6,028	6,072	32.6	27.4
Petroleum	275	652	674	672	672	686	686	1.8	3.1
Natural Gas	79	28	119	531	1,159	855	1,220	.5	5.5
Other Gases	364	0	0	0	0	0	0	2.4	.0
Dual Fired	849	862	1,552	1,853	2,177	2,763	3,923	5.6	17.7
Nuclear	6,346	6,364	6,445	6,445	6,492	6,472	6,472	41.5	29.2
Hydroelectric	1,049	1,280	1,297	1,295	1,384	1,384	1,340	6.9	6.0
Other Renewables	193	250	231	232	232	235	233	1.3	1.0
Pumped Storage	1,152	2,187	2,211	2,219	2,219	2,235	2,251	7.5	10.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
South Carolina									
Electric Utilities	**69,259,815**	**78,439,814**	**90,421,081**	**86,734,778**	**93,689,257**	**91,544,429**	**94,406,828**	**97.1**	**96.4**
Coal	22,874,805	25,801,600	38,664,405	36,302,690	36,490,769	37,065,509	38,516,633	32.1	39.3
Petroleum	71,997	129,854	265,931	225,008	205,664	289,474	690,071	.1	.7
Natural Gas	703,435	600,385	188,038	193,612	3,466,140	1,365,534	2,527,103	1.0	2.6
Nuclear	42,880,669	49,173,476	50,887,700	49,869,998	53,325,854	50,417,690	51,200,640	60.1	52.3
Hydroelectric	3,235,298	3,392,394	1,497,013	1,179,192	1,328,524	3,590,944	2,382,225	4.5	2.4
Other Renewables	0	0	0	0	15,522	22,091	239,246	.0	.2
Pumped Storage	−506,389	−657,895	−1,082,006	−1,035,722	−1,143,216	−1,206,813	−1,149,090	−.7	−1.2
Independent Power Producers and Combined Heat and Power	**2,103,359**	**2,473,834**	**2,925,159**	**2,424,209**	**2,874,241**	**2,228,249**	**3,533,101**	**2.9**	**3.6**
Coal	537,062	535,590	543,971	396,314	456,953	366,514	403,291	.8	.4
Petroleum	100,578	127,586	179,226	83,097	94,673	167,397	220,007	.1	.2
Natural Gas	84,100	89,497	744,864	982,502	1,032,179	297,248	1,267,986	.1	1.3
Other Gases	0	9,254	888	198	314	73	9	.0	.0
Hydroelectric	62,768	64,749	36,477	46,251	61,227	74,482	64,684	.1	.1
Other Renewables	1,318,851	1,647,158	1,419,733	915,847	1,228,895	1,322,535	1,577,124	1.8	1.6
Total Electric Industry	**71,363,174**	**80,913,648**	**93,346,240**	**89,158,987**	**96,563,498**	**93,772,677**	**97,939,929**	**100.0**	**100.0**
Coal	23,411,867	26,337,190	39,208,376	36,699,004	36,947,722	37,432,023	38,919,924	32.8	39.7
Petroleum	172,575	257,440	445,157	308,105	300,337	456,871	910,078	.2	.9
Natural Gas	787,535	689,882	932,902	1,176,114	4,498,319	1,662,782	3,795,089	1.1	3.9
Other Gases	0	9,254	888	198	314	73	9	.0	.0
Nuclear	42,880,669	49,173,476	50,887,700	49,869,998	53,325,854	50,417,690	51,200,640	60.1	52.3
Hydroelectric	3,298,066	3,457,143	1,533,490	1,225,443	1,389,751	3,665,426	2,446,909	4.6	2.5
Other Renewables	1,318,851	1,647,158	1,419,733	915,847	1,244,417	1,344,626	1,816,370	1.8	1.9
Pumped Storage	−506,389	−657,895	−1,082,006	−1,035,722	−1,143,216	−1,206,813	−1,149,090	−.7	−1.2

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
South Carolina							
Coal (cents per million Btu)	172.0	151.2	139.0	156.5	W	W	W
Average heat value (Btu per pound)	12,655	12,852	12,727	12,571	12,361	12,669	12,565
Average sulfur Content (percent)	1.2	1.2	1.1	1.1	1.2	1.1	1.2
Petroleum (cents per million Btu)	622.1	411.1	672.3	584.6	W	W	W
Average heat value (Btu per gallon)	138,032	138,041	138,243	143,119	144,638	144,988	138,905
Average sulfur Content (percent)	.2	.2	.2	.2	1.2	1.7	3.7
Natural Gas (cents per million Btu)	171.8	160.3	556.9	256.7	W	W	W
Average heat value (Btu per cubic foot)	1,023	1,024	1,028	1,036	1,028	1,031	1,035

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
South Carolina							
Sulfur Dioxide							
Coal	165	198	193	195	193	197	207
Petroleum	6	*	5	2	3	3	5
Natural Gas	0	0	*	*	*	0	*
Other	9	11	8	5	9	8	9
Total	181	209	206	202	205	207	221
Nitrogen Oxide							
Coal	88	94	86	79	82	74	62
Petroleum	1	1	1	1	1	*	1
Gas	1	1	*	*	1	1	1
Other	3	3	2	2	3	2	2
Total	93	99	89	82	85	78	65
Carbon Dioxide							
Coal	23,021	25,366	36,519	34,262	34,033	35,074	36,613
Petroleum	389	591	685	421	480	652	786
Gas	504	489	576	647	2,072	754	1,781
Geothermal	0	0	0	0	0	0	0
Other	31	27	26	25	0	179	249
Total	23,945	26,473	37,807	35,355	36,585	36,658	39,430

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
South Carolina									
Retail Sales (thousand megawatthours)									
Residential	18,258	21,392	25,270	24,875	26,787	26,422	27,910	32.8	34.9
Commercial	11,927	14,020	17,483	17,484	18,157	19,336	20,113	21.4	25.2
Industrial	24,701	28,819	33,308	31,528	31,926	31,296	31,886	44.4	39.9
Other	766	843	951	946	950	NA	NA	1.4	NA
Total	55,652	65,074	77,012	74,832	77,819	77,054	79,908	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,305	1,611	1,916	1,912	2,069	2,117	2,267	41.9	45.6
Commercial	734	890	1,110	1,127	1,177	1,316	1,390	23.6	28.0
Industrial	1,032	1,153	1,246	1,218	1,229	1,251	1,315	33.2	26.4
Other	42	49	60	60	61	NA	NA	1.3	NA
Total	3,113	3,703	4,332	4,317	4,537	4,684	4,972	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.15	7.53	7.58	7.69	7.72	8.01	8.12	NA	NA
Commercial	6.15	6.35	6.35	6.45	6.48	6.81	6.91	NA	NA
Industrial	4.18	4.00	3.74	3.86	3.85	4.00	4.13	NA	NA
Other	5.53	5.87	6.29	6.39	6.44	NA	NA	NA	NA
Total	5.59	5.69	5.63	5.77	5.83	6.08	6.22	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
South Carolina								
Number of Entities	4	22	NA	21	NA	NA	NA	47
Number of Retail Customers	1,255,376	306,712	NA	646,395	NA	NA	NA	2,208,483
Retail Sales (thousand megawatthours)	50,566	15,175	NA	14,168	NA	NA	NA	79,908
Percentage of Retail Sales	63.28	18.99	NA	17.73	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	3,073	831	NA	1,067	NA	NA	NA	4,972
Percentage of Revenue	61.82	16.71	NA	21.47	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	6.08	5.48	NA	7.53	NA	NA	NA	6.22

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
South Dakota		
NERC Region(s)		WECC/MAPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	2,659	46
Electric Utilities	2,618	37
Independent Power Producers & Combined Heat and Power	40	50
Net Generation (megawatthours)	7,510,214	47
Electric Utilities	7,357,617	38
Independent Power Producers & Combined Heat and Power	152,597	49
Emissions (thousand metric tons)		
Sulfur Dioxide	14	45
Nitrogen Oxide	16	40
Carbon Dioxide	3,834	47
Sulfur Dioxide (lbs/MWh)	4.0	29
Nitrogen Oxide (lbs/MWh)	4.8	2
Carbon Dioxide (lbs/MWh)	1,126	38
Total Retail Sales (megawatthours)	9,213,844	48
Full Service Provider Sales (megawatthours)	9,213,844	46
Average Retail Price (cents/kWh)	6.44	31

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
South Dakota			
1. Oahe	Hydroelectric	USCE-Missouri River District	651
2. Big Bend	Hydroelectric	USCE-Missouri River District	520
3. Big Stone	Petroleum,Coal	Otter Tail Power Co	456
4. Fort Randall	Hydroelectric	USCE-Missouri River District	355
5. Angus Anson	Petroleum,Gas	Northern States Power Co	215
6. Ben French	Petroleum,Gas,Coal	Black Hills Corp	100
7. Spirit Mound	Petroleum	Basin Electric Power Coop	96
8. Huron	Gas	Northwestern Energy	55
9. Watertown Power Plant	Petroleum	Missouri Basin Mun Pwr Agency	51
10. South Dakota Wind Energy Cente	Other	FPL Energy South Dakota Wind LLC	41

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
South Dakota						
1. Northern States Power Co	Investor-Owned	1,687,634	549,153	803,265	335,216	0
2. Black Hills Corp	Investor-Owned	1,346,233	430,022	635,435	280,776	0
3. Northwestern Energy	Investor-Owned	1,191,386	437,829	550,069	203,488	0
4. Sioux Valley SW Elec Coop	Cooperative	411,502	209,124	30,232	172,146	0
5. Otter Tail Power Co	Investor-Owned	323,627	101,036	222,591	0	0
Total Sales, Top Five Providers		4,960,382	1,727,164	2,241,592	991,626	0
Percent of Total State Sales		54	47	62	52	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
South Dakota									
Electric Utilities	**2,708**	**2,950**	**2,812**	**2,814**	**2,854**	**2,650**	**2,618**	**100.0**	**98.5**
Coal	495	475	477	477	477	476	477	18.3	17.9
Petroleum	228	223	229	228	238	237	228	8.4	8.6
Natural Gas	66	293	290	290	324	34	34	2.4	1.3
Dual Fired	97	138	138	138	135	351	351	3.6	13.2
Hydroelectric	1,821	1,820	1,678	1,678	1,678	1,549	1,526	67.2	57.4
Other Renewables	0	0	0	3	3	3	3	.0	.1
Independent Power Producers and Combined Heat and Power	**0**	**0**	**0**	**0**	**0**	**40**	**40**	**.0**	**1.5**
Other Renewables	0	0	0	0	0	41	41	.0	1.5
Total Electric Industry	**2,708**	**2,950**	**2,812**	**2,814**	**2,854**	**2,690**	**2,659**	**100.0**	**100.0**
Coal	495	475	477	477	477	476	477	18.3	17.9
Petroleum	228	223	229	228	238	237	228	8.4	8.6
Natural Gas	66	293	290	290	324	34	34	2.4	1.3
Dual Fired	97	138	138	138	135	351	351	3.6	13.2
Hydroelectric	1,821	1,820	1,678	1,678	1,678	1,549	1,526	67.2	57.4
Other Renewables	0	0	0	3	3	43	43	.0	1.6

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
South Dakota									
Electric Utilities	**6,427,473**	**8,811,793**	**9,697,337**	**7,400,743**	**7,721,958**	**7,904,755**	**7,357,617**	**100.0**	**98.0**
Coal	2,472,514	2,721,295	3,670,576	3,611,680	3,271,523	3,431,203	3,620,001	38.5	48.2
Petroleum	8,149	17,488	52,214	51,524	4,961	16,058	22,771	.1	.3
Natural Gas	12,408	63,139	259,039	304,803	85,778	176,024	112,255	.2	1.5
Hydroelectric	3,934,402	6,009,871	5,715,508	3,431,865	4,353,653	4,276,303	3,597,509	61.2	47.9
Other Renewables	0	0	0	871	6,043	5,167	5,081	.0	.1
Independent Power Producers and Combined Heat and Power	**0**	**0**	**0**	**0**	**0**	**39,082**	**152,597**	**.0**	**2.0**
Other Renewables	0	0	0	0	0	39,082	152,597	.0	2.0
Total Electric Industry	**6,427,473**	**8,811,793**	**9,697,337**	**7,400,743**	**7,721,958**	**7,943,837**	**7,510,214**	**100.0**	**100.0**
Coal	2,472,514	2,721,295	3,670,576	3,611,680	3,271,523	3,431,203	3,620,001	38.5	48.2
Petroleum	8,149	17,488	52,214	51,524	4,961	16,058	22,771	.1	.3
Natural Gas	12,408	63,139	259,039	304,803	85,778	176,024	112,255	.2	1.5
Hydroelectric	3,934,402	6,009,871	5,715,508	3,431,865	4,353,653	4,276,303	3,597,509	61.2	47.9
Other Renewables	0	0	0	871	6,043	44,249	157,678	.0	2.1

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
South Dakota							
Coal (cents per million Btu)	114.6	102.9	99.3	103.3	129.5	134.3	138.5
Average heat value (Btu per pound)	6,096	6,972	8,464	8,541	8,477	8,560	8,523
Average sulfur Content (percent)	.9	.9	.3	.3	.4	.3	.3
Petroleum (cents per million Btu)	565.3	.0	.0	.0	.0	803.6	822.4
Average heat value (Btu per gallon)	140,000	0	0	0	0	138,210	138,536
Average sulfur Content (percent)	.3	.0	.0	.0	.0	.2	.2

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
South Dakota							
Sulfur Dioxide							
Coal	28	25	13	13	11	11	13
Petroleum	*	*	*	0	0	*	*
Natural Gas	0	0	*	0	0	0	0
Other	0	*	*	0	0	*	1
Total	28	25	13	13	11	12	14
Nitrogen Oxide							
Coal	9	8	17	16	15	15	16
Petroleum	*	0	0	0	0	*	*
Gas	*	*	*	*	*	*	*
Other	0	*	*	0	0	*	*
Total	9	9	17	17	15	15	16
Carbon Dioxide							
Coal	2,886	2,973	3,649	3,627	3,320	3,516	3,724
Petroleum	22	20	57	45	8	18	24
Gas	9	50	193	244	65	115	87
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	2,916	3,043	3,899	3,916	3,393	3,649	3,834

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
South Dakota									
Retail Sales (thousand megawatthours)									
Residential	2,866	3,268	3,423	3,580	3,733	3,740	3,696	45.2	40.1
Commercial	1,450	2,088	2,422	2,915	3,062	3,713	3,627	22.9	39.4
Industrial	1,657	1,722	2,003	1,666	1,604	1,627	1,891	26.2	20.5
Other	361	335	435	465	538	NA	NA	5.7	NA
Total	6,334	7,414	8,283	8,627	8,937	9,080	9,214	100.0	100.0
Retail Revenue (million dollars)									
Residential	199	231	254	266	276	280	283	51.3	47.6
Commercial	97	137	161	191	191	224	224	25.0	37.7
Industrial	77	76	90	74	73	73	87	19.8	14.6
Other	15	15	19	17	20	NA	NA	3.9	NA
Total	388	460	523	548	560	577	594	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	6.95	7.08	7.42	7.42	7.40	7.47	7.65	NA	NA
Commercial	6.68	6.55	6.64	6.55	6.24	6.03	6.18	NA	NA
Industrial	4.66	4.43	4.49	4.46	4.54	4.51	4.59	NA	NA
Other	4.11	4.58	4.30	3.71	3.63	NA	NA	NA	NA
Total	6.13	6.20	6.32	6.35	6.26	6.35	6.44	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
South Dakota								
Number of Entities	6	35	1	30	NA	NA	NA	72
Number of Retail Customers	216,857	56,190	23	135,214	NA	NA	NA	408,284
Retail Sales (thousand megawatthours)	4,846	1,300	312	2,756	NA	NA	NA	9,214
Percentage of Retail Sales	52.59	14.11	3.38	29.91	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	330	69	5	190	NA	NA	NA	594
Percentage of Revenue	55.57	11.58	.83	32.03	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	6.81	5.29	1.58	6.90	NA	NA	NA	6.44

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Tennessee		
NERC Region(s)		ECAR/SERC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	20,941	18
Electric Utilities	19,239	12
Independent Power Producers & Combined Heat and Power	1,702	36
Net Generation (megawatthours)	97,594,542	17
Electric Utilities	94,371,964	9
Independent Power Producers & Combined Heat and Power	3,222,578	39
Emissions (thousand metric tons)		
Sulfur Dioxide	318	13
Nitrogen Oxide	105	14
Carbon Dioxide	58,491	15
Sulfur Dioxide (lbs/MWh)	7.2	13
Nitrogen Oxide (lbs/MWh)	2.4	27
Carbon Dioxide (lbs/MWh)	1,321	27
Total Retail Sales (megawatthours)	99,660,665	13
Full Service Provider Sales (megawatthours)	99,660,665	11
Direct Use (megawatthours)	3,392,795	13
Average Retail Price (cents/kWh)	6.14	39

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Tennessee			
1. Cumberland	Petroleum,Coal	Tennessee Valley Authority	2,465
2. Johnsonville	Petroleum,Gas,Coal	Tennessee Valley Authority	2,341
3. Sequoyah	Nuclear	Tennessee Valley Authority	2,277
4. Raccoon Mountain	Pumped Storage	Tennessee Valley Authority	1,597
5. Gallatin	Petroleum,Gas,Coal	Tennessee Valley Authority	1,575
6. Kingston	Petroleum,Coal	Tennessee Valley Authority	1,426
7. Allen Steam Plant	Gas,Petroleum,Coal	Tennessee Valley Authority	1,203
8. Watts Bar Nuclear Plant	Nuclear	Tennessee Valley Authority	1,121
9. Lagoon Creek	Petroleum,Gas	Tennessee Valley Authority	941
10. Bull Run	Petroleum,Coal	Tennessee Valley Authority	881

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Tennessee						
1. Memphis City of	Public	14,174,294	5,260,624	4,850,822	4,061,810	1,038
2. Nashville Electric Service	Public	12,134,654	4,481,752	4,480,352	3,172,550	0
3. Tennessee Valley Authority	Federal	8,977,536	0	0	8,977,536	0
4. Chattanooga City of	Public	5,699,518	2,030,734	1,884,435	1,784,349	0
5. Knoxville Utilities Board	Public	5,682,248	2,389,358	1,824,198	1,468,692	0
Total Sales, Top Five Providers		46,668,250	14,162,468	13,039,807	19,464,937	1,038
Percent of Total State Sales		47	37	46	59	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004

(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Tennessee									
Electric Utilities	**16,996**	**16,144**	**17,893**	**18,600**	**19,136**	**19,235**	**19,239**	**97.8**	**91.9**
Coal	9,289	8,615	8,618	8,618	8,602	8,609	8,623	53.4	41.2
Petroleum	0	0	0	36	56	56	56	.0	.3
Natural Gas	0	0	308	0	0	0	0	.0	.0
Dual Fired	1,668	1,568	1,836	2,760	3,116	3,128	3,137	9.6	15.0
Nuclear	2,296	2,217	3,367	3,367	3,389	3,398	3,398	13.2	16.2
Hydroelectric	2,211	2,212	2,230	2,239	2,348	2,389	2,429	12.7	11.6
Other Renewables	0	0	2	2	2	2	0	.0	.0
Pumped Storage	1,532	1,532	1,532	1,578	1,624	1,652	1,597	8.8	7.6
Independent Power Producers and Combined Heat and Power	**387**	**614**	**1,564**	**1,559**	**1,587**	**1,659**	**1,702**	**2.2**	**8.1**
Coal	314	332	363	295	276	276	276	1.8	1.3
Natural Gas	0	28	966	1,026	1,034	1,034	1,034	.0	4.9
Dual Fired	24	0	4	0	0	72	72	.1	.3
Hydroelectric	0	170	170	165	165	165	179	.0	.9
Other Renewables	11	46	23	74	112	112	141	.1	.7
Other	38	38	38	0	0	0	0	.2	.0
Total Electric Industry	**17,383**	**16,759**	**19,457**	**20,160**	**20,723**	**20,893**	**20,941**	**100.0**	**100.0**
Coal	9,603	8,947	8,981	8,913	8,878	8,885	8,899	55.2	42.5
Petroleum	0	0	0	36	56	56	56	.0	.3
Natural Gas	0	28	1,274	1,026	1,034	1,034	1,034	.0	4.9
Dual Fired	1,692	1,568	1,840	2,760	3,116	3,200	3,209	9.7	15.3
Nuclear	2,296	2,217	3,367	3,367	3,389	3,398	3,398	13.2	16.2
Hydroelectric	2,211	2,382	2,400	2,404	2,513	2,554	2,608	12.7	12.5
Other Renewables	11	46	25	76	114	114	141	.1	.7
Pumped Storage	1,532	1,532	1,532	1,578	1,624	1,652	1,597	8.8	7.6
Other	38	38	38	0	0	0	0	.2	.0

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Tennessee									
Electric Utilities	**73,902,614**	**82,277,534**	**92,311,813**	**92,937,315**	**92,570,929**	**88,678,127**	**94,371,964**	**97.0**	**96.7**
Coal	50,186,951	57,971,909	60,675,314	58,166,973	58,080,553	53,376,149	56,583,558	65.9	58.0
Petroleum	134,397	252,611	539,784	379,703	250,325	379,007	166,943	.2	.2
Natural Gas	41,463	158,234	127,250	5,316	40,414	408,059	173,999	.1	.2
Nuclear	14,002,591	15,708,421	25,824,858	28,576,431	27,573,925	24,152,580	28,612,271	18.4	29.3
Hydroelectric	10,015,363	8,801,848	5,876,058	6,542,616	7,317,487	11,087,048	9,649,206	13.1	9.9
Other Renewables	0	0	0	0	4,068	3,933	3,813	.0	*
Pumped Storage	−478,151	−615,489	−731,451	−733,724	−695,843	−728,649	−817,826	−.6	−.8
Independent Power Producers and Combined Heat and Power	**2,284,995**	**3,453,301**	**3,526,771**	**3,284,661**	**3,543,333**	**3,543,663**	**3,222,578**	**3.0**	**3.3**
Coal	1,638,655	1,503,095	1,544,196	1,563,059	1,625,128	1,545,148	1,733,922	2.2	1.8
Petroleum	2,670	4,774	22,386	20,361	19,288	26,803	23,414	*	*
Natural Gas	182,683	316,861	521,521	450,187	429,159	218,927	126,503	.2	.1
Other Gases	4,210	11,062	13,833	18,496	11,873	2,834	0	*	.0
Hydroelectric	0	826,703	520,151	403,913	656,175	916,598	758,906	.0	.8
Other Renewables	411,777	632,743	799,649	828,645	798,396	828,187	579,834	.5	.6
Other	45,000	158,063	105,035	0	3,314	5,166	0	.1	.0
Total Electric Industry	**76,187,609**	**85,730,835**	**95,838,584**	**96,221,976**	**96,114,262**	**92,221,791**	**97,594,542**	**100.0**	**100.0**
Coal	51,825,606	59,475,004	62,219,510	59,730,032	59,705,681	54,921,297	58,317,480	68.0	59.8
Petroleum	137,067	257,385	562,170	400,064	269,613	405,810	190,357	.2	.2
Natural Gas	224,146	475,095	648,771	455,503	469,573	626,986	300,502	.3	.3
Other Gases	4,210	11,062	13,833	18,496	11,873	2,834	0	*	.0
Nuclear	14,002,591	15,708,421	25,824,858	28,576,431	27,573,925	24,152,580	28,612,271	18.4	29.3
Hydroelectric	10,015,363	9,628,551	6,396,209	6,946,529	7,973,662	12,003,646	10,408,112	13.1	10.7
Other Renewables	411,777	632,743	799,649	828,645	802,464	832,120	583,647	.5	.6
Pumped Storage	−478,151	−615,489	−731,451	−733,724	−695,843	−728,649	−817,826	−.6	−.8
Other	45,000	158,063	105,035	0	3,314	5,166	0	.1	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Tennessee							
Coal (cents per million Btu)	134.2	115.2	110.6	122.0	W	W	W
Average heat value (Btu per pound)	11,966	12,130	11,629	12,159	11,631	11,465	11,457
Average sulfur Content (percent)	2.0	2.0	1.5	1.4	1.3	1.2	1.3
Petroleum (cents per million Btu)	560.8	397.4	635.2	553.8	536.3	619.3	842.3
Average heat value (Btu per gallon)	138,826	138,264	139,900	145,952	138,486	139,902	139,357
Average sulfur Content (percent)	.5	.5	.5	.5	.5	.5	.5
Natural Gas (cents per million Btu)	.0	.0	.0	.0	322.6	619.7	W
Average heat value (Btu per cubic foot)	0	0	0	0	1,024	1,025	1,035

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Tennessee							
Sulfur Dioxide							
Coal	760	494	432	372	320	336	310
Petroleum	*	*	*	*	1	1	1
Natural Gas	0	0	*	0	0	0	0
Other	3	5	3	7	9	7	7
Total	764	500	436	379	330	344	318
Nitrogen Oxide							
Coal	237	239	156	161	149	127	104
Petroleum	*	*	*	*	*	*	*
Gas	1	1	1	1	1	1	*
Other	1	2	2	3	3	1	1
Total	239	243	160	165	154	129	105
Carbon Dioxide							
Coal	51,805	57,713	61,990	59,979	58,310	54,782	57,913
Petroleum	128	208	466	402	268	459	242
Gas	416	727	827	564	506	571	320
Geothermal	0	0	0	0	0	0	0
Other	38	31	29	27	30	8	16
Total	52,387	58,679	63,311	60,972	59,113	55,820	58,491

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Tennessee									
Retail Sales (thousand megawatthours)									
Residential	28,757	30,967	36,622	36,932	38,752	37,697	38,526	37.3	38.7
Commercial	12,128	5,176	25,757	25,974	26,523	27,481	28,249	15.7	28.3
Industrial	35,313	44,828	32,289	32,149	31,845	32,278	32,885	45.8	33.0
Other	947	1,060	1,060	1,077	1,113	NA	NA	1.2	NA
Transportation	NA	NA	NA	NA	NA	0	1	NA	.0
Total	77,145	82,030	95,728	96,131	98,233	97,456	99,661	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,637	1,832	2,316	2,335	2,483	2,467	2,657	40.0	43.5
Commercial	739	344	1,617	1,639	1,712	1,836	1,992	18.0	32.6
Industrial	1,656	2,018	1,320	1,301	1,322	1,384	1,466	40.4	24.0
Other	65	80	93	95	99	NA	NA	1.6	NA
Total	4,096	4,274	5,346	5,370	5,616	5,687	6,115	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	5.69	5.91	6.32	6.32	6.41	6.54	6.90	NA	NA
Commercial	6.09	6.65	6.28	6.31	6.45	6.68	7.05	NA	NA
Industrial	4.69	4.50	4.09	4.05	4.15	4.29	4.46	NA	NA
Other	6.86	7.56	8.79	8.83	8.92	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	.00	11.75	NA	NA
Total	5.31	5.21	5.58	5.59	5.72	5.83	6.14	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Tennessee								
Number of Entities	3	62	1	25	NA	NA	NA	91
Number of Retail Customers	45,871	2,050,524	39	866,388	NA	NA	NA	2,962,822
Retail Sales (thousand megawatthours)	2,035	68,431	8,978	20,217	NA	NA	NA	99,661
Percentage of Retail Sales	2.04	68.66	9.01	20.29	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	86	4,366	288	1,375	NA	NA	NA	6,115
Percentage of Revenue	1.40	71.40	4.70	22.49	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	4.22	6.38	3.20	6.80	NA	NA	NA	6.14

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste;
Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Texas		
NERC Region(s)		ERCOT/SPP/WSCC/SERC
Primary Energy Source		Gas
Net Summer Capability (megawatts)	101,104	1
Electric Utilities	22,897	9
Independent Power Producers & Combined Heat and Power	78,207	1
Net Generation (megawatthours)	390,299,132	1
Electric Utilities	92,054,150	10
Independent Power Producers & Combined Heat and Power	298,244,982	1
Emissions (thousand metric tons)		
Sulfur Dioxide	575	5
Nitrogen Oxide	226	3
Carbon Dioxide	255,651	1
Sulfur Dioxide (lbs/MWh)	3.2	34
Nitrogen Oxide (lbs/MWh)	1.3	40
Carbon Dioxide (lbs/MWh)	1,444	22
Total Retail Sales (megawatthours)	320,614,840	1
Full Service Provider Sales (megawatthours)	320,614,840	1
Direct Use (megawatthours)	41,749,468	1
Average Retail Price (cents/kWh)	7.95	15

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Texas			
1. W A Parish	Gas,Coal	Texas Genco II, LP	3,653
2. South Texas Project	Nuclear	STP Nuclear Operating Co	2,560
3. Comanche Peak	Nuclear	TXU Generation Co LP	2,300
4. Cedar Bayou	Petroleum,Gas	Texas Genco II, LP	2,258
5. Martin Lake	Petroleum,Coal	TXU Generation Co LP	2,250
6. P H Robinson	Gas	Texas Genco II, LP	2,211
7. Monticello	Petroleum,Coal	TXU Generation Co LP	1,880
8. Sabine	Petroleum,Gas	Entergy Gulf States Inc	1,809
9. Fayette Power Project	Petroleum,Coal	Lower Colorado River Authority	1,641
10. Forney Energy Center	Gas	FPLE Forney LP	1,640

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Texas						
1. TXU Energy Retail Co LP	Power Marketer	69,343,637	33,512,159	10,365,790	25,387,564	78,124
2. Reliant Energy Retail Services	Power Marketer	32,920,892	23,831,313	9,089,579	0	0
3. Reliant Energy Solutions	Power Marketer	22,523,958	0	0	22,523,958	0
4. San Antonio Public Service Bd	Public	17,206,842	7,457,217	7,597,444	2,152,181	0
5. Entergy Gulf States Inc	Investor-Owned	16,025,725	5,125,646	4,060,966	6,839,113	0
Total Sales, Top Five Providers		158,021,054	69,926,335	31,113,779	56,902,816	78,124
Percent of Total State Sales		49	58	31	57	96

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Texas									
Electric Utilities	**62,034**	**64,424**	**65,383**	**38,940**	**38,903**	**22,629**	**22,897**	**89.7**	**22.6**
Coal	18,590	19,399	19,473	12,471	12,398	8,189	8,320	26.9	8.2
Petroleum	42	38	36	4	4	4	12	.1	*
Natural Gas	9,058	8,883	9,458	8,467	11,031	5,288	6,390	13.1	6.3
Dual Fired	30,024	30,622	30,907	14,764	12,244	8,442	7,499	43.4	7.4
Nuclear	3,651	4,802	4,800	2,529	2,529	0	0	5.3	.0
Hydroelectric	640	680	696	690	690	692	661	.9	.7
Other Renewables	29	0	1	3	7	1	1	*	*
Other	0	0	13	13	0	13	13	.0	*
Independent Power Producers and Combined Heat and Power	**7,122**	**8,239**	**16,512**	**49,015**	**55,586**	**76,964**	**78,207**	**10.3**	**77.4**
Coal	338	338	338	7,442	7,798	11,864	11,881	.5	11.8
Petroleum	79	66	39	514	470	477	76	.1	.1
Natural Gas	4,849	6,521	14,405	19,962	25,348	36,327	38,496	7.0	38.1
Other Gases	252	163	171	155	295	289	359	.4	.4
Dual Fired	1,394	883	1,193	17,517	18,141	21,711	20,972	2.0	20.7
Nuclear	0	0	0	2,208	2,208	4,768	4,860	.0	4.8
Hydroelectric	0	0	2	7	7	7	7	.0	*
Other Renewables	142	198	358	1,033	1,200	1,432	1,431	.2	1.4
Other	70	70	6	178	118	89	123	.1	.1
Total Electric Industry	**69,156**	**72,663**	**81,895**	**87,956**	**94,488**	**99,594**	**101,104**	**100.0**	**100.0**
Coal	18,928	19,737	19,811	19,913	20,196	20,053	20,201	27.4	20.0
Petroleum	121	104	74	518	473	481	88	.2	.1
Natural Gas	13,907	15,404	23,863	28,429	36,379	41,615	44,887	20.1	44.4
Other Gases	252	163	171	155	295	289	359	.4	.4
Dual Fired	31,417	31,504	32,099	32,282	30,385	30,152	28,471	45.4	28.2
Nuclear	3,651	4,802	4,800	4,737	4,737	4,768	4,860	5.3	4.8
Hydroelectric	640	680	697	697	697	699	668	.9	.7
Other Renewables	171	199	360	1,035	1,208	1,434	1,433	.2	1.4
Other	70	70	19	191	118	102	136	.1	.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Texas									
Electric Utilities	**234,047,343**	**261,708,943**	**297,298,634**	**265,012,955**	**149,587,269**	**86,882,044**	**92,054,150**	**83.1**	**23.6**
Coal	118,354,490	122,149,283	137,876,671	132,296,611	90,259,574	60,288,940	63,893,450	42.0	16.4
Petroleum	480,617	203,267	1,200,446	1,741,052	25,987	257,818	67,624	.2	*
Natural Gas	97,279,980	101,501,467	119,840,216	91,617,908	39,173,483	25,473,500	26,726,978	34.5	6.8
Nuclear	15,859,258	36,151,325	37,555,807	38,162,863	19,049,602	0	0	5.6	.0
Hydroelectric	1,793,625	1,703,348	825,453	1,194,526	1,076,338	858,933	1,266,098	.6	.3
Other Renewables	279,373	253	41	–5	2,285	2,852	2,454	.1	*
Other	0	0	0	0	0	0	97,546	.0	*
Independent Power Producers and Combined Heat and Power	**47,512,292**	**55,927,303**	**80,443,731**	**107,567,047**	**236,041,273**	**292,317,641**	**298,244,982**	**16.9**	**76.4**
Coal	2,566,906	2,567,665	2,795,293	2,803,310	51,587,666	86,700,570	84,991,205	.9	21.8
Petroleum	1,347,186	1,404,528	1,615,196	1,062,351	1,594,977	2,257,437	1,673,060	.5	.4
Natural Gas	38,954,345	45,477,241	68,893,079	98,493,073	157,259,927	159,437,850	160,076,433	13.8	41.0
Other Gases	2,997,509	4,276,154	3,798,047	1,574,325	3,052,992	5,999,489	5,823,967	1.1	1.5
Nuclear	0	0	0	0	16,568,402	33,437,484	40,435,372	.0	10.4
Hydroelectric	0	0	3,510	5,806	47,154	37,606	34,511	.0	*
Other Renewables	1,157,615	1,412,152	1,770,566	2,195,086	3,991,150	3,962,885	4,362,061	.4	1.1
Other	488,731	789,563	1,568,040	1,433,096	1,939,005	484,320	848,373	.2	.2
Total Electric Industry	**281,559,635**	**317,636,246**	**377,742,365**	**372,580,002**	**385,628,542**	**379,199,685**	**390,299,132**	**100.0**	**100.0**
Coal	120,921,396	124,716,948	140,671,964	135,099,921	141,847,240	146,989,510	148,884,655	42.9	38.1
Petroleum	1,827,803	1,607,795	2,815,642	2,803,403	1,620,964	2,515,255	1,740,684	.6	.4
Natural Gas	136,234,325	146,978,708	188,733,295	190,110,981	196,433,410	184,911,350	186,803,411	48.4	47.9
Other Gases	2,997,509	4,276,154	3,798,047	1,574,325	3,052,992	5,999,489	5,823,967	1.1	1.5
Nuclear	15,859,258	36,151,325	37,555,807	38,162,863	35,618,004	33,437,484	40,435,372	5.6	10.4
Hydroelectric	1,793,625	1,703,348	828,963	1,200,332	1,123,492	896,539	1,300,609	.6	.3
Other Renewables	1,436,988	1,412,405	1,770,607	2,195,081	3,993,435	3,965,737	4,364,515	.5	1.1
Other	488,731	789,563	1,568,040	1,433,096	1,939,005	484,320	945,919	.2	.2

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Texas							
Coal (cents per million Btu)	145.3	133.7	122.7	133.2	126.5	125.4	130.9
Average heat value (Btu per pound)	7,291	7,346	7,548	7,640	7,700	7,605	7,641
Average sulfur Content (percent)	.7	.8	.7	.7	.7	.8	.8
Petroleum (cents per million Btu)	517.3	283.4	617.3	555.6	199.6	422.8	171.1
Average heat value (Btu per gallon)	141,838	117,557	135,421	142,024	138,090	139,979	137,700
Average sulfur Content (percent)	.5	1.6	.3	.4	3.9	1.4	3.3
Natural Gas (cents per million Btu)	210.2	188.9	415.5	420.9	331.7	528.1	576.9
Average heat value (Btu per cubic foot)	1,035	1,023	1,020	1,027	1,019	1,029	1,026

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Texas							
Sulfur Dioxide							
Coal	484	516	567	551	559	573	531
Petroleum	74	37	45	36	6	22	21
Natural Gas	*	*	1	2	1	1	1
Other	10	15	12	8	10	18	21
Total	569	568	626	597	576	614	575
Nitrogen Oxide							
Coal	471	445	220	190	170	146	132
Petroleum	4	3	4	3	3	5	7
Gas	181	178	202	192	147	93	81
Other	6	8	5	5	9	7	7
Total	663	634	432	389	329	252	226
Carbon Dioxide							
Coal	122,549	126,580	143,779	138,208	144,241	149,718	151,111
Petroleum	2,627	2,022	3,304	3,376	2,324	2,888	2,620
Gas	83,310	89,812	113,314	110,343	109,194	102,349	101,921
Geothermal	0	0	0	0	0	0	0
Other	1	0	0	0	47	0	0
Total	208,487	218,414	260,396	251,927	255,806	254,955	255,651

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Texas									
Retail Sales (thousand megawatthours)									
Residential	82,548	92,831	116,895	117,343	121,435	121,355	120,330	34.8	37.5
Commercial	62,238	68,580	84,848	87,912	87,746	96,694	99,616	26.2	31.1
Industrial	84,087	90,093	101,588	98,208	102,251	104,547	100,588	35.4	31.4
Other	8,542	11,775	14,931	14,581	9,414	NA	NA	3.6	NA
Transportation	NA	NA	NA	NA	NA	90	81	NA	.0
Total	237,415	263,279	318,263	318,044	320,846	322,686	320,615	100.0	100.0
Retail Revenue (million dollars)									
Residential	5,947	7,162	9,305	10,399	9,778	11,111	11,707	43.4	45.9
Commercial	3,843	4,556	5,835	6,807	6,095	7,581	7,867	28.0	30.9
Industrial	3,391	3,590	4,491	5,174	4,761	5,512	5,902	24.7	23.2
Other	534	758	1,011	1,103	616	NA	NA	3.9	NA
Transportation	NA	NA	NA	NA	NA	6	6	NA	.0
Total	13,715	16,066	20,642	23,484	21,251	24,211	25,482	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.20	7.71	7.96	8.86	8.05	9.16	9.73	NA	NA
Commercial	6.17	6.64	6.88	7.74	6.95	7.84	7.90	NA	NA
Industrial	4.03	3.98	4.42	5.27	4.66	5.27	5.87	NA	NA
Other	6.25	6.44	6.77	7.56	6.55	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	6.62	7.02	NA	NA
Total	5.78	6.10	6.49	7.38	6.62	7.50	7.95	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Texas								
Number of Entities	58	72	NA	68	9	NA	NA	207
Number of Retail Customers	7,000,459	1,524,291	NA	1,614,104	10	NA	NA	10,138,864
Retail Sales (thousand megawatthours)	245,109	41,256	NA	31,751	2,499	NA	NA	320,615
Percentage of Retail Sales	76.45	12.87	NA	9.90	.78	NA	NA	100.00
Revenue from Retail Sales (million dollars)	19,619	3,029	NA	2,702	132	NA	NA	25,482
Percentage of Revenue	76.99	11.89	NA	10.60	.52	NA	NA	100.00
Average Retail Price (cents/kWh)	8.00	7.34	NA	8.51	5.29	NA	NA	7.95

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Utah		
NERC Region(s)		WECC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	6,190	39
Electric Utilities	5,754	31
Independent Power Producers & Combined Heat and Power	437	46
Net Generation (megawatthours)	38,211,977	35
Electric Utilities	37,165,917	29
Independent Power Producers & Combined Heat and Power	1,046,060	44
Emissions (thousand metric tons)		
Sulfur Dioxide	34	38
Nitrogen Oxide	69	25
Carbon Dioxide	35,167	28
Sulfur Dioxide (lbs/MWh)	2.0	40
Nitrogen Oxide (lbs/MWh)	4.0	7
Carbon Dioxide (lbs/MWh)	2,029	8
Total Retail Sales (megawatthours)	24,511,704	37
Full Service Provider Sales (megawatthours)	24,511,704	37
Direct Use (megawatthours)	360,581	40
Average Retail Price (cents/kWh)	5.69	44

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Utah			
1. Intermountain Power Project	Petroleum,Coal	Los Angeles City of	1,800
2. Hunter	Petroleum,Coal	PacifiCorp	1,320
3. Huntington	Petroleum,Coal	PacifiCorp	895
4. Bonanza	Petroleum,Coal	Deseret Generation & Tran Coop	458
5. Gadsby	Gas	PacifiCorp	349
6. KUCC	Gas,Coal	Kennecott Utah Copper Corporation	187
7. West Valley Generation Project	Gas	PacifiCorp	185
8. Carbon	Petroleum,Coal	PacifiCorp	172
9. Murray Turbine	Gas	Murray City of	159
10. Flaming Gorge	Hydroelectric	U S Bureau of Reclamation	152

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Utah						
1. PacifiCorp	Investor-Owned	19,731,527	5,530,304	7,103,259	7,072,610	25,354
2. Provo City Corp	Public	715,668	218,306	372,773	124,589	0
3. St George City of	Public	523,000	243,000	280,000	0	0
4. Logan City of	Public	396,991	87,767	163,958	145,266	0
5. Murray City of	Public	377,964	111,028	266,936	0	0
Total Sales, Top Five Providers		21,745,150	6,190,405	8,186,926	7,342,465	25,354
Percent of Total State Sales		89	85	88	94	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004

(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Utah									
Electric Utilities	**4,805**	**4,927**	**5,111**	**5,129**	**5,573**	**5,574**	**5,754**	**98.3**	**93.0**
Coal	4,316	4,374	4,464	4,464	4,461	4,461	4,645	88.3	75.0
Petroleum	26	25	44	32	28	28	28	.5	.5
Natural Gas	179	173	238	268	719	719	731	3.7	11.8
Dual Fired	49	58	64	82	81	82	75	1.0	1.2
Hydroelectric	213	261	265	251	252	252	252	4.4	4.1
Other Renewables	21	35	35	33	33	33	23	.4	.4
Independent Power Producers and Combined Heat and Power	**82**	**137**	**111**	**179**	**179**	**222**	**437**	**1.7**	**7.1**
Coal	0	54	100	101	101	144	181	.0	2.9
Petroleum	3	0	0	3	3	3	0	.1	.0
Natural Gas	2	2	4	72	72	72	193	*	3.1
Other Gases	48	48	0	0	0	0	0	1.0	.0
Dual Fired	19	22	2	0	0	0	2	.4	*
Hydroelectric	10	10	4	2	2	2	2	.2	*
Other Renewables	0	0	1	1	1	1	1	.0	*
Other	0	0	0	0	0	0	57	.0	.9
Total Electric Industry	**4,886**	**5,063**	**5,223**	**5,308**	**5,752**	**5,797**	**6,190**	**100.0**	**100.0**
Coal	4,316	4,429	4,565	4,565	4,562	4,606	4,826	88.3	78.0
Petroleum	30	25	44	35	31	31	28	.6	.5
Natural Gas	181	175	242	340	791	791	924	3.7	14.9
Other Gases	48	48	0	0	0	0	0	1.0	.0
Dual Fired	68	79	66	82	81	82	77	1.4	1.2
Hydroelectric	223	271	269	253	254	254	254	4.6	4.1
Other Renewables	21	35	36	34	34	34	24	.4	.4
Other	0	0	0	0	0	0	57	.0	.9

e footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percent Share	
								1990	2004
Utah									
Electric Utilities	**32,260,340**	**32,101,107**	**35,827,490**	**35,138,801**	**36,071,946**	**37,544,892**	**37,165,917**	**99.1**	**97.3**
Coal	31,519,477	30,259,914	34,045,804	33,204,340	34,080,979	35,579,158	35,634,374	96.8	93.3
Petroleum	49,262	34,000	56,940	57,538	53,469	31,386	32,567	.2	.1
Natural Gas	54,034	741,115	830,557	1,223,978	1,268,326	1,322,984	864,181	.2	2.3
Hydroelectric	485,742	926,336	737,830	500,203	451,521	412,899	439,919	1.5	1.2
Other Renewables	151,825	139,742	151,843	152,742	217,651	198,465	194,876	.5	.5
Pumped Storage	0	0	4,516	0	0	0	0	.0	.0
Independent Power Producers and Combined Heat and Power	**303,199**	**706,281**	**781,584**	**714,949**	**536,057**	**478,774**	**1,046,060**	**.9**	**2.7**
Coal	3,449	351,149	445,620	474,968	406,744	399,490	983,480	*	2.6
Petroleum	2,590	1,934	1,031	38	50	1,480	0	*	.0
Natural Gas	92,454	50,097	59,671	222,099	111,855	60,123	45,669	.3	.1
Other Gases	182,005	260,694	257,857	0	0	0	0	.6	.0
Hydroelectric	22,701	42,407	8,295	8,202	6,211	8,440	9,929	.1	*
Other Renewables	0	0	9,110	9,642	11,197	9,241	6,982	.0	*
Total Electric Industry	**32,563,539**	**32,807,388**	**36,609,074**	**35,853,750**	**36,608,003**	**38,023,666**	**38,211,977**	**100.0**	**100.0**
Coal	31,522,926	30,611,063	34,491,424	33,679,308	34,487,723	35,978,648	36,617,854	96.8	95.8
Petroleum	51,852	35,934	57,971	57,576	53,519	32,866	32,567	.2	.1
Natural Gas	146,488	791,212	890,228	1,446,077	1,380,181	1,383,107	909,850	.4	2.4
Other Gases	182,005	260,694	257,857	0	0	0	0	.6	.0
Hydroelectric	508,443	968,743	746,125	508,405	457,732	421,339	449,848	1.6	1.2
Other Renewables	151,825	139,742	160,953	162,384	228,848	207,706	201,858	.5	.5
Pumped Storage	0	0	4,516	0	0	0	0	.0	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Utah							
Coal (cents per million Btu)	116.7	109.4	101.3	112.3	W	W	W
Average heat value (Btu per pound)	11,483	11,550	11,678	11,375	11,259	11,025	10,718
Average sulfur Content (percent)	.5	.5	.4	.5	.5	.5	.5
Petroleum (cents per million Btu)	541.5	504.6	678.6	634.5	556.4	722.2	923.7
Average heat value (Btu per gallon)	140,000	139,340	139,293	139,405	140,364	139,493	139,512
Average sulfur Content (percent)	.3	.2	.2	.3	.3	.2	.2
Natural Gas (cents per million Btu)	503.5	214.5	383.6	463.6	W	W	W
Average heat value (Btu per cubic foot)	1,000	1,055	1,049	1,037	1,006	1,062	1,049

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Utah							
Sulfur Dioxide							
Coal	29	26	26	43	46	32	34
Petroleum	*	*	0	*	*	*	*
Natural Gas	0	0	0	*	0	*	0
Other	0	0	*	*	*	*	*
Total	29	26	26	44	46	32	34
Nitrogen Oxide							
Coal	109	102	72	69	69	67	68
Petroleum	*	*	*	*	*	*	*
Gas	*	1	1	1	1	*	*
Other	0	0	*	*	*	*	*
Total	109	103	73	70	70	68	69
Carbon Dioxide							
Coal	29,164	29,457	33,036	32,308	32,534	33,559	34,555
Petroleum	40	28	43	46	41	26	26
Gas	112	514	692	1,019	831	779	524
Geothermal	4	4	4	4	6	5	5
Other	0	0	16	15	59	54	57
Total	29,319	30,003	33,791	33,393	33,471	34,423	35,167

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Utah									
Retail Sales (thousand megawatthours)									
Residential	4,246	5,041	6,514	6,693	6,938	7,166	7,325	27.6	29.9
Commercial	4,515	5,642	7,884	8,262	8,463	9,024	9,345	29.3	38.1
Industrial	5,766	6,957	7,917	7,411	7,019	7,646	7,816	37.4	31.9
Other	875	820	870	851	846	NA	NA	5.7	NA
Transportation	NA	NA	NA	NA	NA	25	25	NA	.1
Total	15,402	18,460	23,185	23,217	23,267	23,860	24,512	100.0	100.0
Retail Revenue (million dollars)									
Residential	303	350	410	450	471	494	528	36.0	37.8
Commercial	283	334	412	461	474	504	551	33.7	39.5
Industrial	219	259	265	262	269	290	314	26.0	22.5
Other	36	37	36	39	40	NA	NA	4.3	NA
Transportation	NA	NA	NA	NA	NA	1	2	NA	.1
Total	841	979	1,123	1,211	1,255	1,290	1,395	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.13	6.94	6.29	6.72	6.79	6.90	7.21	NA	NA
Commercial	6.26	5.92	5.23	5.57	5.60	5.59	5.90	NA	NA
Industrial	3.80	3.72	3.35	3.53	3.84	3.79	4.01	NA	NA
Other	4.16	4.46	4.14	4.53	4.69	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	6.00	6.57	NA	NA
Total	5.46	5.30	4.84	5.21	5.39	5.41	5.69	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Utah								
Number of Entities	2	41	1	9	NA	NA	NA	53
Number of Retail Customers	717,584	199,820	9	34,390	NA	NA	NA	951,803
Retail Sales (thousand megawatthours)	19,741	3,918	48	804	NA	NA	NA	24,512
Percentage of Retail Sales	80.54	15.99	.20	3.28	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	1,057	287	2	50	NA	NA	NA	1,395
Percentage of Revenue	75.77	20.54	.12	3.58	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	5.35	7.31	3.36	6.21	NA	NA	NA	5.69

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Vermont		
NERC Region(s)		NPCC
Primary Energy Source		Nuclear
Net Summer Capability (megawatts)	998	50
Electric Utilities	251	45
Independent Power Producers & Combined Heat and Power	747	42
Net Generation (megawatthours)	5,470,379	49
Electric Utilities	643,426	45
Independent Power Producers & Combined Heat and Power	4,826,953	35
Emissions (thousand metric tons)		
Sulfur Dioxide	*	51
Nitrogen Oxide	*	50
Carbon Dioxide	22	51
Sulfur Dioxide (lbs/MWh)	.0	51
Nitrogen Oxide (lbs/MWh)	.1	51
Carbon Dioxide (lbs/MWh)	9	51
Total Retail Sales (megawatthours)	5,663,772	51
Full Service Provider Sales (megawatthours)	5,663,772	50
Direct Use (megawatthours)	70,982	47
Average Retail Price (cents/kWh)	11.02	5

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Vermont			
1. Vermont Yankee	Nuclear	Entergy Nuclear Vermont Yankee	506
2. J C McNeil	Petroleum,Gas,Other	Burlington City of	52
3. Bellows Falls	Hydroelectric	U S Gen New England Inc	49
4. Wilder	Hydroelectric	U S Gen New England Inc	41
5. Harriman	Hydroelectric	U S Gen New England Inc	40
6. Berlin 5	Petroleum	Green Mountain Power Corp	35
7. Vernon	Hydroelectric	U S Gen New England Inc	24
8. Sheldon Springs Hydroelectric	Hydroelectric	Sheldon Vermont Hydro Co., Inc.	24
9. Burlington GT	Petroleum	Burlington City of	20
10. Ryegate Power Station	Other	Ryegate Associates	20

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Vermont						
1. Central Vermont Pub Serv Corp	Investor-Owned	2,241,677	955,261	867,325	419,091	0
2. Green Mountain Power Corp	Investor-Owned	1,969,925	583,449	719,973	666,503	0
3. Vermont Electric Coop, Inc	Cooperative	382,028	209,692	90,016	82,320	0
4. Burlington City of	Public	353,053	92,779	192,418	67,856	0
5. Omya Inc	Investor-Owned	216,857	6,169	4,634	206,054	0
Total Sales, Top Five Providers		5,163,540	1,847,350	1,874,366	1,441,824	0
Percent of Total State Sales		91	88	95	91	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Vermont									
Electric Utilities	**1,065**	**1,090**	**777**	**262**	**261**	**260**	**251**	**96.0**	**25.1**
Petroleum	117	118	112	111	107	107	101	10.5	10.1
Nuclear	496	496	506	0	0	0	0	44.7	.0
Hydroelectric	404	426	106	99	102	96	93	36.4	9.3
Other Renewables	47	50	53	52	53	57	57	4.2	5.7
Independent Power Producers and Combined Heat and Power	**44**	**71**	**207**	**707**	**732**	**737**	**747**	**4.0**	**74.8**
Petroleum	0	0	0	0	0	0	7	.0	.7
Nuclear	0	0	0	506	506	506	506	.0	50.7
Hydroelectric	40	47	183	178	203	208	211	3.6	21.1
Other Renewables	4	24	24	24	24	24	24	.4	2.4
Total Electric Industry	**1,109**	**1,161**	**984**	**970**	**994**	**997**	**998**	**100.0**	**100.0**
Petroleum	117	118	112	111	107	107	107	10.5	10.7
Nuclear	496	496	506	506	506	506	506	44.7	50.7
Hydroelectric	444	474	289	277	305	303	304	40.0	30.5
Other Renewables	51	74	76	76	76	81	81	4.6	8.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Vermont									
Electric Utilities	**4,992,578**	**4,839,820**	**5,307,016**	**4,734,002**	**2,971,224**	**626,337**	**643,426**	**96.7**	**11.8**
Petroleum	2,543	13,357	60,660	31,740	9,406	22,607	17,800	*	.3
Natural Gas	65,281	6,593	90,790	11,000	3,275	2,029	3,224	1.3	.1
Nuclear	3,616,268	3,858,509	4,548,065	4,171,120	2,367,209	0	0	70.0	.0
Hydroelectric	1,214,248	834,193	419,908	330,674	404,227	367,624	395,734	23.5	7.2
Other Renewables	94,238	127,168	187,593	189,468	187,107	234,077	226,668	1.8	4.1
Independent Power Producers and Combined Heat and Power	**171,530**	**320,242**	**995,998**	**746,612**	**2,484,966**	**5,401,625**	**4,826,952**	**3.3**	**88.2**
Petroleum	0	127	220	0	0	0	0	.0	.0
Other Gases	0	0	22,417	0	0	0	0	.0	.0
Nuclear	0	0	0	0	1,595,407	4,444,152	3,858,020	.0	70.5
Hydroelectric	150,783	138,464	801,182	553,539	710,695	786,414	791,522	2.9	14.5
Other Renewables	20,747	181,651	172,179	193,073	178,864	171,059	177,410	.4	3.2
Total Electric Industry	**5,164,108**	**5,160,062**	**6,303,014**	**5,480,614**	**5,456,190**	**6,027,962**	**5,470,379**	**100.0**	**100.0**
Petroleum	2,543	13,484	60,880	31,740	9,406	22,607	17,800	*	.3
Natural Gas	65,281	6,593	90,790	11,000	3,275	2,029	3,224	1.3	.1
Other Gases	0	0	22,417	0	0	0	0	.0	.0
Nuclear	3,616,268	3,858,509	4,548,065	4,171,120	3,962,616	4,444,152	3,858,020	70.0	70.5
Hydroelectric	1,365,031	972,657	1,221,090	884,213	1,114,922	1,154,038	1,187,256	26.4	21.7
Other Renewables	114,985	308,819	359,772	382,541	365,971	405,136	404,078	2.2	7.4

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Vermont							
Natural Gas (cents per million Btu)	0.0	195.3	485.5	477.6	383.7	0.0	0.0
Average heat value (Btu per cubic foot)	0	1,001	1,012	1,012	1,018	0	0

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Vermont							
Sulfur Dioxide							
Coal	0	0	0	0	0	0	0
Petroleum	*	0	*	0	0	*	*
Natural Gas	0	0	0	0	0	0	0
Other	*	*	*	*	*	*	*
Total	*	*	*	*	*	*	*
Nitrogen Oxide							
Coal	0	0	0	0	0	0	0
Petroleum	*	0	*	0	0	*	*
Gas	*	*	*	*	0	0	*
Other	*	*	*	*	*	*	*
Total	*	*	*	*	*	*	*
Carbon Dioxide							
Coal	0	0	0	0	0	0	0
Petroleum	5	17	67	37	13	24	19
Gas	36	7	54	6	2	2	3
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	42	24	122	43	15	25	22

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Vermont									
Retail Sales (thousand megawatthours)									
Residential	1,809	1,973	2,037	2,009	2,047	2,011	2,109	38.4	37.2
Commercial	1,484	1,605	1,910	1,926	1,946	1,881	1,978	31.5	34.9
Industrial	1,381	1,484	1,646	1,608	1,592	1,460	1,577	29.3	27.8
Other	42	42	46	42	45	NA	NA	.9	NA
Total	4,716	5,104	5,639	5,585	5,629	5,352	5,664	100.0	100.0
Retail Revenue (million dollars)									
Residential	168	208	251	255	262	258	273	43.1	43.8
Commercial	126	157	203	217	216	212	226	32.3	36.2
Industrial	91	112	120	127	126	117	126	23.3	20.2
Other	5	6	6	8	9	NA	NA	1.3	NA
Total	390	483	579	607	612	588	624	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	9.27	10.52	12.30	12.67	12.78	12.82	12.94	NA	NA
Commercial	8.50	9.80	10.61	11.28	11.10	11.29	11.42	NA	NA
Industrial	6.62	7.56	7.31	7.89	7.90	8.05	7.96	NA	NA
Other	12.13	14.03	12.20	18.85	19.26	NA	NA	NA	NA
Total	8.28	9.46	10.27	10.86	10.87	10.98	11.02	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Vermont								
Number of Entities	4	15	NA	2	NA	NA	NA	21
Number of Retail Customers	241,089	53,183	NA	48,888	NA	NA	NA	343,160
Retail Sales (thousand megawatthours)	4,435	780	NA	449	NA	NA	NA	5,664
Percentage of Retail Sales	78.30	13.77	NA	7.93	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	484	85	NA	55	NA	NA	NA	624
Percentage of Revenue	77.49	13.68	NA	8.83	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	10.91	10.95	NA	12.28	NA	NA	NA	11.02

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Virginia		
NERC Region(s)		ECAR/SERC/MAAC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	22,506	16
Electric Utilities	17,567	14
Independent Power Producers & Combined Heat and Power	4,939	21
Net Generation (megawatthours)	78,900,040	21
Electric Utilities	65,103,653	16
Independent Power Producers & Combined Heat and Power	13,796,387	19
Emissions (thousand metric tons)		
Sulfur Dioxide	217	19
Nitrogen Oxide	68	26
Carbon Dioxide	46,844	20
Sulfur Dioxide (lbs/MWh)	6.1	18
Nitrogen Oxide (lbs/MWh)	1.9	33
Carbon Dioxide (lbs/MWh)	1,309	29
Total Retail Sales (megawatthours)	105,424,173	11
Full Service Provider Sales (megawatthours)	105,398,266	9
Deregulated Sales (megawatthours)	25,907	20
Direct Use (megawatthours)	2,998,532	14
Average Retail Price (cents/kWh)	6.43	32

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Virginia			
1. Bath County	Pumped Storage	Dominion Virginia Power	2,462
2. North Anna	Hydroelectric,Nuclear	Dominion Virginia Power	1,843
3. Possum Point	Coal,Petroleum,Gas	Dominion Virginia Power	1,731
4. Chesterfield	Petroleum,Gas,Coal	Dominion Virginia Power	1,631
5. Surry	Nuclear	Dominion Virginia Power	1,598
6. Yorktown	Gas,Coal,Petroleum	Dominion Virginia Power	1,144
7. Clover	Petroleum,Coal	Dominion Virginia Power	882
8. Doswell Energy Center	Petroleum,Gas	Doswell Ltd Partnership	820
9. Tenaska Virginia Generating Station	Petroleum,Gas	Tenaska Virginia Partners LP	814
10. Chesapeake	Petroleum,Coal	Dominion Virginia Power	739

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Virginia						
1. Dominion Virginia Power	Investor-Owned	70,936,299	26,823,894	34,899,761	9,050,999	161,645
2. Appalachian Power Co	Investor-Owned	16,165,599	6,362,167	3,942,209	5,861,223	0
3. Potomac Edison Co	Investor-Owned	2,862,888	1,154,704	624,979	1,083,205	0
4. Northern Virginia Elec Coop	Cooperative	2,818,592	1,753,600	715,234	349,758	0
5. Rappahannock Electric Coop	Cooperative	2,364,566	1,308,722	119,835	936,009	0
Total Sales, Top Five Providers		95,147,944	37,403,087	40,302,018	17,281,194	161,645
Percent of Total State Sales		90	88	94	88	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Virginia									
Electric Utilities	**13,661**	**14,342**	**15,606**	**15,761**	**15,818**	**17,128**	**17,567**	**90.7**	**78.1**
Coal	4,225	5,451	4,796	4,784	4,789	4,468	4,468	28.0	19.9
Petroleum	1,173	1,207	2,008	2,014	1,917	1,915	2,098	7.8	9.3
Natural Gas	190	413	1,104	1,398	1,244	1,566	874	1.3	3.9
Dual Fired	1,582	749	1,146	1,016	1,019	2,314	3,227	10.5	14.3
Nuclear	3,382	3,392	3,467	3,467	3,467	3,467	3,440	22.4	15.3
Hydroelectric	764	786	741	738	738	759	760	5.1	3.4
Pumped Storage	2,345	2,345	2,345	2,345	2,645	2,638	2,700	15.6	12.0
Independent Power Producers and Combined Heat and Power	**1,404**	**3,328**	**3,816**	**4,325**	**4,387**	**4,130**	**4,939**	**9.3**	**21.9**
Coal	373	925	1,388	1,353	1,329	1,328	1,329	2.5	5.9
Petroleum	0	6	184	359	358	358	359	.0	1.6
Natural Gas	155	82	422	682	434	430	671	1.0	3.0
Dual Fired	376	1,732	1,229	1,342	1,663	1,417	1,983	2.5	8.8
Hydroelectric	13	22	20	20	20	21	22	.1	.1
Other Renewables	486	561	572	570	584	576	575	3.2	2.6
Total Electric Industry	**15,065**	**17,670**	**19,422**	**20,086**	**20,205**	**21,258**	**22,506**	**100.0**	**100.0**
Coal	4,598	6,376	6,185	6,137	6,117	5,796	5,797	30.5	25.8
Petroleum	1,173	1,213	2,191	2,372	2,275	2,273	2,457	7.8	10.9
Natural Gas	345	494	1,526	2,080	1,678	1,996	1,545	2.3	6.9
Dual Fired	1,958	2,482	2,375	2,358	2,682	3,731	5,210	13.0	23.1
Nuclear	3,382	3,392	3,467	3,467	3,467	3,467	3,440	22.4	15.3
Hydroelectric	778	807	761	758	757	780	782	5.2	3.5
Other Renewables	487	562	572	570	584	576	575	3.2	2.6
Pumped Storage	2,345	2,345	2,345	2,345	2,645	2,638	2,700	15.6	12.0

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Virginia									
Electric Utilities	**47,200,499**	**52,727,470**	**65,842,720**	**62,135,492**	**62,880,125**	**61,806,347**	**65,103,653**	**89.8**	**82.5**
Coal	21,000,180	24,442,870	33,964,556	30,657,436	31,099,307	29,145,703	27,772,985	40.0	35.2
Petroleum	1,194,150	1,119,524	2,408,600	4,854,800	3,454,714	4,982,314	4,664,410	2.3	5.9
Natural Gas	758,289	1,880,982	1,839,850	2,130,640	2,128,402	2,690,674	3,976,271	1.4	5.0
Nuclear	23,820,152	25,134,831	28,321,091	25,759,130	27,346,163	24,816,022	28,315,294	45.3	35.9
Hydroelectric	1,261,363	917,654	649,614	973,563	840,374	1,669,793	1,490,114	2.4	1.9
Other Renewables	34	3	0	0	0	0	50,690	.0	.1
Pumped Storage	−833,669	−768,394	−1,340,991	−2,240,077	−1,988,835	−1,498,159	−1,166,111	−1.6	−1.5
Independent Power Producers and Combined Heat and Power	**5,363,959**	**10,268,551**	**11,346,650**	**11,969,258**	**12,125,527**	**13,503,073**	**13,796,387**	**10.2**	**17.5**
Coal	2,899,722	4,054,195	5,796,760	7,112,475	6,983,074	7,947,628	7,885,708	5.5	10.0
Petroleum	244,114	481,155	529,944	606,813	337,891	798,022	473,080	.5	.6
Natural Gas	376,520	3,550,863	2,813,477	2,065,431	2,258,525	1,928,391	2,441,158	.7	3.1
Other Gases	0	0	0	0	0	2,959	0	.0	.0
Hydroelectric	48,136	77,372	62,369	40,661	27,842	111,776	92,936	.1	.1
Other Renewables	1,795,467	2,099,600	2,144,100	2,143,878	2,518,195	2,714,295	2,903,506	3.4	3.7
Other	0	5,366	0	0	0	0	0	.0	.0
Total Electric Industry	**52,564,458**	**62,996,021**	**77,189,370**	**74,104,750**	**75,005,651**	**75,309,420**	**78,900,040**	**100.0**	**100.0**
Coal	23,899,902	28,497,065	39,761,316	37,769,911	38,082,381	37,093,331	35,658,693	45.5	45.2
Petroleum	1,438,264	1,600,679	2,938,544	5,461,613	3,792,605	5,780,336	5,137,490	2.7	6.5
Natural Gas	1,134,809	5,431,845	4,653,327	4,196,071	4,386,927	4,619,065	6,417,429	2.2	8.1
Other Gases	0	0	0	0	0	2,959	0	.0	.0
Nuclear	23,820,152	25,134,831	28,321,091	25,759,130	27,346,163	24,816,022	28,315,294	45.3	35.9
Hydroelectric	1,309,499	995,026	711,983	1,014,224	868,216	1,781,569	1,583,050	2.5	2.0
Other Renewables	1,795,501	2,099,603	2,144,100	2,143,878	2,518,195	2,714,295	2,954,196	3.4	3.7
Pumped Storage	−833,669	−768,394	−1,340,991	−2,240,077	−1,988,835	−1,498,159	−1,166,111	−1.6	−1.5
Other	0	5,366	0	0	0	0	0	.0	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Virginia							
Coal (cents per million Btu)	154.5	144.8	133.0	159.3	169.2	166.5	195.1
Average heat value (Btu per pound)	12,714	12,743	12,814	12,732	12,757	12,826	12,713
Average sulfur Content (percent)	1.0	1.0	1.0	1.0	1.2	1.0	.9
Petroleum (cents per million Btu)	383.5	250.9	423.9	356.5	380.3	498.7	496.8
Average heat value (Btu per gallon)	146,360	146,179	151,003	149,024	148,645	149,367	150,757
Average sulfur Content (percent)	.9	.9	1.1	1.0	1.0	.6	.8
Natural Gas (cents per million Btu)	258.2	259.1	451.2	439.8	413.4	617.5	665.3
Average heat value (Btu per cubic foot)	1,041	1,031	1,034	1,027	1,019	1,035	1,032

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Virginia							
Sulfur Dioxide							
Coal	194	219	226	216	234	200	182
Petroleum	12	5	16	25	19	25	23
Natural Gas	0	*	*	*	*	*	*
Other	10	13	13	8	7	12	12
Total	216	237	254	250	260	237	217
Nitrogen Oxide							
Coal	107	119	99	96	96	67	57
Petroleum	3	2	3	4	3	5	4
Gas	1	5	4	3	4	2	2
Other	4	5	4	4	4	6	5
Total	115	132	110	108	107	79	68
Carbon Dioxide							
Coal	26,479	31,275	41,555	39,355	39,816	38,222	38,350
Petroleum	1,727	1,747	2,581	4,325	3,040	4,653	4,351
Gas	633	2,845	2,528	2,258	2,914	2,342	3,135
Geothermal	0	0	0	0	0	0	0
Other	144	144	93	211	875	908	1,008
Total	28,982	36,011	46,758	46,149	46,644	46,125	46,844

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Virginia									
Retail Sales (thousand megawatthours)									
Residential	28,130	33,472	37,541	37,325	40,358	40,877	42,503	38.7	40.3
Commercial	20,213	24,028	28,299	29,066	29,999	41,179	43,025	27.8	40.8
Industrial	16,399	18,554	20,619	19,702	19,521	19,282	19,734	22.6	18.7
Other	7,955	9,109	10,256	10,360	10,740	NA	NA	10.9	NA
Transportation	NA	NA	NA	NA	NA	172	162	NA	.2
Total	72,696	85,162	96,715	96,453	100,619	101,510	105,424	100.0	100.0
Retail Revenue (million dollars)									
Residential	2,039	2,626	2,823	2,908	3,144	3,174	3,397	46.5	50.1
Commercial	1,225	1,458	1,598	1,701	1,762	2,365	2,530	27.9	37.3
Industrial	700	772	804	820	807	815	843	16.0	12.4
Other	422	474	518	535	553	NA	NA	9.6	NA
Transportation	NA	NA	NA	NA	NA	9	10	NA	.1
Total	4,386	5,331	5,742	5,964	6,265	6,364	6,780	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.25	7.84	7.52	7.79	7.79	7.76	7.99	NA	NA
Commercial	6.06	6.07	5.65	5.85	5.87	5.74	5.88	NA	NA
Industrial	4.27	4.16	3.90	4.16	4.13	4.23	4.27	NA	NA
Other	5.31	5.21	5.05	5.16	5.14	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	5.46	6.25	NA	NA
Total	6.03	6.26	5.94	6.18	6.23	6.27	6.43	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Virginia								
Number of Entities	5	16	1	13	1	1	1	38
Number of Retail Customers	2,772,483	159,236	1	428,547	1	1,931	NA	3,362,199
Retail Sales (thousand megawatthours)	91,315	4,793	9	9,120	161	26	NA	105,424
Percentage of Retail Sales	86.62	4.55	.01	8.65	.15	.02	NA	100.00
Revenue from Retail Sales (million dollars)	5,691	269	*	811	6	2	1	6,780
Percentage of Revenue	83.94	3.97	*	11.95	.09	.02	.02	100.00
Average Retail Price (cents/kWh)	6.23	5.61	2.75	8.89	3.90	6.44	4.35	6.43

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Washington		
NERC Region(s)		WECC
Primary Energy Source		Hydro
Net Summer Capability (megawatts)	27,573	11
Electric Utilities	23,878	4
Independent Power Producers & Combined Heat and Power	3,695	25
Net Generation (megawatthours)	102,165,052	14
Electric Utilities	83,500,909	12
Independent Power Producers & Combined Heat and Power	18,664,144	17
Emissions (thousand metric tons)		
Sulfur Dioxide	15	43
Nitrogen Oxide	21	39
Carbon Dioxide	15,011	39
Sulfur Dioxide (lbs/MWh)	.3	49
Nitrogen Oxide (lbs/MWh)	.5	49
Carbon Dioxide (lbs/MWh)	324	49
Total Retail Sales (megawatthours)	79,981,608	16
Full Service Provider Sales (megawatthours)	79,606,088	18
Deregulated Sales (megawatthours)	375,520	17
Direct Use (megawatthours)	1,394,018	26
Average Retail Price (cents/kWh)	5.80	42

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Washington			
1. Grand Coulee	Hydroelectric	U S Bureau of Reclamation	7,079
2. Chief Joseph	Hydroelectric	USCE-North Pacific Division	2,456
3. Transalta Centralia Generation	Petroleum,Gas,Coal	TransAlta Centralia Gen LLC	1,661
4. Rocky Reach	Hydroelectric	PUD No 1 of Chelan County	1,279
5. Columbia Generating Station	Nuclear	Energy Northwest	1,122
6. Boundary	Hydroelectric	Seattle City of	1,050
7. Wanapum	Hydroelectric	PUD No 2 of Grant County	984
8. Priest Rapids	Hydroelectric	PUD No 2 of Grant County	932
9. Wells	Hydroelectric	PUD No 1 of Douglas County	840
10. Little Goose	Hydroelectric	USCE-North Pacific Division	810

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Washington						
1. Puget Sound Energy Inc.	Investor-Owned	19,876,790	10,007,812	8,519,061	1,349,917	0
2. Seattle City of	Public	9,020,525	2,950,653	4,834,363	1,193,778	41,731
3. PUD No 1 of Snohomish County	Public	6,151,711	3,129,705	2,179,217	842,789	0
4. Avista Corporation	Investor-Owned	5,136,865	2,288,471	2,033,208	815,186	0
5. Tacoma City of	Public	4,638,234	1,773,275	889,415	1,975,544	0
Total Sales, Top Five Providers		44,824,125	20,149,916	18,455,264	6,177,214	41,731
Percent of Total State Sales		56	62	65	32	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Washington									
Electric Utilities	**24,173**	**24,277**	**23,840**	**24,055**	**24,141**	**24,216**	**23,878**	**98.5**	**86.6**
Coal	1,310	1,340	0	0	0	0	0	5.3	.0
Petroleum	173	88	4	40	40	39	39	.7	.1
Natural Gas	0	0	245	277	303	310	378	.0	1.4
Dual Fired	590	590	710	803	843	843	807	2.4	2.9
Nuclear	1,100	1,107	1,112	1,108	1,108	1,108	1,122	4.5	4.1
Hydroelectric	20,640	20,795	21,360	21,367	21,392	21,408	21,010	84.1	76.2
Other Renewables	46	97	96	147	142	194	210	.2	.8
Pumped Storage	314	260	314	314	314	314	314	1.3	1.1
Independent Power Producers and Combined Heat and Power	**373**	**977**	**2,226**	**2,591**	**2,971**	**3,473**	**3,695**	**1.5**	**13.4**
Coal	16	2	1,355	1,407	1,407	1,407	1,407	.1	5.1
Petroleum	22	0	0	0	0	0	0	.1	.0
Natural Gas	113	435	373	428	938	938	1,227	.5	4.4
Dual Fired	0	301	154	299	177	672	602	.0	2.2
Hydroelectric	88	97	101	86	72	48	59	.4	.2
Other Renewables	132	142	240	370	378	408	399	.5	1.4
Total Electric Industry	**24,545**	**25,254**	**26,065**	**26,645**	**27,112**	**27,689**	**27,573**	**100.0**	**100.0**
Coal	1,326	1,342	1,355	1,407	1,407	1,407	1,407	5.4	5.1
Petroleum	196	88	4	40	40	39	39	.8	.1
Natural Gas	113	436	619	705	1,240	1,247	1,605	.5	5.8
Dual Fired	590	891	864	1,102	1,020	1,515	1,409	2.4	5.1
Nuclear	1,100	1,107	1,112	1,108	1,108	1,108	1,122	4.5	4.1
Hydroelectric	20,729	20,892	21,461	21,453	21,464	21,457	21,070	84.5	76.4
Other Renewables	178	239	336	517	519	602	609	.7	2.2
Pumped Storage	314	260	314	314	314	314	314	1.3	1.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Washington									
Electric Utilities	**100,478,861**	**95,671,478**	**96,227,037**	**67,683,216**	**88,568,483**	**82,205,391**	**83,500,909**	**98.4**	**81.7**
Coal	7,351,520	5,877,093	3,284,393	0	0	0	0	7.2	.0
Petroleum	14,290	8,711	226,078	179,120	6,172	7,851	13,112	*	*
Natural Gas	15,501	554,405	3,749,232	4,378,072	1,084,370	2,256,386	2,286,578	*	2.2
Nuclear	5,742,027	6,941,878	8,605,232	8,250,429	9,048,475	7,614,708	8,981,583	5.6	8.8
Hydroelectric	87,022,217	82,028,297	79,999,928	54,517,234	77,833,286	71,540,502	71,393,131	85.3	69.9
Other Renewables	333,306	261,094	362,174	358,361	600,712	789,237	836,323	.3	.8
Pumped Storage	0	0	0	0	−4,532	−3,293	−9,818	.0	*
Independent Power Producers and Combined Heat and Power	**1,592,672**	**6,526,108**	**12,009,843**	**15,365,453**	**14,196,564**	**17,889,300**	**18,664,143**	**1.6**	**18.3**
Coal	38,759	25,852	6,160,171	9,082,358	8,660,804	11,089,796	10,413,457	*	10.2
Petroleum	28,691	170,204	258,434	141,239	67,130	58,741	68,241	*	.1
Natural Gas	272,557	4,335,199	3,950,994	4,996,173	3,634,941	4,826,219	6,193,097	.3	6.1
Other Gases	8,460	550,836	247,892	0	312,638	303,188	256,823	*	.3
Hydroelectric	444,491	471,856	262,961	216,661	333,378	216,281	182,569	.4	.2
Other Renewables	795,964	971,982	1,129,391	929,022	1,187,673	1,395,075	1,549,956	.8	1.5
Other	3,750	179	0	0	0	0	0	*	.0
Total Electric Industry	**102,071,533**	**102,197,586**	**108,236,880**	**83,048,669**	**102,765,048**	**100,094,691**	**102,165,052**	**100.0**	**100.0**
Coal	7,390,279	5,902,945	9,444,564	9,082,358	8,660,804	11,089,796	10,413,457	7.2	10.2
Petroleum	42,981	178,915	484,512	320,359	73,302	66,592	81,353	*	.1
Natural Gas	288,058	4,889,604	7,700,226	9,374,245	4,719,311	7,082,605	8,479,675	.3	8.3
Other Gases	8,460	550,836	247,892	0	312,638	303,188	256,823	*	.3
Nuclear	5,742,027	6,941,878	8,605,232	8,250,429	9,048,475	7,614,708	8,981,583	5.6	8.8
Hydroelectric	87,466,708	82,500,153	80,262,889	54,733,895	78,166,664	71,756,783	71,575,700	85.7	70.1
Other Renewables	1,129,270	1,233,076	1,491,565	1,287,383	1,788,385	2,184,312	2,386,279	1.1	2.3
Pumped Storage	0	0	0	0	−4,532	−3,293	−9,818	.0	*
Other	3,750	179	0	0	0	0	0	*	.0

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Washington							
Coal (cents per million Btu)	157.6	143.6	168.8	0.0	W	W	W
Average heat value (Btu per pound)	8,135	8,267	8,310	0	8,052	8,052	8,151
Average sulfur Content (percent)	.7	.7	.7	.0	1.0	1.0	.9
Petroleum (cents per million Btu)	511.0	484.9	664.0	.0	W	W	W
Average heat value (Btu per gallon)	140,948	139,954	140,000	0	146,121	145,438	139,331
Average sulfur Content (percent)	.3	.3	.3	.0	.3	.3	.9
Natural Gas (cents per million Btu)	.0	438.2	.0	.0	354.2	415.3	456.8
Average heat value (Btu per cubic foot)	0	1,050	0	0	1,026	1,029	1,029

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Washington							
Sulfur Dioxide							
Coal	57	45	77	64	18	8	7
Petroleum	2	1	1	1	*	1	1
Natural Gas	0	*	*	*	*	*	*
Other	9	8	7	7	7	7	7
Total	68	54	86	72	26	16	15
Nitrogen Oxide							
Coal	50	40	19	18	15	19	14
Petroleum	*	*	1	*	*	*	*
Gas	1	6	9	10	5	4	3
Other	3	3	3	3	2	3	3
Total	55	49	31	31	22	26	21
Carbon Dioxide							
Coal	7,565	6,465	10,242	9,455	9,534	11,209	10,523
Petroleum	228	237	581	417	233	254	294
Gas	648	3,380	4,789	5,469	2,596	3,425	4,074
Geothermal	0	0	0	0	0	0	0
Other	3	37	38	35	110	96	119
Total	8,445	10,119	15,651	15,375	12,473	14,984	15,011

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Washington									
Retail Sales (thousand megawatthours)									
Residential	28,809	30,147	33,036	31,608	32,066	31,872	32,455	31.6	40.6
Commercial	17,683	20,401	23,991	23,841	24,310	28,039	28,226	19.4	35.3
Industrial	40,712	34,276	35,410	19,339	15,792	18,180	19,259	44.7	24.1
Other	3,842	3,528	4,075	3,707	3,237	NA	NA	4.2	NA
Transportation	NA	NA	NA	NA	NA	42	42	NA	.1
Total	91,046	88,353	96,511	78,495	75,404	78,134	79,982	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,266	1,497	1,695	1,802	2,018	2,010	2,069	40.9	44.6
Commercial	734	982	1,166	1,298	1,485	1,701	1,742	23.7	37.6
Industrial	972	1,014	1,170	919	770	866	825	31.4	17.8
Other	120	132	149	174	160	NA	NA	3.9	NA
Transportation	NA	NA	NA	NA	NA	3	3	NA	.1
Total	3,092	3,626	4,180	4,193	4,433	4,580	4,638	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	4.39	4.97	5.13	5.70	6.29	6.31	6.37	NA	NA
Commercial	4.15	4.81	4.86	5.45	6.11	6.07	6.17	NA	NA
Industrial	2.39	2.96	3.30	4.75	4.88	4.76	4.28	NA	NA
Other	3.13	3.75	3.65	4.69	4.94	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	6.45	6.44	NA	NA
Total	3.40	4.10	4.33	5.34	5.88	5.86	5.80	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Washington								
Number of Entities	4	40	1	18	NA	3	2	68
Number of Retail Customers	1,328,354	1,480,104	12	149,504	NA	5	NA	2,957,979
Retail Sales (thousand megawatthours)	29,678	43,460	2,819	3,649	NA	376	NA	79,982
Percentage of Retail Sales	37.11	54.34	3.53	4.56	NA	.47	NA	100.00
Revenue from Retail Sales (million dollars)	1,859	2,455	102	205	NA	16	1	4,638
Percentage of Revenue	40.08	52.92	2.20	4.42	NA	.35	.03	100.00
Average Retail Price (cents/kWh)	6.26	5.65	3.61	5.62	NA	4.28	.37	5.80

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

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Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
West Virginia		
NERC Region(s)		ECAR
Primary Energy Source		Coal
Net Summer Capability (megawatts)	16,402	24
Electric Utilities	10,206	22
Independent Power Producers & Combined Heat and Power	6,196	18
Net Generation (megawatthours)	89,749,562	19
Electric Utilities	59,083,917	17
Independent Power Producers & Combined Heat and Power	30,665,645	11
Emissions (thousand metric tons)		
Sulfur Dioxide	448	8
Nitrogen Oxide	160	6
Carbon Dioxide	82,164	8
Sulfur Dioxide (lbs/MWh)	11.0	4
Nitrogen Oxide (lbs/MWh)	3.9	9
Carbon Dioxide (lbs/MWh)	2,018	9
Total Retail Sales (megawatthours)	28,918,612	35
Full Service Provider Sales (megawatthours)	28,918,612	35
Direct Use (megawatthours)	1,818,157	23
Average Retail Price (cents/kWh)	5.13	48

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
West Virginia			
1. John E Amos	Petroleum,Coal	Appalachian Power Co	2,900
2. Harrison Power Station	Gas,Coal	Allegheny Energy Supply Co LLC	1,933
3. Mitchell	Petroleum,Coal	Ohio Power Co	1,600
4. Mt Storm	Petroleum,Coal	Dominion Virginia Power	1,581
5. Mountaineer	Petroleum,Coal	Appalachian Power Co	1,300
6. Pleasants Power Station	Petroleum,Gas,Coal	Allegheny Energy Supply Co LLC	1,278
7. Fort Martin Power Station	Petroleum,Coal	Allegheny Energy Supply Co LLC	1,107
8. Philip Sporn	Petroleum,Coal	Appalachian Power Co	1,020
9. Ceredo Generating Station	Gas	Orion Power Operating Services	685
10. Kammer	Petroleum,Coal	Ohio Power Co	600

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
West Virginia						
1. Appalachian Power Co	Investor-Owned	13,255,062	5,464,726	3,575,744	4,214,592	0
2. Monongahela Power Co	Investor-Owned	10,437,054	3,221,103	2,434,770	4,776,745	4,436
3. Potomac Edison Co	Investor-Owned	2,953,218	1,467,884	709,698	775,636	0
4. Wheeling Power Co	Investor-Owned	2,009,471	430,744	414,363	1,164,364	0
5. Harrison Rural Elec Assn, Inc	Cooperative	59,134	50,126	9,008	0	0
Total Sales, Top Five Providers		28,713,939	10,634,583	7,143,583	10,931,337	4,436
Percent of Total State Sales		99	99	99	100	100

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
West Virginia									
Electric Utilities	**14,435**	**14,451**	**14,475**	**10,188**	**10,166**	**10,164**	**10,206**	**96.8**	**62.2**
Coal	14,315	14,381	14,413	10,126	10,108	10,108	10,108	96.0	61.6
Petroleum	12	12	12	12	12	12	12	.1	.1
Hydroelectric	108	58	50	50	46	44	86	.7	.5
Independent Power Producers and Combined Heat and Power	**484**	**560**	**615**	**5,630**	**6,014**	**5,960**	**6,196**	**3.2**	**37.8**
Coal	307	385	306	4,577	4,608	4,608	4,615	2.1	28.1
Natural Gas	0	0	26	765	764	765	990	.0	6.0
Other Gases	25	25	93	95	95	95	95	.2	.6
Dual Fired	11	11	0	0	292	292	292	.1	1.8
Hydroelectric	140	140	189	193	189	134	138	.9	.8
Other Renewables	0	0	0	0	66	66	66	.0	.4
Total Electric Industry	**14,918**	**15,011**	**15,090**	**15,817**	**16,180**	**16,124**	**16,402**	**100.0**	**100.0**
Coal	14,622	14,765	14,718	14,703	14,716	14,716	14,723	98.0	89.8
Petroleum	12	12	12	12	12	12	12	.1	.1
Natural Gas	0	0	26	764	764	764	990	.0	6.0
Other Gases	25	25	93	95	95	95	95	.2	.6
Dual Fired	11	11	0	0	292	292	292	.1	1.8
Hydroelectric	247	198	240	243	235	179	224	1.7	1.4
Other Renewables	0	0	0	0	66	66	66	.0	.4

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
West Virginia									
Electric Utilities	**77,363,692**	**77,322,168**	**89,708,609**	**51,608,803**	**63,341,620**	**64,056,696**	**59,083,917**	**97.3**	**65.8**
Coal	76,635,718	76,690,297	89,060,210	51,110,900	62,801,799	63,499,194	58,508,159	96.3	65.2
Petroleum	274,419	197,097	254,014	256,951	278,679	210,060	231,515	.3	.3
Natural Gas	18,506	40,323	41,941	3,654	3,396	3,998	3,166	*	*
Hydroelectric	435,049	394,451	338,012	210,961	235,958	322,664	326,253	.5	.4
Other Renewables	0	0	14,432	26,337	21,788	20,780	14,824	.0	*
Independent Power Producers and Combined Heat and Power	**2,175,852**	**3,215,259**	**3,156,567**	**30,227,922**	**31,420,132**	**30,654,858**	**30,665,645**	**2.7**	**34.2**
Coal	1,007,648	2,023,922	2,142,099	29,103,504	30,149,517	28,969,789	29,080,683	1.3	32.4
Petroleum	51,256	15,681	8,739	21,725	18,908	37,837	36,100	.1	*
Natural Gas	71,557	172,551	97,578	272,211	237,745	273,839	249,602	.1	.3
Other Gases	174,182	204,663	95,064	89,500	174,598	169,782	146,043	.2	.2
Hydroelectric	860,002	798,228	812,891	740,982	829,778	1,033,367	992,026	1.1	1.1
Other Renewables	0	0	0	0	9,586	170,242	161,191	.0	.2
Other	11,207	214	196	0	0	0	0	*	.0
Total Electric Industry	**79,539,544**	**80,537,427**	**92,865,176**	**81,836,725**	**94,761,751**	**94,711,554**	**89,749,562**	**100.0**	**100.0**
Coal	77,643,366	78,714,219	91,202,309	80,214,404	92,951,316	92,468,983	87,588,842	97.6	97.6
Petroleum	325,675	212,778	262,753	278,676	297,587	247,897	267,615	.4	.3
Natural Gas	90,063	212,874	139,519	275,865	241,141	277,837	252,768	.1	.3
Other Gases	174,182	204,663	95,064	89,500	174,598	169,782	146,043	.2	.2
Hydroelectric	1,295,051	1,192,679	1,150,903	951,943	1,065,736	1,356,031	1,318,279	1.6	[illegible]
Other Renewables	0	0	14,432	26,337	31,374	191,022	176,015	.0	[illegible]
Other	11,207	214	196	0	0	0	0	*	[illegible]

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
West Virginia							
Coal (cents per million Btu)	147.2	127.3	120.4	125.0	120.6	124.6	135.1
Average heat value (Btu per pound)	12,452	12,418	12,281	12,085	12,117	12,166	12,061
Average sulfur Content (percent)	1.9	2.0	1.4	1.2	1.7	1.7	1.8
Petroleum (cents per million Btu)	572.4	438.9	721.3	665.7	543.1	724.6	784.8
Average heat value (Btu per gallon)	139,295	138,989	139,324	137,214	139,276	140,526	140,943
Average sulfur Content (percent)	.1	.1	.1	.1	.2	.2	.1
Natural Gas (cents per million Btu)	513.3	357.6	498.1	646.5	385.4	632.7	633.0
Average heat value (Btu per cubic foot)	1,000	1,000	1,000	1,021	1,036	1,024	1,028

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
West Virginia							
Sulfur Dioxide							
Coal	876	755	556	476	479	507	447
Petroleum	1	*	1	*	1	*	*
Natural Gas	0	0	0	0	*	0	0
Other	0	0	*	0	0	*	*
Total	878	755	557	477	480	508	448
Nitrogen Oxide							
Coal	305	275	246	197	213	193	159
Petroleum	1	*	*	*	*	*	*
Gas	*	1	1	1	1	*	*
Other	0	0	*	0	0	*	*
Total	306	276	247	198	214	194	160
Carbon Dioxide							
Coal	71,416	72,986	84,259	74,701	86,080	85,056	81,346
Petroleum	346	208	239	178	212	189	222
Gas	169	512	445	495	353	416	583
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	13	14	13
Total	71,931	73,706	84,943	75,374	86,657	85,676	82,164

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
West Virginia									
Retail Sales (thousand megawatthours)									
Residential	7,578	9,166	9,738	9,828	10,444	10,473	10,756	32.8	37.2
Commercial	4,991	5,852	6,796	6,786	7,039	7,136	7,217	21.6	25.0
Industrial	10,469	10,867	11,083	10,978	10,902	10,687	10,942	45.3	37.8
Other	94	92	76	78	78	NA	NA	.4	NA
Transportation	NA	NA	NA	NA	NA	0	4	NA	.0
Total	23,132	25,977	27,693	27,669	28,463	28,297	28,919	100.0	100.0
Retail Revenue (million dollars)									
Residential	447	596	610	616	651	654	670	40.8	45.2
Commercial	267	343	371	369	381	389	394	24.4	26.6
Industrial	373	438	417	410	415	408	419	34.1	28.3
Other	8	9	8	8	8	NA	NA	.7	NA
Total	1,095	1,386	1,405	1,403	1,455	1,450	1,483	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	5.90	6.50	6.26	6.26	6.23	6.24	6.23	NA	NA
Commercial	5.36	5.86	5.46	5.44	5.41	5.45	5.46	NA	NA
Industrial	3.56	4.03	3.76	3.74	3.81	3.81	3.83	NA	NA
Other	8.19	9.36	9.88	10.36	10.01	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	.00	5.70	NA	NA
Total	4.73	5.33	5.07	5.07	5.11	5.13	5.13	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
West Virginia								
Number of Entities	11	2	NA	3	NA	NA	NA	16
Number of Retail Customers	968,058	3,524	NA	9,438	NA	NA	NA	981,020
Retail Sales (thousand megawatthours)	28,751	70	NA	98	NA	NA	NA	28,919
Percentage of Retail Sales	99.42	.24	NA	.34	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	1,469	5	NA	9	NA	NA	NA	1,483
Percentage of Revenue	99.07	.31	NA	.62	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	5.11	6.49	NA	9.45	NA	NA	NA	5.13

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Wisconsin		
NERC Region(s)		MAIN/MAPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	14,734	25
Electric Utilities	12,404	19
Independent Power Producers & Combined Heat and Power	2,330	33
Net Generation (megawatthours)	60,444,933	23
Electric Utilities	56,142,364	18
Independent Power Producers & Combined Heat and Power	4,302,569	37
Emissions (thousand metric tons)		
Sulfur Dioxide	223	17
Nitrogen Oxide	89	16
Carbon Dioxide	49,382	19
Sulfur Dioxide (lbs/MWh)	8.1	11
Nitrogen Oxide (lbs/MWh)	3.2	16
Carbon Dioxide (lbs/MWh)	1,801	14
Total Retail Sales (megawatthours)	67,975,709	21
Full Service Provider Sales (megawatthours)	67,975,709	20
Direct Use (megawatthours)	2,758,806	17
Average Retail Price (cents/kWh)	6.88	27

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Wisconsin			
1. Pleasant Prairie	Petroleum,Gas,Coal	Wisconsin Electric Power Co	1,226
2. South Oak Creek	Gas,Coal	Wisconsin Electric Power Co	1,153
3. Columbia	Petroleum,Coal	Wisconsin Power & Light Co	1,093
4. Point Beach	Petroleum,Nuclear	Wisconsin Electric Power Co	1,041
5. Edgewater	Petroleum,Other,Coal	Wisconsin Power & Light Co	817
6. Riverside Energy Center	Petroleum,Gas	Rock River Energy LLC	598
7. Kewaunee	Nuclear	Wisconsin Public Service Corp	560
8. Weston	Petroleum,Gas,Coal	Wisconsin Public Service Corp	554
9. RockGen Energy Center	Petroleum,Gas	RockGen Energy LLC	466
10. Pulliam	Gas,Coal	Wisconsin Public Service Corp	464

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Wisconsin						
1. Wisconsin Electric Power Co	Investor-Owned	25,059,024	7,718,692	8,446,480	8,893,852	0
2. Wisconsin Public Service Corp	Investor-Owned	10,474,755	2,934,104	3,521,481	4,019,170	0
3. Wisconsin Power & Light Co	Investor-Owned	10,222,953	3,302,449	2,234,761	4,685,743	0
4. Northern States Power Co	Investor-Owned	5,778,996	1,790,007	1,100,221	2,888,768	0
5. Madison Gas & Electric Co	Investor-Owned	3,129,648	785,538	1,154,084	1,190,026	0
Total Sales, Top Five Providers		54,665,376	16,530,790	16,457,027	21,677,559	0
Percent of Total State Sales		80	78	85	79	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Wisconsin									
Electric Utilities	**10,558**	**11,536**	**12,212**	**12,248**	**12,511**	**12,568**	**12,404**	**95.9**	**84.2**
Coal	7,120	7,204	7,184	7,170	7,186	7,123	6,856	64.7	46.5
Petroleum	784	796	921	908	985	618	726	7.1	4.9
Natural Gas	104	69	280	340	340	417	290	.9	2.0
Dual Fired	493	1,482	1,786	1,798	1,998	2,382	2,431	4.5	16.5
Nuclear	1,509	1,453	1,510	1,510	1,510	1,565	1,586	13.7	10.8
Hydroelectric	443	427	460	450	425	427	431	4.0	2.9
Other Renewables	106	106	71	72	66	37	84	1.0	.6
Independent Power Producers and Combined Heat and Power	**451**	**583**	**1,381**	**1,855**	**1,726**	**1,741**	**2,330**	**4.1**	**15.8**
Coal	315	408	434	323	313	316	277	2.9	1.9
Petroleum	5	3	5	11	3	3	3	*	*
Natural Gas	23	21	126	291	185	189	447	.2	3.0
Dual Fired	12	34	675	971	951	956	1,298	.1	8.8
Hydroelectric	46	53	51	66	68	50	50	.4	.3
Other Renewables	50	66	91	173	183	204	233	.5	1.6
Other	0	0	0	21	21	21	21	.0	.1
Total Electric Industry	**11,009**	**12,119**	**13,594**	**14,103**	**14,237**	**14,309**	**14,734**	**100.0**	**100.0**
Coal	7,435	7,612	7,618	7,493	7,500	7,439	7,133	67.5	48.4
Petroleum	789	798	926	919	989	621	730	7.2	5.0
Natural Gas	127	90	406	631	525	606	737	1.2	5.0
Dual Fired	505	1,516	2,462	2,769	2,949	3,338	3,729	4.6	25.3
Nuclear	1,509	1,453	1,510	1,510	1,510	1,565	1,586	13.7	10.8
Hydroelectric	489	480	511	516	494	478	482	4.4	3.3
Other Renewables	156	170	161	245	250	241	317	1.4	2.2
Other	0	0	0	21	21	21	21	.0	.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
Wisconsin									
Electric Utilities	**45,550,958**	**51,012,390**	**55,665,471**	**54,959,426**	**54,773,666**	**56,068,698**	**56,142,364**	**95.4**	**92.9**
Coal	32,144,557	36,863,872	41,057,919	40,185,649	38,583,501	40,579,973	40,981,609	67.3	67.8
Petroleum	47,444	147,493	191,091	170,443	162,990	185,625	494,535	.1	.8
Natural Gas	169,378	648,912	891,998	868,225	973,287	1,131,999	711,519	.4	1.2
Nuclear	11,225,913	10,969,606	11,512,078	11,507,078	12,448,813	12,215,463	11,887,849	23.5	19.7
Hydroelectric	1,791,037	2,097,101	1,744,201	1,887,555	2,282,883	1,623,369	1,748,442	3.7	2.9
Other Renewables	172,629	285,406	262,984	340,476	322,192	332,269	318,410	.4	.5
Pumped Storage	0	0	5,200	0	0	0	0	.0	.0
Independent Power Producers and Combined Heat and Power	**2,217,899**	**2,910,741**	**3,978,946**	**3,804,005**	**3,657,772**	**4,053,726**	**4,302,569**	**4.6**	**7.1**
Coal	1,024,384	1,229,562	1,245,024	1,067,807	1,223,983	1,137,243	1,159,287	2.1	1.9
Petroleum	132,013	237,671	256,346	277,340	259,688	287,162	257,040	.3	.4
Natural Gas	177,826	359,692	1,345,477	1,365,740	1,103,026	1,346,392	1,683,392	.4	2.8
Hydroelectric	223,375	281,371	241,433	168,689	232,134	219,926	232,234	.5	.4
Other Renewables	660,301	801,861	890,666	924,429	838,941	1,034,221	950,566	1.4	1.6
Other	0	584	0	0	0	28,782	20,050	.0	*
Total Electric Industry	**47,768,857**	**53,923,131**	**59,644,417**	**58,763,431**	**58,431,438**	**60,122,425**	**60,444,933**	**100.0**	**100.0**
Coal	33,168,941	38,093,434	42,302,943	41,253,456	39,807,484	41,717,216	42,140,896	69.4	69.7
Petroleum	179,457	385,164	447,437	447,783	422,678	472,787	751,575	.4	1.2
Natural Gas	347,204	1,008,604	2,237,475	2,233,965	2,076,313	2,478,391	2,394,911	.7	4.0
Nuclear	11,225,913	10,969,606	11,512,078	11,507,078	12,448,813	12,215,463	11,887,849	23.5	19.7
Hydroelectric	2,014,412	2,378,472	1,985,634	2,056,244	2,515,017	1,843,295	1,980,676	4.2	3.3
Other Renewables	832,930	1,087,267	1,153,650	1,264,905	1,161,133	1,366,490	1,268,976	1.7	2.1
Pumped Storage	0	0	5,200	0	0	0	0	.0	.0
Other	0	584	0	0	0	28,782	20,050	.0	*

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Wisconsin							
Coal (cents per million Btu)	135.8	113.5	101.7	104.6	112.2	W	W
Average heat value (Btu per pound)	9,642	9,351	9,165	9,503	9,753	9,006	9,030
Average sulfur Content (percent)	.8	.5	.4	.4	.4	.4	.4
Petroleum (cents per million Btu)	526.1	176.5	87.8	145.9	W	W	W
Average heat value (Btu per gallon)	139,202	95,886	74,441	139,167	137,686	134,343	135,093
Average sulfur Content (percent)	.4	3.7	5.2	4.9	5.2	5.3	5.4
Natural Gas (cents per million Btu)	292.7	220.7	444.5	472.6	353.7	581.8	639.3
Average heat value (Btu per cubic foot)	1,007	1,009	1,008	1,014	983	1,002	1,002

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Wisconsin							
Sulfur Dioxide							
Coal	293	211	227	216	222	215	195
Petroleum	8	17	15	18	20	9	21
Natural Gas	0	0	*	*	*	*	*
Other	17	8	10	9	4	9	7
Total	318	236	252	243	246	232	223
Nitrogen Oxide							
Coal	181	188	108	104	94	87	82
Petroleum	1	1	1	2	1	2	3
Gas	1	3	2	2	2	2	2
Other	5	3	4	4	3	3	3
Total	188	196	115	111	100	94	89
Carbon Dioxide							
Coal	35,293	40,550	46,995	46,252	46,190	45,549	46,344
Petroleum	531	749	858	932	929	932	997
Gas	537	1,227	1,768	1,756	1,546	1,753	1,903
Geothermal	0	0	0	0	0	0	0
Other	61	*	0	0	164	176	139
Total	36,422	42,527	49,621	48,940	48,829	48,410	49,382

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Wisconsin									
Retail Sales (thousand megawatthours)									
Residential	16,385	18,635	19,929	20,418	21,575	21,364	21,192	33.3	31.2
Commercial	12,698	14,893	18,321	18,678	19,144	20,056	19,349	25.8	28.5
Industrial	19,405	23,690	26,162	25,370	25,534	25,821	27,435	39.4	40.4
Other	710	749	734	752	746	NA	NA	1.4	NA
Total	49,198	57,967	65,146	65,218	66,999	67,241	67,976	100.0	100.0
Retail Revenue (million dollars)									
Residential	1,087	1,298	1,502	1,612	1,765	1,853	1,922	41.2	41.1
Commercial	733	861	1,104	1,185	1,253	1,397	1,401	27.8	30.0
Industrial	774	896	1,057	1,107	1,131	1,217	1,353	29.3	28.9
Other	46	51	54	58	60	NA	NA	1.7	NA
Total	2,641	3,106	3,717	3,962	4,209	4,468	4,677	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	6.63	6.97	7.53	7.89	8.18	8.67	9.07	NA	NA
Commercial	5.78	5.78	6.03	6.34	6.54	6.97	7.24	NA	NA
Industrial	3.99	3.78	4.04	4.36	4.43	4.71	4.93	NA	NA
Other	6.47	6.85	7.40	7.70	8.08	NA	NA	NA	NA
Total	5.37	5.36	5.71	6.07	6.28	6.64	6.88	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Wisconsin								
Number of Entities	12	82	NA	24	7	NA	NA	125
Number of Retail Customers	2,295,585	260,057	NA	241,190	8	NA	NA	2,796,840
Retail Sales (thousand megawatthours)	57,029	7,598	NA	3,279	70	NA	NA	67,976
Percentage of Retail Sales	83.90	11.18	NA	4.82	.10	NA	NA	100.00
Revenue from Retail Sales (million dollars)	3,955	434	NA	285	3	NA	NA	4,677
Percentage of Revenue	84.56	9.28	NA	6.09	.06	NA	NA	100.00
Average Retail Price (cents/kWh)	6.93	5.71	NA	8.69	3.74	NA	NA	6.88

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	U.S. Rank
Wyoming		
NERC Region(s)		WECC
Primary Energy Source		Coal
Net Summer Capability (megawatts)	6,558	37
Electric Utilities	6,086	30
Independent Power Producers & Combined Heat and Power	473	45
Net Generation (megawatthours)	44,807,604	32
Electric Utilities	43,059,537	24
Independent Power Producers & Combined Heat and Power	1,748,067	42
Emissions (thousand metric tons)		
Sulfur Dioxide	85	28
Nitrogen Oxide	87	18
Carbon Dioxide	45,451	22
Sulfur Dioxide (lbs/MWh)	4.2	28
Nitrogen Oxide (lbs/MWh)	4.3	5
Carbon Dioxide (lbs/MWh)	2,236	3
Total Retail Sales (megawatthours)	13,539,513	40
Full Service Provider Sales (megawatthours)	13,539,513	40
Direct Use (megawatthours)	662,293	33
Average Retail Price (cents/kWh)	5	49

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
Wyoming			
1. Jim Bridger	Petroleum,Coal	PacifiCorp	2,120
2. Laramie River Station	Petroleum,Coal	Basin Electric Power Coop	1,650
3. Dave Johnston	Petroleum,Coal	PacifiCorp	762
4. Naughton	Gas,Coal	PacifiCorp	700
5. Wyodak	Petroleum,Coal	PacifiCorp	335
6. Wyoming Wind Energy Center	Other	FPL Energy Wyoming Wind LLC	144
7. Neil Simpson II	Petroleum,Gas,Coal	Black Hills Corp	114
8. Wygen 1	Gas,Coal	Black Hills Corp	70
9. Fremont Canyon	Hydroelectric	U S Bureau of Reclamation	67
10. Seminoe	Hydroelectric	U S Bureau of Reclamation	52

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
Wyoming						
1. PacifiCorp	Investor-Owned	7,786,030	906,174	1,287,954	5,591,902	0
2. Powder River Energy Corp	Cooperative	1,917,664	158,476	811,317	947,871	0
3. Cheyenne Light Fuel & Power Co	Investor-Owned	864,891	221,093	342,046	301,752	0
4. High Plains Power, Inc	Cooperative	792,802	120,154	59,091	613,557	0
5. Lower Valley Energy Inc	Cooperative	554,149	310,325	233,551	10,273	0
Total Sales, Top Five Providers		11,915,536	1,716,222	2,733,959	7,465,355	0
Percent of Total State Sales		88	76	81	95	0

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Wyoming									
Electric Utilities	**5,809**	**5,970**	**6,048**	**6,052**	**6,122**	**6,088**	**6,086**	**98.3**	**92.8**
Coal	5,525	5,662	5,710	5,710	5,692	5,692	5,692	93.5	86.8
Petroleum	15	15	0	5	5	5	5	.3	.1
Natural Gas	0	0	34	34	119	85	80	.0	1.2
Hydroelectric	269	294	298	297	300	300	303	4.6	4.6
Other Renewables	0	0	6	6	6	6	6	.0	.1
Independent Power Producers and Combined Heat and Power	**100**	**91**	**183**	**271**	**227**	**474**	**473**	**1.7**	**7.2**
Coal	28	28	28	30	30	100	100	.5	1.5
Petroleum	1	0	4	7	4	4	2	*	*
Natural Gas	48	50	51	99	58	92	80	.8	1.2
Other Gases	5	3	0	0	0	0	0	.1	.0
Dual Fired	0	0	0	0	0	0	1	.0	*
Other Renewables	8	0	90	135	135	279	279	.1	4.3
Other	11	11	11	0	0	0	12	.2	.2
Total Electric Industry	**5,909**	**6,062**	**6,231**	**6,323**	**6,348**	**6,562**	**6,558**	**100.0**	**100.0**
Coal	5,553	5,690	5,738	5,740	5,722	5,792	5,792	94.0	88.3
Petroleum	16	15	4	12	8	8	6	.3	.1
Natural Gas	48	50	85	133	177	177	160	.8	2.4
Other Gases	5	3	0	0	0	0	0	.1	.0
Dual Fired	0	0	0	0	0	0	1	.0	*
Hydroelectric	269	294	298	297	300	300	303	4.6	4.6
Other Renewables	8	0	96	141	141	285	285	.1	4.3
Other	11	11	11	0	0	0	12	.2	.2

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percent Share	
								1990	2004
Wyoming									
Electric Utilities	**39,378,154**	**39,683,722**	**44,585,709**	**43,764,015**	**42,532,420**	**42,261,405**	**43,059,537**	**98.5**	**96.1**
Coal	38,681,220	38,804,539	43,355,361	42,560,578	41,685,278	41,490,825	42,372,775	96.8	94.6
Petroleum	45,561	67,673	35,159	33,744	38,686	41,567	43,450	.1	.1
Natural Gas	6,760	13,007	184,154	274,383	205,791	119,729	35,207	*	.1
Hydroelectric	644,613	798,503	1,011,035	879,111	583,615	593,555	593,147	1.6	1.3
Other Renewables	0	0	0	16,199	19,050	15,729	14,958	.0	*
Independent Power Producers and Combined Heat and Power	**596,811**	**567,887**	**908,571**	**1,012,923**	**1,251,419**	**1,365,197**	**1,748,067**	**1.5**	**3.9**
Coal	227,247	191,836	218,747	228,732	237,883	850,627	972,943	.6	2.2
Petroleum	3,644	2,632	3,007	2,352	1,418	3,354	2,441	*	*
Natural Gas	261,442	309,443	354,982	317,459	507,289	160,467	51,681	.7	.1
Other Gases	8,642	9,230	9,353	7,511	0	0	12,746	*	*
Other Renewables	50,440	0	245,911	348,960	428,280	350,749	601,557	.1	1.3
Other	45,396	54,746	76,571	107,909	76,549	0	106,700	.1	.2
Total Electric Industry	**39,974,965**	**40,251,609**	**45,494,280**	**44,776,938**	**43,783,839**	**43,626,602**	**44,807,604**	**100.0**	**100.0**
Coal	38,908,467	38,996,375	43,574,108	42,789,310	41,923,161	42,341,452	43,345,718	97.3	96.7
Petroleum	49,205	70,305	38,166	36,096	40,104	44,921	45,891	.1	.1
Natural Gas	268,202	322,450	539,136	591,842	713,080	280,196	86,888	.7	.2
Other Gases	8,642	9,230	9,353	7,511	0	0	12,746	*	*
Hydroelectric	644,613	798,503	1,011,035	879,111	583,615	593,555	593,147	1.6	1.3
Other Renewables	50,440	0	245,911	365,159	447,330	366,478	616,515	.1	1.4
Other	45,396	54,746	76,571	107,909	76,549	0	106,700	.1	.2

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
Wyoming							
Coal (cents per million Btu)	83.6	81.8	77.9	76.7	78.5	82.3	86.5
Average heat value (Btu per pound)	8,811	8,738	8,803	8,884	8,802	8,826	8,826
Average sulfur Content (percent)	.5	.5	.5	.5	.5	.5	.5
Petroleum (cents per million Btu)	526.8	444.6	724.3	707.2	553.0	714.4	949.8
Average heat value (Btu per gallon)	138,849	139,283	139,220	146,929	142,302	139,593	139,338
Average sulfur Content (percent)	.3	.3	.3	.3	.3	.3	.3
Natural Gas (cents per million Btu)	314.9	797.8	375.8	381.8	W	W	341.5
Average heat value (Btu per cubic foot)	1,035	1,043	1,044	967	944	997	1,060

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
Wyoming							
Sulfur Dioxide							
Coal	98	85	81	85	80	84	84
Petroleum	*	*	*	*	*	*	*
Natural Gas	0	0	0	0	0	0	0
Other	1	*	0	0	0	0	0
Total	99	85	81	85	80	84	85
Nitrogen Oxide							
Coal	185	189	86	82	81	81	87
Petroleum	*	*	*	*	*	*	*
Gas	1	1	1	1	1	*	*
Other	*	0	0	0	0	0	*
Total	185	189	87	83	82	81	87
Carbon Dioxide							
Coal	40,304	41,019	45,550	45,469	44,024	45,106	45,210
Petroleum	64	98	77	68	40	39	77
Gas	204	229	346	396	426	174	163
Geothermal	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	40,572	41,345	45,972	45,933	44,490	45,320	45,451

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
Wyoming									
Retail Sales (thousand megawatthours)									
Residential	1,720	1,939	2,103	2,146	2,232	2,286	2,262	14.6	16.7
Commercial	2,176	2,330	2,748	2,915	3,027	3,282	3,393	18.5	25.1
Industrial	7,729	6,817	7,321	7,700	7,453	7,685	7,884	65.7	58.2
Other	144	113	196	189	162	NA	NA	1.2	NA
Total	11,769	11,199	12,368	12,950	12,874	13,254	13,540	100.0	100.0
Retail Revenue (million dollars)									
Residential	103	118	137	145	156	161	163	20.8	24.2
Commercial	112	119	145	158	173	189	203	22.6	30.1
Industrial	268	239	246	264	264	281	308	54.1	45.7
Other	11	8	10	10	10	NA	NA	2.2	NA
Total	495	484	537	577	602	630	674	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	5.97	6.09	6.50	6.77	6.97	7.04	7.21	NA	NA
Commercial	5.17	5.11	5.28	5.41	5.70	5.74	5.98	NA	NA
Industrial	3.47	3.50	3.36	3.43	3.55	3.65	3.91	NA	NA
Other	7.90	7.15	4.88	5.07	5.93	NA	NA	NA	NA
Total	4.21	4.32	4.34	4.46	4.68	4.75	4.98	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
Wyoming								
Number of Entities	5	13	1	16	NA	NA	NA	35
Number of Retail Customers	179,638	30,424	6	85,995	NA	NA	NA	296,063
Retail Sales (thousand megawatthours)	9,068	521	28	3,923	NA	NA	NA	13,540
Percentage of Retail Sales	66.97	3.85	.20	28.98	NA	NA	NA	100.00
Revenue from Retail Sales (million dollars)	446	32	*	196	NA	NA	NA	674
Percentage of Revenue	66.09	4.76	.05	29.10	NA	NA	NA	100.00
Average Retail Price (cents/kWh)	4.91	6.16	1.24	5.00	NA	NA	NA	4.98

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table 1. 2004 Summary Statistics

Item	Value	Highest	Lowest
United States			
Primary Energy Source	Coal		
Net Summer Capability (megawatts)	962,942	Texas	District of Columbia
Electric Utilities	550,550	Florida	District of Columbia
Independent Power Producers & Combined Heat and Power	412,392	Texas	Nebraska
Net Generation (megawatthours)	3,970,555,263	Texas	District of Columbia
Electric Utilities	2,505,231,152	Florida	Maine
Independent Power Producers & Combined Heat and Power	1,465,324,111	Texas	District of Columbia
Emissions (thousand metric tons)			
Sulfur Dioxide	10,307	Ohio	Vermont
Nitrogen Oxide	3,951	Ohio	District of Columbia
Carbon Dioxide	2,444,443	Texas	Vermont
Sulfur Dioxide (lbs/MWh)	5.7	Ohio	Vermont
Nitrogen Oxide (lbs/MWh)	2.2	North Dakota	Vermont
Carbon Dioxide (lbs/MWh)	1,357	District of Columbia	Vermont
Total Retail Sales (megawatthours)	3,548,217,525	Texas	Vermont
Full Service Sales (megawatthours)	3,274,906,612	Texas	Maine
Deregulated Sales (megawatthours)	273,310,913	California	Nevada
Direct Use (megawatthours)	168,470,002	Texas	District of Columbia
Average Retail Price (cents/kWh)	7.62	Hawaii	Kentucky

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2004

Plant	Energy Sources	Operating Company	Net Summer Capability (MW)
United States			
1. Grand Coulee	Hydroelectric	U S Bureau of Reclamation	7,079
2. Palo Verde	Nuclear	Arizona Public Service Co	3,804
3. W A Parish	Gas, Coal	Texas Genco II, LP	3,653
4. Scherer	Petroleum, Coal	Georgia Power Co	3,430
5. Browns Ferry	Nuclear	Tennessee Valley Authority	3,297
6. Bowen	Petroleum, Coal	Georgia Power Co	3,254
7. Crystal River	Petroleum, Nuclear, Coal	Florida Power Corp	3,140
8. Gibson	Petroleum, Coal	PSI Energy Inc	3,131
9. Monroe	Petroleum, Coal	Detroit Edison Co	3,094
10. Martin	Petroleum, Gas	Florida Power & Light Co	2,906

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2004
(Megawatthours)

Entity	Ownership Type	All Sectors	Residential	Commercial	Industrial	Transportation
United States						
1. Florida Power & Light Co	Investor-Owned	99,144,067	52,528,487	42,556,194	3,966,117	93,269
2. Georgia Power Co	Investor-Owned	77,904,202	22,930,371	28,436,240	26,357,271	180,320
3. Duke Energy Corp	Investor-Owned	75,774,994	25,094,202	25,451,151	25,229,641	0
4. Dominion Virginia Power	Investor-Owned	75,140,773	28,311,423	35,824,679	10,843,026	161,645
5. TXU Energy Retail Co LP	Power Marketer	69,343,637	33,512,159	10,365,790	25,387,564	78,124
Total Sales, Top Five Providers		397,307,673	162,376,642	142,634,054	91,783,619	513,358

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatts)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
United States									
Electric Utilities	**690,465**	**706,111**	**604,319**	**549,920**	**561,074**	**547,249**	**550,550**	**94.1**	**57.2**
Coal	299,781	300,569	260,990	244,451	244,056	236,473	235,976	40.8	24.5
Petroleum	47,722	42,232	25,823	24,150	23,067	20,766	19,878	6.5	2.1
Natural Gas	43,958	55,220	32,069	35,117	50,026	48,233	54,231	6.0	5.6
Other Gases	374	290	57	57	61	61	58	.1	*
Dual Fired	106,011	109,294	106,806	92,030	88,476	89,183	89,040	14.4	9.2
Nuclear	99,624	99,515	85,968	63,060	63,202	60,964	60,651	13.6	6.3
Hydroelectric	71,423	75,274	73,738	72,968	73,391	72,827	71,696	9.7	7.4
Other Renewables	2,111	2,330	837	979	989	925	960	.3	.1
Pumped Storage	19,462	21,387	18,020	17,097	17,807	17,803	18,048	2.7	1.9
Other	0	0	13	13	0	13	13	.0	*
Independent Power Producers and Combined Heat and Power	**43,657**	**63,352**	**207,400**	**298,334**	**344,228**	**401,198**	**412,392**	**5.9**	**42.8**
Coal	7,580	10,818	54,123	69,780	71,294	76,546	77,044	1.0	8.0
Petroleum	1,271	1,476	10,068	15,563	15,147	15,663	13,825	.2	1.4
Natural Gas	12,236	20,218	63,637	90,682	121,635	160,214	170,027	1.7	17.7
Other Gases	1,266	1,370	2,285	1,614	1,946	1,933	2,239	.2	.2
Dual Fired	7,571	12,664	43,026	61,454	73,813	82,111	83,130	1.0	8.6
Nuclear	0	0	11,892	35,099	35,455	38,244	38,978	.0	4.0
Hydroelectric	2,499	3,288	5,621	5,947	5,964	5,867	5,945	.3	.6
Other Renewables	10,730	12,971	14,736	15,201	15,766	17,274	17,803	1.5	1.8
Pumped Storage	0	0	1,502	2,569	2,566	2,719	2,717	.0	.3
Other	501	550	510	427	642	625	687	.1	.1
Total Electric Industry	**734,122**	**769,463**	**811,719**	**848,254**	**905,301**	**948,446**	**962,942**	**100.0**	**100.0**
Coal	307,361	311,386	315,114	314,230	315,350	313,019	313,020	41.9	32.5
Petroleum	48,994	43,708	35,890	39,714	38,213	36,429	33,702	6.7	3.5
Natural Gas	56,194	75,438	95,705	125,798	171,661	208,447	224,257	7.7	23.3
Other Gases	1,641	1,661	2,342	1,670	2,008	1,994	2,296	.2	.2
Dual Fired	113,582	121,958	149,833	153,482	162,289	171,295	172,170	15.5	17.9
Nuclear	99,624	99,515	97,860	98,159	98,657	99,209	99,628	13.6	10.3
Hydroelectric	73,923	78,562	79,359	78,914	79,354	78,694	77,641	10.1	8.1
Other Renewables	12,840	15,300	15,572	16,180	16,755	18,199	18,763	1.7	1.9
Pumped Storage	19,462	21,387	19,522	19,666	20,373	20,522	20,764	2.7	2.2
Other	501	550	523	440	641	638	700	.1	.1

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1990, 1995, and 2000 Through 2004
(Megawatthours)

Energy Source	1990	1995	2000	2001	2002	2003	2004	Percentage Share 1990	Percentage Share 2004
United States									
Electric Utilities	**2,808,151,009**	**2,994,528,592**	**3,015,383,376**	**2,629,945,673**	**2,549,457,170**	**2,462,280,615**	**2,505,231,152**	**92.4**	**63.1**
Coal	1,559,605,707	1,652,914,466	1,696,619,307	1,560,145,542	1,514,669,950	1,500,281,112	1,513,640,806	51.3	38.1
Petroleum	117,016,961	60,844,256	72,179,917	78,907,846	59,124,873	69,930,456	73,693,695	3.9	1.9
Natural Gas	264,089,401	307,306,050	290,715,178	264,433,673	229,639,287	186,966,796	199,662,044	8.7	5.0
Other Gases	0	0	0	0	206,469	242,655	374,012	.0	*
Nuclear	576,861,678	673,402,123	705,432,806	534,207,221	507,379,828	458,828,821	475,682,277	19.0	12.0
Hydroelectric	283,433,659	296,377,840	253,154,717	197,803,985	242,302,069	249,621,996	245,545,963	9.3	6.2
Other Renewables	10,651,344	6,408,988	2,241,015	2,151,888	3,568,503	3,940,660	4,061,017	.4	.1
Pumped Storage	−3,507,741	−2,725,131	−4,959,564	−7,704,482	−7,433,807	−7,531,885	−7,526,206	−.1	−.2
Other	0	0	0	0	0	0	97,546	.0	*
Independent Power Producers and Combined Heat and Power	**229,837,268**	**358,958,755**	**786,721,668**	**1,106,697,980**	**1,308,995,081**	**1,420,904,591**	**1,465,324,110**	**7.6**	**36.9**
Coal	34,405,775	56,511,999	269,645,289	343,810,401	418,460,404	473,455,637	464,979,411	1.1	11.7
Petroleum	9,604,186	13,709,806	39,041,048	45,972,376	35,442,518	49,475,181	46,952,147	.3	1.2
Natural Gas	108,675,753	188,751,891	310,322,979	374,695,447	461,366,456	462,940,742	509,316,559	3.6	12.8
Other Gases	10,382,828	13,869,950	13,954,756	9,039,473	11,256,216	15,357,365	16,392,075	.3	.4
Nuclear	0	0	48,460,134	234,619,087	272,684,259	304,903,874	312,846,110	.0	7.9
Hydroelectric	9,432,186	14,454,903	22,417,882	19,157,059	22,026,762	26,184,333	22,871,343	.3	.6
Other Renewables	53,720,878	67,556,398	78,664,962	75,833,169	83,353,592	83,469,810	86,347,447	1.8	2.2
Pumped Storage	0	0	−579,296	−1,118,963	−1,309,121	−1,003,180	−962,004	.0	*
Other	3,615,662	4,103,808	4,793,914	4,689,931	5,713,990	6,120,827	6,581,015	.1	.2
Total Electric Industry	**3,037,988,277**	**3,353,487,347**	**3,802,105,044**	**3,736,643,653**	**3,858,452,254**	**3,883,185,205**	**3,970,555,263**	**100.0**	**100.0**
Coal	1,594,011,482	1,709,426,465	1,966,264,596	1,903,955,943	1,933,130,354	1,973,736,749	1,978,620,217	52.5	49.8
Petroleum	126,621,147	74,554,062	111,220,965	124,880,222	94,567,391	119,405,637	120,645,842	4.2	3.0
Natural Gas	372,765,154	496,057,941	601,038,157	639,129,120	691,005,743	649,907,538	708,978,603	12.3	17.9
Other Gases	10,382,828	13,869,950	13,954,756	9,039,473	11,462,685	15,600,020	16,766,087	.3	.4
Nuclear	576,861,678	673,402,123	753,892,940	768,826,308	780,064,087	763,732,695	788,528,387	19.0	19.9
Hydroelectric	292,865,845	310,832,743	275,572,599	216,961,044	264,328,831	275,806,329	268,417,306	9.6	6.8
Other Renewables	64,372,222	73,965,386	80,905,977	77,985,057	86,922,095	87,410,470	90,408,464	2.1	2.3
Pumped Storage	−3,507,741	−2,725,131	−5,538,860	−8,823,445	−8,742,928	−8,535,065	−8,488,210	−.1	−.2
Other	3,615,662	4,103,808	4,793,914	4,689,931	5,713,990	6,120,827	6,678,561	.1	.2

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1990, 1995, and 2000 Through 2004

Fuel, Quality	1990	1995	2000	2001	2002	2003	2004
United States							
Coal (cents per million Btu)	145.5	131.8	120.0	123.2	125.5	128.2	136.1
Average heat value (Btu per pound)	10,465	10,248	10,115	10,200	10,157	10,137	10,074
Average sulfur Content (percent)	1.3	1.1	.9	.9	.9	1.0	1.0
Petroleum (cents per million Btu)	335.3	256.6	417.9	369.3	334.3	433.5	429.4
Average heat value (Btu per gallon)	149,536	149,371	149,857	147,857	143,493	147,086	147,286
Average sulfur Content (percent)	1.0	1.2	1.3	1.4	1.6	1.5	1.7
Natural Gas (cents per million Btu)	232.1	198.4	430.2	448.7	356.0	539.3	596.1
Average heat value (Btu per cubic foot)	1,027	1,019	1,020	1,020	1,021	1,030	1,027

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1990, 1995, and 2000 Through 2004
(Thousand Metric Tons)

Emission Type	1990	1995	2000	2001	2002	2003	2004
United States							
Sulfur Dioxide							
Coal	14,281	11,006	10,286	9,917	9,681	9,687	9,437
Petroleum	937	613	785	850	610	718	633
Natural Gas	1	1	3	5	2	2	2
Other	243	275	223	194	221	235	235
Total	15,462	11,898	11,297	10,966	10,515	10,643	10,307
Nitrogen Oxide							
Coal	7,119	7,035	4,485	4,169	4,041	3,679	3,349
Petroleum	208	122	175	191	134	189	181
Gas	513	599	596	564	493	314	279
Other	122	129	123	121	133	145	142
Total	7,961	7,885	5,380	5,045	4,802	4,326	3,951
Carbon Dioxide							
Coal	1,569,015	1,699,207	1,960,035	1,896,701	1,913,591	1,948,054	1,952,605
Petroleum	121,295	77,083	105,980	114,399	89,812	110,519	112,573
Gas	234,962	300,041	359,916	364,948	376,701	343,071	364,936
Geothermal	397	344	362	353	369	367	377
Other	3,595	3,087	3,101	3,201	14,759	13,793	13,952
Total	1,929,264	2,079,761	2,429,394	2,379,603	2,395,232	2,415,804	2,444,443

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1990, 1995, and 2000 Through 2004

Sector	1990	1995	2000	2001	2002	2003	2004	Percentage Share	
								1990	2004
United States									
Retail Sales (thousand megawatthours)									
Residential	924,019	1,042,501	1,192,446	1,201,148	1,265,403	1,273,597	1,293,587	34.1	36.5
Commercial	751,027	862,685	1,055,232	1,087,987	1,104,748	1,197,199	1,229,045	27.7	34.6
Industrial	945,522	1,012,693	1,064,239	984,511	990,139	1,011,617	1,018,522	34.9	28.7
Other	91,988	95,407	109,496	108,445	105,790	NA	NA	3.4	NA
Transportation	NA	NA	NA	NA	NA	6,810	7,064	NA	.2
Total	2,712,555	3,013,287	3,421,414	3,382,092	3,466,080	3,489,223	3,548,218	100.0	100.0
Retail Revenue (million dollars)									
Residential	72,378	87,610	98,209	103,665	107,106	110,794	116,037	40.6	42.9
Commercial	55,117	66,365	78,405	86,536	87,296	95,759	100,255	30.9	37.1
Industrial	44,857	47,175	49,369	49,058	48,643	51,794	53,661	25.2	19.8
Other	5,891	6,567	7,179	8,065	7,143	NA	NA	3.3	NA
Transportation	NA	NA	NA	NA	NA	514	504	NA	.2
Total	178,243	207,717	233,163	247,325	250,189	258,861	270,456	100.0	100.0
Average Retail Price (cents/kWh)									
Residential	7.83	8.40	8.24	8.63	8.46	8.70	8.97	NA	NA
Commercial	7.34	7.69	7.43	7.95	7.90	8.00	8.16	NA	NA
Industrial	4.74	4.66	4.64	4.98	4.91	5.12	5.27	NA	NA
Other	6.40	6.88	6.56	7.44	6.75	NA	NA	NA	NA
Transportation	NA	NA	NA	NA	NA	7.55	7.13	NA	NA
Total	6.57	6.89	6.81	7.31	7.22	7.42	7.62	NA	NA

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2004

Item	Full Service Providers					Other Providers		Total
	Investor-Owned	Public	Federal	Cooperative	Facility	Energy	Delivery	
United States								
Number of Entities	219	2,011	9	884	55	155	75	3,408
Number of Retail Customers	96,988,168	19,628,710	39,843	16,564,780	265	2,897,411	NA	136,119,177
Retail Sales (thousand megawatthours)	2,356,057	525,596	41,169	344,267	7,817	273,311	NA	3,548,218
Percentage of Retail Sales	66.40	14.81	1.16	9.70	.22	7.70	NA	100.00
Revenue from Retail Sales (million dollars)	179,854	37,734	1,211	25,448	464	16,964	8,780	270,456
Percentage of Revenue	66.50	13.95	.45	9.41	.17	6.27	3.25	100.00
Average Retail Price (cents/kWh)	7.63	7.18	2.94	7.39	5.94	6.21	3.21	7.62

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Co-operatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit,and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;
W = Withheld to avoid disclosure of individual company data;
* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*'.)
Totals may not equal sum of components because of independent rounding; Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.
Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Table A1. Selected Electric Industry Summary Statistics by State, 2004

State	Primary Fuel Source	Total Summer Capacity		Net Generation		Sulfur Dioxide Emissions		Nitrogen Oxide Emissions		Carbon Dioxide Emissions	
		(MW)	Rank	(MWh)	Rank	(1000 Metric Tons)	Rank	(1000 Metric Tons)	Rank	(1000 Metric Tons)	Rank
Alabama	Coal	30,648	9	137,354,771	8	409	10	136	9	80,165	10
Alaska	Gas	1,851	48	6,526,717	48	5	48	10	47	4,712	46
Arizona	Coal	24,304	15	104,564,143	13	55	32	78	21	50,577	18
Arkansas	Coal	13,537	27	51,927,632	27	87	27	42	34	27,061	32
California	Gas	58,306	2	194,780,355	4	22	41	54	31	60,664	14
Colorado	Coal	11,086	31	47,869,492	29	59	31	66	28	39,630	24
Connecticut	Nuclear	7,928	35	32,633,408	38	7	47	10	46	10,262	40
Delaware	Coal	3,428	44	7,855,553	46	35	37	13	42	6,531	45
District of Columbia	Petroleum	806	51	36,487	51	*	50	*	51	56	50
Florida	Gas	50,653	3	218,117,928	2	443	9	241	2	130,089	2
Georgia	Coal	35,338	7	126,812,715	10	584	4	116	12	81,496	9
Hawaii	Petroleum	2,311	47	11,410,403	44	24	39	13	41	8,912	42
Idaho	Hydro	2,986	45	10,863,039	45	7	46	3	48	1,292	49
Illinois	Coal	42,032	5	191,957,778	5	385	11	143	8	100,325	6
Indiana	Coal	26,734	13	127,770,396	9	797	3	215	4	118,901	5
Iowa	Coal	10,872	32	43,248,189	34	135	21	79	20	40,043	23
Kansas	Coal	10,850	33	46,782,659	31	112	23	84	19	37,288	27
Kentucky	Coal	19,627	20	94,529,947	18	469	6	150	7	87,269	7
Louisiana	Gas	26,465	14	98,172,309	15	132	22	88	17	58,114	16
Maine	Gas	4,189	43	19,098,885	43	20	42	11	44	7,043	44
Maryland	Coal	12,499	28	52,052,770	26	276	14	62	30	31,799	29
Massachusetts	Gas	14,003	26	47,500,483	30	76	29	29	38	26,113	33
Michigan	Coal	30,446	10	118,487,269	12	351	12	121	10	77,206	11
Minnesota	Coal	11,551	30	52,364,127	25	108	24	90	15	37,605	26
Mississippi	Coal	17,019	23	43,662,613	33	90	26	49	32	25,295	35
Missouri	Coal	20,162	19	87,632,910	20	270	15	117	11	75,933	12
Montana	Coal	5,132	40	26,788,768	41	23	40	37	36	19,088	38
Nebraska	Coal	6,738	36	32,008,709	39	68	30	44	33	20,698	37
Nevada	Coal	8,670	34	37,667,435	36	50	34	41	35	25,345	34
New Hampshire	Nuclear	4,271	42	23,875,787	42	52	33	10	45	8,172	43
New Jersey	Nuclear	18,165	22	55,882,342	24	49	35	30	37	21,299	36
New Mexico	Coal	6,330	38	32,940,361	37	35	36	68	27	30,906	30
New York	Nuclear	37,843	6	137,964,794	7	236	16	77	23	57,625	17
North Carolina	Coal	27,109	12	126,329,957	11	456	7	115	13	72,590	13
North Dakota	Coal	4,774	41	29,936,106	40	137	20	72	24	30,397	31
Ohio	Coal	34,050	8	148,345,905	6	1050	1	254	1	123,128	3
Oklahoma	Coal	19,397	21	60,729,560	22	102	25	78	22	46,580	21
Oregon	Hydro	12,093	29	51,381,278	28	14	44	11	43	9,117	41
Pennsylvania	Coal	45,138	4	214,658,501	3	931	2	184	5	121,566	4
Rhode Island	Gas	1,742	49	4,939,420	50	1	49	1	49	2,105	48
South Carolina	Nuclear	22,197	17	97,939,929	16	221	18	65	29	39,430	25
South Dakota	Coal	2,659	46	7,510,214	47	14	45	16	40	3,834	47
Tennessee	Coal	20,942	18	97,594,542	17	318	13	105	14	58,491	15
Texas	Gas	101,103	1	390,299,132	1	575	5	226	3	255,651	1
Utah	Coal	6,190	39	38,211,977	35	34	38	69	25	35,167	28
Vermont	Nuclear	998	50	5,470,379	49	*	51	*	50	22	51
Virginia	Coal	22,506	16	78,900,040	21	217	19	68	26	46,844	20
Washington	Hydro	27,575	11	102,165,052	14	15	43	21	39	15,011	39
West Virginia	Coal	16,402	24	89,749,562	19	448	8	160	6	82,164	8
Wisconsin	Coal	14,735	25	60,444,933	23	223	17	89	16	49,382	19
Wyoming	Coal	6,559	37	44,807,604	32	85	28	87	18	45,451	22

Table A1. Selected Electric Industry Summary Statistics by State, 2004 (Continued)

State	Total Retail Sales		Full Service Sales (including unregulated generators)		Energy Service Providers		Direct Use		All Sectors Average Retail Price	
	(MWh)	Rank	(MWh)	Rank	(MWh)	Rank	(MWh)	Rank	(cents/kWh)	Rank
Alabama	86,870,519	14	86,870,519	14	0	0	6,487,857	5	6.08	40
Alaska	5,788,484	50	5,788,484	49	0	0	1,079,118	30	10.99	6
Arizona	66,933,251	22	66,933,251	21	0	0	374,187	39	7.45	18
Arkansas	43,672,360	30	43,672,360	29	0	0	2,395,564	20	5.67	46
California	252,764,015	2	176,854,463	3	75,909,552	1	15,199,327	3	11.45	3
Colorado	46,723,841	27	46,723,841	26	0	0	495,780	35	6.95	24
Connecticut	32,214,610	33	31,470,175	33	744,435	16	1,540,638	24	10.26	10
Delaware	11,761,153	43	10,751,187	42	1,009,966	13	564,017	34	7.53	16
District of Columbia	11,414,847	44	7,760,518	47	3,654,329	11	384	50	7.47	17
Florida	218,584,494	3	218,584,494	2	0	0	6,910,150	4	8.16	13
Georgia	129,465,784	8	129,465,784	5	0	0	5,562,700	6	6.58	29
Hawaii	10,731,520	46	10,731,520	43	0	0	480,616	36	15.70	1
Idaho	21,808,674	38	21,767,415	38	41,259	19	711,211	31	4.97	50
Illinois	139,253,956	7	112,186,918	8	27,067,038	4	4,280,370	10	6.80	28
Indiana	103,094,263	12	103,094,263	10	0	0	4,760,620	7	5.58	47
Iowa	40,902,773	31	40,902,773	31	0	0	1,352,242	27	6.40	34
Kansas	37,126,540	32	37,126,540	32	0	0	62,166	49	6.37	35
Kentucky	86,521,156	15	86,521,156	15	0	0	188,482	43	4.63	51
Louisiana	79,737,112	18	79,737,112	17	0	0	22,071,042	2	7.13	20
Maine	12,367,668	42	592,783	51	11,774,885	10	4,372,401	9	9.69	11
Maryland	66,891,700	23	53,239,637	24	13,652,063	7	1,198,292	28	7.15	19
Massachusetts	56,142,019	25	43,591,199	30	12,550,820	9	2,455,540	18	10.77	8
Michigan	106,606,040	10	92,614,753	13	13,991,287	6	2,922,287	16	6.94	25
Minnesota	63,340,315	24	63,340,315	22	0	0	2,931,271	15	6.24	36
Mississippi	46,032,538	28	46,032,538	27	0	0	2,385,239	21	7.00	22
Missouri	74,054,296	20	74,054,296	19	0	0	305,146	41	6.07	41
Montana	12,956,782	41	10,084,134	45	2,872,648	12	155,392	45	6.40	33
Nebraska	25,875,930	36	25,875,930	36	0	0	72,112	46	5.70	43
Nevada	31,312,306	34	31,310,598	34	1,708	21	232,503	42	8.56	12
New Hampshire	10,973,309	45	10,863,434	41	109,875	18	456,052	37	11.37	4
New Jersey	77,593,167	19	59,019,571	23	18,573,596	5	2,406,897	19	10.29	9
New Mexico	19,845,735	39	19,845,735	39	0	0	445,845	38	7.10	21
New York	145,081,709	5	96,350,591	12	48,731,118	2	4,221,296	11	12.55	2
North Carolina	125,656,807	9	125,656,807	7	0	0	4,095,759	12	6.97	23
North Dakota	10,516,400	47	10,516,400	44	0	0	166,732	44	5.69	45
Ohio	154,221,114	4	126,339,309	6	27,881,805	3	1,487,894	25	6.89	26
Oklahoma	50,942,042	26	50,942,042	25	0	0	1,153,762	29	6.50	30
Oregon	45,636,448	29	44,791,028	28	845,420	14	691,393	32	6.21	38
Pennsylvania	143,501,493	6	130,848,050	4	12,653,443	8	4,483,086	8	8.00	14
Rhode Island	7,887,575	49	7,043,336	48	844,239	15	65,036	48	10.96	7
South Carolina	79,908,340	17	79,908,340	16	0	0	2,043,966	22	6.22	37
South Dakota	9,213,844	48	9,213,844	46	0	0	0	0	6.44	31
Tennessee	99,660,665	13	99,660,665	11	0	0	3,392,795	13	6.14	39
Texas	320,614,840	1	320,614,840	1	0	0	41,749,468	1	7.95	15
Utah	24,511,704	37	24,511,704	37	0	0	360,581	40	5.69	44
Vermont	5,663,772	51	5,663,772	50	0	0	70,982	47	11.02	5
Virginia	105,424,173	11	105,398,266	9	25,907	20	2,998,532	14	6.43	32
Washington	79,981,608	16	79,606,088	18	375,520	17	1,394,018	26	5.80	42
West Virginia	28,918,612	35	28,918,612	35	0	0	1,818,157	23	5.13	48
Wisconsin	67,975,709	21	67,975,709	20	0	0	2,758,806	17	6.88	27
Wyoming	13,539,513	40	13,539,513	40	0	0	662,293	33	4.98	49

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Energy Information Administration

Annual Energy Review 2005

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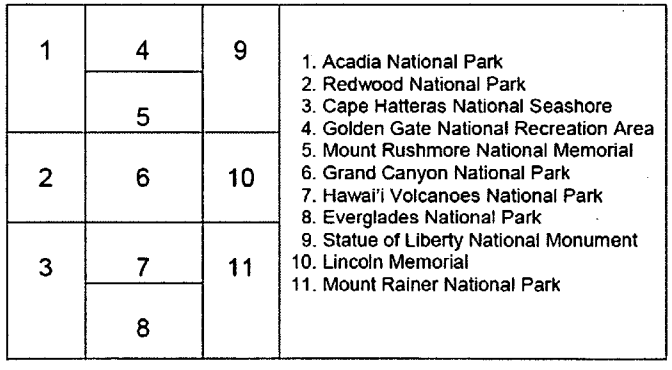

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Preface

The *Annual Energy Review 2005* (*AER*) is a statistical history of U.S. energy activities. Sweeping trends and milestones related to the Nation's acquisition and use of energy from 1949 through 2005 are revealed through time series data and graphs.

Snapshots found in this report include:

- In 1949, the Nation was self-sufficient in energy—producing and consuming 32 quadrillion British thermal units (Btu), importing less than 1.5 quadrillion Btu, and exporting less than 1.6 quadrillion Btu. Over the following decades, consumption expanded rapidly, and, for many years, production kept pace. By the early 1960s, however, indigenous supplies were no longer sufficient to meet demand. As domestically produced energy fell or remained flat in subsequent years, the Nation turned to imported supplies. By 2005, Americans consumed just under 100 quadrillion Btu, with only 69 quadrillion from native resources and the remainder from other countries.
- From 1980-2005, from 5 to 7 percent of U.S. energy consumption went into non-fuel use. (Table 1.15)
- Coal was the dominant energy source consumed by the electric power sector in all years, 1949-2005. In 1949, coal was the leading energy source used in the residential, commercial, and industrial sectors as well, but natural gas soon surpassed coal in each of those sectors. In all years, the transportation sector was overwhelmingly reliant on petroleum. (Figure 2.1b)
- In 2001, 99 percent of U.S. households had a color television set; 86 percent a microwave oven; 65 percent a ceiling fan; 56 percent a personal computer; 55 percent central air conditioning; 13 percent a pump for well water; and 5 percent a waterbed heater. (Table 2.6)
- In 2002, the Nation spent an estimated $662 billion on energy, 48 percent for petroleum products. (Table 3.5)
- The maximum number of rotary rigs to operate in the United States was 3,970 rigs in 1981; 1,383 rigs operated in 2005. (Table 4.4)
- The Nation's peak crude oil production was 9.6 million barrels per day in 1970; production in 2005 totaled 5.1 million barrels per day. (Table 5.1)
- Crude oil well productivity peaked at 18.6 barrels per day per well in 1972; the 2005 rate was 10.1 barrels per day per well. (Table 5.2)
- Natural gas well productivity peaked at 435 thousand cubic feet per day per well in 1971; the 2005 rate was 120 thousand cubic feet per well per day. (Table 6.4)
- Coal mining productivity stood at 1.77 short tons per miner hour in 1978; the 2005 rate was 6.37 short tons per miner hour. (Table 7.6)
- From 1960-1971 and again from 1995-1998, Venezuela was the leading supplier of petroleum to the United States. From 1999-2005, Canada was the top supplier. (Table 5.4)

The data in this report can be accessed on the Energy Information Administration (EIA) Web site at: http://www.eia.doe.gov/aer. EIA continually updates the time series, especially for the most recent years. For the major data series in the *AER*, more recent data may be available in the *Monthly Energy Review* at http://www.eia.doe.gov/mer. Also, for analysts who would like to examine future energy scenarios developed by EIA and based on the historical data in this report, we recommend the *Annual Energy Outlook* at http://www.eia.doe.gov/oiaf/aeo.

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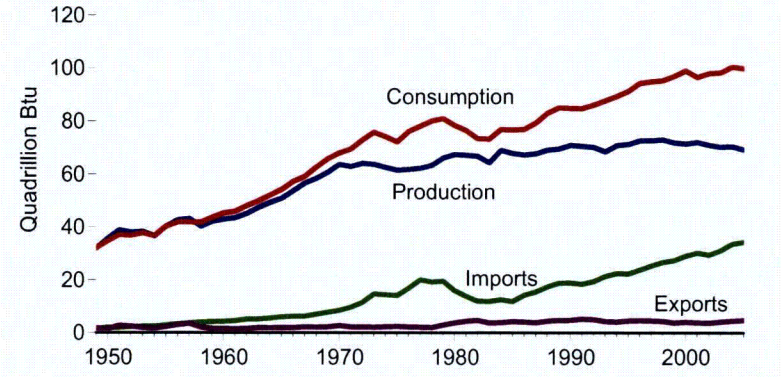
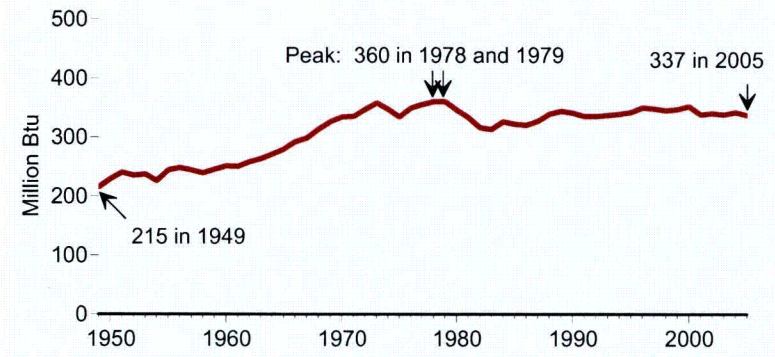
Overview

Figure 1. Energy Overview



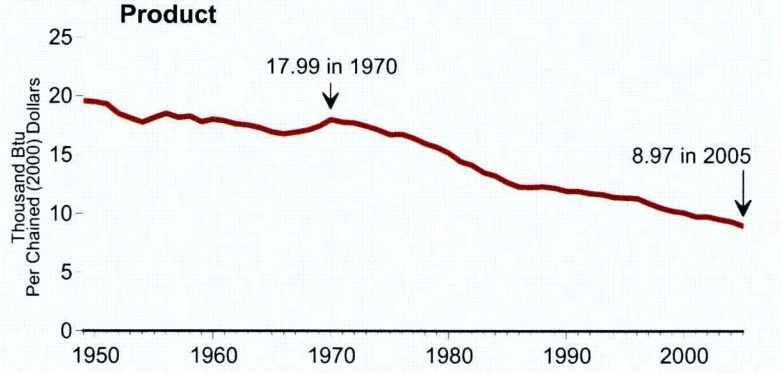
The United States was self-sufficient in energy until the late 1950s when energy consumption began to outpace domestic production. At that point, the Nation began to import more energy to fill the gap. In 2005, net imported energy accounted for 30 percent of all energy consumed.

Figure 2. Energy Consumption per Person



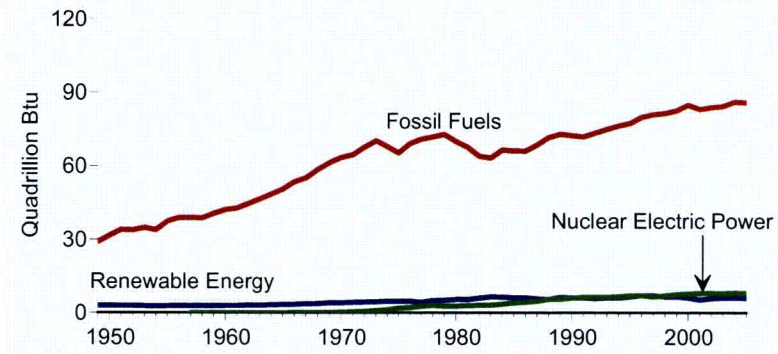
Energy use per person stood at 215 million British thermal unit (Btu) in 1949. The rate generally increased until the oil price shocks of the mid-1970s and early 1980s when the trend reversed for a few years. From 1988 on, the rate held fairly steady. In 2005, 337 million Btu of energy were consumed per person, 57 percent above the 1949 rate.

Figure 3. Energy Use per Real Dollar of Gross Domestic Product



After 1970, the amount of energy consumed to produce a dollar's worth of the Nation's output of goods and services trended down. The decline resulted from efficiency improvements and structural changes in the economy. The level in 2005 was 50 percent below that of 1970.

Figure 4. Energy Consumption by Source



Most energy consumed in the United States came from fossil fuels. Renewable energy resources supplied a relatively small but steady portion. In the late 1950s, nuclear fuel began to be used to generate electricity, and in most years since 1988, nuclear electric power surpassed renewable energy.

Consumption by Source

Figure 5. Energy Consumption by Source, 1635-2005

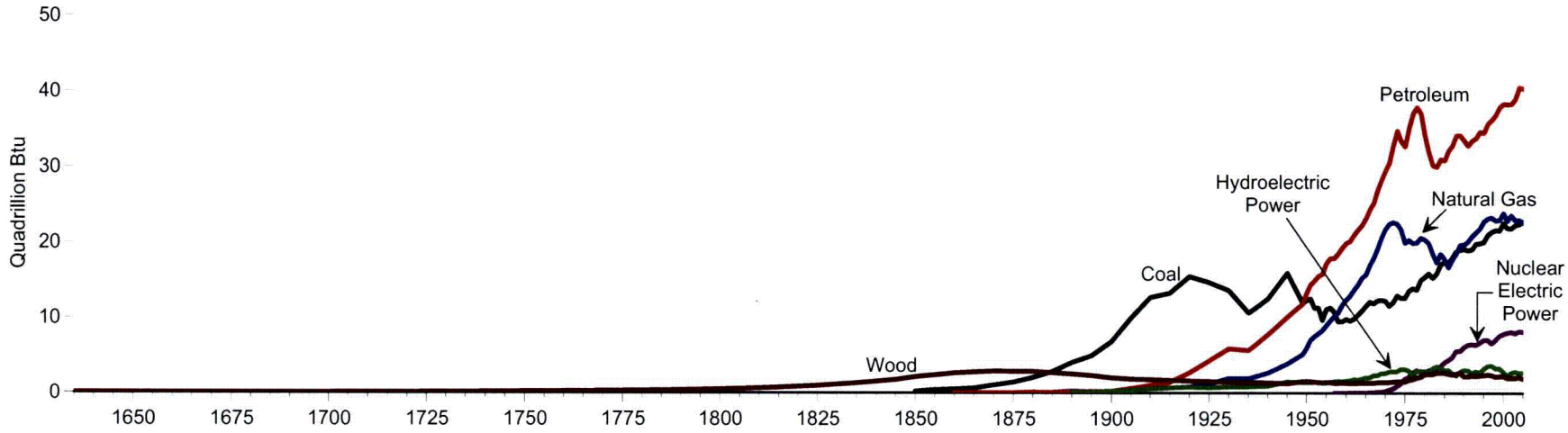
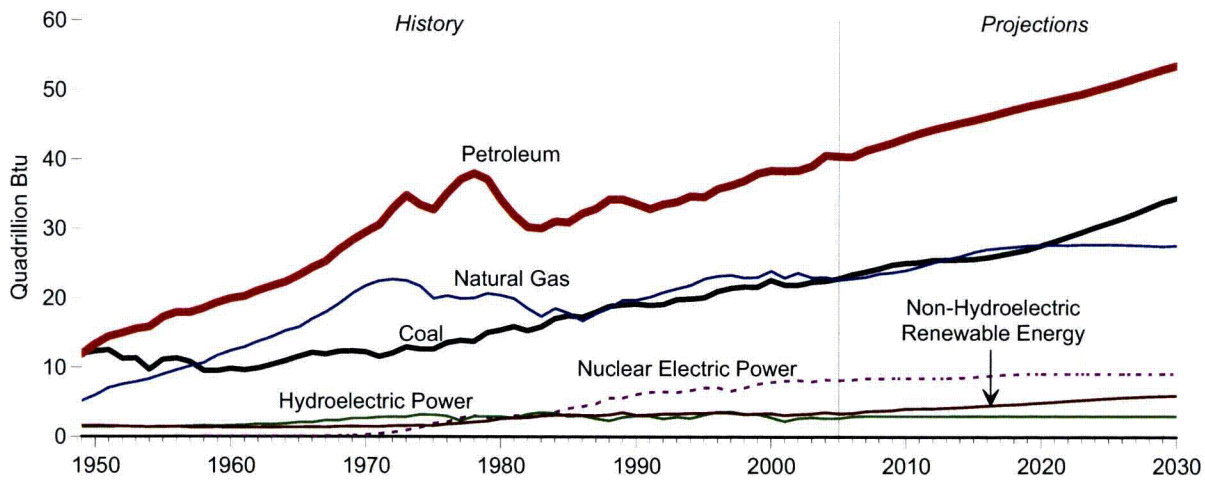


Figure 6. Energy Consumption History and Outlook, 1949-2030

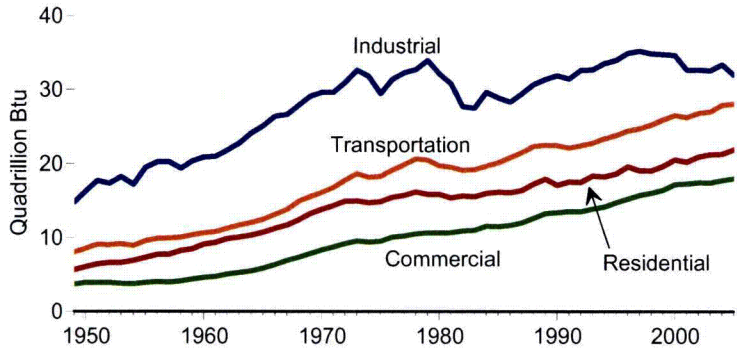


In the long view of American history, wood served as the preeminent form of energy for about half of the Nation's history. Around 1885, coal surpassed wood's usage. Despite its tremendous and rapid expansion, coal was, in turn, overtaken by petroleum in the middle of the 20th century. Natural gas, too, experienced rapid development into the second half of the 20th century, and coal began to expand again. Late in the 20th century still another form of energy, nuclear electric power, was developed and made significant contributions.

While the Nation's energy history is one of large-scale change as new forms of energy were developed, the outlook for the next couple of decades (assuming current laws, regulations, and policies) is for continued growth and reliance on the three major fossil fuels—petroleum, natural gas, and coal—modest expansion in renewable resources, and relatively flat generation from nuclear electric power.

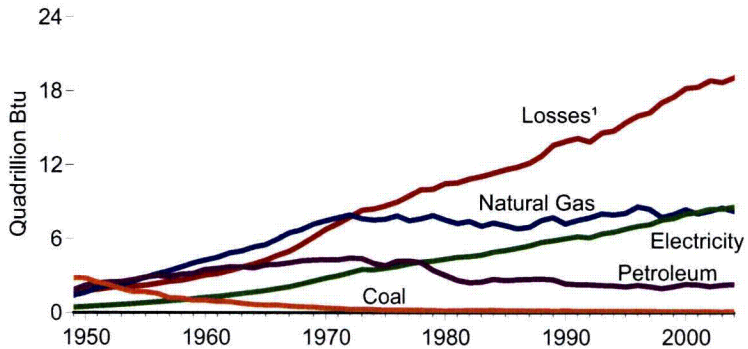
Consumption by Sector

Figure 7. Energy Consumption by End-Use Sector



All four major economic sectors of the economy recorded tremendous growth in their use of energy. The industrial sector used the biggest share of total energy and showed the greatest volatility; in particular, steep drops occurred in the sector in 1975 and 1980-1983 largely in response to high oil prices.

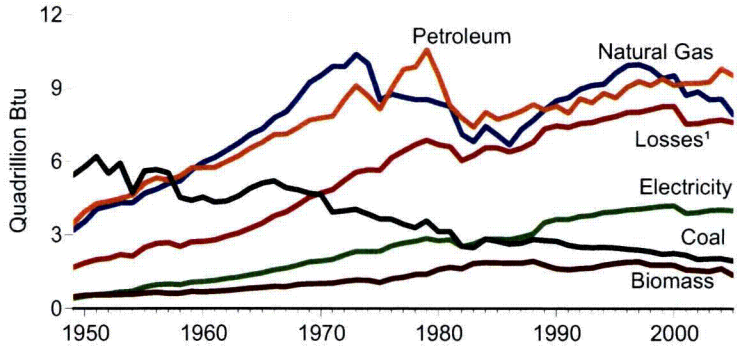
Figure 8. Residential and Commercial Energy Consumption



¹ Energy lost during generation, transmission, and distribution of electricity.

In the 1950s and 1960s, coal, which had been important to residential and commercial consumers, was gradually replaced by other forms of energy. Petroleum use peaked in the early 1970s. Natural gas grew fast until the early 1970s and then fluctuated around the 1970 level over the next three decades. Meanwhile, electricity use (and related losses) expanded dramatically.

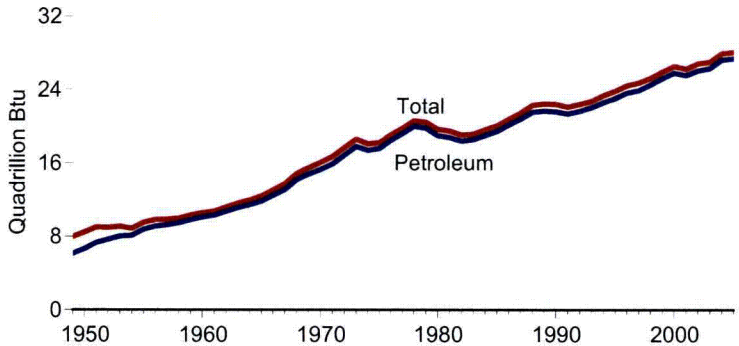
Figure 9. Industrial Energy Consumption



¹ Energy lost during generation, transmission, and distribution of electricity.

Coal, once the predominant form of energy in the industrial sector, gave way to natural gas and petroleum in the late 1950s. Both natural gas and petroleum use expanded rapidly until the early 1970s and then fluctuated widely over the following decades. Use of electricity and biomass trended upward, but use of electricity grew at a faster rate than biomass.

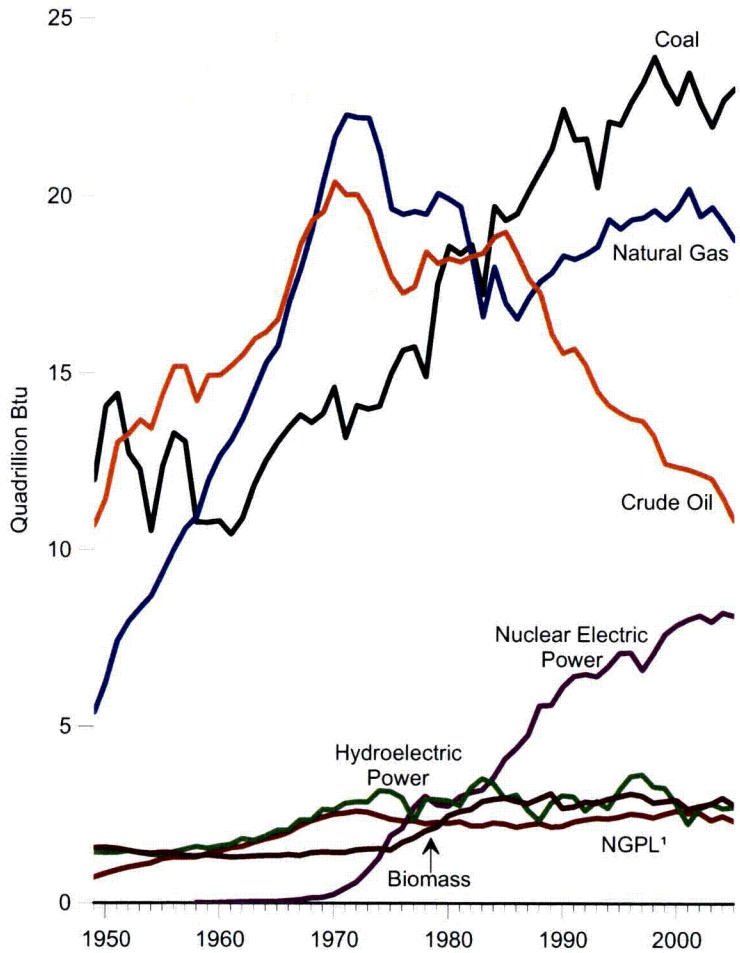
Figure 10. Transportation Energy Consumption



Transportation sector use of energy experienced tremendous growth overall, but registered noticeable pauses in 1974, 1979-1982, 1990 and 1991, and 2001. In 2005, petroleum accounted for 98 percent of the sector's energy. In Btu, motor gasoline accounted for 62 percent of all petroleum used in the sector; in barrels, motor gasoline accounted for 65 percent .

Production and Trade

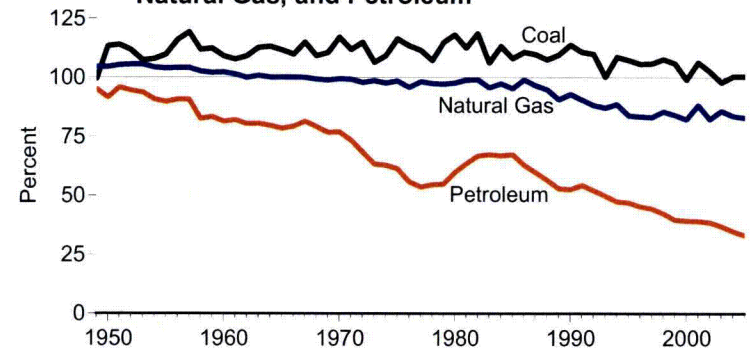
Figure 11. Energy Production by Major Source



¹ Natural gas plant liquids.

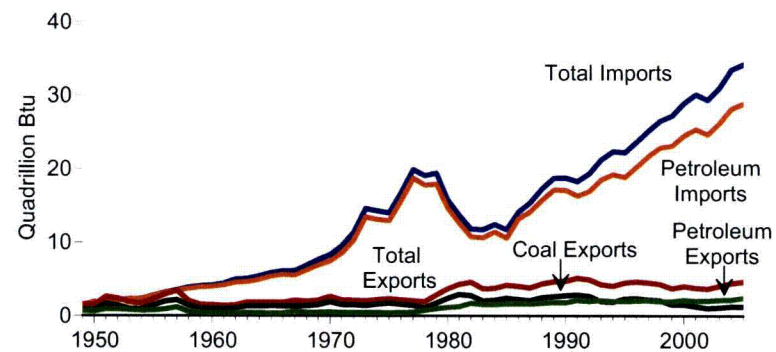
In the period studied, most energy produced in the United States came from fossil fuels—coal, natural gas, and crude oil. Coal, the leading source at the middle of the 20th century, was surpassed by crude oil and then by natural gas. By the mid-1980s, coal again became the leading energy source produced in the United States, and crude oil declined sharply. In the 1970s, electricity produced from nuclear fuel began to make a significant contribution and expanded rapidly in the following decades.

Figure 12. Production as Share of Consumption for Coal, Natural Gas, and Petroleum



The United States almost always produced more than enough coal for its own requirements. For many years, the United States was also self-sufficient in natural gas, but after 1967, it produced less than it consumed each year. Petroleum production fell far short of domestic demands, requiring the Nation to rely on imported supplies.

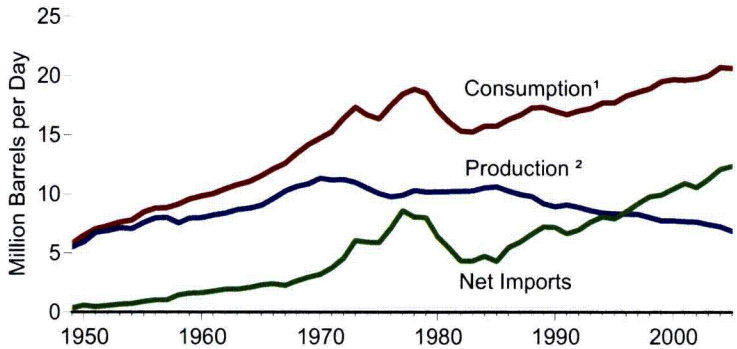
Figure 13. Energy Imports and Exports



Since the mid-1950s, the Nation imported more energy than it exported. In 2005, the United States imported 34 quadrillion Btu of energy and exported 5 quadrillion Btu. Most imported energy was in the form of petroleum; since 1986, natural gas imports expanded rapidly as well. Through 1992, most exported energy was in the form of coal; after that, petroleum exports often exceeded coal exports.

Petroleum Overview and Crude Oil Production

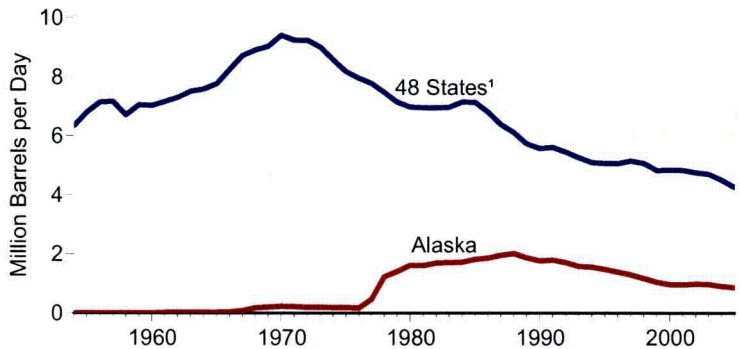
Figure 14. Petroleum Overview



¹ Petroleum products supplied used as an approximation for consumption.
² Crude oil and natural gas plant liquids production.

When U.S. petroleum production peaked at 11.3 million barrels per day in 1970, net imports stood at 3.2 million barrels per day. By 1996, net imports exceeded production. In 2005, production was 6.8 million barrels per day, and net imports were 12.4 million barrels per day.

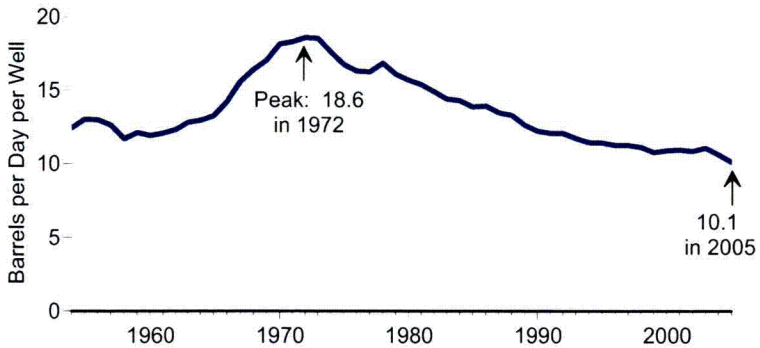
Figure 15. 48 States and Alaskan Crude Oil Production



¹ United States excluding Alaska and Hawaii.

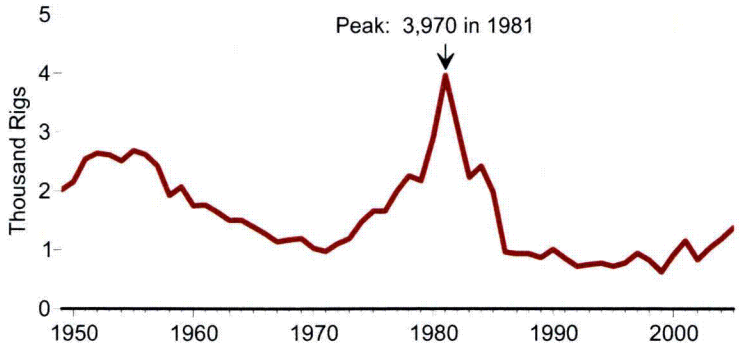
Crude oil production peaked in the 48 States at 9.4 million barrels per day in 1970. As production fell in the 48 States, Alaska's production came on line and helped supply U.S. needs. Alaskan production peaked at 2.0 million barrels per day in 1988; in 2005, production stood at 43 percent of the peak level.

Figure 16. Crude Oil Well Productivity



The amount of crude oil produced per day per well rose sharply in the 1960s and reached a peak of 18.6 barrels per day per well in 1972. After that, productivity generally declined. The 2005 rate of 10.1 barrels per day per well was 46 percent below the peak and was the lowest level since the Energy Information Administration began reporting oil well productivity.

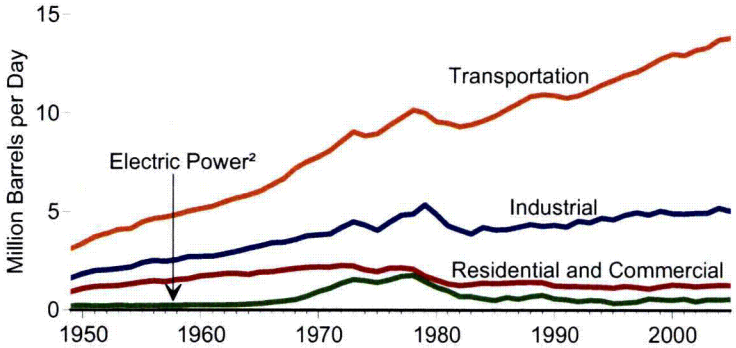
Figure 17. Crude Oil and Natural Gas Rotary Rigs in Operation



Rotary rig activity declined sharply from 1955 to 1971. After 1971, the number of rigs in operation began to climb again, and a peak of nearly 4 thousand rigs in operation was registered in 1981. In 2005, 1,383 rigs were in operation, more than double the low of 625 in 1999, but only 35 percent of the peak level in 1981.

Petroleum Consumption and Prices

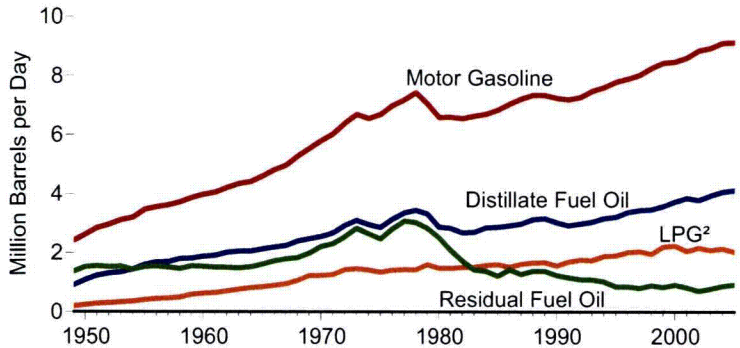
Figure 18. Petroleum Consumption[1] by Sector



[1] Petroleum products supplied is used as an approximation for consumption.
[2] Through 1988, electric utilities only; after 1988, includes independent power producers.

Transportation was the largest consuming sector of petroleum and the one showing the greatest expansion over the second half of the 20th century. In 2005, 14 million barrels per day of petroleum products were consumed for transportation purposes, accounting for 67 percent of all petroleum used.

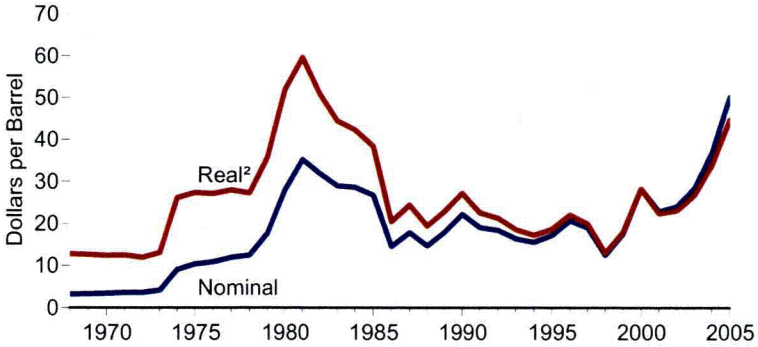
Figure 19. Petroleum Consumption[1] by Selected Product



[1] Petroleum products supplied is used as an approximation for consumption.
[2] Liquefied petroleum gases.

Motor gasoline was the single largest petroleum product consumed in the United States. Its consumption stood at 9.1 million barrels per day in 2005, 44 percent of all petroleum consumption. Distillate fuel oil and liquefied petroleum gases (LPG) were other important products. The use of residual fuel oil fell off sharply after 1977.

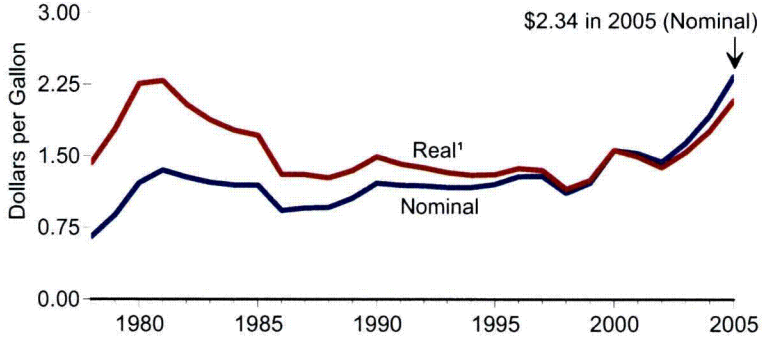
Figure 20. Crude Oil Refiner Acquisition Cost[1]



[1] Composite of domestic and imported crude oil. [2] In chained (2000) dollars, calculated by using gross domestic product implicit price deflator.

Unadjusted for inflation (nominal dollars), the refiner acquisition composite (domestic and foreign) cost of crude oil reached $35.24 per barrel in 1981. Over the years that followed, the price fell dramatically to a low of $12.52 per barrel in 1998 before rising again. The preliminary price reported for 2005 was $50.23 per barrel, a new peak nominal level and up 36 percent over the 2004 price.

Figure 21. Price of Motor Gasoline, All Grades

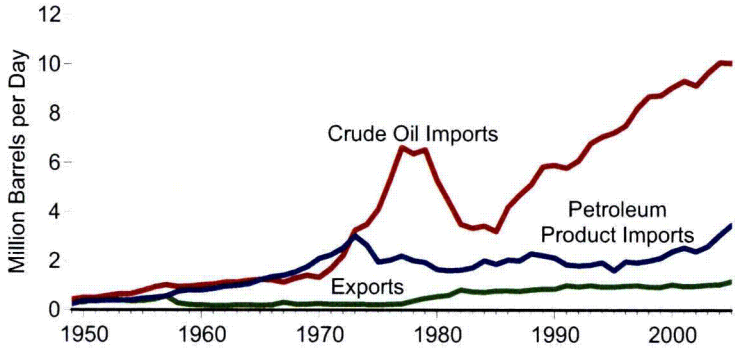


[1] In chained (2000) dollars, calculated by using gross domestic product implicit price deflator.

In nominal (unadjusted for inflation) dollars, Americans paid an average of 65¢ per gallon for motor gasoline in 1978. The 2005 average price of $2.34 was 260 percent higher than the 1978 rate; adjusted for inflation, it was 46 percent higher.

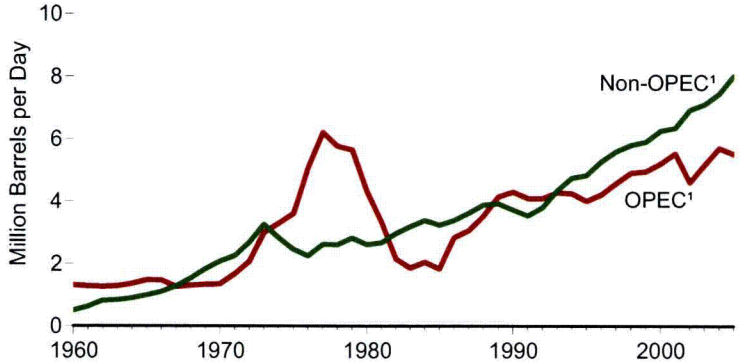
Petroleum Trade

Figure 22. Petroleum Trade



U.S. crude oil imports grew rapidly from mid-century until the late 1970s but fell sharply from 1979 to 1985 due to conservation efforts and improved efficiency. After 1985, the upward trend resumed and stood at 10.1 million barrels per day in 2005. Petroleum product imports were 3.5 million barrels per day in 2005. Exports totaled 1.2 million barrels per day in 2005, mainly in the form of petroleum coke and residual fuel oil.

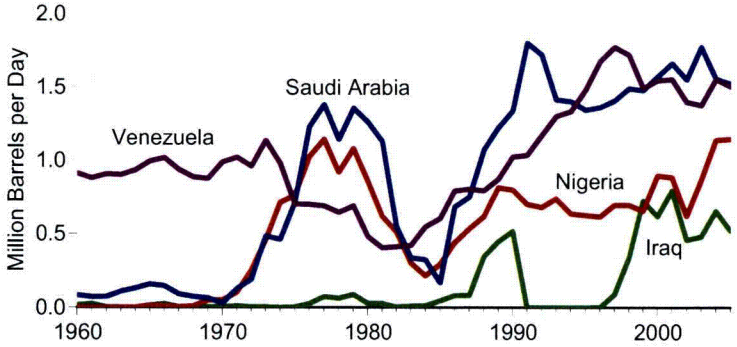
Figure 23. Imports From OPEC and Non-OPEC Countries



[1] Organization of the Petroleum Exporting Countries.

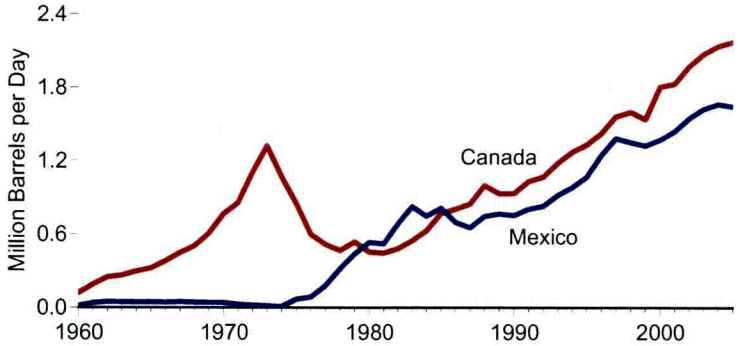
U.S. petroleum imports rose sharply in the 1970s, and reliance on petroleum from the Organization of the Petroleum Exporting Countries (OPEC) grew. In 2005, 41 percent of U.S. petroleum imports came from OPEC countries, down from 70 percent in 1977. After 1992, more petroleum came into the United States from non-OPEC countries than from OPEC countries.

Figure 24. Imports From Selected OPEC Countries



Among OPEC countries, Saudi Arabia, Venezuela, and Nigeria—nations from three different continents—were key suppliers of petroleum to the American market. Each experienced wide fluctuation in the amount of petroleum it sold to the United States over the decades. In 2005, 0.5 million barrels per day of petroleum came into the United States from Iraq.

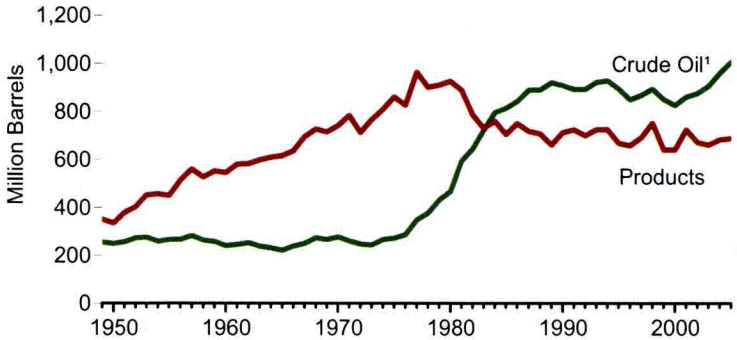
Figure 25. Imports From Canada and Mexico



Canada and Mexico, our national neighbors, supplied the largest quantities of petroleum from non-OPEC countries. In 2005, imports from Canada reached a new high of 2.2 million barrels per day. Imports from Mexico were insignificant until the mid-1970s when they began to play a key role in U.S. supplies. Canadian and Mexican petroleum together accounted for 28 percent of all U.S. imports in 2005.

Petroleum Stocks

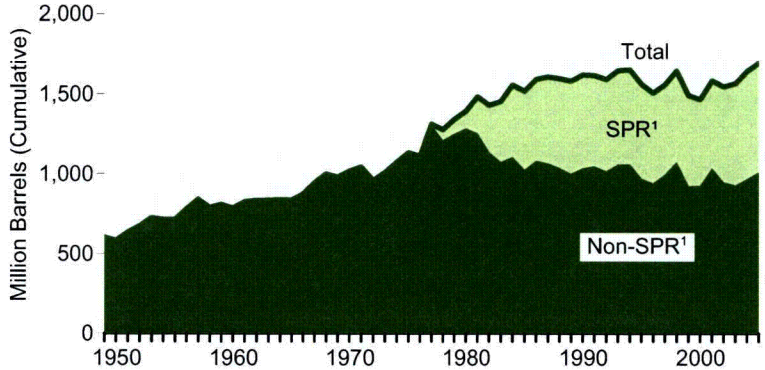
Figure 26. Stocks of Crude Oil and Products



¹ Includes crude oil stored in the Strategic Petroleum Reserve.

Through 1983, the Nation held most of its petroleum storage in the form of products, which were ready for the market. After that, most petroleum in storage was in the form of crude oil that still needed to be refined into usable end products. At the end of 2005, petroleum stocks totaled 1.7 billion barrels, 59 percent crude oil and 41 percent products.

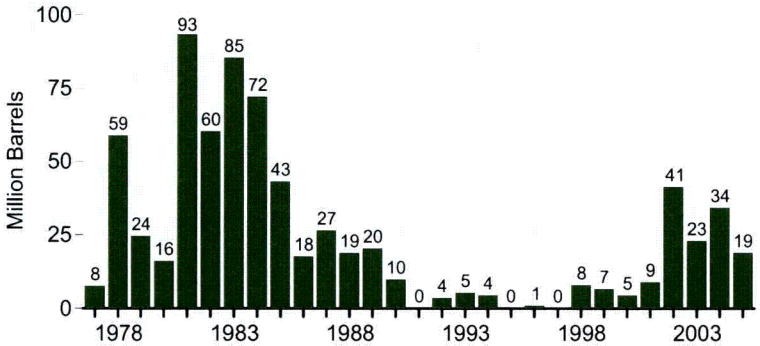
Figure 27. Total Stocks and the Strategic Petroleum Reserve



¹ Strategic Petroleum Reserve.

In 1977, the United States began filling the Strategic Petroleum Reserve (SPR), a national reserve of petroleum stocks in case of emergency. At the end of 2005, the SPR held 685 million barrels of crude oil, 40 percent of all U.S. petroleum stocks.

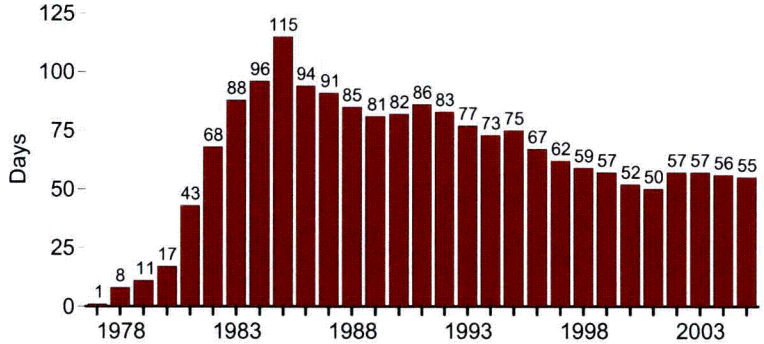
Figure 28. Crude Oil Imports for the SPR¹



¹ Imported by the SPR and imported by others for the SPR.

Most crude oil in the SPR was imported and came in during the early 1980s. In fact, from 1991 through 1997, only 14 million barrels were imported for the reserve, and in 3 of those years, no oil at all was imported for the reserve. SPR imports picked up again beginning in 2002 and brought in 117 million barrels from 2002 through 2005.

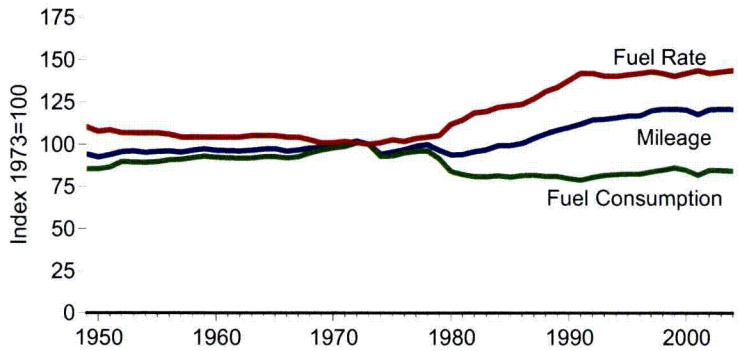
Figure 29. SPR Stocks as Days of Petroleum Net Imports



An important SPR measure is the number of days of total net imports of petroleum that could be met by the reserve in an emergency. The peak level occurred in 1985 when the reserve could have supplied 115 days of petroleum net imports, at the 1985 level. The rate trended down for many years, falling to 50 days in 2001. In 2005, SPR held 55 days of net imports.

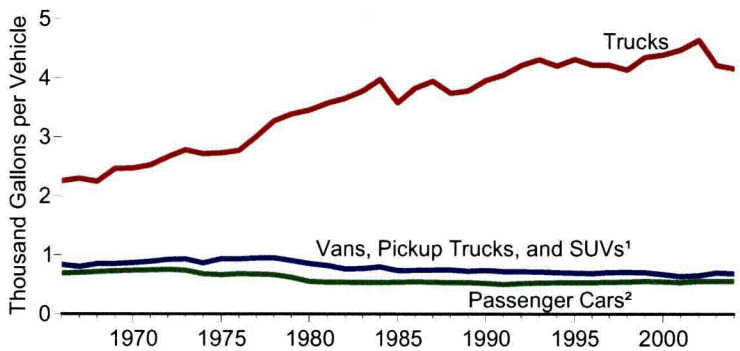
Motor Vehicles

Figure 30. Motor Vehicle Indicators



The composite motor vehicle fuel rate (miles per gallon) rose 42 percent from 1973 to 1991 and then varied little over the next 13 years. Mileage grew steadily from 1980 to 1998 and then hovered around 12 thousand miles per vehicle per year through 2004. Fuel consumption (gallons per vehicle) fell 21 percent from 1973 to 1991, bounced back 9 percent from 1991 to 1999, dipped down in 2001, and averaged 715 gallons per vehicle in 2004.

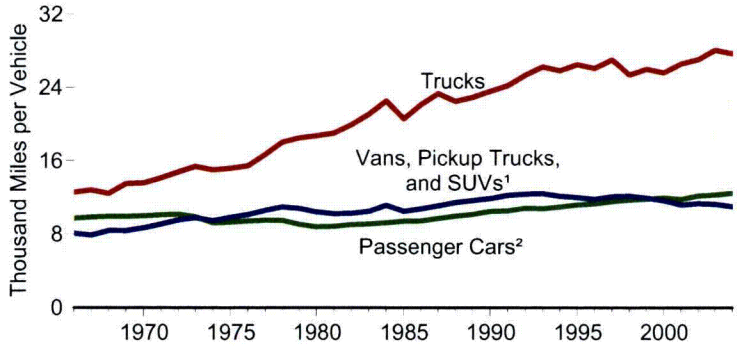
Figure 31. Motor Vehicle Fuel Consumption



¹ Sport utility vehicle. ² Motorcycles are included through 1989.

From 1966 to 2002, fuel consumed per truck doubled, growing from 2.3 thousand gallons to 4.6 thousand gallons, and then fell in 2003 and 2004. Meanwhile, fuel consumed per passenger car and per van, pickup truck, and sport utility vehicle fell by 22 percent and 24 percent, respectively, from 1966 to 2001, before turning up slightly in later years.

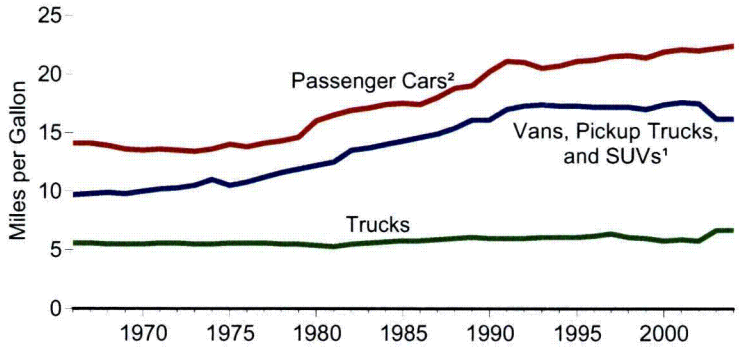
Figure 32. Motor Vehicle Mileage



¹ Sport utility vehicle. ² Motorcycles are included through 1989.

From 1966 to 2003, truck miles traveled per year, which greatly exceeded the other vehicle categories, grew by 124 percent. Truck mileage fell by 1 percent in 2004 to 27.7 thousand miles per vehicle, while passenger cars averaged 12.5 thousand miles per vehicle and vans, pickup trucks, and sport utility vehicles averaged 11.0 thousand miles per vehicle.

Figure 33. Motor Vehicle Fuel Rates



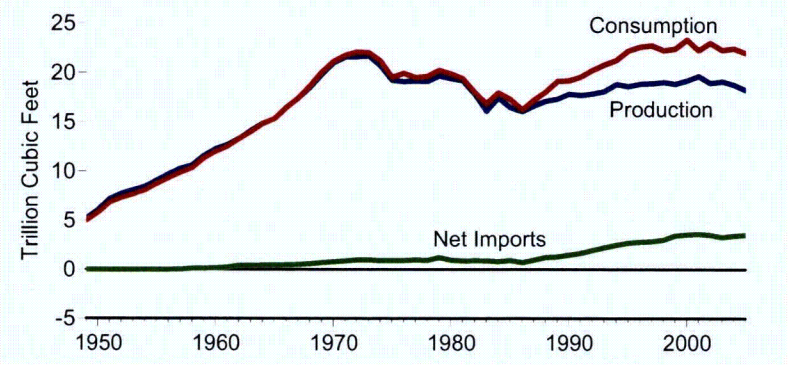
¹ Sport utility vehicle. ² Motorcycles are included through 1989.

Fuel rates (miles per gallon) for both passenger cars and vans, pickup trucks, and SUVs improved noticeably from the late 1970s through the early 1990s. Passenger cars improved further in subsequent years, but rates for vans, pickup trucks, and SUVs deteriorated. Truck rates, which were much lower than rates for other vehicle categories and recorded much less year-to-year change, experienced a 16–percent jump in 2003.

Note: Motor vehicles include passenger cars, motorcycles, vans, pickup trucks, sport utility vehicles, trucks, and buses.

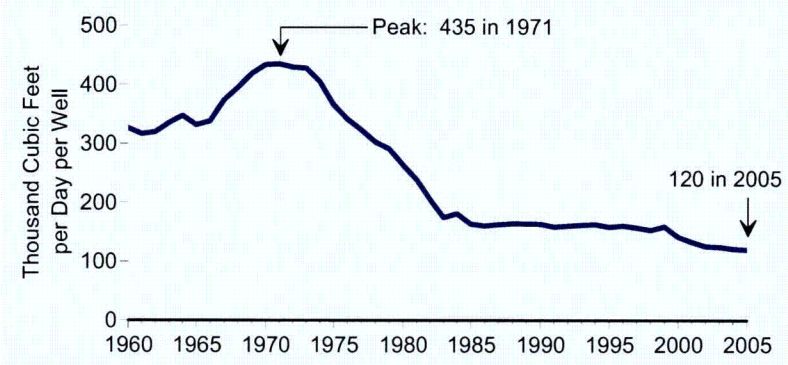
Natural Gas

Figure 34. Natural Gas Overview



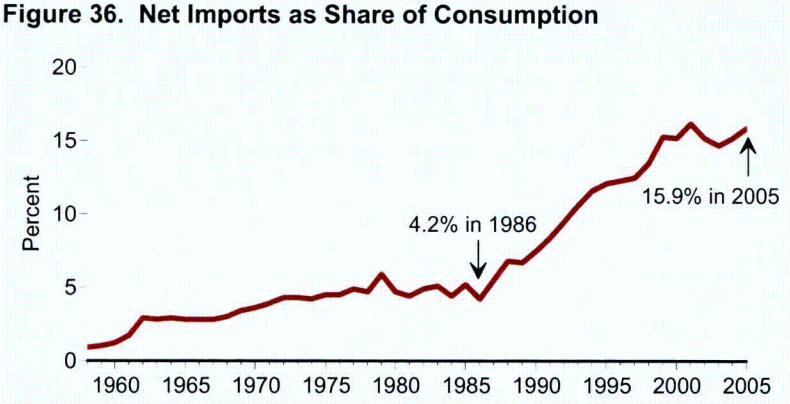
U.S. natural gas production and consumption were nearly in balance through 1986. After that, consumption began to outpace production, and imports of natural gas rose to meet U.S. requirements for the fuel. In 2005, consumption stood at 22.0 trillion cubic feet (Tcf), production at 18.2 Tcf, and net imports at 3.5 Tcf.

Figure 35. Natural Gas Well Average Productivity



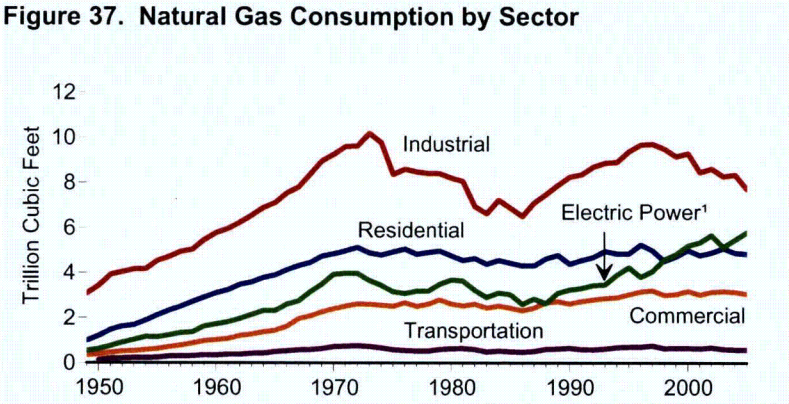
Natural gas well productivity, measured as gross withdrawals per day per well, grew rapidly in the late 1960s, peaked in 1971, and then fell sharply until the mid-1980s. Productivity remained nearly steady from 1985 through 1999 and then fell annually through 2005.

Figure 36. Net Imports as Share of Consumption



Net imports of natural gas as a share of consumption was in the 4-to-6 percent range from 1970 through 1987. Then, during a period when consumption outpaced production, the share rose from 4.2 percent in 1986 to 16.2 percent in 2001. The share fell in 2002 and 2003 and then rose again in 2004 and 2005.

Figure 37. Natural Gas Consumption by Sector

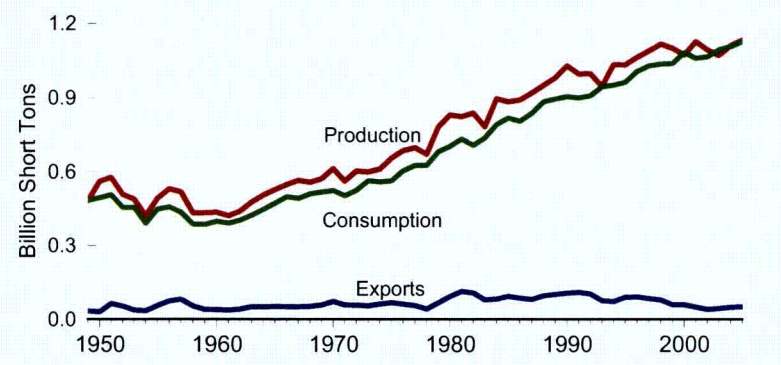


¹ Through 1988, electric utilities only; after 1988, includes independent power producers.

The industrial sector was both the largest consuming sector of natural gas and the sector with the greatest volatility due to variability in industrial output. In 2005, the industrial sector accounted for 35 percent of all natural gas consumption.

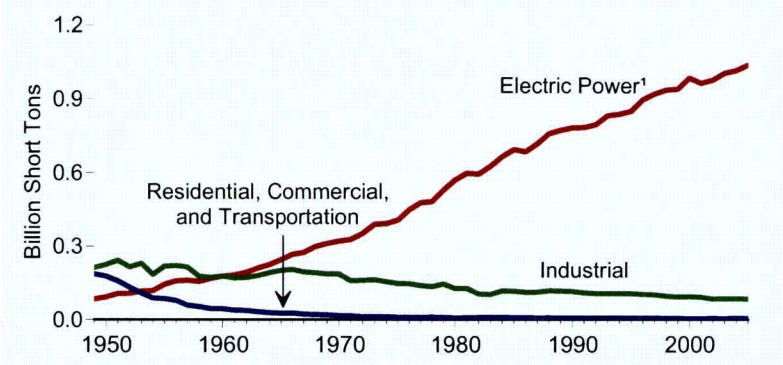
Coal

Figure 38. Coal Overview



Historically, U.S. production of coal nearly always surpassed U.S. consumption of coal. In 2004 and 2005, however, production and consumption were in balance—1.11 billion short tons produced and consumed in 2004 and 1.13 billion short tons produced and consumed in 2005. Exports, which peaked at 113 million short tons in 1981, stood at 50 million short tons in 2005.

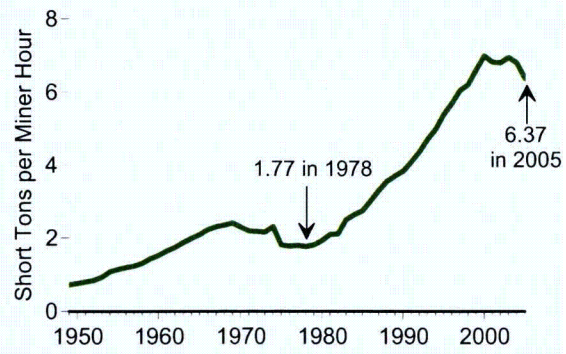
Figure 39. Coal Consumption by Sector



[1] Through 1988, electric utilities only; after 1988, includes independent power producers.

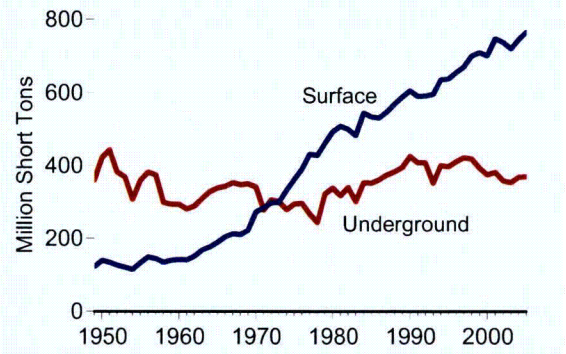
In the 1950s, most coal was consumed in the industrial sector, many homes were still heated by coal, and the transportation sector consumed coal in steam-driven trains and ships. By the 1960s, most coal was used for generating electricity. In 2005, the electric power sector accounted for 92 percent of all coal consumption.

Figure 40. Coal Mining Productivity



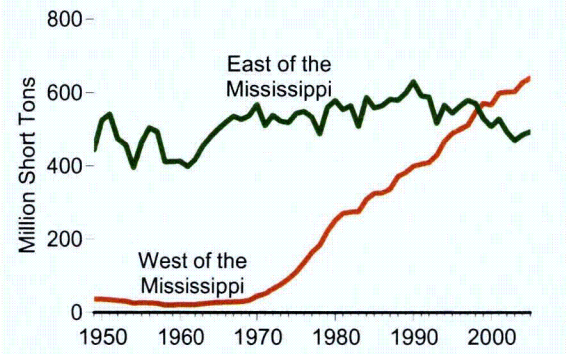
Improved mining technology and the shift toward more surface-mined coal promoted dramatic improvement in productivity from the Nation's mines from 1978 through 2000, but declining productivity occurred in four of the five most recent years.

Figure 41. Production by Mining Method



In 1949, one-fourth of U.S. coal came from surface mines; by 1971, more than one-half was surface-mined; and in 2005, two-thirds came from above-ground mines.

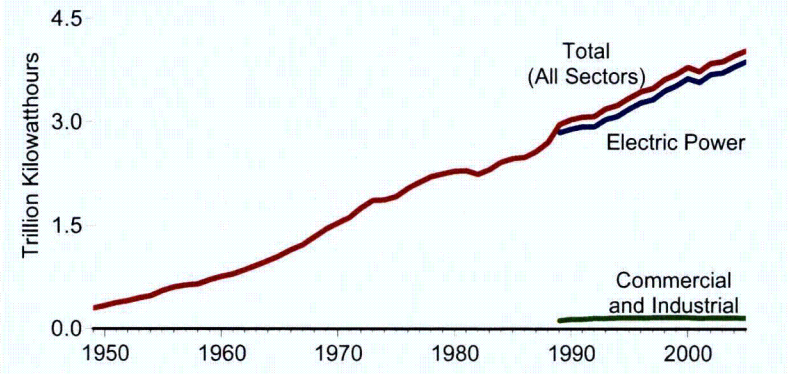
Figure 42. Production by Location



Western coal production expanded tremendously after 1969 and surpassed Eastern production beginning in 1999. In 2005, an estimated 56 percent of U.S. coal came from West of the Mississippi.

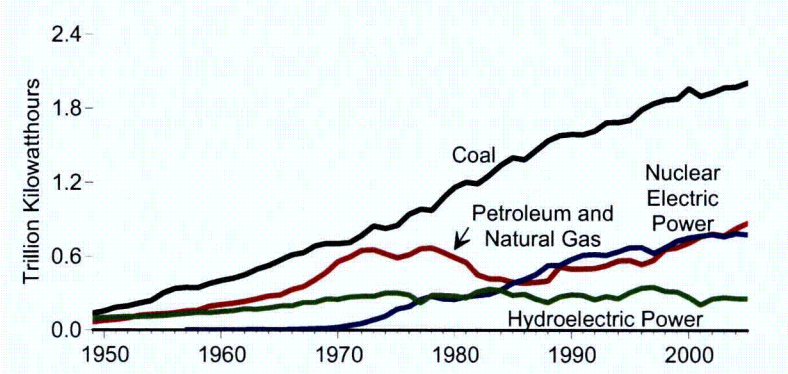
Electricity Net Generation and Useful Thermal Output

Figure 43. Electricity Net Generation by Sector



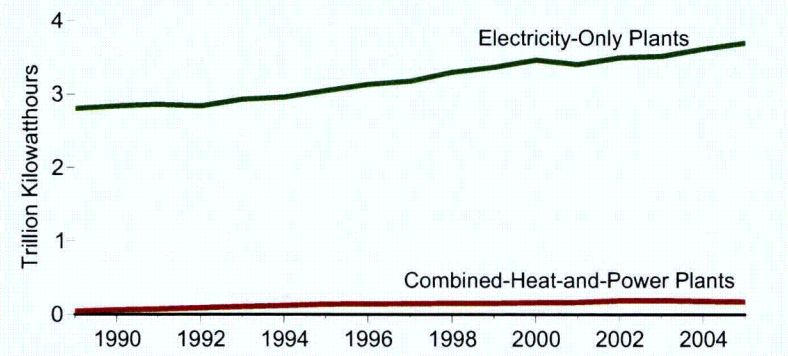
Total electric power net generation grew from 0.3 trillion kilowatthours in 1949 to 4.0 trillion kilowatthours in 2005, failing to increase in only 2 years (1982 and 2001) over the entire span. Most generation was in the electric power sector, but some occurred directly in the commercial and industrial sectors.

Figure 44. Major Sources of Total Electricity Net Generation



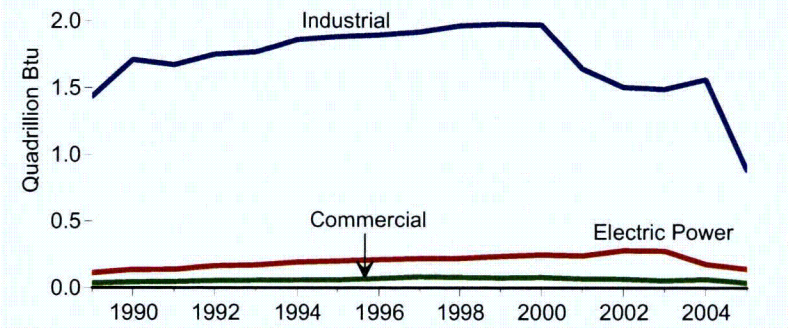
Most electricity net generation came from coal. In 2005, fossil fuels (coal, petroleum, and natural gas) accounted for 72 percent of all net generation, while nuclear electric power contributed 19 percent, and renewable energy resources 9 percent. Nearly three-fourths of the net generation from renewable energy resources was derived from conventional hydroelectric power.

Figure 45. Electric Power Sector by Plant Type



Most generating facilities exist to produce only electricity, but some function as combined-heat-and-power (CHP) plants that produce both electricity and heat from a single heat source. Rather than being wasted, the heat from a CHP plant is used for processes and applications other than electrical generation.

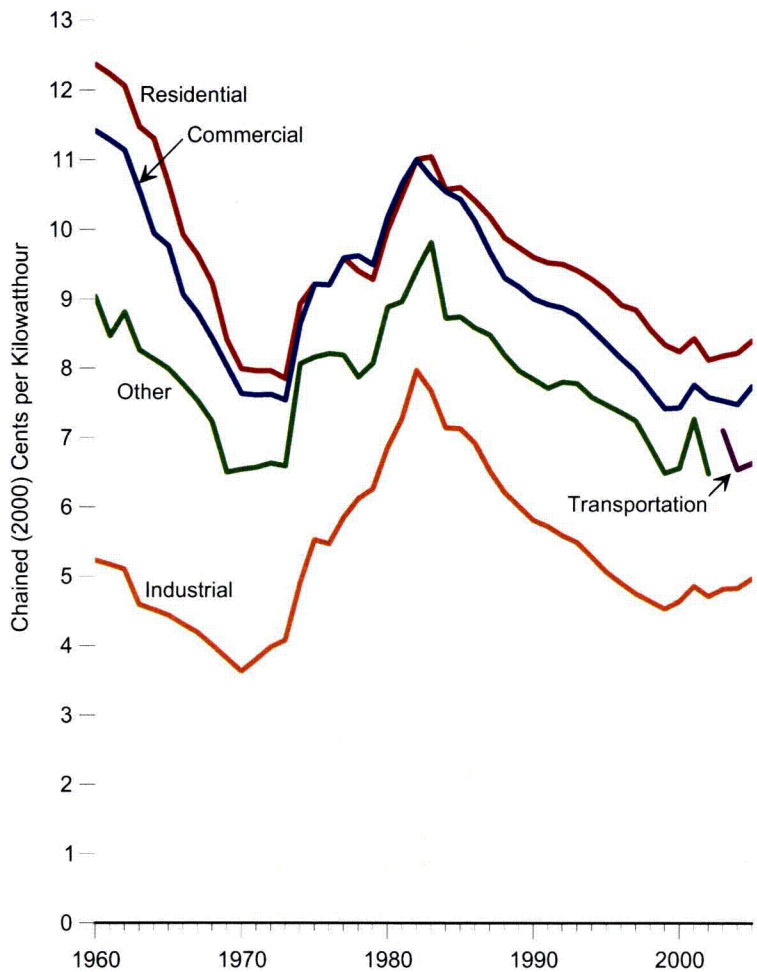
Figure 46. Useful Thermal Output at Combined-Heat-and-Power Plants by Sector



The non-electrical output at a CHP plant is called useful thermal output. Useful thermal output is thermal energy that is available from the plant for use in industrial or commercial processes or heating or cooling applications. In 2005, the industrial sector generated 0.9 quadrillion Btu of useful thermal output; the electric power and commercial sectors generated much smaller quantities.

Electricity Sales, Prices, and Trade

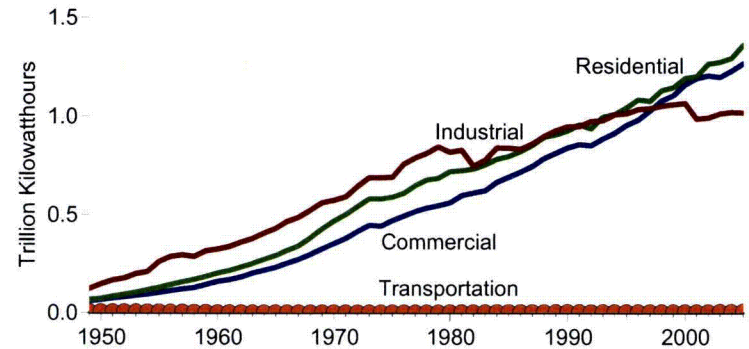
Figure 47. Average Real[1] Retail Prices of Electricity by Sector



[1] In chained (2000) dollars, calculated by using domestic product implicit price deflators.

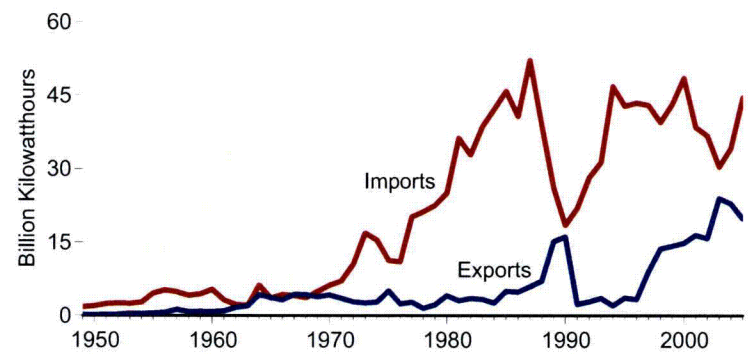
Over the decades, industrial consumers paid the lowest rates for electricity; residential customers usually paid the highest prices. In 2005, all sectors paid lower rates than they had in 1960, when adjusted for inflation.

Figure 48. Retail Sales by Sector



Enormous growth occurred in the amount of electricity sold to the three major sectors—residential, commercial, and industrial. Industrial sector sales showed the greatest volatility. Sales to residences exceeded sales to industrial sites since the early 1990s, and sales to commercial sites surpassed industrial sales since the late 1990s.

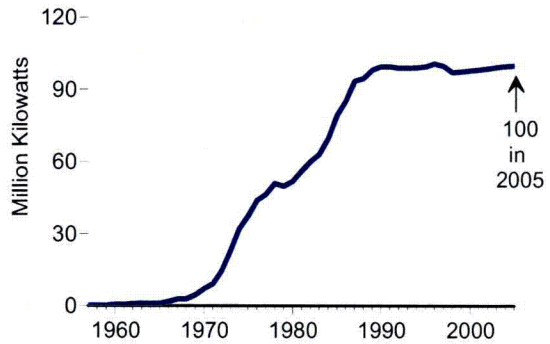
Figure 49. Electricity Trade



Except for a few years in the 1960s when imported and exported electricity were nearly equal, the United States imported more electricity than it exported. Most electricity trade occurred with Canada; very small exchanges occurred between the United States and Mexico. In 2005, net imported electricity was just 0.7 percent of all electricity used in the United States.

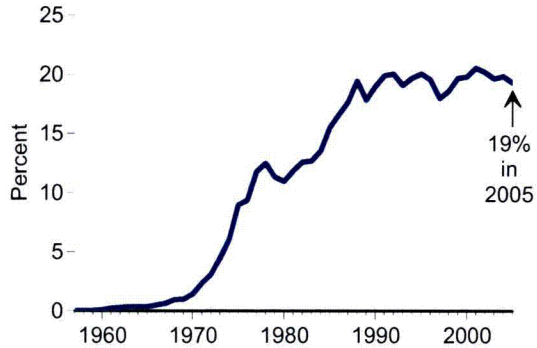
Nuclear Electric Power

Figure 50. Nuclear Net Summer Capacity



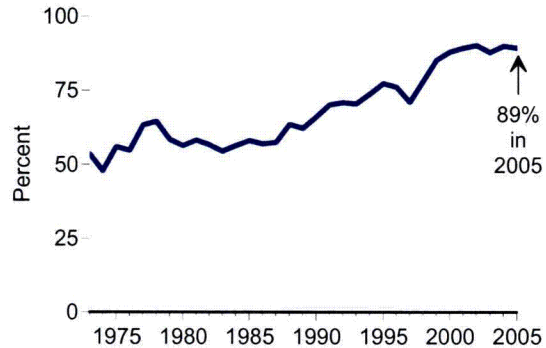
The U.S. nuclear industry's first commercial plant opened in Shippingport, Pennsylvania, in 1957. Nuclear capacity expanded sharply in the 1970s and 1980s. Total net capacity stood at 100 million kilowatts in 2005.

Figure 51. Nuclear Share of Electricity



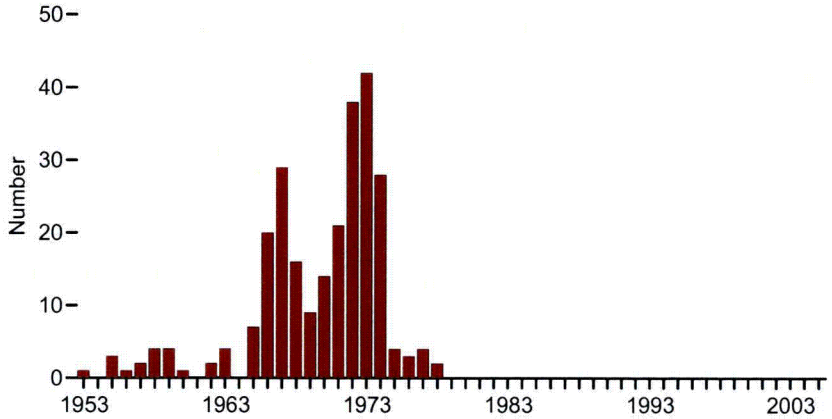
Over the latter part of the last century, nuclear electric power began to play a key role in meeting the Nation's rapidly growing electricity requirements. In 2005, 19 percent of U.S. total electricity net generation came from nuclear electric power.

Figure 52. Capacity Factor



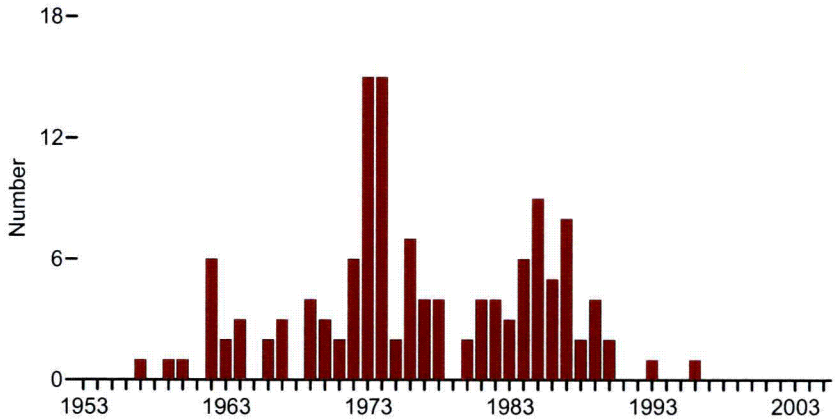
Capacity factors measure actual power generation as a share of maximum possible output. Factors for the industry, which were in the 50-to-60 percent range through the 1980s, generally improved in later years and stood at 89 percent in 2005.

Figure 53. Nuclear Units Ordered



A total of 259 nuclear electric power units were ordered since the industry got its start in the United States in the 1950s. The last new orders were placed in 1978. Of the 259 orders, 177 advanced to the issuance of construction permits and, of those, 132 eventually gained full-power operating licenses.

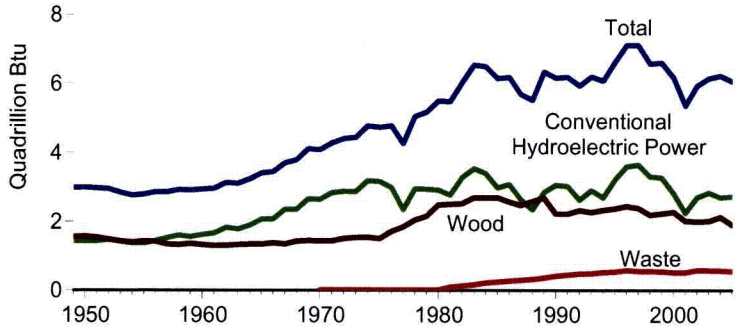
Figure 54. Full-Power Operating Licenses Issued



Out of the 132 units that were granted full-power operating licenses, over time, 28 were permanently shut down. The largest number of units ever operable in the United States was 112 in 1990. From 1998 through 2005, 104 units were operable.

Renewable Energy

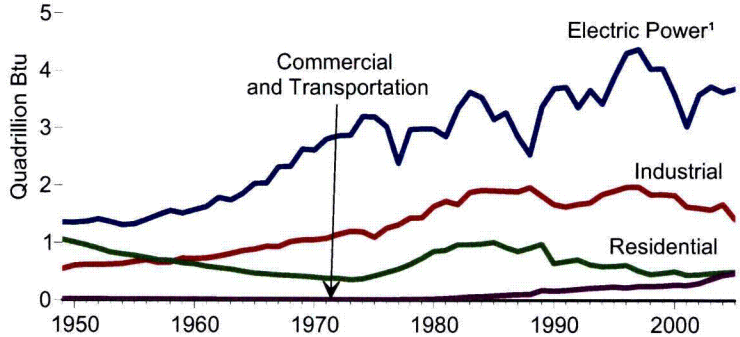
Figure 55. Renewable Energy Total Consumption and Major Sources



Note: Wood includes wood, black liquor, and other wood waste.

Total renewable energy consumption generally followed the pattern of hydroelectric power output, which was the largest component of the total for most of the years shown. In 2005, for example, hydroelectric power accounted for 45 percent of the total. Wood was the next largest source of renewable energy, followed by waste, geothermal, alcohol fuels, wind, and solar.

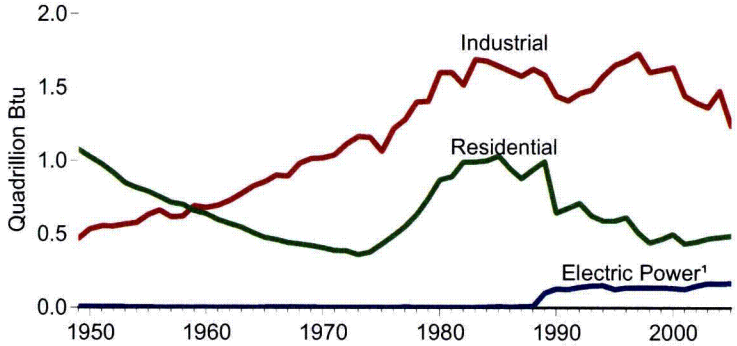
Figure 56. Renewable Energy Consumption by Sector



¹ Through 1988, electric utilities only; after 1988, includes independent power producers.

Most renewable energy was consumed by the electric power sector to generate electricity. After 1958, the industrial sector was the second largest consuming sector of renewable energy; residential sector usage of renewable energy was the third largest consuming sector.

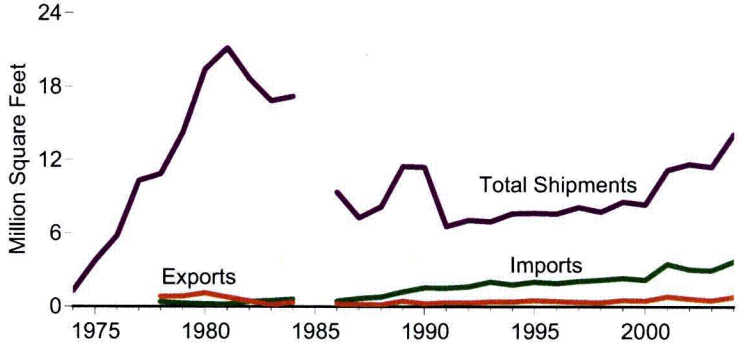
Figure 57. Wood Consumption by Major Sectors



¹ Through 1988, electric utilities only; after 1988, includes independent power producers.

In recent decades, the industrial sector was the largest consuming sector of wood as an energy source. Residential use of wood recovered sharply from 1974 through 1985 but then resumed its general downward trend.

Figure 58. Solar Collector Shipments and Trade

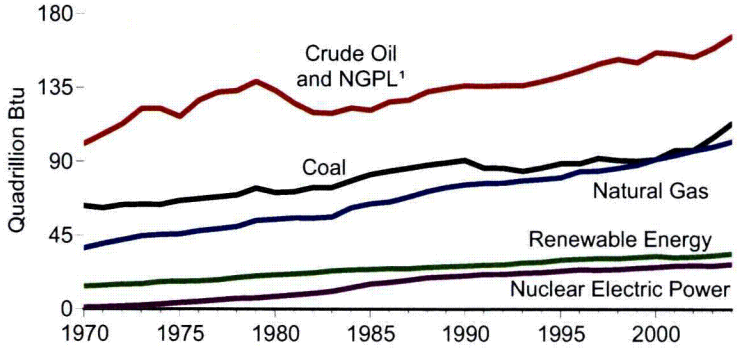


Notes: • Data were not collected for 1985. • Shipments include all domestically manufactured collectors plus imports.

Shipments of solar collectors grew strongly in the 1970s and reached a peak of 21 million square feet in 1981. Uneven performance was recorded over the next decade, followed by a mild upward trend during the 1990s and a bump up in 2001 and again in 2004. Imports reached a record level of 3.7 million square feet in 2004.

International Energy

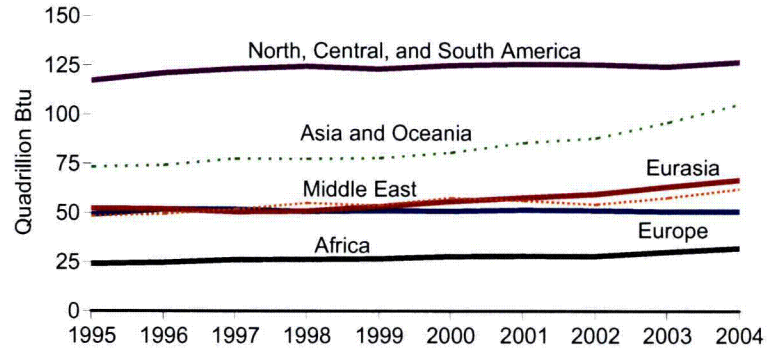
Figure 59. World Primary Energy Production By Source



¹ Natural gas plant liquids.

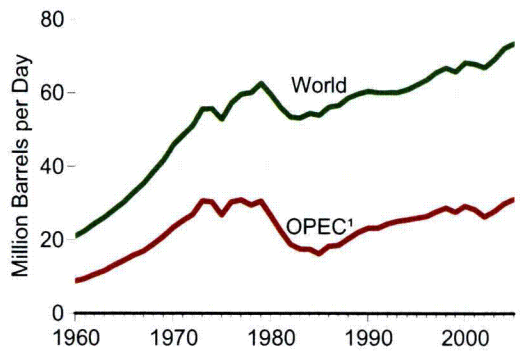
From 1970 to 2004, world primary energy production grew by 106 percent, reaching 443 quadrillion Btu in 2004. Growth occurred in all types of energy. In 2004, fossil fuels accounted for 86 percent of all energy produced worldwide, renewable energy 8 percent, and nuclear electric power 6 percent.

Figure 60. World Primary Energy Production by Region



Twenty-nine percent of the 443 quadrillion Btu of energy produced worldwide in 2004 came from North, Central, and South America. The second largest regional energy producer was Asia and Oceania with 24 percent of the world total in 2004.

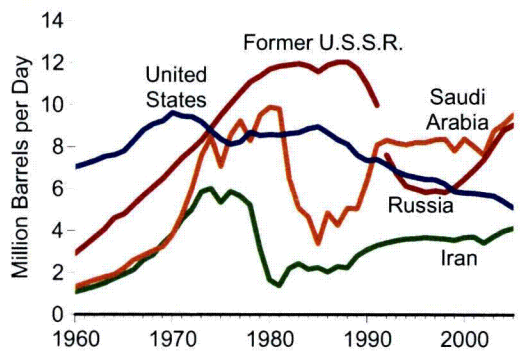
Figure 61. World Crude Oil Production



¹ Organization of the Petroleum Exporting Countries.

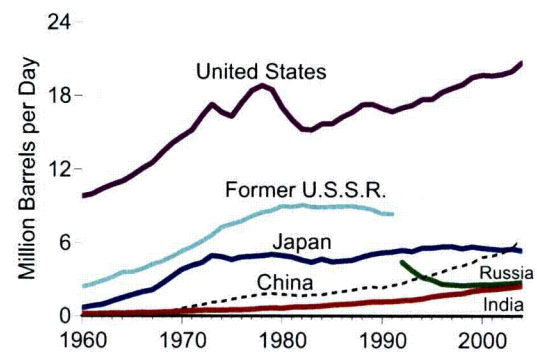
World crude oil production totaled 74 million barrels per day in 2005, up 2 percent over the previous year. OPEC's share of the world total in 2005 was 42 percent, compared to the peak level of 55 percent in 1973.

Figure 62. Leading Crude Oil Producers



From 1974 through 1991, the former U.S.S.R. was the world's leading crude oil producer. After 1991, Saudi Arabia became the top producer. Since 1999, Russia was the second largest producer. U.S. production peaked in 1970 but still ranked third in 2005.

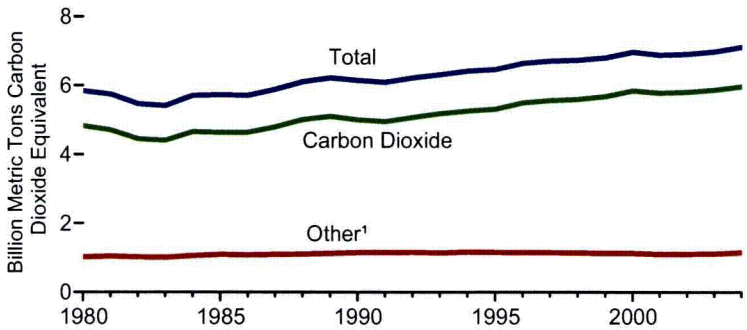
Figure 63. Leading Petroleum Consumers



The United States accounted for 25 percent of world consumption of petroleum in 2004. China and Japan, the next two leading consumers, together accounted for 14 percent. In 2004, India consumed nearly as much petroleum as Russia.

Emissions

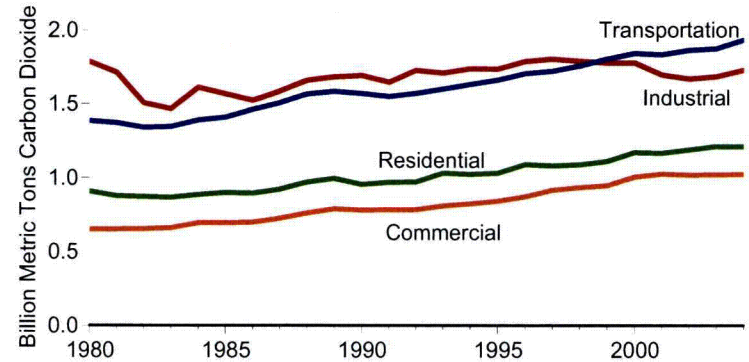
Figure 64. Greenhouse Gas Emissions, Based on Global Warming Potential



¹ Methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

The combustion of fossil fuels—coal, petroleum, and natural gas—to release their energy creates carbon dioxide emissions, the most significant greenhouse gas. Total carbon dioxide emissions reached 6 billion metric tons of gas in 2004, 19 percent higher than the 1990 level.

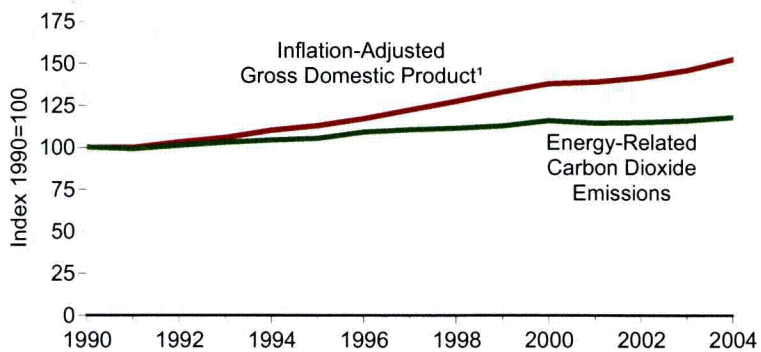
Figure 65. Carbon Dioxide Emissions From Energy Use



Note: Electric power sector emissions are distributed to the end-use sectors.

In 1999, transportation sector carbon dioxide emissions overtook industrial sector emissions. Of the major sectors, the commercial sector generated the lowest quantities of carbon dioxide emissions but recorded the greatest growth since 1980.

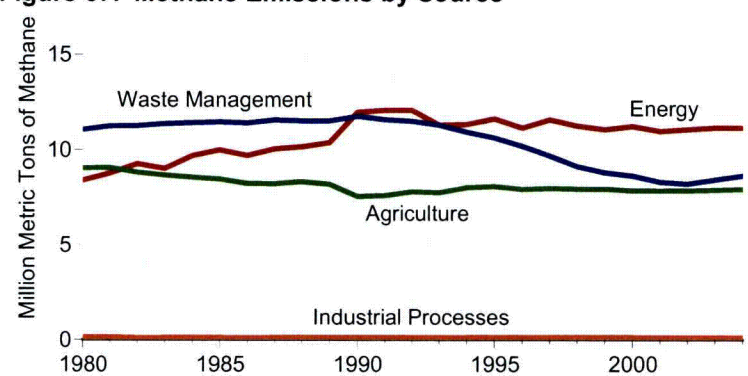
Figure 66. GDP Growth and Carbon Dioxide Emissions



¹ Based on chained (2000) dollars.

While real gross domestic product (GDP) grew by 51 percent from 1990 to 2004, energy-related carbon dioxide emissions grew by 18 percent. From 2003 to 2004, GDP rose 4 percent, and energy-related carbon dioxide emissions rose 2 percent.

Figure 67. Methane Emissions by Source



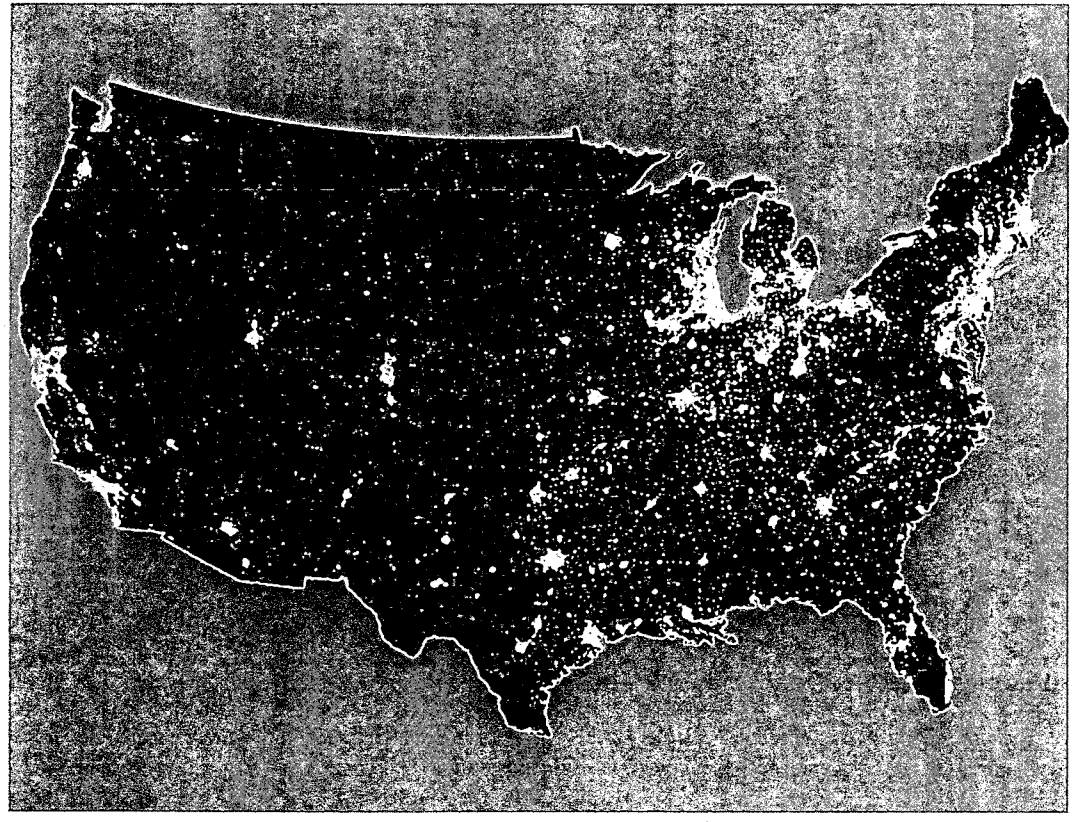
In 2004, methane emissions accounted for 9 percent of total U.S. greenhouse gas emissions, weighted by global warming potential. Most methane emissions came from energy, waste management, and agricultural sources. The production, processing, and distribution of natural gas accounted for 60 percent of all energy-related methane emissions in 2004.

Figure Sources

Data for "Energy Perspectives" figures and text are derived from the following *Annual Energy Review 2005* tables and additional sources:

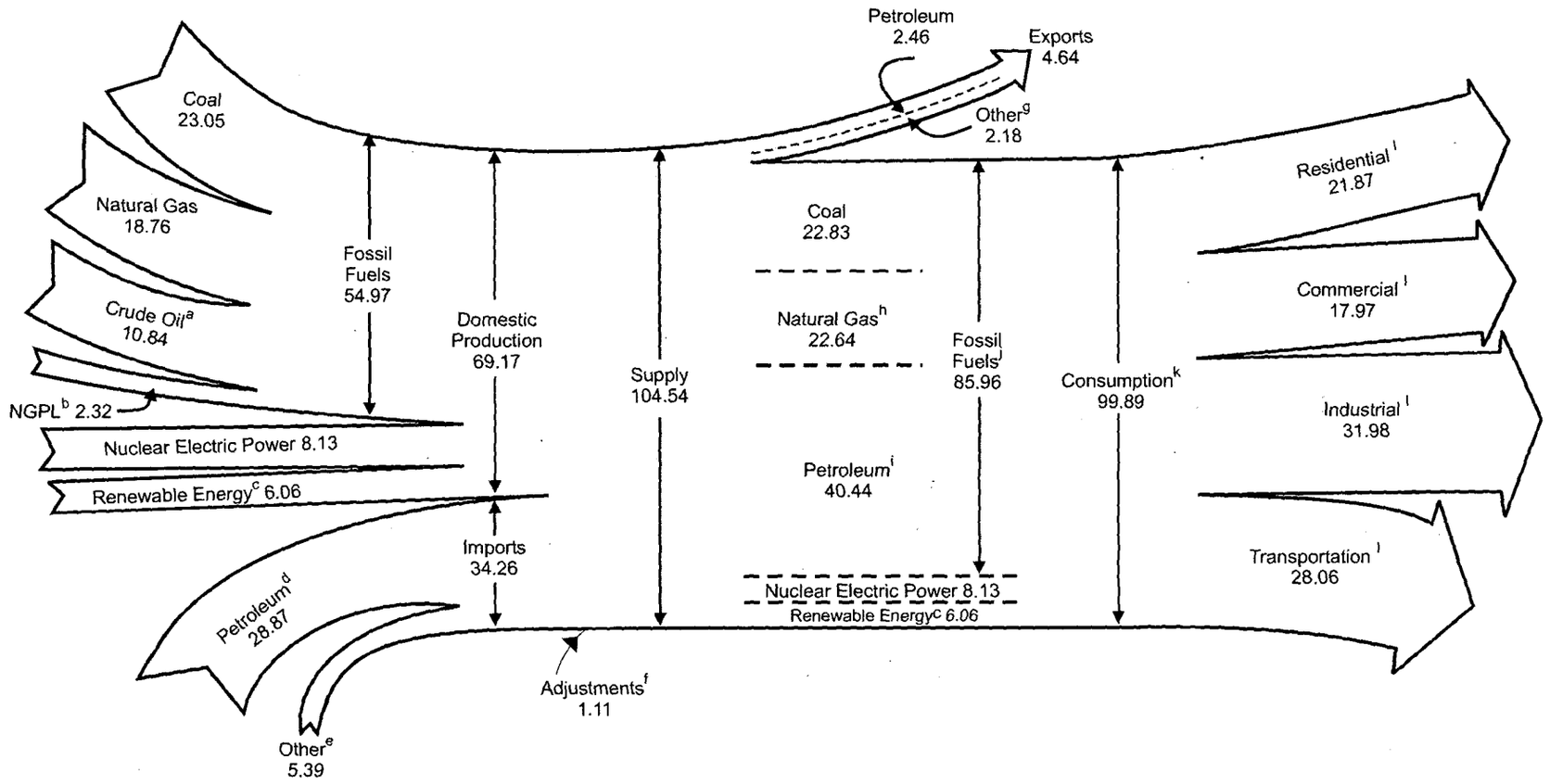
1. Table 1.1.
2. Table 1.5.
3. Table 1.5.
4. Table 1.3.
5. Tables 1.3, 10.1, and E1.
6. Historical data: Table 1.3. Projections: Energy Information Administration, *Annual Energy Outlook 2006* (February 2006), Figure 3.
7. Table 2.1a.
8. Tables 2.1b and 2.1c.
9. Table 2.1d.
10. Tables 2.1e and 5.14c.
11. Table 1.2.
12. Tables 5.1, 6.1, and 7.1.
13. Table 1.4.
14. Table 5.1.
15. Table 5.2.
16. Table 5.2.
17. Table 4.4.
18. Tables 5.13a, 5.13b, 5.13c, and 5.13d.
19. Table 5.11.
20. Table 5.21.
21. Table 5.24.
22. Tables 5.3 and 5.5.
23. Table 5.4.
24. Table 5.4.
25. Table 5.4.
26. Table 5.16.
27. Table 5.16.
28. Table 5.17.
29. Table 5.17.
30. Table 2.8.
31. Table 2.8.
32. Table 2.8.
33. Table 2.8.
34. Table 6.1.
35. Table 6.4.
36. Table 6.3.
37. Table 6.5.
38. Table 7.1.
39. Table 7.3.
40. Table 7.6.
41. Table 7.2.
42. Table 7.2.
43. Tables 8.2a, 8.2b, and 8.2d.
44. Table 8.2a.
45. Table 8.2c.
46. Tables 8.3b and 8.3c.
47. Table 8.10.
48. Table 8.9.
49. Table 8.1.
50. Table 9.2.
51. Table 9.2.
52. Table 9.2.
53. Table 9.1.
54. Table 9.1.
55. Table 10.1.
56. Tables 10.2a and 10.2b.
57. Tables 10.2a and 10.2b.
58. Table 10.3.
59. Table 11.1.
60. Table 11.2.
61. Table 11.5.
62. Table 11.5.
63. Table 11.10.
64. Table 12.1.
65. Table 12.2.
66. Tables 1.5 and 12.2.
67. Tables 12.1 and 12.5.

1 Energy Overview



The continental United States at night from orbit. Source: National Oceanographic and Atmospheric Administration satellite imagery; mosaic provided by U.S. Geological Survey.

Diagram 1. Energy Flow, 2005
(Quadrillion Btu)



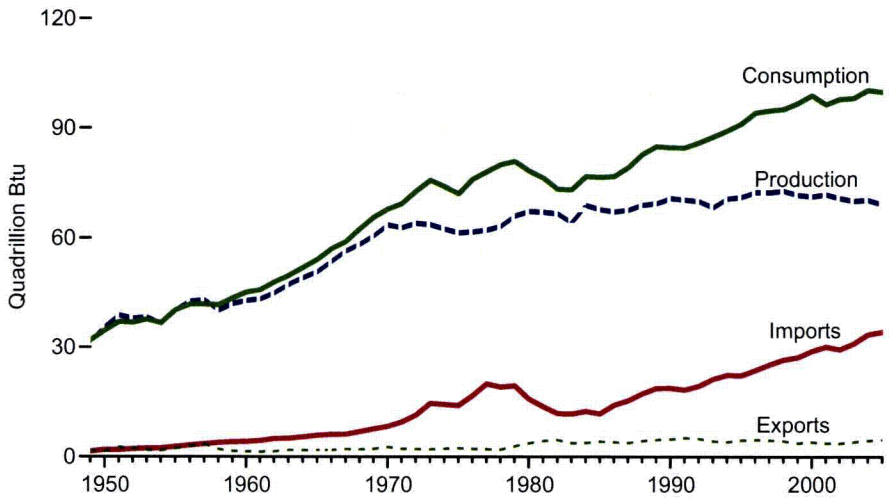
[a] Includes lease condensate.
[b] Natural gas plant liquids.
[c] Conventional hydroelectric power, wood, waste, ethanol blended into motor gasoline, geothermal, solar, and wind.
[d] Crude oil and petroleum products. Includes imports into the Strategic Petroleum Reserve.
[e] Natural gas, coal, coal coke, and electricity.
[f] Stock changes, losses, gains, miscellaneous blending components, and unaccounted-for supply.
[g] Coal, natural gas, coal coke, and electricity.
[h] Includes supplemental gaseous fuels.
[i] Petroleum products, including natural gas plant liquids.
[j] Includes 0.04 quadrillion Btu of coal coke net imports.
[k] Includes, in quadrillion Btu, 0.34 ethanol blended into motor gasoline, which is accounted for in both fossil fuels and renewable energy but counted only once in total consumption; and 0.08 electricity net imports.
[l] Primary consumption, electricity retail sales, and electrical system energy losses, which are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Note, "Electrical Systems Energy Losses," at end of Section 2.

Notes: • Data are preliminary. • Values are derived from source data prior to rounding for publication. • Totals may not equal sum of components due to independent rounding.

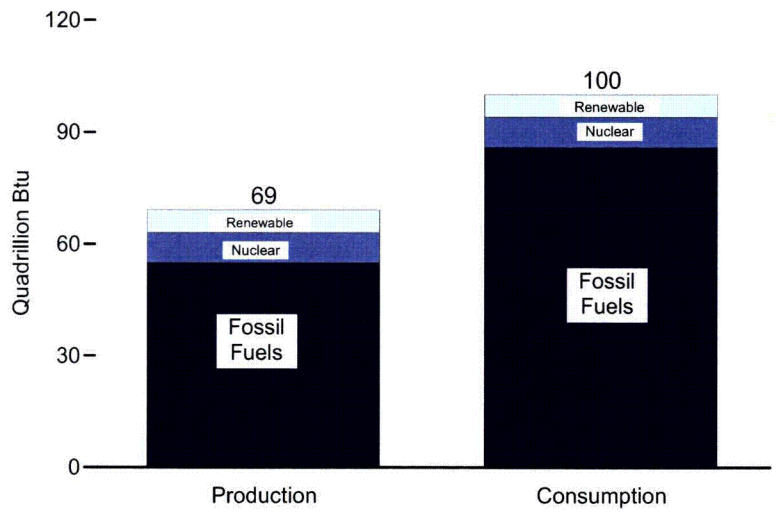
Sources: Tables 1.1, 1.2, 1.3, 1.4, and 2.1a.

Figure 1.1 Energy Overview

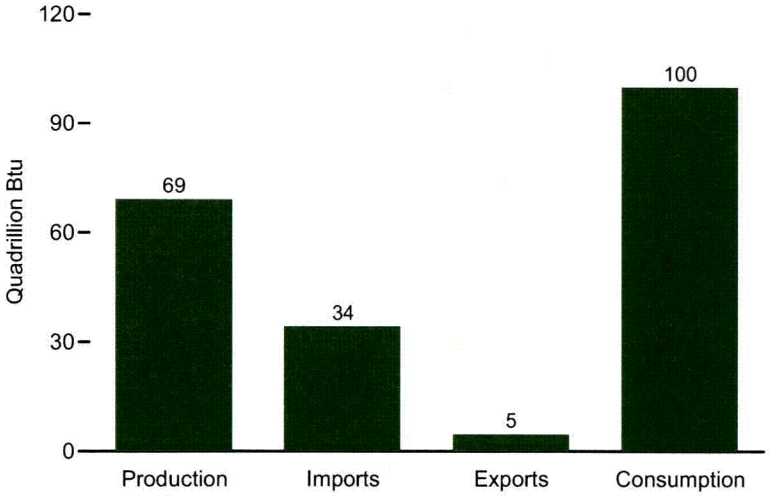
Overview, 1949-2005



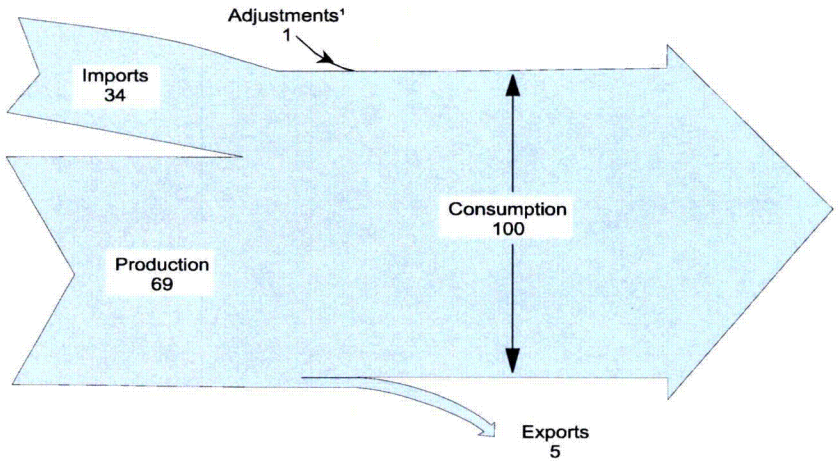
Production and Consumption, 2005



Overview, 2005



Energy Flow, 2005
(Quadrillion Btu)



[1] Stock changes, losses, gains, miscellaneous blending components, and unaccounted-for supply.

Source: Table 1.1.

Table 1.1 Energy Overview, Selected Years, 1949-2005

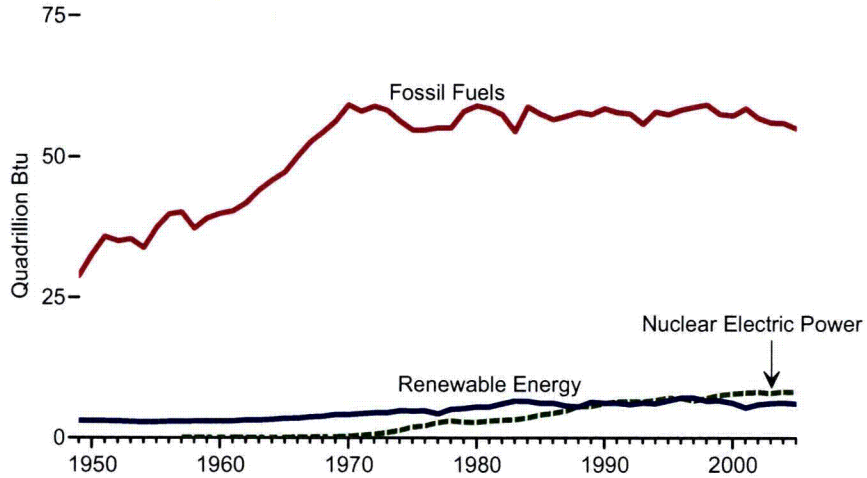
(Quadrillion Btu)

Year	Production				Trade					Adjustments [7]	Consumption			
	Fossil Fuels [2]	Nuclear Electric Power	Renewable Energy [3]	Total	Imports		Exports		Net Imports [1]		Fossil Fuels [8,9]	Nuclear Electric Power	Renewable Energy [2,9]	Total [9,10]
					Petroleum [4]	Total [5]	Coal	Total [6]	Total					
1949	28.75	0.00	2.97	31.72	1.43	1.45	0.88	1.59	-0.14	0.40	29.00	0.00	2.97	31.98
1950	32.56	0.00	2.98	35.54	1.89	1.91	0.79	1.47	0.45	-1.37	31.63	0.00	2.98	34.62
1955	37.36	0.00	2.78	40.15	2.75	2.79	1.46	2.29	0.50	-0.44	37.41	0.00	2.78	40.21
1960	39.87	0.01	2.93	42.80	4.00	4.19	1.02	1.48	2.71	-0.43	42.14	0.01	2.93	45.09
1965	47.23	0.04	3.40	50.68	5.40	5.89	1.38	1.83	4.06	-0.72	50.58	0.04	3.40	54.02
1970	59.19	0.24	4.08	63.50	7.47	8.34	1.94	2.63	5.71	-1.37	63.52	0.24	4.08	67.84
1971	58.04	0.41	4.27	62.72	8.54	9.53	1.55	2.15	7.38	-0.82	64.60	0.41	4.27	69.29
1972	58.94	0.58	4.40	63.92	10.30	11.39	1.53	2.12	9.27	-0.48	67.70	0.58	4.40	72.70
1973	58.24	0.91	4.43	63.58	13.47	14.61	1.43	2.03	12.58	-0.46	70.32	0.91	4.43	75.71
1974	56.33	1.27	4.77	62.37	13.13	14.30	1.62	2.20	12.10	-0.48	67.91	1.27	4.77	73.99
1975	54.73	1.90	4.72	61.36	12.95	14.03	1.76	2.32	11.71	-1.07	65.35	1.90	4.72	72.00
1976	54.72	2.11	4.77	61.60	15.67	16.76	1.60	2.17	14.59	-0.18	69.10	2.11	4.77	76.01
1977	55.10	2.70	4.25	62.05	18.76	19.95	1.44	2.05	17.90	-1.95	70.99	2.70	4.25	78.00
1978	55.07	3.02	5.04	63.14	17.82	19.11	1.08	1.92	17.19	-0.34	71.86	3.02	5.04	79.99
1979	58.01	2.78	5.17	65.95	17.93	19.46	1.75	2.86	16.60	-1.65	72.89	2.78	5.17	80.90
1980	59.01	2.74	5.49	R67.23	14.66	15.80	2.42	3.69	12.10	-1.05	69.98	2.74	5.49	R78.28
1981	58.53	3.01	5.47	67.01	12.64	13.72	2.94	4.31	9.41	-0.08	67.75	3.01	5.47	76.34
1982	57.46	3.13	R6.02	R66.61	10.78	11.86	2.79	4.61	7.25	-0.57	64.04	3.13	R6.02	R73.29
1983	54.42	3.20	R6.53	R64.15	10.65	11.75	2.04	3.69	8.06	0.94	63.29	3.20	R6.53	R73.15
1984	58.85	3.55	R6.49	R68.89	11.43	12.47	2.15	3.79	8.68	-0.78	66.62	3.55	R6.49	R76.79
1985	57.54	4.08	R6.14	R67.76	10.61	11.78	2.44	4.20	7.58	1.24	66.22	4.08	R6.14	R76.58
1986	56.58	4.38	R6.18	R67.13	13.20	14.15	2.25	4.02	10.13	-0.44	66.15	4.38	R6.18	R76.83
1987	57.17	4.75	R5.68	67.61	14.16	15.40	2.09	3.81	11.59	0.03	68.63	4.75	R5.68	R79.22
1988	57.87	5.59	R5.51	R68.98	15.75	17.30	2.50	4.37	12.93	0.96	71.66	5.59	R5.51	R82.87
1989	57.47	5.60	R6.34	R69.41	17.16	18.77	2.64	4.66	14.11	1.49	73.02	5.60	R6.34	R85.00
1990	58.53	6.10	R6.16	R70.79	17.12	18.82	2.77	4.75	14.06	-0.13	72.46	6.10	R6.16	R84.73
1991	57.83	6.42	R6.18	R70.43	16.35	18.33	2.85	5.14	13.19	1.04	72.00	6.42	R6.18	R84.67
1992	57.59	6.48	R5.93	R70.00	16.97	19.37	2.68	4.94	14.44	1.58	73.52	6.48	R5.93	R86.01
1993	55.74	6.41	R6.19	R68.33	18.51	21.27	1.96	4.26	17.01	2.30	9,R75.05	6.41	9,R6.19	9,R87.65
1994	57.95	6.69	R6.07	R70.72	19.24	22.39	1.88	4.06	18.33	0.24	76.48	6.69	R6.07	R89.29
1995	57.44	7.08	R6.62	R71.13	18.88	22.26	2.32	4.51	17.75	2.32	77.49	7.08	R6.62	R91.20
1996	58.28	7.09	R7.11	R72.47	20.29	23.70	2.37	4.63	19.07	2.68	79.98	7.09	R7.11	R94.23
1997	58.76	6.60	R7.11	R72.46	21.74	25.22	2.19	4.51	20.70	1.64	81.09	6.60	R7.11	R94.80
1998	59.20	7.07	R6.57	R72.84	22.91	26.58	2.09	4.30	22.28	0.08	81.59	7.07	R6.57	R95.20
1999	57.51	7.61	6.60	71.71	23.13	27.25	1.53	3.71	23.54	1.58	82.65	7.61	6.60	96.84
2000	57.25	7.86	R6.17	R71.29	24.53	28.97	1.53	4.01	24.97	2.72	84.96	7.86	R6.17	R98.98
2001	58.52	8.03	R5.35	R71.91	25.40	30.16	1.27	3.77	26.39	-1.80	83.18	8.03	R5.35	R96.50
2002	56.78	8.14	R5.93	R70.86	24.68	29.41	1.03	R3.67	25.74	1.37	83.99	8.14	R5.93	R97.97
2003	R56.03	7.96	R6.14	R70.14	26.22	R31.06	1.12	R4.05	R27.01	R1.13	R84.39	7.96	R6.14	R98.27
2004	R55.95	R8.22	R6.22	R70.39	R28.21	R33.54	1.25	4.43	R29.11	R0.92	R86.23	R8.22	R6.22	R100.41
2005P	54.97	8.13	6.06	69.17	28.87	34.26	1.27	4.64	29.62	1.11	85.96	8.13	6.06	99.89

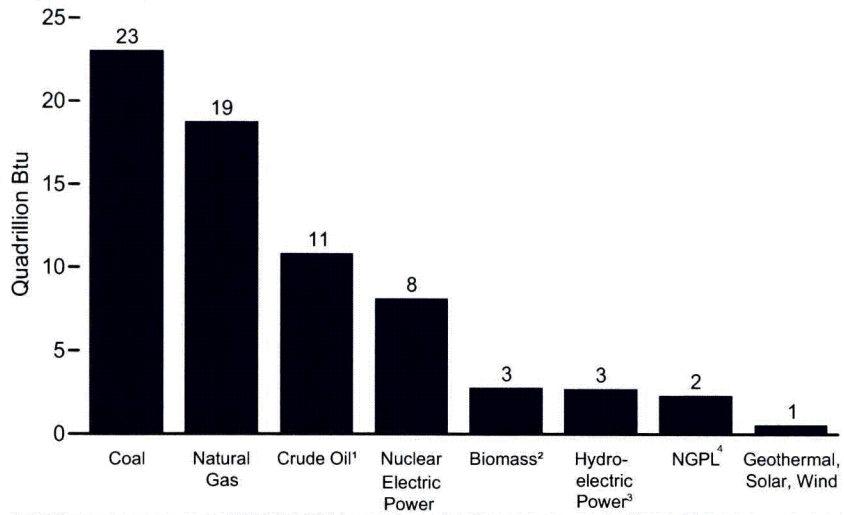
[1] Net imports equal imports minus exports. Minus sign indicates exports are greater than imports.
[2] Coal, natural gas (dry), crude oil, and natural gas plant liquids.
[3] Electricity net generation from conventional hydroelectric power, geothermal, solar, and wind; consumption of wood, waste, and alcohol fuels; geothermal heat pump and direct use energy; and solar thermal direct use energy.
[4] Crude oil and petroleum products. Includes imports into the Strategic Petroleum Reserve.
[5] Also includes natural gas, coal, coal coke, and electricity.
[6] Also includes natural gas, petroleum, coal coke, and electricity.
[7] A balancing item. Includes stock changes, losses, gains, miscellaneous blending components, and unaccounted-for supply.
[8] Coal, coal coke net imports, natural gas, and petroleum.
[9] Beginning in 1993, ethanol blended into motor gasoline is included in consumption values for both "Fossil Fuels" and "Renewable Energy," but is counted only once in total consumption.
[10] Also includes electricity net imports.
R=Revised. P=Preliminary.
Note: Totals may not equal sum of components due to independent rounding.
Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/overview.html.
Sources: Tables 1.2, 1.3, and 1.4.

Figure 1.2 Energy Production by Source

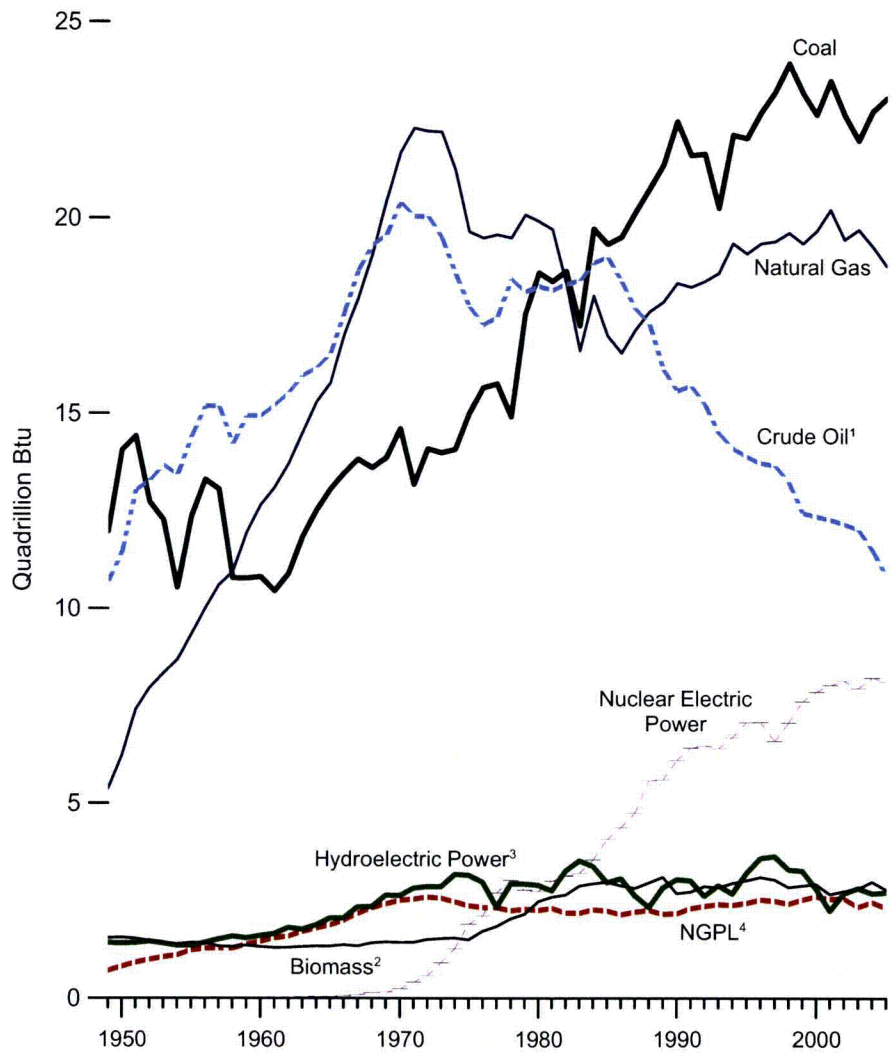
By Fossil Fuels, Nuclear Electric Power, and Renewable Energy, 1949-2005



By Source, 2005



By Major Source, 1949-2005



[1] Includes lease condensate.
[2] Wood, waste, and alcohol fuels (ethanol blended into motor gasoline).
[3] Conventional hydroelectric power.
[4] Natural gas plant liquids.
Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.2.

Table 1.2 Energy Production by Source, Selected Years, 1949-2005

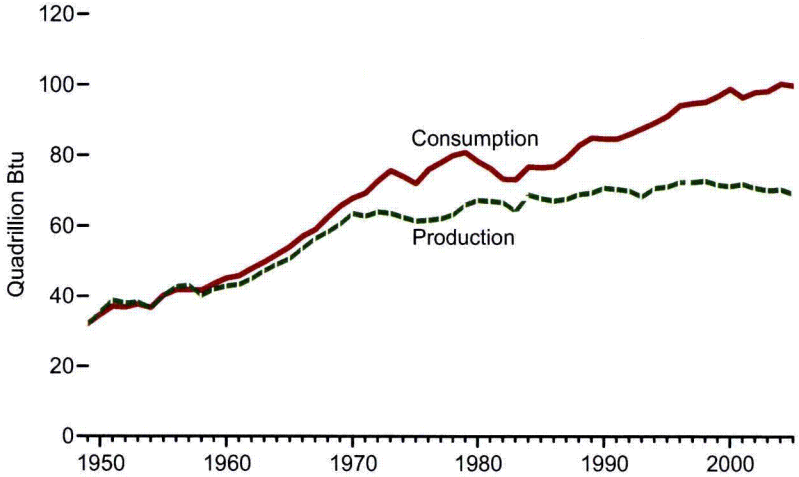
(Quadrillion Btu)

Year	Fossil Fuels					Nuclear Electric Power	Renewable Energy [1]						Total
	Coal	Natural Gas (Dry)	Crude Oil [2]	NGPL [3]	Total		Hydro-electric Power [4]	Biomass [5]	Geothermal	Solar	Wind	Total	
1949	11.974	5.377	10.683	0.714	28.748	0.000	1.425	1.549	NA	NA	NA	2.974	31.722
1950	14.060	6.233	11.447	0.823	32.563	0.000	1.415	1.562	NA	NA	NA	2.978	35.540
1955	12.370	9.345	14.410	1.240	37.364	0.000	1.360	1.424	NA	NA	NA	2.784	40.148
1960	10.817	12.656	14.935	1.461	39.869	0.006	1.608	1.320	0.001	NA	NA	2.929	42.804
1965	13.055	15.775	16.521	1.883	47.235	0.043	2.059	1.335	0.004	NA	NA	3.398	50.676
1970	14.607	21.666	20.401	2.512	59.186	0.239	2.634	1.431	0.011	NA	NA	4.076	63.501
1971	13.186	22.280	20.033	2.544	58.042	0.413	2.824	1.432	0.012	NA	NA	4.268	62.723
1972	14.092	22.208	20.041	2.598	58.938	0.584	2.864	1.503	0.031	NA	NA	4.398	63.920
1973	13.992	22.187	19.493	2.569	58.241	0.910	2.861	1.529	0.043	NA	NA	4.433	63.585
1974	14.074	21.210	18.575	2.471	56.331	1.272	3.177	1.540	0.053	NA	NA	4.769	62.372
1975	14.989	19.640	17.729	2.374	54.733	1.900	3.155	1.499	0.070	NA	NA	4.723	61.357
1976	15.654	19.480	17.262	2.327	54.723	2.111	2.976	1.713	0.078	NA	NA	4.768	61.602
1977	15.755	19.565	17.454	2.327	55.101	2.702	2.333	1.838	0.077	NA	NA	4.249	62.052
1978	14.910	19.485	18.434	2.245	55.074	3.024	2.937	2.038	0.064	NA	NA	5.039	63.137
1979	17.540	20.076	18.104	2.286	58.006	2.776	2.931	2.152	0.084	NA	NA	5.166	65.948
1980	18.598	19.908	18.249	2.254	59.008	2.739	2.900	R2.476	0.110	NA	NA	R5.485	R67.232
1981	18.377	19.699	18.146	2.307	58.529	3.008	2.758	R2.591	0.123	NA	NA	R5.472	R67.008
1982	18.639	18.319	18.309	2.191	57.458	3.131	3.266	R2.648	0.105	NA	NA	R6.018	R66.607
1983	17.247	16.593	18.392	2.184	54.416	3.203	3.527	R2.876	0.129	NA	(s)	R6.533	R64.151
1984	19.719	18.008	18.848	2.274	58.849	3.553	3.386	R2.937	0.165	(s)	(s)	R6.488	R68.889
1985	19.325	16.980	18.992	2.241	57.539	4.076	2.970	R2.975	0.198	(s)	(s)	R6.144	R67.758
1986	19.509	16.541	18.376	2.149	56.575	4.380	3.071	R2.885	0.219	(s)	(s)	R6.176	R67.131
1987	20.141	17.136	17.675	2.215	57.167	4.754	2.635	R2.821	0.229	(s)	(s)	R5.685	R67.606
1988	20.738	17.599	17.279	2.260	57.875	5.587	2.334	R2.962	0.217	(s)	(s)	R5.514	R68.976
1989	21.346	17.847	16.117	2.158	57.468	5.602	2.837	R3.105	0.317	0.055	0.022	R6.337	R69.407
1990	22.456	18.326	15.571	2.175	58.529	6.104	3.046	R2.687	0.336	0.060	0.029	R6.158	R70.791
1991	21.594	18.229	15.701	2.306	57.829	6.422	3.016	R2.727	0.346	0.063	0.031	R6.182	R70.434
1992	21.629	18.375	15.223	2.363	57.590	6.479	2.617	R2.870	0.349	0.064	0.030	R5.930	R69.999
1993	20.249	18.584	14.494	2.408	55.736	6.410	2.892	R2.836	0.364	0.066	0.031	R6.189	R68.335
1994	22.111	19.348	14.103	2.391	57.952	6.694	2.683	R2.948	0.338	0.069	0.036	R6.073	R70.720
1995	22.029	19.082	13.887	2.442	57.440	7.075	3.205	R3.018	0.294	0.070	0.033	R6.620	R71.135
1996	22.684	19.344	13.723	2.530	58.281	7.087	3.590	R3.098	0.316	0.071	0.033	R7.107	R72.474
1997	23.211	19.394	13.658	2.495	58.758	6.597	3.640	R3.037	0.325	0.070	0.034	R7.107	R72.462
1998	23.935	19.613	13.235	2.420	59.204	7.068	3.297	R2.843	0.328	0.070	0.031	R6.569	R72.841
1999	23.186	19.341	12.451	2.528	57.505	7.610	3.268	R2.886	0.331	0.069	0.046	6.599	R71.715
2000	22.623	19.662	12.358	2.611	57.254	7.862	2.811	R2.922	0.317	0.066	0.057	R6.173	R71.289
2001	23.490	20.205	12.282	2.547	58.523	8.033	2.242	R2.666	0.311	0.065	0.070	R5.354	R71.910
2002	22.622	19.439	12.163	2.559	56.783	8.143	2.689	R2.746	0.328	0.064	0.105	R5.933	R70.859
2003	21.970	R19.691	12.026	2.346	R56.033	7.959	2.825	R2.812	R0.331	0.064	0.115	R6.145	R70.136
2004	R22.714	R19.264	R11.503	R2.466	R55.946	R8.222	R2.690	R2.982	R0.341	R0.065	R0.142	R6.220	R70.388
2005P	23.046	18.761	10.840	2.323	54.971	8.133	2.715	2.781	0.352	0.064	0.149	6.061	69.165

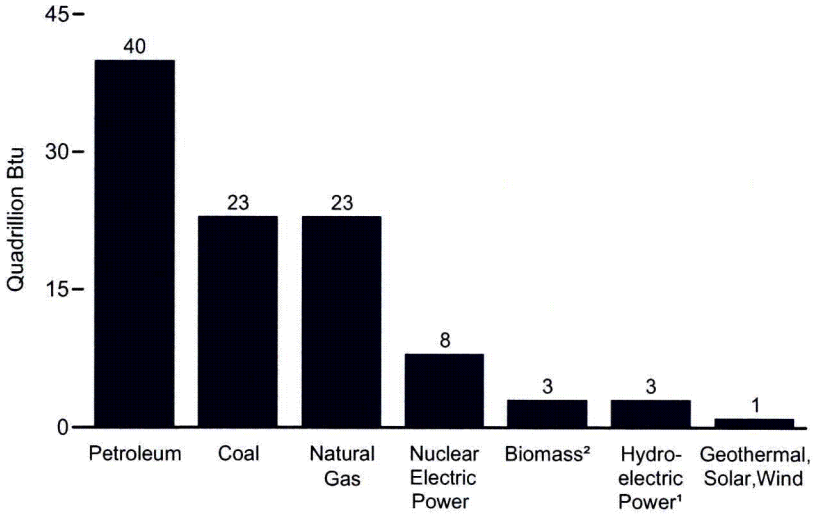
[1] Electricity net generation from conventional hydroelectric power, geothermal, solar, and wind; consumption of wood, waste, and alcohol fuels; geothermal heat pump and direct use energy; and solar thermal direct use energy.
[2] Includes lease condensate.
[3] Natural gas plant liquids.
[4] Conventional hydroelectric power.
[5] Wood, waste, and alcohol fuels (ethanol blended into motor gasoline).
R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.0005 quadrillion Btu.
Note: Totals may not equal sum of components due to independent rounding.
Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/overview.html.
Sources: Tables 5.1, 6.1, 7.1, 8.2a, 10.1, A2, A4, A5, and A6.

Figure 1.3 Energy Consumption by Source

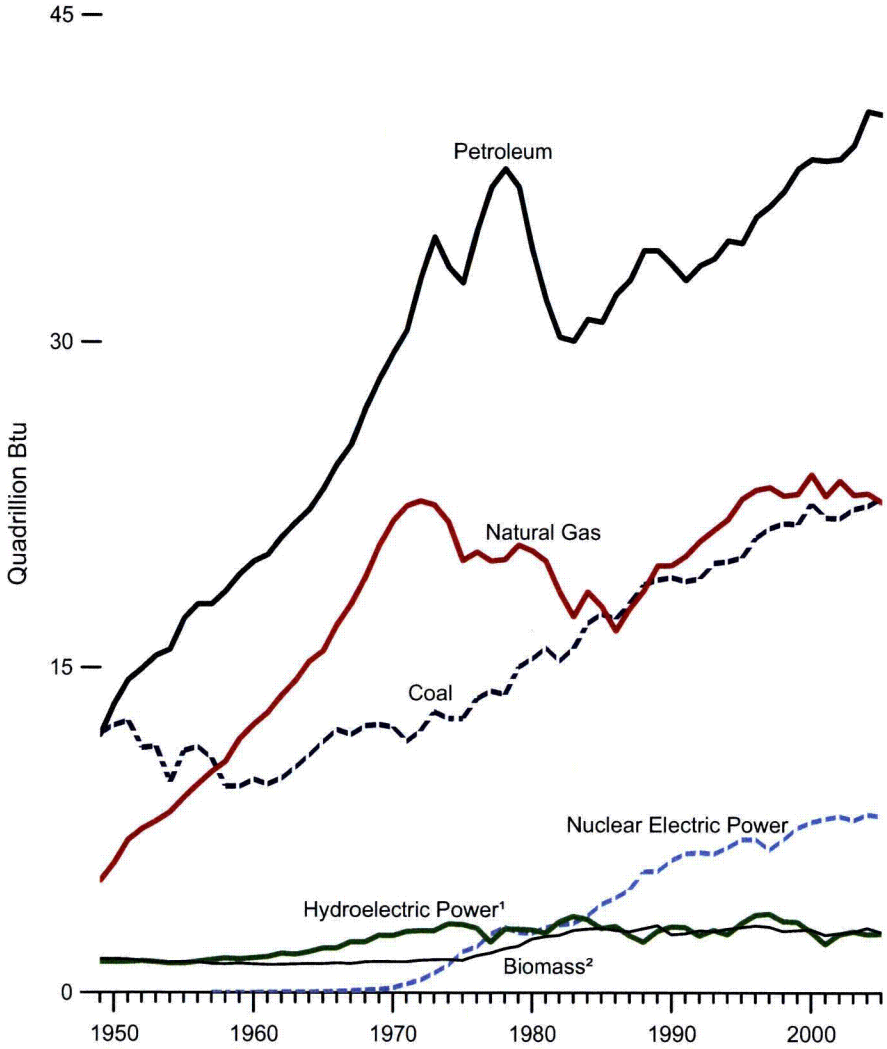
Production and Consumption, 1949-2005



By Source, 2005



By Major Source, 1949-2005



[1] Conventional hydroelectric power.
[2] Wood, waste, and alcohol fuels (ethanol blended into motor gasoline).

Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 1.2 and 1.3.

Table 1.3 Energy Consumption by Source, Selected Years, 1949-2005

(Quadrillion Btu)

Year	Fossil Fuels					Nuclear Electric Power	Renewable Energy [1]						Electricity Net Imports [2]	Total [5]
	Coal	Coal Coke Net Imports [2]	Natural Gas [3]	Petroleum [4,5]	Total		Hydro-electric Power [6]	Biomass [5,7]	Geothermal	Solar	Wind	Total		
1949	11.981	-0.007	5.145	11.883	29.002	0.000	1.425	1.549	NA	NA	NA	2.974	0.005	31.982
1950	12.347	0.001	5.968	13.315	31.632	0.000	1.415	1.562	NA	NA	NA	2.978	0.006	34.616
1955	11.167	-0.010	8.998	17.255	37.410	0.000	1.360	1.424	NA	NA	NA	2.784	0.014	40.208
1960	9.838	-0.006	12.385	19.919	42.137	0.006	1.608	1.320	0.001	NA	NA	2.929	0.015	45.087
1965	11.581	-0.018	15.769	23.246	50.577	0.043	2.059	1.335	0.004	NA	NA	3.398	(s)	54.017
1970	12.265	-0.058	21.795	29.521	63.522	0.239	2.634	1.431	0.011	NA	NA	4.076	0.007	67.844
1971	11.598	-0.033	22.469	30.561	64.596	0.413	2.824	1.432	0.012	NA	NA	4.268	0.012	69.289
1972	12.077	-0.026	22.698	32.947	67.696	0.584	2.864	1.503	0.031	NA	NA	4.398	0.026	72.704
1973	12.971	-0.007	22.512	34.840	70.316	0.910	2.861	1.529	0.043	NA	NA	4.433	0.049	75.708
1974	12.663	0.056	21.732	33.455	67.906	1.272	3.177	1.540	0.053	NA	NA	4.769	0.043	73.991
1975	12.663	0.014	19.948	32.731	65.355	1.900	3.155	1.499	0.070	NA	NA	4.723	0.021	71.999
1976	13.584	(s)	20.345	35.175	69.104	2.111	2.976	1.713	0.078	NA	NA	4.768	0.029	76.012
1977	13.922	0.015	19.931	37.122	70.989	2.702	2.333	1.838	0.077	NA	NA	4.249	0.059	78.000
1978	13.766	0.125	20.000	37.965	71.856	3.024	2.937	2.038	0.064	NA	NA	5.039	0.067	79.986
1979	15.040	0.063	20.666	37.123	72.892	2.776	2.931	2.152	0.084	NA	NA	5.166	0.069	80.903
1980	15.423	-0.035	20.394	34.202	69.984	2.739	2.900	R2.476	0.110	NA	NA	R5.485	0.071	R78.280
1981	15.908	-0.016	19.928	31.931	67.750	3.008	2.758	R2.591	0.123	NA	NA	R5.472	0.113	R76.343
1982	15.322	-0.022	18.505	30.232	64.037	3.131	3.266	R2.648	0.105	NA	NA	R6.018	0.100	R73.286
1983	15.894	-0.016	17.357	30.054	63.290	3.203	3.527	R2.876	0.129	NA	(s)	R6.533	0.121	R73.146
1984	17.071	-0.011	18.507	31.051	66.617	3.553	3.386	R2.937	0.165	(s)	(s)	R6.488	0.135	R76.793
1985	17.478	-0.013	17.834	30.922	66.221	4.076	2.970	R2.975	0.198	(s)	(s)	R6.144	0.140	R76.580
1986	17.260	-0.017	16.708	32.196	66.148	4.380	3.071	R2.885	0.219	(s)	(s)	R6.176	0.122	R76.826
1987	18.008	0.009	17.744	32.865	68.626	4.754	2.635	R2.821	0.229	(s)	(s)	R5.685	0.158	R79.223
1988	18.846	0.040	18.552	34.222	71.660	5.587	2.334	R2.962	0.217	(s)	(s)	R5.514	0.108	R82.869
1989	19.070	0.030	19.712	34.211	73.023	5.602	2.837	R3.105	0.317	0.055	0.022	R6.337	0.037	R84.999
1990	19.173	0.005	19.730	33.553	72.460	6.104	3.046	R2.687	0.336	0.060	0.029	R6.158	0.008	R84.730
1991	18.992	0.010	20.149	32.845	71.996	6.422	3.016	R2.727	0.346	0.063	0.031	R6.182	0.067	R84.667
1992	19.122	0.035	20.835	33.527	73.519	6.479	2.617	R2.870	0.349	0.064	0.030	R5.930	0.087	R86.015
1993	19.835	0.027	21.351	[5]33.841	75.055	6.410	2.892	[5,R]2.836	0.364	0.066	0.031	R6.189	0.095	[5,R]87.652
1994	19.909	0.058	21.842	34.670	76.480	6.694	2.683	R2.948	0.338	0.069	0.036	R6.073	0.153	R89.292
1995	20.089	0.061	22.784	34.553	77.488	7.075	3.205	R3.018	0.294	0.070	0.033	R6.620	0.134	R91.200
1996	21.002	0.023	23.197	35.757	79.978	7.087	3.590	R3.098	0.316	0.071	0.033	R7.107	0.137	R94.226
1997	21.445	0.046	23.329	36.266	81.086	6.597	3.640	R3.037	0.325	0.070	0.034	R7.107	0.116	R94.800
1998	21.656	0.067	22.936	36.934	81.592	7.068	3.297	R2.843	0.328	0.070	0.031	R6.569	0.088	R95.200
1999	21.623	0.058	23.010	37.960	82.650	7.610	3.268	R2.886	0.331	0.069	0.046	6.599	0.099	R96.837
2000	22.580	0.065	23.916	38.404	84.965	7.862	2.811	R2.922	0.317	0.066	0.057	R6.173	0.115	R98.976
2001	21.914	0.029	22.906	38.333	83.182	8.033	2.242	R2.666	0.311	0.065	0.070	R5.354	0.075	R96.498
2002	21.904	0.061	23.628	38.401	83.994	8.143	2.689	R2.746	0.328	0.064	0.105	R5.933	R0.072	R97.967
2003	22.321	0.051	R22.967	39.047	R84.386	7.959	2.825	R2.812	R0.331	0.064	0.115	R6.145	0.022	R98.273
2004	R22.466	0.138	R23.036	R40.594	R86.233	R8.222	R2.690	R2.982	R0.341	R0.065	R0.142	R6.220	0.039	R100.414
2005P	22.830	0.044	22.640	40.441	85.955	8.133	2.715	2.781	0.352	0.064	0.149	6.061	0.084	99.894

[1] Electricity net generation from conventional hydroelectric power, geothermal, solar, and wind; consumption of wood, waste, and alcohol fuels; geothermal heat pump and direct use energy; and solar thermal direct use energy.

[2] Net imports equal imports minus exports. Minus sign indicates exports are greater than imports.

[3] Natural gas, plus a small amount of supplemental gaseous fuels that cannot be identified separately.

[4] Petroleum products supplied, including natural gas plant liquids and crude oil burned as fuel. Beginning in 1993, also includes ethanol blended into motor gasoline.

[5] Beginning in 1993, ethanol blended into motor gasoline is included in both "Petroleum" and "Biomass," but is counted only once in total consumption.

[6] Conventional hydroelectric power.

[7] Wood, waste, and alcohol fuels (ethanol blended into motor gasoline).

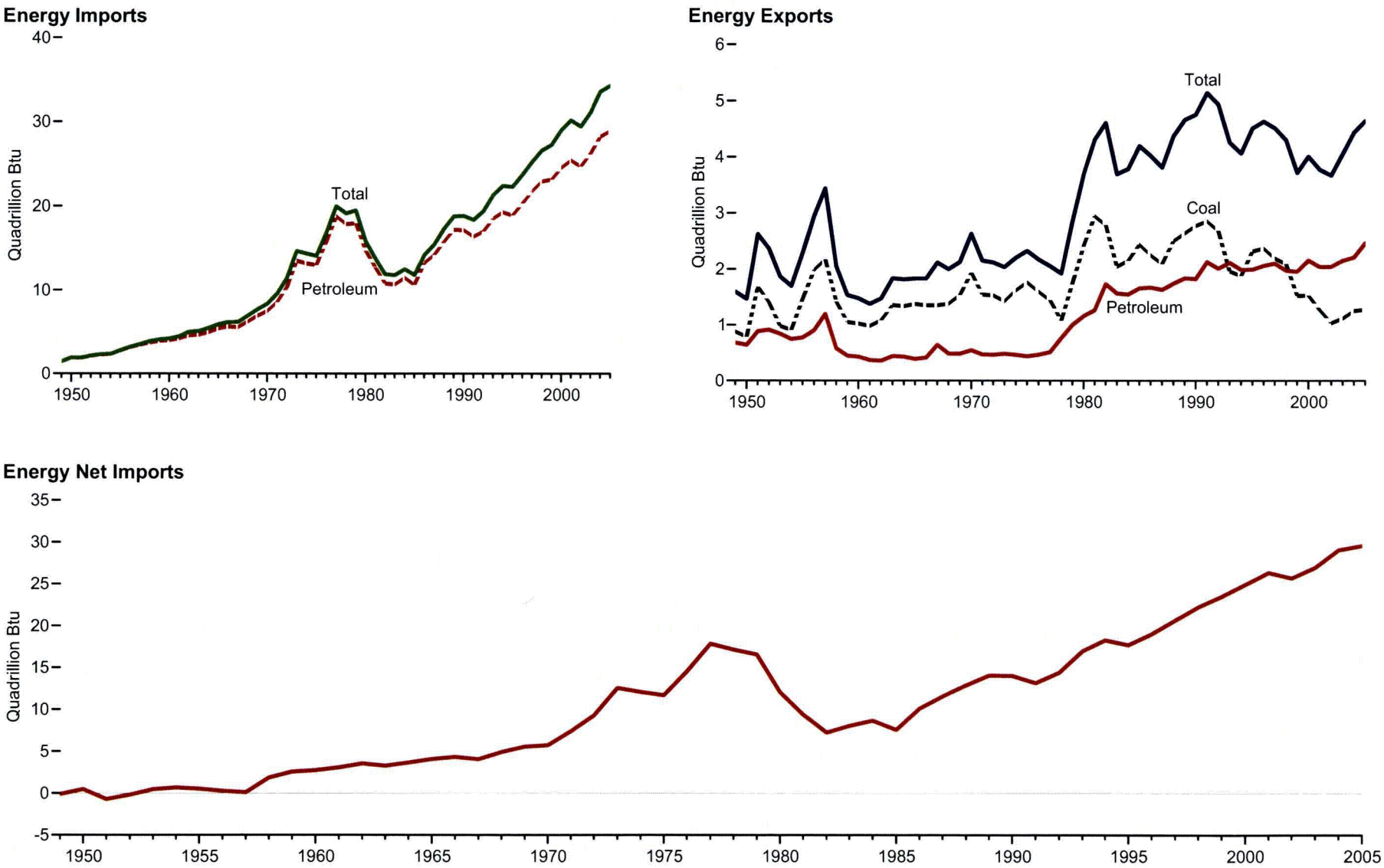
R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.0005 and greater than -0.0005 quadrillion Btu.

Notes: • See Table E1 for estimated energy consumption for 1635-1945. • See Note 3, "Electricity Imports and Exports," at end of Section 8. • Totals may not equal sum of components due to independent rounding.

Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/overview.html.

Sources: Tables 5.12, 6.1, 7.1, 7.7, 8.1, 8.2a, 10.1, A4, A5, and A6.

Figure 1.4 Energy Trade by Source, 1949-2005



Notes: • Negative net imports are net exports. • Because vertical scales differ, graphs should not be compared.

Source: Table 1.4.

Table 1.4 Energy Trade by Source, Selected Years, 1949-2005

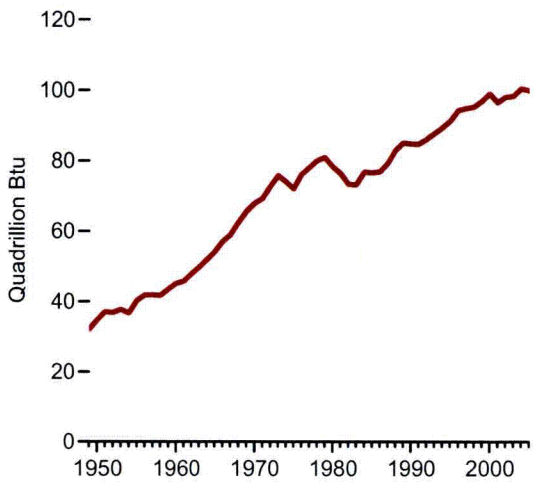
(Quadrillion Btu)

	Imports								Exports								Net Imports [1]
				Petroleum								Petroleum					
Year	Coal	Coal Coke	Natural Gas	Crude Oil [2]	Petroleum Products	Total	Elec-tricity	Total	Coal	Coal Coke	Natural Gas	Crude Oil	Petroleum Products	Total	Elec-tricity	Total	Total
1949	0.01	0.01	0.00	0.91	0.51	1.43	0.01	1.45	0.88	0.01	0.02	0.19	0.49	0.68	(s)	1.59	-0.14
1950	0.01	0.01	0.00	1.06	0.83	1.89	0.01	1.91	0.79	0.01	0.03	0.20	0.44	0.64	(s)	1.47	0.45
1955	0.01	(s)	0.01	1.69	1.06	2.75	0.02	2.79	1.46	0.01	0.03	0.07	0.71	0.77	(s)	2.29	0.50
1960	0.01	(s)	0.16	2.20	1.80	4.00	0.02	4.19	1.02	0.01	0.01	0.02	0.41	0.43	(s)	1.48	2.71
1965	(s)	(s)	0.47	2.65	2.75	5.40	0.01	5.89	1.38	0.02	0.03	0.01	0.39	0.39	0.01	1.83	4.06
1970	(s)	(s)	0.85	2.81	4.66	7.47	0.02	8.34	1.94	0.06	0.07	0.03	0.52	0.55	0.01	2.63	5.71
1971	(s)	(s)	0.96	3.57	4.97	8.54	0.02	9.53	1.55	0.04	0.08	(s)	0.47	0.47	0.01	2.15	7.38
1972	(s)	(s)	1.05	4.71	5.59	10.30	0.04	11.39	1.53	0.03	0.08	(s)	0.47	0.47	0.01	2.12	9.27
1973	(s)	0.03	1.06	6.89	6.58	13.47	0.06	14.61	1.43	0.03	0.08	(s)	0.48	0.49	0.01	2.03	12.58
1974	0.05	0.09	0.99	7.40	5.73	13.13	0.05	14.30	1.62	0.03	0.08	0.01	0.46	0.46	0.01	2.20	12.10
1975	0.02	0.05	0.98	8.72	4.23	12.95	0.04	14.03	1.76	0.03	0.07	0.01	0.43	0.44	0.02	2.32	11.71
1976	0.03	0.03	0.99	11.24	4.43	15.67	0.04	16.76	1.60	0.03	0.07	0.02	0.45	0.47	0.01	2.17	14.59
1977	0.04	0.05	1.04	14.03	4.73	18.76	0.07	19.95	1.44	0.03	0.06	0.11	0.41	0.51	0.01	2.05	17.90
1978	0.07	0.14	0.99	13.46	4.36	17.82	0.07	19.11	1.08	0.02	0.05	0.33	0.43	0.77	0.01	1.92	17.19
1979	0.05	0.10	1.30	13.83	4.11	17.93	0.08	19.46	1.75	0.04	0.06	0.50	0.51	1.00	0.01	2.86	16.60
1980	0.03	0.02	1.01	11.19	3.46	14.66	0.09	15.80	2.42	0.05	0.05	0.61	0.55	1.16	0.01	3.69	12.10
1981	0.03	0.01	0.92	9.34	3.30	12.64	0.12	13.72	2.94	0.03	0.06	0.48	0.78	1.26	0.01	4.31	9.41
1982	0.02	(s)	0.95	7.42	3.36	10.78	0.11	11.86	2.79	0.02	0.05	0.50	1.23	1.73	0.01	4.61	7.25
1983	0.03	(s)	0.94	7.08	3.57	10.65	0.13	11.75	2.04	0.02	0.06	0.35	1.22	1.57	0.01	3.69	8.06
1984	0.03	0.01	0.85	7.30	4.13	11.43	0.14	12.47	2.15	0.03	0.06	0.38	1.16	1.54	0.01	3.79	8.68
1985	0.05	0.01	0.95	6.81	3.80	10.61	0.16	11.78	2.44	0.03	0.06	0.43	1.23	1.66	0.02	4.20	7.58
1986	0.06	0.01	0.75	9.00	4.20	13.20	0.14	14.15	2.25	0.02	0.06	0.33	1.34	1.67	0.02	4.02	10.13
1987	0.04	0.02	0.99	10.07	4.10	14.16	0.18	15.40	2.09	0.01	0.05	0.32	1.31	1.63	0.02	3.81	11.59
1988	0.05	0.07	1.30	11.03	4.72	15.75	0.13	17.30	2.50	0.03	0.07	0.33	1.41	1.74	0.02	4.37	12.93
1989	0.07	0.06	1.39	12.60	4.57	17.16	0.09	18.77	2.64	0.03	0.11	0.30	1.54	1.84	0.05	4.66	14.11
1990	0.07	0.02	1.55	12.77	4.35	17.12	0.06	18.82	2.77	0.01	0.09	0.23	1.59	1.82	0.06	4.75	14.06
1991	0.08	0.03	1.80	12.55	3.79	16.35	0.07	18.33	2.85	0.02	0.13	0.25	1.88	2.13	0.01	5.14	13.19
1992	0.10	0.05	2.16	13.25	3.71	16.97	0.10	19.37	2.68	0.02	0.22	0.19	1.82	2.01	0.01	4.94	14.44
1993	0.20	0.05	2.40	14.75	3.76	18.51	0.11	21.27	1.96	0.03	0.14	0.21	1.91	2.12	0.01	4.26	17.01
1994	0.22	0.08	2.68	15.34	3.90	19.24	0.16	22.39	1.88	0.02	0.16	0.21	1.78	1.99	0.01	4.06	18.33
1995	0.24	0.09	2.90	15.67	3.21	18.88	0.15	22.26	2.32	0.03	0.16	0.20	1.79	1.99	0.01	4.51	17.75
1996	0.20	0.06	3.00	16.34	3.94	20.29	0.15	23.70	2.37	0.04	0.16	0.23	1.83	2.06	0.01	4.63	19.07
1997	0.19	0.08	3.06	17.88	3.86	21.74	0.15	25.22	2.19	0.03	0.16	0.23	1.87	2.10	0.03	4.51	20.70
1998	0.22	0.10	3.22	18.92	3.99	22.91	0.13	26.58	2.09	0.03	0.16	0.23	1.74	1.97	0.05	4.30	22.28
1999	0.23	0.08	3.66	18.94	4.20	23.13	0.15	27.25	1.53	0.02	0.16	0.25	1.71	1.95	0.05	3.71	23.54
2000	0.31	0.09	3.87	19.78	4.75	24.53	0.17	28.97	1.53	0.03	0.25	0.11	2.05	2.15	0.05	4.01	24.97
2001	0.49	0.06	4.07	20.35	5.05	25.40	0.13	30.16	1.27	0.03	0.38	0.04	2.00	2.04	0.06	3.77	26.39
2002	0.42	0.08	4.10	19.92	4.76	24.68	R0.13	29.41	1.03	0.02	0.52	0.02	2.02	2.04	0.05	R3.67	25.74
2003	0.63	0.07	R4.04	21.06	5.16	26.22	0.10	R31.06	1.12	0.02	R0.69	0.03	2.12	2.15	0.08	R4.05	R27.01
2004	0.68	0.17	R4.37	R22.08	R6.13	R28.21	0.12	R33.54	1.25	0.03	0.86	0.06	2.15	2.21	0.08	4.43	R29.11
2005P	0.76	0.09	4.39	21.94	6.93	28.87	0.15	34.26	1.27	0.04	0.79	0.09	2.37	2.46	0.07	4.64	29.62

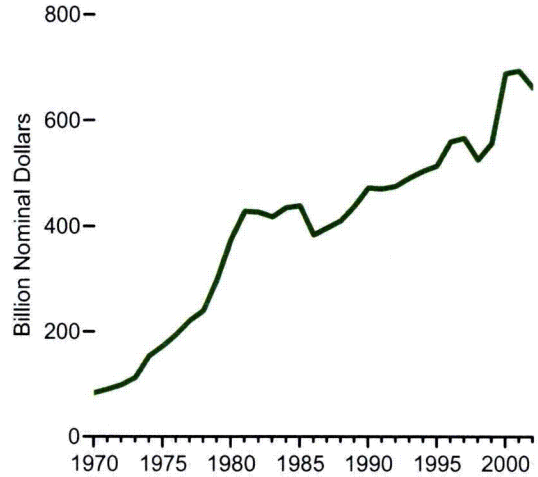
[1] Net imports equal imports minus exports. Minus sign indicates exports are greater than imports.
[2] Includes imports into the Strategic Petroleum Reserve, which began in 1977.
R=Revised. P=Preliminary. (s)=Less than 0.005 quadrillion Btu and greater than -0.005 quadrillion Btu.
Notes: • Includes trade between the United States (50 States and the District of Columbia) and its territories and possessions. • See Note 3, "Electricity Imports and Exports," at end of Section 8. • Totals may not equal sum of components due to independent rounding.
Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/overview.html.
Sources: Tables 5.1, 6.1, 7.1, 7.7, 8.1, A2, A4, A5, and A6.

Figure 1.5 Energy Consumption and Expenditures Indicators

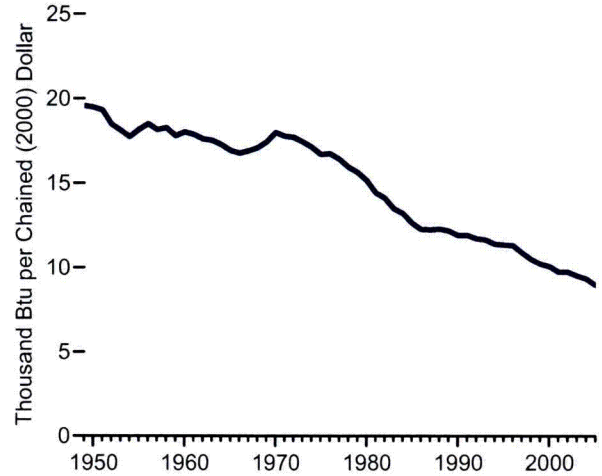
Energy Consumption, 1949-2005



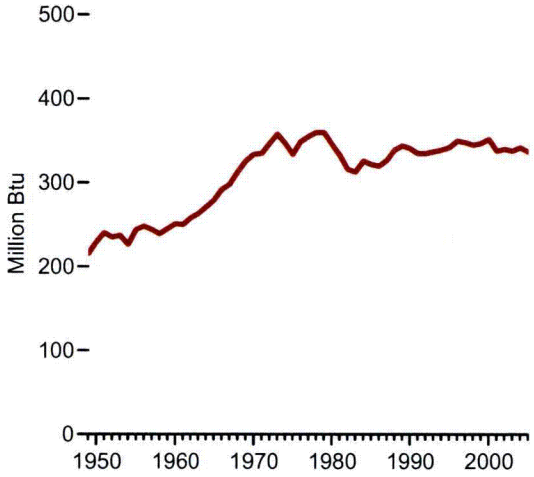
Energy Expenditures, 1970-2002



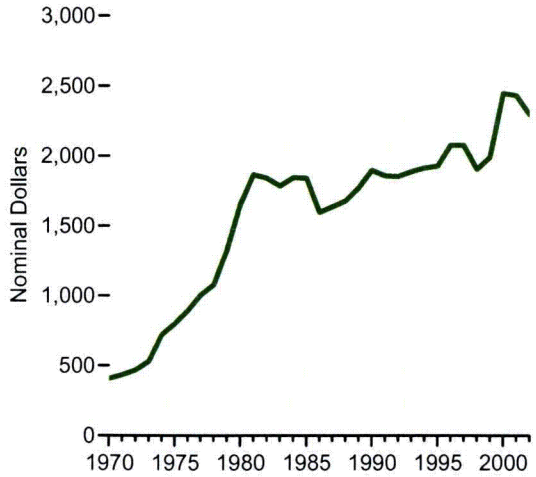
Energy Consumption per Dollar of Gross Domestic Product, 1949-2005



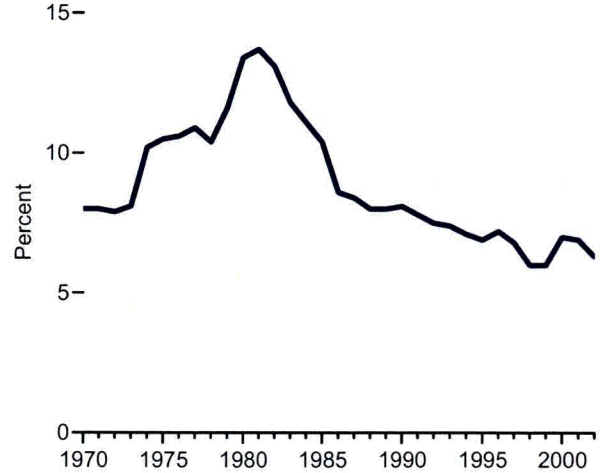
Energy Consumption per Person, 1949-2005



Energy Expenditures per Person, 1970-2002



Energy Expenditures as Share of Gross Domestic Product, 1970-2002



Source: Table 1.5.

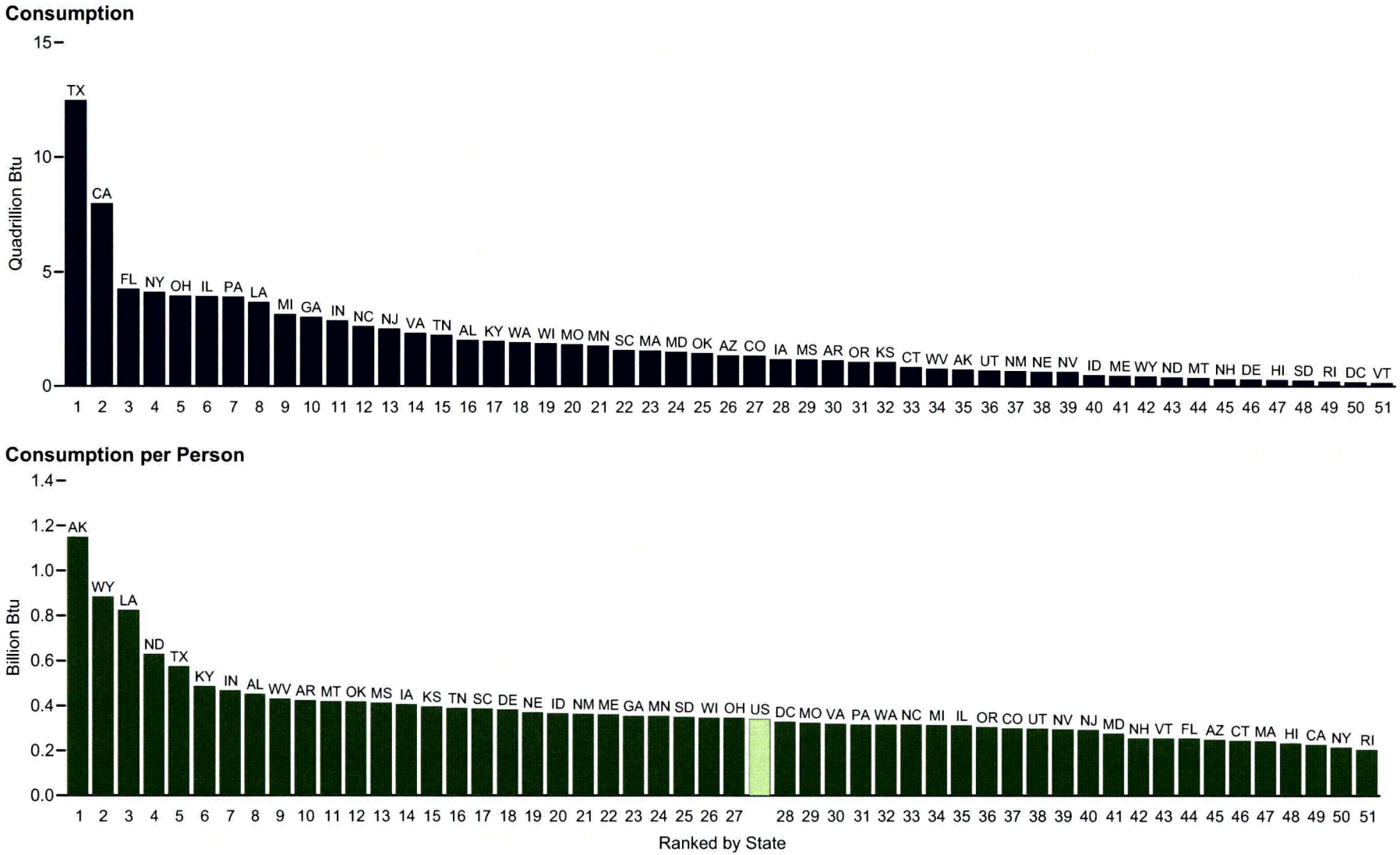
Table 1.5 Energy Consumption, Expenditures, and Emissions Indicators, Selected Years, 1949-2005

Year	Energy Consumption	Energy Consumption per Person	Energy Expenditures [1]	Energy Expenditures [1] per Person	Gross Domestic Product (GDP)	Energy Expenditures [1] as Share of GDP	Gross Domestic Product (GDP)	Energy Consumption per Dollar of GDP	Greenhouse Gas Emissions [2] per Dollar of GDP	Carbon Dioxide Emissions [3] per Dollar of GDP
	Quadrillion Btu	Million Btu	Million Nominal Dollars	Nominal Dollars	Billion Nominal Dollars	Percent	Billion Chained (2000) Dollars	Thousand Btu per Chained (2000) Dollar	Metric Tons Carbon Dioxide Equivalent per Million Chained (2000) Dollars	Metric Tons Carbon Dioxide per Million Chained (2000) Dollars
1949	31.98	215	NA	NA	267.3	NA	1,634.6	19.57	NA	NA
1950	34.62	229	NA	NA	293.8	NA	1,777.3	19.48	NA	NA
1955	40.21	244	NA	NA	414.8	NA	2,212.8	18.17	NA	NA
1960	45.09	251	NA	NA	526.4	NA	2,501.8	18.02	NA	NA
1965	54.02	279	NA	NA	719.1	NA	3,191.1	16.93	NA	NA
1970	67.84	334	82,911	408	1,038.5	8.0	3,771.9	17.99	NA	NA
1971	69.29	335	90,071	435	1,127.1	8.0	3,898.6	17.77	NA	NA
1972	72.70	347	98,108	469	1,238.3	7.9	4,105.0	17.71	NA	NA
1973	75.71	358	111,928	530	1,382.7	8.1	4,341.5	17.44	NA	NA
1974	73.99	347	153,370	719	1,500.0	10.2	4,319.6	17.13	NA	NA
1975	72.00	334	171,846	798	1,638.3	10.5	4,311.2	16.70	NA	NA
1976	76.01	349	193,897	891	1,825.3	10.6	4,540.9	16.74	NA	NA
1977	78.00	355	220,461	1,003	2,030.9	10.9	4,750.5	16.42	NA	NA
1978	79.99	360	239,230	1,077	2,294.7	10.4	5,015.0	15.95	NA	NA
1979	80.90	360	297,543	1,325	2,563.3	11.6	5,173.4	15.64	NA	NA
1980	R78.28	346	R374,346	R1,652	2,789.5	13.4	5,161.7	15.17	1,131	917
1981	76.34	333	R427,877	R1,865	3,128.4	13.7	5,291.7	14.43	1,085	872
1982	R73.29	316	R426,437	R1,841	3,255.0	13.1	5,189.3	14.12	1,053	843
1983	R73.15	313	R417,419	R1,785	3,536.7	11.8	5,423.8	R13.49	998	800
1984	R76.79	R326	R434,982	R1,845	3,933.2	R11.1	5,813.6	R13.21	982	788
1985	R76.58	R322	R438,184	R1,842	4,220.3	10.4	6,053.7	R12.65	946	755
1986	R76.83	320	R383,409	R1,597	4,462.8	8.6	6,263.6	R12.27	913	731
1987	R79.22	327	R396,515	R1,637	4,739.5	8.4	6,475.1	12.24	910	732
1988	R82.87	339	R410,426	R1,679	5,103.8	8.0	6,742.7	12.29	907	735
1989	R85.00	344	R437,611	R1,773	5,484.4	8.0	6,981.4	R12.18	892	723
1990	R84.73	R341	R472,539	R1,899	5,803.1	8.1	7,112.5	11.91	R865	R703
1991	R84.67	335	R470,559	R1,860	5,995.9	7.8	7,100.5	11.92	R859	R697
1992	R86.01	335	R475,587	R1,854	6,337.7	7.5	7,336.6	11.72	R848	R689
1993	R87.65	337	R491,168	1,890	6,657.4	7.4	7,532.7	R11.64	R839	R683
1994	R89.29	339	R504,204	1,916	7,072.2	7.1	7,835.5	R11.40	R819	R666
1995	R91.20	R342	R514,049	R1,930	7,397.7	6.9	8,031.7	R11.35	R805	R656
1996	R94.23	350	R559,954	R2,079	7,816.9	7.2	8,328.9	R11.31	R798	R655
1997	R94.80	348	R566,770	R2,079	8,304.3	6.8	8,703.5	10.89	R771	R635
1998	R95.20	345	R525,737	R1,906	8,747.0	6.0	9,066.9	10.50	R743	R614
1999	96.84	347	R556,538	R1,994	9,268.4	6.0	9,470.3	10.23	R719	R596
2000	R98.98	352	R689,199	R2,449	9,817.0	7.0	9,817.0	10.08	R710	R591
2001	R96.50	338	R694,078	R2,434	10,128.0	R6.9	9,890.7	R9.76	R696	R579
2002	R97.97	340	661,659	2,298	R10,469.6	6.3	R10,048.8	R9.75	R688	R572
2003	R98.27	338	NA	NA	R10,971.2	NA	R10,320.6	R9.52	R677	R562
2004	R100.41	R342	NA	NA	R11,734.3	NA	R10,755.7	R9.34	662	549
2005P	99.89	337	NA	NA	12,485.7	NA	11,134.6	8.97	NA	NA

[1] Expenditures include taxes where data are available.
[2] Greenhouse gas emissions from anthropogenic sources. See Table 12.1.
[3] Carbon dioxide emissions from energy consumption. See Table 12.2
R=Revised. P=Preliminary. NA=Not available.
Note: See "Chained Dollars" in Glossary.

Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/overview.html.
Sources: **Energy Consumption:** Table 1.3. **Energy Expenditures:** Table 3.5. **Gross Domestic Product:** Table D1. **Population Data:** Table D1. **Greenhouse Gas Emissions:** Table 12.1. **Carbon Dioxide Emissions:** Table 12.2. **Other Columns:** Calculated by EIA.

Figure 1.6 State-Level Energy Consumption and Consumption per Person, 2002



Note: Because vertical scales differ, graphs should not be compared.

Source: Table 1.6.

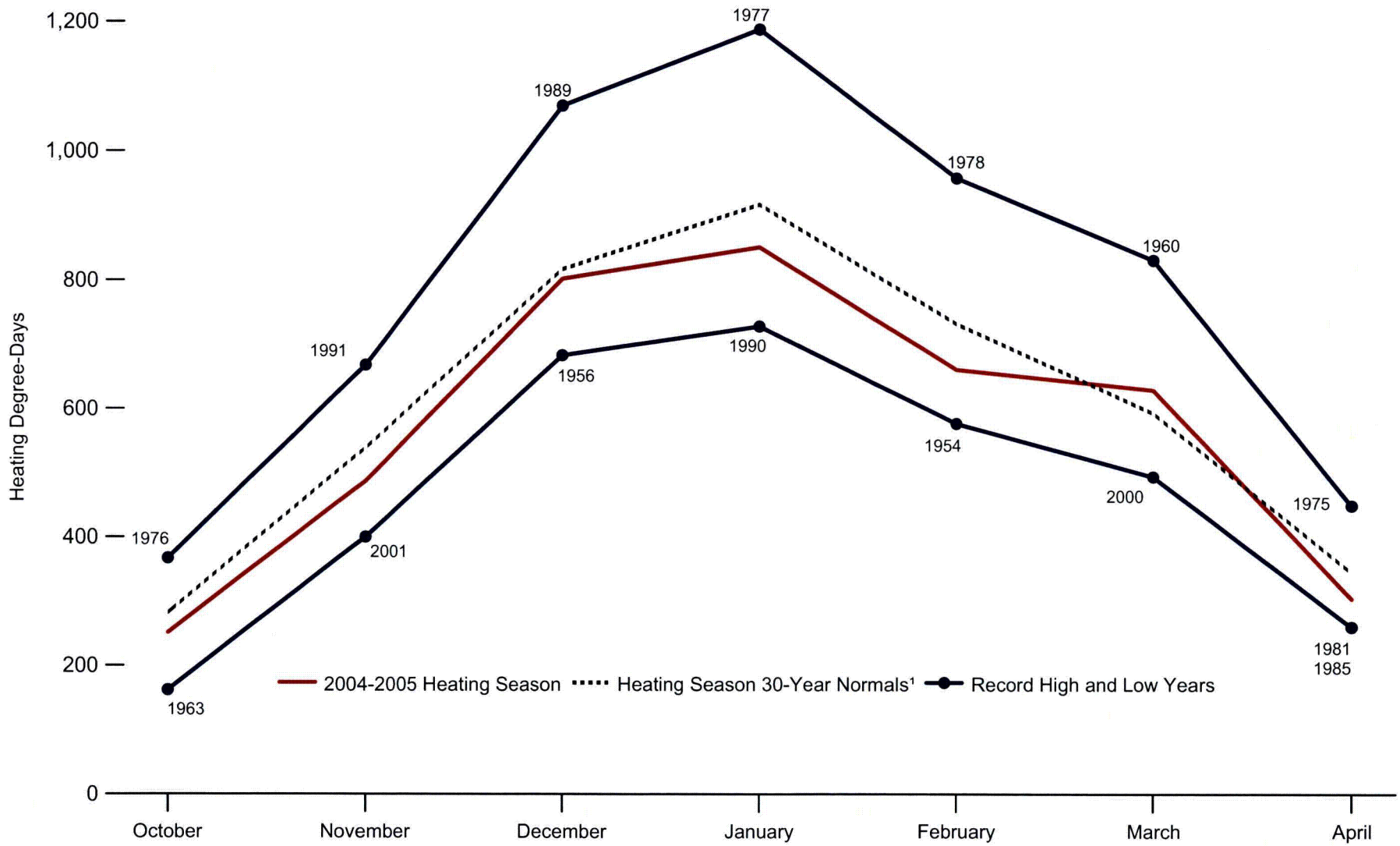
Table 1.6 State-Level Energy Consumption, Expenditures, and Prices, 2002

Rank	Consumption		Consumption per Person		Expenditures [1]		Expenditures [1] per Person		Prices [1]	
	Trillion Btu		Million Btu		Million Dollars		Dollars		Dollars per Million Btu	
1	Texas	12,489.3	Alaska	1,149.1	California	70,359	Wyoming	4,304	District of Columbia	14.79
2	California	7,984.4	Wyoming	883.9	Texas	67,026	Alaska	3,932	Hawaii	14.44
3	Florida	4,261.0	Louisiana	824.2	New York	36,990	Louisiana	3,634	Vermont	13.79
4	New York	4,123.4	North Dakota	629.5	Florida	30,997	North Dakota	3,160	Connecticut	12.79
5	Ohio	3,959.4	Texas	574.6	Pennsylvania	28,701	Texas	3,083	Nevada	12.70
6	Illinois	3,938.0	Kentucky	486.4	Ohio	27,611	Indiana	2,692	Rhode Island	12.64
7	Pennsylvania	3,916.3	Indiana	467.8	Illinois	27,118	Kentucky	2,673	Massachusetts	12.61
8	Louisiana	3,689.1	Alabama	451.8	Michigan	22,292	Iowa	2,651	New York	12.60
9	Michigan	3,156.8	West Virginia	430.5	New Jersey	19,375	Maine	2,649	New Hampshire	12.47
10	Georgia	3,035.7	Arkansas	423.8	Georgia	19,009	District of Columbia	2,641	California	12.28
11	Indiana	2,880.4	Montana	419.1	North Carolina	18,423	Arkansas	2,594	Arizona	12.26
12	North Carolina	2,633.8	Oklahoma	418.7	Indiana	16,574	Alabama	2,565	Florida	12.10
13	New Jersey	2,519.9	Mississippi	413.2	Louisiana	16,265	Delaware	2,560	Maryland	11.27
14	Virginia	2,335.7	Iowa	406.3	Virginia	15,790	Vermont	2,525	North Carolina	11.23
15	Tennessee	2,252.6	Kansas	395.8	Massachusetts	14,300	Oklahoma	2,510	Delaware	10.98
16	Alabama	2,023.6	Tennessee	389.1	Tennessee	13,676	Montana	2,507	Oregon	10.91
17	Kentucky	1,989.4	South Carolina	387.6	Missouri	13,046	Mississippi	2,490	Pennsylvania	10.80
18	Washington	1,925.0	Delaware	382.1	Wisconsin	12,938	South Dakota	2,475	Virginia	10.47
19	Wisconsin	1,889.4	Nebraska	371.1	Washington	12,187	Kansas	2,453	New Jersey	10.47
20	Missouri	1,841.1	Idaho	366.0	Minnesota	11,627	Ohio	2,420	Missouri	10.42
21	Minnesota	1,782.2	New Mexico	363.8	Alabama	11,489	Nebraska	2,404	Ohio	10.39
22	South Carolina	1,590.7	Maine	361.2	Maryland	10,942	Nevada	2,396	New Mexico	10.36
23	Massachusetts	1,561.4	Georgia	355.3	Kentucky	10,933	South Carolina	2,393	South Carolina	10.18
24	Maryland	1,506.8	Minnesota	354.7	Arizona	10,451	Wisconsin	2,379	Maine	10.11
25	Oklahoma	1,461.3	South Dakota	350.8	South Carolina	9,821	West Virginia	2,377	Illinois	9.99
26	Arizona	1,361.4	Wisconsin	347.3	Oklahoma	8,758	New Hampshire	2,371	Idaho	9.96
27	Colorado	1,348.6	Ohio	347.1	Colorado	8,738	Tennessee	2,362	Washington	9.94
28	Iowa	1,192.7	District of Columbia	329.5	Iowa	7,783	Idaho	2,356	Wisconsin	9.90
29	Mississippi	1,184.7	Missouri	324.7	Connecticut	7,679	Pennsylvania	2,328	South Dakota	9.90
30	Arkansas	1,146.9	Virginia	320.5	Oregon	7,617	Minnesota	2,314	Michigan	9.89
31	Oregon	1,076.2	Pennsylvania	317.7	Mississippi	7,139	Missouri	2,301	Kansas	9.80
32	Kansas	1,073.2	Washington	317.3	Arkansas	7,019	New Jersey	2,259	Mississippi	9.75
33	Connecticut	849.1	North Carolina	317.1	Kansas	6,652	Massachusetts	2,227	Georgia	9.62
34	West Virginia	777.0	Michigan	314.3	Nevada	5,193	Georgia	2,225	Tennessee	9.60
35	Alaska	737.1	Illinois	312.9	West Virginia	4,291	Connecticut	2,220	Minnesota	9.56
36	Utah	694.0	Oregon	305.7	Utah	4,222	Michigan	2,220	Colorado	9.55
37	New Mexico	673.9	Colorado	299.6	Nebraska	4,154	North Carolina	2,218	Nebraska	9.54
38	Nebraska	641.1	Utah	299.3	New Mexico	3,950	Hawaii	2,208	Oklahoma	9.43
39	Nevada	640.9	Nevada	295.7	Maine	3,430	Virginia	2,167	Arkansas	9.30
40	Idaho	491.5	New Jersey	293.9	Idaho	3,165	Oregon	2,164	Montana	9.28
41	Maine	467.7	Maryland	276.5	New Hampshire	3,022	Illinois	2,155	Iowa	9.27
42	Wyoming	440.9	New Hampshire	256.0	Hawaii	2,740	New Mexico	2,133	Alabama	9.18
43	North Dakota	399.0	Vermont	255.7	Alaska	2,522	California	2,010	Utah	9.15
44	Montana	381.6	Florida	255.3	Montana	2,283	Washington	2,009	Kentucky	8.80
45	New Hampshire	326.3	Arizona	250.2	Wyoming	2,147	Maryland	2,007	West Virginia	8.58
46	Delaware	307.9	Connecticut	245.5	Delaware	2,063	Colorado	1,941	Indiana	8.29
47	Hawaii	291.8	Massachusetts	243.1	Rhode Island	2,029	New York	1,933	Wyoming	7.88
48	South Dakota	266.8	Hawaii	235.2	North Dakota	2,003	Arizona	1,921	Alaska	7.76
49	Rhode Island	219.6	California	228.1	South Dakota	1,882	Rhode Island	1,899	Texas	7.74
50	District of Columbia	187.5	New York	215.5	Vermont	1,556	Florida	1,857	North Dakota	7.00
51	Vermont	157.6	Rhode Island	205.6	District of Columbia	1,503	Utah	1,821	Louisiana	6.99
	United States	[2]**98,142.5**	**United States**	**340.8**	**United States**	[3]**661,659**	**United States**	**2,298**	**United States**	**10.07**

[1] Prices and expenditures include taxes where data are available.
[2] Includes 60.8 trillion Btu of coal coke net imports, which are not allocated to the States.
[3] Includes $180 million for coal coke net imports, which are not allocated to the States.
Note: Rankings based on unrounded data.
Web Page: For related information, see http://www.eia.doe.gov/emeu/states/_states.html.

Sources: • **Consumption:** Energy Information Administration (EIA), "State Energy Data 2002: Consumption" (June 2006), Tables R1 and R2. • **Expenditures and Prices:** EIA, "State Energy Data 2002: Prices and Expenditures" (June 2006), Table R1. • "State Energy Data 2002" includes State-level data by end-use sector and type of energy. Consumption estimates are annual 1960 through 2002, and price and expenditure estimates are annual 1970 through 2002.

Figure 1.7 Heating Degree-Days by Month, 1949-2005



[1] Based on calculations of data from 1971 through 2000.

Source: Table 1.7.

Table 1.7 Heating Degree-Days by Month, Selected Years, 1949-2005

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
1949	858	701	611	330	128	21	7	9	94	209	503	763	4,234
1950	761	721	693	412	162	40	11	18	85	196	565	872	4,536
1955	927	759	600	272	121	48	9	6	56	237	600	886	4,521
1960	884	780	831	278	160	33	7	11	48	254	502	936	4,724
1965	907	780	738	355	114	48	11	14	78	271	494	739	4,549
1970	1,063	758	685	344	120	31	4	9	55	253	541	801	4,664
1971	976	760	681	375	194	29	10	12	47	187	553	723	4,547
1972	890	785	608	377	137	49	7	12	65	330	613	832	4,705
1973	893	772	504	356	182	22	6	9	61	212	497	799	4,313
1974	838	754	556	310	171	42	6	13	94	303	524	795	4,406
1975	821	742	686	449	117	37	5	13	100	235	462	805	4,472
1976	974	609	544	309	178	28	8	19	81	367	668	941	4,726
1977	1,188	751	529	270	119	38	6	13	59	295	493	844	4,605
1978	1,061	958	677	350	157	31	7	11	59	283	517	847	4,958
1979	1,079	950	575	364	148	37	6	15	58	271	528	750	4,781
1980	887	831	680	338	142	49	5	10	54	316	564	831	4,707
1981	984	689	620	260	165	25	6	11	76	327	504	845	4,512
1982	1,067	776	620	408	114	62	7	19	75	264	515	692	4,619
1983	874	706	588	421	189	35	6	5	53	251	509	990	4,627
1984	1,000	645	704	371	172	28	7	7	88	223	565	704	4,514
1985	1,057	807	557	260	123	47	5	17	69	243	506	951	4,642
1986	859	734	542	295	123	30	9	18	76	258	558	793	4,295
1987	920	714	573	309	107	20	8	13	61	345	491	773	4,334
1988	1,004	778	594	344	134	30	3	5	72	352	506	831	4,653
1989	789	832	603	344	163	32	5	14	73	259	542	1,070	4,726
1990	728	655	535	321	184	29	6	10	56	246	457	789	4,016
1991	921	639	564	287	98	30	6	7	69	242	586	751	4,200
1992	852	644	603	345	152	46	14	24	74	301	564	822	4,441
1993	860	827	664	368	128	38	11	9	89	302	580	824	4,700
1994	1,031	813	594	293	174	21	6	16	65	268	479	723	4,483
1995	847	750	556	375	174	31	4	7	77	233	605	872	4,531
1996	945	748	713	360	165	27	8	9	72	276	630	760	4,713
1997	932	672	552	406	198	31	7	16	63	273	592	800	4,542
1998	765	623	596	331	109	41	4	5	33	245	482	717	3,951
1999	861	647	645	319	139	31	5	12	62	275	413	760	4,169
2000	886	643	494	341	115	29	12	12	69	244	610	1,005	4,460
2001	935	725	669	302	115	29	8	6	71	267	400	696	4,223
2002	778	670	624	282	185	23	3	8	38	299	561	813	4,284
2003	944	801	572	344	165	41	4	5	62	261	477	784	4,460
2004	R968	R766	R495	R303	R107	R37	R7	R20	R47	R251	R487	R802	R4,290
2005P	851	661	629	304	173	20	3	4	32	241	466	844	4,228
Normals[1]	917	732	593	345	159	39	9	15	77	282	539	817	4,524

[1] Based on calculations of data from 1971 through 2000.

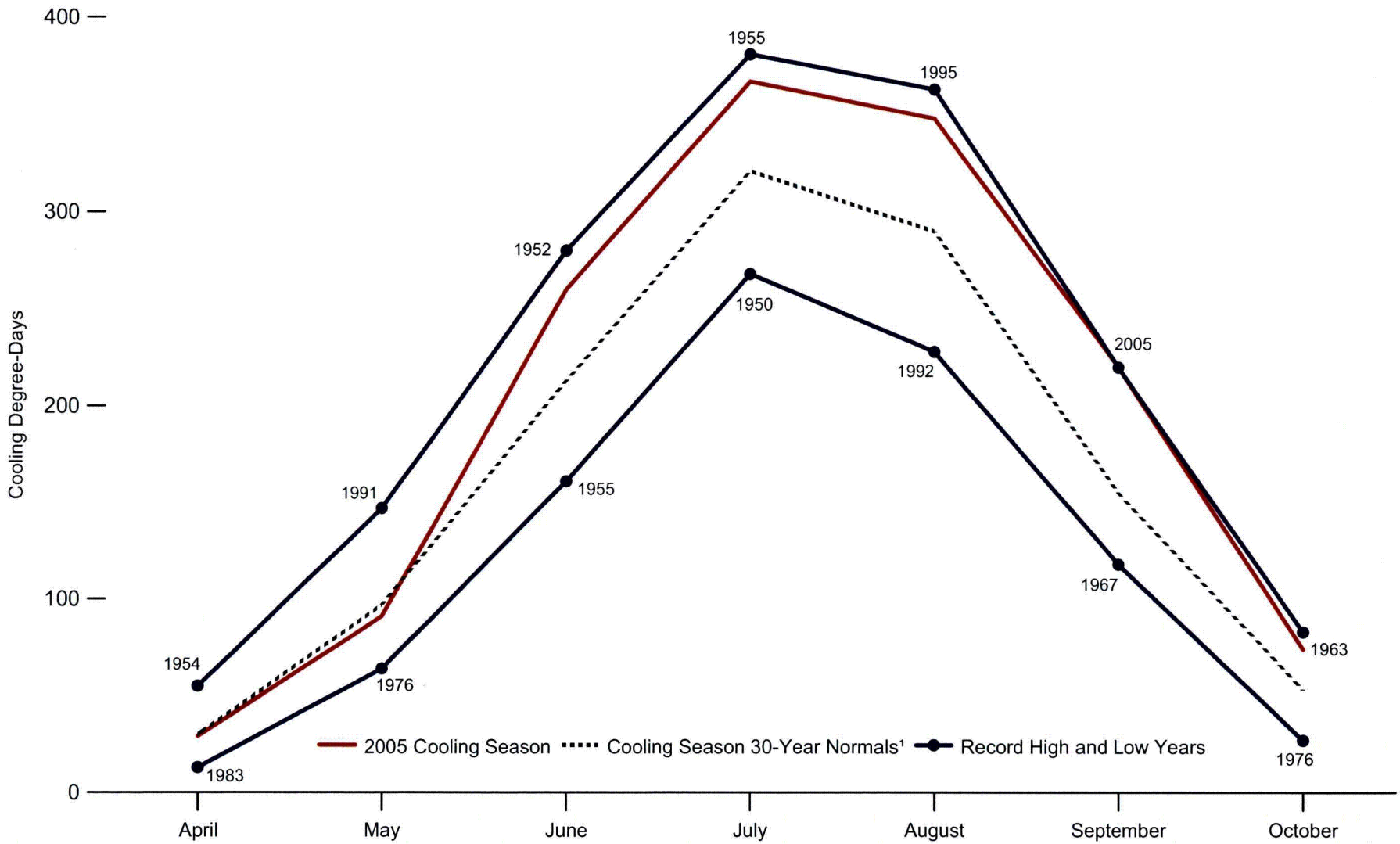
R=Revised. P=Preliminary.

Notes: • This table excludes Alaska and Hawaii. • Degree-days are relative measurements of outdoor air temperature. Heating degree-days are deviations below the mean daily temperature of 65° F. For example, a weather station recording a mean daily temperature of 40° F would report 25 heating degree-days. • Temperature information recorded by weather stations is used to calculate State-wide degree-day averages based on resident State population. Beginning in 2002, data are weighted by the estimated 2000 population. The population-weighted State figures are aggregated into Census divisions and the national average.

Web Pages: • For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/overview.html. • For current data, see http://www.eia.doe.gov/emeu/mer/overview.html.

Sources: • 1949-2004 and Normals—U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Climatic Data Center, Asheville, North Carolina, Historical Climatology Series 5-1. • 2005—Energy Information Administration, *Monthly Energy Review,* February 2005-January 2006 issues, Table 1.10, which reports data from NOAA, National Weather Service Climate Prediction Center, Camp Springs, Maryland.

Figure 1.8 Cooling Degree-Days by Month, 1949-2005



[1] Based on calculations of data from 1971 through 2000.

Source: Table 1.8.

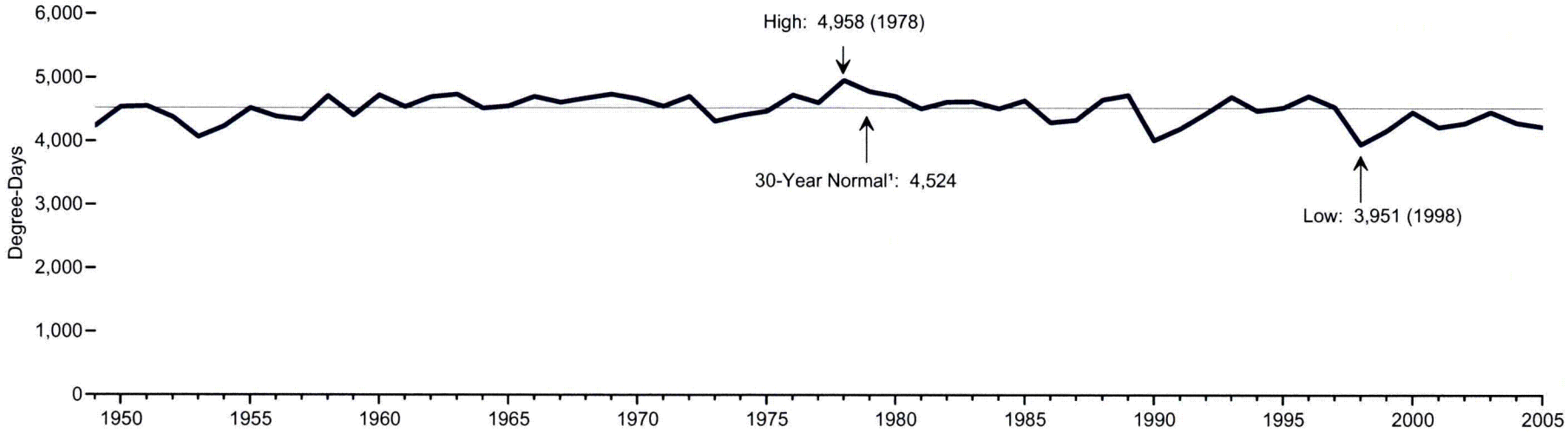
Table 1.8 Cooling Degree-Days by Month, Selected Years, 1949-2005

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
1949	16	14	14	27	110	253	367	294	131	70	12	10	1,318
1950	27	12	13	21	105	201	268	244	128	78	9	4	1,110
1955	6	7	20	45	121	161	381	355	182	50	10	6	1,344
1960	7	4	6	37	76	215	301	302	181	59	15	3	1,206
1965	9	7	10	42	125	179	280	273	155	48	19	6	1,153
1970	3	4	10	36	104	201	323	313	185	48	6	9	1,242
1971	8	7	10	22	68	244	288	269	182	77	12	17	1,204
1972	15	6	22	36	88	174	299	276	169	44	9	8	1,146
1973	7	3	24	18	75	236	318	303	166	66	21	4	1,241
1974	21	6	28	29	101	173	317	267	120	40	10	5	1,117
1975	14	11	14	24	117	203	301	296	120	55	12	5	1,172
1976	5	11	23	27	64	208	282	243	127	27	8	4	1,029
1977	2	5	21	35	121	212	351	293	180	44	15	6	1,285
1978	3	1	10	31	93	218	310	300	180	52	19	9	1,226
1979	4	4	13	32	82	187	295	266	160	53	11	6	1,113
1980	9	4	13	23	95	199	374	347	192	42	10	5	1,313
1981	3	6	10	52	75	257	333	275	138	43	12	5	1,209
1982	6	10	21	26	115	165	318	262	140	47	15	11	1,136
1983	6	5	9	13	72	193	353	362	172	58	12	5	1,260
1984	5	6	14	24	92	233	291	312	143	70	9	15	1,214
1985	3	5	22	39	108	193	313	269	145	68	25	4	1,194
1986	8	10	17	33	106	231	340	259	161	52	23	9	1,249
1987	5	7	13	23	127	244	334	298	156	40	14	8	1,269
1988	5	5	13	28	89	218	359	348	149	45	18	6	1,283
1989	15	7	19	36	88	208	312	266	138	49	16	2	1,156
1990	15	14	21	29	86	234	316	291	172	57	16	9	1,260
1991	10	9	19	42	147	235	336	305	149	62	8	9	1,331
1992	6	10	15	29	77	170	286	228	150	49	13	7	1,040
1993	13	5	11	19	91	207	347	317	146	47	11	4	1,218
1994	7	9	18	37	76	262	328	263	141	50	20	9	1,220
1995	7	7	18	29	91	202	348	363	150	61	12	5	1,293
1996	7	6	8	26	116	226	299	287	139	45	14	7	1,180
1997	8	11	31	19	81	189	315	268	171	48	10	5	1,156
1998	12	7	10	23	135	228	350	337	215	62	20	11	1,410
1999	12	11	12	40	94	219	374	305	152	55	17	6	1,297
2000	10	10	25	28	131	221	284	302	156	50	8	4	1,229
2001	3	12	11	37	114	220	302	333	138	46	18	11	1,245
2002	8	6	17	53	92	242	369	331	202	57	11	5	1,393
2003	5	7	24	30	110	187	336	345	156	65	21	4	1,290
2004	R6	R6	R28	R29	R138	208	R299	R252	R177	R67	17	R5	R1,232
2005P	9	7	14	29	91	260	367	348	220	74	23	4	1,444
Normals[1]	9	8	18	30	97	213	321	290	155	53	15	8	1,215

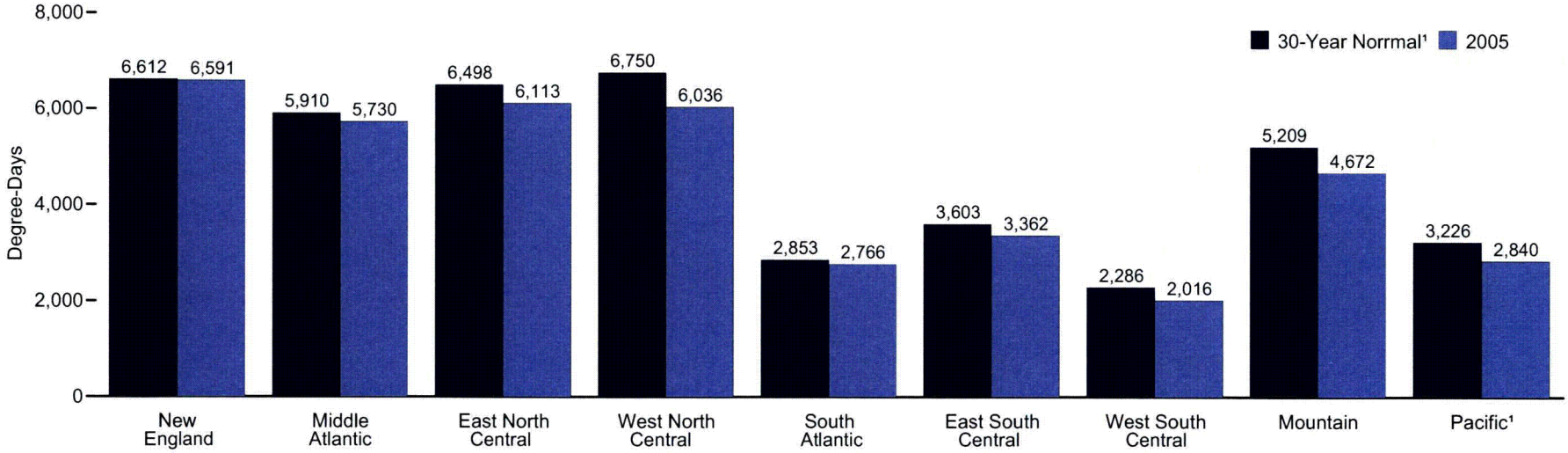
[1] Based on calculations of data from 1971 through 2000.
R=Revised. P=Preliminary.
Notes: • This table excludes Alaska and Hawaii. • Degree-days are relative measurements of outdoor air temperature. Cooling degree-days are deviations above the mean daily temperature of 65° F. For example, a weather station recording a mean daily temperature of 78° F would report 13 cooling degree-days. • Temperature information recorded by weather stations is used to calculate State-wide degree-day averages based on resident State population. Beginning in 2002, data are weighted by the estimated 2000 population. The population-weighted State figures are aggregated into Census divisions and the national average.
Web Pages: • For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/overview.html. • For current data, see http://www.eia.doe.gov/emeu/mer/overview.html.
Sources: • 1949-2004 and Normals—U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Climatic Data Center, Asheville, North Carolina, Historical Climatology Series 5-2. • 2005—Energy Information Administration, *Monthly Energy Review*, February 2005-January 2006 issues, Table 1.11, which reports data from NOAA, National Weather Service Climate Prediction Center, Camp Springs, Maryland.

Figure 1.9 Heating Degree-Days by Census Division

Heating Degree-Days, 1949-2005



Heating Degree-Days by Census Division, 2005



¹Normals are based on calculations of data from 1971 through 2000.

Notes: • Excludes Alaska and Hawaii. • See Appendix C for Census Divisions.

Source: Table 1.9.

Table 1.9 Heating Degree-Days by Census Division, Selected Years, 1949-2005

Year	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific [1]	United States [1]
1949	5,829	5,091	5,801	6,479	2,367	2,942	2,133	5,483	3,729	4,234
1950	6,470	5,765	6,619	7,136	2,713	3,315	1,974	4,930	3,355	4,536
1955	6,577	5,708	6,101	6,630	2,786	3,314	2,083	5,517	3,723	4,521
1960	6,561	5,901	6,544	6,884	3,147	3,958	2,551	5,328	3,309	4,724
1965	6,825	5,933	6,284	6,646	2,830	3,374	2,078	5,318	3,378	4,549
1970	6,839	5,943	6,455	6,835	2,997	3,685	2,396	5,436	3,257	4,664
1971	6,695	5,761	6,236	6,594	2,763	3,395	1,985	5,585	3,698	4,547
1972	7,001	6,064	6,772	7,094	2,759	3,438	2,259	5,352	3,376	4,705
1973	6,120	5,327	5,780	6,226	2,718	3,309	2,256	5,562	3,383	4,313
1974	6,621	5,670	6,259	6,478	2,551	3,171	2,080	5,281	3,294	4,406
1975	6,362	5,477	6,169	6,678	2,640	3,336	2,187	5,693	3,623	4,472
1976	6,839	6,097	6,768	6,670	3,040	3,881	2,446	5,303	3,115	4,726
1977	6,579	5,889	6,538	6,506	3,047	3,812	2,330	5,060	3,135	4,605
1978	7,061	6,330	7,095	7,324	3,187	4,062	2,764	5,370	3,168	4,958
1979	6,348	5,851	6,921	7,369	2,977	3,900	2,694	5,564	3,202	4,781
1980	6,900	6,143	6,792	6,652	3,099	3,855	2,378	5,052	2,986	4,707
1981	6,612	5,989	6,446	6,115	3,177	3,757	2,162	4,671	2,841	4,512
1982	6,697	5,866	6,542	7,000	2,721	3,357	2,227	5,544	3,449	4,619
1983	6,305	5,733	6,423	6,901	3,057	3,892	2,672	5,359	3,073	4,627
1984	6,442	5,777	6,418	6,582	2,791	3,451	2,194	5,592	3,149	4,514
1985	6,571	5,660	6,546	7,119	2,736	3,602	2,466	5,676	3,441	4,642
1986	6,517	5,665	6,150	6,231	2,686	3,294	2,058	4,870	2,807	4,295
1987	6,546	5,699	5,810	5,712	2,937	3,466	2,292	5,153	3,013	4,334
1988	6,715	6,088	6,590	6,634	3,122	3,800	2,346	5,148	2,975	4,653
1989	6,887	6,134	6,834	6,996	2,944	3,713	2,439	5,173	3,061	4,726
1990	5,848	4,998	5,681	6,011	2,230	2,929	1,944	5,146	3,148	4,016
1991	5,960	5,177	5,906	6,319	2,503	3,211	2,178	5,259	3,109	4,200
1992	6,844	5,964	6,297	6,262	2,852	3,498	2,145	5,054	2,763	4,441
1993	6,728	5,948	6,646	7,168	2,981	3,768	2,489	5,514	3,052	4,700
1994	6,672	5,934	6,378	6,509	2,724	3,394	2,108	5,002	3,155	4,483
1995	6,559	5,831	6,664	6,804	2,967	3,626	2,145	4,953	2,784	4,531
1996	6,679	5,986	6,947	7,345	3,106	3,782	2,285	5,011	2,860	4,713
1997	6,662	5,809	6,617	6,762	2,845	3,664	2,418	5,189	2,754	4,542
1998	5,680	4,812	5,278	5,774	2,429	3,025	2,021	5,059	3,255	3,951
1999	5,952	5,351	5,946	5,921	2,652	3,142	1,835	4,768	3,158	4,169
2000	6,489	5,774	6,284	6,456	2,959	3,548	2,194	4,881	3,012	4,460
2001	6,059	5,297	5,824	6,185	2,666	3,314	2,200	4,954	3,129	4,223
2002	6,099	5,372	6,122	6,625	2,671	3,420	2,307	5,028	3,132	4,284
2003	6,851	6,090	6,528	6,539	2,891	3,503	2,230	4,616	2,918	4,460
2004	R6,612	R5,749	R6,199	R6,290	R2,748	R3,289	R2,088	R4,844	R2,925	R4,290
2005P	6,591	5,730	6,113	6,036	2,766	3,362	2,016	4,672	2,840	4,228
Normals[2]	6,612	5,910	6,498	6,750	2,853	3,603	2,286	5,209	3,226	4,524

[1] Excludes Alaska and Hawaii.
[2] Based on calculations of data from 1971 through 2000.
R=Revised. P=Preliminary.

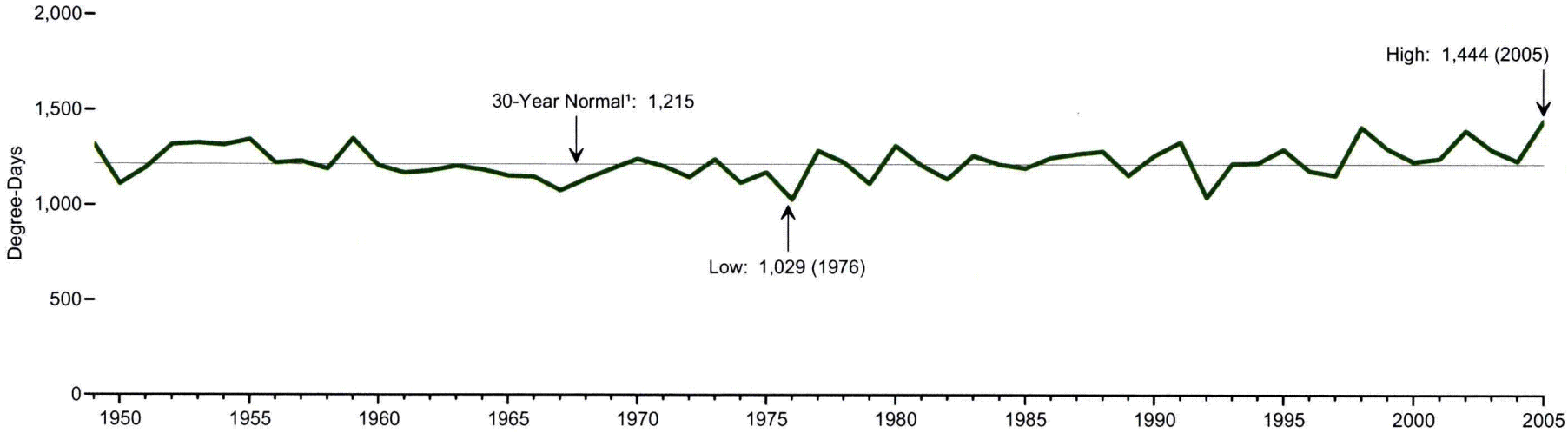
Notes: • Degree-days are relative measurements of outdoor air temperature. Heating degree-days are deviations below the mean daily temperature of 65° F. For example, a weather station recording a mean daily temperature of 40° F would report 25 heating degree-days. • Temperature information recorded by weather stations is used to calculate State-wide degree-day averages based on resident State population. Beginning in 2002, data are weighted by the estimated 2000 population. The population-weighted State figures are aggregated into Census divisions and the national average. • See Appendix C for Census divisions.

Web Pages: • For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/overview.html. • For current data, see http://www.eia.doe.gov/emeu/mer/overview.html.

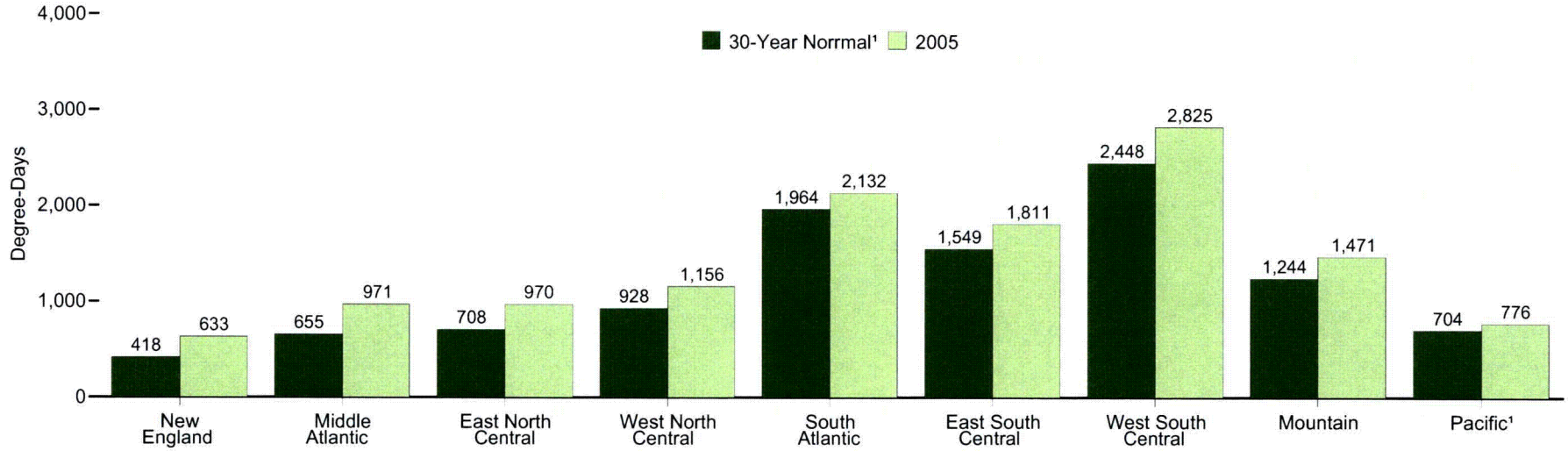
Sources: • 1949-2004 and Normals—U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Climatic Data Center, Asheville, North Carolina, Historical Climatology Series 5-1. • 2005—Energy Information Administration, *Monthly Energy Review (MER)*, February 2005-January 2006 issues, Table 1.10, which reports data from NOAA, National Weather Service Climate Prediction Center, Camp Springs, Maryland. Census Division data for 2005 are the sums of the current year monthly statistics shown in the cited issues of the *MER*.

Figure 1.10 Cooling Degree-Days by Census Division

Cooling Degree-Days, 1949-2005



Cooling Degree-Days by Census Division, 2005



[1] Normals are based on calculations of data from 1971 through 2000.

Notes: • Excludes Alaska and Hawaii. • See Appendix C for Census Divisions.

Source: Table 1.10.

Table 1.10 Cooling Degree-Days by Census Division, Selected Years, 1949-2005

Year	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific [1]	United States [1]
1949	654	901	949	1,038	2,128	1,776	2,510	1,198	593	1,318
1950	353	542	602	729	1,919	1,568	2,473	1,120	597	1,110
1955	602	934	1,043	1,238	2,045	1,791	2,643	1,124	560	1,344
1960	368	640	722	961	1,926	1,613	2,492	1,308	770	1,206
1965	352	638	688	914	1,931	1,634	2,579	961	542	1,153
1970	479	779	827	1,066	2,007	1,662	2,375	1,163	689	1,242
1971	465	730	783	960	1,932	1,577	2,448	1,074	685	1,204
1972	364	614	643	908	1,843	1,525	2,513	1,141	698	1,146
1973	551	830	864	1,009	2,000	1,665	2,359	1,123	624	1,241
1974	393	614	626	878	1,842	1,382	2,342	1,188	690	1,117
1975	467	708	788	1,003	2,011	1,520	2,261	1,031	547	1,172
1976	402	597	619	939	1,675	1,232	2,035	1,058	620	1,029
1977	407	689	823	1,122	2,020	1,808	2,720	1,256	715	1,285
1978	378	615	741	1,027	1,972	1,685	2,638	1,174	738	1,226
1979	434	588	618	871	1,833	1,412	2,242	1,164	770	1,113
1980	487	793	816	1,217	2,075	1,834	2,734	1,202	658	1,313
1981	436	657	658	924	1,889	1,576	2,498	1,331	876	1,209
1982	321	541	643	859	1,958	1,537	2,502	1,121	619	1,136
1983	538	799	934	1,178	1,925	1,579	2,288	1,174	776	1,260
1984	468	649	724	955	1,865	1,508	2,469	1,190	956	1,214
1985	372	627	643	830	2,004	1,596	2,599	1,210	737	1,194
1986	301	626	738	1,021	2,149	1,792	2,618	1,188	664	1,249
1987	406	729	918	1,115	2,067	1,718	2,368	1,196	706	1,269
1988	545	782	975	1,230	1,923	1,582	2,422	1,320	729	1,283
1989	426	658	652	864	1,977	1,417	2,295	1,330	685	1,156
1990	477	656	647	983	2,143	1,622	2,579	1,294	827	1,260
1991	511	854	959	1,125	2,197	1,758	2,499	1,182	672	1,331
1992	276	460	449	637	1,777	1,293	2,201	1,206	905	1,040
1993	486	764	735	817	2,092	1,622	2,369	1,113	708	1,218
1994	548	722	664	887	2,005	1,448	2,422	1,436	801	1,220
1995	507	803	921	985	2,081	1,671	2,448	1,234	754	1,293
1996	400	623	629	821	1,867	1,474	2,515	1,381	856	1,180
1997	395	586	574	873	1,886	1,393	2,361	1,335	921	1,156
1998	505	788	889	1,138	2,277	1,928	3,026	1,271	732	1,410
1999	631	882	855	970	2,024	1,733	2,645	1,242	635	1,297
2000	317	542	658	1,023	1,929	1,736	2,787	1,488	756	1,229
2001	519	722	744	1,028	1,891	1,535	2,565	1,498	794	1,245
2002	570	863	933	1,049	2,209	1,808	2,545	1,543	739	1,393
2003	522	685	645	946	2,007	1,494	2,522	1,639	941	1,290
2004	R402	R670	R604	R752	R2,037	R1,549	R2,485	R1,376	R823	R1,232
2005P	633	971	970	1,156	2,132	1,811	2,825	1,471	776	1,444
Normals[2]	418	655	708	928	1,964	1,549	2,448	1,244	704	1,215

[1] Excludes Alaska and Hawaii.
[2] Based on calculations of data from 1971 through 2000.
R=Revised. P=Preliminary.

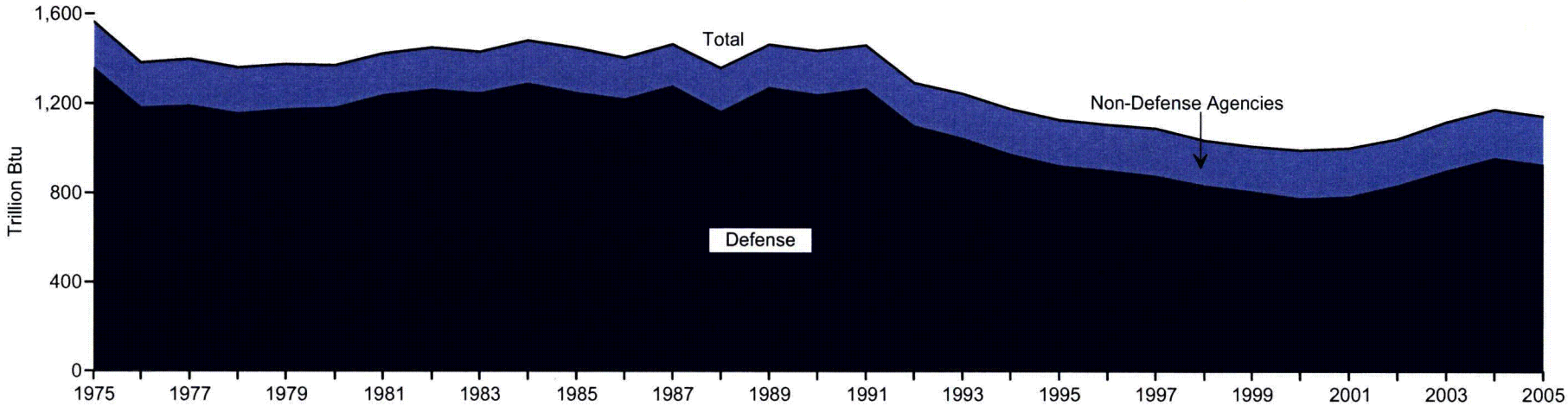
Notes: • Degree-days are relative measurements of outdoor air temperature. Cooling degree-days are deviations above the mean daily temperature of 65° F. For example, a weather station recording a mean daily temperature of 78° F would report 13 cooling degree-days. • Temperature information recorded by weather stations is used to calculate State-wide degree-day averages based on resident State population. Beginning in 2002, data are weighted by the estimated 2000 population. The population-weighted State figures are aggregated into Census divisions and the national average. • See Appendix C for Census divisions.

Web Pages: • For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/overview.html. • For current data, see http://www.eia.doe.gov/emeu/mer/overview.html.

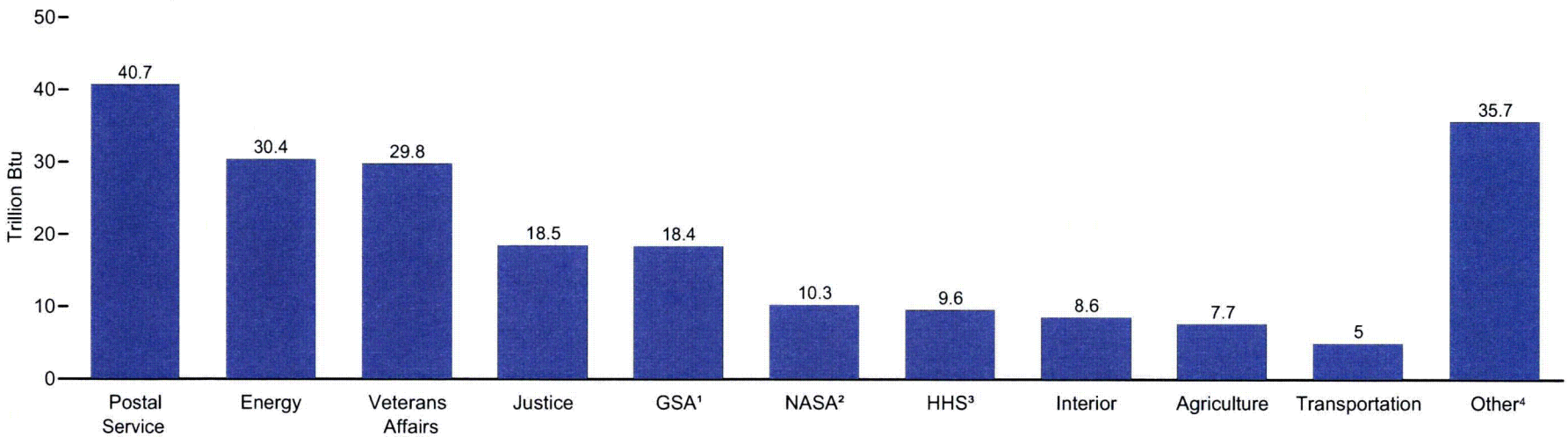
Sources: • 1949-2004 and Normals—U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Climatic Data Center, Asheville, North Carolina, Historical Climatology Series 5-2. • 2005—Energy Information Administration, *Monthly Energy Review* (January 2006), Table 1.11, which reports data from NOAA, National Weather Service Climate Prediction Center, Camp Springs, Maryland.

Figure 1.11 U.S. Government Energy Consumption by Agency

Total and U.S. Department of Defense, Fiscal Years 1975-2005



Non-Defense Agencies, Fiscal Year 2005



[1] General Services Administration.
[2] National Aeronautics and Space Administration.
[3] Health and Human Services.
[4] See Table 1.11 for list of agencies.

Notes: • The U.S. Government's fiscal year was October 1 through September 30, except in 1975 and 1976 when it was July 1 through June 30. • Because vertical scales differ, graphs should not be compared.
Source: Table 1.11.

Table 1.11 U.S. Government Energy Consumption by Agency, Fiscal Years 1975-2005

(Trillion Btu)

Year	Agencies												
	Agriculture	Defense	Energy	GSA [1]	HHS [2]	Interior	Justice	NASA [3]	Postal Service	Trans-portation	Veterans Affairs	Other [4]	Total
1975	9.5	1,360.2	50.4	22.3	6.5	9.4	5.9	13.4	30.5	19.3	27.1	10.5	1,565.0
1976	9.3	1,183.3	50.3	20.6	6.7	9.4	5.7	12.4	30.0	19.5	25.0	11.2	1,383.4
1977	8.9	1,192.3	51.6	20.4	6.9	9.5	5.9	12.0	32.7	20.4	25.9	11.9	1,398.5
1978	9.1	1,157.8	50.1	20.4	6.5	9.2	5.9	11.2	30.9	20.6	26.8	12.4	1,360.9
1979	9.2	1,175.8	49.6	19.6	6.4	10.4	6.4	11.1	29.3	19.6	25.7	12.3	1,375.4
1980	8.6	1,183.1	47.4	18.1	6.0	8.5	5.7	10.4	27.2	19.2	24.8	12.3	1,371.2
1981	7.9	1,239.5	47.3	18.0	6.7	7.6	5.4	10.0	27.9	18.8	24.0	11.1	1,424.2
1982	7.6	1,264.5	49.0	18.1	6.4	7.4	5.8	10.1	27.5	19.1	24.2	11.6	1,451.4
1983	7.4	1,248.3	49.5	16.1	6.2	7.7	5.5	10.3	26.5	19.4	24.1	10.8	1,431.8
1984	7.9	1,292.1	51.6	16.2	6.4	8.4	6.4	10.6	27.7	19.8	24.6	10.7	1,482.5
1985	8.4	1,250.6	52.2	R20.7	6.0	7.8	8.2	10.9	27.8	19.6	25.1	R13.1	R1,450.3
1986	6.8	1,222.8	46.9	14.0	6.2	6.9	8.6	11.2	28.0	19.4	25.0	10.8	1,406.7
1987	7.3	1,280.5	48.5	13.1	6.6	6.6	8.1	11.3	28.5	19.0	24.9	11.9	1,466.3
1988	7.8	1,165.8	49.9	12.4	6.4	7.0	9.4	11.3	29.6	18.7	26.3	15.8	1,360.3
1989	8.7	1,274.4	44.2	12.7	6.7	7.1	7.7	12.4	30.3	18.5	26.2	15.6	1,464.7
1990	9.6	1,241.7	43.5	R17.0	7.1	7.4	7.0	12.4	30.6	19.0	24.9	R17.5	R1,437.5
1991	9.6	1,269.3	42.1	14.0	6.2	7.1	8.0	12.5	30.8	19.0	25.1	R18.1	R1,461.7
1992	9.1	1,104.0	44.3	13.8	6.8	7.0	7.5	12.6	31.7	17.0	25.3	R15.7	R1,294.8
1993	9.3	1,048.8	43.4	14.1	7.2	7.5	9.1	12.4	33.7	19.4	25.7	R16.2	R1,246.8
1994	9.4	977.0	42.1	14.0	7.5	7.9	10.3	12.6	35.0	19.8	25.6	R17.1	R1,178.2
1995	9.0	926.0	47.3	13.7	6.1	6.4	10.2	12.4	36.2	18.7	25.4	R17.9	R1,129.3
1996	9.1	904.5	44.6	14.5	6.6	4.3	12.1	11.5	36.4	19.6	26.8	R18.5	R1,108.5
1997	7.4	880.0	43.1	14.4	7.9	6.6	12.0	12.0	40.8	19.1	27.3	R21.6	R1,092.0
1998	7.9	837.1	31.5	14.1	7.4	6.4	15.8	11.7	39.5	18.5	27.6	R20.3	R1,037.9
1999	7.8	810.7	27.0	14.4	7.1	7.5	15.4	11.4	39.8	22.6	27.5	R20.6	R1,011.6
2000	7.4	779.1	30.5	17.6	8.0	7.8	19.7	11.1	43.3	21.2	27.0	R21.0	R993.8
2001	7.4	787.2	31.1	18.4	8.5	9.5	19.7	10.9	43.4	17.8	27.7	R21.4	R1,003.0
2002	7.2	837.5	30.7	17.5	8.0	8.2	17.7	10.7	41.6	18.3	27.7	19.8	1,044.8
2003	7.2	904.4	30.7	18.6	8.7	7.6	18.0	10.1	42.6	5.6	29.6	37.5	1,120.5
2004	R7.0	R960.7	R31.4	18.3	R8.8	R8.7	R17.5	9.9	R40.7	R5.2	29.9	R39.2	R1,177.2
2005P	7.7	932.1	30.4	18.4	9.6	8.6	18.5	10.3	40.7	5.0	29.8	35.7	1,146.9

[1] General Services Administration.
[2] Health and Human Services.
[3] National Aeronautics and Space Administration.
[4] Includes National Archives and Records Administration, U.S. Department of Commerce, Panama Canal Commission, Tennessee Valley Authority, U.S. Department of Labor, National Science Foundation, Federal Trade Commission, Federal Communications Commission, Environmental Protection Agency, U.S. Department of Homeland Security, U.S. Department of Housing and Urban Development, Railroad Retirement Board, Commodity Futures Trading Commission, Equal Employment Opportunity Commission, Nuclear Regulatory Commission, U.S. Department of State, U.S. Department of the Treasury, Small Business Administration, Office of Personnel Management, Federal Emergency Management Agency, Central Intelligence Agency, Social Security Administration, and U.S. Information Agency (International Broadcasting Bureau).

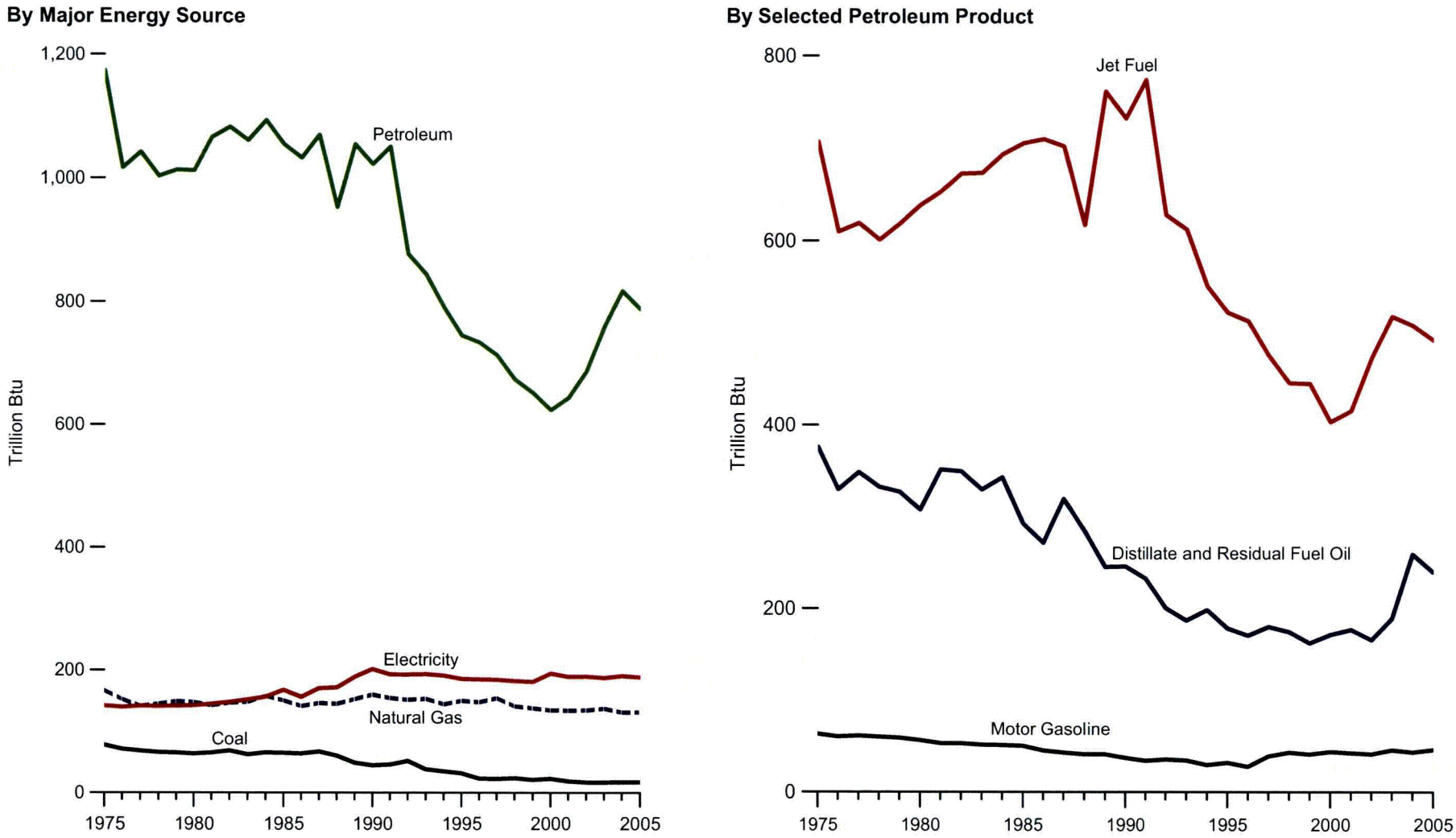
R = Revised. P = Preliminary.

Notes: • The U.S. Government's fiscal year was October 1 through September 30, except in 1975 and 1976, when it was July 1 through June 30. • Data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the U.S. Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. • Totals may not equal sum of components due to independent rounding.

Web Page: See http://www.eere.energy.gov/femp/aboutfemp/annual_reports/ann_overview.html for related information.

Source: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Federal Energy Management Program.

Figure 1.12 U.S. Government Energy Consumption by Source, Fiscal Years 1975-2005



Notes: • The U.S. Government's fiscal year was October 1 through September 30, except in 1975 and 1976 when it was July 1 through June 30. • Because vertical scales differ, graphs should not be compared.

Source: Table 1.12.

Table 1.12 U.S. Government Energy Consumption by Source, Fiscal Years 1975-2005

(Trillion Btu)

Year	Coal	Natural Gas	Petroleum						Electricity	Purchased Steam and Other [3]	Total
			Aviation Gasoline	Distillate and Residual Fuel Oil	Jet Fuel	Motor Gasoline	LPG [1] and Other [2]	Total			
1975	77.9	166.2	22.0	376.0	707.4	63.2	5.6	1,174.2	141.5	5.1	1,565.0
1976	71.3	151.8	11.6	329.7	610.0	60.4	4.7	1,016.4	139.3	4.6	1,383.4
1977	68.4	141.2	8.8	348.5	619.2	61.4	4.1	1,042.1	141.1	5.7	1,398.5
1978	66.0	144.7	6.2	332.3	601.1	60.1	3.0	1,002.9	141.0	6.4	1,360.9
1979	65.1	148.9	4.7	327.1	618.6	59.1	3.7	1,013.1	141.2	7.1	1,375.4
1980	63.5	147.3	4.9	307.7	638.7	56.5	4.0	1,011.8	141.9	6.8	1,371.2
1981	65.1	142.2	4.6	351.3	653.3	53.2	3.7	1,066.2	144.5	6.2	1,424.2
1982	68.6	146.2	3.6	349.4	672.7	53.1	3.9	1,082.8	147.5	6.2	1,451.4
1983	62.4	147.8	2.6	329.5	673.4	51.6	4.0	1,061.1	151.5	9.0	1,431.8
1984	65.3	157.4	1.9	342.9	693.7	51.2	4.1	1,093.8	155.9	10.1	1,482.5
1985	R64.8	R149.9	1.9	R292.6	705.7	50.4	4.0	R1,054.6	R167.2	13.9	R1,450.3
1986	63.8	140.9	1.4	271.6	710.2	45.3	3.9	1,032.4	155.8	13.7	1,406.7
1987	67.0	145.6	1.0	319.5	702.3	43.1	4.0	1,069.9	169.9	13.9	1,466.3
1988	60.2	144.6	6.0	284.8	617.2	41.2	3.2	952.4	171.2	32.0	1,360.3
1989	48.7	152.4	0.8	245.3	761.7	41.1	5.7	1,054.5	188.6	20.6	1,464.7
1990	R44.7	R159.7	0.5	R245.9	732.4	37.2	6.4	R1,022.4	R201.4	R20.5	R1,437.5
1991	45.9	154.1	0.4	232.6	774.5	34.1	9.0	1,050.7	R192.7	18.3	R1,461.7
1992	51.7	151.2	1.0	200.6	628.2	35.6	11.4	876.8	192.5	22.5	R1,294.8
1993	38.3	152.9	0.7	187.0	612.4	34.5	9.3	843.9	R193.1	18.6	R1,246.8
1994	35.0	143.9	0.6	198.5	550.7	29.5	10.9	790.2	190.9	18.2	R1,178.2
1995	31.7	149.7	0.3	178.5	522.3	31.9	11.4	744.4	185.3	18.2	R1,129.3
1996	23.3	147.4	0.2	170.6	513.0	27.6	21.7	733.2	R184.5	20.1	R1,108.5
1997	22.5	154.0	0.3	180.1	475.7	39.0	17.2	712.2	R184.0	19.2	R1,092.0
1998	23.9	140.7	0.2	174.6	445.5	43.1	9.4	672.8	R181.8	18.8	R1,037.9
1999	21.2	137.6	0.1	162.2	444.7	41.1	2.9	650.9	R180.4	21.5	R1,011.6
2000	22.7	134.0	0.2	171.4	403.1	43.9	4.3	622.9	194.0	20.2	R993.8
2001	18.8	133.9	0.2	177.0	415.2	42.5	7.9	642.9	R188.8	18.6	R1,003.0
2002	16.9	134.1	0.2	165.7	472.9	41.3	6.0	686.1	189.1	18.5	1,044.8
2003	16.9	136.9	0.3	R189.0	517.9	R45.7	R6.0	R758.9	R187.0	R20.8	1,120.5
2004	17.4	130.8	0.2	R259.2	508.2	R43.5	R6.0	R817.1	R190.2	21.7	R1,177.2
2005P	17.1	131.1	0.4	239.5	492.2	46.2	8.9	787.1	187.9	23.7	1,146.9

[1] Liquefied petroleum gases.
[2] Other types of fuel used in vehicles and equipment, primarily alternative fuels like methanol, ethanol, compressed natural gas, and biodiesel.
[3] "Other" is chilled water, renewable energy, and other fuels reported as used in facilities.
R = Revised. P = Preliminary.

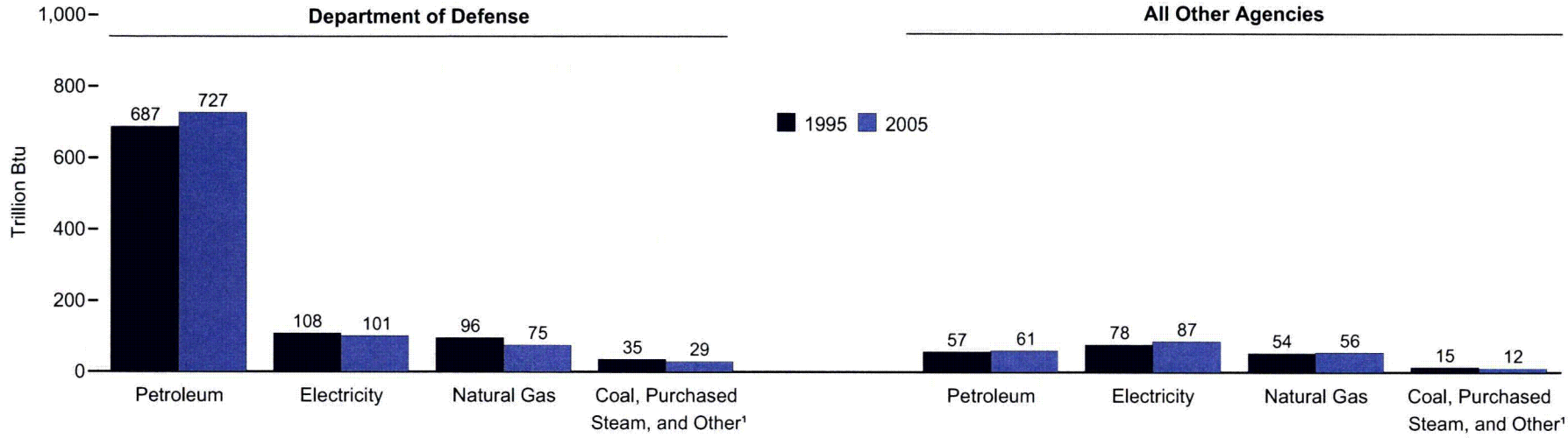
Notes: • The U.S. Government's fiscal year was October 1 through September 30, except in 1975 and 1976, when it was July 1 through June 30. • This table uses a conversion factor for electricity of 3,412 Btu per kilowatthour and a conversion factor for purchased steam of 1,000 Btu per pound. • Data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the U.S. Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. • Totals may not equal sum of components due to independent rounding.

Web Page: See http://www.eere.energy.gov/femp/aboutfemp/annual_reports/ann_overview.html for related information.

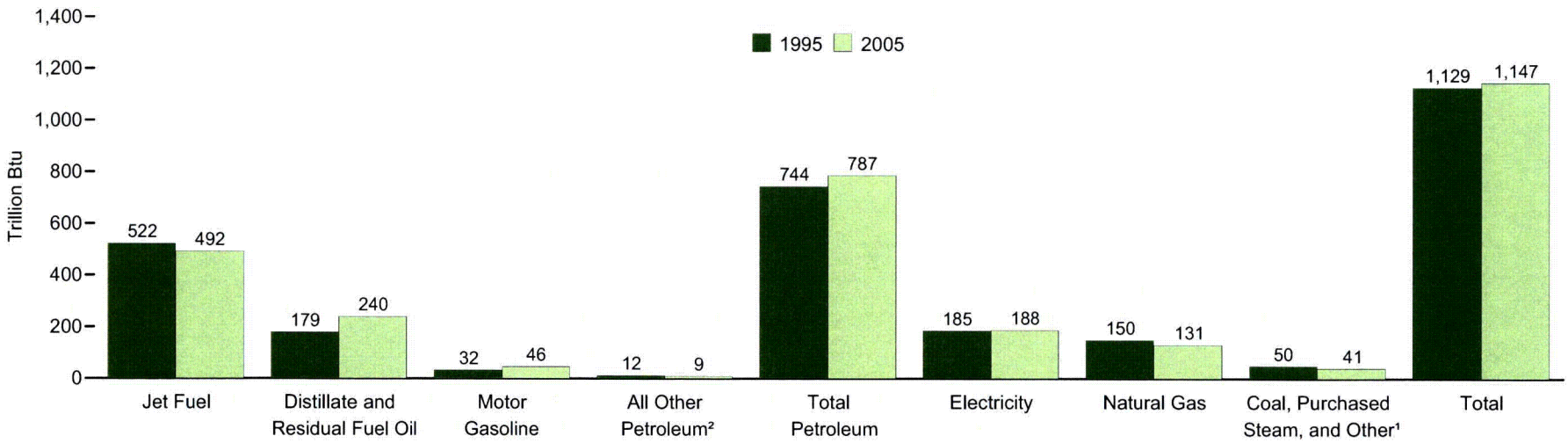
Source: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Federal Energy Management Program.

Figure 1.13 U.S. Government Energy Consumption by Agency and Source, Fiscal Years 1995 and 2005

By Agency



By Source



[1] Chilled water, renewable energy, and other fuels reported as used in facilities.
[2] Aviation gasoline, liquefied petroleum gas, and other types of fuel used in vehicles and equipment.

Notes: • The U.S. Government's fiscal year runs from October 1 through September 30.
• Because vertical scales differ, graphs should not be compared.
Source: Table 1.13.

Table 1.13 U.S. Government Energy Consumption by Agency and Source, Fiscal Years 1995 and 2005

(Trillion Btu)

Agency	Coal	Natural Gas	Petroleum						Electricity	Purchased Steam and Other [3]	Total
			Aviation Gasoline	Distillate and Residual Fuel Oil	Jet Fuel	Motor Gasoline	LPG [1] and Other [2]	Total			
Total, 1995	**31.7**	**149.7**	**0.3**	**178.5**	**522.3**	**31.9**	**11.4**	**744.4**	**185.3**	**18.2**	**1,129.3**
Defense	21.9	95.6	0.0	163.7	513.2	6.8	3.5	687.2	108.0	13.3	926.0
Energy	9.6	16.4	0.0	2.9	0.3	0.8	0.2	4.2	16.8	0.2	47.3
Postal Service	0.0	5.6	0.0	3.0	0.0	11.8	0.6	15.4	14.4	0.9	36.2
Veterans Affairs	0.2	13.6	0.0	1.4	0.0	0.3	0.0	1.6	8.9	1.1	25.4
Transportation	0.0	1.2	0.0	1.0	5.7	0.6	5.9	13.2	4.2	0.1	18.7
General Services Administration	0.0	2.8	0.0	0.3	0.0	0.1	0.0	0.3	9.1	1.4	13.7
NASA [4]	0.0	3.0	0.0	0.6	1.4	0.3	0.0	2.3	6.9	0.2	12.4
Agriculture	0.1	3.7	0.1	0.4	0.7	2.3	0.0	3.5	2.8	0.2	10.2
Justice	0.0	1.6	0.1	0.5	0.0	4.4	0.2	5.2	2.1	0.1	9.0
Interior	0.0	0.3	0.0	1.3	0.1	2.3	0.7	4.4	1.7	0.0	6.4
Health and Human Services	0.0	2.4	0.0	1.0	0.0	0.1	0.1	1.3	2.4	0.0	6.1
Other [5]	0.0	3.4	0.0	2.5	1.0	2.1	0.1	5.8	8.2	0.6	17.9
Total, 2005 P	**17.1**	**131.1**	**0.4**	**239.5**	**492.2**	**46.2**	**8.9**	**787.1**	**187.9**	**23.7**	**1,146.9**
Defense	15.0	75.3	0.1	221.3	484.6	16.6	4.0	726.6	101.0	14.2	932.1
Energy	0.0	5.6	0.0	4.2	0.0	12.1	0.2	16.6	18.2	0.4	40.7
Postal Service	1.9	6.2	0.0	2.0	0.2	1.9	0.1	4.2	16.7	1.4	30.4
Veterans Affairs	0.2	15.6	0.0	1.2	0.0	0.8	0.0	2.0	10.6	1.4	29.8
Transportation	0.0	7.9	0.1	0.4	1.4	2.8	0.0	4.8	5.0	0.9	18.5
General Services Administration	0.0	6.7	0.0	0.1	0.0	0.0	0.0	0.1	9.9	1.8	18.4
NASA [4]	0.0	3.1	0.0	0.4	0.8	0.2	0.0	1.4	5.6	0.3	10.3
Agriculture	0.1	3.6	0.0	0.6	0.0	0.4	0.1	1.1	3.5	1.3	9.6
Justice	0.0	1.1	0.0	1.1	0.1	2.3	1.1	4.7	2.2	0.6	8.6
Interior	0.0	1.5	0.1	0.7	0.0	2.2	0.7	3.8	2.1	0.3	7.7
Health and Human Services	0.0	0.7	0.0	0.2	0.6	0.5	0.0	1.4	2.9	0.0	5.0
Other [6]	0.0	3.9	0.0	7.2	4.4	6.3	2.5	20.5	10.2	1.1	35.7

[1] Liquefied petroleum gases.

[2] Other types of fuel used in vehicles and equipment, primarily alternative fuels like methanol, ethanol, compressed natural gas, and biodiesel.

[3] "Other" is chilled water, renewable energy, and other fuels reported as used in facilities.

[4] National Aeronautics and Space Administration.

[5] Includes U.S. Department of Commerce, Panama Canal Commission, Tennessee Valley Authority, U.S. Department of Labor, U.S Information Agency, U.S. Department of Housing and Urban Development, Federal Communications Commission, Office of Personnel Management, U.S. Department of State, Federal Emergency Management Agency, U.S. Department of the Treasury, National Archives and Records Administration, Nuclear Regulatory Commission, Railroad Retirement Board, Federal Trade Commission, Equal Employment Opportunity Commission, and Environmental Protection Agency.

[6] Includes National Archives and Records Administration, U.S. Department of Commerce, U.S. Department of Labor, U.S. Department of State, Environmental Protection Agency, Federal Communications Commission, Social Security Administration, International Broadcasting Bureau, Nuclear Regulatory Commission, U.S. Department of Homeland Security, U.S. Department of Housing and Urban Development, U.S. Department of the Treasury, Railroad Retirement Board, and Tennessee Valley Authority.

P=Preliminary.

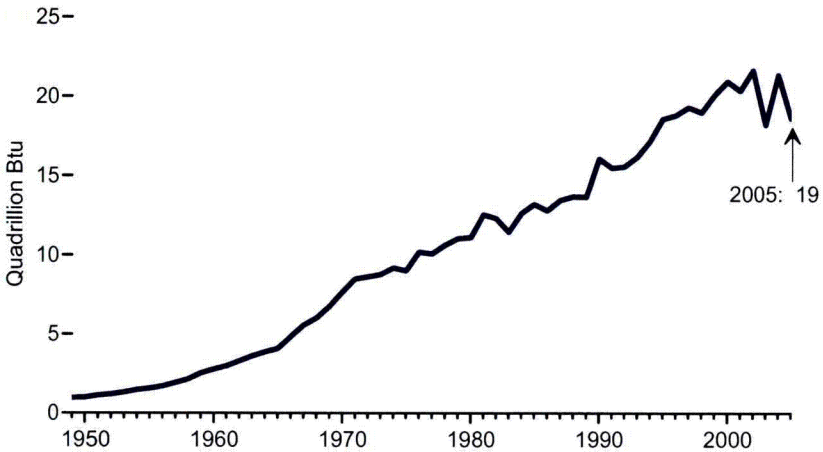
Notes: • The U.S. Government's fiscal year runs from October 1 through September 30. • This table uses a conversion factor for electricity of 3,412 Btu per kilowatthour and a conversion factor for purchased steam of 1,000 Btu per pound. • Data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the U.S. Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. • Totals may not equal sum of components due to independent rounding.

Web Page: See http://www.eere.energy.gov/femp/aboutfemp/annual_reports/ann_overview.html for related information.

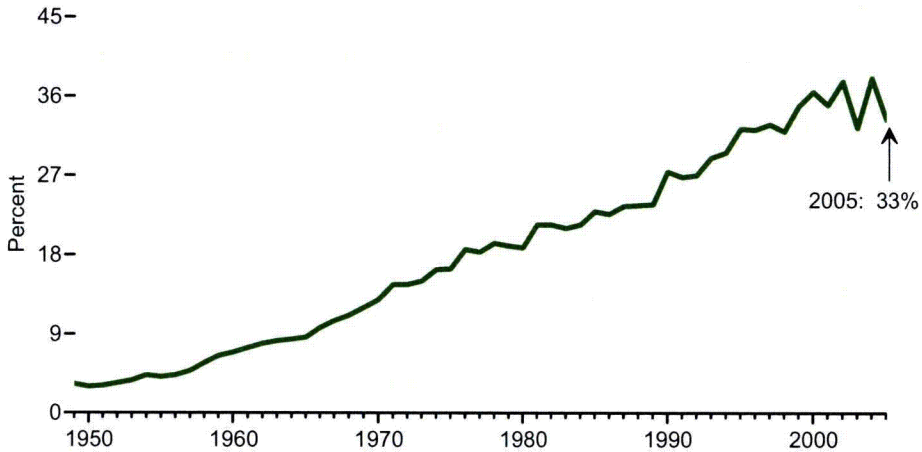
Source: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Federal Energy Management Program.

Figure 1.14 Fossil Fuel Production on Federally Administered Lands

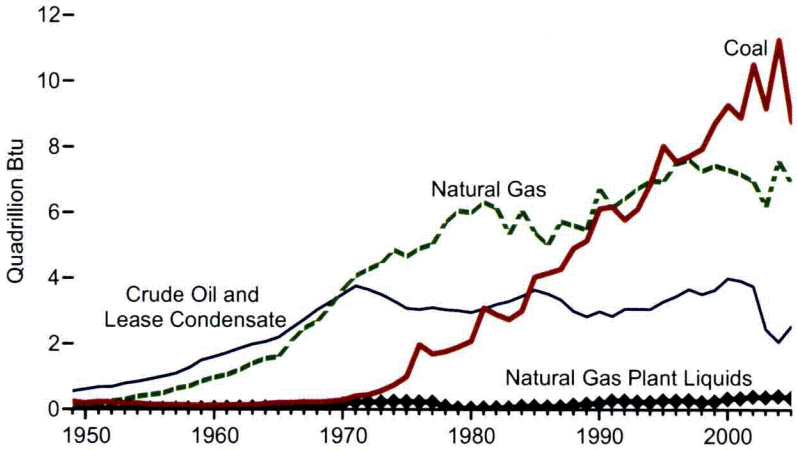
Total, 1949-2005



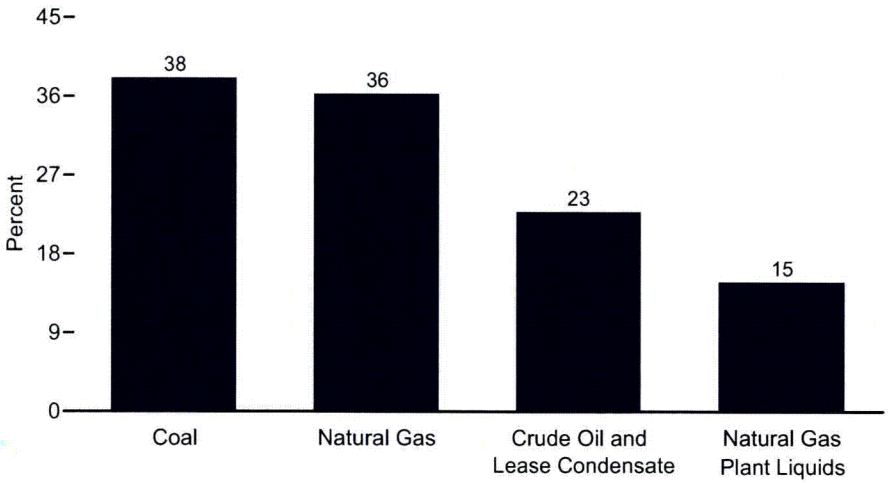
Federal Lands Fossil Fuel Production as a Share of U.S. Fossil Fuel Production, 1949-2005



By Source, 1949-2005



Federal Lands Fossil Fuel Production as a Share of U.S. Fossil Fuel Production, By Source, 2005



Notes: • Data through 2000 are on a calendar-year basis; data for 2001-2005 are on a fiscal-year basis (October–September). • "Federally Administered Lands" include all classes of land owned by the Federal Government, including acquired military, Outer Continental Shelf, and public lands. • Because vertical scales differ, graphs should not be compared.
Source: Table 1.14.

Table 1.14 Fossil Fuel Production on Federally Administered Lands, Selected Years, 1949-2005

Year	Crude Oil and Lease Condensate			Natural Gas Plant Liquids [1]			Natural Gas [2]			Coal			Fossil Fuels	
	Million Barrels [3]	Quadrillion Btu	Percent of U.S. Total	Million Barrels [3]	Quadrillion Btu	Percent of U.S. Total	Trillion Cubic Feet [3]	Quadrillion Btu	Percent of U.S. Total	Million Short Tons [3]	Quadrillion Btu	Percent of U.S. Total	Quadrillion Btu	Percent of U.S. Total
Calendar-Year Data [4]														
1949	95.2	0.55	5.2	4.4	0.02	2.8	0.15	0.15	2.8	9.5	0.24	2.0	0.96	3.3
1950	105.9	0.61	5.4	4.4	0.02	2.4	0.14	0.15	2.4	7.7	0.19	1.4	0.98	3.0
1955	159.5	0.92	6.4	6.0	0.03	2.1	0.43	0.45	4.8	5.9	0.15	1.2	1.55	4.1
1960	277.3	1.61	10.8	11.6	0.05	3.4	0.95	0.98	7.8	5.2	0.13	1.2	2.77	6.9
1965	378.6	2.20	13.3	14.3	0.06	3.2	1.56	1.61	10.2	8.2	0.20	1.6	4.07	8.6
1970	605.6	3.51	17.2	40.6	0.17	6.7	3.56	3.67	16.9	12.0	0.29	2.0	7.64	12.9
1971	648.9	3.76	18.8	54.0	0.22	8.7	3.95	4.08	18.3	17.3	0.41	3.1	8.47	14.6
1972	630.5	3.66	18.2	56.7	0.23	8.9	4.17	4.28	19.3	19.0	0.44	3.1	8.61	14.6
1973	604.3	3.51	18.0	54.9	0.22	8.7	4.37	4.46	20.1	24.2	0.57	4.1	8.75	15.0
1974	570.2	3.31	17.8	61.9	0.25	10.1	4.75	4.87	22.9	32.1	0.74	5.3	9.16	16.3
1975	531.5	3.08	17.4	59.7	0.24	10.0	4.57	4.67	23.8	43.6	1.00	6.7	8.99	16.4
1976	525.7	3.05	17.7	57.2	0.23	9.7	4.81	4.91	25.2	86.4	1.98	12.6	10.16	18.6
1977	535.0	3.10	17.8	57.4	0.23	9.7	4.94	5.04	25.8	74.8	1.69	10.7	10.06	18.3
1978	523.6	3.04	16.5	25.9	0.10	4.5	5.60	5.71	29.3	79.2	1.76	11.8	10.61	19.3
1979	519.8	3.01	16.7	11.9	0.05	2.1	5.93	6.05	30.1	84.9	1.91	10.9	11.02	19.0
1980	510.4	2.96	16.2	10.5	0.04	1.8	5.85	6.01	30.2	92.9	2.08	11.2	11.09	18.8
1981	529.3	3.07	16.9	12.3	0.05	2.1	6.15	6.31	32.1	138.8	3.10	16.8	12.53	21.4
1982	552.3	3.20	17.5	15.0	0.06	2.7	5.97	6.14	33.5	130.0	2.89	15.5	12.29	21.4
1983	568.8	3.30	17.9	14.0	0.05	2.5	5.17	5.33	32.1	124.3	2.74	15.9	11.43	21.0
1984	595.8	3.46	18.3	25.4	0.10	4.3	5.88	6.07	33.7	136.3	3.00	15.2	12.62	21.4
1985	628.3	3.64	19.2	26.6	0.10	4.5	5.24	5.41	31.8	184.6	4.04	20.9	13.19	22.9
1986	608.4	3.53	19.2	23.3	0.09	4.1	4.87	5.01	30.3	189.7	4.16	21.3	12.79	22.6
1987	577.3	3.35	18.9	23.7	0.09	4.1	5.56	5.73	33.4	195.2	4.28	21.2	13.45	23.5
1988	516.3	2.99	17.3	37.0	0.14	6.2	5.45	5.61	31.9	225.4	4.92	23.7	13.67	23.6
1989	488.9	2.84	17.6	45.1	0.17	8.0	5.32	5.49	30.7	236.3	5.14	24.1	13.64	23.7
1990	515.9	2.99	19.2	50.9	0.19	8.9	6.55	6.74	36.8	280.6	6.12	27.3	16.05	27.4
1991	491.0	2.85	18.1	72.7	0.28	12.0	5.99	6.17	33.8	285.1	6.18	28.6	15.47	26.8
1992	529.1	3.07	20.2	70.7	0.27	11.4	6.25	6.43	35.0	266.7	5.78	26.7	15.55	27.0
1993	529.3	3.07	21.2	64.4	0.24	10.2	6.56	6.74	36.3	285.7	6.12	30.2	16.17	29.0
1994	527.7	3.06	21.7	60.0	0.23	9.5	6.78	6.97	36.0	321.4	6.88	31.1	17.14	29.6
1995	567.4	3.29	23.7	74.0	0.28	11.5	6.78	6.96	36.4	376.9	8.04	36.5	18.56	32.3
1996	596.5	3.46	25.2	71.2	0.27	10.6	7.31	7.50	38.8	354.5	7.56	33.3	18.79	32.2
1997	632.8	3.67	26.9	74.7	0.28	11.3	7.43	7.62	39.3	362.6	7.72	33.3	19.29	32.8
1998	[5]606.3	[5]3.52	[5]26.6	[5]60.3	[5]0.23	[5]9.4	[5]7.06	[5]7.27	[5]37.1	371.1	7.95	33.2	[5]18.97	[5]32.0
1999	[6]628.9	[6]3.65	[6]29.3	[6]66.5	[6]0.25	[6]9.9	[6]7.24	[6]7.44	[6]38.4	414.5	8.73	37.7	[6]20.07	[6]34.9
2000	689.2	4.00	32.3	88.9	0.33	12.7	7.14	7.32	37.2	440.2	9.27	41.0	20.92	36.5
Fiscal-Year Data [7]														
2001	R676.5	R3.92	R32.0	R93.0	R0.35	R14.0	R6.98	R7.18	35.7	R425.4	R8.89	R38.3	R20.34	R35.0
2002	R647.8	R3.76	R30.5	R106.5	R0.40	R15.2	R6.78	R6.97	R35.4	R507.8	R10.52	R46.0	R21.64	R37.7
2003	[8]422.6	[8]2.45	[8]20.4	R101.0	0.38	R16.0	R6.01	R6.19	R31.5	R446.7	R9.18	R41.5	R18.19	R32.4
2004	356.4	2.07	17.7	110.7	0.41	16.8	7.38	7.59	39.1	551.1	11.27	50.0	21.33	38.1
2005	439.9	2.55	22.8	96.6	0.36	14.8	6.70	6.89	36.3	431.0	8.77	38.1	18.58	33.4

[1] Includes only those quantities for which the royalties were paid on the basis of the value of the natural gas plant liquids produced. Additional quantities of natural gas plant liquids were produced; however, the royalties paid were based on the value of natural gas processed. These latter quantities are included with natural gas.

[2] Includes some quantities of natural gas processed into liquids at natural gas processing plants and fractionators.

[3] Data from the U.S. Department of the Interior (DOI), U.S. Minerals Management Service (MMS), are for sales volumes.

[4] Through 2000, data are on a calendar-year (January through December) basis. The only exception is in 1949-1974 with production from Naval Petroleum Reserve No. 1, which is on a fiscal-year (July through June) basis.

[5] There is a discontinuity in this time series between 1997 and 1998 due to the sale of "Elk Hills," Naval Petroleum Reserve No. 1.

[6] There is a discontinuity in this time series between 1998 and 1999; beginning in 1999 Naval Petroleum Reserve data have become insignificant and are no longer included.

[7] Beginning in 2001, data are on a fiscal-year (October through September) basis; for example, fiscal-year 2005 data are for October 2004 through September 2005.

[8] A significant amount of Federal offshore crude oil was diverted to the Strategic Petroleum Reserve.

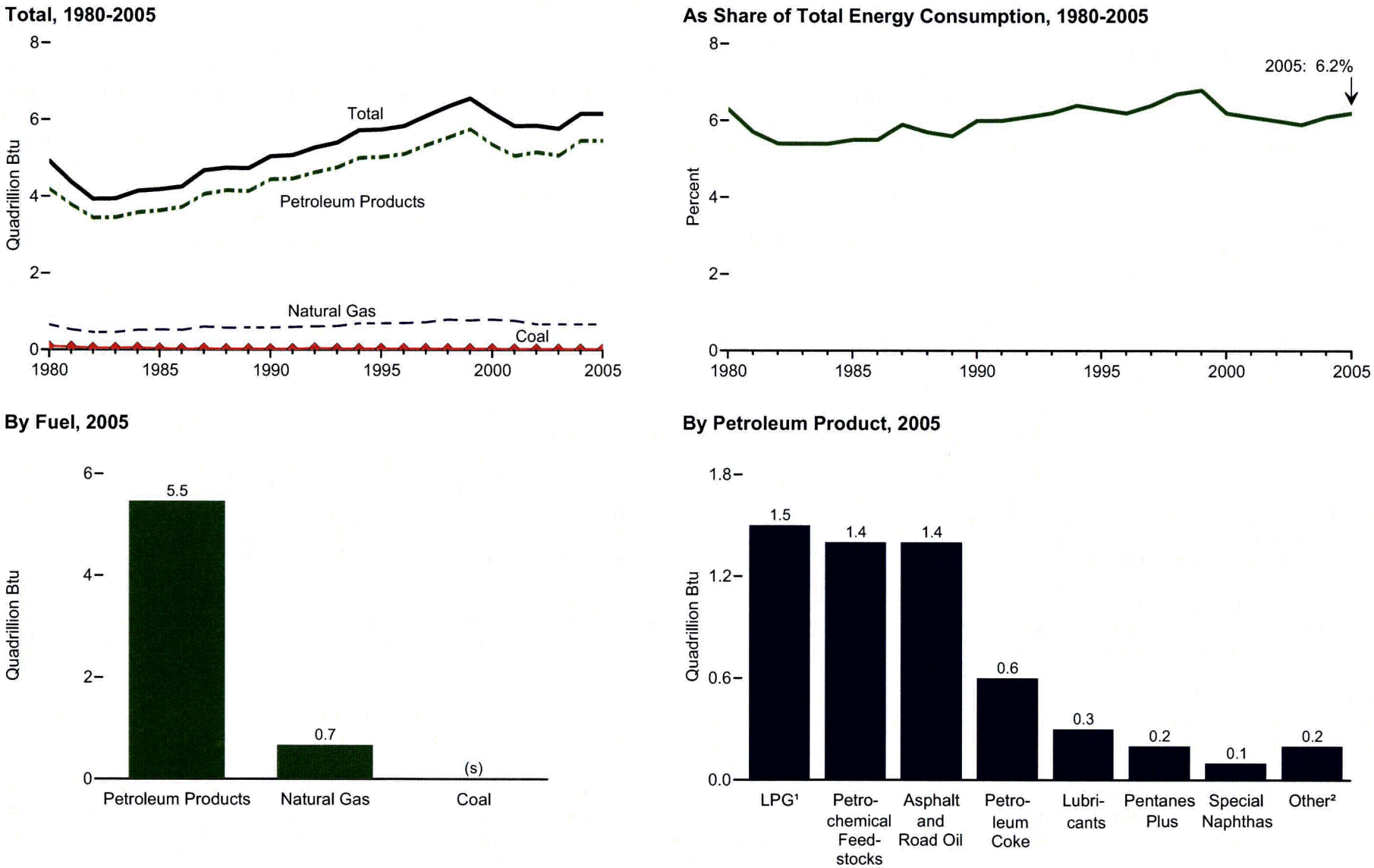
R=Revised.

Note: "Federally Administered Lands" include all classes of land owned by the Federal Government, including acquired military, Outer Continental Shelf, and public lands.

Web Pages: • For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/overview.html. • For related information, see http://www.mrm.mms.gov.

Sources: **Physical Data (Columns 1, 4, 7, and 10):** • 1949-1980—U.S. Geological Survey, *Oil and Gas Production, Royalty Income, and Production, Royalty Income, and Related Statistics,* and *Coal, Phosphate, Potash, Sodium, and Other Mineral Production, Royalty Income, and Related Statistics* (June 1981); U.S. Department of Energy (DOE), Office of Naval Petroleum and Oil Shale Reserves (NPOSR), unpublished data; and U.S. Geological Survey, National Petroleum Reserve in Alaska, unpublished data. • 1981-1983—DOI, MMS, *Mineral Revenues Report on Receipts from Federal and Indian Leases,* annual reports; DOE, NPOSR, unpublished data; and U.S. Geological Survey, National Petroleum Reserve in Alaska, unpublished data. • 1984-1998—DOI, MMS, *Mineral Revenues Report on Receipts from Federal and Indian Leases,* annual reports; and DOE, NPOSR, unpublished data. • 1999 and 2000—DOI, MMS. *Mineral Revenues Report on Receipts from Federal and American Indian Leases,* annual reports. • 2001 forward—DOI, MMS, "2001-Forward MRM Statistical Information." **Btu Data:** Data in columns 2, 5, 8, and 11 are calculated by multiplying the physical data by approximate heat contents for total U.S. production in Tables A2, A4, and A5. Data in column 13 are the sum of the other Btu columns. **Percent of U.S. Total:** Percentages are calculated by dividing production on federally administered lands by total U.S. production, then multiplying by 100. Calendar-year values for total U.S. production are from Tables 5.1, 6.1, and 7.1; fiscal-year values for total U.S. production are the sum of October-September values from the *Monthly Energy Review* (May 2006), Tables 3.1a, 4.1, and 6.1.

Figure 1.15 Fossil Fuel Consumption for Nonfuel Use



[1] Liquefied petroleum gases.
[2] Distillate fuel oil, residual fuel oil, waxes, and miscellaneous products.
(s)=Less than 0.05 quadrillion Btu.

Notes: • See Note, "Nonfuel Use of Fossil Fuels," at end of section. • Because vertical scales differ, graphs should not be compared.
Source: Table 1.15.

Table 1.15 Fossil Fuel Consumption for Nonfuel Use, 1980-2005

Year	Petroleum Products									Natural Gas	Coal	Total	Percent of Total Energy Consumption
	Asphalt and Road Oil	Liquefied Petroleum Gases	Pentanes Plus	Lubricants	Petro-chemical Feedstocks	Petroleum Coke	Special Naphthas	Other [1]	Total				
	Physical Units [2]												
1980	145	230	(3)	58	253	24	37	58	805	639	2.4	—	—
1981	125	229	(3)	56	216	29	27	54	736	507	2.1	—	—
1982	125	256	(3)	51	157	23	25	48	686	438	1.4	—	—
1983	136	264	(3)	53	151	10	30	45	689	441	1.2	—	—
1984	150	247	10	57	145	16	40	41	705	495	1.5	—	—
1985	156	265	13	53	144	15	30	41	718	500	1.1	—	—
1986	164	248	17	52	169	14	25	38	727	496	0.7	—	—
1987	170	303	12	59	170	24	28	36	802	578	0.8	—	—
1988	171	319	21	57	173	25	22	40	827	554	0.7	—	—
1989	165	332	17	58	172	23	20	39	827	563	0.6	—	—
1990	176	344	18	60	199	30	20	39	886	562	0.6	—	—
1991	162	394	10	53	200	25	17	44	906	573	0.6	—	—
1992	166	397	13	54	214	38	20	35	R937	594	1.2	—	—
1993	174	389	60	55	216	21	20	33	969	607	0.9	—	—
1994	176	437	56	58	222	23	15	35	1,022	673	0.9	—	—
1995	178	450	66	57	215	22	13	34	1,035	668	0.9	—	—
1996	177	470	69	55	217	25	14	34	1,061	680	0.9	—	—
1997	184	473	65	58	250	20	14	35	1,100	705	0.9	—	—
1998	190	494	44	61	252	35	20	39	1,137	762	0.8	—	—
1999	200	520	57	62	238	47	28	37	1,188	753	0.8	—	—
2000	192	479	51	61	243	23	19	38	1,106	R767	0.8	—	—
2001	189	445	44	56	214	34	15	39	1,036	R733	0.7	—	—
2002	187	465	37	55	229	32	20	R38	R1,063	R657	0.7	—	—
2003	184	441	37	51	247	27	15	R36	R1,038	R657	0.7	—	—
2004	R196	R453	37	R52	R287	R42	R10	R34	R1,112	R657	0.7	—	—
2005P	203	419	33	50	250	94	11	33	1,093	657	0.7	—	—
	Quadrillion Btu												
1980	0.96	0.78	(3)	0.35	1.43	0.14	0.19	0.34	4.19	0.65	0.08	4.92	6.3
1981	0.83	0.77	(3)	0.34	1.21	0.17	0.14	0.31	3.78	0.52	0.07	4.37	5.7
1982	0.83	0.87	(3)	0.31	0.88	0.14	0.13	0.28	3.44	0.45	0.04	3.93	5.4
1983	0.90	0.89	(3)	0.32	0.85	0.06	0.16	0.26	3.45	0.45	0.04	3.94	5.4
1984	0.99	0.84	0.05	0.35	0.82	0.09	0.21	0.24	3.58	0.51	0.05	4.14	5.4
1985	1.03	0.90	0.06	0.32	0.82	0.09	0.16	0.24	3.63	0.52	0.03	4.18	5.5
1986	1.09	0.85	0.08	0.31	0.95	0.08	0.13	0.22	3.72	0.51	0.02	4.25	5.5
1987	1.13	1.06	0.06	0.36	0.96	0.14	0.14	0.21	4.06	0.60	0.03	R4.68	5.9
1988	1.14	1.11	0.10	0.34	0.97	0.15	0.11	0.23	4.16	0.57	0.02	4.75	5.7
1989	1.10	1.18	0.08	0.35	0.96	0.14	0.11	0.23	4.14	0.58	0.02	4.74	5.6
1990	1.17	1.20	0.08	0.36	1.12	0.18	0.11	0.23	4.45	0.58	0.02	5.05	6.0
1991	1.08	1.38	0.04	0.32	1.15	0.15	0.09	0.26	4.47	0.59	0.02	5.08	6.0
1992	1.10	1.39	0.06	0.33	1.20	0.23	0.10	0.20	4.63	0.61	0.04	5.28	6.1
1993	1.15	1.35	0.28	0.34	1.22	0.12	0.10	0.20	4.76	0.62	0.03	5.41	6.2
1994	1.17	1.55	0.26	0.35	1.26	0.14	0.08	0.20	5.01	0.69	0.03	5.73	6.4
1995	1.18	1.59	0.30	0.35	1.21	0.13	0.07	0.20	5.03	0.69	0.03	5.75	6.3
1996	1.18	1.65	0.32	0.34	1.21	0.15	0.07	0.20	5.11	0.70	0.03	5.84	6.2
1997	1.22	1.67	0.30	0.35	1.40	0.12	0.07	0.21	5.34	0.72	0.03	R6.10	6.4
1998	1.26	1.74	0.20	0.37	1.40	0.21	0.11	0.23	5.54	0.79	0.03	R6.35	6.7
1999	1.32	1.82	0.26	0.37	1.33	0.28	0.15	0.22	5.76	0.77	0.03	6.56	6.8
2000	1.28	1.67	0.24	0.37	1.35	0.14	0.10	0.22	5.35	0.79	0.03	6.17	6.2
2001	1.26	1.55	0.20	0.34	1.19	0.21	0.08	0.23	5.06	0.76	0.02	5.84	6.1
2002	1.24	1.62	0.17	0.33	1.27	0.19	0.10	R0.22	R5.16	R0.67	0.02	R5.85	R6.0
2003	1.22	1.55	0.17	0.31	1.37	0.16	0.08	R0.21	R5.07	R0.67	0.02	R5.77	R5.9
2004	R1.30	R1.58	0.17	R0.31	R1.59	R0.25	R0.05	R0.20	R5.46	R0.67	0.02	R6.16	R6.1
2005P	1.35	1.46	0.15	0.31	1.38	0.57	0.06	0.19	5.46	0.67	0.02	6.16	6.2

[1] Distillate fuel oil, residual fuel oil, waxes, and miscellaneous products.
[2] Petroleum—million barrels; natural gas—billion cubic feet; and coal—million short tons.
[3] Included in "Liquefied Petroleum Gases."
R=Revised. P=Preliminary. — = Not applicable.

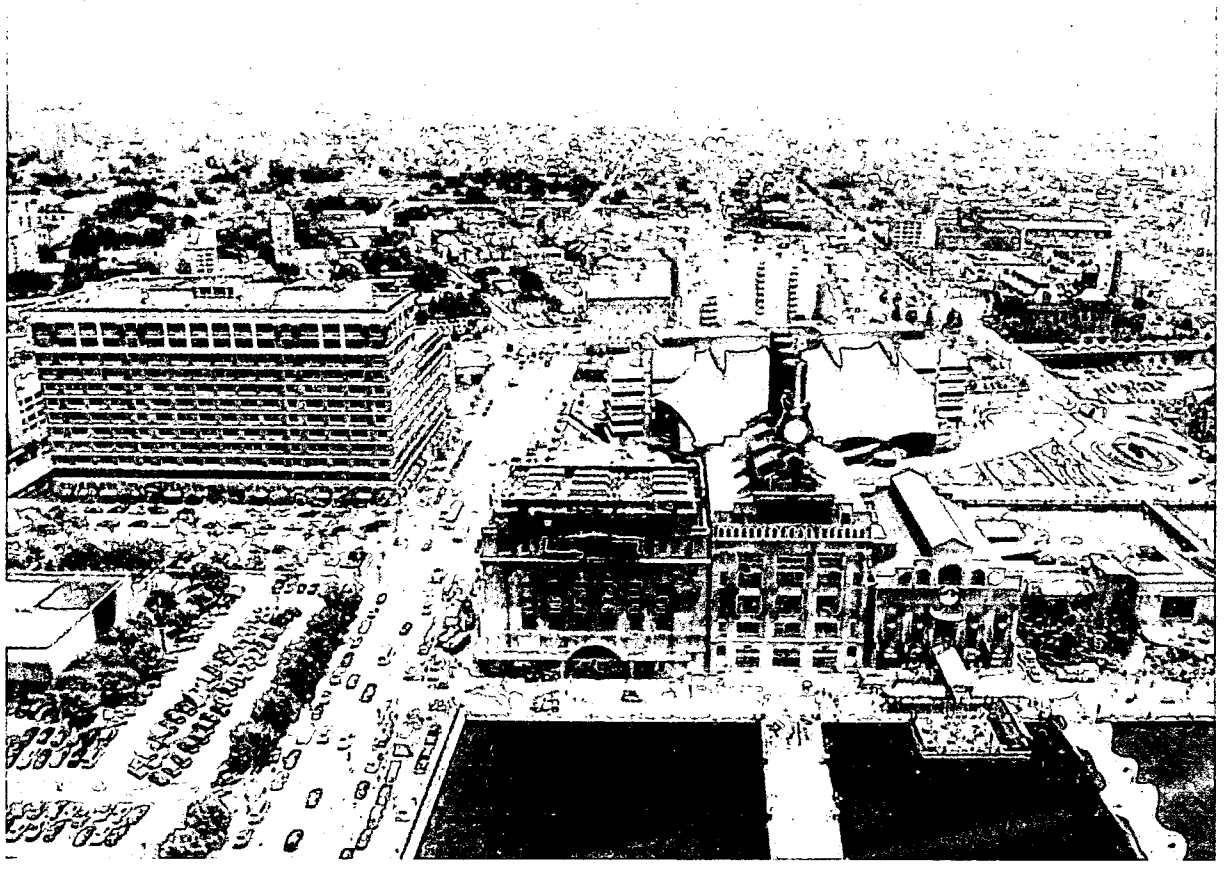
Notes: • Estimates of consumption for nonfuel use shown in this table are included in total energy consumption (see Table 1.3). • See Note, "Nonfuel Use of Fossil Fuels," at end of section. • Because of changes in methodology, data series may be revised annually. • Estimates of nonfuel use in this table are considered industrial uses with the exception of approximately half of the lubricants which are considered transportation use. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/environment.html.

Sources: **Petroleum Products:** • 1980—Energy Information Administration (EIA), Energy Data Reports, *Petroleum Statement, Annual* and *Sales of Liquefied Petroleum Gases and Ethane in 1980.* • 1981 forward—EIA, *Petroleum Supply Annual*, annual reports, and unpublished data. **Natural Gas:** • 1980—Bureau of the Census, 1980 Survey of Manufactures, *Hydrocarbon, Coal, and Coke Materials Consumed.* • 1981 forward—U.S. Department of Commerce. **Coal:** • 1960-1995—U.S. International Trade Commission, *Synthetic Organic Chemicals, United States Production and Sales, 1995* (January 1997). • 1996 forward—EIA estimates. **Percent of Total Energy Consumption:** Derived by dividing total by total consumption on Table 1.3.

Note. Nonfuel Use of Fossil Fuels. Most fossil fuels consumed in the United States and elsewhere are combusted to produce heat and power. However, some are used directly for nonfuel use as construction materials, lubricants, chemical feedstocks, solvents, and waxes. For example, asphalt and road oil are used for roofing and paving; liquefied petroleum gases are used to create intermediate products that are used in making plastics; lubricants, including motor oil and greases, are used in vehicles and various industrial processes; petrochemical feedstocks are used to make plastics, synthetic fabrics, and related products; and natural gas is used to make nitrogenous fertilizers and as feedstock in the chemical industry. For more information, see Energy Information Administration, "Emissions of Greenhouse Gases in the United States" ("Nonfuel Use of Energy Inputs" section in Chapter 2), athttp://www.eia.doe.gov/environment.html.

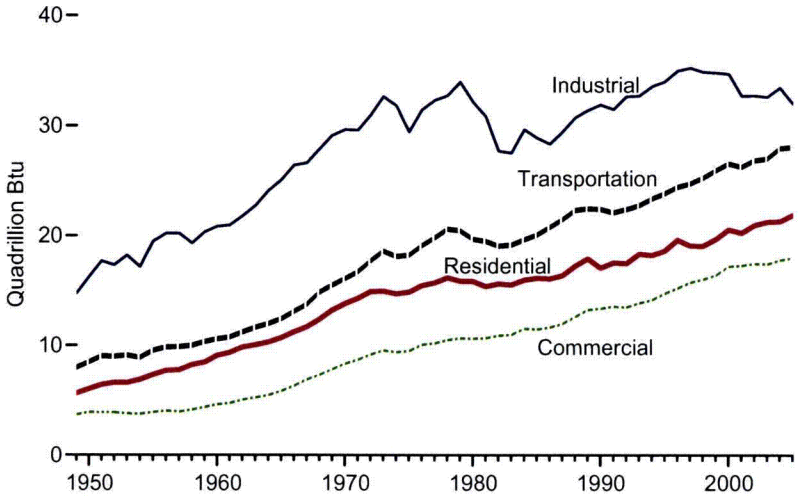
2 Energy Consumption by Sector



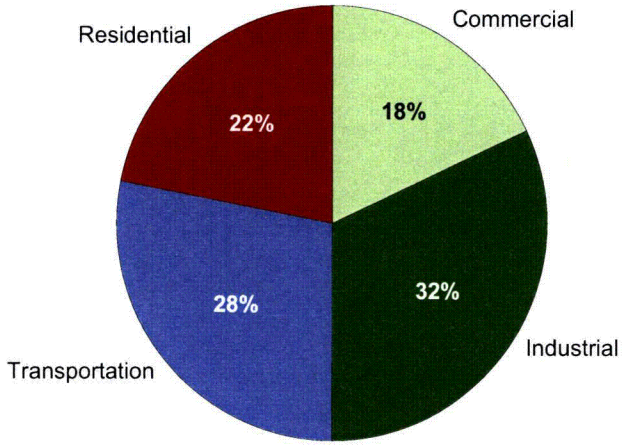
Office buildings, industries, residences, and transport systems, Baltimore, Maryland; east view from the inner harbor.
Source: U.S. Department of Energy.

Figure 2.1a Energy Consumption by Sector Overview

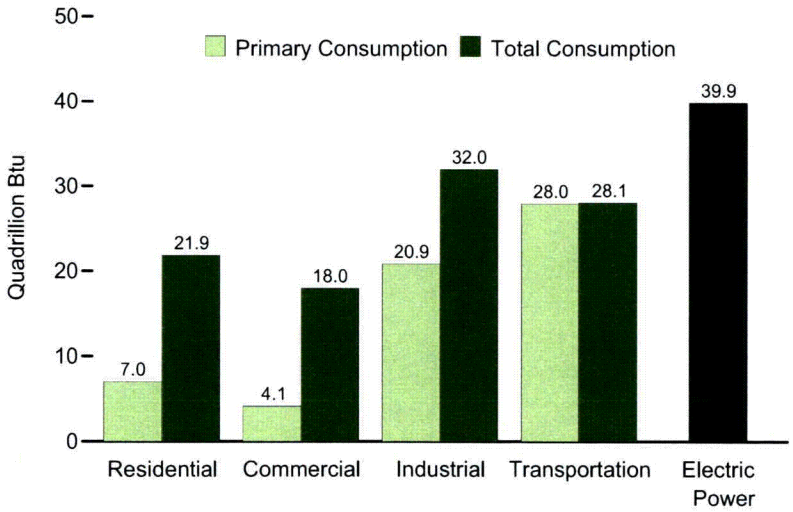
Total Consumption by End-Use Sector, 1949-2005



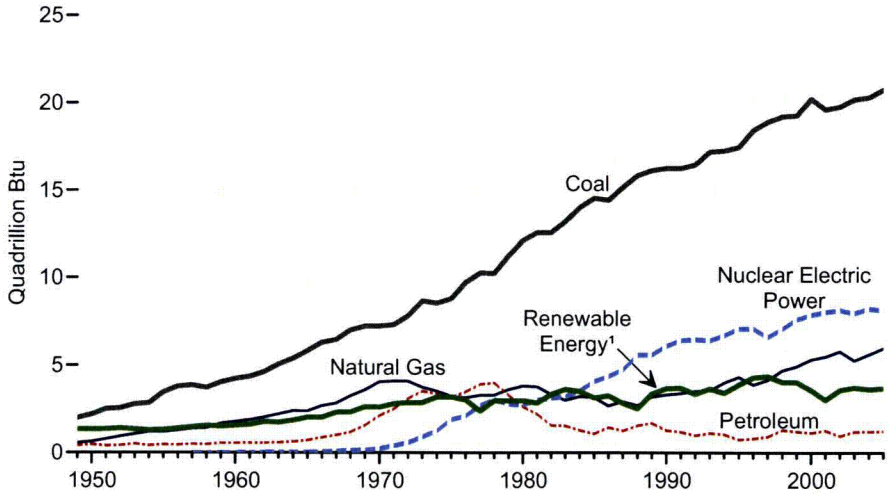
End-Use Sector Shares of Total Consumption, 2005



Primary and Total Consumption by Sector, 2005



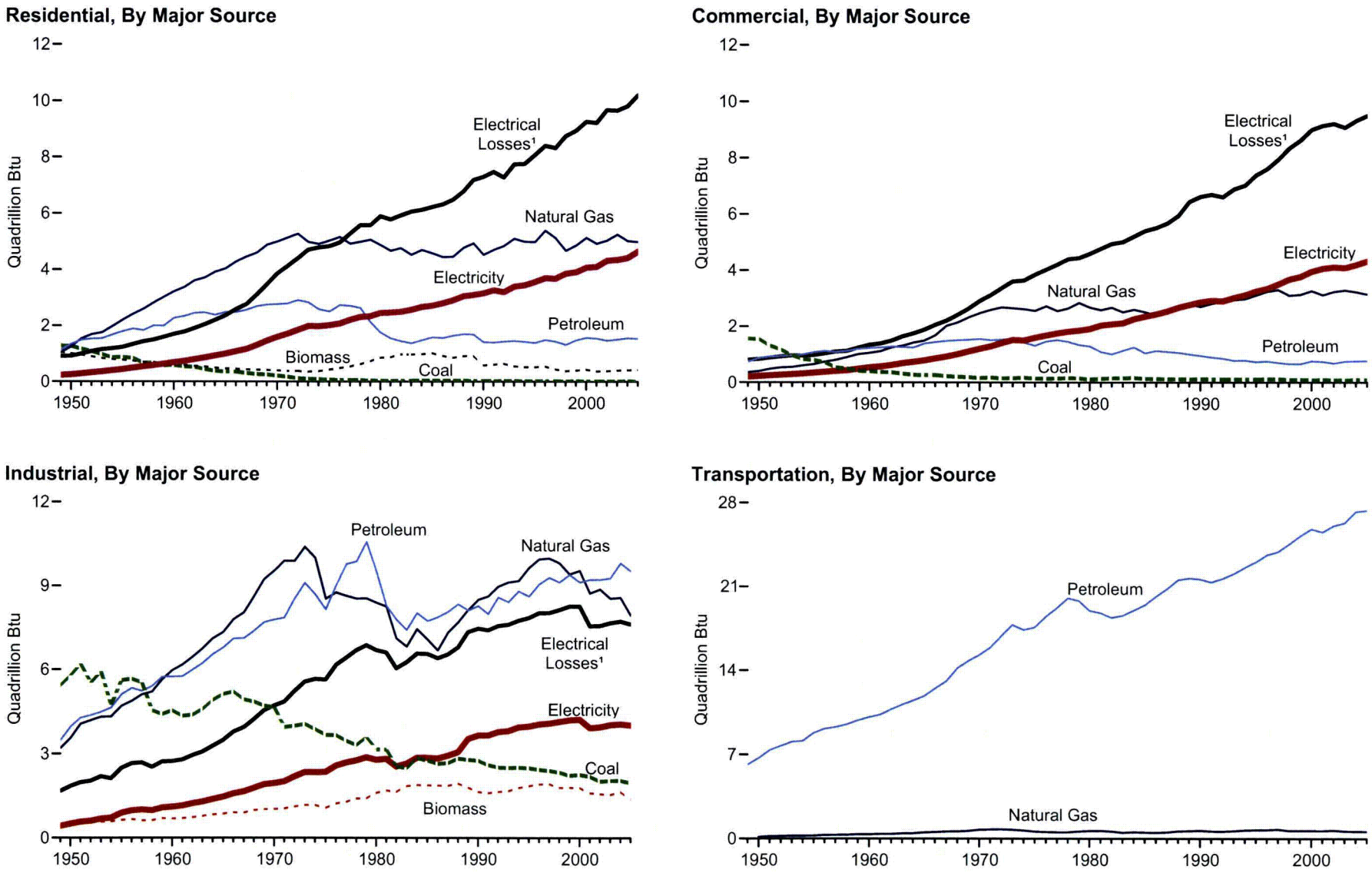
Electric Power Sector, 1949-2005



[1] Conventional hydroelectric power, biomass, geothermal, solar, and wind.
Note: Because vertical scales differ, graphs should not be compared.

Sources: Tables 2.1a and 2.1f.

Figure 2.1b Energy Consumption by End-Use Sector, 1949-2005



¹ Electrical system energy losses associated with the generation, transmission, and distribution of energy in the form of electricity.

Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 2.1b–2.1e.

Table 2.1a Energy Consumption by Sector, Selected Years, 1949-2005

(Trillion Btu)

Year	End-Use Sectors								Electric Power Sector [3]	Adjustments [4]	Total
	Residential		Commercial [1]		Industrial [2]		Transportation				
	Primary	Total	Primary	Total	Primary	Total	Primary	Total	Primary		
1949	4,475	5,614	2,661	3,661	12,627	14,717	7,880	7,990	4,339	(s)	31,982
1950	4,848	6,007	2,824	3,883	13,881	16,233	8,384	8,493	4,679	(s)	34,616
1955	5,633	7,303	2,548	3,882	16,091	19,472	9,475	9,551	6,461	(s)	40,208
1960	6,689	9,078	2,702	4,589	16,977	20,823	10,560	10,597	8,158	(s)	45,087
1965	7,328	10,689	3,150	5,820	20,124	25,075	12,400	12,434	11,014	(s)	54,017
1970	8,353	13,798	4,196	8,307	22,975	29,641	16,061	16,098	16,259	(s)	67,844
1971	8,457	14,278	4,283	8,681	22,732	29,601	16,693	16,729	17,124	(s)	69,289
1972	8,655	14,891	4,369	9,145	23,532	30,953	17,681	17,716	18,466	(s)	72,704
1973	8,250	14,930	4,381	9,507	24,741	32,653	18,576	18,612	19,753	7	75,708
1974	7,928	14,683	4,221	9,363	23,816	31,819	18,086	18,119	19,933	7	73,991
1975	8,006	14,842	4,023	9,466	21,454	29,447	18,209	18,244	20,307	1	71,999
1976	8,408	15,441	4,333	10,035	22,685	31,430	19,065	19,099	21,513	8	76,012
1977	8,207	15,689	4,217	10,177	23,193	32,307	19,784	19,820	22,591	7	78,000
1978	8,272	16,156	4,269	10,481	23,276	32,733	20,580	20,615	23,587	2	79,986
1979	7,934	15,842	4,333	10,627	24,211	33,962	20,436	20,471	23,987	2	80,903
1980	R7,495	R15,839	4,097	10,594	22,673	32,152	19,658	19,696	24,359	-1	R78,280
1981	R7,104	R15,354	3,831	10,638	21,404	30,836	19,476	19,513	24,525	3	R76,343
1982	R7,196	R15,610	3,859	10,880	19,113	27,704	19,051	19,088	24,063	4	R73,286
1983	R6,879	R15,504	3,827	10,952	18,598	27,511	19,133	19,176	24,705	3	R73,146
1984	R7,180	R15,965	4,043	11,517	20,219	29,654	19,608	19,655	25,741	3	R76,793
1985	R7,197	R16,134	3,714	11,471	19,473	28,891	20,042	20,089	26,158	-4	R76,580
1986	R6,956	R16,070	3,674	11,628	19,092	28,334	20,741	20,790	26,359	3	R76,826
1987	R6,970	R16,357	3,752	11,965	19,960	29,433	21,421	21,471	27,124	-3	R79,223
1988	R7,402	R17,222	3,974	12,597	20,868	30,728	22,268	22,320	28,354	3	R82,869
1989	R7,616	R17,895	R4,021	R13,225	20,883	31,390	22,426	22,480	30,044	9	R84,999
1990	R6,603	R17,055	R3,877	R13,359	21,209	31,904	22,368	22,421	30,684	-9	R84,730
1991	R6,788	R17,527	R3,923	R13,536	20,843	31,483	22,067	22,120	31,046	1	R84,667
1992	R6,994	R17,465	R3,969	R13,479	21,770	32,653	22,365	22,418	30,916	(s)	R86,015
1993	R7,187	R18,329	R3,952	R13,861	R21,759	R32,703	22,716	22,770	32,047	-10	R87,652
1994	R7,019	R18,218	R3,996	R14,135	22,384	33,577	23,312	23,367	32,586	-6	R89,292
1995	R6,973	R18,613	R4,080	R14,722	22,706	34,013	23,793	23,849	33,644	3	R91,200
1996	R7,500	R19,598	R4,252	R15,205	23,428	34,979	24,384	24,439	34,658	4	R94,226
1997	R7,075	R19,068	R4,273	R15,717	23,684	35,257	24,697	24,752	35,065	6	R94,800
1998	R6,447	R19,052	R3,979	R16,003	23,166	34,891	25,203	25,259	36,409	-3	R95,200
1999	R6,817	R19,662	R4,022	R16,406	22,938	34,811	25,894	25,951	37,159	6	R96,837
2000	R7,200	R20,527	R4,241	R17,197	22,805	34,698	26,492	26,552	38,237	2	R98,976
2001	6,909	R20,228	R4,070	R17,279	21,796	R32,713	26,216	R26,274	37,502	5	R96,498
2002	R6,954	R20,946	R4,126	R17,450	21,771	R32,719	26,786	R26,846	R38,325	5	R97,967
2003	R7,233	R21,235	R4,248	R17,409	R21,486	R32,607	R26,950	R27,025	38,359	-3	R98,273
2004	R7,063	R21,287	R4,224	R17,738	R22,241	R33,440	R27,873	R27,951	R39,014	R (s)	R100,414
2005P	7,025	21,874	4,148	17,968	20,890	31,982	27,975	28,065	39,851	6	99,894

[1] Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

[2] Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

[3] Electricity-only and combined-heat-and-power (CHP) plants within the NAICS (North American Industry Classification System) 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

[4] A balancing item. The sum of primary consumption in the five energy-use sectors equals the sum of total consumption in the four end-use sectors. However, total energy consumption does not equal the sum of the sectoral components due to the use of sector-specific conversion factors for natural gas and coal.

R=Revised. P=Preliminary. (s)=Less than 0.5 trillion Btu.

Notes: • Primary consumption includes coal, natural gas, petroleum, nuclear electric power, conventional hydroelectric power, wood, waste, alcohol fuels, geothermal, solar, wind, coal coke net imports, and electricity net imports. • Total consumption includes primary consumption, electricity retail sales, and electrical system energy losses. See Note, "Electrical System Energy Losses," at end of section. • See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 8. • Totals may not equal sum of components due to independent rounding.

Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/consump.html.

Sources: Tables 2.1b-2.1f.

Table 2.1b Residential Sector Energy Consumption, Selected Years, 1949-2005

(Trillion Btu)

Year	Primary Consumption									Electricity Retail Sales [6]	Electrical System Energy Losses [7]	Total
	Fossil Fuels				Renewable Energy [1]				Total Primary			
	Coal	Natural Gas [2]	Petroleum	Total	Biomass [3]	Geothermal [4]	Solar [5]	Total				
1949	1,272	1,027	1,121	3,420	1,055	NA	NA	1,055	4,475	228	911	5,614
1950	1,261	1,240	1,340	3,842	1,006	NA	NA	1,006	4,848	246	913	6,007
1955	867	2,198	1,792	4,858	775	NA	NA	775	5,633	438	1,232	7,303
1960	585	3,212	2,265	6,062	627	NA	NA	627	6,689	687	1,701	9,078
1965	352	4,028	2,481	6,860	468	NA	NA	468	7,328	993	2,368	10,689
1970	209	4,987	2,755	7,952	401	NA	NA	401	8,353	1,591	3,854	13,798
1971	172	5,126	2,777	8,075	382	NA	NA	382	8,457	1,704	4,116	14,278
1972	116	5,264	2,895	8,276	380	NA	NA	380	8,655	1,838	4,397	14,891
1973	94	4,977	2,825	7,896	354	NA	NA	354	8,250	1,976	4,703	14,930
1974	82	4,901	2,573	7,557	371	NA	NA	371	7,928	1,973	4,783	14,683
1975	63	5,023	2,495	7,580	425	NA	NA	425	8,006	2,007	4,829	14,842
1976	59	5,147	2,720	7,927	482	NA	NA	482	8,408	2,069	4,963	15,441
1977	57	4,913	2,695	7,666	542	NA	NA	542	8,207	2,202	5,280	15,689
1978	49	4,981	2,620	7,651	622	NA	NA	622	8,272	2,301	5,582	16,156
1979	37	5,055	2,114	7,206	728	NA	NA	728	7,934	2,330	5,578	15,842
1980	31	4,866	1,748	6,645	R850	NA	NA	R850	R7,495	2,448	5,897	R15,839
1981	30	4,660	1,543	6,234	R870	NA	NA	R870	R7,104	2,464	5,786	R15,354
1982	32	4,753	1,441	6,226	R970	NA	NA	R970	R7,196	2,489	5,925	R15,610
1983	31	4,516	1,362	5,909	R970	NA	NA	R970	R6,879	2,562	6,063	R15,504
1984	40	4,692	1,468	6,200	R980	NA	NA	R980	R7,180	2,662	6,123	R15,965
1985	39	4,571	1,578	6,187	R1,010	NA	NA	R1,010	R7,197	2,709	6,227	R16,134
1986	40	4,439	1,556	6,036	R920	NA	NA	R920	R6,956	2,795	6,320	R16,070
1987	37	4,449	1,634	6,120	R850	NA	NA	R850	R6,970	2,902	6,485	R16,357
1988	37	4,765	1,690	6,492	R910	NA	NA	R910	R7,402	3,046	6,774	R17,222
1989	31	4,929	1,679	6,639	R920	5	53	R978	R7,616	3,090	7,189	R17,895
1990	31	4,523	1,407	5,961	R580	6	56	R641	R6,603	3,153	7,300	R17,055
1991	25	4,697	1,392	6,114	R610	6	58	R674	R6,788	3,260	7,479	R17,527
1992	26	4,835	1,427	6,288	R640	6	60	R706	R6,994	3,193	7,278	R17,465
1993	26	5,095	1,448	6,569	R550	7	62	R618	R7,187	3,394	7,747	R18,329
1994	21	4,988	1,420	6,429	R520	6	64	R590	R7,019	3,441	7,758	R18,218
1995	17	4,981	1,383	6,382	R520	7	65	R591	R6,973	3,557	8,083	R18,613
1996	17	5,383	1,488	6,888	R540	7	65	R612	R7,500	3,694	8,405	R19,598
1997	16	5,118	1,428	6,562	R440	8	65	R513	R7,075	3,671	8,322	R19,068
1998	12	4,669	1,314	5,995	R380	8	65	R452	R6,447	3,856	8,749	R19,052
1999	14	4,858	1,473	6,345	R400	9	64	R472	R6,817	3,906	8,939	R19,662
2000	11	5,126	1,563	6,701	R430	9	61	R500	R7,200	4,069	9,258	R20,527
2001	12	4,919	1,539	6,470	370	9	60	439	6,909	R4,098	R9,221	R20,228
2002	R12	5,031	1,462	R6,505	R380	10	59	R449	R6,954	R4,318	R9,674	R20,946
2003	R12	R5,247	1,503	R6,762	R400	R13	58	R471	R7,233	R4,346	R9,656	R21,235
2004	R14	R5,016	R1,550	R6,581	R410	R14	R59	R483	R7,063	R4,414	R9,810	R21,287
2005P	13	4,982	1,536	6,530	420	16	59	495	7,025	4,644	10,205	21,874

[1] All values are estimated; see Table 10.2a.
[2] Natural gas, plus a small amount of supplemental gaseous fuels that cannot be identified separately.
[3] Wood.
[4] Geothermal heat pump and direct use energy.
[5] Solar thermal direct use energy and photovoltaic electricity generation. Includes a small amount of commercial sector use.
[6] Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.
[7] Total losses are calculated as the primary energy consumed by the electric power sector minus the energy content of electricity retail sales. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Note, "Electrical System Energy Losses," at end of section.

R=Revised. P=Preliminary. NA=Not available.
Note: Totals may not equal sum of components due to independent rounding.
Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/consump.html.
Sources: Tables 2.1f, 5.14a, 6.5, 7.3, 8.9, 10.2a, A4, A5, and A6.

Table 2.1c Commercial Sector Energy Consumption, Selected Years, 1949-2005

(Trillion Btu)

Year	Primary Consumption									Electricity Retail Sales [6]	Electrical System Energy Losses [7]	Total
	Fossil Fuels				Renewable Energy [1]				Total Primary			
	Coal	Natural Gas [2]	Petroleum	Total	Hydroelectric Power [3]	Biomass [4]	Geothermal [5]	Total				
1949	1,554	360	727	2,641	NA	20	NA	20	2,661	200	800	3,661
1950	1,542	401	862	2,805	NA	19	NA	19	2,824	225	834	3,883
1955	801	651	1,081	2,533	NA	15	NA	15	2,548	350	984	3,882
1960	407	1,056	1,228	2,690	NA	12	NA	12	2,702	543	1,344	4,589
1965	265	1,490	1,386	3,142	NA	9	NA	9	3,150	789	1,880	5,820
1970	165	2,473	1,551	4,189	NA	8	NA	8	4,196	1,201	2,910	8,307
1971	179	2,587	1,510	4,276	NA	7	NA	7	4,283	1,288	3,111	8,681
1972	153	2,678	1,530	4,362	NA	7	NA	7	4,369	1,408	3,368	9,145
1973	160	2,649	1,565	4,374	NA	7	NA	7	4,381	1,517	3,609	9,507
1974	175	2,617	1,423	4,214	NA	7	NA	7	4,221	1,501	3,640	9,363
1975	147	2,558	1,310	4,015	NA	8	NA	8	4,023	1,598	3,845	9,466
1976	144	2,718	1,461	4,323	NA	9	NA	9	4,333	1,678	4,025	10,035
1977	148	2,548	1,511	4,207	NA	10	NA	10	4,217	1,754	4,206	10,177
1978	165	2,643	1,450	4,257	NA	12	NA	12	4,269	1,813	4,398	10,481
1979	149	2,836	1,334	4,319	NA	14	NA	14	4,333	1,854	4,439	10,627
1980	115	2,674	1,287	4,076	NA	21	NA	21	4,097	1,906	4,591	10,594
1981	137	2,583	1,090	3,810	NA	21	NA	21	3,831	2,033	4,774	10,638
1982	155	2,673	1,008	3,837	NA	22	NA	22	3,859	2,077	4,944	10,880
1983	162	2,508	1,136	3,805	NA	22	NA	22	3,827	2,116	5,008	10,952
1984	169	2,600	1,252	4,021	NA	22	NA	22	4,043	2,264	5,209	11,517
1985	137	2,508	1,045	3,690	NA	24	NA	24	3,714	2,351	5,405	11,471
1986	135	2,386	1,126	3,647	NA	27	NA	27	3,674	2,439	5,515	11,628
1987	125	2,505	1,093	3,723	NA	29	NA	29	3,752	2,539	5,674	11,965
1988	131	2,748	1,063	3,942	NA	32	NA	32	3,974	2,675	5,948	12,597
1989	115	2,802	1,002	3,919	1	R98	3	R102	R4,021	2,767	6,437	R13,225
1990	124	2,701	953	3,779	1	R94	3	R98	R3,877	2,860	6,622	R13,359
1991	116	2,813	895	3,824	1	R95	3	R99	R3,923	2,918	6,695	R13,536
1992	117	2,890	854	3,860	1	R104	3	R109	R3,969	2,900	6,609	R13,479
1993	117	2,942	780	3,839	1	R109	3	R113	R3,952	3,019	6,890	R13,861
1994	118	2,979	787	3,885	1	R106	4	R111	R3,996	3,116	7,024	R14,135
1995	117	3,113	732	3,962	1	R113	5	R118	R4,080	3,252	7,390	R14,722
1996	122	3,244	751	4,116	1	R129	5	R135	R4,252	3,344	7,609	R15,205
1997	129	3,302	704	4,135	1	R131	6	R138	R4,273	3,503	7,941	R15,717
1998	93	3,098	661	3,853	1	R118	7	R127	R3,979	3,678	8,345	R16,003
1999	103	3,130	661	3,894	1	R121	7	R128	R4,022	3,766	8,618	R16,406
2000	92	3,265	756	4,113	1	R119	8	R127	R4,241	3,956	9,001	R17,197
2001	97	3,116	742	3,955	1	R106	8	R115	R4,070	R4,064	R9,144	R17,279
2002	R90	3,235	681	R4,006	(s)	R111	9	R120	R4,126	R4,112	R9,213	R17,450
2003	R82	R3,284	751	R4,117	1	R119	R11	R131	R4,248	R4,085	R9,077	R17,409
2004	R101	R3,226	R758	R4,085	1	R126	R12	R139	R4,224	R4,194	R9,320	R17,738
2005P	101	3,146	771	4,018	1	116	14	130	4,148	4,322	9,497	17,967

[1] All values are estimated; see Table 10.2a.
[2] Natural gas, plus a small amount of supplemental gaseous fuels that cannot be identified separately.
[3] Conventional hydroelectric power.
[4] Wood and waste.
[5] Geothermal heat pump and direct use energy.
[6] Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.
[7] Total losses are calculated as the primary energy consumed by the electric power sector minus the energy content of electricity retail sales. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Note, "Electrical System Energy Losses," at end of section.

R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • The commercial sector includes commercial combined-heat-and-power (CHP) and commercial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 8. • Totals may not equal sum of components due to independent rounding.

Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/consump.html.

Sources: Tables 2.1f, 5.14a, 6.5, 7.3, 8.9, 10.2a, A4, A5, and A6.

Table 2.1d Industrial Sector Energy Consumption, Selected Years, 1949-2005

(Trillion Btu)

Year	Primary Consumption										Electricity Retail Sales [6]	Electrical System Energy Losses [7]	Total
	Fossil Fuels					Renewable Energy [1]							
	Coal	Coal Coke Net Imports	Natural Gas [2]	Petroleum	Total	Hydroelectric Power [3]	Biomass [4]	Geothermal [5]	Total	Total Primary			
1949	5,433	-7	3,188	3,468	12,083	76	468	NA	544	12,627	418	1,672	14,717
1950	5,781	1	3,546	3,951	13,279	69	532	NA	602	13,881	500	1,852	16,233
1955	5,620	-10	4,701	5,111	15,421	38	631	NA	669	16,091	887	2,495	19,472
1960	4,543	-6	5,973	5,747	16,258	39	680	NA	719	16,977	1,107	2,739	20,823
1965	5,127	-18	7,339	6,789	19,236	33	855	NA	888	20,124	1,463	3,488	25,075
1970	4,656	-58	9,536	7,787	21,922	34	1,019	NA	1,053	22,975	1,948	4,719	29,641
1971	3,944	-33	9,892	7,856	21,659	34	1,040	NA	1,074	22,732	2,011	4,857	29,601
1972	3,993	-26	9,884	8,534	22,385	34	1,113	NA	1,147	23,532	2,187	5,233	30,953
1973	4,057	-7	10,388	9,104	23,541	35	1,165	NA	1,200	24,741	2,341	5,571	32,653
1974	3,870	56	10,004	8,694	22,624	33	1,159	NA	1,192	23,816	2,337	5,666	31,819
1975	3,667	14	8,532	8,146	20,359	32	1,063	NA	1,096	21,454	2,346	5,647	29,447
1976	3,661	(s)	8,762	9,010	21,432	33	1,220	NA	1,253	22,685	2,573	6,171	31,430
1977	3,454	15	8,635	9,774	21,879	33	1,281	NA	1,314	23,193	2,682	6,432	32,307
1978	3,314	125	8,539	9,867	21,845	32	1,400	NA	1,432	23,276	2,761	6,696	32,733
1979	3,593	63	8,549	10,568	22,773	34	1,405	NA	1,439	24,211	2,873	6,878	33,962
1980	3,155	-35	8,395	9,525	21,040	33	1,600	NA	1,633	22,673	2,781	6,698	32,152
1981	3,157	-16	8,257	8,285	19,682	33	1,689	NA	1,722	21,404	2,817	6,615	30,836
1982	2,552	-22	7,121	7,795	17,446	33	1,634	NA	1,667	19,113	2,542	6,050	27,704
1983	2,490	-16	6,826	7,420	16,720	33	1,845	NA	1,879	18,598	2,648	6,265	27,511
1984	2,842	-11	7,448	8,025	18,303	33	1,883	NA	1,916	20,219	2,859	6,576	29,654
1985	2,760	-13	7,080	7,738	17,565	33	1,875	NA	1,908	19,473	2,855	6,563	28,891
1986	2,641	-17	6,690	7,880	17,194	33	1,866	NA	1,899	19,092	2,834	6,408	28,334
1987	2,673	9	7,323	8,065	18,069	33	1,858	NA	1,891	19,960	2,928	6,545	29,433
1988	2,828	40	7,696	8,339	18,902	33	1,933	NA	1,965	20,868	3,059	6,801	30,728
1989	2,787	30	8,131	8,120	19,068	28	1,784	2	1,814	20,883	3,158	7,349	31,390
1990	2,756	5	8,502	8,278	19,542	31	1,634	2	1,667	21,209	3,226	7,469	31,904
1991	2,601	10	8,619	7,987	19,216	30	1,595	2	1,626	20,843	3,230	7,410	31,483
1992	2,515	35	8,967	8,581	20,098	31	1,640	2	1,672	21,770	3,319	7,564	32,653
1993	2,496	27	9,120	8,418	20,062	30	R1,666	2	R1,697	R21,759	3,334	7,610	R32,703
1994	2,510	58	9,172	8,801	20,540	62	1,779	3	1,844	22,384	3,439	7,754	33,577
1995	2,488	61	9,637	8,614	20,801	55	1,847	3	1,905	22,706	3,455	7,852	34,013
1996	2,434	23	9,947	9,053	21,457	61	R1,907	3	R1,971	23,428	3,527	8,025	34,979
1997	2,395	46	9,976	9,290	21,708	58	1,915	3	1,976	23,684	3,542	8,031	35,257
1998	2,335	67	9,806	9,116	21,324	55	1,784	3	1,841	23,166	3,587	8,138	34,891
1999	2,227	58	9,415	9,396	21,095	49	1,791	4	1,843	22,938	3,611	8,262	34,811
2000	2,256	65	9,535	9,120	20,977	42	1,781	4	1,828	22,805	3,631	8,262	34,698
2001	2,192	29	8,725	9,220	20,166	33	1,593	5	1,630	21,796	R3,359	R7,558	R32,713
2002	2,019	61	8,870	9,213	20,163	39	1,565	5	1,608	21,771	R3,378	R7,570	R32,719
2003	2,041	51	R8,546	9,269	R19,906	43	1,533	R3	R1,580	R21,486	R3,452	R7,670	R32,607
2004	R2,047	138	R8,574	R9,808	R20,567	R33	R1,638	R4	R1,674	R22,241	R3,475	R7,724	R33,440
2005P	1,964	44	7,941	9,530	19,479	32	1,374	4	1,410	20,890	3,469	7,623	31,982

[1] All values are estimated; see Table 10.2a.
[2] Natural gas, plus a small amount of supplemental gaseous fuels that cannot be identified separately.
[3] Conventional hydroelectric power.
[4] Wood and waste.
[5] Geothermal heat pump and direct use energy.
[6] Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.
[7] Total losses are calculated as the primary energy consumed by the electric power sector minus the energy content of electricity retail sales. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Note, "Electrical System Energy Losses," at end of section.

R=Revised. P=Preliminary. NA=Not available. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

Notes: • The industrial sector includes industrial combined-heat-and-power (CHP) and industrial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 8. • Totals may not equal sum of components due to independent rounding.

Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/consump.html.

Sources: Tables 2.1f, 5.14b, 6.5, 7.3, 7.7, 8.9, 10.2a, A4, A5, and A6.

Table 2.1e Transportation Sector Energy Consumption, Selected Years, 1949-2005

(Trillion Btu)

Year	Primary Consumption						Electricity Retail Sales [5]	Electrical System Energy Losses [6]	Total [3]
	Fossil Fuels				Renewable Energy	Total Primary [3]			
	Coal	Natural Gas [1]	Petroleum [2,3]	Total	Biomass [3,4]				
1949	1,727	NA	6,152	7,880	NA	7,880	22	88	7,990
1950	1,564	130	6,690	8,384	NA	8,384	23	86	8,493
1955	421	254	8,800	9,475	NA	9,475	20	56	9,551
1960	75	359	10,126	10,560	NA	10,560	10	26	10,597
1965	16	517	11,868	12,400	NA	12,400	10	24	12,434
1970	7	745	15,310	16,061	NA	16,061	11	26	16,098
1971	5	766	15,923	16,693	NA	16,693	10	25	16,729
1972	4	787	16,891	17,681	NA	17,681	10	25	17,716
1973	3	743	17,831	18,576	NA	18,576	11	25	18,612
1974	2	685	17,399	18,086	NA	18,086	10	24	18,119
1975	1	595	17,614	18,209	NA	18,209	10	24	18,244
1976	(s)	559	18,506	19,065	NA	19,065	10	24	19,099
1977	(s)	543	19,241	19,784	NA	19,784	10	25	19,820
1978	([7])	539	20,041	20,580	NA	20,580	10	24	20,615
1979	([7])	612	19,825	20,436	NA	20,436	10	24	20,471
1980	([7])	650	19,008	19,658	NA	19,658	11	27	19,696
1981	([7])	658	18,811	19,469	7	19,476	11	26	19,513
1982	([7])	612	18,420	19,032	19	19,051	11	26	19,088
1983	([7])	505	18,593	19,098	35	19,133	13	30	19,176
1984	([7])	545	19,020	19,565	43	19,608	14	33	19,655
1985	([7])	519	19,471	19,990	52	20,042	14	33	20,089
1986	([7])	499	20,182	20,681	60	20,741	15	34	20,790
1987	([7])	535	20,816	21,352	69	21,421	16	35	21,471
1988	([7])	632	21,567	22,198	70	22,268	16	35	22,320
1989	([7])	649	21,706	22,355	71	22,426	16	38	22,480
1990	([7])	680	21,625	22,305	63	22,368	16	38	22,421
1991	([7])	620	21,373	21,994	73	22,067	16	37	22,120
1992	([7])	608	21,674	22,282	83	22,365	16	37	22,418
1993	([7])	645	[3]22,072	22,716	[3]97	[3]22,716	16	37	[3]22,770
1994	([7])	709	22,603	23,312	109	23,312	17	38	23,367
1995	([7])	724	23,069	23,793	117	23,793	17	39	23,849
1996	([7])	737	23,647	24,384	84	24,384	17	38	24,439
1997	([7])	780	23,917	24,697	106	24,697	17	38	24,752
1998	([7])	666	24,537	25,203	117	25,203	17	38	25,259
1999	([7])	675	25,218	25,894	122	25,894	17	40	25,951
2000	([7])	672	25,820	26,492	139	26,492	18	42	26,552
2001	([7])	659	25,556	26,216	147	26,216	[R]18	[R]40	[R]26,274
2002	([7])	702	26,084	26,786	[R]175	26,786	19	42	[R]26,846
2003	([7])	[R]630	26,320	[R]26,950	[R]238	[R]26,950	[R]23	[R]52	[R]27,025
2004	([7])	[R]608	[R]27,265	[R]27,873	[R]299	[R]27,873	[R]24	[R]54	[R]27,951
2005[P]	([7])	600	27,375	27,975	340	27,975	28	62	28,065

[1] Natural gas consumed in the operation of pipelines (primarily in compressors) and small amounts consumed as vehicle fuel. See Table 6.5.

[2] Beginning in 1993, includes ethanol blended into motor gasoline.

[3] Beginning in 1993, ethanol blended into motor gasoline is included in both "Petroleum" and "Biomass," but is counted only once in both total primary consumption and total consumption.

[4] Alcohol fuels (ethanol blended into motor gasoline).

[5] Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.

[6] Total losses are calculated as the primary energy consumed by the electric power sector minus the energy content of electricity retail sales. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Note, "Electrical System Energy Losses," at end of section.

[7] Since 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.5 trillion Btu.

Note: Totals may not equal sum of components due to independent rounding.

Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/consump.html.

Sources: Tables 2.1f, 5.14c, 6.5, 7.3, 8.9, 10.2b, A4, A5, and A6.

Table 2.1f Electric Power Sector Energy Consumption, Selected Years, 1949-2005

(Trillion Btu)

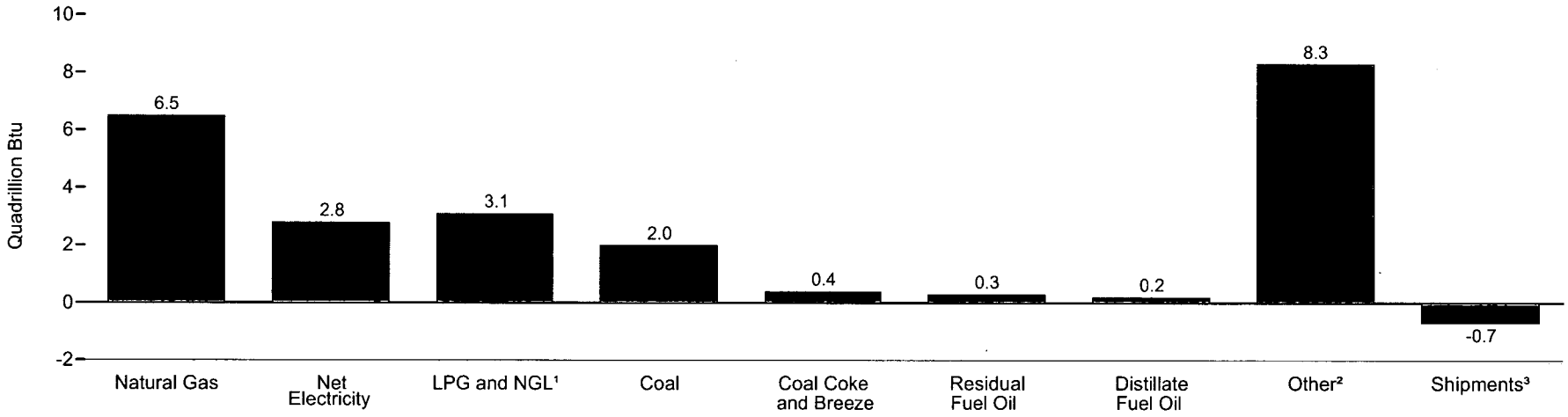
	Primary Consumption												
	Fossil Fuels					Renewable Energy							
Year	Coal	Natural Gas [1]	Petroleum	Total	Nuclear Electric Power	Hydroelectric Power [2]	Biomass [3]	Geothermal	Solar	Wind	Total	Electricity Net Imports [4]	Total Primary
1949	1,995	569	415	2,979	0	1,349	6	NA	NA	NA	1,355	5	4,339
1950	2,199	651	472	3,322	0	1,346	5	NA	NA	NA	1,351	6	4,679
1955	3,458	1,194	471	5,123	0	1,322	3	NA	NA	NA	1,325	14	6,461
1960	4,228	1,785	553	6,565	6	1,569	2	1	NA	NA	1,571	15	8,158
1965	5,821	2,395	722	8,938	43	2,026	3	4	NA	NA	2,033	(s)	11,014
1970	7,227	4,054	2,117	13,399	239	2,600	4	11	NA	NA	2,615	7	16,259
1971	7,299	4,099	2,495	13,893	413	2,790	3	12	NA	NA	2,806	12	17,124
1972	7,811	4,084	3,097	14,992	584	2,829	3	31	NA	NA	2,864	26	18,466
1973	8,658	3,748	3,515	15,921	910	2,827	3	43	NA	NA	2,873	49	19,753
1974	8,534	3,519	3,365	15,418	1,272	3,143	3	53	NA	NA	3,199	43	19,933
1975	8,786	3,240	3,166	15,191	1,900	3,122	2	70	NA	NA	3,194	21	20,307
1976	9,720	3,152	3,477	16,349	2,111	2,943	3	78	NA	NA	3,024	29	21,513
1977	10,262	3,284	3,901	17,446	2,702	2,301	5	77	NA	NA	2,383	59	22,591
1978	10,238	3,297	3,987	17,522	3,024	2,905	3	64	NA	NA	2,973	67	23,587
1979	11,260	3,613	3,283	18,156	2,776	2,897	5	84	NA	NA	2,986	69	23,987
1980	12,123	3,810	2,634	18,567	2,739	2,867	5	110	NA	NA	2,982	71	24,359
1981	12,583	3,768	2,202	18,553	3,008	2,725	4	123	NA	NA	2,852	113	24,525
1982	12,582	3,342	1,568	17,491	3,131	3,233	3	105	NA	NA	3,341	100	24,063
1983	13,213	2,998	1,544	17,754	3,203	3,494	4	129	NA	(s)	3,627	121	24,705
1984	14,019	3,220	1,286	18,526	3,553	3,353	9	165	(s)	(s)	3,527	135	25,741
1985	14,542	3,160	1,090	18,792	4,076	2,937	14	198	(s)	(s)	3,150	140	26,158
1986	14,444	2,691	1,452	18,586	4,380	3,038	12	219	(s)	(s)	3,270	122	26,359
1987	15,173	2,935	1,257	19,365	4,754	2,602	15	229	(s)	(s)	2,846	158	27,124
1988	15,850	2,709	1,563	20,123	5,587	2,302	17	217	(s)	(s)	2,536	108	28,354
1989[5]	16,137	3,192	1,703	21,032	5,602	2,808	232	308	3	22	3,372	37	30,044
1990	16,261	3,332	1,289	20,883	6,104	3,014	317	326	4	29	3,689	8	30,684
1991	16,250	3,399	1,198	20,847	6,422	2,985	354	335	5	31	3,710	67	31,046
1992	16,466	3,534	991	20,990	6,479	2,586	402	338	4	30	3,360	87	30,916
1993	17,196	3,560	1,124	21,880	6,410	2,861	415	351	5	31	3,662	95	32,047
1994	17,261	4,000	1,059	22,320	6,694	2,620	434	325	5	36	3,420	153	32,586
1995	17,466	4,325	755	22,546	7,075	3,149	422	280	5	33	3,889	134	33,644
1996	18,429	3,883	817	23,129	7,087	3,528	438	300	5	33	4,305	137	34,658
1997	18,905	4,146	927	23,977	6,597	3,581	446	309	5	34	4,375	116	35,065
1998	19,216	4,698	1,306	25,220	7,068	3,241	444	311	5	31	4,032	88	36,409
1999	19,279	4,926	1,211	25,416	7,610	3,218	453	312	5	46	4,034	99	37,159
2000	20,220	5,316	1,144	26,680	7,862	2,768	453	296	5	57	3,579	115	38,237
2001	19,614	5,481	1,277	26,371	8,033	2,209	450	289	6	70	3,023	75	37,502
2002	19,783	5,785	961	26,529	8,143	2,650	516	305	6	105	3,581	R72	R38,325
2003	20,185	5,264	1,205	26,653	7,959	2,781	522	303	5	115	3,725	22	38,359
2004	R20,305	R5,611	R1,212	R27,128	R8,222	R2,656	510	R311	6	R142	R3,625	39	R39,014
2005P	20,752	5,965	1,230	27,947	8,133	2,682	531	318	6	149	3,686	84	39,851

[1] Natural gas, plus a small amount of supplemental gaseous fuels that cannot be identified separately.
[2] Conventional hydroelectric power.
[3] Wood and waste.
[4] Net imports equal imports minus exports.
[5] Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.
R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.5 trillion Btu.

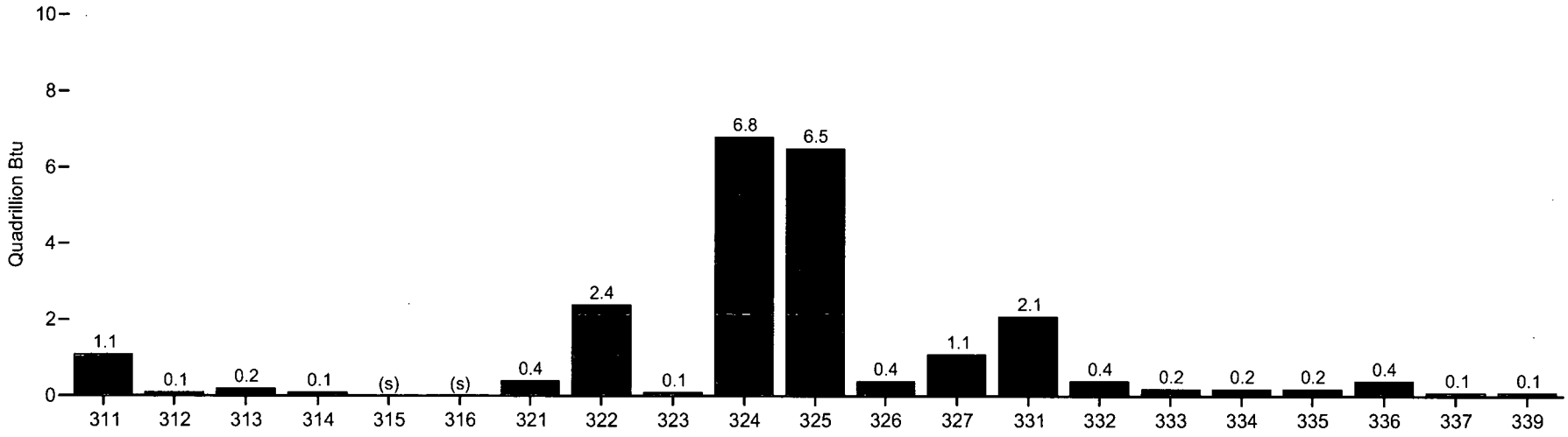
Notes: • Data are for fuels consumed to produce electricity and useful thermal output. • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS (North American Industry Classification System) 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • See Note 3, "Electricity Imports and Exports," at end of Section 8. • Totals may not equal sum of components due to independent rounding.
Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/consump.html.
Sources: Tables 5.14c, 6.5, 7.3, 8.1, 8.2b, 10.2b, A4, A5, and A6.

Figure 2.2 Manufacturing Consumption of Energy for All Purposes, 2002

By Energy Source



By North American Industry Classification System (NAICS)[4]



[1] Liquefied petroleum gases and natural gas liquids.
[2] Includes all other types of energy that respondents indicated were consumed or allocated.
[3] Energy sources produced onsite from the use of other energy sources but sold or transferred to another entity.
[4] See Table 2.2 for Major Group titles of industries that correspond to the 3-digit NAICS codes.
(s)=Less than 0.05 quadrillion Btu.
Source: Table 2.2.

Table 2.2 Manufacturing Consumption of Energy for All Purposes, 2002

(Trillion Btu)

NAICS [1] Code	Major Group	Coal	Coal Coke and Breeze	Natural Gas	Distillate Fuel Oil	LPG [2] and NGL [3]	Residual Fuel Oil	Net Electricity [4]	Other [5]	Shipments of Energy Sources [6]	Total [7]
311	Food	184	1	582	19	5	13	230	89	0	1,123
312	Beverage and Tobacco Products	17	0	46	2	1	2	26	11	0	105
313	Textile Mills	22	0	75	2	2	4	86	15	0	207
314	Textile Product Mills	Q	0	29	Q	1	2	17	Q	0	60
315	Apparel	0	0	16	1	(s)	(s)	12	(s)	0	30
316	Leather and Allied Products	0	0	4	(s)	(s)	(s)	2	(s)	0	7
321	Wood Products	1	0	57	13	5	1	72	228	0	377
322	Paper	236	4	504	13	6	100	223	1,276	0	2,363
323	Printing and Related Support	0	0	46	(s)	1	(s)	50	1	0	98
324	Petroleum and Coal Products	Q	2	878	19	24	25	127	5,520	83	6,799
325	Chemicals	344	6	2,307	14	3,001	87	522	687	504	6,465
326	Plastics and Rubber Products	Q	0	128	2	6	7	181	5	0	351
327	Nonmetallic Mineral Products	309	11	422	34	3	3	142	136	0	1,059
331	Primary Metals	515	355	704	15	3	1	493	178	143	2,120
332	Fabricated Metal Products	1	Q	210	6	3	Q	161	3	0	388
333	Machinery	1	0	82	3	3	(s)	84	4	0	177
334	Computer and Electronic Products	(s)	0	65	1	(s)	1	131	3	0	201
335	Electrical Equipment, Appliances, and Components	(s)	(s)	53	1	1	(s)	47	70	0	172
336	Transportation Equipment	8	Q	203	4	4	6	172	30	0	429
337	Furniture and Related Products	1	0	25	1	1	(s)	24	11	0	64
339	Miscellaneous	0	0	32	1	1	(s)	35	2	0	71
—	Total Manufacturing	1,958	385	6,468	152	3,070	255	2,840	8,271	730	22,666

[1] North American Industry Classification System (NAICS).
[2] Liquefied petroleum gases.
[3] Natural gas liquids.
[4] "Net Electricity" is the sum of purchases, transfers in, and onsite generation from noncombustible renewable energy sources, minus quantities sold and transferred out; it excludes onsite generation from combustible fuels.
[5] Includes all other types of energy that respondents indicated were consumed or allocated, such as asphalt and road oil, lubricants, naphtha < 401° F, other oils >= 401° F, special naphthas, waxes, and miscellaneous nonfuel products, which are nonfuel products assigned to the petroleum refining industry group (NAICS 324110).
[6] Energy sources produced onsite from the use of other energy sources but sold or transferred to another entity.
[7] The sum of coal, coal coke and breeze, natural gas, distillate fuel oil, liquefied petroleum gases, natural gas liquids, residual fuel oil, net electricity, and other, minus shipments of energy sources.

(s)=Less than 0.5 trillion Btu. Q=Data withheld because the relative standard error was greater than 50 percent.

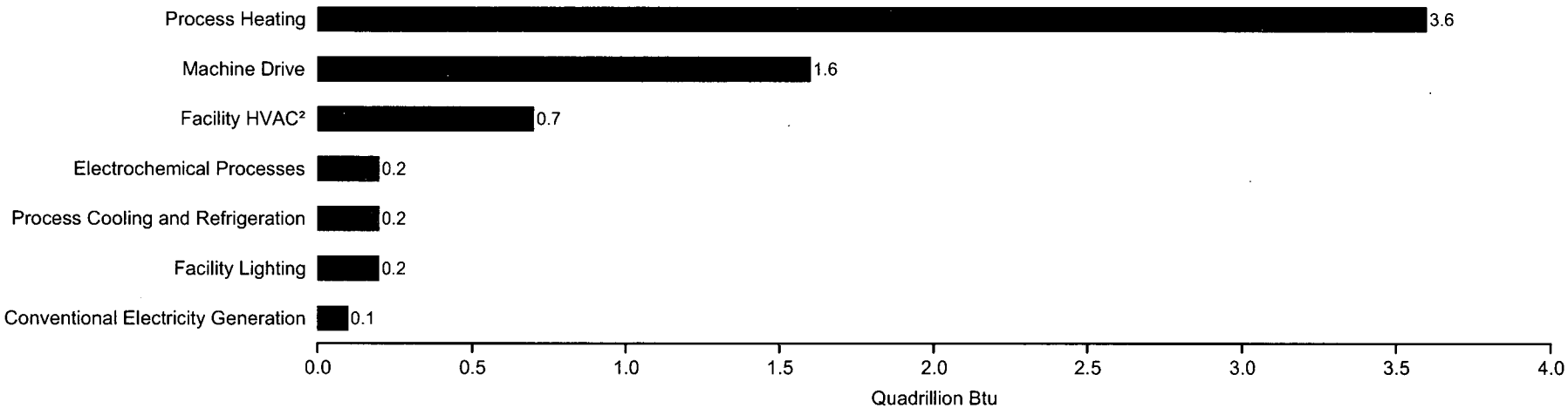
Notes: • Data are estimates for the first use of energy for heat and power and as feedstocks or raw material inputs. "First use" is the consumption of energy that was originally produced offsite or was produced onsite from input materials not classified as energy. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/emeu/mecs.

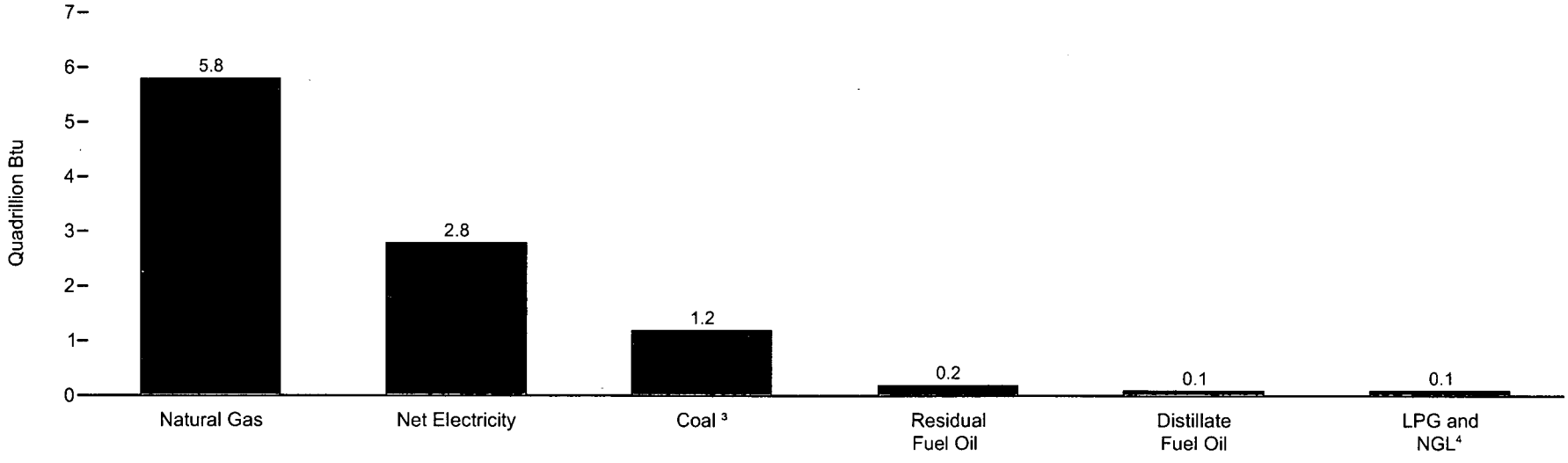
Source: Energy Information Administration, Form EIA-846, "2002 Manufacturing Energy Consumption Survey."

Figure 2.3 Manufacturing Inputs for Heat, Power, and Electricity Generation, 2002

By Selected End Use[1]



By Energy Source



[1] Excludes inputs of unallocated energy sources (6,006 trillion Btu).
[2] Heating, ventilation, and air conditioning.
[3] Excludes coal coke and breeze.
[4] Liquefied petroleum gases and natural gas liquids.
Source: Table 2.3.

Table 2.3 Manufacturing Inputs for Heat, Power, and Electricity Generation by End Use, 2002

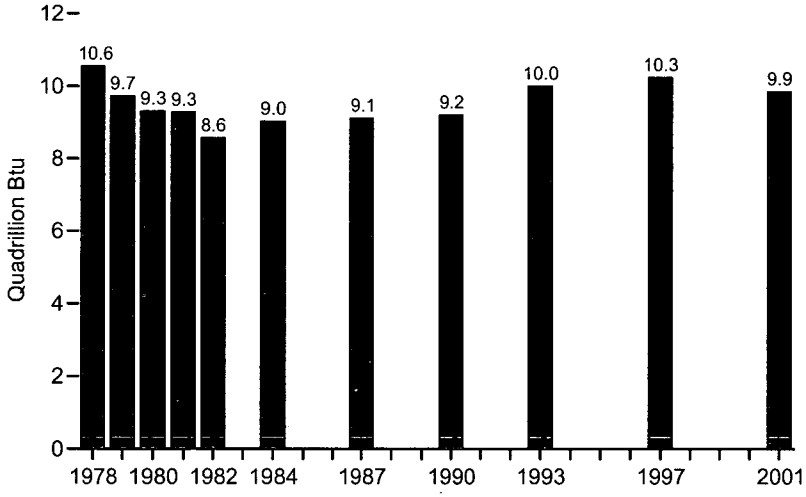
End-Use Category	Net Electricity [1]	Residual Fuel Oil	Distillate Fuel Oil	LPG [2] and NGL [3]	Natural Gas	Coal [4]	Total [5]
	Million Kilowatthours	Million Barrels			Billion Cubic Feet	Million Short Tons	
Indirect End Use (Boiler Fuel)	**3,540**	**20**	**6**	**2**	**2,105**	**35**	—
Conventional Boiler Use	2,496	12	4	2	1,271	11	—
CHP [6] and/or Cogeneration Process	1,043	8	2	(s)	834	23	—
Direct End Use							
All Process Uses	**650,100**	**10**	**7**	**16**	**R2,878**	**17**	—
Process Heating	100,541	9	4	15	2,670	17	—
Process Cooling and Refrigeration	56,723	(s)	(s)	(s)	44	(s)	—
Machine Drive	417,998	(s)	3	1	106	(s)	—
Electrochemical Processes	71,045	—	—	—	—	—	—
Other Process Uses	3,793	(s)	(s)	(s)	R 58	(s)	—
All Non-Process Uses	**150,530**	**1**	**9**	**6**	**500**	**1**	—
Facility Heating, Ventilation, and Air Conditioning [7]	76,840	1	1	1	406	(s)	—
Facility Lighting	57,460	—	—	—	—	—	—
Other Facility Support	14,087	(s)	(s)	(s)	29	(s)	—
Onsite Transportation	1,212	—	6	5	2	—	—
Conventional Electricity Generation	—	(s)	Q	(s)	54	1	—
Other Non-Process Use	931	(s)	Q	(s)	10	0	—
End Use Not Reported	**28,087**	**3**	**2**	**2**	**R 157**	(s)	—
Total	**832,257**	**33**	**24**	**26**	**5,641**	**53**	—
				Trillion Btu			
Indirect End Use (Boiler Fuel)	**12**	**127**	**35**	**8**	**2,162**	**776**	**3,120**
Conventional Boiler Use	9	76	25	8	1,306	255	1,679
CHP [6] and/or Cogeneration Process	4	51	10	(s)	857	521	1,443
Direct End Use							
All Process Uses	**2,218**	**60**	**43**	**64**	**R2,956**	**381**	**R 5,722**
Process Heating	343	58	24	60	2,742	368	3,595
Process Cooling and Refrigeration	194	(s)	2	(s)	45	(s)	241
Machine Drive	1,426	2	16	4	109	5	1,562
Electrochemical Processes	242	—	—	—	—	—	242
Other Process Uses	13	(s)	1	(s)	R 60	7	R 81
All Non-Process Uses	**514**	**4**	**50**	**24**	**513**	**19**	**1,124**
Facility Heating, Ventilation, and Air Conditioning [7]	262	3	5	5	417	5	697
Facility Lighting	196	—	—	—	—	—	196
Other Facility Support	48	(s)	1	(s)	30	(s)	79
Onsite Transportation	4	—	35	18	2	—	59
Conventional Electricity Generation	—	1	Q	(s)	55	14	70
Other Non-Process Use	3	(s)	Q	(s)	10	0	13
End Use Not Reported	**96**	**17**	**12**	**6**	**R 162**	**6**	**R 299**
Total	**2,840**	**208**	**141**	**103**	**5,794**	**1,182**	**10,268**

[1] "Net Electricity" is the sum of purchases, transfers in, and onsite generation from noncombustible renewable energy sources, minus quantities sold and transferred out; it excludes onsite generation from combustible fuels.
[2] Liquefied petroleum gases.
[3] Natural gas liquids.
[4] Excludes coal coke and breeze.
[5] Total of listed energy sources. Excludes inputs of unallocated energy sources (6,006 trillion Btu).
[6] Combined-heat-and-power plants.
[7] Excludes steam and hot water.
R=Revised. — = Not applicable. (s)=Estimate less than 0.5. Q=Withheld because relative standard error is greater than 50 percent.

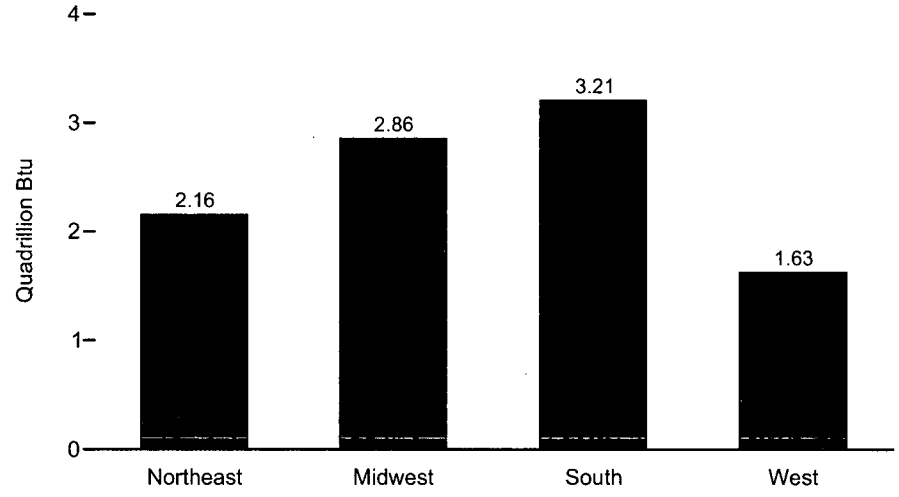
Notes: • Data are estimates for the total consumption of energy for the production of heat, power, and electricity generation, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • Allocations to end uses are made on the basis of reasonable approximations by respondents. • Totals may not equal sum of components due to independent rounding, the presence of estimates that round to zero, and the presence of estimates that are withheld because the relative standard error is greater than 50 percent.
Web Page: For related information, see http://www.eia.doe.gov/emeu/mecs.
Source: Energy Information Administration, Form EIA-846, "2002 Manufacturing Energy Consumption Survey."

Figure 2.4 Household Energy Consumption

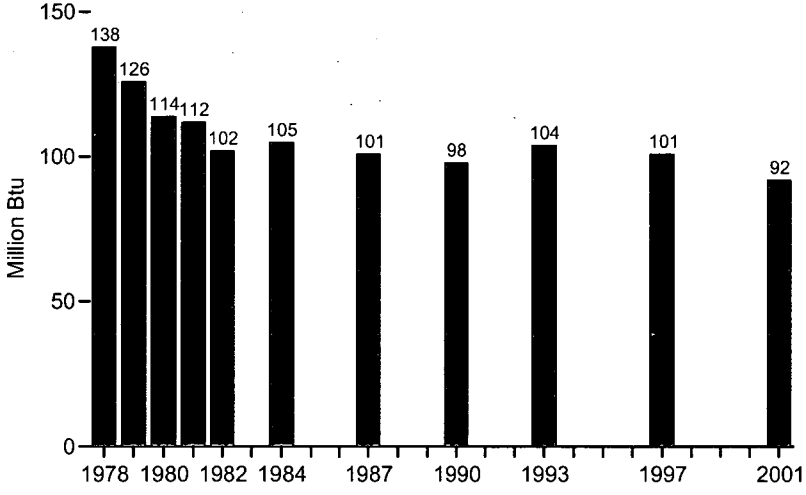
Consumption by All Households, Selected Years, 1978-2001



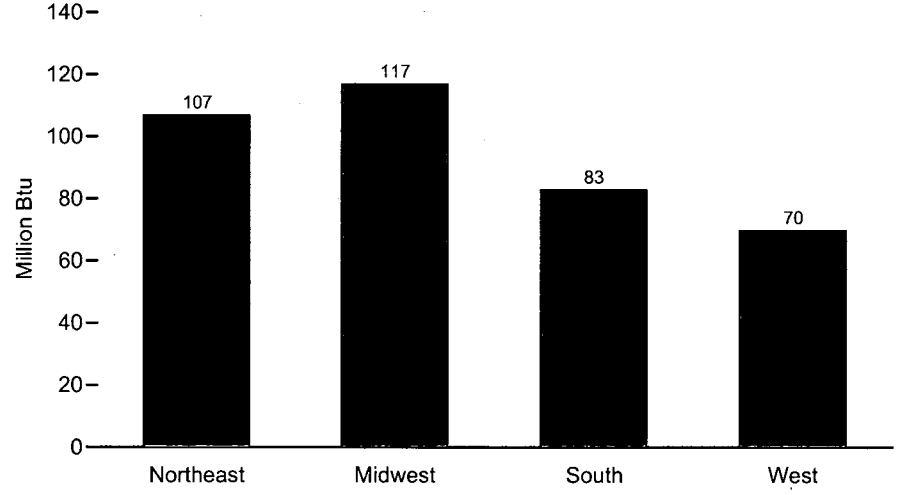
Consumption by All Households, by Census Region, 2001



Consumption per Household, Selected Years, 1978-2001



Consumption per Household, by Census Region, 2001



Notes: • Data include natural gas, electricity, distillate fuel oil, kerosene, and liquefied petroleum gases; data do not include wood. • For years not shown, there are no data available. Data for 1978 through 1984 are for April of the year shown through March of the following year; data for 1987, 1990, 1993, 1997, and 2001 are for the calendar year. • Because vertical scales differ, graphs should not be compared. • See Appendix C for Census regions.

Source: Table 2.4.

Table 2.4 Household Energy Consumption by Census Region, Selected Years, 1978-2001

(Quadrillion Btu, Except as Noted)

Census Region [1]	1978	1979	1980	1981	1982	1984	1987	1990	1993	1997	2001
Northeast (total does not include wood)	**2.89**	**2.50**	**2.44**	**2.36**	**2.19**	**2.29**	**2.37**	**2.30**	**2.38**	**2.38**	**2.16**
Natural Gas	1.14	1.05	0.94	1.01	0.96	0.93	1.03	1.03	1.11	1.03	0.98
Electricity [2]	0.39	0.39	0.41	0.40	0.37	0.41	0.44	0.47	0.47	0.49	0.53
Distillate Fuel Oil and Kerosene	1.32	1.03	1.07	0.93	0.83	0.93	0.87	0.78	0.78	0.84	0.60
Liquefied Petroleum Gases	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.03	0.03	0.05
Wood [3]	NA	NA	0.26	0.27	0.24	0.21	0.17	0.12	0.14	0.14	0.10
Consumption per Household (million Btu) [3]	166	145	138	132	122	125	124	120	122	121	107
Midwest (total does not include wood)	**3.70**	**3.48**	**2.96**	**3.09**	**2.61**	**2.80**	**2.73**	**2.81**	**3.13**	**3.22**	**2.86**
Natural Gas	2.53	2.48	2.05	2.22	1.78	1.99	1.83	1.88	2.07	2.20	1.84
Electricity [2]	0.60	0.59	0.60	0.56	0.56	0.55	0.61	0.66	0.74	0.75	0.81
Distillate Fuel Oil and Kerosene	0.46	0.31	0.17	0.19	0.16	0.13	0.16	0.13	0.13	0.11	0.06
Liquefied Petroleum Gases	0.12	0.10	0.15	0.13	0.11	0.13	0.13	0.13	0.19	0.17	0.15
Wood [3]	NA	NA	0.25	0.25	0.27	0.27	0.25	0.17	0.11	0.08	0.09
Consumption per Household (million Btu) [3]	180	168	141	146	122	129	123	122	134	134	117
South (total does not include wood)	**2.43**	**2.30**	**2.57**	**2.41**	**2.45**	**2.50**	**2.61**	**2.60**	**2.95**	**3.01**	**3.21**
Natural Gas	0.96	0.91	1.12	1.15	1.14	1.15	1.09	1.03	1.18	1.13	1.13
Electricity [2]	1.00	0.97	1.06	1.01	1.01	1.06	1.22	1.36	1.51	1.67	1.89
Distillate Fuel Oil and Kerosene	0.32	0.28	0.25	0.14	0.18	0.16	0.17	0.11	0.13	0.10	0.08
Liquefied Petroleum Gases	0.15	0.14	0.14	0.12	0.12	0.12	0.12	0.10	0.13	0.12	0.12
Wood [3]	NA	NA	0.23	0.21	0.33	0.33	0.26	0.17	0.17	0.12	0.09
Consumption per Household (million Btu) [3]	99	92	95	87	87	85	84	81	88	84	83
West (total does not include wood)	**1.54**	**1.47**	**1.34**	**1.42**	**1.33**	**1.45**	**1.42**	**1.51**	**1.55**	**1.63**	**1.63**
Natural Gas	0.95	0.88	0.86	0.90	0.85	0.91	0.88	0.92	0.91	0.93	0.90
Electricity [2]	0.48	0.47	0.41	0.46	0.41	0.47	0.48	0.54	0.56	0.64	0.66
Distillate Fuel Oil and Kerosene	0.09	0.09	0.04	0.03	0.03	0.04	0.02	0.02	0.03	0.03	0.02
Liquefied Petroleum Gases	0.03	0.04	0.04	0.04	0.04	0.03	0.05	0.03	0.04	0.04	0.06
Wood [3]	NA	NA	0.11	0.13	0.13	0.17	0.17	0.12	0.12	0.10	0.10
Consumption per Household (million Btu) [3]	110	100	84	87	81	85	78	78	76	75	70
United States (total does not include wood)	**10.56**	**9.74**	**9.32**	**9.29**	**8.58**	**9.04**	**9.13**	**9.22**	**10.01**	**10.25**	**9.86**
Natural Gas	5.58	5.31	4.97	5.27	4.74	4.98	4.83	4.86	5.27	5.28	4.84
Electricity [2]	2.47	2.42	2.48	2.42	2.35	2.48	2.76	3.03	3.28	3.54	3.89
Distillate Fuel Oil and Kerosene	2.19	1.71	1.52	1.28	1.20	1.26	1.22	1.04	1.07	1.07	0.75
Liquefied Petroleum Gases	0.33	0.31	0.35	0.31	0.29	0.31	0.32	0.28	0.38	0.36	0.38
Wood [3]	NA	NA	0.85	0.87	0.97	0.98	0.85	0.58	0.55	0.44	0.37
Consumption per Household (million Btu) [3]	138	126	114	112	102	105	101	98	104	101	92

[1] See Appendix C for Census regions.
[2] Retail electricity. One kilowatthour = 3,412 Btu.
[3] Wood is not included in the region and U.S. totals, or in the consumption-per-household data.
NA=Not available.

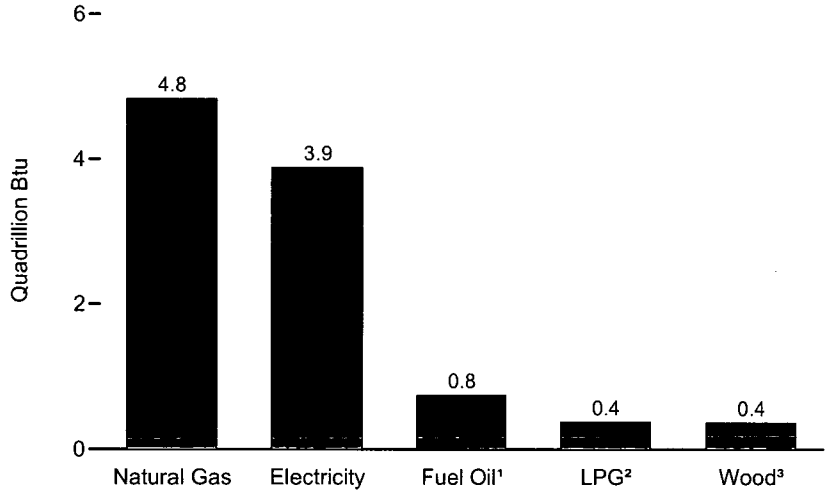
Notes: • Data are estimates, and are for major energy sources only. • For years not shown, there are no data available. • Data for 1978-1984 are for April of year shown through March of following year; data for 1987 forward are for the calendar year. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/emeu/recs.

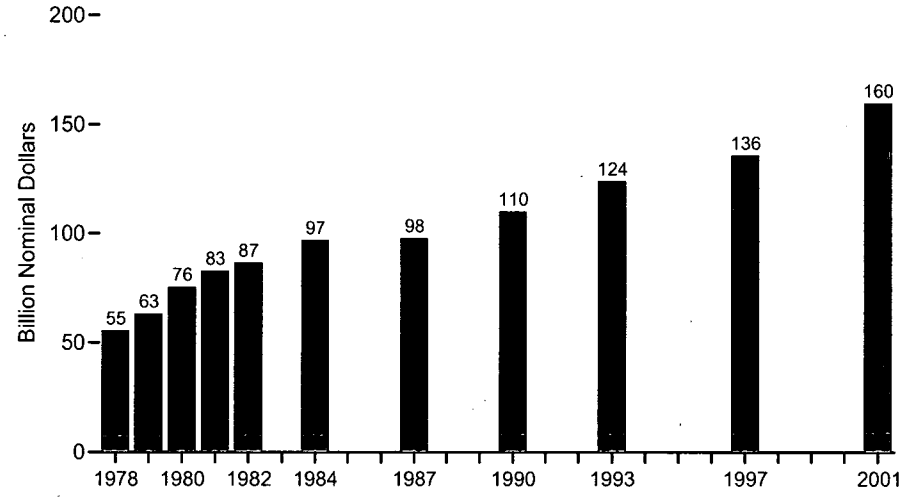
Sources: • 1978 and 1979—Energy Information Administration (EIA), Form EIA-84, "Residential Energy Consumption Survey." • 1980 forward—EIA, Form EIA-457, "Residential Energy Consumption Survey."

Figure 2.5 Household Energy Consumption and Expenditures

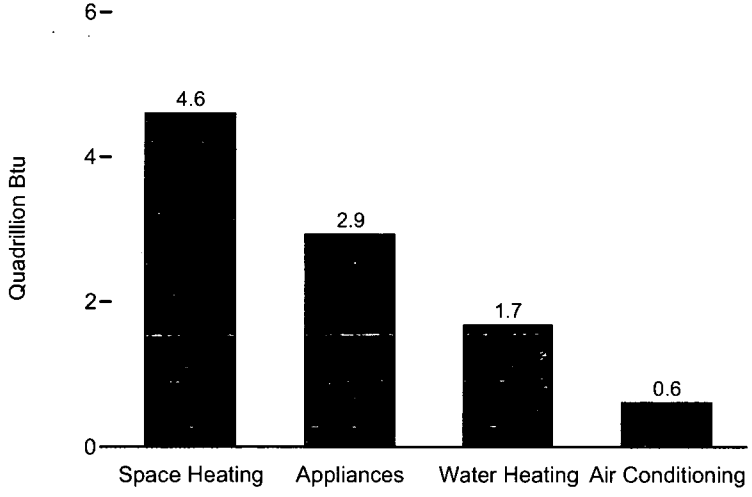
Consumption by Energy Source, 2001



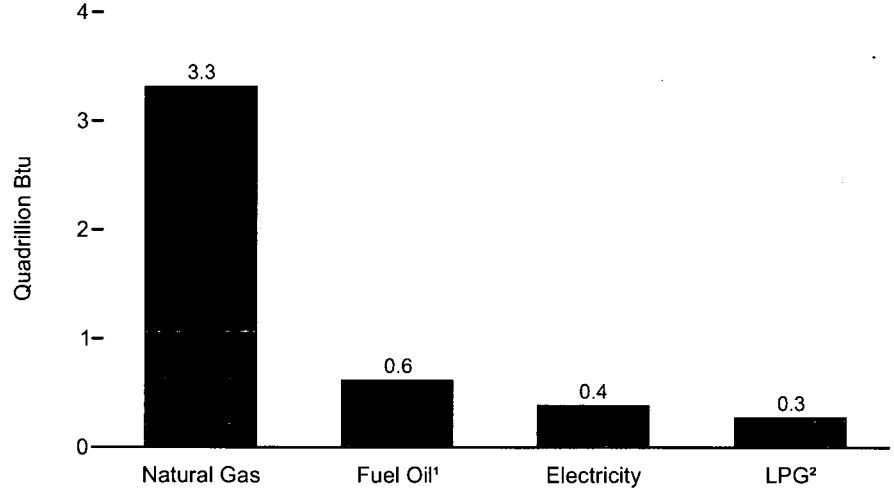
Expenditures[4], Selected Years, 1978-2001



Consumption[4] by End Use, 2001



Consumption[5] for Space Heating, 2001



[1] Distillate fuel oil and kerosene.
[2] Liquefied petroleum gases.
[3] Wood used for both space heating and ambiance.
[4] Does not include wood.

Notes: • For years not shown, there are no data available. • Because vertical scales differ, graphs should not be compared.
Source: Table 2.5.

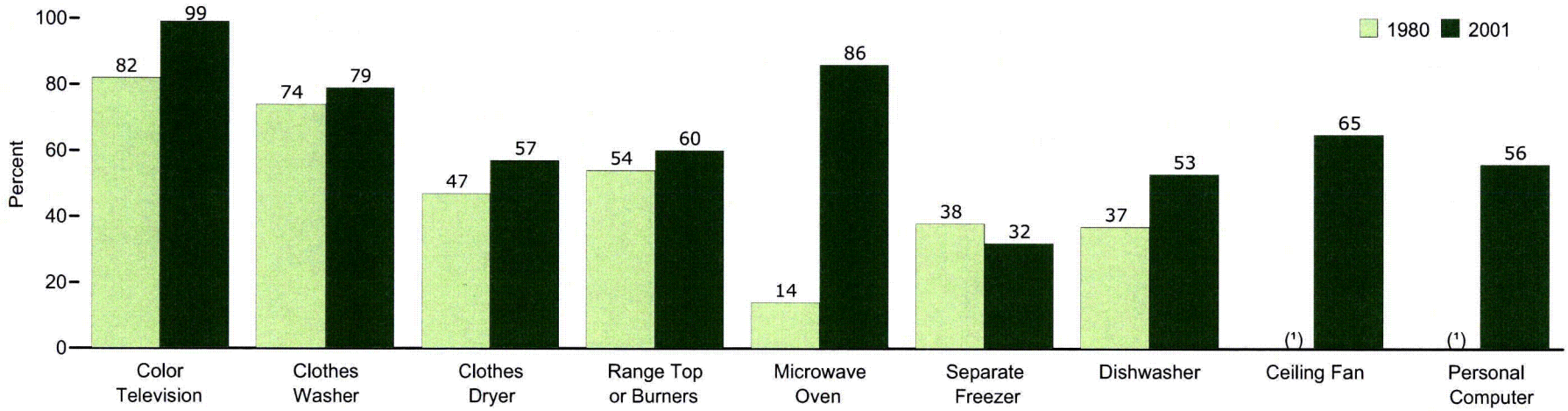
Table 2.5 Household Energy Consumption and Expenditures by End Use and Energy Source, Selected Years, 1978-2001

Year	Space Heating [1]				Air Conditioning [2]	Water Heating				Appliances [3,4]			Total				
	Natural Gas	Electricity [5]	Fuel Oil [6]	LPG [7]	Electricity [5]	Natural Gas	Electricity [5]	Fuel Oil [6]	LPG [7]	Natural Gas	Electricity [5]	LPG [7]	Natural Gas [2]	Electricity [5]	Fuel Oil [4,6]	LPG [7]	Wood [8]
	Consumption (quadrillion Btu)																
1978	4.26	0.40	2.05	0.23	0.32	1.04	0.29	0.14	0.06	0.28	1.45	0.03	5.58	2.47	2.19	0.33	NA
1979	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.31	2.42	1.71	0.31	NA
1980	3.41	0.27	1.30	0.23	0.36	1.15	0.30	0.22	0.07	0.36	1.54	0.05	4.97	2.48	1.52	0.35	0.85
1981	3.69	0.26	1.06	0.21	0.34	1.13	0.30	0.22	0.06	0.43	1.52	0.05	5.27	2.42	1.28	0.31	0.87
1982	3.14	0.25	1.04	0.19	0.31	1.15	0.28	0.15	0.06	0.43	1.50	0.05	4.74	2.35	1.20	0.29	0.97
1984	3.51	0.25	1.11	0.21	0.32	1.10	0.32	0.15	0.06	0.35	1.59	0.04	4.98	2.48	1.26	0.31	0.98
1987	3.38	0.28	1.05	0.22	0.44	1.10	0.31	0.17	0.06	0.34	1.72	0.04	4.83	2.76	1.22	0.32	0.85
1990	3.37	0.30	0.93	0.19	0.48	1.16	0.34	0.11	0.06	0.33	1.91	0.03	4.86	3.03	1.04	0.28	0.58
1993	3.67	0.41	0.95	0.30	0.46	1.31	0.34	0.12	0.05	0.29	2.08	0.03	5.27	3.28	1.07	0.38	0.55
1997	3.61	0.40	0.91	0.26	0.42	1.29	0.39	0.16	0.08	0.37	2.33	0.02	5.28	3.54	1.07	0.36	0.44
2001	3.32	0.39	0.62	0.28	0.62	1.15	0.36	0.13	0.05	0.37	2.52	0.05	4.84	3.89	0.75	0.38	0.37
	Expenditures (billion dollars [9])																
1978	11.49	3.53	8.06	1.05	4.12	2.88	3.14	0.56	0.36	0.93	19.10	0.25	15.30	29.89	8.62	1.66	NA
1979	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17.84	32.56	10.73	2.06	NA
1980	13.22	3.78	10.48	1.78	5.84	4.51	4.45	1.76	0.57	1.91	26.74	0.44	19.77	40.81	12.24	2.80	NA
1981	16.62	3.93	9.44	1.78	6.23	5.13	4.94	1.94	0.51	2.17	29.70	0.52	24.03	44.80	11.29	2.81	NA
1982	17.74	4.21	8.80	1.69	6.23	6.51	5.00	1.28	0.54	2.58	31.29	0.52	26.96	46.74	10.07	2.75	NA
1984	20.66	4.62	8.51	2.00	7.06	6.63	6.44	1.09	0.58	2.31	36.36	0.54	29.78	54.48	9.60	3.12	NA
1987	18.05	5.53	6.25	1.85	9.77	6.02	6.45	0.94	0.50	2.02	39.83	0.46	26.15	61.58	7.21	2.81	NA
1990	18.59	6.16	7.42	2.01	11.23	6.59	7.21	0.83	0.65	2.03	46.95	0.48	27.26	71.54	8.25	3.14	NA
1993	21.95	8.66	6.24	2.81	11.31	8.08	7.58	0.74	0.58	1.98	53.52	0.42	32.04	81.08	6.98	3.81	NA
1997	24.11	8.56	6.57	2.79	10.20	8.84	8.99	1.04	0.89	2.86	60.57	0.36	35.81	88.33	7.61	4.04	NA
2001	31.84	8.98	5.66	4.04	15.94	11.31	8.47	1.15	0.69	3.83	66.94	0.86	46.98	100.34	6.83	5.60	NA

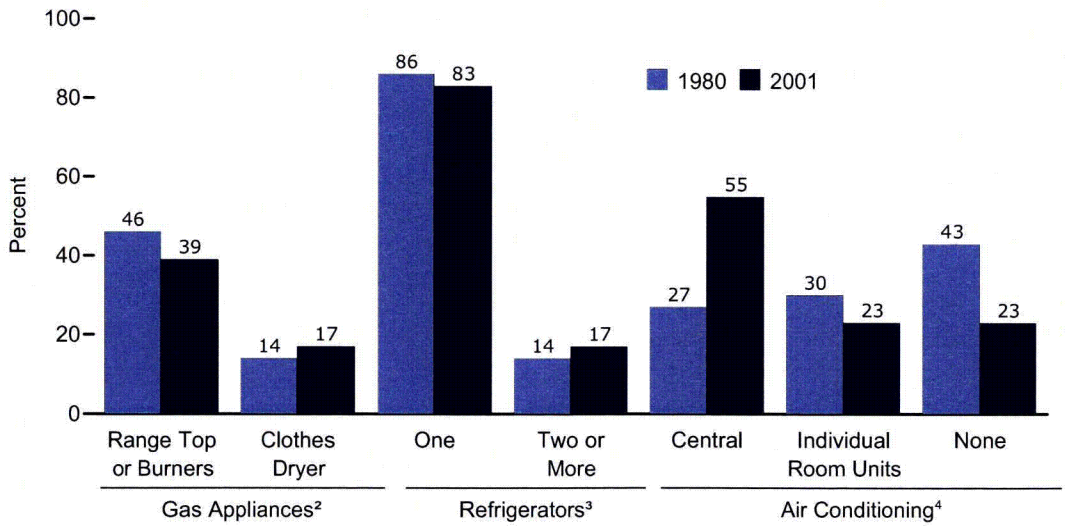
[1] Wood used for space heating is included in "Wood" under "Total."
[2] A small amount of natural gas used for air conditioning is included in "Natural Gas" under "Total."
[3] Includes refrigerators.
[4] A small amount of distillate fuel oil and kerosene used for appliances is included in "Fuel Oil" under "Total."
[5] Retail electricity. One kilowatthour = 3,412 Btu.
[6] Distillate fuel oil and kerosene.
[7] Liquefied petroleum gases.
[8] Wood used for both space heating and ambience.
[9] Nominal dollars.
NA=Not available.
Notes: • Data are estimates. • For years not shown, there are no data available. • Totals may not equal sum of components due to independent rounding.
Web Page: For related information, see http://www.eia.doe.gov/emeu/recs.
Sources: • 1978 and 1979—Energy Information Administration (EIA), Form EIA-84, "Residential Energy Consumption Survey." • 1980 forward—EIA, Form EIA-457, "Residential Energy Consumption Survey."

Figure 2.6 Households With Selected Appliances and Types of Main Heating Fuel

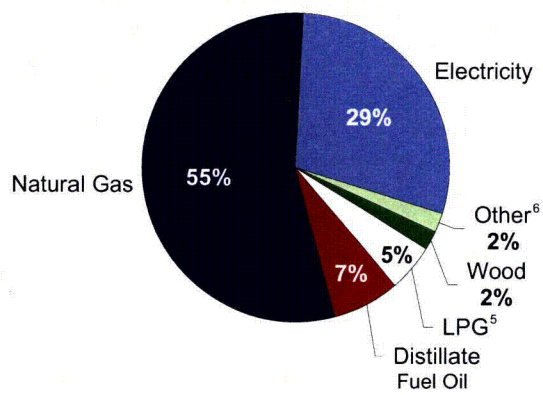
Households With Selected Electric Appliances, 1980 and 2001



Households With Other Selected Appliances, 1980 and 2001



Type of Main Heating Fuel, 2001



[1] Not collected in 1980.
[2] Natural gas or liquefied petroleum gases.
[3] Fewer than 0.5 percent of the households do not have a refrigerator.
[4] Households with both central and individual room units are counted only under "Central."
[5] Liquefied petroleum gases.
[6] Kerosene, district steam, coal, solar, other, and no heat.
Source: Table 2.6.

Table 2.6 Households With Selected Appliances and Types of Main Heating Fuel, Selected Years, 1978-2001

Appliance	Year											Change
	1978	1979	1980	1981	1982	1984	1987	1990	1993	1997	2001	1980 to 2001
Total Households (millions)	77	78	82	83	84	86	91	94	97	101	107	25
	Percent of Households											
Type of Main Heating Fuel												
Natural Gas	55	55	55	56	57	55	55	55	53	53	55	1
Electricity [1]	16	17	18	17	16	17	20	23	26	29	29	11
Liquefied Petroleum Gases	4	5	5	4	5	5	5	5	5	5	5	0
Distillate Fuel Oil	20	17	15	14	13	12	12	11	11	9	7	-8
Wood	2	4	6	6	7	7	6	4	3	2	2	-4
Other [2]	3	2	2	3	3	3	3	2	2	2	2	0
Type of Appliances												
Electric Appliances												
Television Set (Color)	NA	NA	82	83	85	88	93	96	98	99	99	17
Television Set (B/W)	NA	NA	51	48	46	43	36	31	20	NA	NA	NA
Television Set (Any)	NA	NA	98	98	98	98	98	99	99	NA	NA	NA
Clothes Washer	74	NA	74	73	71	73	75	76	77	77	79	4
Range Top or Burners	53	NA	54	54	53	54	57	58	61	60	60	6
Oven, Microwave	8	NA	14	17	21	34	61	79	84	83	86	72
Clothes Dryer	45	NA	47	45	45	46	51	53	57	55	57	10
Separate Freezer	35	NA	38	38	37	37	34	34	35	33	32	-6
Dishwasher	35	NA	37	37	36	38	43	45	45	50	53	16
Dehumidifier	NA	NA	9	9	9	9	10	12	9	NA	11	2
Waterbed Heaters	NA	NA	NA	NA	NA	10	14	15	12	8	5	NA
Window or Ceiling Fan	NA	NA	NA	NA	28	35	46	51	60	NA	NA	NA
Ceiling Fan	NA	NA	NA	NA	NA	NA	NA	NA	54	61	65	NA
Whole House Fan	NA	NA	NA	NA	8	8	9	10	4	NA	NA	NA
Evaporative Cooler	NA	NA	4	4	4	4	3	4	3	NA	3	-1
Personal Computer	NA	NA	NA	NA	NA	NA	NA	16	23	35	56	NA
Pump for Well Water	NA	NA	NA	NA	NA	NA	NA	15	13	14	13	NA
Swimming-Pool Pump [3]	NA	NA	3	4	3	NA	NA	5	5	5	6	3
Gas [4] Appliances												
Range Top or Burners	48	NA	46	46	47	45	43	42	38	39	39	-7
Clothes Dryer	14	NA	14	16	15	16	15	16	15	16	17	2
Outdoor Gas Grill	6	NA	9	9	11	13	20	26	29	NA	NA	NA
Outdoor Gas Light	2	NA	2	2	2	1	1	1	1	1	(s)	-1
Swimming Pool Heater [5]	NA	NA	(s)	(s)	(s)	1	1	1	1	1	1	0
Refrigerators [6]												
One	86	NA	86	87	86	88	86	84	85	85	83	-3
Two or More	14	NA	14	13	13	12	14	15	15	15	17	3
Air Conditioning (A/C)												
Central [7]	23	24	27	27	28	30	34	39	44	47	55	28
Individual Room Units [7]	33	31	30	31	30	30	30	29	25	25	23	-7
None	44	45	43	42	42	40	36	32	32	28	23	-20
Portable Kerosene Heaters	(s)	NA	(s)	1	3	6	6	5	3	2	2	2

[1] Retail electricity.
[2] Kerosene, district steam, coal, solar, other, or no heat.
[3] Through 1990, data are for all reported swimming pools, which were assumed to have an electric pump for filtering and circulating the water. Beginning in 1993, data are explicitly for pools with filters.
[4] Natural gas or liquefied petroleum gases.
[5] In 1984 and 1987, also includes heaters for jacuzzis and hot tubs.
[6] Fewer than 0.5 percent of the households do not have a refrigerator.
[7] Households with both central and individual room units are counted only under "Central."

NA=Not available. (s)=Less than 0.5 percent.

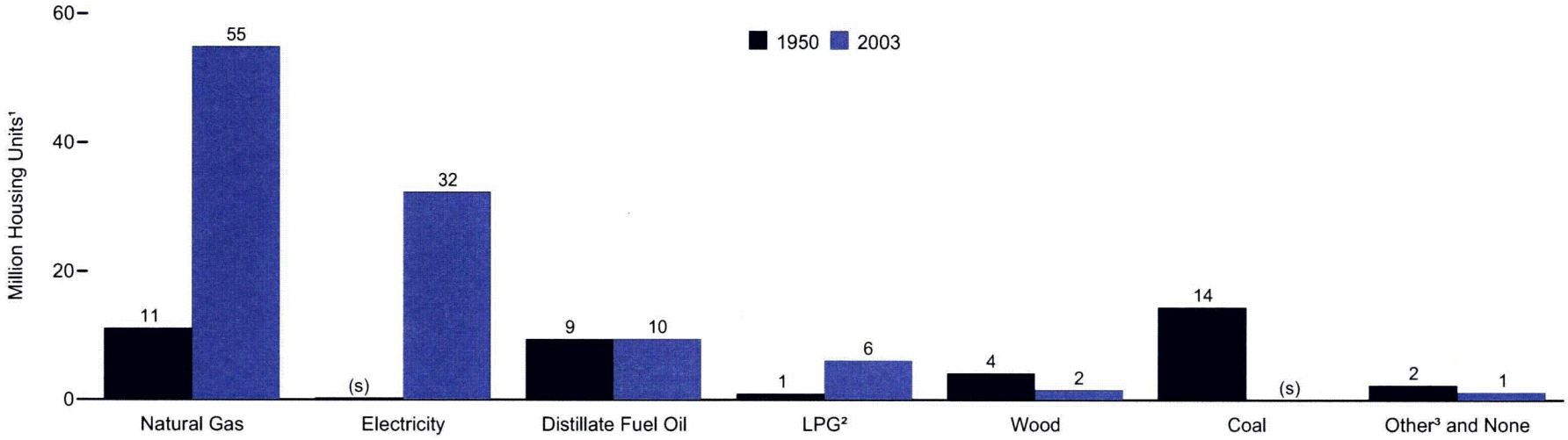
Notes: • Data are estimates. • For years not shown, there are no data available.

Web Page: For related information, see http://www.eia.doe.gov/emeu/recs.

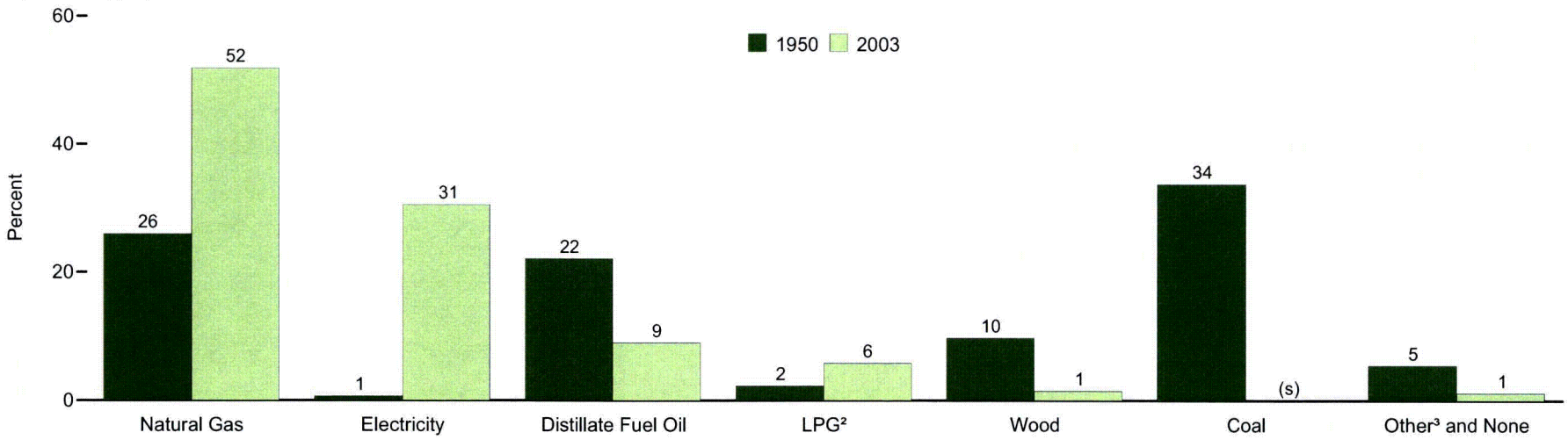
Sources: • 1978 and 1979—Energy Information Administration (EIA), Form EIA-84, "Residential Energy Consumption Survey." • 1980 forward—EIA, Form EIA-457, "Residential Energy Consumption Survey."

Figure 2.7 Type of Heating in Occupied Housing Units, 1950 and 2003

By Fuel Type



By Fuel Type, Share of Total



[1] Sum of components do not equal total due to independent rounding.
[2] Liquefied petroleum gases.
[3] Kerosene, solar, and other.

(s)=Less than 0.5.
Source: Table 2.7.

Table 2.7 Type of Heating in Occupied Housing Units, Selected Years, 1950-2003

Year	Coal [1]	Distillate Fuel Oil	Kerosene	Liquefied Petroleum Gases	Natural Gas	Electricity	Wood	Solar	Other [2]	None [3]	Total
						Millions					
1950	14.48	9.46	([4])	0.98	11.12	0.28	4.17	NA	0.77	1.57	42.83
1960	6.46	17.16	([4])	2.69	22.85	0.93	2.24	NA	0.22	0.48	53.02
1970	1.82	16.47	([4])	3.81	35.01	4.88	0.79	NA	0.27	0.40	63.45
1973	0.80	17.24	([4])	4.42	38.46	7.21	0.60	NA	0.15	0.45	69.34
1974	0.74	16.84	([4])	4.14	39.47	8.41	0.66	NA	0.09	0.48	70.83
1975	0.57	16.30	([4])	4.15	40.93	9.17	0.85	NA	0.08	0.47	72.52
1976	0.48	16.45	([4])	4.24	41.22	10.15	0.91	NA	0.09	0.46	74.01
1977	0.45	15.62	0.44	4.18	41.54	11.15	1.24	NA	0.15	0.51	75.28
1978	0.40	15.65	0.42	4.13	42.52	12.26	1.07	NA	0.12	0.60	77.17
1979	0.36	15.30	0.41	4.13	43.32	13.24	1.14	NA	0.10	0.57	78.57
1980	0.33	14.50	0.37	4.17	44.40	14.21	1.38	NA	0.11	0.61	80.07
1981	0.36	14.13	0.37	4.17	46.08	15.49	1.89	NA	0.10	0.59	83.18
1983 [5]	0.43	12.59	0.45	3.87	46.70	15.68	4.09	NA	0.16	0.68	84.64
1985	0.45	12.44	1.06	3.58	45.33	18.36	6.25	0.05	0.37	0.53	88.43
1987	0.41	12.74	1.08	3.66	45.96	20.61	5.45	0.05	0.28	0.66	90.89
1989	0.34	12.47	1.07	3.66	47.40	23.06	4.59	0.04	0.40	0.66	93.68
1991	0.32	11.47	0.99	3.88	47.02	23.71	4.44	0.03	0.41	0.86	93.15
1993	0.30	11.17	1.02	3.92	47.67	25.11	4.10	0.03	0.50	0.91	94.73
1995	0.21	10.98	1.06	4.25	49.20	26.77	3.53	0.02	0.64	1.04	97.69
1997	0.18	10.10	0.75	5.40	51.05	29.20	1.79	0.03	0.36	0.62	99.49
1999	0.17	10.03	0.72	5.91	52.37	31.14	1.70	0.02	0.21	0.54	102.80
2001 [6]	0.13	9.81	0.65	6.04	54.13	32.41	1.67	0.02	0.19	0.39	105.44
2003	0.13	9.50	0.64	6.13	54.93	32.34	1.56	0.02	0.16	0.44	105.84
						Percent					
1950	33.8	22.1	([4])	2.3	26.0	0.6	9.7	NA	1.8	3.7	100.0
1960	12.2	32.4	([4])	5.1	43.1	1.8	4.2	NA	0.4	0.9	100.0
1970	2.9	26.0	([4])	6.0	55.2	7.7	1.3	NA	0.4	0.6	100.0
1973	1.2	24.9	([4])	6.4	55.5	10.4	0.9	NA	0.2	0.7	100.0
1974	1.0	23.8	([4])	5.8	55.7	11.9	0.9	NA	0.1	0.7	100.0
1975	0.8	22.5	([4])	5.7	56.4	12.6	1.2	NA	0.1	0.6	100.0
1976	0.7	22.2	([4])	5.7	55.7	13.7	1.2	NA	0.1	0.6	100.0
1977	0.6	20.7	0.6	5.6	55.2	14.8	1.6	NA	0.2	0.7	100.0
1978	0.5	20.3	0.5	5.4	55.1	15.9	1.4	NA	0.2	0.8	100.0
1979	0.5	19.5	0.5	5.3	55.1	16.9	1.4	NA	0.1	0.7	100.0
1980	0.4	18.1	0.5	5.2	55.4	17.7	1.7	NA	0.1	0.8	100.0
1981	0.4	17.0	0.4	5.0	55.4	18.6	2.3	NA	0.1	0.7	100.0
1983 [5]	0.5	14.9	0.5	4.6	55.2	18.5	4.8	NA	0.2	0.8	100.0
1985	0.5	14.1	1.2	4.1	51.3	20.8	7.1	0.1	0.4	0.6	100.0
1987	0.4	14.0	1.2	4.0	50.6	22.7	6.0	0.1	0.3	0.7	100.0
1989	0.4	13.3	1.1	3.9	50.6	24.6	4.9	(s)	0.4	0.7	100.0
1991	0.3	12.3	1.1	4.2	50.5	25.5	4.8	(s)	0.4	0.9	100.0
1993	0.3	11.8	1.1	4.1	50.3	26.5	4.3	(s)	0.5	1.0	100.0
1995	0.2	11.2	1.1	4.4	50.4	27.4	3.6	(s)	0.7	1.1	100.0
1997	0.2	10.2	0.8	5.4	51.3	29.4	1.8	(s)	0.4	0.6	100.0
1999	0.2	9.8	0.7	5.7	50.9	30.3	1.7	(s)	0.2	0.5	100.0
2001 [6]	0.1	9.3	0.6	5.7	51.3	30.7	1.6	(s)	0.2	0.4	100.0
2003	0.1	9.0	0.6	5.8	51.9	30.6	1.5	(s)	0.1	0.4	100.0

[1] Includes coal coke.
[2] Includes briquettes (made of pitch and sawdust), coal dust, waste material (such as corncobs), purchased steam, and other fuels not separately displayed.
[3] In 1950 and 1960, also includes nonreporting units, which totaled 997 and 2,000 units, respectively.
[4] Included in "Distillate Fuel Oil."
[5] Since 1983, the *American Housing Survey for the United States* has been a biennial survey.
[6] Beginning in 2001, data are consistent with the 2000 Census. For 2001 data consistent with the 1990 Census, see *American Housing Survey for the United States: 2001*.

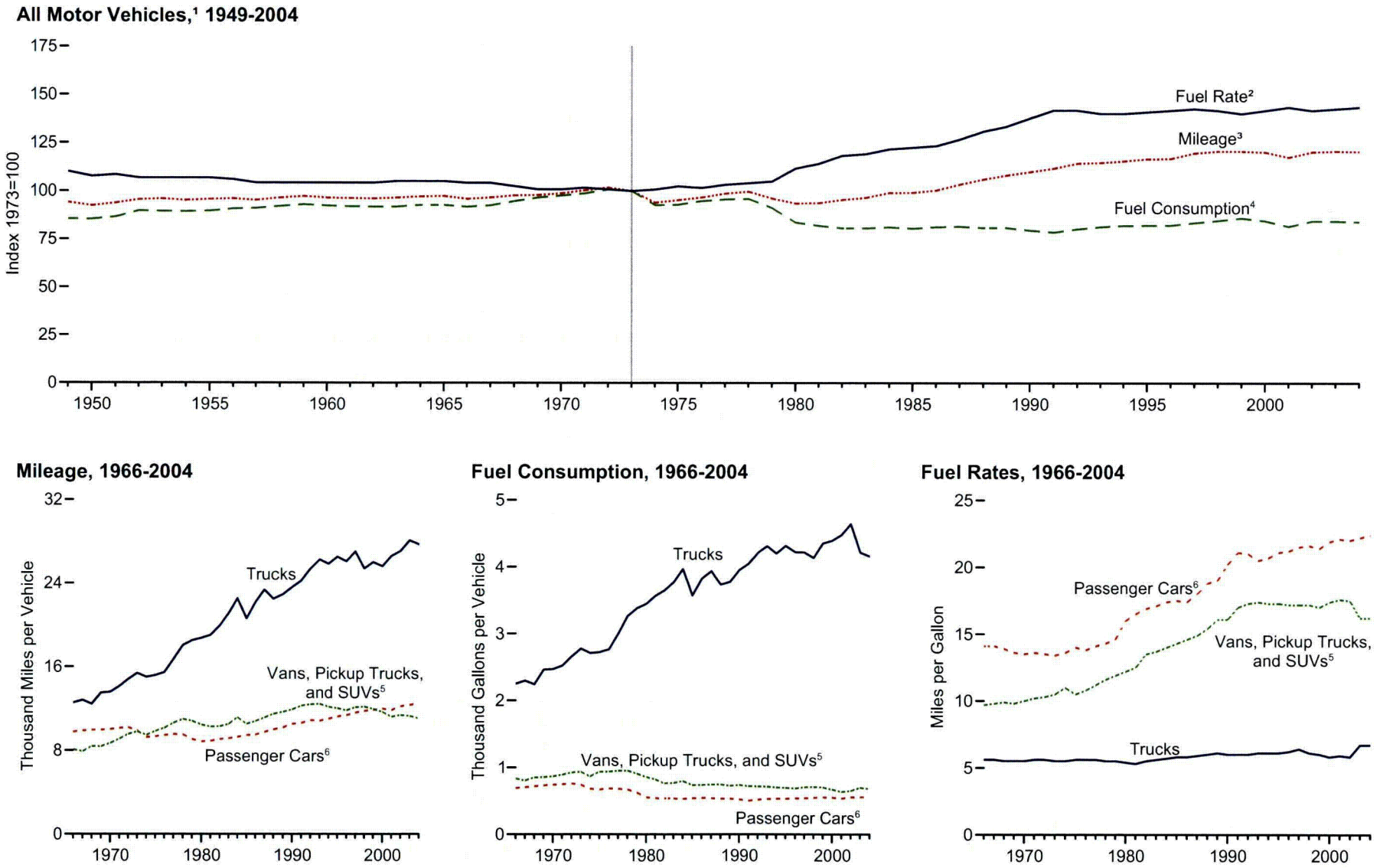
NA=Not available. (s)=Less than 0.05 percent.

Notes: • Includes mobile homes and individual housing units in apartment buildings. Housing units with more than one type of heating system are classified according to the principal type of heating system. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.census.gov/hhes/www/ahs.html.

Sources: • 1950, 1960, and 1970—Bureau of the Census, *Census of Population and Housing*. • 1973 forward—Bureau of the Census, *American Housing Survey for the United States*, biennial surveys, Table 2-5.

Figure 2.8 Motor Vehicle Mileage, Fuel Consumption, and Fuel Rates



[1] Passenger cars, motorcycles, vans, pickup trucks, sport utility vehicles, trucks, and buses.
[2] Miles per gallon.
[3] Miles per vehicle.
[4] Gallons per vehicle.
[5] Sport utility vehicle.
[6] Motorcycles are included with passenger cars through 1989.
Source: Table 2.8.

Table 2.8 Motor Vehicle Mileage, Fuel Consumption, and Fuel Rates, Selected Years, 1949-2004

	Passenger Cars [1]			Vans, Pickup Trucks, and Sport Utility Vehicles [2]			Trucks [3]			All Motor Vehicles [4]		
	Mileage	Fuel Consumption	Fuel Rate	Mileage	Fuel Consumption	Fuel Rate	Mileage	Fuel Consumption	Fuel Rate	Mileage	Fuel Consumption	Fuel Rate
Year	Miles per Vehicle	Gallons per Vehicle	Miles per Gallon	Miles per Vehicle	Gallons per Vehicle	Miles per Gallon	Miles per vehicle	Gallons per vehicle	Miles per Gallon	Miles per Vehicle	Gallons per Vehicle	Miles per Gallon
1949	9,388	627	15.0	([5])	([5])	([5])	9,712	1,080	9.0	9,498	726	13.1
1950	9,060	603	15.0	([5])	([5])	([5])	10,316	1,229	8.4	9,321	725	12.8
1955	9,447	645	14.6	([5])	([5])	([5])	10,576	1,293	8.2	9,661	761	12.7
1960	9,518	668	14.3	([5])	([5])	([5])	10,693	1,333	8.0	9,732	784	12.4
1965	9,603	661	14.5	([5])	([5])	([5])	10,851	1,387	7.8	9,826	787	12.5
1970	9,989	737	13.5	8,676	866	10.0	13,565	2,467	5.5	9,976	830	12.0
1971	10,097	743	13.6	9,082	888	10.2	14,117	2,519	5.6	10,133	839	12.1
1972	10,171	754	13.5	9,534	922	10.3	14,780	2,657	5.6	10,279	857	12.0
1973	9,884	737	13.4	9,779	931	10.5	15,370	2,775	5.5	10,099	850	11.9
1974	9,221	677	13.6	9,452	862	11.0	14,995	2,708	5.5	9,493	788	12.0
1975	9,309	665	14.0	9,829	934	10.5	15,167	2,722	5.6	9,627	790	12.2
1976	9,418	681	13.8	10,127	934	10.8	15,438	2,764	5.6	9,774	806	12.1
1977	9,517	676	14.1	10,607	947	11.2	16,700	3,002	5.6	9,978	814	12.3
1978	9,500	665	14.3	10,968	948	11.6	18,045	3,263	5.5	10,077	816	12.4
1979	9,062	620	14.6	10,802	905	11.9	18,502	3,380	5.5	9,722	776	12.5
1980	8,813	551	16.0	10,437	854	12.2	18,736	3,447	5.4	9,458	712	13.3
1981	8,873	538	16.5	10,244	819	12.5	19,016	3,565	5.3	9,477	697	13.6
1982	9,050	535	16.9	10,276	762	13.5	19,931	3,647	5.5	9,644	686	14.1
1983	9,118	534	17.1	10,497	767	13.7	21,083	3,769	5.6	9,760	686	14.2
1984	9,248	530	17.4	11,151	797	14.0	22,550	3,967	5.7	10,017	691	14.5
1985	9,419	538	17.5	10,506	735	14.3	20,597	3,570	5.8	10,020	685	14.6
1986	9,464	543	17.4	10,764	738	14.6	22,143	3,821	5.8	10,143	692	14.7
1987	9,720	539	18.0	11,114	744	14.9	23,349	3,937	5.9	10,453	694	15.1
1988	9,972	531	18.8	11,465	745	15.4	22,485	3,736	6.0	10,721	688	15.6
1989	[1]10,157	[1]533	[1]19.0	11,676	724	16.1	22,926	3,776	6.1	10,932	688	15.9
1990	10,504	520	20.2	11,902	738	16.1	23,603	3,953	6.0	11,107	677	16.4
1991	10,571	501	21.1	12,245	721	17.0	24,229	4,047	6.0	11,294	669	16.9
1992	10,857	517	21.0	12,381	717	17.3	25,373	4,210	6.0	11,558	683	16.9
1993	10,804	527	20.5	12,430	714	17.4	26,262	4,309	6.1	11,595	693	16.7
1994	10,992	531	20.7	12,156	701	17.3	25,838	4,202	6.1	11,683	698	16.7
1995	11,203	530	21.1	12,018	694	17.3	26,514	4,315	6.1	11,793	700	16.8
1996	11,330	534	21.2	11,811	685	17.2	26,092	4,221	6.2	11,813	700	16.9
1997	11,581	539	21.5	12,115	703	17.2	27,032	4,218	6.4	12,107	711	17.0
1998	11,754	544	21.6	12,173	707	17.2	25,397	4,135	6.1	12,211	721	16.9
1999	11,848	553	21.4	11,957	701	17.0	26,014	4,352	6.0	12,206	732	16.7
2000	11,976	547	21.9	11,672	669	17.4	25,617	4,391	5.8	12,164	720	16.9
2001	11,831	534	22.1	11,204	636	17.6	26,602	4,477	5.9	11,887	695	17.1
2002	12,202	555	22.0	11,364	650	17.5	27,071	4,642	5.8	12,171	719	16.9
2003	[R]12,325	[R]556	[R]22.2	[R]11,287	[R]697	[R]16.2	[R]28,093	[R]4,215	[R]6.7	[R]12,208	[R]718	17.0
2004[P]	12,497	557	22.4	11,044	682	16.2	27,719	4,157	6.7	12,190	715	17.1

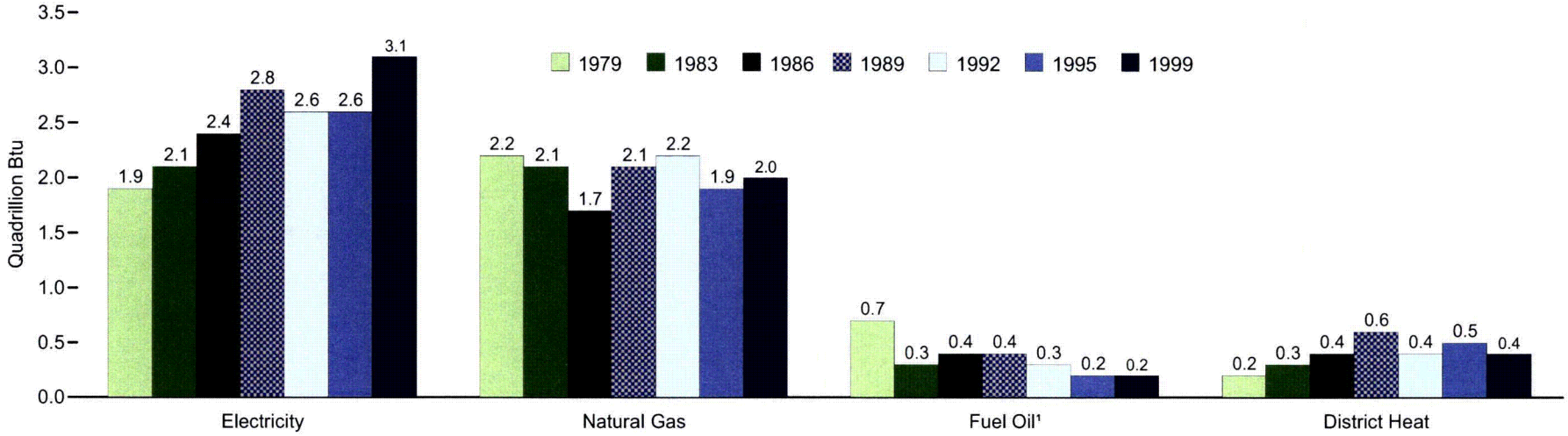
[1] Through 1989, includes motorcycles.
[2] Includes a small number of trucks with 2 axles and 4 tires, such as step vans.
[3] Single-unit trucks with 2 axles and 6 or more tires, and combination trucks.
[4] Includes buses and motorcycles, which are not separately displayed.
[5] Included in "Trucks."
R=Revised. P=Preliminary.

Web Pages: • For data not shown for 1951-1969, see http://www.eia.doe.gov/aer/consump.html. • For related information, see http://www.fhwa.dot.gov/policy/ohpi/hss/index.htm.

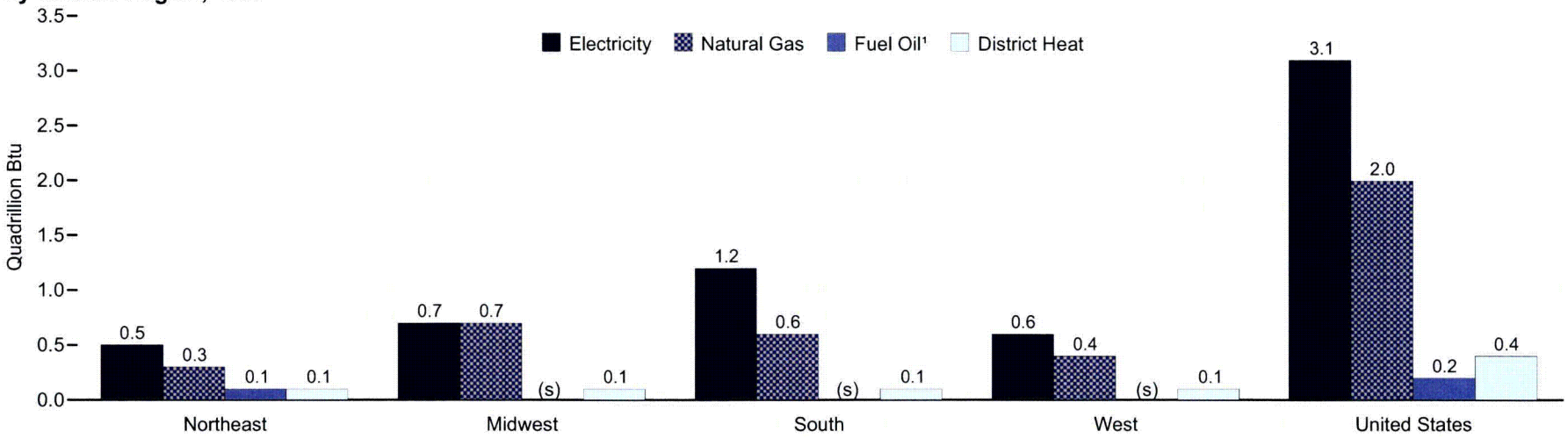
Sources: **Passenger Cars, 1990-1994:** U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1998*, Table 4-13. **All Other Data:** • 1949-1994—Federal Highway Administration (FHWA), *Highway Statistics Summary to 1995*, Table VM-201A. • 1995 forward—FHWA, *Highway Statistics*, annual reports, Table VM-1.

Figure 2.9 Commercial Buildings Consumption by Energy Source

By Survey Year, 1979-1999



By Census Region, 1999



[1] Distillate fuel oil, residual fuel oil, and kerosene.
(s)=Less than 0.05 quadrillion Btu.

Note: See Appendix C for Census regions.
Source: Table 2.9.

Table 2.9 Commercial Buildings Consumption by Energy Source, Selected Years, 1979-1999

(Trillion Btu)

Energy Source and Year	Square Footage Category			Principal Building Activity								Census Region [1]				All Buildings
	1,001 to 10,000	10,001 to 100,000	Over 100,000	Education	Food Sales	Food Service	Health Care	Lodging	Mercantile and Service	Office	All Other	Northeast	Midwest	South	West	
Major Sources [2]																
1979	1,255	2,202	1,508	511	(3)	336	469	278	894	861	1,616	1,217	1,826	1,395	526	4,965
1983	1,242	1,935	1,646	480	(3)	414	463	362	812	1,018	1,274	858	1,821	1,462	682	4,823
1986	1,273	2,008	1,696	633	147	247	456	299	985	1,008	1,202	1,037	1,585	1,459	896	4,977
1989	1,259	2,402	2,127	704	139	255	449	425	1,048	1,230	1,538	1,354	1,659	1,648	1,126	5,788
1992	1,258	2,301	1,932	637	137	307	403	463	892	1,247	1,404	1,090	1,578	1,825	998	5,490
1995 [4]	1,332	2,152	1,838	614	137	332	561	461	973	1,019	1,225	1,035	1,497	1,684	1,106	5,321
1999	1,381	2,300	2,053	649	201	447	515	450	1,145	1,089	1,237	1,116	1,509	1,961	1,147	5,733
Electricity																
1979	429	872	608	163	(3)	171	129	119	361	424	543	425	593	662	227	1,908
1983	469	903	758	152	(3)	212	147	151	426	509	532	324	673	801	331	2,129
1986	654	927	809	179	99	121	132	120	536	641	563	430	584	867	510	2,390
1989	572	1,145	1,056	217	105	113	154	138	550	781	715	586	609	975	604	2,773
1992	586	991	1,033	235	113	138	138	189	444	704	649	419	622	1,002	566	2,609
1995 [4]	618	1,064	926	221	119	166	211	187	508	676	521	436	558	1,027	587	2,608
1999	698	1,235	1,164	257	165	216	232	196	659	767	606	543	662	1,247	645	3,098
Natural Gas																
1979	646	996	532	214	(3)	145	221	115	422	272	784	443	1,007	470	255	2,174
1983	684	809	597	246	(3)	188	218	170	327	365	576	278	978	523	311	2,091
1986	485	715	523	254	45	114	205	105	332	258	409	244	742	426	311	1,723
1989	568	836	670	323	27	128	186	187	417	238	566	353	831	498	391	2,073
1992	572	1,017	586	291	24	157	189	193	381	388	552	354	747	697	376	2,174
1995 [4]	535	830	580	245	18	158	258	213	395	239	420	297	750	528	371	1,946
1999	604	803	616	227	31	216	217	181	446	219	486	299	709	618	396	2,023
Fuel Oil [5]																
1979	177	272	231	107	(3)	15	97	20	103	107	232	285	133	237	26	681
1983	85	140	90	61	(3)	Q	28	18	43	75	79	172	28	104	Q	314
1986	114	206	121	103	Q	Q	Q	20	105	39	130	270	63	86	23	442
1989	101	170	86	71	Q	Q	17	10	76	43	122	237	61	50	Q	357
1992	86	111	75	62	Q	Q	21	16	55	47	67	194	26	48	Q	272
1995 [4]	71	104	60	57	Q	Q	21	Q	49	28	70	168	16	45	7	235
1999	29	73	60	48	Q	Q	19	Q	18	29	65	138	5	29	8	179
District Heat [6]																
1979	Q	61	136	27	(3)	Q	22	24	Q	58	57	64	93	Q	Q	201
1983	Q	83	202	21	(3)	Q	70	22	Q	68	87	84	141	34	30	289
1986	Q	159	243	97	Q	Q	80	Q	12	71	99	94	196	81	51	422
1989	19	252	315	Q	Q	Q	92	Q	Q	167	134	179	159	126	121	585
1992	Q	182	238	49	NC	Q	55	65	Q	109	135	123	183	78	51	435
1995 [4]	Q	154	271	91	Q	Q	70	57	Q	75	214	135	173	83	Q	533
1999	Q	158	213	117	R Q	Q	46	68	Q	74	126	136	132	67	98	433
Propane [7]																
1979	23	15	5	2	(3)	8	Q	Q	10	Q	18	Q	16	15	10	43
1983	20	12	2	2	(3)	8	Q	Q	6	Q	14	Q	7	21	Q	34
1986	44	18	1	3	Q	12	Q	12	17	Q	13	9	19	26	Q	63

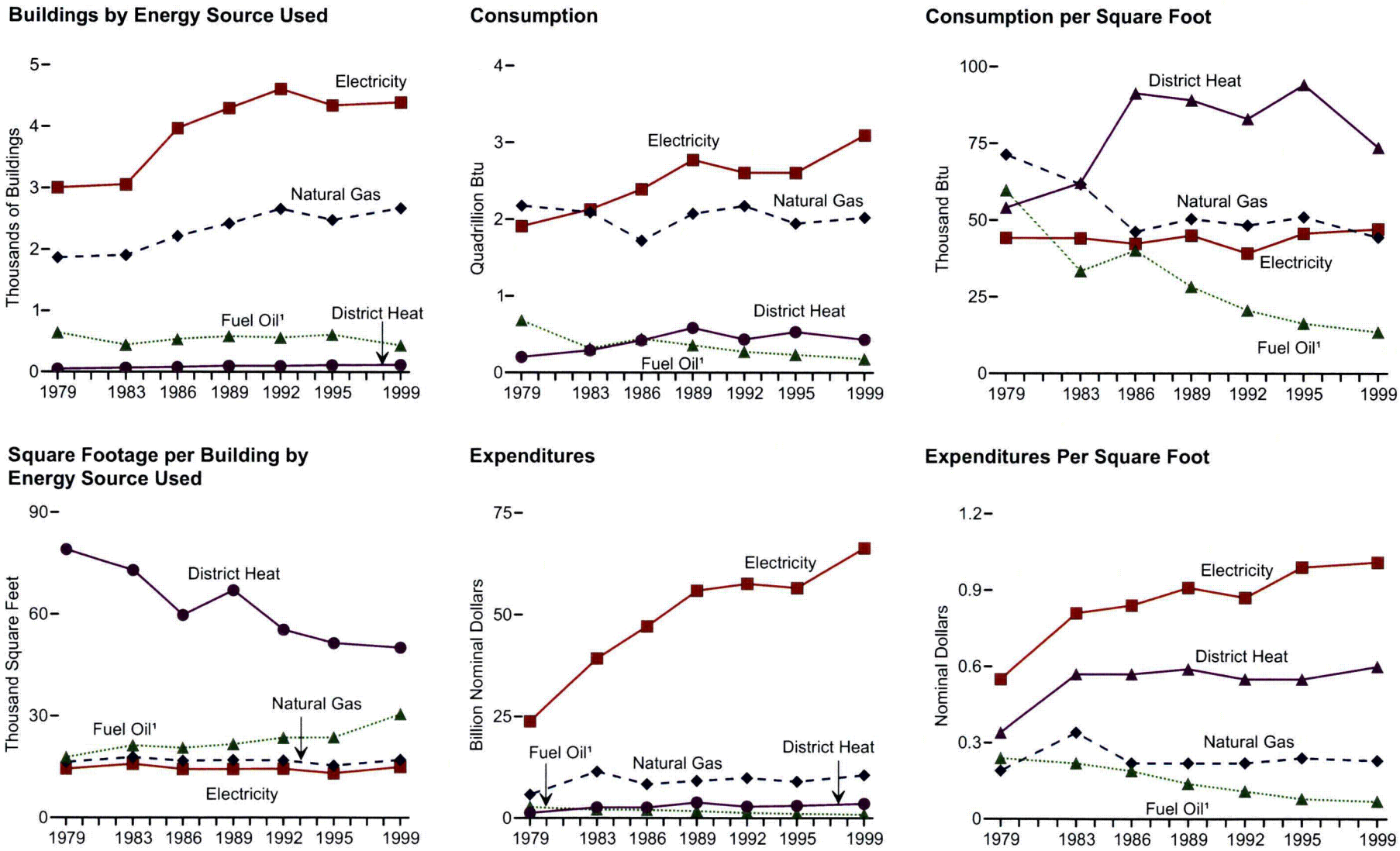
[1] See Appendix C for Census regions.
[2] Includes electricity, natural gas, distillate fuel oil, residual fuel oil, kerosene, and district heat, but excludes propane.
[3] Included in "Food Service."
[4] Beginning in 1995, excludes commercial buildings at multi-building manufacturing facilities, and parking garages.
[5] Distillate fuel oil, residual fuel oil, and kerosene.
[6] Through 1983, includes purchased steam only. Beginning in 1986, includes purchased and nonpurchased steam, and purchased and nonpurchased hot water.
[7] Beginning with the 1989 survey, propane consumption statistics were not collected.
R=Revised data. Q=Data withheld because either the relative standard error was greater than 50 percent or fewer than 20 buildings were sampled. NC=No cases in the sample.

Notes: • Data are estimates. Statistics for individual fuels are for all buildings using each fuel. Statistics for "Major Sources" are for the sum of "Electricity," "Natural Gas," "Fuel Oil," and "District Heat," across all buildings using any of those fuels. • Complete data for 2003 were not available in time for this publication. For 2003 data, see http://www.eia.doe.gov/emeu/cbecs.

Web Page: For related information, see http://www.eia.doe.gov/emeu/cbecs.

Sources: • 1979—Energy Information Administration (EIA), Form EIA-143, "Nonresidential Buildings Energy Consumption Survey." • 1983—EIA, Form EIA-788, "Nonresidential Buildings Energy Consumption Survey." • 1986—EIA, Form EIA-871, "Nonresidential Buildings Energy Consumption Survey." • 1989, 1992, 1995, and 1999—EIA, Form EIA-871A-F, "Commercial Buildings Energy Consumption Survey."

Figure 2.10 Commercial Buildings Energy Consumption and Expenditure Indicators, Selected Years, 1979-1999



[1] Distillate fuel oil, residual fuel oil, and kerosene.

Notes: • For years not shown, there are no data available. • Because vertical scales differ, graphs should not be compared.

Source: Table 2.10.

Table 2.10 Commercial Buildings Energy Consumption and Expenditure Indicators, Selected Years, 1979-1999

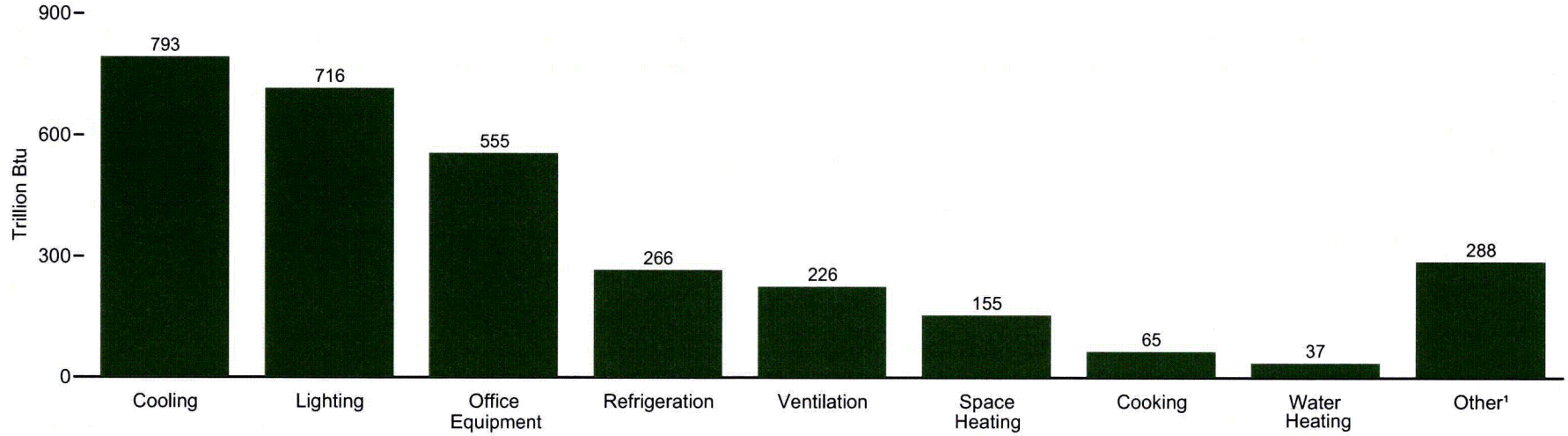
Energy Source and Year	Building Characteristics			Energy Consumption				Energy Expenditures			
	Number of Buildings	Total Square Feet	Square Feet per Building	Total	Per Building	Per Square Foot	Per Employee	Total	Per Building	Per Square Foot	Per Million Btu
	Thousands	Millions	Thousands	Trillion Btu	Million Btu	Thousand Btu	Million Btu	Million Dollars [1]	Thousand Dollars [1]	Dollars [1]	Dollars [1]
Major Sources [2]											
1979	3,073	43,546	14.2	5,008	1,630	115.0	85.0	33,821	11.0	0.78	6.75
1983	3,185	49,471	15.5	4,856	1,525	98.2	65.7	55,764	17.5	1.13	11.48
1986	4,154	58,199	14.0	5,040	1,213	86.6	68.6	60,762	14.6	1.04	12.06
1989	4,528	63,184	14.0	5,788	1,278	91.6	81.9	70,826	15.6	1.12	12.24
1992	4,806	67,876	14.1	5,490	1,142	80.9	77.1	71,821	14.9	1.06	13.08
1995 [3]	4,579	58,772	12.8	5,321	1,162	90.5	69.3	69,918	15.3	1.19	13.14
1999	4,657	67,338	14.5	5,733	1,231	85.1	70.0	81,552	17.5	1.21	14.22
Electricity											
1979	3,001	43,153	14.4	1,908	636	44.2	32.4	23,751	7.9	0.55	12.45
1983	3,052	48,327	15.8	2,129	697	44.1	28.9	39,279	12.9	0.81	18.45
1986	3,965	56,508	14.3	2,390	603	42.3	32.7	47,186	11.9	0.84	19.74
1989	4,294	61,563	14.3	2,773	646	45.0	39.3	55,943	13.0	0.91	20.17
1992	4,611	66,525	14.4	2,609	566	39.2	36.6	57,619	12.5	0.87	22.09
1995 [3]	4,343	57,076	13.1	2,608	600	45.7	34.1	56,621	13.0	0.99	21.71
1999	4,395	65,716	15.0	3,098	706	47.1	37.9	66,424	15.1	1.01	21.44
Natural Gas											
1979	1,864	30,477	16.4	2,174	1,167	71.3	52.5	5,814	3.1	0.19	2.67
1983	1,904	33,935	17.8	2,091	1,098	61.6	40.6	11,443	6.0	0.34	5.47
1986	2,214	37,263	16.8	1,723	778	46.2	35.2	8,355	3.8	0.22	4.85
1989	2,420	41,143	17.0	2,073	857	50.4	43.2	9,204	3.8	0.22	4.44
1992	2,657	44,994	16.9	2,174	818	48.3	42.5	9,901	3.7	0.22	4.55
1995 [3]	2,478	38,145	15.4	1,946	785	51.0	38.7	9,018	3.6	0.24	4.63
1999	2,670	45,525	17.1	2,023	758	44.4	36.0	10,609	4.0	0.23	5.24
Fuel Oil [4]											
1979	641	11,397	17.8	681	1,063	59.7	40.5	2,765	4.3	0.24	4.06
1983	441	9,409	21.3	314	714	33.4	19.8	2,102	4.8	0.22	6.68
1986	534	11,005	20.6	442	827	40.1	27.7	2,059	3.9	0.19	4.66
1989	581	12,600	21.7	357	614	28.3	21.0	1,822	3.1	0.14	5.11
1992	560	13,215	23.6	272	487	20.6	15.1	1,400	2.5	0.11	5.14
1995 [3]	607	14,421	23.7	235	387	16.3	10.2	1,175	1.9	0.08	5.00
1999	434	13,285	30.6	179	412	13.5	9.1	956	2.2	0.07	5.35
District Heat [5]											
1979	47	3,722	79.0	201	4,267	54.0	26.5	1,267	26.9	0.34	6.30
1983	64	4,643	72.9	289	4,530	62.1	34.4	2,627	41.2	0.57	9.10
1986	77	4,625	59.7	422	5,446	91.2	52.4	2,620	33.8	0.57	6.21
1989	98	6,578	67.0	585	5,964	89.0	56.5	3,857	39.3	0.59	6.59
1992	95	5,245	55.4	435	4,596	82.9	60.9	2,901	30.7	0.55	6.67
1995 [3]	110	5,658	51.5	533	4,849	94.1	51.2	3,103	28.3	0.55	5.83
1999	117	5,891	50.2	433	3,692	73.6	50.1	3,564	30.4	0.60	8.23
Propane											
1979	214	2,797	13.1	43	202	15.5	12.9	225	1.1	0.08	5.19
1983	191	2,562	13.4	34	176	13.1	8.5	313	1.6	0.12	9.29
1986	344	3,213	9.3	63	184	19.7	17.6	543	1.6	0.17	8.59
1989	348	4,695	13.5	NA	NA	NA	NA	NA	NA	NA	NA
1992	337	3,393	10.1	NA	NA	NA	NA	NA	NA	NA	NA
1995	589	5,344	9.1	NA	NA	NA	NA	NA	NA	NA	NA
1999	451	6,290	14.0	NA	NA	NA	NA	NA	NA	NA	NA

[1] Nominal dollars.
[2] Includes electricity, natural gas, fuel oil, and district heat. Propane consumption statistics were collected in 1979, 1983, and 1986, but are not included in the Major Sources.
[3] Beginning with the 1995 survey, commercial buildings on multibuilding manufacturing facilities and parking garages were excluded.
[4] Distillate fuel oil, residual fuel oil, and kerosene.
[5] For 1979 and 1983, includes only purchased steam. Beginning with the 1986 survey, includes purchased and nonpurchased steam and purchased and nonpurchased hot water.
NA=Not available.

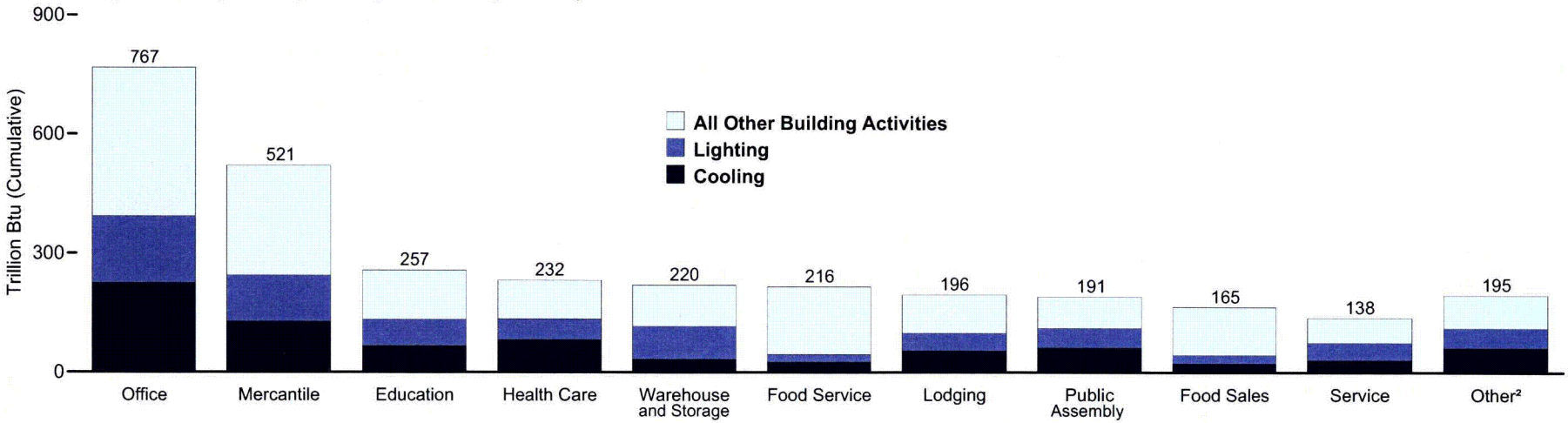
Notes: • Data are estimates. Statistics for individual fuels are for all buildings using each fuel. Statistics for major sources are for all buildings, even buildings using no major fuel. • Complete data for 2003 were not available in time for this publication. For 2003 data, see http://www.eia.doe.gov/emeu/cbecs.
Web Page: For related information, see http://www.eia.doe.gov/emeu/cbecs.
Sources: • 1979—Energy Information Administration (EIA), Form EIA-143, "Nonresidential Buildings Energy Consumption Survey." • 1983—EIA, Form EIA-788, "Nonresidential Buildings Energy Consumption Survey." • 1986—EIA, Form EIA-871, "Nonresidential Buildings Energy Consumption Survey." • 1989, 1992, 1995, and 1999—EIA, Form EIA-871A-F, "Commercial Buildings Energy Consumption Survey."

Figure 2.11 Commercial Buildings Electricity Consumption by End Use, 1999

Electricity Consumption by End Use



Electricity Consumption by Principal Building Activity



¹ Examples of "other" include medical, electronic, and testing equipment; conveyors, wrappers, hoists, and compactors; washers, disposals, dryers and cleaning equipment; escalators, elevators, dumb waiters, and window washers; shop tools and electronic testing equipment; sign motors, time clocks, vending machines, phone equipment, and sprinkler controls; scoreboards, fire alarms, intercoms, television sets, radios, projectors, and door operators.

² Religious worship, public order and safety, vacant, and buildings that do not fit into any of the other named categories.

Note: Data are preliminary estimates.

Table 2.11 Commercial Buildings Electricity Consumption by End Use, 1999

(Trillion Btu)

Building Characteristic	Space Heating	Cooling	Ventilation	Water Heating	Lighting	Cooking	Refrigeration	Office Equipment	Other [1]	All End Uses
All Buildings	155	793	226	37	716	65	266	555	288	3,098
Principal Building Activity										
Education	12	66	19	2	67	3	11	52	26	257
Food Sales	4	23	6	1	21	4	72	28	7	165
Food Service	5	26	7	1	19	38	82	30	7	216
Health Care	6	82	19	1	52	3	8	40	21	232
Lodging	21	54	14	10	45	2	12	14	25	196
Mercantile	35	128	35	6	116	6	52	104	40	521
Office	45	225	53	8	168	5	6	200	58	767
Public Assembly	8	62	15	2	50	3	9	21	21	191
Public Order and Safety	1	12	3	Q	11	Q	Q	5	5	40
Religious Worship	2	16	4	(s)	11	(s)	1	2	6	42
Service	6	31	12	2	44	Q	Q	20	21	138
Warehouse and Storage	6	33	29	2	83	Q	9	19	39	220
Other [2]	Q	31	9	1	27	Q	Q	18	11	101
Vacant	(s)	3	1	Q	1	Q	Q	2	3	10

[1] Examples of "other" include medical, electronic, and testing equipment; conveyors, wrappers, hoists, and compactors; washers, disposals, dryers and cleaning equipment; escalators, elevators, dumb waiters, and window washers; shop tools and electronic testing equipment; sign motors, time clocks, vending machines, phone equipment, and sprinkler controls; scoreboards, fire alarms, intercoms, television sets, radios, projectors, and door operators.

[2] Includes buildings that do not fit into any of the other named categories.

(s)=Less than 0.5 trillion Btu. Q=Data withheld because either the relative standard error was greater than 50 percent or fewer than 20 buildings were sampled.

Notes: • Data are preliminary estimates. • One kilowatthour = 3,412 Btu.

Web Page: For related information, see http://www.eia.doe.gov/emeu/cbecs.

Source: Energy Information Administration, Form EIA-871A-F, "Commercial Buildings Energy Consumption Survey."

Note. Electrical System Energy Losses. Electrical system energy losses are calculated as the difference between total primary consumption by the electric power sector—see Table 2.1f—and the total energy content of electricity retail sales—see Tables 8.9 and A6. Most of these losses occur at steam-electric power plants (conventional and nuclear) in the conversion of heat energy into mechanical energy to turn electric generators. The loss is a thermodynamically necessary feature of the steam-electric cycle. Part of the energy input-to-output losses is a result of imputing fossil energy equivalent inputs for hydroelectric, solar, and wind energy sources, since there is no generally accepted practice for measuring those thermal conversion rates. In addition to conversion losses, other losses include power plant use of electricity, transmission and distribution of electricity from power plants to end-use consumers (also called "line losses"), and unaccounted for electricity. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity sales. Overall, approximately 67 percent of total energy input is lost in conversion; of electricity generated, approximately 5 percent is lost in plant use and 9 percent is lost in transmission and distribution.

3 Financial Indicators

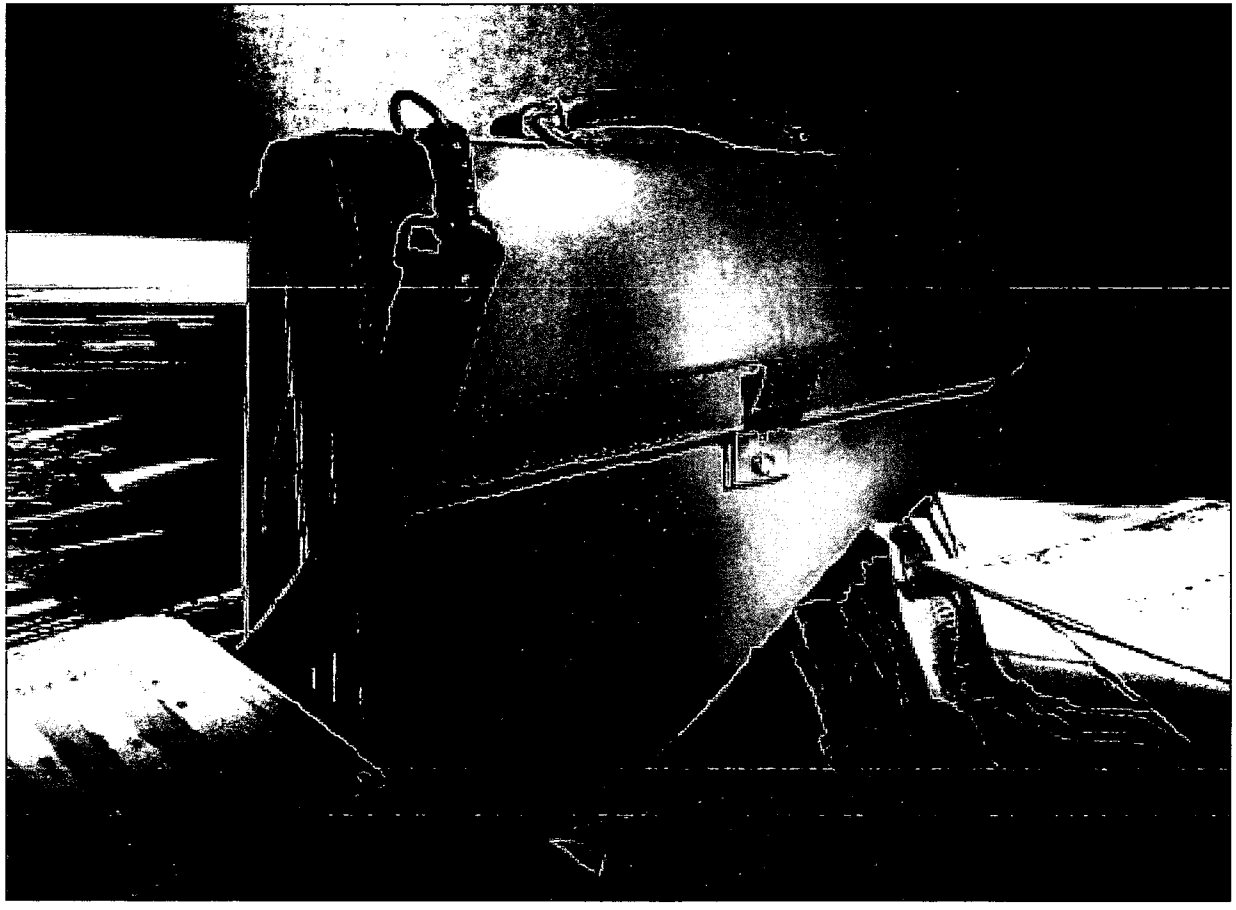
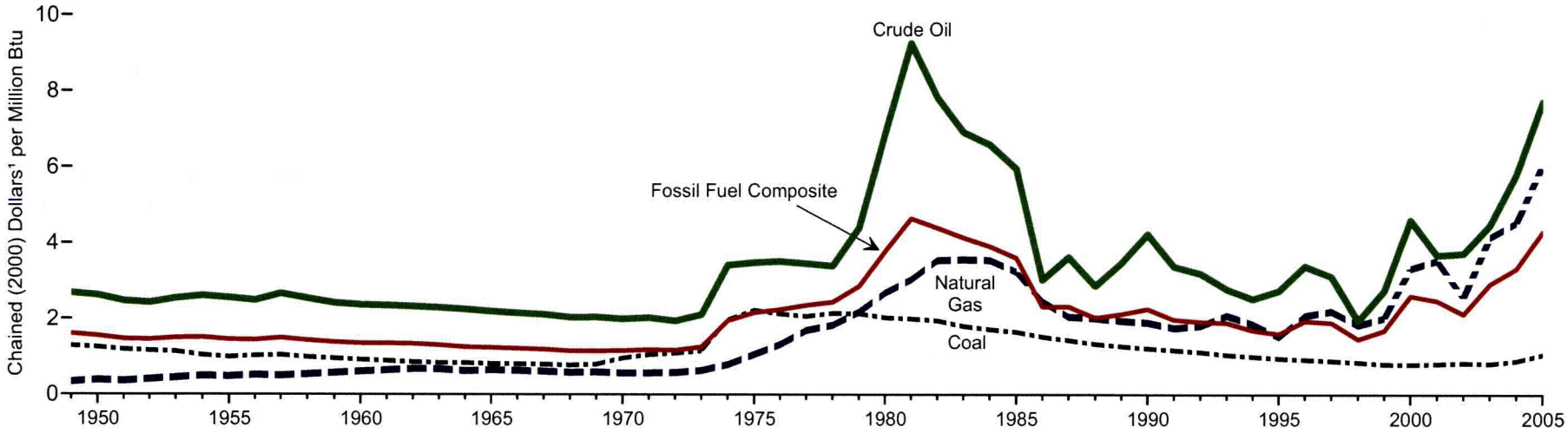
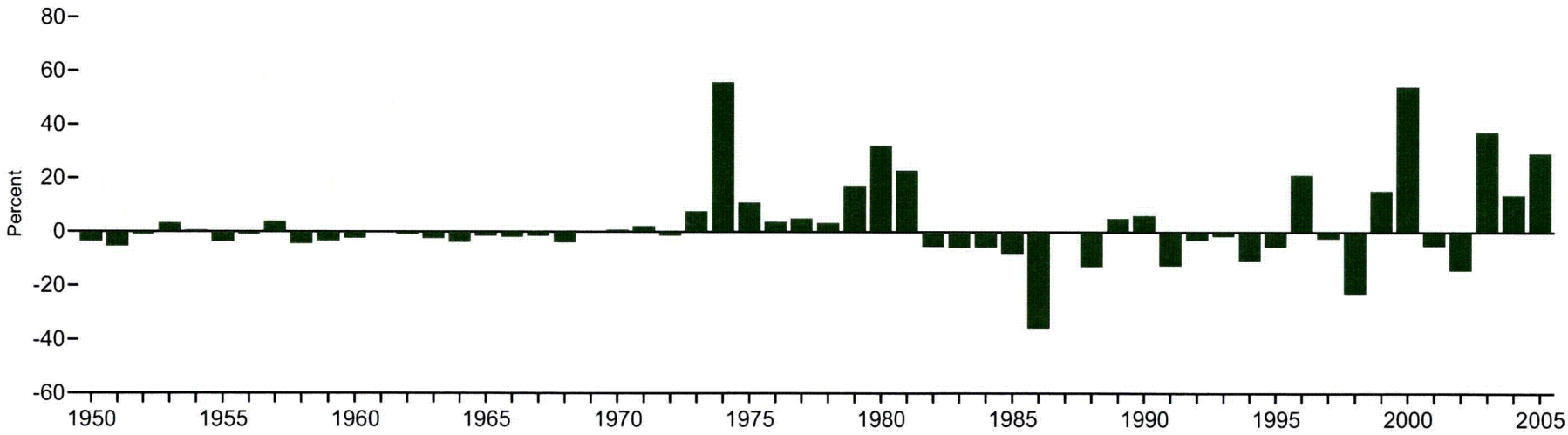


Figure 3.1 Fossil Fuel Production Prices

Prices, 1949-2005



Fossil Fuel Composite Price, Change From Previous Year, 1950-2005



[1] Calculated by using gross domestic product implicit price deflators. See Table D1.

Source: Table 3.1.

Table 3.1 Fossil Fuel Production Prices, Selected Years, 1949-2005

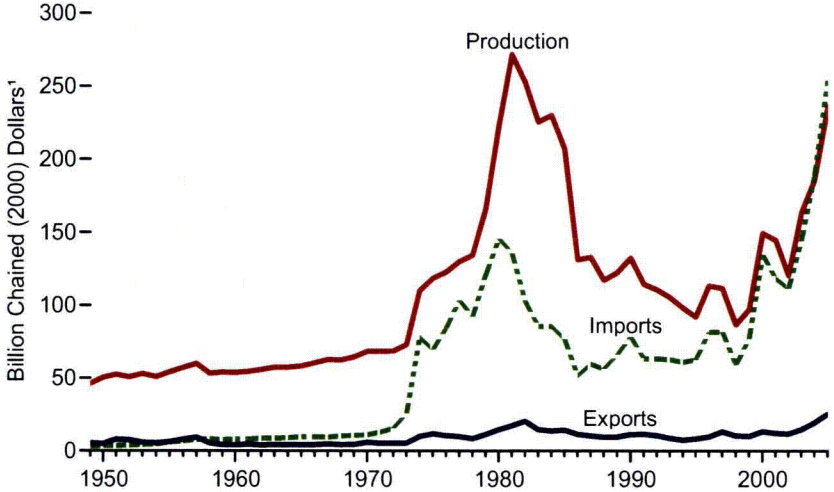
(Dollars per Million Btu)

Year	Coal [1]		Natural Gas [2]		Crude Oil [3]		Fossil Fuel Composite [4]		
	Nominal	Real [5]	Nominal	Real [5]	Nominal	Real [5]	Nominal	Real [5]	Percent Change [6]
1949	0.21	1.29	0.05	0.33	0.44	2.68	0.26	1.60	—
1950	0.21	1.25	0.06	0.38	0.43	2.62	0.26	1.54	-3.6
1955	0.19	0.99	0.09	0.48	0.48	2.55	0.27	1.45	-3.7
1960	0.19	0.92	0.13	0.60	0.50	2.36	0.28	1.35	-2.3
1965	0.18	0.82	0.15	0.65	0.49	2.19	0.28	1.23	-1.5
1970	0.27	0.97	0.15	0.56	0.55	1.99	0.32	1.15	0.8
1971	0.30	1.05	0.16	0.56	0.58	2.02	0.34	1.18	2.1
1972	0.33	1.09	0.17	0.57	0.58	1.94	0.35	1.16	-1.4
1973	0.37	1.15	0.20	0.63	0.67	2.11	0.40	1.25	7.7
1974	0.69	1.98	0.27	0.79	1.18	3.41	0.68	1.95	55.8
1975	0.85	2.22	0.40	1.06	1.32	3.48	0.82	2.16	10.9
1976	0.86	2.13	0.53	1.32	1.41	3.51	0.90	2.24	3.8
1977	0.88	2.07	0.72	1.69	1.48	3.46	1.01	2.36	5.1
1978	0.98	2.15	0.84	1.83	1.55	3.39	1.12	2.44	3.4
1979	1.06	2.14	1.08	2.18	2.18	4.40	1.42	2.86	17.3
1980	1.10	2.04	1.45	2.68	3.72	6.89	2.04	3.78	32.1
1981	1.18	2.00	1.80	3.04	5.48	9.27	2.75	4.64	22.9
1982	1.23	1.95	2.22	3.54	4.92	7.84	2.76	4.40	-5.3
1983	1.18	1.81	2.32	3.56	4.52	6.93	2.70	4.14	-5.8
1984	1.16	1.72	2.40	3.55	4.46	6.60	2.65	3.91	-5.6
1985	1.15	1.65	2.26	3.24	4.15	5.96	2.51	3.60	-7.8
1986	1.09	1.52	1.75	2.45	2.16	3.03	1.65	2.32	-35.6
1987	1.05	1.44	1.50	2.05	2.66	3.63	1.70	2.32	0.1
1988	1.01	1.34	1.52	2.01	2.17	2.87	1.53	2.03	-12.8
1989	1.00	1.28	1.53	1.94	2.73	3.48	1.67	2.13	5.0
1990	1.00	1.22	1.55	1.90	3.45	4.23	1.84	2.26	6.2
1991	0.99	1.17	1.48	1.75	2.85	3.38	1.67	1.98	-12.5
1992	0.97	1.12	1.57	1.82	2.76	3.19	1.66	1.92	-3.0
1993	0.93	1.05	1.84	2.09	2.46	2.78	1.67	1.89	-1.5
1994	0.91	1.01	1.67	1.86	2.27	2.52	1.53	1.69	-10.4
1995	0.88	0.96	1.40	1.52	2.52	2.74	1.47	1.60	-5.5
1996	0.87	0.92	1.96	2.09	3.18	3.39	1.82	1.94	21.4
1997	0.85	0.89	2.10	2.20	2.97	3.11	1.81	1.90	-2.4
1998	0.83	0.86	1.77	1.83	1.87	1.94	1.41	1.46	-22.8
1999	0.79	0.81	1.98	2.02	2.68	2.74	1.65	1.69	15.4
2000	0.80	0.80	3.32	3.32	4.61	4.61	2.60	2.60	54.3
2001	0.83	0.82	3.62	3.54	3.77	3.68	2.53	2.47	-5.0
2002	0.87	0.84	2.67	2.56	3.88	3.73	2.21	2.12	R-14.2
2003	0.87	0.82	4.41	R4.15	4.75	R4.47	3.10	R2.91	R37.3
2004	R0.98	R0.89	R4.95	R4.53	6.34	R5.81	R3.62	R3.32	R13.9
2005P	1.19	1.06	6.80	6.06	8.67	7.73	4.81	4.29	29.4

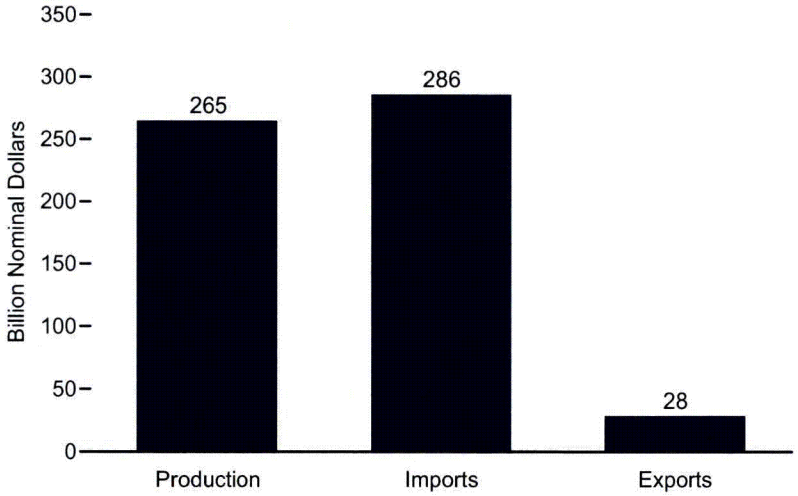
[1] Free-on-board (f.o.b.) rail/barge prices, which are the f.o.b. prices of coal at the point of first sale, excluding freight or shipping and insurance costs. See "Free on Board (F.O.B.)" in Glossary.
[2] Wellhead prices. See "Natural Gas Wellhead Price" in Glossary.
[3] Domestic first purchase prices. See "Crude Oil Domestic First Purchase Price" in Glossary.
[4] Derived by multiplying the price per Btu of each fossil fuel by the total Btu content of the production of each fossil fuel and dividing this accumulated value of total fossil fuel production by the accumulated Btu content of total fossil fuel production.
[5] In chained (2000) dollars, calculated by using gross domestic product implicit price deflators. See Table D1.
[6] Based on real values.
R=Revised. P=Preliminary. — = Not applicable.
Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/finan.html.
Sources: Tables 5.18, 6.7, 7.8, A2, A4, and A5.

Figure 3.2 Value of Fossil Fuel Production

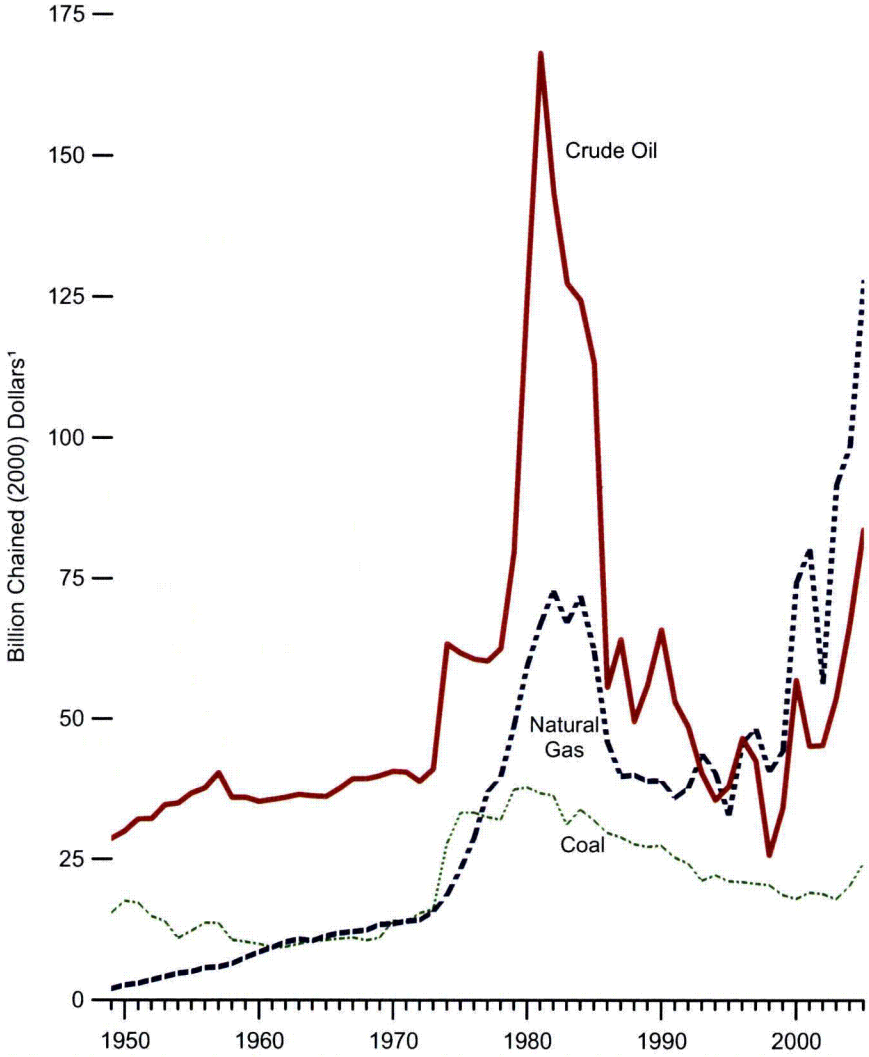
Overview, 1949-2005



Overview, 2005



By Fuel, 1949-2005



[1] Calculated by using gross domestic product implicit price deflators. See Table D1.
Note: Because vertical scales differ, graphs should not be compared.

Sources: Tables 3.2, 3.7, and 3.8.

Table 3.2 Value of Fossil Fuel Production, Selected Years, 1949-2005

(Billion Dollars)

Year	Coal [1]		Natural Gas [2]		Crude Oil [3,4]		Total	
	Nominal	Real [5]	Nominal	Real [5]	Nominal	Real [5]	Nominal	Real [5]
1949	2.52	15.40	0.33	1.99	4.68	28.61	7.52	46.00
1950	2.91	17.59	0.44	2.66	4.95	29.97	8.30	50.22
1955	2.30	12.28	0.94	5.02	6.88	36.72	10.12	54.02
1960	2.10	9.97	1.79	8.50	7.42	35.24	11.30	53.71
1965	2.40	10.64	2.57	11.39	8.15	36.15	13.11	58.18
1970	3.88	14.11	3.73	13.53	11.19	40.62	18.80	68.27
1971	4.01	13.87	4.05	14.00	11.71	40.50	19.77	68.38
1972	4.65	15.42	4.28	14.19	11.71	38.83	20.65	68.44
1973	5.14	16.14	4.98	15.64	13.07	41.05	23.20	72.84
1974	9.65	27.79	6.48	18.66	22.00	63.36	38.13	109.81
1975	12.67	33.33	8.85	23.28	23.45	61.70	44.96	118.31
1976	13.40	33.33	11.57	28.79	24.37	60.64	49.34	122.76
1977	13.91	32.53	15.82	37.00	25.79	60.32	55.52	129.86
1978	14.65	32.02	18.18	39.72	28.60	62.51	61.43	134.25
1979	18.55	37.44	24.16	48.75	39.45	79.63	82.16	165.82
1980	20.45	37.84	32.09	59.37	67.93	125.70	120.47	222.91
1981	21.75	36.79	39.51	66.84	99.40	168.13	160.66	271.75
1982	22.84	36.41	45.71	72.88	90.03	143.53	158.58	252.81
1983	20.32	31.16	43.73	67.06	83.05	127.36	147.10	225.58
1984	22.94	33.91	48.69	71.97	84.10	124.31	155.74	230.19
1985	22.27	31.94	43.35	62.18	78.88	113.16	144.50	207.28
1986	21.18	29.73	32.71	45.90	39.63	55.63	93.52	131.26
1987	21.20	28.96	29.11	39.77	46.93	64.12	97.24	132.85
1988	20.97	27.71	30.28	40.01	37.48	49.51	88.73	117.22
1989	21.40	27.24	30.58	38.93	44.07	56.10	96.05	122.27
1990	22.39	27.45	31.80	38.97	53.77	65.91	107.96	132.32
1991	21.40	25.35	30.39	35.99	44.77	53.02	96.57	114.36
1992	20.98	24.28	32.56	37.69	41.97	48.58	95.50	110.56
1993	18.77	21.23	38.72	43.81	35.61	40.29	93.10	105.34
1994	20.06	22.23	36.46	40.40	32.07	35.53	88.59	98.16
1995	19.45	21.12	30.24	32.83	35.00	38.00	84.69	91.95
1996	19.68	20.97	42.99	45.81	43.68	46.54	106.35	113.32
1997	19.77	20.72	46.09	48.30	40.57	42.52	106.43	111.55
1998	19.75	20.47	39.12	40.56	24.80	25.71	83.68	86.74
1999	18.30	18.70	43.37	44.32	33.40	34.13	95.08	97.15
2000	18.02	18.02	74.33	74.33	56.93	56.93	149.27	149.27
2001	19.60	19.14	82.28	80.35	46.25	45.16	148.13	144.66
2002	19.68	R18.88	58.66	R56.30	47.21	R45.31	125.54	R120.50
2003	19.13	R18.00	R97.47	R91.69	57.14	R53.76	R173.75	R163.44
2004	R22.16	R20.32	R107.48	R98.51	R72.93	R66.84	R202.57	R185.67
2005P	27.33	24.38	143.55	128.02	93.94	83.77	264.82	236.17

[1] Coal values are based on free-on-board (f.o.b.) rail/barge prices, which are the f.o.b. prices of coal at the point of first sale, excluding freight or shipping and insurance costs. See "Free on Board (F.O.B.)" in Glossary.

[2] Natural gas values are for marketed production based on wellhead prices. See "Natural Gas Marketed Production" and "Natural Gas Wellhead Price" in Glossary.

[3] Includes lease condensate.

[4] Crude oil values are based on domestic first purchase prices. See "Crude Oil Domestic First Purchase Price" in Glossary.

[5] In chained (2000) dollars, calculated by using gross domestic product implicit price deflators. See Table D1.

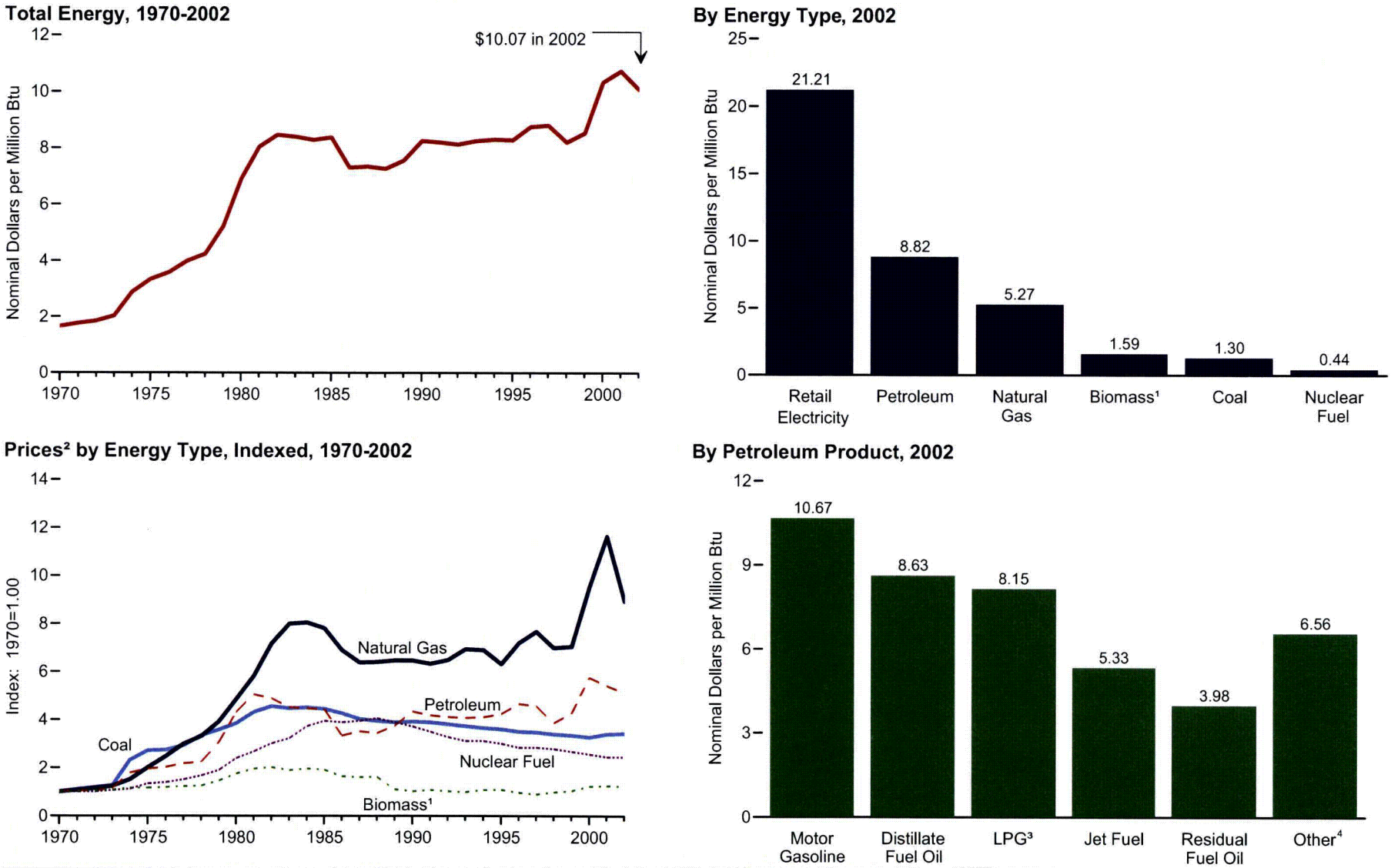
R=Revised. P=Preliminary.

Note: Totals may not equal sum of components due to independent rounding.

Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/finan.html.

Sources: Tables 5.1, 5.18, 6.2, 6.7, 7.2, and 7.8.

Figure 3.3 Consumer Price Estimates for Energy by Source



[1] Wood and waste.
[2] Based on nominal dollars.
[3] Liquefied petroleum gases.

[4] Consumption-weighted average price for asphalt and road oil, aviation gasoline, kerosene, lubricants, petrochemical feedstocks, petroleum coke, special naphthas, waxes, and miscellaneous petroleum products.

Note: Because vertical scales differ, graphs should not be compared.

Source: Table 3.3.

Table 3.3 Consumer Price Estimates for Energy by Source, 1970-2002

(Nominal Dollars per Million Btu)

Year	Primary Energy [1]												Electric Power Sector [8,9]	Retail Electricity [10]	Total Energy [6,7,11]
			Petroleum												
	Coal	Natural Gas	Distillate Fuel Oil	Jet Fuel	LPG [2]	Motor Gasoline [3]	Residual Fuel Oil	Other [4]	Total	Nuclear Fuel	Biomass [5]	Total [6,7]			
1970	0.38	0.59	1.16	0.73	1.46	2.85	0.42	1.38	1.72	0.18	1.29	1.08	0.32	4.98	1.65
1971	0.42	0.63	1.22	0.77	1.49	2.90	0.58	1.45	1.79	0.18	1.31	1.15	0.38	5.30	1.76
1972	0.45	0.68	1.22	0.79	1.52	2.88	0.62	1.49	1.78	0.18	1.33	1.18	0.42	5.54	1.84
1973	0.48	0.73	1.46	0.92	2.02	3.10	0.75	1.58	1.97	0.19	1.39	1.29	0.47	5.86	2.02
1974	0.88	0.89	2.44	1.58	2.81	4.32	1.82	2.60	3.06	0.20	1.50	1.94	0.87	7.42	2.87
1975	1.03	1.18	2.60	2.05	2.97	4.65	1.93	2.94	3.35	0.24	1.50	2.19	0.96	8.61	3.33
1976	1.04	1.46	2.77	2.25	3.21	4.84	1.90	3.08	3.47	0.25	1.53	2.34	1.03	9.13	3.57
1977	1.11	1.76	3.11	2.59	3.65	5.13	2.14	3.27	3.73	0.27	1.58	2.58	1.17	10.11	3.98
1978	1.27	1.95	3.26	2.87	3.60	5.24	2.08	3.45	3.84	0.30	1.61	2.71	1.26	10.92	4.23
1979	1.36	2.31	4.69	3.90	4.50	7.11	2.83	4.70	5.23	0.34	1.88	3.47	1.49	11.78	5.21
1980	1.46	2.86	6.70	6.36	5.64	9.84	3.88	7.04	7.40	0.43	2.26	4.57	1.76	13.95	6.89
1981	1.64	3.43	8.03	7.57	6.18	10.94	4.91	8.67	8.68	0.48	R2.52	5.24	2.02	16.14	8.03
1982	1.73	4.23	7.78	7.23	6.66	10.39	4.65	7.87	8.40	0.54	R2.60	5.32	2.03	18.16	8.46
1983	1.70	4.72	7.32	6.53	7.17	9.12	4.50	7.60	7.77	0.58	R2.44	5.11	2.00	18.62	8.39
1984	1.71	4.75	7.37	6.25	6.93	8.89	4.75	7.67	7.68	0.67	R2.53	5.03	2.00	18.50	8.28
1985	1.69	4.61	7.22	5.91	R6.55	9.01	4.30	7.55	7.63	0.71	R2.47	R4.92	1.88	19.05	8.37
1986	1.62	4.07	5.68	3.92	R6.44	6.79	2.37	5.80	5.73	0.70	R2.12	R3.97	1.58	19.05	7.30
1987	1.53	3.77	5.97	4.03	R6.07	7.23	2.86	5.63	6.04	0.71	2.07	3.99	1.55	18.74	7.34
1988	1.50	3.78	5.83	3.80	R5.88	7.33	2.35	5.26	5.91	0.73	R2.09	R3.89	1.47	18.68	7.26
1989	1.48	3.82	6.43	4.39	R5.54	8.02	2.72	5.50	6.43	0.70	R1.42	R4.07	1.50	18.98	7.55
1990	1.49	3.82	7.68	5.68	R6.77	9.12	3.17	5.82	7.47	0.67	R1.32	4.45	1.47	R19.32	8.25
1991	1.48	3.74	7.29	4.83	R6.81	8.93	2.62	5.74	7.20	0.63	R1.39	4.28	1.39	R19.84	8.20
1992	1.45	3.83	7.09	4.52	R6.21	8.96	2.28	5.52	7.07	0.59	R1.32	R4.24	1.37	20.06	8.13
1993	1.42	4.10	7.08	4.29	R6.23	8.83	2.26	5.50	7.01	0.56	R1.28	4.25	1.39	20.38	8.25
1994	1.39	4.08	6.99	3.95	R6.66	8.96	2.32	5.47	7.06	0.56	R1.39	4.27	1.35	R20.33	8.30
1995	1.37	3.73	6.98	4.00	R6.56	9.22	2.46	5.74	7.29	0.54	R1.40	4.23	1.28	R20.29	8.28
1996	1.33	4.25	7.87	4.82	R8.03	9.85	2.80	6.19	R8.02	0.51	R1.25	4.63	1.34	R20.16	8.75
1997	1.32	4.53	7.66	4.53	R7.43	9.81	2.93	5.88	7.86	0.51	R1.15	4.66	1.36	R20.13	8.80
1998	1.29	4.13	6.57	3.35	R6.01	8.45	2.15	5.04	6.64	0.50	R1.27	4.07	1.30	R19.80	R8.20
1999	1.27	4.16	7.19	4.01	6.65	9.31	2.51	5.30	7.33	0.48	R1.34	4.36	1.31	R19.52	R8.53
2000	1.24	5.62	9.86	6.60	R10.20	12.01	4.32	6.97	9.91	0.46	R1.58	5.71	1.64	R20.03	10.33
2001	1.29	6.87	9.17	5.72	R9.61	11.35	3.99	R6.37	R9.32	0.44	R1.61	5.79	1.78	R21.49	R10.73
2002	1.30	5.27	8.63	5.33	8.15	10.67	3.98	6.56	8.82	0.44	1.59	5.23	1.51	21.21	10.07

[1] Consumption-weighted average prices for all sectors, including the electric power sector.
[2] Liquefied petroleum gases.
[3] Beginning in 1993, includes ethanol blended into motor gasoline.
[4] Consumption-weighted average price for asphalt and road oil, aviation gasoline, kerosene, lubricants, petrochemical feedstocks, petroleum coke, special naphthas, waxes, and miscellaneous petroleum products.
[5] Wood and waste.
[6] Includes coal coke imports and exports, which are not separately displayed. In 2002, coal coke imports averaged 3.04 dollars per million Btu, and coal coke exports averaged 3.25 dollars per million Btu.
[7] Includes net imports of electricity, which are not separately displayed. Also, in 1981-1992, includes ethanol blended into motor gasoline that is not included in the motor gasoline data for those years.
[8] Electricity-only and combined-heat-and-power (CHP) plants within the NAICS (North American Industry Classification System) 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.
[9] Consumption-weighted average electric power sector price for coal, natural gas, petroleum, nuclear fuel, wood, waste, and net imports of electricity.
[10] Retail electricity prices paid by ultimate customers, reported by electric utilities and, beginning in 1996, other energy service providers.
[11] Consumption-weighted average price for primary energy and retail electricity in the four end-use sectors (residential, commercial, industrial, and transportation); excludes energy in the electric power sector.

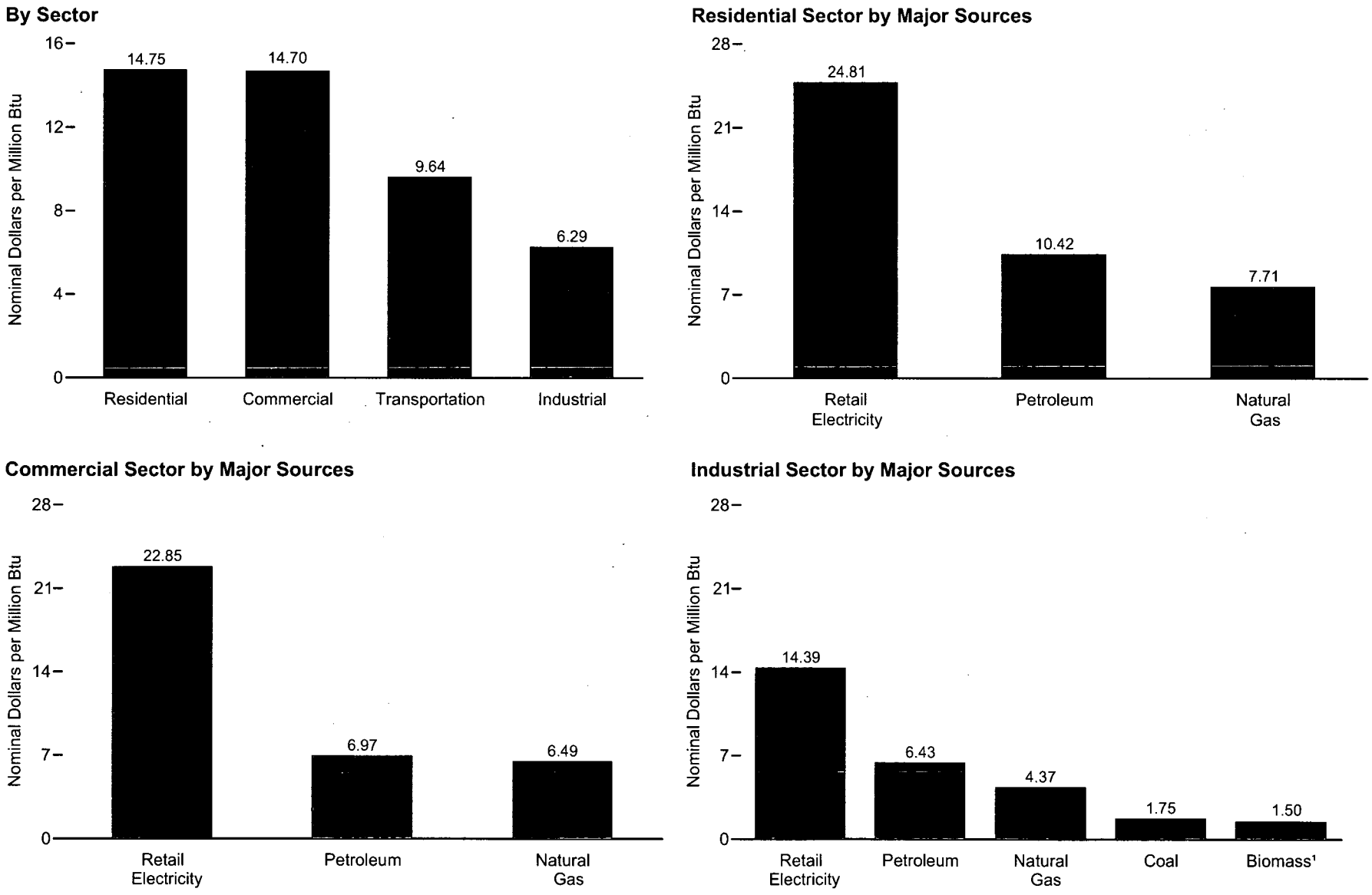
R=Revised.

Notes: • Prices include taxes where data are available. • There are no direct fuel costs for hydroelectric, geothermal, wind, or solar energy.

Web Page: For related information, see http://www.eia.doe.gov/emeu/states/main_us.html (United States page).

Source: Energy Information Administration, "State Energy Data 2002: Prices and Expenditures" (June 2006), U.S. Table 1.

Figure 3.4 Consumer Price Estimates for Energy by End-Use Sector, 2002



[1] Wood and waste.

Notes: • Consumer prices are intended to represent prices paid by consumers. As such they include taxes where data are available. • There are no direct fuel costs for hydroelectric, geothermal, wind, or solar energy. • Because vertical scales differ, graphs should not be compared.

Source: Table 3.4.

Table 3.4 Consumer Price Estimates for Energy by End-Use Sector, 1970-2002

(Nominal Dollars per Million Btu)

	Residential				Commercial				Industrial						Transportation	
Year	Natural Gas	Petroleum	Retail Electricity [1]	Total [2]	Natural Gas	Petroleum	Retail Electricity [1]	Total [3]	Coal	Natural Gas	Petroleum	Biomass [4]	Retail Electricity [1]	Total [5]	Petroleum [6]	Total [7]
1970	1.06	1.56	6.51	2.10	0.75	0.90	6.09	1.98	0.45	0.38	0.98	1.59	2.99	0.84	2.31	2.31
1971	1.12	1.61	6.80	2.24	0.80	1.01	6.44	2.16	0.50	0.41	1.05	1.59	3.22	0.92	2.37	2.37
1972	1.18	1.63	7.09	2.37	0.86	1.04	6.71	2.33	0.55	0.46	1.05	1.59	3.40	0.99	2.38	2.38
1973	1.26	2.11	7.44	2.72	0.91	1.20	7.06	2.56	0.63	0.50	1.18	1.60	3.66	1.10	2.57	2.57
1974	1.42	2.87	9.09	3.38	1.05	2.25	8.91	3.41	1.22	0.67	2.24	1.60	4.95	1.78	3.70	3.70
1975	1.67	3.04	10.29	3.81	1.32	2.39	10.11	4.08	1.50	0.95	2.46	1.60	6.07	2.20	4.02	4.02
1976	1.94	3.26	10.93	4.13	1.61	2.49	10.82	4.39	1.50	1.21	2.57	1.60	6.48	2.43	4.20	4.21
1977	2.30	3.66	11.87	4.77	2.00	2.84	11.99	5.13	1.56	1.48	2.84	1.59	7.33	2.78	4.47	4.48
1978	2.52	3.79	12.63	5.13	2.20	2.92	12.78	5.51	1.73	1.66	2.96	1.60	8.18	3.03	4.59	4.59
1979	2.92	5.33	13.60	6.00	2.69	4.15	13.72	6.28	1.75	1.96	3.99	1.60	8.94	3.63	6.19	6.19
1980	3.60	7.26	15.71	7.46	3.32	5.64	16.06	7.85	1.87	2.52	5.75	1.67	10.81	4.71	8.60	8.61
1981	4.19	8.68	18.17	8.82	3.91	7.00	18.44	9.49	2.06	3.07	6.84	1.67	12.57	5.52	9.83	9.84
1982	5.05	8.69	20.11	[R]9.78	4.70	6.65	20.11	10.37	2.09	3.80	6.51	1.67	14.51	6.05	9.42	9.43
1983	5.88	8.43	21.04	10.66	5.43	6.51	20.57	10.94	1.91	4.10	6.57	1.67	14.54	6.21	8.44	[R]8.45
1984	5.95	8.47	20.96	[R]10.68	5.40	6.49	20.89	11.10	1.91	4.13	6.56	1.67	14.16	6.12	8.25	8.26
1985	5.94	8.17	21.66	[R]10.91	5.34	6.38	21.30	11.65	1.90	3.87	6.29	1.67	14.57	6.03	[R]8.26	[R]8.27
1986	5.67	6.82	21.75	[R]10.75	4.94	4.32	21.10	11.22	1.80	3.20	4.92	1.65	14.45	5.36	6.21	6.22
1987	5.39	6.66	21.82	10.71	4.64	4.65	20.44	10.98	1.67	2.88	4.96	1.65	13.98	5.17	6.57	[R]6.59
1988	5.32	6.63	21.92	[R]10.66	4.51	4.38	20.34	10.82	1.68	2.90	4.62	1.65	13.78	5.00	[R]6.56	6.57
1989	5.47	7.59	22.41	11.02	4.61	4.99	20.77	[R]11.27	1.68	2.93	4.69	1.20	13.85	4.92	7.17	7.18
1990	5.63	8.75	22.96	11.88	4.70	5.95	[R]21.20	[R]11.89	1.69	2.95	5.48	0.99	13.92	5.23	8.27	8.28
1991	5.66	8.56	23.57	12.08	4.69	5.44	21.73	[R]12.07	1.67	2.80	5.31	1.14	14.18	5.18	7.98	7.99
1992	5.73	7.89	24.06	11.98	4.75	5.23	22.15	[R]12.17	1.69	2.91	5.00	1.13	14.18	5.13	7.91	[R]7.93
1993	5.99	7.73	24.40	12.28	5.08	5.00	22.40	[R]12.58	1.63	3.12	4.93	1.12	14.22	5.16	7.87	7.88
1994	6.23	7.81	24.57	[R]12.63	5.35	4.89	22.35	[R]12.74	1.62	3.09	5.04	1.15	14.00	5.15	[R]7.91	7.92
1995	5.89	7.75	24.63	[R]12.63	4.94	4.97	[R]22.29	[R]12.64	1.63	2.80	5.20	1.21	13.68	4.97	8.08	8.09
1996	6.16	8.92	24.50	[R]12.73	5.26	6.01	[R]22.17	[R]12.78	1.62	3.30	6.04	[R]1.01	13.49	5.40	8.76	8.77
1997	6.75	8.90	24.71	13.29	[R]5.67	5.92	22.03	[R]13.05	1.62	3.53	5.68	1.01	13.29	[R]5.34	8.69	8.70
1998	6.61	7.88	24.21	[R]13.48	5.38	4.88	21.48	[R]13.07	1.58	3.16	4.54	[R]1.24	13.13	[R]4.91	7.47	7.48
1999	6.50	8.12	[R]23.93	[R]13.19	5.22	5.35	[R]21.01	[R]12.87	1.58	3.21	5.07	[R]1.38	[R]12.98	[R]5.12	[R]8.23	8.23
2000	7.64	11.55	24.14	14.27	6.56	8.09	21.52	[R]13.93	1.55	4.61	7.50	[R]1.43	13.60	[R]6.49	10.78	10.78
2001	[R]9.41	11.68	[R]25.29	15.72	8.32	7.66	[R]23.15	[R]15.63	1.63	[R]5.71	6.75	[R]1.54	[R]14.59	[R]6.80	[R]10.21	10.21
2002	7.71	10.42	24.81	14.75	6.49	6.97	22.85	14.70	1.75	4.37	6.43	1.50	14.39	6.29	9.63	9.64

[1] Retail electricity prices paid by ultimate customers, reported by electric utilities and, beginning in 1996, other energy service providers.
[2] Includes coal and wood, which are not separately displayed.
[3] Includes coal, wood, and waste, which are not separately displayed.
[4] Wood and waste.
[5] Includes imports and exports of coal coke, which are not separately displayed.
[6] Beginning in 1993, includes ethanol blended into motor gasoline.
[7] Includes coal, natural gas, and retail electricity, which are not separately displayed. Also, in 1981-1992, includes ethanol blended into motor gasoline that is not included in the petroleum data for those years.

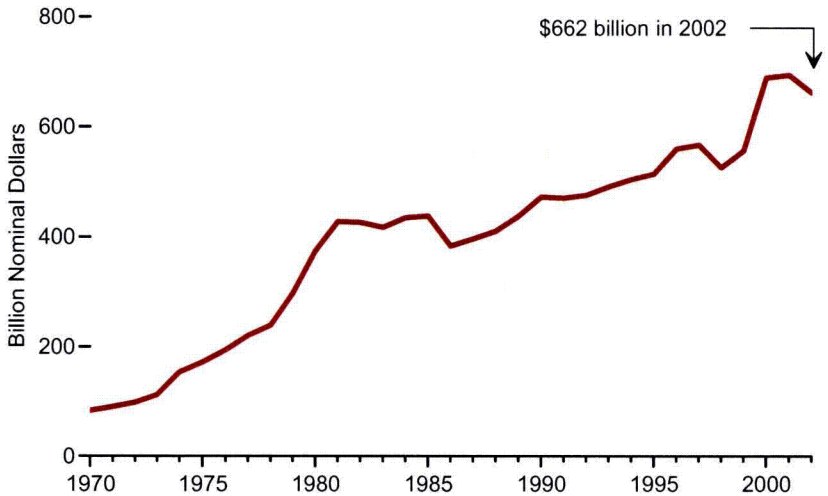
Notes: • Prices include taxes where data are available. • There are no direct fuel costs for hydroelectric, geothermal, wind, or solar energy.

Web Page: For related information, see http://www.eia.doe.gov/emeu/states/main_us.html (United States page).

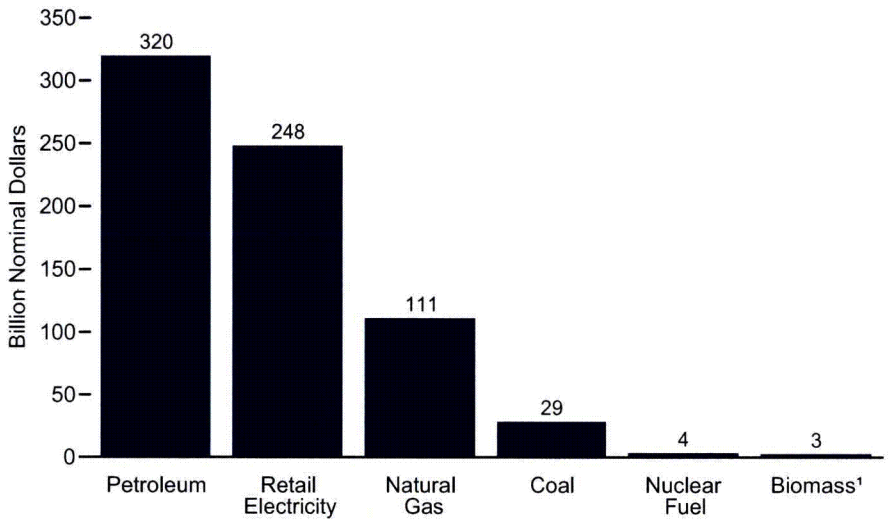
Source: Energy Information Administration, "State Energy Data 2002: Prices and Expenditures" (June 2006), U.S. Tables 2-5.

Figure 3.5 Consumer Expenditure Estimates for Energy by Source

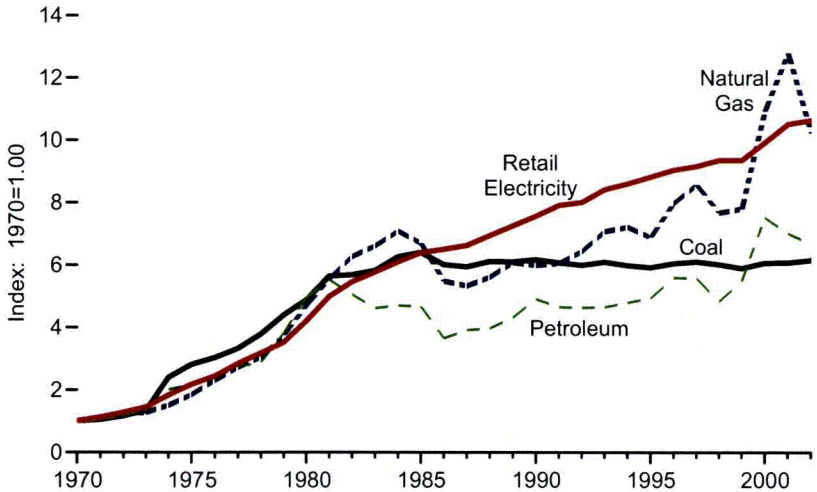
Total Energy, 1970-2002



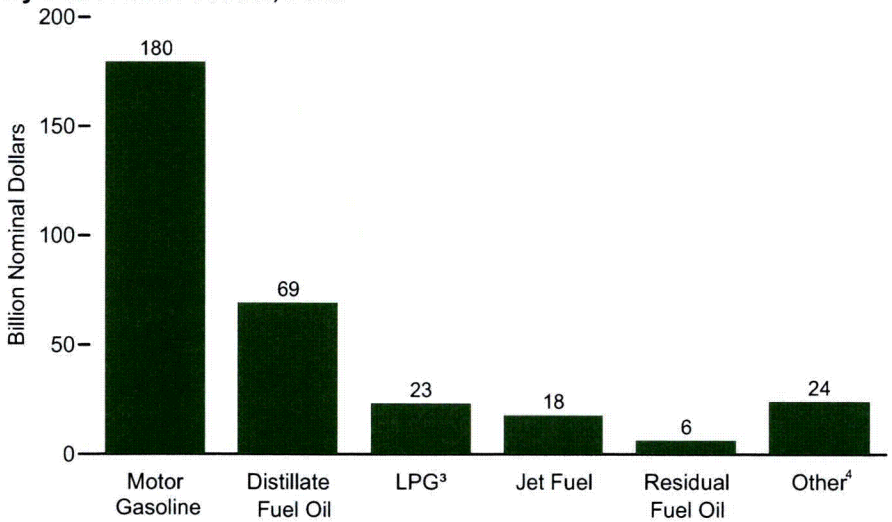
By Energy Type, 2002



Expenditures[2] by Energy Type, Indexed, 1970-2002



By Petroleum Product, 2002



[1] Wood and waste.
[2] Based on nominal dollars.
[3] Liquefied petroleum gases.
[4] Asphalt and road oil, aviation gasoline, kerosene, lubricants, petrochemical feedstocks, petroleum coke, special naphthas, waxes, and miscellaneous petroleum products.

Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.5.

Table 3.5 Consumer Expenditure Estimates for Energy by Source, 1970-2002

(Million Nominal Dollars)

	Primary Energy [1]															
				Petroleum												
Year	Coal	Coal Coke Net Imports [2]	Natural Gas	Distillate Fuel Oil	Jet Fuel	LPG [3]	Motor Gasoline [4]	Residual Fuel Oil	Other [5]	Total	Nuclear Fuel	Biomass [6]	Total [7]	Electric Power Sector [8,9]	Retail Electricity [10]	Total Energy [7,11]
1970	4,630	-75	10,891	6,253	1,441	2,446	31,596	2,046	4,172	47,955	44	438	63,896	-4,329	23,345	82,911
1971	4,902	-40	12,065	6,890	1,582	2,531	33,478	2,933	4,449	51,864	73	446	69,331	-5,462	26,202	90,071
1972	5,415	-26	13,198	7,552	1,682	2,889	35,346	3,458	4,777	55,702	104	476	74,911	-6,515	29,712	98,108
1973	6,243	7	13,933	9,524	2,001	3,933	39,667	4,667	5,318	65,109	177	502	86,052	-7,898	33,774	111,928
1974	11,118	150	16,380	15,217	3,208	5,273	54,194	10,547	8,284	96,723	259	544	125,272	-14,489	42,586	153,370
1975	13,021	82	20,061	15,680	4,193	5,231	59,446	10,374	8,493	103,416	448	534	137,629	-16,463	50,680	171,846
1976	14,051	44	25,097	18,402	4,567	5,993	64,977	11,648	9,925	115,513	520	622	155,935	-19,011	56,972	193,897
1977	15,416	67	29,602	22,004	5,517	6,824	70,591	14,381	11,790	131,106	743	694	177,826	-23,590	66,225	220,461
1978	17,551	362	33,185	23,587	6,205	6,621	74,513	13,747	13,348	138,021	915	782	191,061	-25,991	74,159	239,230
1979	20,376	259	40,785	32,854	8,603	9,383	95,916	17,656	18,785	183,197	941	964	246,800	-31,309	82,051	297,543
1980	22,607	-78	51,061	40,797	13,923	10,926	124,408	21,573	26,049	237,676	1,189	R1,231	R314,039	-37,788	98,095	R374,346
1981	26,159	-31	60,544	48,200	15,607	11,900	138,138	22,668	28,571	265,084	1,436	R1,429	R355,334	-43,911	116,455	R427,877
1982	26,349	-52	68,292	44,087	14,974	12,925	130,305	17,632	22,447	242,372	1,684	R1,510	R341,007	-41,963	127,393	R426,437
1983	26,987	-44	72,000	41,846	13,979	14,083	115,803	14,099	21,573	221,382	1,859	R1,517	R324,806	-42,118	134,731	R417,419
1984	29,025	-22	77,169	44,668	15,097	14,143	114,429	14,410	22,646	225,392	2,384	R1,608	R336,789	-44,227	142,420	R434,982
1985	29,678	-34	72,938	43,972	14,747	R13,579	118,048	11,493	22,088	R223,928	2,878	R1,597	R332,372	-43,421	149,233	R438,184
1986	27,855	-40	59,702	35,113	10,505	R12,726	91,529	7,486	17,647	R175,005	3,061	R1,352	R268,143	-36,526	151,793	R383,409
1987	27,532	7	58,019	37,729	11,448	R12,887	99,864	8,062	17,687	R187,677	3,378	1,300	R279,409	-37,579	154,685	R396,515
1988	28,333	116	61,089	38,776	11,318	R12,806	103,323	7,259	16,779	R190,260	4,057	R1,378	R286,431	-38,068	162,063	R410,426
1989	28,284	137	R66,198	43,159	13,434	R12,187	112,720	8,357	17,060	R206,917	3,939	R2,270	R308,618	R-40,339	169,332	R437,611
1990	28,602	22	R65,278	49,335	17,784	R13,715	126,558	8,721	19,255	R235,368	4,104	R1,997	R336,003	-40,155	R176,691	R472,539
1991	28,129	44	R65,956	45,269	14,609	R14,976	123,118	6,784	18,231	R222,987	4,073	R2,165	R324,326	-38,534	R184,767	R470,559
1992	27,776	126	R70,086	45,019	13,559	R14,213	125,249	5,585	18,363	R221,988	3,802	R2,194	R327,099	-38,418	R186,906	R475,587
1993	28,229	96	77,052	45,732	13,002	R14,018	126,560	5,449	18,318	R223,079	3,597	R2,193	R334,640	R-40,004	R196,532	R491,168
1994	27,715	214	R78,581	47,002	12,474	R16,361	130,068	5,296	18,701	R229,901	3,777	R2,521	R343,347	R-39,975	R200,831	R504,204
1995	27,431	234	75,020	47,533	12,525	R16,306	136,647	4,676	19,218	R236,905	3,810	R2,938	R346,901	R-38,728	R205,876	R514,049
1996	28,028	156	R86,904	56,455	15,770	R21,208	148,344	5,313	21,086	R268,176	3,624	R2,668	R390,097	R-41,248	R211,105	R559,954
1997	R28,277	170	R93,382	55,910	15,000	R19,905	149,668	5,206	21,578	R267,266	3,369	R2,423	R395,393	R-42,465	R213,843	R566,770
1998	27,888	188	R83,620	48,350	11,239	R15,388	132,730	4,280	19,912	R231,898	3,555	R2,477	R350,026	R-42,650	R218,361	R525,737
1999	27,310	140	R84,960	54,586	13,878	R19,184	149,260	4,686	21,226	R262,820	3,643	R2,661	R382,057	-43,932	R218,413	R556,538
2000	28,080	146	R119,092	78,207	23,636	R29,879	193,947	8,870	26,212	R360,751	3,628	R3,196	R515,218	R-57,597	R231,577	R689,199
2001	R28,139	82	R139,296	74,924	19,602	R25,734	185,892	7,266	R22,971	R336,389	3,498	R2,912	R510,531	R-61,902	R245,449	R694,078
2002	28,511	180	111,366	69,262	17,802	23,148	179,508	6,268	24,040	320,028	3,547	2,650	466,484	-53,182	248,357	661,659

[1] Expenditures by all sectors, including the electric power sector.

[2] Values derive from U.S. Department of Commerce, Bureau of the Census, "Monthly Report IM-145" and "Monthly Report EM-545," and may differ slightly from those shown on Table 3.9, which derive from Bureau of the Census, *U.S. International Trade in Goods and Services*, FT600 series.

[3] Liquefied petroleum gases.

[4] Beginning in 1993, includes ethanol blended into motor gasoline.

[5] Asphalt and road oil, aviation gasoline, kerosene, lubricants, petrochemical feedstocks, petroleum coke, special naphthas, waxes, and miscellaneous petroleum products.

[6] Wood and waste.

[7] Includes net imports of electricity, which are not separately displayed. Also, in 1981-1992, includes ethanol blended into motor gasoline that is not included in the motor gasoline data for those years.

[8] Electricity-only and combined-heat-and-power (CHP) plants within the NAICS (North American Industry Classification System) 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

[9] Expenditures by the electric power sector for coal, natural gas, petroleum, nuclear fuel, wood, waste, and net imports of electricity. Values are negative so the columns will sum to the "Total Energy" column.

[10] Retail electricity expenditures by ultimate customers, reported by electric utilities and, beginning in 1996, other energy service providers.

[11] Expenditures for primary energy and retail electricity by the four end-use sectors (residential, commercial, industrial, and transportation); excludes expenditures for energy by the electric power sector.

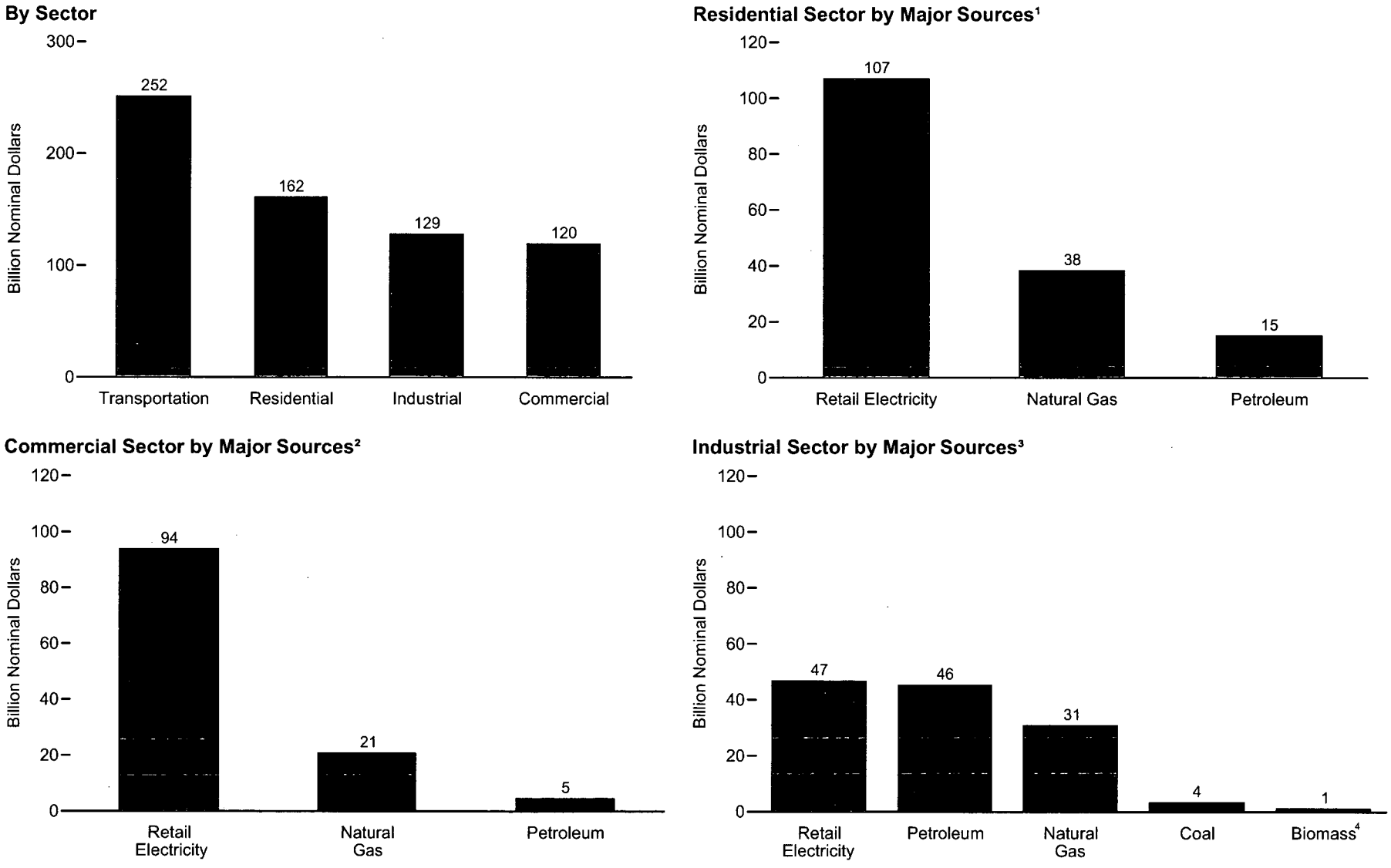
R=Revised.

Notes: • Expenditures include taxes where data are available. • There are no direct fuel costs for hydroelectric, geothermal, wind, or solar energy. • Totals may not equal the sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/emeu/states/main_us.html (United States page).

Source: Energy Information Administration, "State Energy Data 2002: Prices and Expenditures" (June 2006), U.S. Table 1.

Figure 3.6 Consumer Expenditure Estimates for Energy by End-Use Sector, 2002



[1] Expenditures for coal and wood are not displayed.
[2] Expenditures for coal, wood, and waste are not displayed.
[3] Expenditures for imports and exports of coal are not displayed.
[4] Wood and waste.

Notes: • Petroleum accounts for nearly all transportation sector expenditures. • There are no direct fuel costs for hydroelectric, geothermal, wind, or solar energy. • Totals may not equal the sum of components due to independent rounding. • Because vertical scales differ, graphs should not be compared.
Source: Table 3.6.

Table 3.6 Consumer Expenditure Estimates for Energy by End-Use Sector, 1970-2002

(Million Nominal Dollars)

	Residential				Commercial				Industrial						Transportation	
Year	Natural Gas	Petroleum	Retail Electricity [1]	Total [2]	Natural Gas	Petroleum	Retail Electricity [1]	Total [3]	Coal	Natural Gas	Petroleum	Biomass [4]	Retail Electricity [1]	Total [5]	Petroleum [6]	Total [7]
1970	5,272	4,286	10,352	20,213	1,844	1,391	7,319	10,628	2,082	2,625	6,069	366	5,624	16,691	35,327	35,379
1971	5,702	4,466	11,589	22,033	2,060	1,523	8,301	11,970	1,971	3,019	6,663	374	6,256	18,244	37,766	37,824
1972	6,223	4,731	13,034	24,203	2,289	1,599	9,443	13,410	2,212	3,335	7,180	404	7,173	20,278	40,154	40,218
1973	6,282	5,957	14,712	27,137	2,421	1,881	10,707	15,094	2,527	3,936	8,600	425	8,284	23,779	45,846	45,918
1974	6,949	7,392	17,924	32,563	2,741	3,205	13,373	19,494	4,704	4,971	15,408	421	11,184	36,837	64,368	64,476
1975	8,410	7,582	20,644	36,932	3,385	3,133	16,157	22,869	5,498	5,844	15,544	386	13,760	41,113	70,813	70,933
1976	9,992	8,857	22,621	41,785	4,379	3,638	18,148	26,345	5,448	7,484	18,384	443	16,083	47,887	77,759	77,880
1977	11,324	9,872	26,132	47,694	5,094	4,297	21,023	30,611	5,360	8,958	22,190	464	18,956	55,996	86,047	86,160
1978	12,565	9,926	29,069	51,949	5,812	4,230	23,166	33,443	5,722	10,114	23,203	511	21,798	61,710	92,003	92,128
1979	14,772	11,276	31,683	58,267	7,623	5,534	25,433	38,819	6,247	12,110	33,705	512	24,797	77,630	122,688	122,826
1980	17,497	12,695	38,458	R69,418	8,858	7,267	30,611	46,932	5,888	16,350	42,765	529	28,863	94,316	163,517	163,680
1981	19,502	13,394	44,780	R78,630	10,085	7,628	37,484	R55,462	6,441	20,432	47,171	558	34,007	108,578	184,946	R185,207
1982	23,987	12,526	50,045	R87,618	12,565	6,706	41,759	61,343	5,301	20,504	41,841	540	35,364	103,498	173,553	R173,978
1983	26,564	11,486	53,918	R92,948	13,602	7,392	43,529	R64,825	4,735	21,461	38,437	610	37,017	102,216	156,841	R157,430
1984	27,873	12,433	55,777	R97,170	14,012	8,121	47,304	69,763	5,420	23,763	41,563	622	39,050	110,395	156,979	R157,654
1985	27,136	12,894	58,672	R99,772	13,368	6,671	50,092	70,396	5,252	21,615	38,876	619	40,190	106,518	R160,745	R161,498
1986	25,147	10,613	60,776	R97,353	11,770	4,869	51,449	68,337	4,745	16,479	30,567	639	39,271	91,661	R125,353	R126,058
1987	23,926	10,875	63,318	98,851	11,601	5,078	51,900	68,795	4,448	15,909	31,092	636	39,109	91,201	R136,807	R137,667
1988	25,332	11,204	66,793	R104,104	12,377	4,655	54,411	71,669	4,744	17,257	29,123	662	40,507	92,410	R141,382	R142,244
1989	R26,951	12,739	69,243	109,770	R12,908	4,998	57,460	R75,610	4,650	18,770	28,561	1,323	42,255	95,695	R155,591	R156,536
1990	R25,439	12,308	R72,378	R111,097	R12,681	5,669	R60,627	R79,284	4,636	19,348	34,132	906	43,358	102,402	R178,852	R179,757
1991	26,508	11,916	76,828	R116,212	R13,175	4,871	R63,407	R81,740	4,332	18,912	32,511	1,034	44,201	101,034	R170,589	R171,572
1992	R27,599	11,264	76,848	R116,631	R13,685	4,469	R64,233	R82,676	4,245	20,553	32,225	1,079	45,474	103,703	R171,482	R172,577
1993	R30,533	11,200	82,814	R125,351	R14,967	3,903	R67,626	R86,790	4,060	22,367	31,550	R1,146	45,726	104,946	R173,704	R174,082
1994	R31,028	11,089	84,552	R127,395	R15,927	3,847	R69,637	R89,694	4,060	R22,556	33,626	1,279	46,257	R107,992	R178,724	R179,123
1995	R29,362	10,715	87,610	R128,388	R15,383	3,638	R72,481	R91,788	4,068	21,487	34,170	1,699	45,402	107,060	R186,411	R186,813
1996	R33,219	13,278	R90,503	R137,822	R17,106	4,518	R74,121	R96,053	3,943	26,167	40,796	R1,432	R46,102	R118,596	R207,078	R207,483
1997	34,590	12,712	R90,704	R138,674	R18,755	4,168	R77,153	R100,396	3,887	28,411	39,833	R1,435	R45,610	R119,347	R207,940	R208,353
1998	30,875	10,352	R93,360	R135,101	R16,667	3,222	R78,999	R99,138	3,566	24,515	32,220	R1,600	R45,634	R107,723	R183,368	R183,775
1999	31,577	11,956	R93,482	R137,573	R16,351	3,540	R79,141	R99,290	3,457	24,079	36,941	R1,786	R45,429	R111,833	R207,433	R207,843
2000	38,959	18,051	98,209	R156,089	21,339	6,121	R85,129	R112,870	3,507	34,624	53,512	R1,888	47,859	R141,536	R278,257	R278,703
2001	R46,189	17,970	R103,665	R168,550	R25,879	5,678	R94,081	R125,921	R3,572	R38,597	R46,986	R1,751	R47,298	R138,285	R260,813	R261,322
2002	38,490	15,235	107,106	161,505	20,926	4,748	93,960	119,924	3,526	31,031	45,511	1,385	46,894	128,528	251,224	251,702

[1] Retail electricity expenditures by ultimate customers, reported by electric utilities and, beginning in 1996, other energy service providers.
[2] Includes coal and wood, which are not separately displayed.
[3] Includes coal, wood, and waste, which are not separately displayed.
[4] Wood and waste.
[5] Includes imports and exports of coal coke, which are not separately displayed.
[6] Beginning in 1993, includes ethanol blended into motor gasoline.
[7] Includes coal, natural gas, and retail electricity, which are not separately displayed. Also, in 1981-1992, includes ethanol blended into motor gasoline that is not included in the petroleum data for those years.

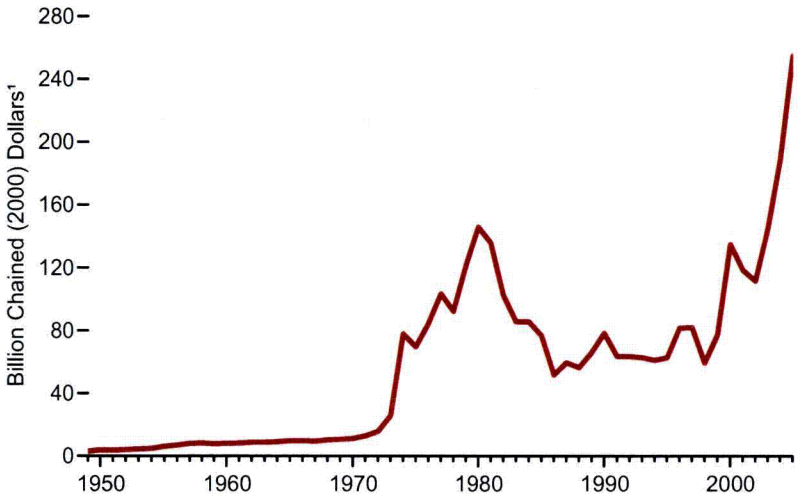
Notes: • Expenditures include taxes where data are available. • There are no direct fuel costs for hydroelectric, geothermal, wind, or solar energy. • Totals may not equal the sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/emeu/states/main_us.html (United States page).

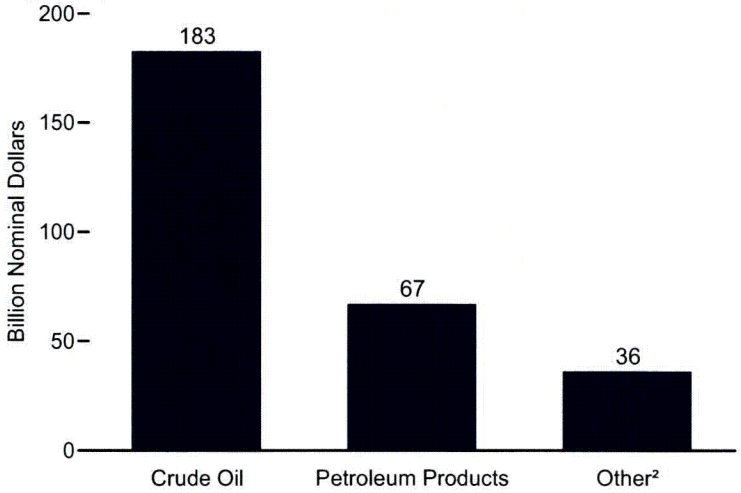
Source: Energy Information Administration, "State Energy Data 2002: Prices and Expenditures" (June 2006), U.S. Tables 2-5.

Figure 3.7 Value of Fossil Fuel Imports

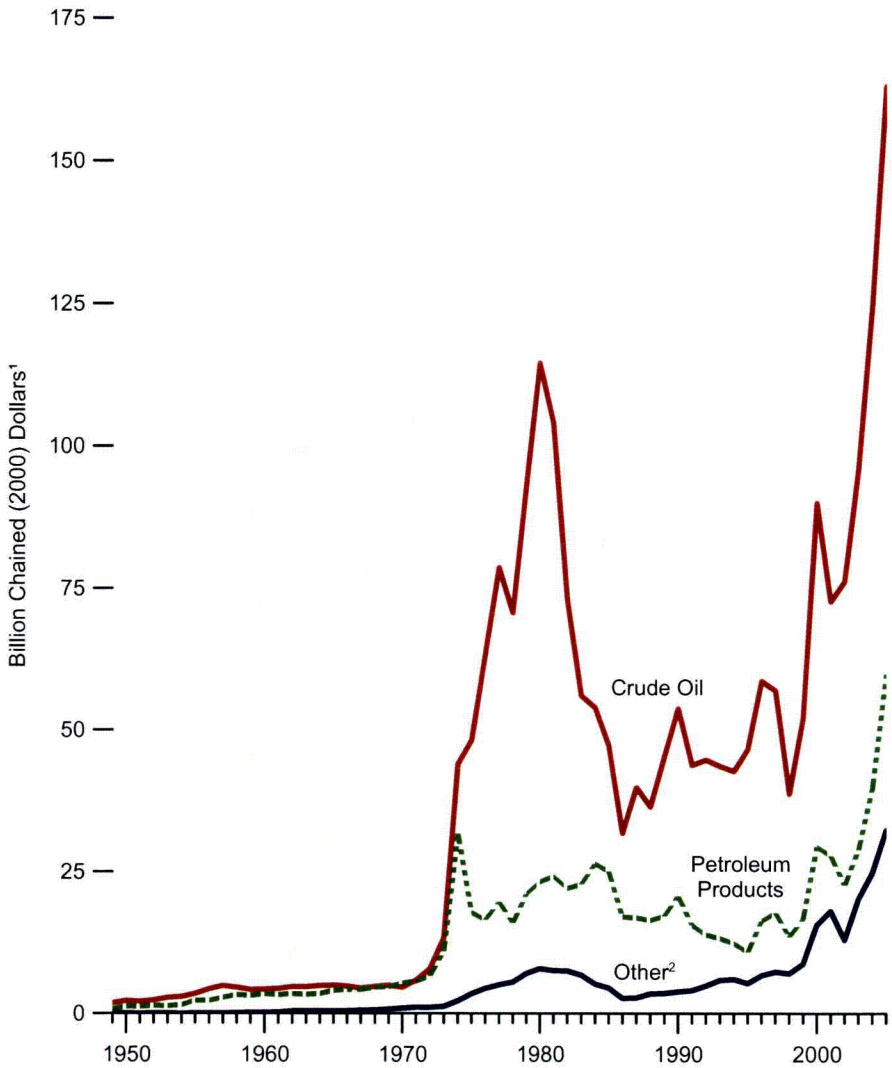
Total, 1949-2005



By Fuel, 2005



By Fuel, 1949-2005



[1] Calculated by using gross domestic product implicit price deflators. See Table D1.
[2] Natural gas, coal, and coal coke.

Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.7.

Table 3.7 Value of Fossil Fuel Imports, Selected Years, 1949-2005

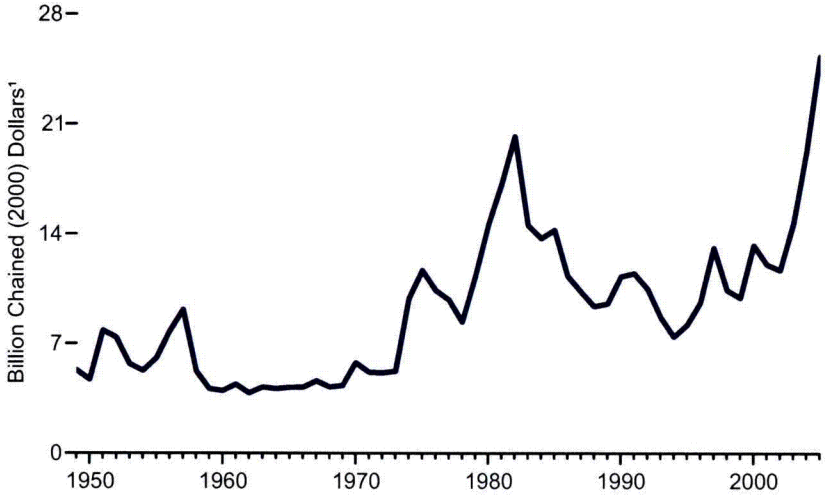
(Billion Dollars)

Year	Coal		Coal Coke		Natural Gas		Crude Oil [1]		Petroleum Products [2]		Total	
	Nominal	Real [3]	Nominal	Real [3]	Nominal	Real [3]	Nominal	Real [3]	Nominal	Real [3]	Nominal	Real [3]
1949	(s)	0.01	(s)	0.02	0.00	0.00	0.30	1.86	0.14	0.84	0.45	2.74
1950	(s)	0.02	0.01	0.03	0.00	0.00	0.37	2.23	0.21	1.30	0.59	3.58
1955	(s)	0.01	(s)	0.01	(s)	0.01	0.65	3.49	0.44	2.36	1.10	5.88
1960	(s)	0.01	(s)	0.01	0.03	0.13	0.90	4.25	0.73	3.48	1.66	7.88
1965	(s)	0.01	(s)	0.01	0.11	0.47	1.12	4.97	0.92	4.10	2.15	9.55
1970	(s)	(s)	(s)	0.01	0.26	0.94	1.26	4.58	1.48	5.38	3.00	10.91
1971	(s)	0.01	0.01	0.02	0.31	1.08	1.69	5.84	1.66	5.73	3.66	12.67
1972	(s)	(s)	(s)	0.02	0.31	1.04	2.37	7.85	1.99	6.59	4.68	15.51
1973	(s)	0.01	0.04	0.12	0.36	1.14	4.24	13.31	3.50	10.98	8.14	25.56
1974	0.06	0.17	0.19	0.56	0.53	1.53	15.25	43.92	11.01	31.71	27.05	77.89
1975	0.02	0.06	0.16	0.41	1.15	3.03	18.29	48.13	6.77	17.81	26.39	69.44
1976	0.02	0.04	0.11	0.28	1.66	4.13	25.46	63.33	6.65	16.55	33.90	84.33
1977	0.04	0.09	0.13	0.31	2.00	4.68	33.59	78.57	8.42	19.69	44.18	103.34
1978	0.07	0.16	0.41	0.89	2.06	4.50	32.30	70.59	7.30	15.96	42.15	92.11
1979	0.05	0.10	0.34	0.69	3.13	6.31	46.06	92.96	10.45	21.09	60.03	121.15
1980	0.03	0.06	0.05	0.10	4.21	7.80	61.90	114.54	12.54	23.21	78.74	145.69
1981	0.03	0.05	0.04	0.07	4.41	7.46	61.46	103.96	14.30	24.18	80.24	135.73
1982	0.02	0.04	0.01	0.01	4.69	7.48	45.72	72.89	13.86	22.10	64.31	102.53
1983	0.04	0.07	(s)	(s)	4.39	6.73	36.49	55.96	14.84	22.76	55.77	85.52
1984	0.05	0.07	0.05	0.07	3.44	5.08	36.44	53.87	17.87	26.41	57.84	85.49
1985	0.07	0.10	0.04	0.06	3.05	4.37	32.90	47.20	17.47	25.05	53.53	76.79
1986	0.08	0.11	0.03	0.04	1.82	2.56	22.61	31.73	12.18	17.10	36.72	51.53
1987	0.06	0.08	0.05	0.08	1.93	2.64	29.13	39.80	12.37	16.89	43.54	59.48
1988	0.06	0.08	0.19	0.26	2.38	3.14	27.55	36.39	12.43	16.43	42.62	56.30
1989	0.10	0.12	0.22	0.28	2.51	3.19	35.53	45.23	13.50	17.18	51.85	66.00
1990	0.09	0.11	0.07	0.09	2.97	3.64	43.78	53.66	16.90	20.72	63.83	78.23
1991	0.11	0.13	0.09	0.11	3.24	3.83	36.90	43.70	13.17	15.60	53.51	63.37
1992	0.13	0.15	0.14	0.17	3.96	4.58	38.55	44.63	11.98	13.87	54.77	63.40
1993	0.25	0.29	0.17	0.19	4.77	5.40	38.47	43.53	11.74	13.28	55.40	62.68
1994	0.27	0.30	0.27	0.30	4.90	5.43	38.48	42.63	11.14	12.35	55.07	61.01
1995	0.32	0.35	0.33	0.35	4.23	4.59	42.81	46.48	9.95	10.80	57.64	62.58
1996	0.27	0.29	0.24	0.26	5.79	6.17	54.93	58.53	15.27	16.27	76.51	81.52
1997	0.26	0.27	0.25	0.27	6.50	6.81	54.23	56.83	[4]16.93	[4]17.74	78.16	81.91
1998	0.28	0.29	0.29	0.30	6.21	6.44	37.25	38.61	13.01	13.49	57.05	59.13
1999	0.28	0.29	0.23	0.23	8.03	8.21	50.89	52.00	16.28	16.64	75.71	77.36
2000	0.38	0.38	0.25	0.25	14.94	14.94	89.88	89.88	29.38	29.38	134.81	134.81
2001	0.67	0.66	0.19	0.19	17.62	17.21	74.29	72.55	28.45	27.79	121.23	118.39
2002	0.60	0.58	0.24	0.23	12.61	R12.10	79.25	R76.07	23.52	R22.57	116.22	R111.55
2003	0.79	0.74	0.24	R0.22	R20.39	R19.18	101.80	R95.76	30.64	R28.82	R153.85	R144.72
2004	1.02	R0.94	1.23	R1.13	24.74	R22.68	R136.03	R124.68	R43.24	R39.63	R206.26	R189.06
2005P	1.42	1.27	0.78	0.70	E33.98	E30.31	182.75	162.98	67.03	59.78	285.97	255.02

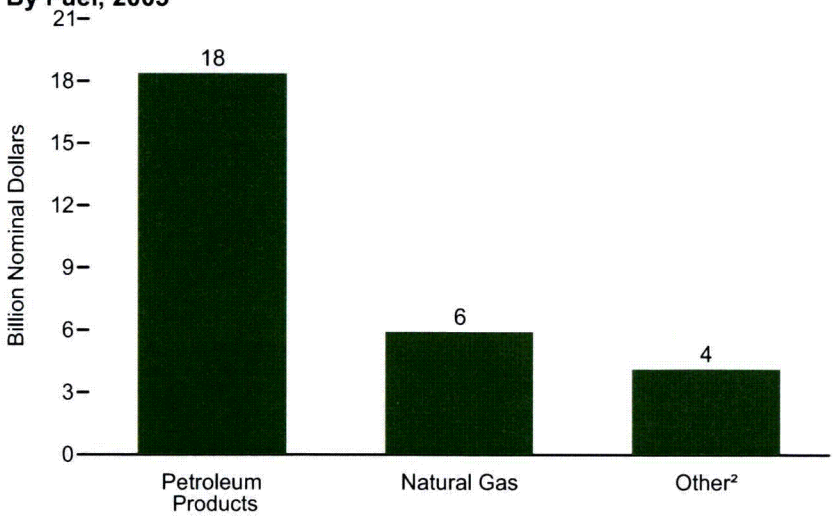
[1] Beginning in 1977, includes imports into the Strategic Petroleum Reserve.
[2] Includes petroleum preparations, liquefied propane and butane, and, beginning in 1997, other mineral fuels.
[3] In chained (2000) dollars, calculated by using gross domestic product implicit price deflators. See Table D1.
[4] There is a discontinuity in this time series between 1996 and 1997 due to the addition of the commodity category "Other Mineral Fuels."
R=Revised. P=Preliminary. E=Estimate. (s)=Less than 0.005 billion.
Notes: • Includes value of imports into Puerto Rico from foreign countries; excludes receipts into the 50 States and the District of Columbia from the Virgin Islands and Puerto Rico. • Totals may not equal sum of components due to independent rounding.
Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/finan.html.
Sources: **Coal** and **Coal Coke:** Bureau of the Census, Foreign Trade Division, upublished data. **Natural Gas:** • 1949-1962—Bureau of the Census, *U.S. Imports of Merchandise for Consumption,* FT110. • 1963—Bureau of the Census, *U.S. Imports of Merchandise for Consumption,* FT125. • 1964-1971—Bureau of the Census, *U.S. Imports for Consumption and General Imports,* FT246. • 1972 and 1973—Federal Power Commission, *Pipeline Imports and Exports of Natural Gas - Imports and Exports of LNG.* • 1974-1977—Federal Power Commission, *United States Imports and Exports of Natural Gas,* annual reports. • 1978-1981—Energy Information Administration (EIA), *U.S. Imports and Exports of Natural Gas,* annual reports. • 1982-2000—EIA, *Natural Gas Monthly (NGM),* monthly reports. • 2001-2004—EIA, *NGM* (March 2006), Table 6. • 2005—EIA estimate. **Crude Oil** and **Petroleum Products:** • 1949-1962—Bureau of the Census, *U.S. Imports of Merchandise for Consumption,* FT110. • 1963—Bureau of the Census, *U.S. Imports of Merchandise for Consumption,* FT125. • 1964-1988—Bureau of the Census, *U.S. Imports for Consumption,* FT135. • 1989 forward—Bureau of the Census, Foreign Trade Division, *U.S. Merchandise Trade,* FT900, "Exhibit 15. Exports and Imports of Goods by Principal SITC Commodity Groupings," December issues.

Figure 3.8 Value of Fossil Fuel Exports

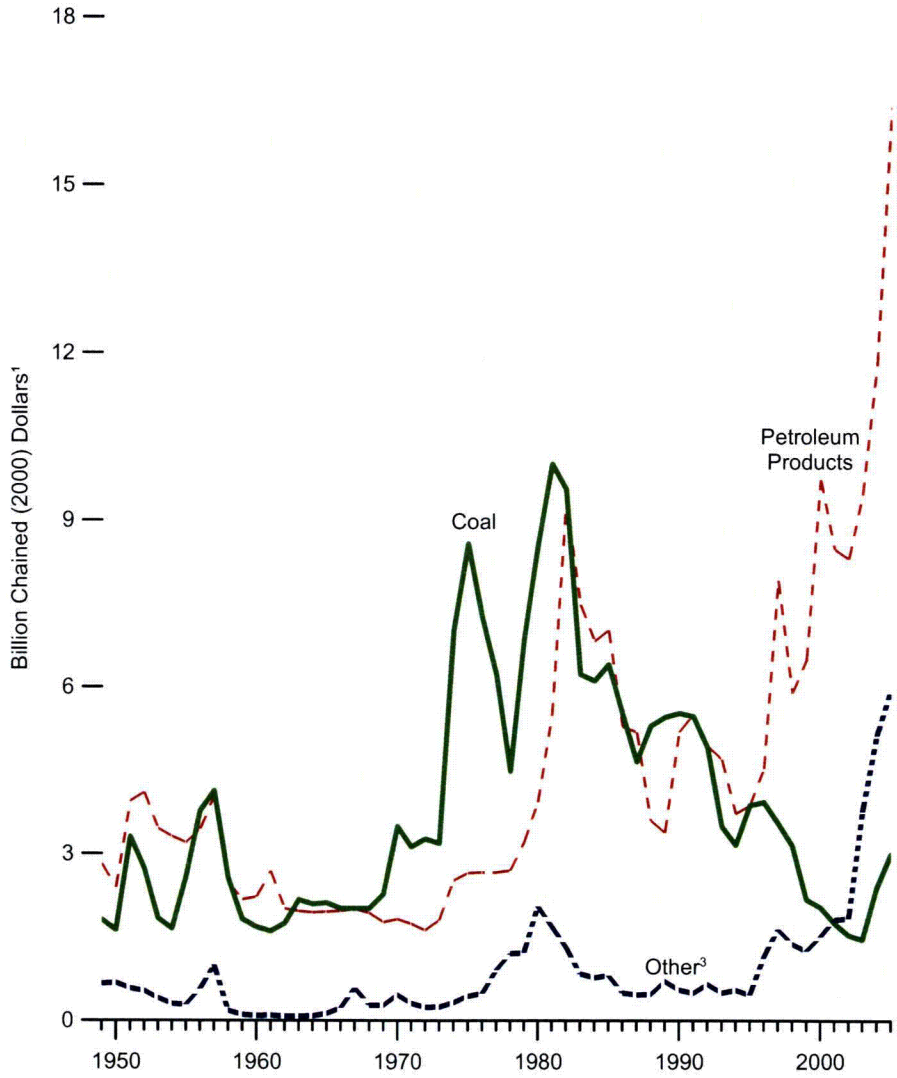
Total, 1949-2005



By Fuel, 2005



By Fuel, 1949-2005



[1] Calculated by using gross domestic product implicit price deflators. See Table D1.
[2] Coal, crude oil, and coal coke.
[3] Natural gas, crude oil, and coal coke.

Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.8.

Table 3.8 Value of Fossil Fuel Exports, Selected Years, 1949-2005

(Billion Dollars)

Year	Coal		Coal Coke		Natural Gas		Crude Oil		Petroleum Products [1]		Total	
	Nominal	Real [2]	Nominal	Real [2]	Nominal	Real [2]	Nominal	Real [2]	Nominal	Real [2]	Nominal	Real [2]
1949	0.30	1.82	0.01	0.05	(s)	0.01	0.10	0.60	0.46	2.82	0.87	5.30
1950	0.27	1.63	0.01	0.04	(s)	0.02	0.10	0.62	0.39	2.39	0.78	4.69
1955	0.48	2.59	0.01	0.04	0.01	0.03	0.04	0.21	0.60	3.20	1.14	6.07
1960	0.35	1.68	0.01	0.03	(s)	0.02	0.01	0.04	0.47	2.22	0.84	3.99
1965	0.48	2.12	0.02	0.07	0.01	0.03	(s)	0.02	0.44	1.95	0.95	4.19
1970	0.96	3.49	0.08	0.29	0.03	0.11	0.02	0.07	0.50	1.82	1.59	5.78
1971	0.90	3.12	0.04	0.16	0.04	0.13	0.01	0.02	0.50	1.74	1.49	5.16
1972	0.98	3.26	0.03	0.10	0.04	0.13	(s)	0.01	0.49	1.62	1.55	5.12
1973	1.01	3.18	0.03	0.10	0.04	0.13	(s)	0.01	0.57	1.80	1.66	5.22
1974	2.44	7.02	0.04	0.13	0.05	0.16	0.01	0.04	0.87	2.51	3.42	9.85
1975	3.26	8.58	0.07	0.20	0.09	0.24	(s)	(s)	1.01	2.65	4.43	11.66
1976	2.91	7.24	0.07	0.17	0.10	0.25	0.03	0.07	1.07	2.66	4.17	10.39
1977	2.66	6.21	0.07	0.17	0.11	0.25	0.21	0.49	1.14	2.66	4.18	9.78
1978	2.05	4.48	0.05	0.11	0.11	0.24	0.39	0.85	1.23	2.69	3.83	8.38
1979	3.40	6.86	0.08	0.16	0.13	0.26	0.39	0.80	1.58	3.20	5.58	11.27
1980	4.63	8.56	0.13	0.24	0.23	0.42	0.75	1.39	2.12	3.92	7.86	14.54
1981	5.92	10.01	0.07	0.13	0.35	0.59	0.58	0.98	3.24	5.48	10.16	17.18
1982	5.99	9.55	0.06	0.10	0.30	0.48	0.47	0.75	5.86	9.34	12.68	20.22
1983	4.06	6.22	0.05	0.07	0.28	0.43	0.22	0.34	4.88	7.48	9.48	14.54
1984	4.13	6.11	0.07	0.10	0.27	0.40	0.19	0.27	4.62	6.82	9.27	13.71
1985	4.47	6.41	0.08	0.11	0.26	0.38	0.23	0.32	4.90	7.02	9.93	14.24
1986	3.93	5.52	0.07	0.09	0.17	0.24	0.12	0.16	3.77	5.29	8.05	11.30
1987	3.40	4.65	0.05	0.07	0.17	0.23	0.13	0.17	3.80	5.19	7.54	10.30
1988	4.01	5.30	0.08	0.10	0.20	0.27	0.08	0.10	2.72	3.60	7.09	9.37
1989	4.29	5.46	0.08	0.10	0.27	0.34	0.21	0.26	2.65	3.38	7.49	9.54
1990	4.51	5.53	0.05	0.06	0.27	0.32	0.14	0.17	4.23	5.19	9.20	11.27
1991	4.62	5.47	0.05	0.06	0.33	0.40	0.03	0.04	4.65	5.51	9.69	11.48
1992	4.24	4.91	0.04	0.05	0.49	0.56	0.03	0.04	4.27	4.94	9.07	10.50
1993	3.09	3.49	0.06	0.07	0.36	0.41	0.02	0.02	4.15	4.69	7.68	8.69
1994	2.85	3.16	0.04	0.04	0.40	0.45	0.05	0.05	3.36	3.72	6.71	7.43
1995	3.57	3.87	0.05	0.05	0.37	0.40	0.01	0.01	3.56	3.87	7.55	8.20
1996	3.69	3.93	0.06	0.07	0.46	0.49	0.56	0.60	4.25	4.53	9.02	9.61
1997	3.39	3.55	0.05	0.06	0.47	0.50	1.04	1.09	[3]7.55	[3]7.91	12.51	13.11
1998	3.04	3.15	0.04	0.05	0.39	0.40	0.90	0.93	5.68	5.89	10.04	10.41
1999	2.13	2.18	0.03	0.03	0.43	0.44	0.77	0.79	6.35	6.48	9.71	9.92
2000	2.04	2.04	0.05	0.05	1.00	1.00	0.46	0.46	9.73	9.73	13.28	13.28
2001	1.80	1.76	0.11	0.11	1.56	1.53	0.19	0.18	8.68	8.48	12.34	12.05
2002	1.60	1.54	0.06	0.06	1.76	1.69	0.09	0.09	8.65	[R]8.30	12.17	[R]11.68
2003	1.55	1.46	0.07	0.07	[R]3.77	[R]3.54	0.16	0.15	10.05	[R]9.45	[R]15.59	[R]14.67
2004	2.60	[R]2.38	0.11	0.10	5.20	[R]4.77	[R]0.28	[R]0.25	[R]12.85	[R]11.78	[R]21.04	[R]19.28
2005[P]	3.35	2.99	0.15	0.13	[E]5.90	[E]5.26	0.63	0.56	18.37	16.38	28.39	25.32

[1] Includes petroleum preparations, liquefied propane and butane, and, beginning in 1997, other mineral fuels.

[2] In chained (2000) dollars, calculated by using gross domestic product implicit price deflators. See Table D1.

[3] There is a discontinuity in this time series between 1996 and 1997 due to the addition of the commodity category "Other Mineral Fuels."

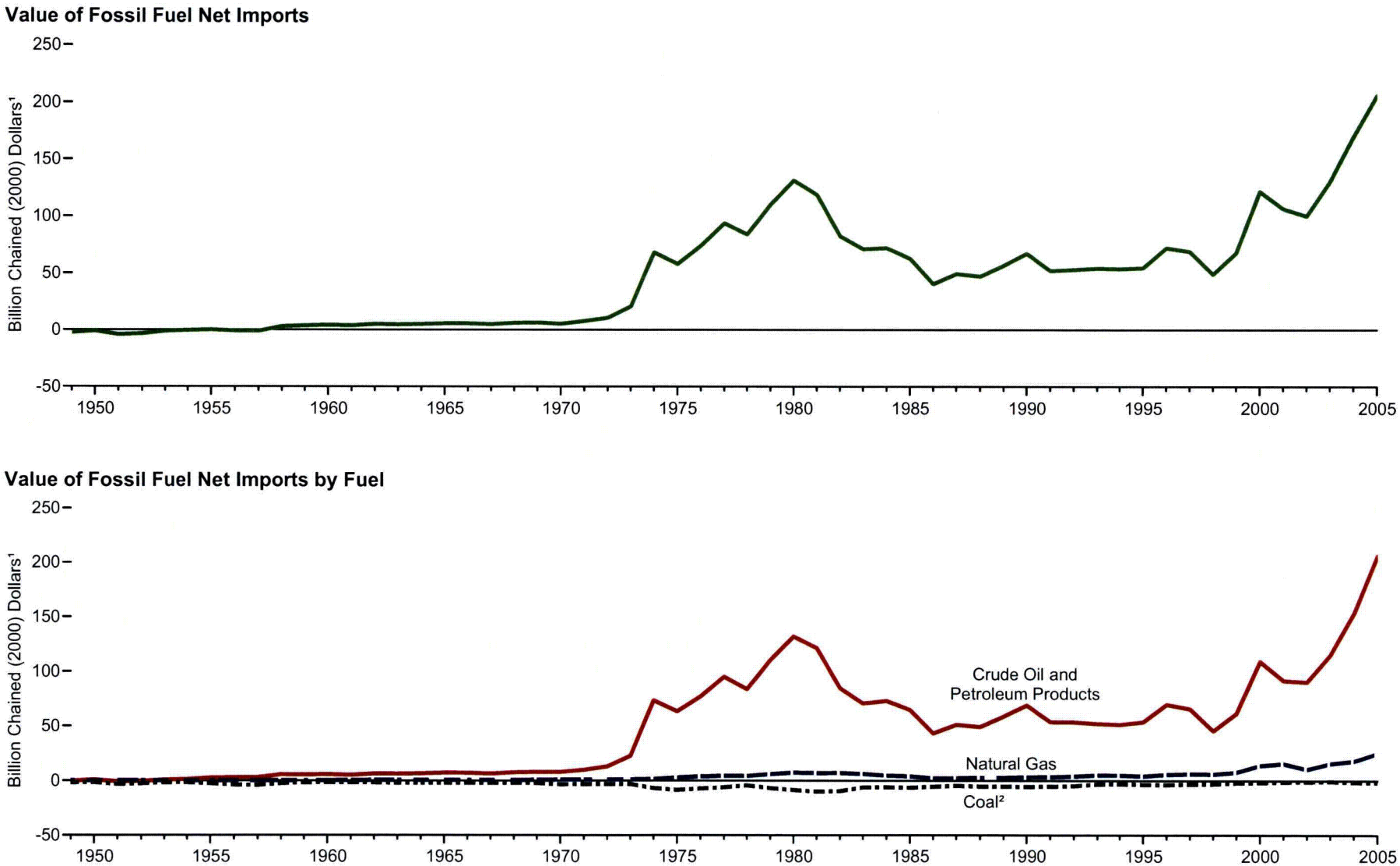
R=Revised. P=Preliminary. E=Estimate. (s)=Less than 0.005 billion.

Notes: • Includes value of exports from Puerto Rico to foreign countries; excludes shipments from the 50 States and the District of Columbia to the Virgin Islands and Puerto Rico. • Totals may not equal sum of components due to independent rounding.

Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/finan.html.

Sources: **Coal** and **Coal Coke:** Bureau of the Census, Foreign Trade Division, unpublished data. **Natural Gas:** • 1949-1971—Bureau of the Census, *U.S. Exports,* FT410. • 1972 and 1973—Federal Power Commission, *Pipeline Imports and Exports of Natural Gas - Imports and Exports of LNG.* • 1974-1977—Federal Power Commission, *United States Imports and Exports of Natural Gas,* annual reports. • 1978-1981—Energy Information Administration (EIA), *U.S. Imports and Exports of Natural Gas,* annual reports. • 1982-2000—EIA, *Natural Gas Monthly (NGM),* monthly reports. • 2001-2004—EIA, *NGM* (March 2006), Table 6. • 2005—EIA estimate. **Crude Oil** and **Petroleum Products:** • 1949-1988—Bureau of the Census, *U.S. Exports,* FT410. • 1989 forward—Bureau of the Census, Foreign Trade Division, *U.S. Merchandise Trade,* FT900, "Exhibit 15. Exports and Imports of Goods by Principal SITC Commodity Groupings," December issues.

Figure 3.9 Value of Fossil Fuel Net Imports, 1949-2005



[1] Calculated by using gross domestic product implicit price deflators. See Table D1.
[2] Includes small amounts of coal coke.

Note: Negative net imports are net exports.
Source: Table 3.9.

Table 3.9 Value of Fossil Fuel Net Imports, Selected Years, 1949-2005

(Billion Dollars)

Year	Coal		Coal Coke		Natural Gas		Crude Oil		Petroleum Products [1]		Total	
	Nominal	Real [2]	Nominal	Real [2]	Nominal	Real [2]	Nominal	Real [2]	Nominal	Real [2]	Nominal	Real [2]
1949	-0.29	-1.80	(s)	-0.03	(s)	-0.01	0.21	1.26	-0.32	-1.98	-0.42	-2.56
1950	-0.27	-1.61	(s)	-0.01	(s)	-0.02	0.27	1.61	-0.18	-1.09	-0.18	-1.11
1955	-0.48	-2.57	-0.01	-0.04	-0.01	-0.03	0.62	3.29	-0.16	-0.84	-0.04	-0.19
1960	-0.35	-1.67	-0.01	-0.03	0.02	0.12	0.89	4.22	0.26	1.26	0.82	3.89
1965	-0.48	-2.11	-0.01	-0.07	0.10	0.44	1.11	4.95	0.48	2.15	1.21	5.36
1970	-0.96	-3.49	-0.08	-0.27	0.23	0.83	1.24	4.51	0.98	3.56	1.41	5.14
1971	-0.90	-3.11	-0.04	-0.14	0.27	0.95	1.68	5.82	1.15	3.99	2.17	7.50
1972	-0.98	-3.26	-0.03	-0.09	0.28	0.91	2.37	7.85	1.50	4.97	3.13	10.39
1973	-1.01	-3.18	0.01	0.02	0.32	1.01	4.24	13.31	2.93	9.19	6.48	20.34
1974	-2.38	-6.85	0.15	0.43	0.48	1.37	15.24	43.89	10.14	29.20	23.63	68.04
1975	-3.24	-8.52	0.08	0.22	1.06	2.79	18.29	48.13	5.76	15.16	21.96	57.78
1976	-2.89	-7.20	0.04	0.11	1.56	3.88	25.43	63.26	5.58	13.89	29.72	73.94
1977	-2.62	-6.12	0.06	0.14	1.89	4.43	33.38	78.08	7.28	17.03	40.00	93.56
1978	-1.98	-4.32	0.36	0.79	1.95	4.26	31.91	69.73	6.07	13.27	38.31	83.73
1979	-3.35	-6.75	0.26	0.52	3.00	6.05	45.66	92.16	8.87	17.89	54.44	109.88
1980	-4.60	-8.51	-0.08	-0.14	3.98	7.37	61.15	113.15	10.42	19.28	70.88	131.15
1981	-5.89	-9.96	-0.03	-0.05	4.06	6.87	60.88	102.98	11.06	18.71	70.09	118.55
1982	-5.97	-9.52	-0.05	-0.08	4.39	7.00	45.25	72.15	8.00	12.76	51.63	82.31
1983	-4.01	-6.16	-0.04	-0.07	4.11	6.30	36.27	55.62	9.96	15.28	46.28	70.98
1984	-4.09	-6.04	-0.02	-0.03	3.17	4.68	36.26	53.59	13.25	19.58	48.57	71.79
1985	-4.39	-6.30	-0.03	-0.05	2.79	4.00	32.68	46.87	12.57	18.03	43.60	62.55
1986	-3.85	-5.40	-0.04	-0.06	1.65	2.32	22.49	31.57	8.42	11.81	28.67	40.23
1987	-3.35	-4.58	0.01	0.01	1.76	2.41	29.00	39.63	8.57	11.71	36.00	49.18
1988	-3.95	-5.22	0.12	0.15	2.18	2.88	27.47	36.29	9.71	12.83	35.53	46.93
1989	-4.19	-5.33	0.14	0.17	2.24	2.85	35.32	44.97	10.85	13.81	44.35	56.46
1990	-4.42	-5.41	0.02	0.03	2.71	3.32	43.65	53.50	12.67	15.53	54.63	66.96
1991	-4.51	-5.34	0.04	0.05	2.90	3.43	36.87	43.66	8.52	10.09	43.82	51.90
1992	-4.11	-4.76	0.10	0.11	3.47	4.02	38.52	44.59	7.72	8.93	45.70	52.90
1993	-2.83	-3.21	0.11	0.12	4.41	4.99	38.45	43.50	7.59	8.59	47.72	54.00
1994	-2.58	-2.86	0.23	0.26	4.50	4.98	38.43	42.58	7.78	8.62	48.37	53.58
1995	-3.24	-3.52	0.27	0.30	3.86	4.19	42.81	46.48	6.39	6.94	50.09	54.38
1996	-3.41	-3.64	0.18	0.19	5.33	5.68	54.37	57.93	11.01	11.74	67.49	71.91
1997	-3.13	-3.28	0.20	0.21	6.02	6.31	53.19	55.74	[3]9.37	[3]9.82	65.65	68.80
1998	-2.75	-2.86	0.25	0.26	5.82	6.03	36.36	37.69	7.33	7.60	47.00	48.72
1999	-1.85	-1.90	0.20	0.20	7.61	7.77	50.12	51.21	9.94	10.15	66.00	67.44
2000	-1.66	-1.66	0.20	0.20	13.94	13.94	89.41	89.41	19.65	19.65	121.53	121.53
2001	-1.13	-1.10	0.08	0.08	16.05	15.68	74.11	72.37	19.77	19.31	108.89	106.34
2002	-1.00	-0.96	0.18	0.17	10.85	R10.41	79.16	R75.98	14.87	R14.27	104.06	R99.87
2003	-0.76	-0.72	0.17	0.16	R16.62	R15.64	101.64	R95.61	20.59	R19.37	R138.26	R130.06
2004	-1.57	R-1.44	1.12	R1.03	19.54	R17.91	R135.75	R124.43	30.38	R27.85	R185.23	R169.78
2005P	-1.93	-1.72	0.63	0.56	E28.09	E25.05	182.13	162.42	48.66	43.39	257.58	229.70

[1] Includes petroleum preparations, liquefied propane and butane, and, beginning in 1997, other mineral fuels.

[2] In chained (2000) dollars, calculated by using gross domestic product implicit price deflators. See Table D1.

[3] There is a discontinuity in this time series between 1996 and 1997 due to the addition of the commodity category "Other Mineral Fuels."

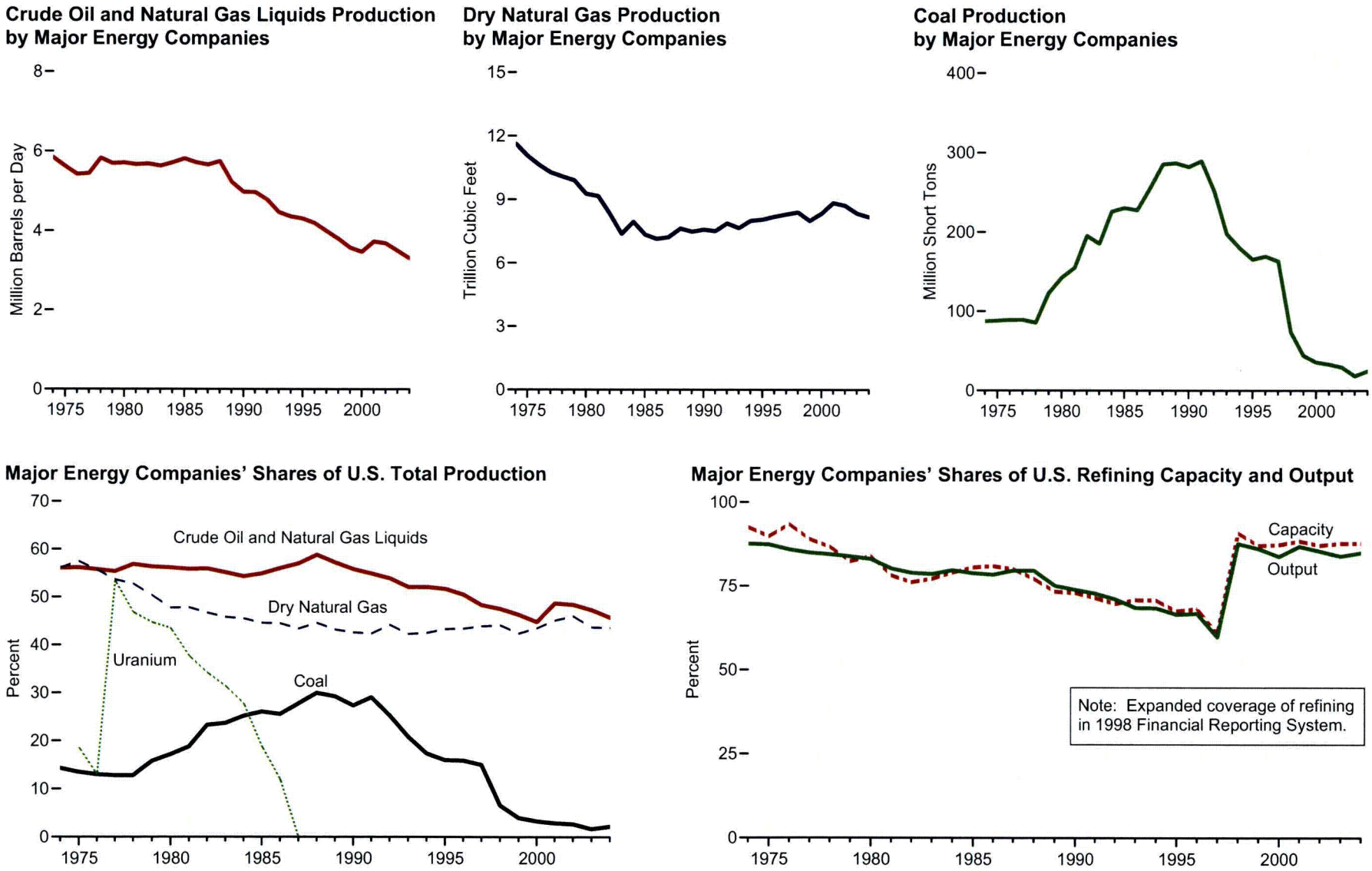
R=Revised. P=Preliminary. E=Estimate. (s)=Less than 0.005 billion.

Notes: • Net imports equal imports minus exports. Minus sign indicates that the value of exports is greater than the value of imports. • Totals may not equal sum of components due to independent rounding. • Data on this table may not equal data on Table 3.7 minus data on Table 3.8 due to independent rounding.

Web Page: For data not shown for 1951-1969, see http://www.eia.doe.gov/emeu/aer/finan.html.

Sources: Tables 3.7 and 3.8.

Figure 3.10 Major U.S. Energy Companies' Domestic Production and Refining, 1974-2004



Notes: • "Major U.S. Energy Companies" are the top publicly-owned, U.S.-based crude oil and natural gas producers and petroleum refiners that form the Financial Reporting System (FRS). See Table 3.14. • Because vertical scales differ, graphs should not be compared.

Source: Table 3.10.

Table 3.10 Major U.S. Energy Companies' Domestic Production and Refining, 1974-2004

	Production								Refining			
	Crude Oil and Natural Gas Liquids [1]		Dry Natural Gas [1]		Coal [2]		Uranium		Capacity [3]		Output	
Year	Million Barrels per Day	Percent of U.S. Total	Trillion Cubic Feet	Percent of U.S. Total	Million Short Tons	Percent of U.S. Total	Million Pounds [4]	Percent of U.S. Total [5]	Million Barrels per Day	Percent of U.S. Total [6]	Million Barrels per Day	Percent of U.S. Total [6]
1974	5.9	56.0	11.6	56.1	87.4	14.3	NA	NA	13.3	92.5	11.8	87.6
1975	5.6	56.1	11.0	57.4	88.1	13.5	4.3	18.6	13.4	89.8	12.0	87.4
1976	5.4	55.7	10.6	55.6	89.0	13.0	3.3	13.0	14.2	93.4	12.6	85.9
1977	5.5	55.3	10.3	53.6	89.1	12.8	16.0	53.4	14.6	89.0	13.5	85.0
1978	5.8	56.8	10.1	52.7	85.5	12.8	17.3	46.8	14.8	86.7	13.5	84.5
1979	5.7	56.3	9.9	50.3	123.3	15.8	16.7	44.7	14.4	82.4	13.2	83.9
1980	5.7	56.1	9.3	47.7	142.3	17.2	19.0	43.5	15.1	83.9	12.2	83.1
1981	5.7	55.8	9.2	47.8	154.8	18.8	14.5	37.7	14.6	78.2	11.2	80.3
1982	5.7	55.9	8.3	46.7	195.2	23.3	9.2	34.2	13.6	76.2	10.6	79.0
1983	5.6	55.1	7.4	45.8	185.2	23.7	6.6	31.4	13.0	77.2	10.3	78.7
1984	5.7	54.3	7.9	45.5	226.0	25.2	4.1	27.8	12.8	79.1	10.9	79.8
1985	5.8	54.9	7.3	44.6	230.4	26.1	2.1	18.9	12.6	80.6	10.8	78.9
1986	5.7	56.0	7.1	44.5	227.6	25.6	1.6	12.1	12.5	81.0	11.4	78.5
1987	5.7	57.0	7.2	43.4	255.3	27.8	0.0	0.0	12.5	80.1	11.7	79.7
1988	5.7	58.8	7.6	44.6	285.3	30.0	0.0	0.0	12.3	77.2	12.0	79.7
1989	5.2	57.2	7.5	43.2	286.9	29.3	0.0	0.0	11.5	73.4	11.4	75.2
1990	5.0	55.8	7.6	42.6	282.0	27.4	0.0	0.0	11.4	73.0	11.3	74.0
1991	5.0	54.9	7.5	42.4	289.6	29.1	0.0	0.0	11.2	71.5	11.1	72.9
1992	4.8	53.9	7.9	44.2	251.9	25.3	0.0	0.0	11.0	69.8	11.0	71.2
1993	4.5	52.1	7.7	42.3	197.3	20.9	0.0	0.0	10.7	70.9	10.8	68.6
1994	4.4	52.1	8.0	42.5	179.7	17.4	0.0	0.0	10.6	70.8	10.8	68.5
1995	4.3	51.7	8.1	43.3	165.4	16.0	0.0	0.0	10.4	67.6	10.7	66.6
1996	4.2	50.5	8.2	43.4	169.4	15.9	0.0	0.0	10.5	68.3	11.0	66.9
1997	4.0	48.3	8.3	43.9	163.3	15.0	0.0	0.0	9.4	60.9	10.0	59.9
1998	3.8	47.5	8.4	44.1	73.9	6.6	0.0	0.0	[7]14.3	[7]90.9	[7]14.9	[7]87.7
1999	3.6	46.3	8.0	42.4	44.0	4.0	0.0	0.0	14.2	87.1	14.6	86.2
2000	3.5	44.8	8.3	43.5	35.5	3.3	0.0	0.0	14.4	87.4	14.5	83.9
2001	3.7	48.7	8.8	45.1	33.0	2.9	0.0	0.0	14.7	88.5	15.0	86.9
2002	3.7	48.4	8.7	46.0	29.3	2.7	0.0	0.0	14.6	87.2	14.8	85.5
2003	3.5	47.3	8.3	R43.7	18.3	1.7	0.0	0.0	R14.7	R87.8	14.7	84.0
2004	3.3	45.7	8.2	43.6	24.4	2.2	0.0	0.0	14.8	87.8	15.2	85.0

[1] Production is on a net ownership basis. "Net ownership" is all reserve quantities owned, regardless of type of ownership (e.g., working interest or royalty).
[2] Bituminous coal, subbituminous coal, and lignite.
[3] Operable capacity as of January 1 of the following year.
[4] Production of uranium oxide (U_3O_8). See "Uranium Oxide" in Glossary.
[5] Percent of U.S. total uranium concentrate production. See "Uranium Concentrate" in Glossary.
[6] The Financial Reporting System (FRS) data include Puerto Rico and the Virgin Islands; U.S. Totals do not include Puerto Rico and the Virgin Islands.
[7] There is a discontinuity in this time series between 1997 and 1998 due to the expanded coverage of the FRS.

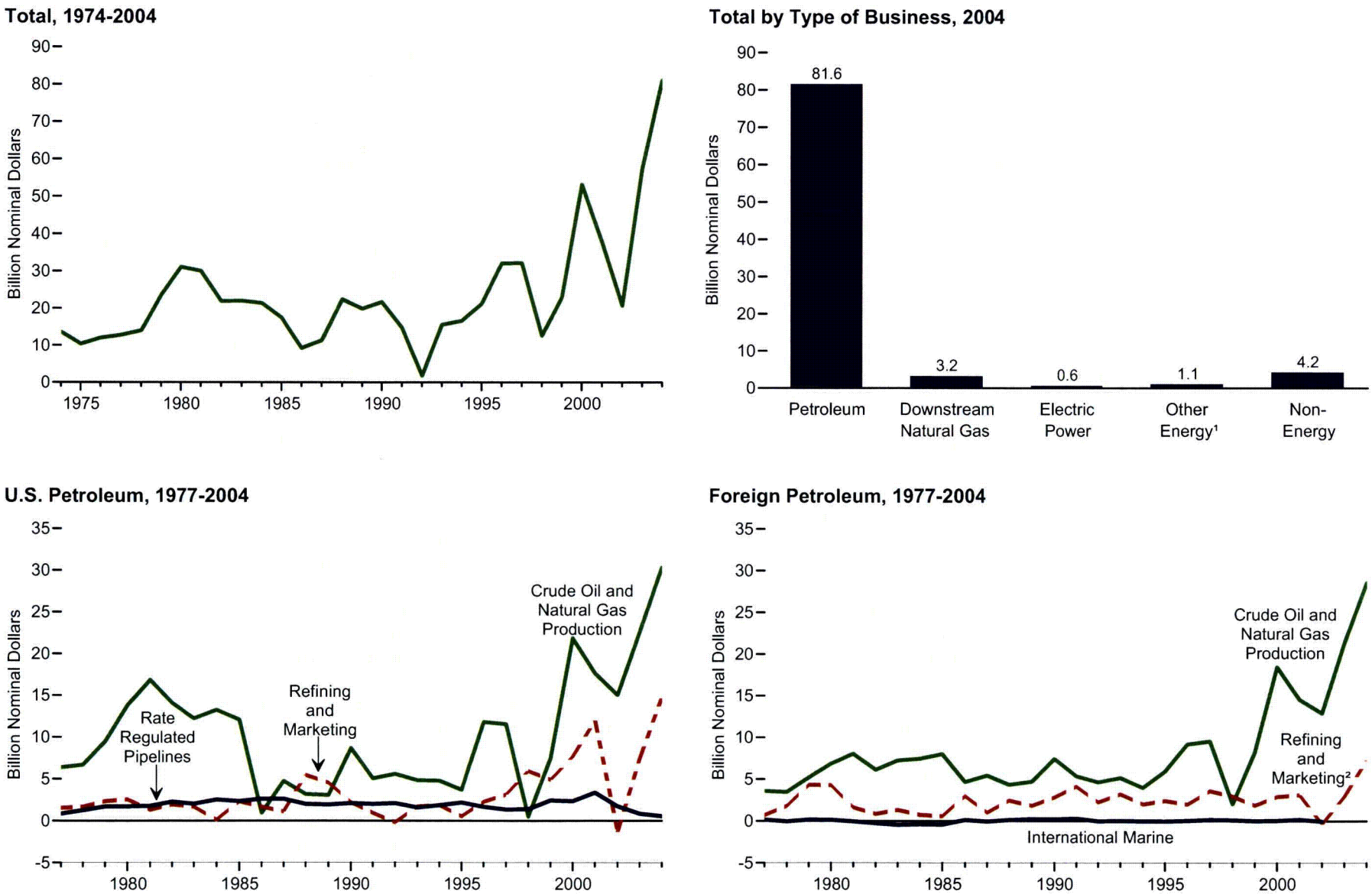
R=Revised. NA=Not available.

Note: "Major U.S. Energy Companies" are the top publicly-owned, U.S.-based crude oil and natural gas producers and petroleum refiners that form the FRS. See Table 3.14.

Web Page: For related information, see http://www.eia.doe.gov/emeu/finance.

Sources: **Production and Refining:** • 1974-1976—Energy Information Administration (EIA), Form EIA-28, "Financial Reporting System" database, November 1998. • 1977 forward—EIA, *Performance Profiles of Major Energy Producers,* annual reports. **Percent of U.S. Total:** Tables 5.1, 5.8, 5.9, 6.1, 7.1, and 9.3.

Figure 3.11 Major U.S. Energy Companies' Net Income



[1] Coal, nuclear, renewable fuels, and nonconventional energy.
[2] In 2003, includes International Marine.

Notes: • "Major U.S. Energy Companies" are the top publicly-owned, U.S.-based crude oil and natural gas producers and petroleum refiners that form the Financial Reporting System (FRS). See Table 3.14. • Because vertical scales differ, graphs should not be compared.
Source: Table 3.11.

Table 3.11 Major U.S. Energy Companies' Net Income, 1974-2004

(Billion Nominal Dollars)

Year	Petroleum [1]									Down-stream Natural Gas [1,2]	Electric Power	Coal	Other Energy [3]	Non-Energy	Total [4]
	United States				Foreign				Total Petroleum						
	Crude Oil and Natural Gas Production	Refining and Marketing	Rate Regulated Pipelines	Total	Crude Oil and Natural Gas Production	Refining and Marketing	Inter-national Marine	Total							
1974	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.6
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.3
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.0
1977	6.4	1.5	0.8	8.6	3.6	0.7	0.1	4.4	13.0	([5])	([6])	0.2	(s)	1.7	12.7
1978	6.7	1.6	1.2	9.5	3.5	1.8	-0.1	5.2	14.7	([5])	([6])	0.1	-0.1	1.8	13.9
1979	9.4	2.3	1.7	13.4	5.2	4.3	0.1	9.7	23.0	([5])	([6])	0.3	-0.1	2.8	23.5
1980	13.8	2.5	1.7	17.9	6.9	4.3	0.1	11.2	29.1	([5])	([6])	0.3	(s)	2.3	31.0
1981	16.8	1.3	1.8	19.9	8.0	1.6	-0.1	9.6	29.5	([5])	([6])	0.4	-0.3	1.6	30.0
1982	14.1	1.9	2.3	18.3	6.1	0.8	-0.3	6.7	25.0	([5])	([6])	0.4	-0.3	0.4	21.8
1983	12.2	1.6	2.0	15.9	7.2	1.3	-0.5	8.2	24.0	([5])	([6])	0.5	(s)	1.8	21.9
1984	13.3	0.1	2.5	15.8	7.5	0.7	-0.4	7.8	23.6	([5])	([6])	0.6	-0.1	2.9	21.3
1985	12.1	2.3	2.3	16.7	8.0	0.5	-0.4	8.1	24.8	([5])	([6])	0.4	-0.3	2.5	17.4
1986	0.9	1.6	2.6	5.2	4.7	2.9	0.1	7.7	12.9	([5])	([6])	0.2	(s)	2.8	9.2
1987	4.7	1.1	2.6	8.4	5.4	1.0	-0.1	6.4	14.8	([5])	([6])	0.4	(s)	7.1	11.3
1988	3.2	5.4	2.0	10.6	4.3	2.4	0.1	6.9	17.5	([5])	([6])	0.6	-0.1	10.8	22.3
1989	3.1	4.5	1.9	9.5	4.7	1.8	0.2	6.7	16.2	([5])	([6])	0.4	-0.1	8.7	19.8
1990	8.7	2.2	2.1	12.9	7.4	2.8	0.2	10.5	23.4	([5])	([6])	0.3	0.1	4.3	21.6
1991	5.1	0.9	2.0	7.9	5.4	4.1	0.3	9.8	17.7	([5])	([6])	0.6	0.1	1.6	14.7
1992	5.6	-0.2	2.1	7.5	4.7	2.2	(s)	6.9	14.4	([5])	([6])	-0.5	0.1	1.2	1.8
1993	4.8	1.7	1.6	8.1	5.2	3.2	(s)	8.4	16.5	([5])	([6])	0.4	0.1	2.7	15.5
1994	4.8	1.8	1.8	8.5	4.0	2.0	(s)	5.9	14.4	([5])	([6])	0.2	0.2	6.2	16.5
1995	3.7	0.5	2.2	6.4	5.9	2.4	(s)	8.3	14.7	([5])	([6])	0.3	0.2	12.6	21.1
1996	11.8	2.3	1.6	15.7	9.2	2.0	(s)	11.2	26.9	([5])	([6])	0.5	0.2	8.0	32.0
1997	11.6	3.1	1.3	16.0	9.6	3.6	0.1	13.3	29.3	([5])	([6])	0.3	0.3	6.3	32.1
1998	0.5	5.9	1.4	7.8	2.0	2.9	0.1	5.1	12.8	([5])	([6])	0.5	0.9	1.8	12.5
1999	7.4	4.9	2.4	14.8	8.2	1.9	(s)	10.1	24.8	([5])	([6])	0.2	0.7	2.8	22.9
2000	21.9	7.7	2.3	31.8	18.5	2.9	(s)	21.4	53.3	([5])	([6])	(s)	2.7	3.6	53.2
2001	17.6	12.0	3.3	32.9	14.6	3.1	0.2	17.8	50.8	([5])	([6])	0.1	2.0	-2.7	37.7
2002	15.0	-1.4	1.7	15.4	12.9	-0.4	(s)	12.5	27.9	([5])	([6])	(s)	-1.5	1.8	20.6
2003	[1]22.6	[1]7.4	[1]0.8	[1]30.9	[1]21.3	[1,7]2.9	([7])	[1]24.3	[1]55.1	3.6	1.0	([6])	0.1	0.9	57.4
2004	30.4	14.8	0.5	45.7	28.6	7.3	([7])	35.9	81.6	3.2	0.6	([6])	1.1	4.2	81.1

[1] Through 2002, natural gas operations are included in the "Petroleum" line of business. Beginning in 2003, downstream natural gas operations are included in their own line of business.

[2] "Downstream Natural Gas" is a line of business that begins with the procurement of natural gas, processes and gathers natural gas, produces natural gas liquids, imports liquefied natural gas, markets and trades natural gas and natural gas liquids, and delivers wholesale and retail volumes of natural gas and natural gas liquids.

[3] Through 2002, includes electric power, nuclear, renewable fuels, and nonconventional energy (including oil shale, tar sands, coal liquefaction and gasification, geothermal, and solar). Beginning in 2003, includes coal, nuclear, renewable fuels, and nonconventional energy.

[4] Total is sum of components shown, minus eliminations and nontraceables (see Notes).

[5] Included in "Petroleum."

[6] Included in "Other Energy."

[7] "International Marine" is included with "Foreign Refining and Marketing" to prevent disclosure.

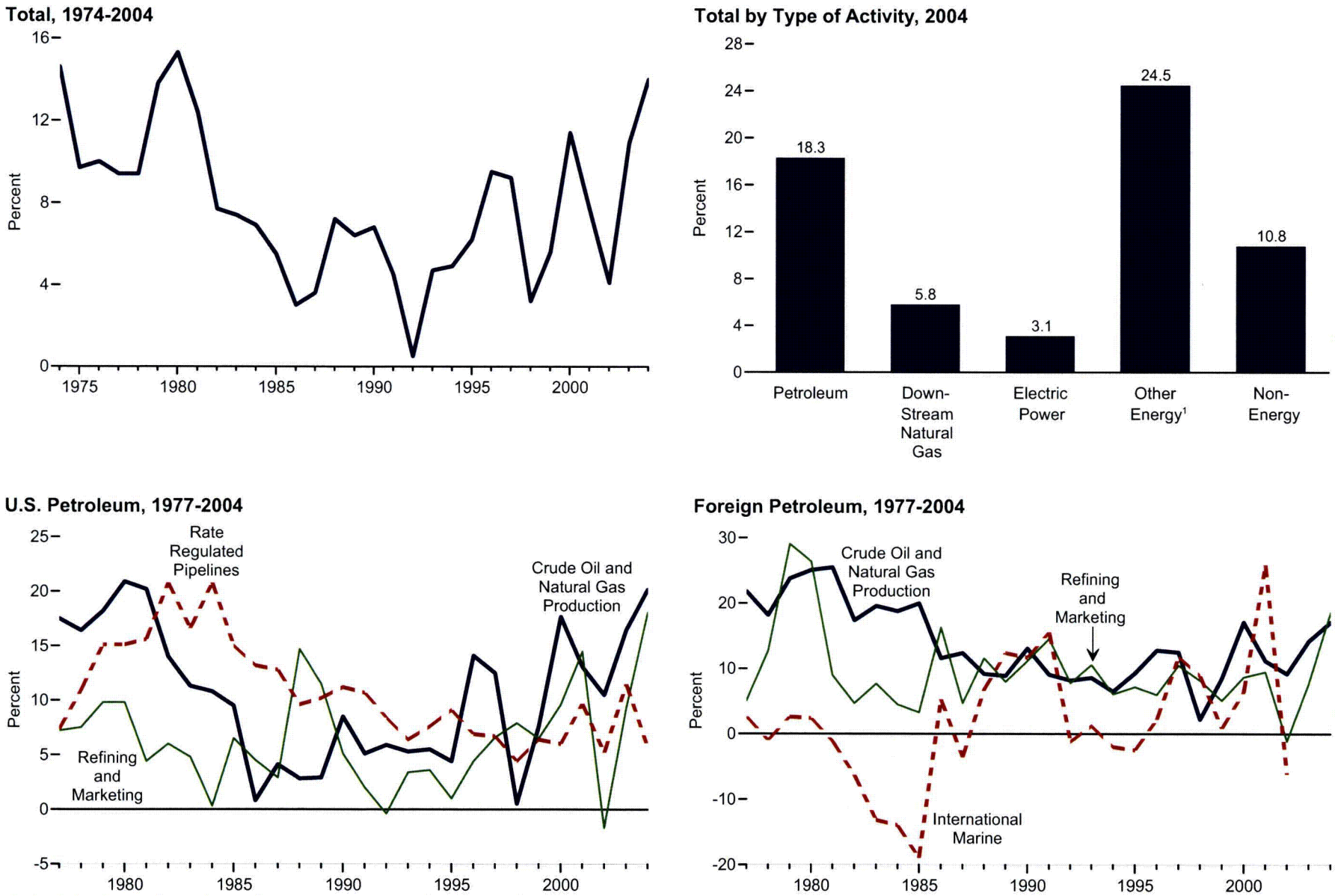
R=Revised. NA=Not available. (s)=Less than 0.05 billion and greater than -0.05 billion.

Notes: • "Major U.S. Energy Companies" are the top publicly-owned, U.S.-based crude oil and natural gas producers and petroleum refiners that form the Financial Reporting System. See Table 3.14. • "Net income" is operating income plus other income and extraordinary income less operating expenses, taxes, interest charges, other deductions, and extraordinary deductions. • "Eliminations" are revenues and expenses resulting from transactions between segments of the energy industry. Consolidated company accounts do not include intersegment revenues and expenses. Therefore, such intersegment transactions must be eliminated. • "Nontraceables" are energy companies' revenues, costs, assays, and liabilities that cannot be directly attributed to a type of business by use of a reasonable allocation method developed on the basis of operating-level utilities.

Web Page: For related information, see http://www.eia.doe.gov/emeu/finance.

Sources: • 1974-1976—Energy Information Administration (EIA), Form EIA-28, "Financial Reporting System" database, November 1997. • 1977 forward—EIA, *Performance Profiles of Major Energy Producers*, annual reports.

Figure 3.12 Major U.S. Energy Companies' Profitability



[1] Coal, nuclear, renewable fuels, and nonconventional energy.

Notes: • "Major U.S. Energy Companies" are the top publicly-owned crude oil and natural gas producers and petroleum refiners that form the Financial Reporting System (FRS). See Table 3.14. • Because vertical scales differ, graphs should not be compared.

Source: Table 3.12.

Table 3.12 Major U.S. Energy Companies' Profitability, 1974-2004

(Percent)

Year	Petroleum [1]									Down-stream Natural Gas [1,2]	Electric Power	Coal	Other Energy [3]	Non-Energy	Total
	United States				Foreign				Total Petroleum						
	Crude Oil and Natural Gas Production	Refining and Marketing	Rate Regulated Pipelines	Total	Crude Oil and Natural Gas Production	Refining and Marketing	Inter-national Marine	Total							
1974	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.6
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.7
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.0
1977	17.5	7.2	7.3	12.5	21.8	5.1	2.6	12.4	12.5	(4)	(5)	8.8	-2.6	7.1	9.4
1978	16.4	7.5	10.9	12.8	18.2	12.7	-1.0	13.6	13.1	(4)	(5)	4.1	-4.2	6.5	9.4
1979	18.2	9.8	15.1	15.5	23.8	29.1	2.6	23.1	18.0	(4)	(5)	6.3	-3.7	8.8	13.8
1980	20.9	9.8	15.1	17.5	25.1	26.4	2.4	23.0	19.2	(4)	(5)	5.6	-0.7	5.9	15.3
1981	20.2	4.4	15.6	16.1	25.5	9.0	-1.1	17.7	16.6	(4)	(5)	6.1	-6.8	3.5	12.4
1982	14.0	6.0	20.8	12.7	17.4	4.7	-6.3	11.8	12.5	(4)	(5)	4.4	-5.2	0.6	7.7
1983	11.3	4.8	16.6	10.3	19.6	7.7	-13.2	14.1	11.3	(4)	(5)	5.0	0.5	2.9	7.4
1984	10.8	0.3	20.8	9.4	18.8	4.5	-14.0	13.3	10.4	(4)	(5)	6.2	-1.8	4.8	6.9
1985	9.5	6.5	15.0	9.4	20.0	3.3	-19.0	13.8	10.5	(4)	(5)	4.6	-8.4	4.2	5.5
1986	0.8	4.5	13.2	3.0	11.6	16.3	5.3	12.8	5.5	(4)	(5)	2.7	-0.8	5.1	3.0
1987	4.1	2.9	12.8	4.9	12.4	4.7	-3.6	9.5	6.2	(4)	(5)	5.1	0.5	12.2	3.6
1988	2.8	14.7	9.6	6.3	9.2	11.6	6.8	9.9	7.3	(4)	(5)	6.7	-2.5	20.3	7.2
1989	2.9	11.5	10.2	5.8	8.9	8.0	12.4	8.7	6.7	(4)	(5)	5.0	-2.3	17.3	6.4
1990	8.5	5.1	11.2	7.9	13.1	11.2	11.7	12.5	9.5	(4)	(5)	3.3	2.6	7.8	6.8
1991	5.1	2.0	10.7	4.9	9.1	14.6	15.6	11.0	7.0	(4)	(5)	8.7	2.8	2.9	4.5
1992	5.9	-0.4	8.4	4.4	8.2	7.8	-1.2	7.9	5.6	(4)	(5)	-9.3	1.8	2.1	0.5
1993	5.3	3.4	6.4	4.9	8.6	10.6	1.2	9.2	6.4	(4)	(5)	7.6	4.1	4.7	4.7
1994	5.5	3.6	7.6	5.2	6.5	6.1	-2.0	6.2	5.6	(4)	(5)	4.0	4.8	10.5	4.9
1995	4.4	1.0	9.1	4.0	9.3	7.2	-2.5	8.4	5.7	(4)	(5)	6.9	6.1	19.4	6.2
1996	14.1	4.4	6.9	9.9	12.8	6.0	2.2	10.6	10.1	(4)	(5)	9.9	7.9	15.0	9.5
1997	12.5	6.6	6.7	10.0	12.5	10.5	11.8	11.9	10.8	(4)	(5)	7.2	7.0	10.9	9.2
1998	0.5	7.9	4.4	3.8	2.2	8.2	8.9	4.0	3.9	(4)	(5)	26.4	13.2	4.5	3.2
1999	7.6	6.5	6.4	7.0	8.5	5.1	0.8	7.6	7.2	(4)	(5)	9.5	7.6	5.8	5.6
2000	17.7	9.6	6.0	13.2	17.1	8.7	6.4	15.1	13.9	(4)	(5)	1.7	11.0	7.3	11.4
2001	13.1	14.5	9.7	13.1	11.2	9.5	25.9	10.9	12.2	(4)	(5)	9.0	9.0	-6.6	7.7
2002	10.5	-1.7	5.2	6.0	9.2	-1.1	-6.2	7.2	6.5	(4)	(5)	-8.5	R-6.8	4.7	4.1
2003	[1]16.5	[1]9.3	[1]11.5	[1]13.7	[1]14.2	[1]7.7	W	[1]13.0	[1]13.4	R8.8	5.2	(5)	2.8	2.4	10.9
2004	20.2	18.1	5.7	18.9	17.1	18.6	W	17.5	18.3	5.8	3.1	(5)	24.5	10.8	14.0

[1] Through 2002, natural gas operations are included in the "Petroleum" line of business. Beginning in 2003, downstream natural gas operations are included in their own line of business.

[2] "Downstream Natural Gas" is a line of business that begins with the procurement of natural gas, processes and gathers natural gas, produces natural gas liquids, imports liquefied natural gas, markets and trades natural gas and natural gas liquids, and delivers wholesale and retail volumes of natural gas and natural gas liquids.

[3] Through 2002, includes electric power, nuclear, renewable fuels, and nonconventional energy (including oil shale, tar sands, coal liquefaction and gasification, geothermal, and solar). Beginning in 2003, includes coal, nuclear, renewable fuels, and nonconventional energy.

[4] Included in "Petroleum."

[5] Included in "Other Energy."

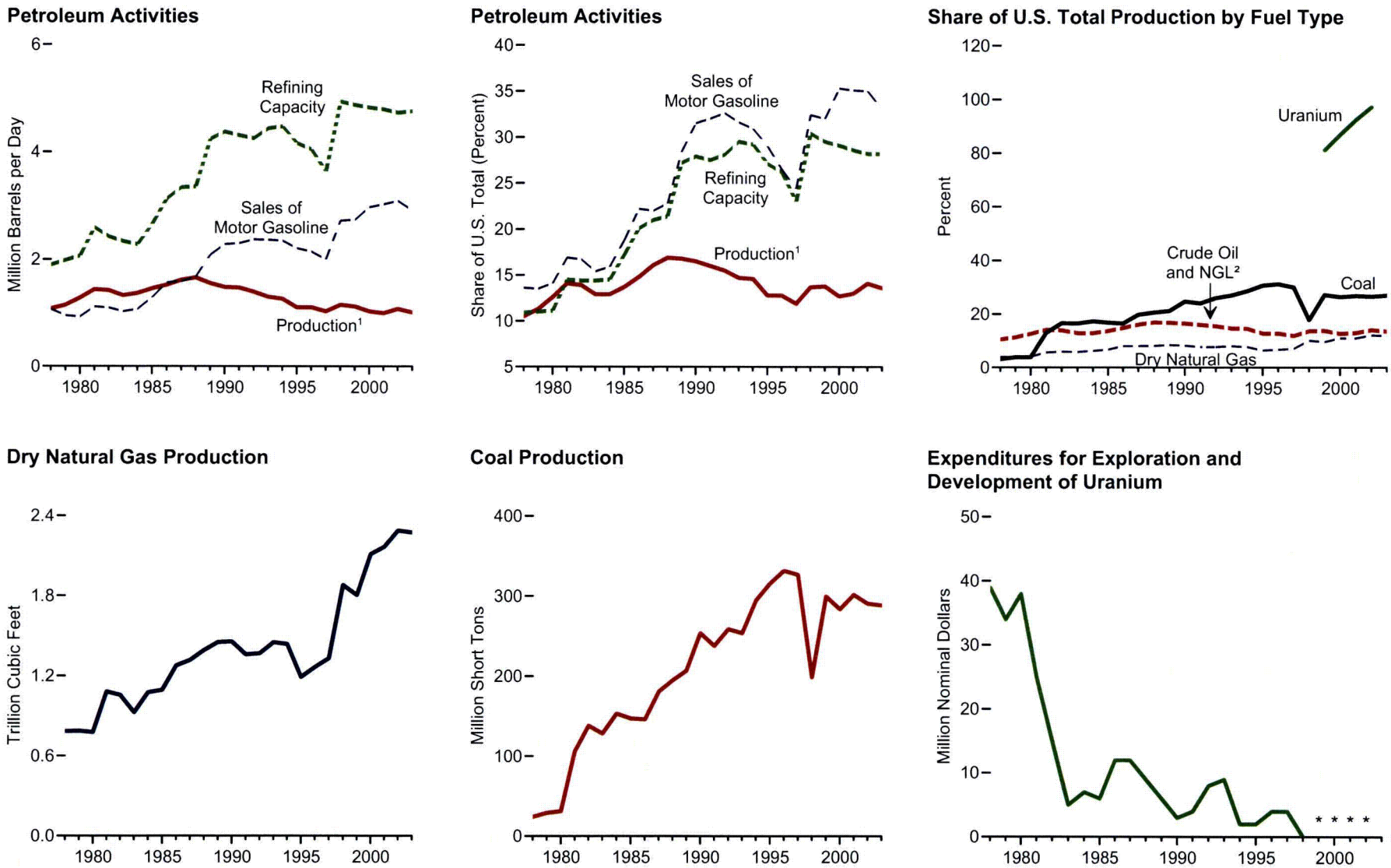
R=Revised. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: • "Major U.S. Energy Companies" are the top publicly-owned, U.S.-based crude oil and natural gas producers and petroleum refiners that form the Financial Reporting System. See Table 3.14. • Data are for return on investment, measured as net income divided by net investment in place. "Net income" is operating income plus other income and extraordinary income less operating expenses, taxes, interest charges, other deductions, and extraordinary deductions. "Net investment in place" is net property, plant, and equipment plus investments and advances to unconsolidated affiliates.

Web Page: For related information, see http://www.eia.doe.gov/emeu/finance.

Sources: • 1974-1976—Energy Information Administration (EIA), Form EIA-28, "Financial Reporting System" database, October 1996. • 1977 forward—EIA, *Performance Profiles of Major Energy Producers*, annual reports.

Figure 3.13 U.S. Energy Activities by Foreign-Affiliated Companies, 1978-2003



[1] Crude oil and natural gas liquids.
[2] Natural gas liquids.

* 1999-2002 uranium values are withheld to avoid disclosure of individual company data, and the 2003 value is not available.
Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.13.

Table 3.13 U.S. Energy Activities by Foreign-Affiliated Companies, 1978-2003

Year	Production								Refining Capacity		Sales of Motor Gasoline		Expenditures for Exploration and Development of Uranium	
	Crude Oil and Natural Gas Liquids		Dry Natural Gas		Coal		Uranium							
	Thousand Barrels per Day	Percent of U.S. Total	Billion Cubic Feet	Percent of U.S. Total	Million Short Tons	Percent of U.S. Total	Thousand Pounds [1]	Percent of U.S. Total [2]	Thousand Barrels per Day	Percent of U.S. Total	Thousand Barrels per Day	Percent of U.S. Total	Million Dollars [3]	Percent of U.S. Total
1978	1,076	10.5	783	3.9	24	3.1	NA	NA	1,895	10.9	1,066	13.6	39	12.5
1979	1,145	11.3	786	4.0	29	3.8	NA	NA	1,984	11.0	948	13.5	34	10.8
1980	1,280	12.6	776	4.0	31	3.8	NA	NA	2,066	11.1	926	14.1	38	14.1
1981	1,438	14.1	1,080	5.6	106	12.9	NA	NA	2,595	14.5	1,114	16.9	25	17.0
1982	1,421	13.9	1,055	5.9	138	16.6	NA	NA	2,423	14.4	1,092	16.7	15	19.8
1983	1,325	12.9	924	5.8	128	16.5	NA	NA	2,337	14.4	1,022	15.4	5	13.0
1984	1,365	12.9	1,075	6.2	153	17.3	NA	NA	2,276	14.5	1,066	15.9	7	24.9
1985	1,455	13.7	1,093	6.7	147	16.8	NA	NA	2,656	17.2	1,285	18.8	6	27.9
1986	1,523	14.8	1,276	8.0	146	16.5	NA	NA	3,133	20.1	1,565	22.2	12	54.3
1987	1,614	16.1	1,318	8.0	181	19.8	NA	NA	3,342	21.0	1,586	22.0	12	60.4
1988	1,659	16.9	1,392	8.1	195	20.6	NA	NA	3,356	21.4	1,673	22.8	9	44.2
1989	1,553	16.8	1,452	8.4	207	21.2	NA	NA	4,243	27.2	2,084	28.4	6	41.2
1990	1,481	16.5	1,457	8.2	254	24.7	NA	NA	4,379	27.9	2,282	31.5	3	14.6
1991	1,469	16.0	1,360	7.7	238	24.0	NA	NA	4,312	27.5	2,299	32.0	4	19.7
1992	1,392	15.5	1,368	7.7	259	26.0	NA	NA	4,256	28.1	2,369	32.6	8	55.2
1993	1,299	14.7	1,451	8.0	254	27.0	NA	NA	4,440	29.5	2,362	31.6	9	76.0
1994	1,261	14.6	1,439	7.7	295	28.6	NA	NA	4,479	29.2	2,346	30.9	2	51.0
1995	1,103	12.8	1,191	6.4	316	30.7	NA	NA	4,164	27.1	2,204	29.0	2	35.0
1996	1,105	12.8	1,265	6.7	332	31.2	NA	NA	4,050	26.2	2,145	26.5	4	44.0
1997	1,028	11.9	1,332	7.0	327	30.0	NA	NA	3,637	23.0	1,998	24.4	4	14.0
1998	1,149	13.7	1,881	10.1	199	17.8	NA	NA	4,940	30.4	2,721	32.4	(s)	1.0
1999	1,118	13.8	1,805	9.6	300	27.2	[4]3,745	[4]81.2	4,877	29.5	2,737	32.0	W	W
2000	1,027	12.7	2,112	11.0	284	26.4	3,443	87.0	4,831	29.1	2,971	35.3	W	W
2001	[R]994	[R]13.0	[R]2,167	[R]11.0	302	26.8	2,440	92.5	[R]4,797	28.6	3,027	35.1	W	W
2002	[R]1,073	[R]14.1	[R]2,289	[R]12.1	291	26.6	2,280	97.3	[R]4,733	[R]28.2	3,090	[R]35.0	W	W
2003	1,009	13.6	2,274	11.9	289	27.0	2,024	[5] NM	4,761	28.2	2,914	33.0	NA	NA

[1] Production of uranium oxide (U_3O_8). See "Uranium Oxide" in Glossary.
[2] Percent of U.S. total uranium concentrate production. See "Uranium Concentrate" in Glossary.
[3] Nominal dollars.
[4] Includes a small amount produced by a U.S. company, which left the industry by the close of 1999.
[5] Total U.S. uranium production is slightly below that of the foreign-affiliated companies shown in this table. The U.S. data were rounded to avoid disclosure of individual company data.
R=Revised. NA=Not available. NM=Not meaningful. (s)=Less than 0.5 million dollars. W=Value withheld to avoid disclosure of individual company data.

Web Page: For related information, see http://www.eia.doe.gov/emeu/finance.

Sources: • 1978—U.S. Department of Energy, *Secretary's Annual Report to Congress,* (September 1983). • 1979-1992—Energy Information Administration (EIA), *Profiles of Foreign Direct Investment in U.S. Energy,* annual reports. • 1993-1996—EIA, *Performance Profiles of Major Energy Producers,* annual reports. • 1997 forward—EIA, *Foreign Direct Investment in U.S. Energy,* annual reports.

Table 3.14 Companies Reporting to the Financial Reporting System, 1974-2004

Company	1974-1981	1982	1983-84	1985-86	1987	1988	1989-90	1991	1992-93	1994-96	1997	1998	1999	2000	2001	2002	2003-04
Amerada Hess Corporation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
American Petrofina, Inc. [1]	X	X	X	X	X	X	X										
Anadarko Petroleum Corporation								X	X	X	X	X	X	X	X	X	X
Apache Corporation														X	X	X	X
Ashland Inc. [2]	X	X	X	X	X	X	X	X	X	X	X						
Atlantic Richfield Co. (ARCO) [3]	X	X	X	X	X	X	X	X	X	X	X	X	X				
BP America, Inc. [4,5]					X	X	X	X	X	X	X	X	X			X	X
BP Amoco Corporation [3,4,6]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Burlington Northern Inc. [7]	X	X	X	X	X												
Burlington Resources Inc. [7]						X	X	X	X	X	X	X	X	X	X	X	X
Chesapeake Energy Corporation																	X
Chevron Corporation [8,9,10]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Citgo Petroleum Corporation												X	X	X	X	X	X
Cities Service [11]	X	X															
ConocoPhillips, Company [12,13,14]	X											X	X	X	X	X	X
Devon Energy Corporaton														X	X	X	X
Dominion Resources														X	X	X	X
E.I. du Pont de Nemours and Co. [12,13]		X	X	X	X	X	X	X	X	X	X						
El Paso Energy Corporation [15]													X	X	X	X	X
Enron Corporation									X	X	X	X	X	X			
EOG Resources, Inc.														X	X	X	X
Equilon Enterprises, LLC [16]												X	X	X	X		
Equitable Resources, Inc.																	X
Exxon Mobil Corporation [17]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Getty Oil [18]	X	X	X														
Gulf Oil [9]	X	X	X														
Kerr-McGee Corporation [19]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LYONDELL-CITGO Refining, LP [20]												X	X	X	X	X	X
Marathon Oil Corporation [21]	X															X	X
Mobil Corporation [17,22]	X	X	X	X	X	X	X	X	X	X	X	X					
Motiva Enterprises, LLC [23]												X	X	X	X	X	X
Nerco, Inc. [24]									X								
Occidental Petroleum Corporation [11]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Oryx Energy Company [19,25]						X	X	X	X	X	X						
Phillips Petroleum Company [14,26]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Premcor, Inc. [27]												X	X	X	X	X	X
Shell Oil Company	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sonat Inc.											X	X					
Standard Oil Co. (Ohio) (Sohio) [5]	X	X	X	X													
Sunoco, Inc. [25,28]	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X
Superior Oil [22]	X	X	X														
Tenneco Inc. [29]	X	X	X	X	X	X											
Tesoro Petroleum Corporation												X	X	X	X	X	X
Texaco Inc. [10,18]	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
The Coastal Corporation [15]	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
The Williams Companies, Inc												X	X	X	X	X	X
Tosco Corporation [26]												X	X	X	X		
Total Holdings, USA, Inc. [1,30,31]								X	X	X	X	X	X	X	X	X	X
Total Petroleum (North America) Ltd. [32]							X	X									
Ultramar Diamond Shamrock Corporation [33]												X	X	X	X		
Union Pacific Resources Group, Inc. [34,35]	X	X	X	X	X	X	X	X	X	X	X	X	X				
Unocal Corporation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
USX Corporation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Valero Energy Corporation [33]												X	X	X	X	X	X
XTO Energy, Inc.																X	X

Footnotes: See the following page.

Note: "X" indicates that the company was included in the Financial Reporting System for the year indicated.

Web Page: For related information, see http://www.eia.doe.gov/emeu/finance.

Source: Energy Information Administration, Form EIA-28, "Financial Reporting System."

Footnotes for Table 3.14

[1]American Petrofina, Inc. changed its name to Fina, Inc., effective April 17, 1991.
[2]Ashland was dropped from the FRS system for 1998 after spinning off downstream and coal operations and disposing of upstream operations.
[3]BP Amoco acquired Atlantic Richfield Company (ARCO) in April of 2000. The reporting was consolidated under BP Amoco for 2000. Data for ARCO is not included in the database for the period from January 1, 2000 to April 14, 2000.
[4]Amoco merged with British Petroleum plc and became BP Amoco plc on December 31, 1998. BP America was renamed BP Amoco, Inc. The companies reported separately for 1998 and 1999.
[5]In 1987, British Petroleum acquired all shares in Standard Oil Company (Ohio) that it did not already control and renamed its U.S. affiliate, BP America, Inc.
[6]Formerly Standard Oil Company (Indiana).
[7]Burlington Resources was added to the FRS system and Burlington Northern was dropped for 1988. Data for Burlington Resources covers the full year 1988 even though that company was not created until May of that year.
[8]Formerly Standard Oil Company of California.
[9]Chevron acquired Gulf Oil in 1984, but separate data for Gulf continued to be available for the full 1984 year.
[10]In October 2000, Chevron and Texaco agreed to merge. Both companies reported separately for 2000.
[11]Occidental acquired Cities Service in 1982. Separate financial reports were available for 1982, so each company continued to be treated separately until 1983.
[12]DuPont acquired Conoco in 1981. Separate data for Conoco were available for 1981; DuPont was included in the FRS system in 1982.
[13]Dupont was dropped from the FRS system when Conoco was spun-off in 1998. Conoco began reporting separately again in 1998.
[14]In November 2001, Phillips and Conoco agreed to merge forming ConocoPhillips in 2002. Both companies reported separately in 2001. The companies reported separately in 2002 until the time of the merger.
[15]In January 2001, Coastal merged with a wholly owned subsidiary of El Paso Energy Corporation. The name was changed to El Paso CGP Company. Data were reported separately in 2000 under the name The Coastal Company.
[16]Equilon is a joint venture combining Shell's and Texaco's western and midwestern U.S. refining and marketing businesses and nationwide trading transportation and lubricants businesses. Net income is duplicated in the FRS system since Shell and Texaco account for this investment using the equity method.
[17]In December 1998, Exxon and Mobil agreed to merge. Both companies reported separately for 1998.
[18]Texaco acquired Getty in 1984; however, Getty was treated as a separate FRS company for that year.
[19]In 1998, Kerr-McGee and Oryx merged. The financial reporting for both was consolidated under Kerr-McGee for 1998.
[20]LYONDELL-CITGO is a limited partnership owned by Lyondell Chemical Company and Citgo. There will be some duplication of net income since Citgo accounts for its investment using the equity method.
[21]U.S. Steel (now USX) acquired Marathon in 1982.
[22]Mobil acquired Superior in 1984, but both companies were treated separately for that year.
[23]Motiva is a joint venture approximately equally owned by Shell, Texaco, and Saudi Refining, Inc. The joint venture combines the company's Gulf and east coast refining and marketing businesses. Duplication exists for the net income related to Shell and Texaco's interests which are accounted for under the equity method.
[24]RTZ America acquired the common stock of Nerco, Inc., on February 17, 1994. In September 1993, Nerco, Inc. sold Nerco Oil & Gas, Inc., its subsidiary. Nerco's 1993 submission includes operations of Nerco Oil & Gas, Inc., through September 28, 1993.
[25]Sun Company spun off Sun Exploration and Development Company (later renamed Oryx Energy Company) during 1988. Both companies were included in the FRS system for 1988; therefore, some degree of duplication exists for that year.
[26]In September 2001, Phillips acquired Tosco. Both companies reported separately in 2001.
[27]In May 2000, Clark Refining & Marketing changed its name to Premcor Refining Group.
[28]Sun company withdrew from oil and gas exploration and production in 1996. Sun's 1996 submission includes oil and gas exploration and production activities through September 30, 1996. Refining/marketing activities are included for the entire 1996 calendar year. In 1998 the company changed its name to Sunoco, Inc.
[29]Tenneco sold its worldwide oil and gas assets and its refining and marketing assets in 1988. Other FRS companies purchased approximately 70 percent of Tenneco's assets.
[30]Prior submissions were reported at the FINA, Inc. level. FINA, Inc. was the parent of Fina Oil and Chemical Company, which is now ATOFINA Petrochemicals. Due to a series of mergers and acquisitions, beginning in 2000, the submission is reported at the American Petrofina Holding Company level, which is the holding company of ATOFINA.
[31]In 2002, the name was changed to Total Fina Elf and changed to Total Holdings, USA in 2003
[32]Effective June 1, 1991, Total's exploration, production, and marketing operations in Canada were spun off to Total Oil & Gas, a new public entity.
[33]In December 2001, Valero and Ultramar Diamond Shamrock agreed to merge. Both companies reported separately in 2001.
[34]Effective October 15, 1996, Union Pacific Corporation distributed its ownership in the Union Pacific Resources Group, Inc. to its shareholders. Prior to 1996, the FRS system included Union Pacific Corporation. The FRS system includes only Union Pacific Resources Group, Inc. for 1996.

[35]Union Pacific merged with Anadarko on July 14, 2000. Anadarko's 2000 submission includes data for Union Pacific after July 14, 2000. Data for Union Pacific was not submitted for the period from January 1, 2000 to July 14, 2000.