70-687
PDR
Return to 39655

UNION CARBIDE

UNION CARBIDE CORPORATION P. O. BOX 324, TUXEDO, NEW YORK 10987
MEDICAL PRODUCTS DIVISION TELEPHONE NUMBER: (914) 351-2131

June 6, 1984

U. S. Nuclear Regulatory Commission
Division of Fuel Cycle and Material Safety
Advanced Fuel and Spent Fuel Licensing Branch
7915 Eastern Avenue
Silver Spring, MD 20910

DOCKETED
USNRC
JUN 12 1984
NMSS
MAIL SECTION
DOCKET CLERK

Attn: Leland C. Rouse
Branch Chief

Ref: USNRC Letter 03/12/84, Docket 70-687

Gentlemen:

Our application for renewal of SNM License No. 639 has been revised per your comments and recommendations contained in the referenced letter and in subsequent discussions with members of your staff.

The initially proposed license limits for SNM in plant control areas, except the quantity limits for waste drums, remain unchanged. Lower limits for waste drums are proposed in this revised submittal. The safety demonstrations for some of the new license limits have been modified according to our recent discussions. Safety demonstrations for current limits which are being carried over from the existing license have been added. Additional limits on combustible materials in hot cells also have been included.

We have addressed the issue of audits for criticality safety by proposing frequent checks of operations against control area limits that will be accomplished concurrently with physical inventories, in addition, an annual comprehensive audit of operations will be performed by an appointee of the Nuclear Safeguards Committee.

A copy of the 1983 Union Carbide Annual Report has been appended.

We believe that all of the comments in the above referenced letter that remained unresolved after our meeting of April 19th have been addressed in this revised consolidated application. We reiterate our request that the renewed license term be the maximum that is allowed and that it commence at the date of renewal.

Thank you for your consideration.

See Accordian Folder for Enclosures

Very truly yours,

J.J. McGovern

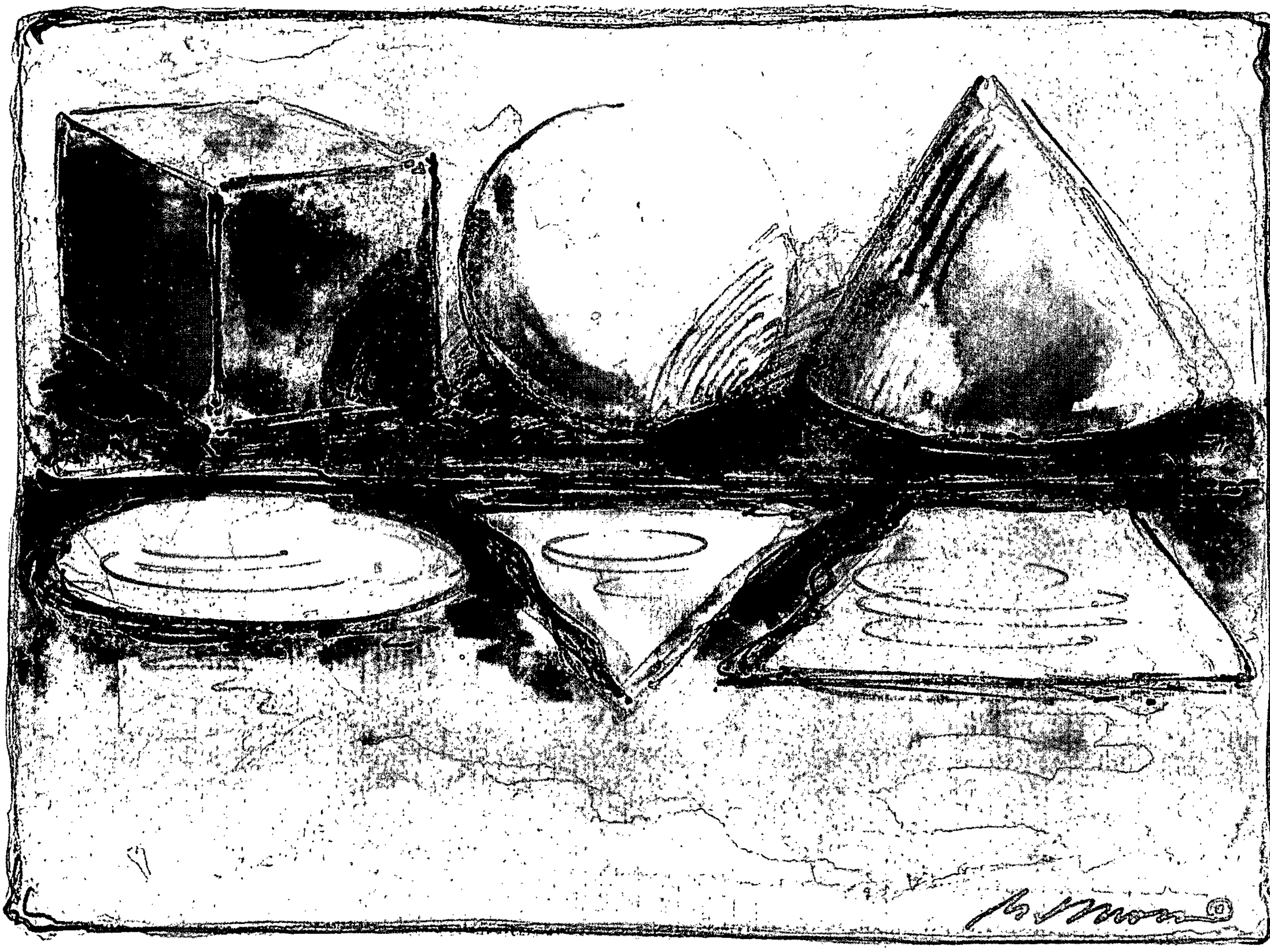
James J. McGovern
Business Manager
Radiochemicals

RECEIVED
JUN 12 1984
U. S. NUCLEAR REGULATORY COMMISSION
NMSS
Mail Section

add info
23758

JJMcG:js
Attachment

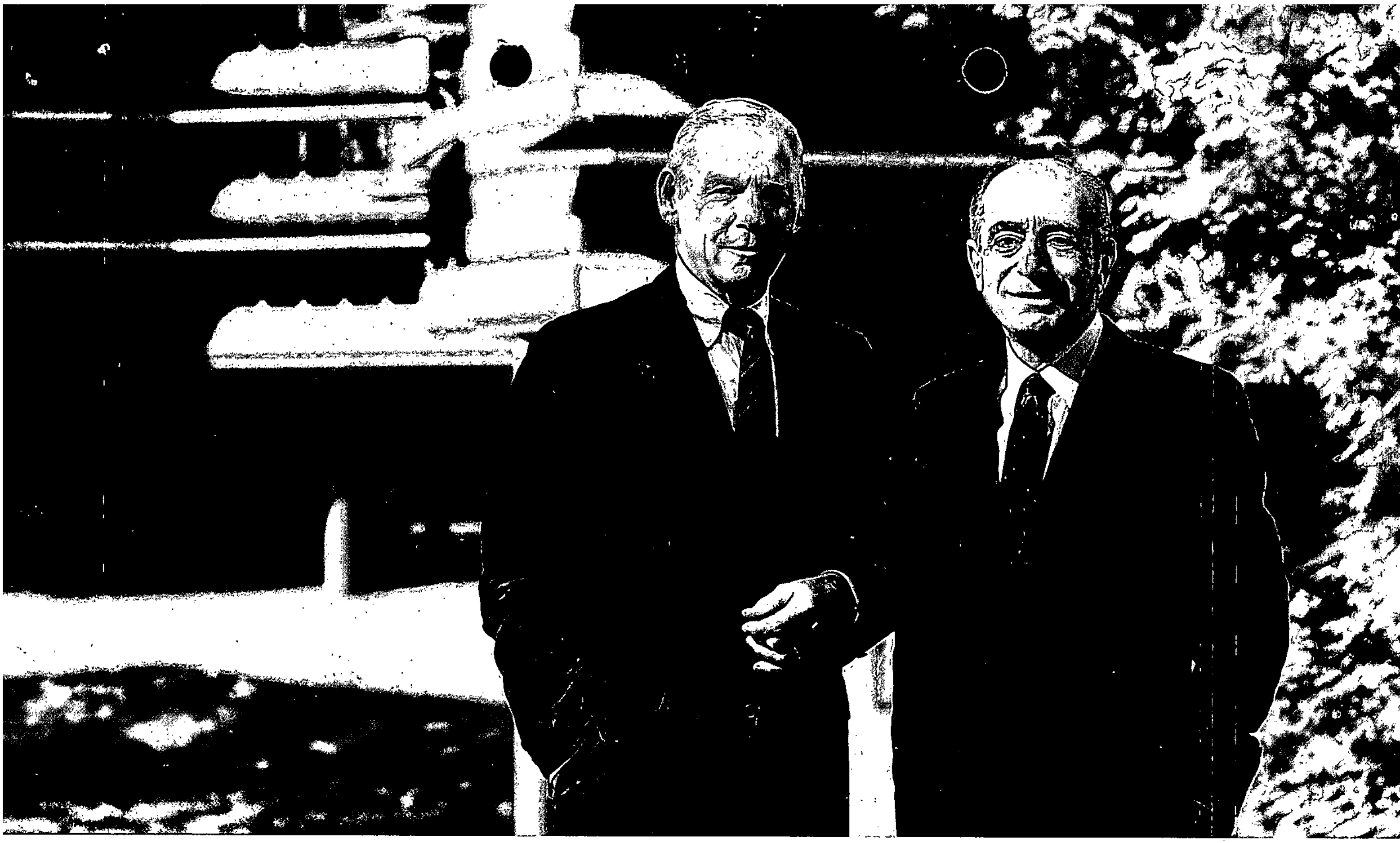
Union Carbide Annual Report 1983



With consolidated sales of $9 billion in 1983, Union Carbide ranks among the largest industrial companies in the United States and the world. International operations contributed about one-third of total sales in 1983. As of February 1, 1984, our approximately 124,000 stockholders owned about 70 million shares.

We have long been a leader in basic petrochemicals, and in important businesses evolved from our historic expertise in gas and furnace technologies. Recently we have placed increasing emphasis on consumer, specialty, and service businesses.

Throughout this annual report, the terms *Union Carbide*, *Carbide*, *UCC Consolidated*, *we*, and *our* refer to Union Carbide Corporation and its consolidated subsidiaries. The terms *Corporation*, *UCC*, and *its* refer to Union Carbide Corporation, the parent company. The term *domestic* means the United States and Puerto Rico, and the term *domestic operations* refers generally to all of Union Carbide's operations in this area, including exports. The term *international* refers to all other parts of the world, and *international operations* refers to all operations other than domestic.



"We have been effecting a gradual but firm change in strategic direction over the past several years, in order to address the structural changes we see under way in the world economy."

Warren M. Anderson, Chairman of the Board (left)
Alec Flamm, President (right)

Financial Highlights

Dollar amounts in millions (except per share figures)	**1983**	1982	1981
For the year			
Sales	**$ 9,001**	$ 9,061	$10,168
Net income	**79**	310	649
Per share	**1.13**	4.47	9.56
Net income excluding non-recurring facilities-closing charge*	**218**	310	649
Per share	**3.11**	4.47	9.56
Dividends	**240**	235	224
Dividends per share	**3.40**	3.40	3.30
Capital expenditures	**761**	1,179	1,186
At year-end			
Total assets	**$10,295**	$10,616	$10,423
UCC stockholders' equity	**4,929**	5,159	5,263
UCC stockholders' equity per share	**69.95**	73.54	76.74
Shares outstanding (thousands)	**70,465**	70,153	68,582
Number of stockholders	**124,901**	138,098	149,890
Number of employees	**99,506**	103,229	110,255

*See Note 5 on page 31.

Contents

Letter to Stockholders

When the recession began to strike us in force two years ago, our primary objective was to come out of it a stronger company. And so we have.

We have reduced inventories and tightened the lid on costs and expenses. We have cut back on capital spending and refocused it into our most promising operations. Despite the weakened business conditions, we have increased our research and development spending and reduced our debt. And we wrote off a large chunk of uncompetitive facilities in the fourth quarter of 1983.

The result is that we enter 1984 as a trimmer, more competitive company, with a stronger balance sheet and leaner, more efficient operations across the board.

Although they should improve our financial performance in 1984 and beyond, the facilities write-offs, along with other special charges and credits taken in the fourth quarter of 1983, dramatically lowered 1983 results—the facilities write-offs alone sliced nearly $2 a share off 1983 earnings. For the year, net income was $79 million, down 75% from the $310 million earned in 1982.

Apart from the non-recurring items, there were three major factors contributing to the decline in 1983 earnings.

- First, weakness in certain customer industries, especially oil and gas extraction and steel, adversely affected markets for our industrial gases, metals, electrode systems, and carbon products businesses.
- Second, worldwide overcapacity in ethylene put severe pressure on prices for ethylene oxide and glycol, derivatives that represent an important segment of Carbide's petrochemical production.
- Third, the exaggerated strength of the dollar made all U.S. products, including ours, less competitive in world markets. The overvalued dollar was mainly responsible for a 16% decline in Carbide's exports, and for lower margins on the intermediates we ship to overseas manufacturers. Furthermore, the strong dollar encouraged imports into U.S. markets, keeping prices down and costing U.S. producers some domestic market share.

As the recession's effects on us dissipate, we will not be looking only to the cyclical recovery of our basic businesses to enhance our performance. We have been effecting a gradual but firm change in strategic direction over the past several years, in order to address the structural changes we see under way in the world economy. As a result, we are ready to take advantage of the new opportunities those changes have presented.

There is no doubt that slower growth in steel and some other industries will mean slower growth for some of our businesses. But our specialty, consumer, and service businesses—the entrepreneurial segments of our portfolio—will play an increasingly important role in the economy of the decade ahead, and in Carbide's future performance.

The story of these and other Carbide businesses is one of new business ventures, new products, and new specialty and service markets. We think it's an exciting story, and we tell it at greater length in the essay that follows this letter.

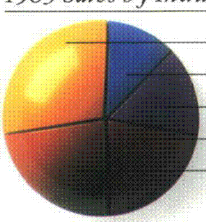
Finally, we would like to take note of a retirement and two promotions which occurred during the year just past. After 29 years of service to the Corporation, Morse G. Dial, Jr. retired as vice-president and secretary. We wish him well. James B. Reid was promoted to succeed him, and Heinn F. Tomfohrde III was promoted to executive vice-president.

We must also report that two directors will not stand for re-election at this year's annual meeting. They are F. Perry Wilson, who has given 43 years of service to the Corporation, including six as chairman and 14 as a director, and the Hon. Ian D. Sinclair O.C., Q.C., who served nine years as a director. We wish to express our appreciation and gratitude for their outstanding contributions to the Corporation.

Warren M. Anderson
Chairman of the Board

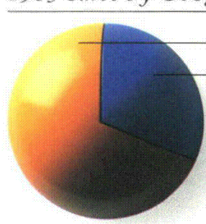
Alec Flamm
President

1983 Sales by Industry Segment:

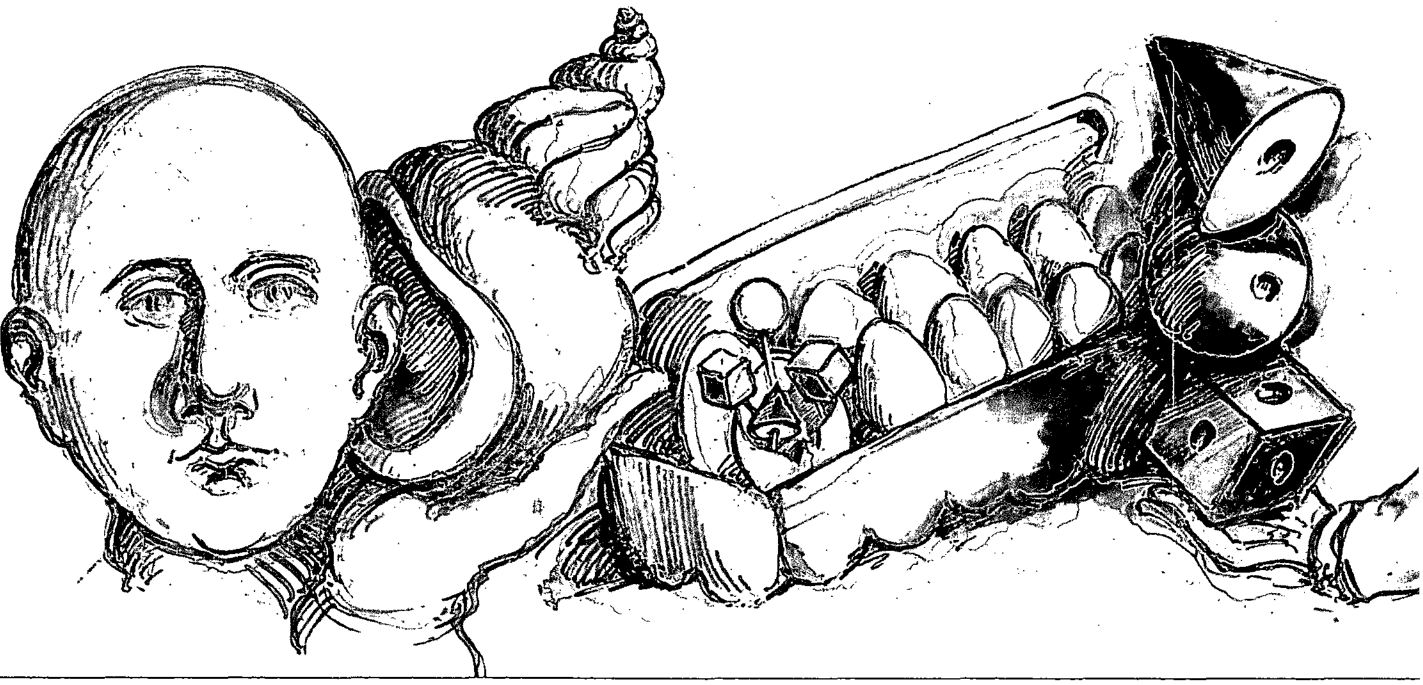


Petrochemicals	29%
Metals & Carbon Products	11%
Industrial Gases	15%
Consumer Products	21%
Technology, Services & Specialty Products	24%

1983 Sales by Geographic Segment:



Domestic	69%
International	31%



The Business Process:

1. Inspiration
Responding to cues from the world around them, the men and women of business envision new possibilities.

Union Carbide: New Directions

The recovery of 1983 bestowed its favors unevenly through the economy. As expected, some of our markets rebounded nicely, while others, especially in the steel and energy areas, continued to lag.

But the pattern was not just a matter of luck: the recovery's uneven path is plainly a reflection of far more sweeping economic change. Some heavy industries, for example, although well along in their efforts to shut down outmoded operations and upgrade the rest, have yet to regain their full competitive strength. And even then, the forecast is only for modest growth. On the other hand, consumer markets are strong, and continued growth is forecast for the information, high technology, and service sectors.

So while the strength and duration of the recovery continue to be discussed, at least as significant for Union Carbide are the more fundamental structural changes reshaping the economy. As older markets decline and new ones emerge, some of our businesses will enter a period of slower growth. But for the largest share of Carbide's business portfolio, the changes underway in the economy point to promising new opportunities.

Having reached the top tier of industrial companies in the period when basic industry provided the main markets for our products and technologies, Carbide began several years ago to prepare for the time when other sectors of the economy would play a more dominant role.

What those preparations mainly entailed was a gradual but firm shift in our strategic focus: The high-volume, capital-intensive businesses of the '60s and '70s will continue to make important contributions to Carbide, but for growth we will be relying increasingly on a cluster of consumer, specialty, and service businesses more closely linked to the growth markets of the '80s and beyond.

This swing towards the value-added end of our portfolio is in many ways a natural.

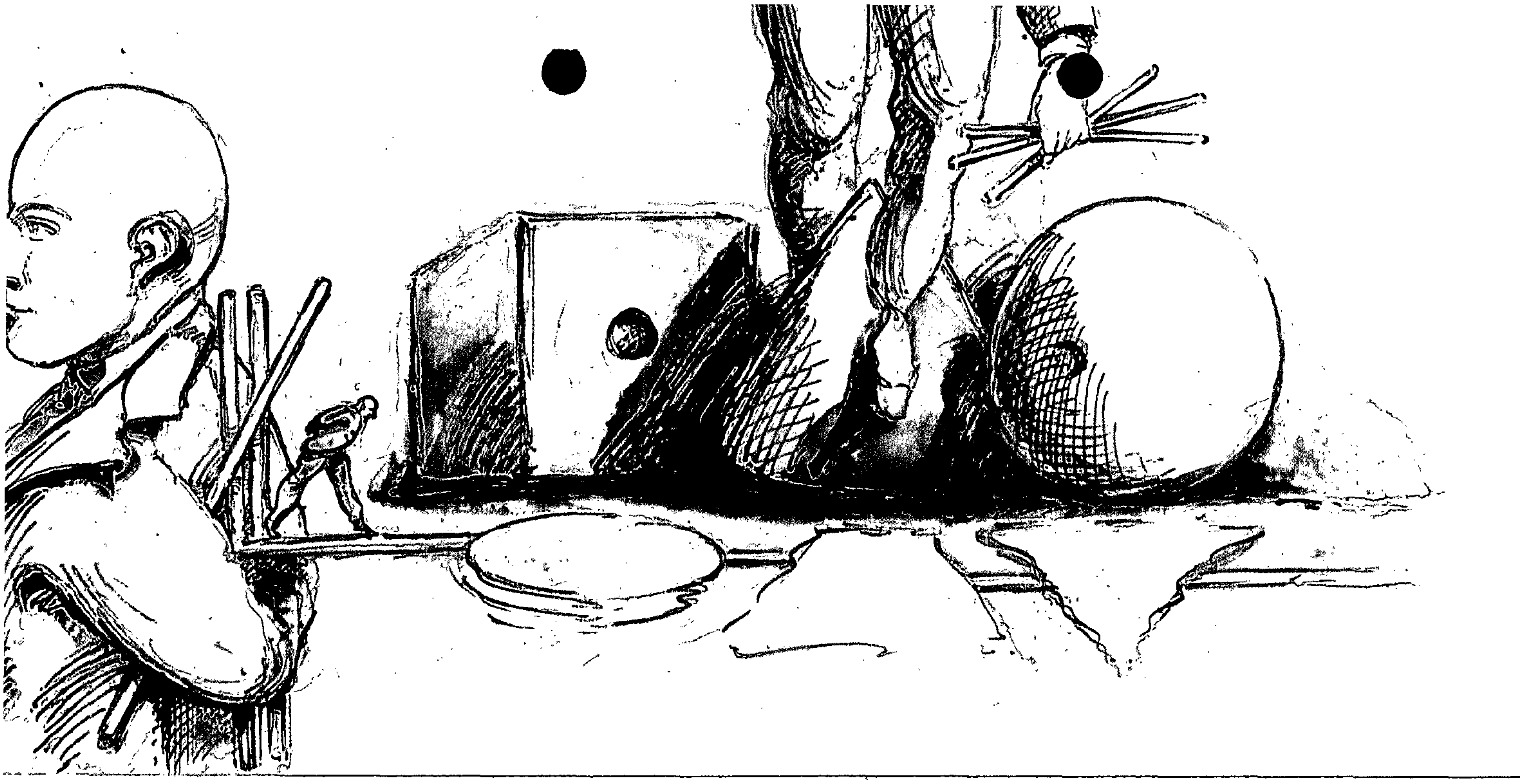
Strengths in Marketing, Distribution

First, the businesses to which we're turning for additional growth and renewal are already in place, and even the newer ones are making rapid headway. Second, many represent extensions of large businesses in which our leadership is long established. Third, and perhaps most important, our developing growth businesses, like our high-volume manufacturing operations, are driven by superior technical, marketing, and distribution capabilities.

In fact, that combination is more important now than ever. At a time when technology occupies the catbird seat in the hierarchy of competitive business strengths, the value of a superior marketing and distribution organization is sometimes overlooked. Yet as the rate of invention in a new technology begins to slow down, as it does inevitably for computers and chemicals alike, leadership depends as much on a company's access to markets and its alertness to customer needs as it does on the technology involved in its products.

So while technology leadership remains a cornerstone of Carbide's business strategy, the role of our worldwide marketing and customer service system is not only complementary but coequal.

In combination, these strengths have for several years been extending the reach of a diverse group of Carbide businesses. Although each of these businesses aims for leadership in its respective technology, each operates on the



2. Planning
The business manager weighs the resources available and creates a practical plan of action.

premise that creating value for the customer is not only the end game for technology, but the very reason for being in the business at all.

Linde Homecare Medical Systems, Inc., a business that has just begun to demonstrate its true growth potential, is a perfect example. The business originated with a Carbide invention called the Oxygen Walker, a device that provides a controlled stream of oxygen to ambulatory patients with chronic pulmonary disease.

By offering patients mobility and a more normal life, the Homecare liquid oxygen systems exemplify the trend away from costly hospital care to in-home treatment.

What they illustrate in business terms is Carbide's ability to carve out markets by adapting technology to meet new needs.

Although applied cryogenic technology made Homecare possible, its main business is service—the regular delivery of medical oxygen in liquid form to thousands of patients from 92 service centers in 22 states.

Our Films-Packaging Division is another classic example of a strong position based on technology and sustained by an acute sensitivity to the needs of the market.

Films-Packaging made its mark long ago by inventing cellulose casings that made the skinless hot dog a reality. Now, billions of hot dogs later, the business has expanded to include cellulose casings, fibrous casings, and films and multi-layer barrier bags for the processing and packaging of the entire spectrum of processed meats. Alertness to customer needs has resulted in products specially suited for hams, poultry, and fresh red and processed meats.

Growth in this business is achieved by finding ways to help the meat producer become more productive. Films-Packaging scientists have developed products, equipment systems and techniques which are designed to increase the efficiency of meat processing and packaging and to make the final consumer product more wholesome and appetizing.

Anticipating Needs of Customers

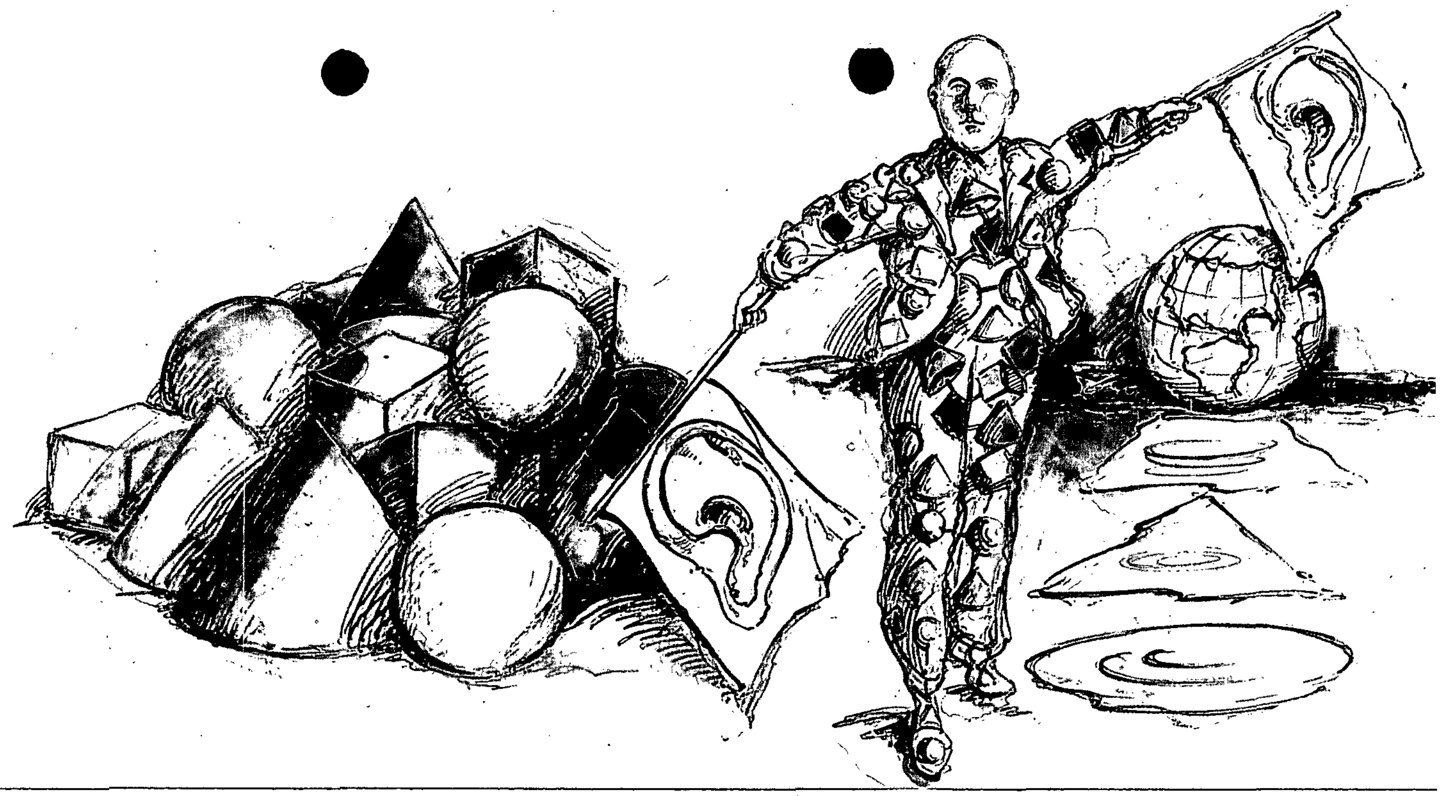
Sensitivity to customer needs is an important aspect of how Carbide conducts business, whether it's selling huge quantities of commodity petrochemicals to basic industries or flashlights and *Glad* bags to consumers.

In domestic markets during 1983, *Glad* introduced a total of six new products—including bags that smell good, *Snap Lock*-brand bags, and bags that tie with their own handles—in aggressive pursuit of larger market share.

The pattern is the same in all of Carbide's consumer businesses—as needs change, we strive to anticipate them with new and better products. Our largest consumer business is battery products, whose constant renewal and steady growth stems from a determined marketing effort and the ability to field new battery sizes and electrochemical systems for the seemingly endless variety of portable electronic devices.

On a smaller scale, our *Simoniz* line of car-care products is well positioned in that market because a Carbide division was able to coordinate technology and marketing strengths. Although one of the best known brands in the automotive specialty field, the *Simoniz* line was languishing when Carbide acquired it in 1976. But no longer. Using technology to improve and expand the *Simoniz* product mix, and the vast Carbide distribution system to move it to market, the division transformed the line into a fast-growing and profitable element of our consumer products group.

And *Prestone II* antifreeze/coolant, whose name has been trusted by the public since 1929, continues to be the



The Business Process:

3. Implementation
The stock of goods and services is marketed, with close attention paid to the needs of the customer.

largest-selling brand. It set the standard of quality for the industry, and keeps building on a loyal following of customers.

New Venture in Electronics Market

In fact, most of the businesses in our expanding specialty group operate on the same principle, with marketing acumen providing an added advantage even for businesses whose technology alone would place them well ahead of the competition. An example is Union Carbide's thrust into polycrystalline silicon, the building-block material for the production of semiconductors.

This technology, which derives mainly from Carbide's mastery of materials science, produces material of exceptional quality. But the proprietary position enjoyed by this new venture has an extra dimension—Carbide's familiarity with the electronics market, gained both in the service side of the business as a key supplier of electronic chemicals, and in the manufacturing end as the world's leading producer of tantalum capacitors.

Carbide's first polycrystalline silicon plant, located in Washougal, Washington, began operations in early 1983. A 1,200-metric-ton-per-year plant will begin operating in 1984, and another plant, capable of producing 3,000 metric tons per year, is in the planning and preliminary engineering stage.

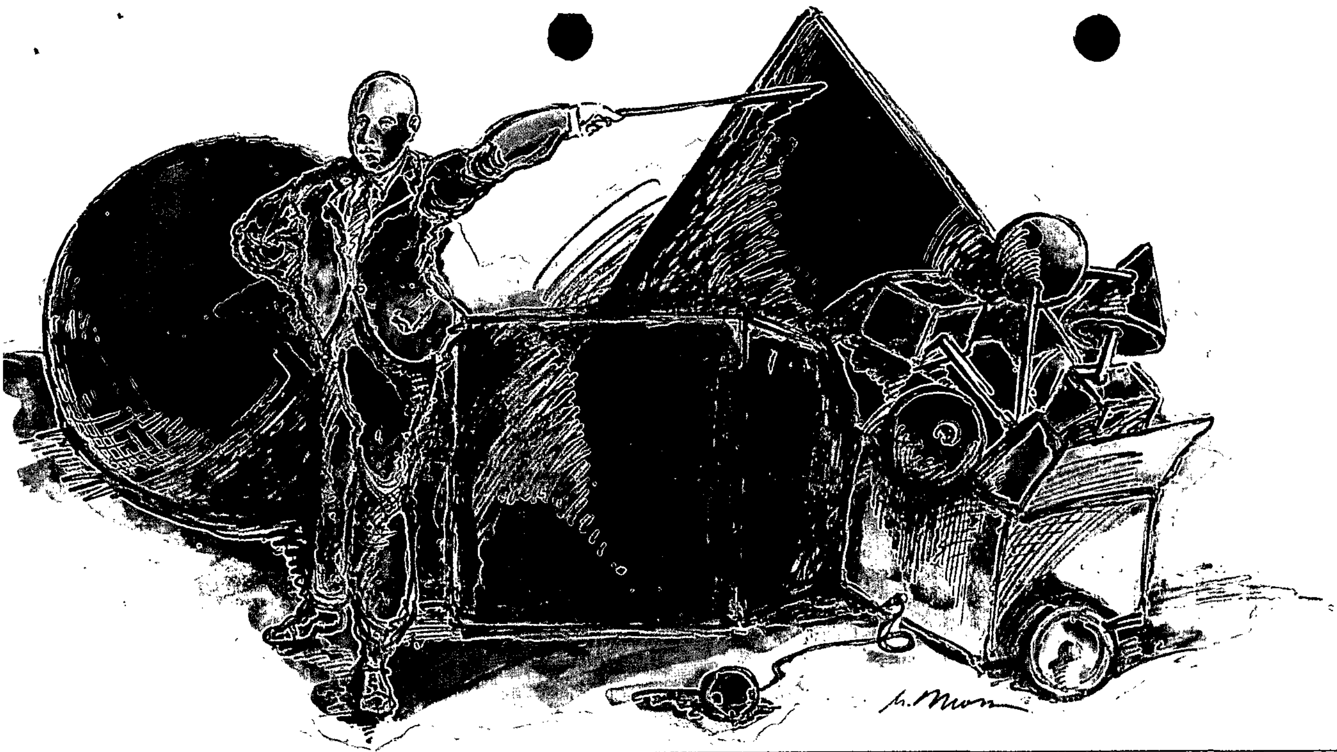
Our new electronic materials venture is also a good illustration of what it means to move "downstream," which is industry jargon for moving closer to the ultimate consumer. This is an area where Carbide already has a substantial presence and where we are expanding rapidly, both in products and geographically.

Our engineering plastics business, an important downstream operation which has bounded along through the recession at a compound growth rate averaging better than 10% a year, encompasses a growing family of high performance polymers. Extremely tough, easy to mold, and capable of withstanding very high temperatures, they are finding hundreds of applications in products ranging from cameras to solar panels, cookware, surgical trays, electronic devices, and even pacemaker parts.

Also clustered downstream from our high-volume manufacturing operations are: a growing specialty chemicals business with a product list that includes oilfield service chemicals, biocides for personal care products, resins for corrosion resistant primers, epoxies for high-voltage insulation, and proprietary products for use in radiation-cured chemical coatings; a silicones business receiving a boost from two new plants, one in West Virginia, and another in Italy producing organofunctional silanes; and a urethanes business whose products and High Comfort foam technology are now being used in the production of foam bedding that is merchandised by one of the nation's largest retailers.

Similar changes are underway in our industrial gases business, whose growth potential, despite the problems in the steel industry, is still excellent. New applications for nitrogen in manufacturing and processing operations and in oil and gas exploration and production are creating growth opportunities, and Carbide is well positioned to make the most of them.

In gases, as in chemicals, the specialty end of the business will continue to grow in importance. Carbide took steps in 1983 to pursue this growth by expanding its position in helium, in ultra-high-purity atmospheric gases, and in gases used by the electronics industry—arsine, phosphine, and silane, and other specialty gases. In these grow-



4. Consultation
Those who have learned from experience now have another valuable product to sell: their own expertise.

ing markets, we have focused on improving our distribution channels, in order to provide our customers with the service and high quality products they will need.

Union Carbide plans to add several new insecticides and herbicides to our agricultural products line by the end of 1985. Our coatings service business, whose technology is widely used in the aircraft and machine tool industries, last year opened a promising new market for its high performance coatings in the printing industry. And we are creating and marketing new families of zeolites and molecular sieves to make process industries around the world more efficient.

Marketing Carbide Skills, Expertise

But the most striking move downstream occurred in 1983 with the creation of a new business group that markets not only products, but also the technologies and the engineering and project management skills Carbide has invented or acquired over the years in improving its own manufacturing operations.

Customer industries for our new Engineering and Technology Services venture include petroleum, chemicals, plastics, and gas processing. For certain types of plants in these industries, a client can come to Carbide to ensure that the process is state of the art, that the plant is engineered and built to the highest standards, and that operators have the best training available. Carbide will even run the finished plant and market its output.

The first large project is already well under way—the design, construction, startup and initial operation of a 1.1 billion-pound-per-year ethylene plant in Al-Jubail, Saudi Arabia for Arabian Petrochemical Company (Petrokemya), a subsidiary of SABIC (Saudi Basic Industries Corporation).

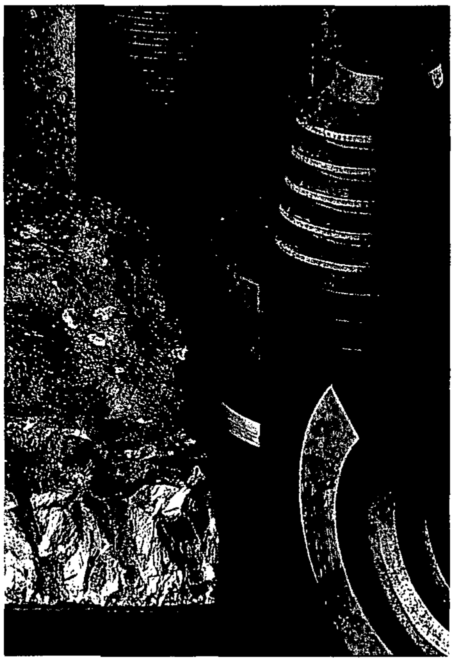
This business, which has already established ties in 20 countries, accomplishes several objectives for Union Carbide: It consolidates a fast-growing technology licensing effort led by the hugely successful *Unipol* system for polyethylene production (and now branching into polypropylene); it gives a stronger marketing focus to engineering and project management skills that were heretofore scattered throughout the Corporation; and perhaps most important, it permits Carbide to enlarge its participation worldwide in the growth of processing industries through its technology and marketing capabilities, rather than with major infusions of capital.

How will Carbide look in future years? Our consumer, specialty, and service areas, which already account for nearly half of Carbide sales, will play an even larger role in the drive to reach our growth and earnings objectives. To meet that responsibility, they will continue to set industry standards for technology and product performance; they will be free to exercise different options to achieve further growth, including the acquisition of related businesses; and they will pursue new business opportunities wherever they find them around the globe.

We also expect to see the marketing orientation that drives our growth businesses to become even more widely dispersed throughout the Carbide system. Having seen the success that comes from paying close attention to market signals and customer needs, Carbiders are in a mood for more.

Union Carbide 1983: Our Portfolio

Industry Segment:	*Petrochemicals*	*Industrial Gases*
Strategic Position:	As petrochemicals worldwide become increasingly a commodity business, we are capitalizing on our technology by licensing it, and by selling technical services to new and established producers. We are also expanding our preeminent worldwide marketing capabilities. But with ample modern capacity in place, and a low-cost producer position in North America, we are not now contemplating major new investment in facilities. Rather, commodity petrochemicals will be managed as a source of cash for the Corporation.	Through our Linde Division, we are the principal domestic supplier of gases, and one of the three major suppliers worldwide. We are maintaining leading-edge technology in all facets of the business, and continuing to implement our strategy of being a low-cost supplier, both to traditional customers such as the steel and metal fabrication industry, and to our expanding markets in the high-growth electronics, medical, oil and gas extraction, oil refining, and chemical industries.
Businesses:	**Polyolefins** **Ethylene oxide/glycol** **Solvents and coatings materials** **International petrochemicals**	**Industrial gases**



Metals & Carbon Products

We are the world leader in electrode systems for electric arc furnaces. Reduced steel production and increased competition are changing the electrode industry, especially in the U.S. In response, we have laid special emphasis on improving products, on making our production facilities more efficient, and on working with customers to improve electric arc technology. Our other carbon products serve a broad range of industrial needs worldwide. Our metals businesses are based on our own reserves of strategic metals ores.

Electrode systems

Carbon products

Metals

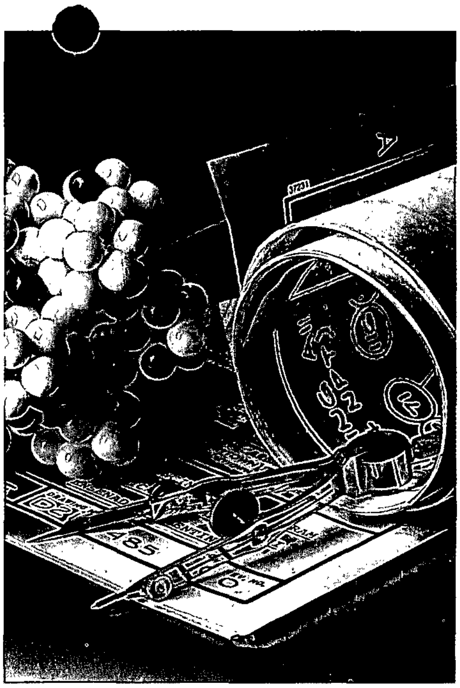
Consumer Products

Our highly successful battery, car-care, and plastic wrap and bag lines constitute a significant value-added component within our total portfolio. The leading positions of these products have given us a valuable foothold in retail outlets throughout the world, and considerable expertise in consumer marketing. *Glad* and *Prestone* products are major users of our polyethylene resins and ethylene glycol output.

Battery products

Plastic wrap and bags

Automotive products



Technology, Services & Specialty Products

A number of our businesses serve industrial customers but, like our consumer businesses, enjoy a high value-added component. Among them are technology and service businesses that market Carbide know-how to the process industries, and other businesses marketing specialty products and services. Many of these businesses are less fixed-asset-intensive than our traditional operations. As a group, they enhance the stability and growth prospects of the Carbide portfolio.

Specialty chemicals

Agricultural products

Food processing and packaging materials

Electronic components and materials

Engineering and technology services

Coatings services

Cryogenic products

Medical services

Microwave cookware fashioned from Udel *polysulfone.*

Segment Review

During the second half of 1983, Union Carbide's domestic operations began a gradual recovery.

Domestic sales for the total year increased 2% over 1982, reflecting 3% higher volume partly offset by 1% lower average selling prices. Sales in 1982 had declined for the first time in recent history. The 13% sales decline from 1981 resulted from 11% lower volume and 3% lower average prices.

Operating profit for our domestic operations increased 13% from 1982, mainly as a result of increased volume, higher operating rates, and successful cost-reduction programs. Operating profit had decreased 56% in 1982 due to lower volume, selling prices, and operating rates.

Export sales to customers, which are included in domestic sales, declined 16% in 1983, following declines of 14% and 13%, respectively in 1982 and 1981. The 1983 export sales figures reflected the adverse effect of the strong U.S. dollar worldwide, slow recovery in Europe, and weak economies in Latin America.

U.S. and Puerto Rico

Dollar amounts in millions	1983	1982	1981
Sales	$6,189	$6,051	$6,979
% of UCC Consolidated	69%	67%	69%
Operating Profit*	$ 416	$ 369	$ 845
% of UCC Consolidated	61%	56%	72%

*Excludes non-recurring charge for facility closings in 1983. See Note 5 on page 31 and Note on 1983 Operating Profit on page 19.

International sales declined 7% from 1982 chiefly due to a 22% decline in Latin American sales, which were hurt by the effects of devaluations. The lower sales reflected lower average prices of 7% while volume was virtually unchanged. Sales had declined 6% in 1982 as a result of lower sales in Europe and Canada.

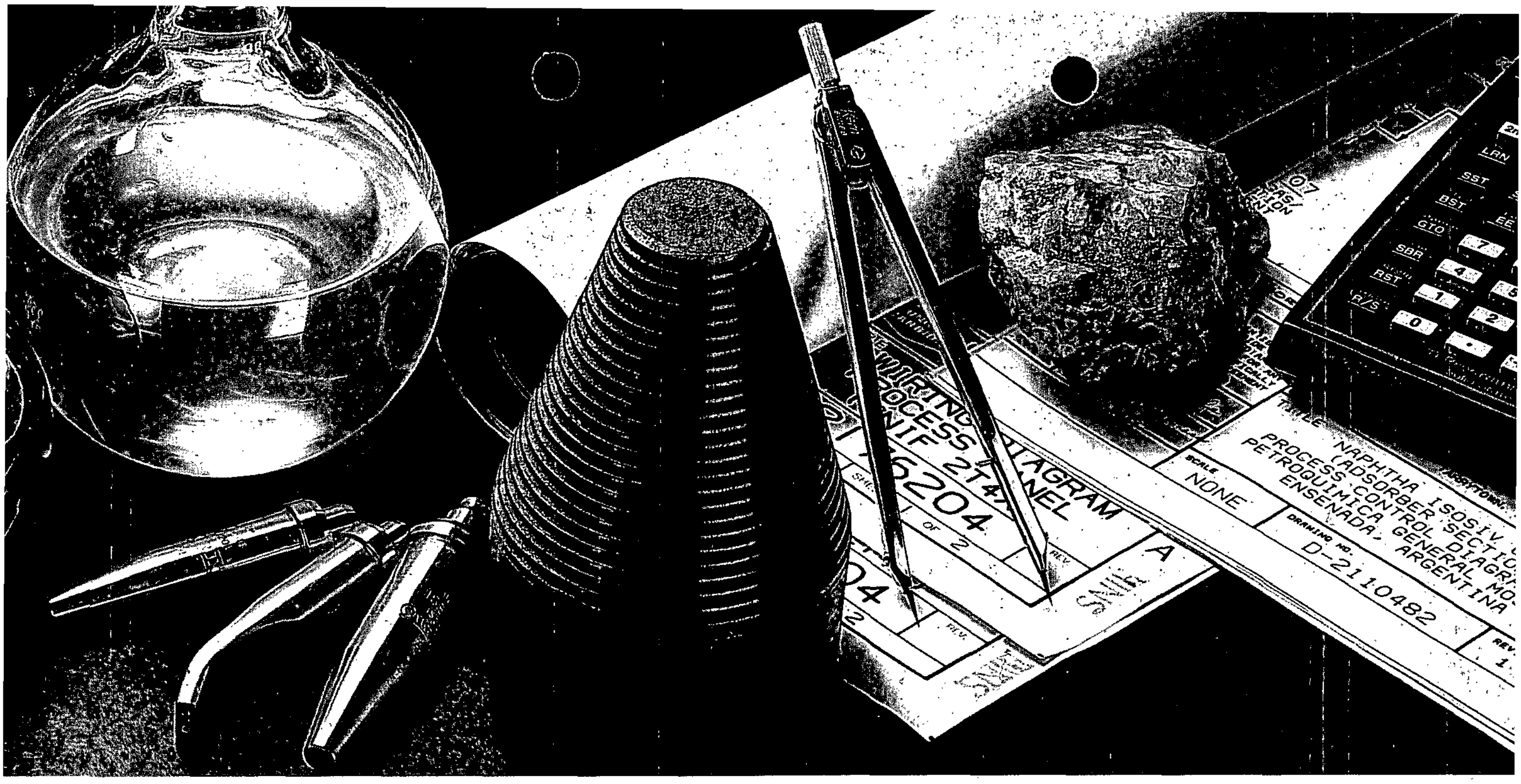
International operating profit decreased 2% primarily due to less favorable results in Europe. Operating profit in Canada was significantly improved over 1982. International operating profit had decreased 16% in 1982 mainly reflecting operating losses in Canada. Results for 1983 and 1982 reflect the adoption of a new policy for translating foreign currency, Statement of Financial Accounting Standards No. 52 (See discussion on page 23 and Note 2 on page 30). If 1981 results were adjusted to a comparable basis (Statement No. 52), 1982 international operating profit would have been lower than that of 1981 by about 21%.

International

Dollar amounts in millions	1983	1982	1981
Sales	$2,812	$3,010	$3,189
% of UCC Consolidated	31%	33%	31%
Operating Profit*	$ 264	$ 270	$ 323
% of UCC Consolidated	39%	41%	27%

*Excludes non-recurring charge for facility closings in 1983. See Note 5 on page 31 and Note on 1983 Operating Profit on page 19.

Following is a review of Union Carbide's operations by worldwide industry segment and by geographic segment. In 1983, the Corporation redefined its industry segments to more appropriately reflect its current organization and strategic direction. Certain data for 1982 and 1981 have been restated to conform with Union Carbide's redefined industry segments, which are described on pages 8 and 9.



Linde *cutting nozzles and a graphite electrode model, next to engineering plans and diagrams.*

Petrochemicals

Petrochemicals segment sales for 1983 declined 2% from those of 1982. Domestic sales for the segment were 3% lower, while international sales were 1% higher. Volume in the United States declined 5%, while overall average prices were up by 1%. In 1982, worldwide sales had declined 14%, with domestic and international sales off 14% and 12%, respectively.

Worldwide overcapacity in ethylene put severe pressure on ethylene derivative prices during 1983. Nevertheless, operating profit in 1983 improved dramatically to $71 million from a loss of $39 million in 1982, due to improved operating efficiencies and higher production rates, both domestically and internationally. Operating profit in 1982 declined precipitously from the $131 million reported in 1981 as a result of weak worldwide market conditions and low operating rates, especially in the fourth quarter.

Dollar amounts in millions	1983	1982	1981
Sales	$2,551	$2,609	$3,025
% of UCC Consolidated	29%	29%	30%
Operating Profit*	$ 71	$ (39)	$ 131
% of UCC Consolidated	10%	(6)%	11%

Excludes non-recurring charge for facility closings in 1983. See Note 5 on page 31 and Note on 1983 Operating Profit on page 18.

Sales of linear low-density polyethylene (LLDPE) continued their rapid climb during 1983, as more and more resin processors abandoned conventional low-density polyethylene for the improved economics and performance of LLDPE. We introduced a series of new high-strength *Unipol* process LLDPE resins late in the year. Through continued advances in process technology and operations, we boosted productivity of our existing *Unipol* process production facilities, thus further strengthening our competitive position in the polyethylene industry.

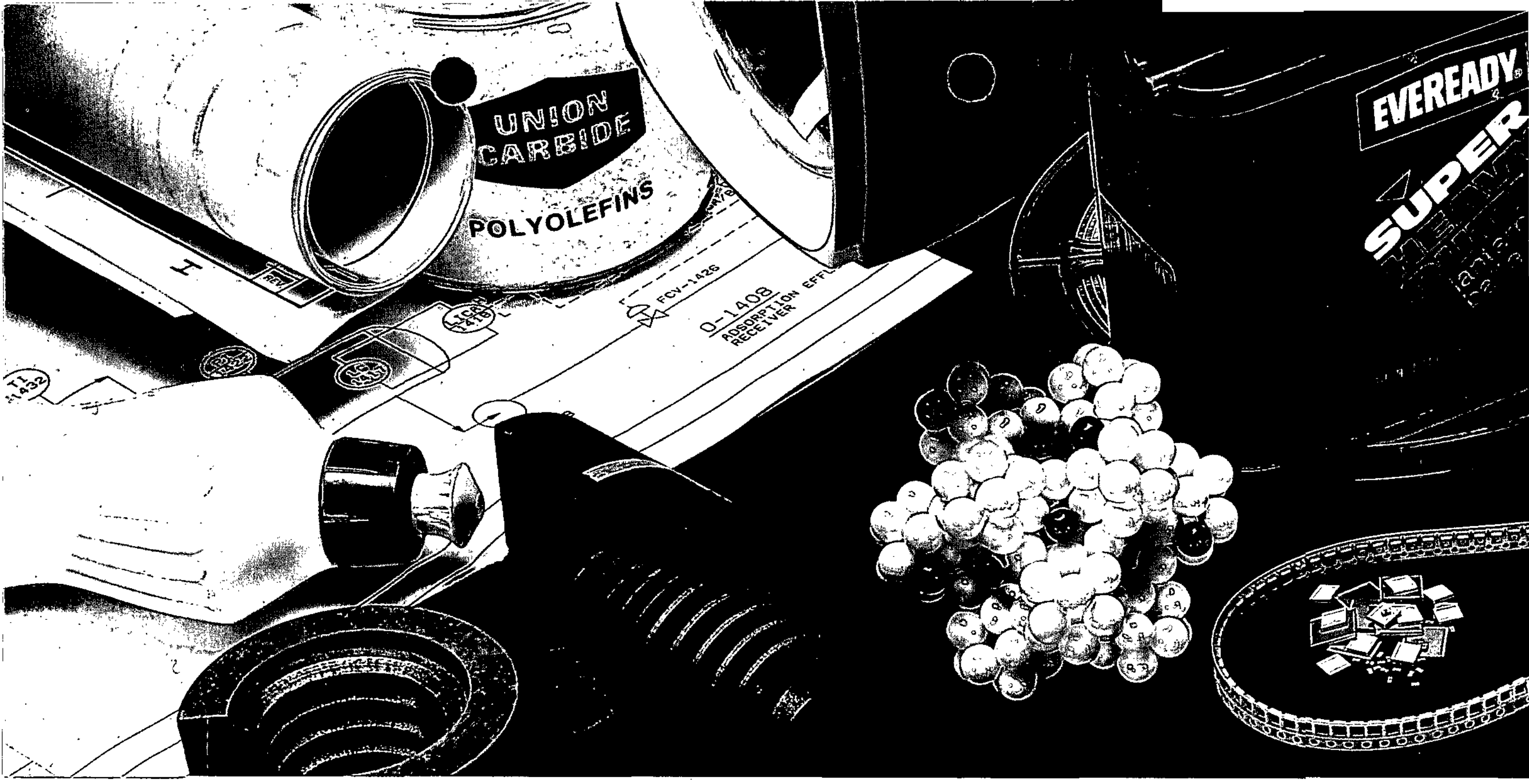
Our new 500-million-pound-per-year ethylene glycol plant in Prentiss, Alberta, Canada reached mechanical completion. Initial production is scheduled for the second quarter of 1984. An older and less efficient unit in Seadrift, Texas was shut down. With the Prentiss plant, Carbide's total nameplate capacity approximates 3.2 billion pounds of ethylene oxide, more than twice that of our nearest competitor.

A retrenchment period over the last three years, which included the shutdown of our Brownsville, Texas plant in 1983, has further strengthened our solvents and coatings business, which enjoys strong manufacturing, process technology, distribution and market positions. Penetration of high-performance water-based paint markets continued strong through 1983, a record sales year. In alcohols, a new 200-million-pound-per-year butanol facility started up in late 1983, dedicated to fulfilling a 10-year supply agreement with Rohm & Haas. A joint venture with Archer Daniel Midland in corn-base fermentation ethanol supported our position as the leading producer of industrial ethanol in the U.S. All our alcohol businesses are now positioned as long-term, low-cost, viable enterprises.

A new International Petrochemicals Division was formed at the end of the year. It will consolidate our export sales and trading activities into one entity, giving us a single focus in the worldwide marketplace.

Industrial Gases

Segment sales in 1983 declined 3% from those of 1982, due mainly to lower sales in Latin America. Total interna-



Polyethylene detergent bottle and Unipol *polyethylene resin; models of graphite electrodes.*

A 3-D model of a molecular sieve and components from our Electronics Division, grouped around an Eveready *lantern.*

tional sales were 15% lower while domestic sales were higher by 2%. Domestic prices were higher by 5%, while volume declined 3% from 1982. Sales in 1982, affected by the steep decline in domestic steel production, had declined 5%. Raw steel production in the United States was 11% higher in 1983 than in 1982.

Operating profit in 1983 increased 16% from 1982. The improvement in operating profit was especially related to domestic and Latin American cost reduction programs and to gains associated with currency protection measures taken in Brazil. Operating profit had declined 31% in 1982.

Dollar amounts in millions	1983	1982	1981
Sales	$1,361	$1,405	$1,473
% of UCC Consolidated	15%	16%	14%
Operating Profit	$ 204	$ 176	$ 256
% of UCC Consolidated	30%	27%	22%

During 1983, our Linde Division added over 1,900 tons per day of highly efficient new merchant liquid gas capacity. Some 1,500 tons per day at older facilities has been replaced in the past few years. The average age of Linde capacity is now less than seven years, compared with 12 years in 1979. Modernization has reduced energy costs and has permitted a work-force reduction of more than 14% since 1981.

Modernization has also helped us meet growing demand for nitrogen. We now sell liquid nitrogen to oxygen 2:1, a ratio slightly higher than the industry average. The volume of on-site nitrogen sold exceeded the volume of oxygen for the first time in 1983.

Much of the new liquid nitrogen capacity is used to support Wellnite Services Company, our joint venture with Halliburton. Wellnite is the leading supplier of nitrogen for oil well stimulation. In the growing enhanced oil and gas recovery markets, Niject Services Company, our joint venture with Ingersoll Rand, has become a major supplier of nitrogen and related products.

As part of our market diversification strategy in the gases business, major new contracts were signed during the year for multi-year on-site supply to non-steel customers in New Mexico and California, and to supply customers from our growing pipeline complex in Texas.

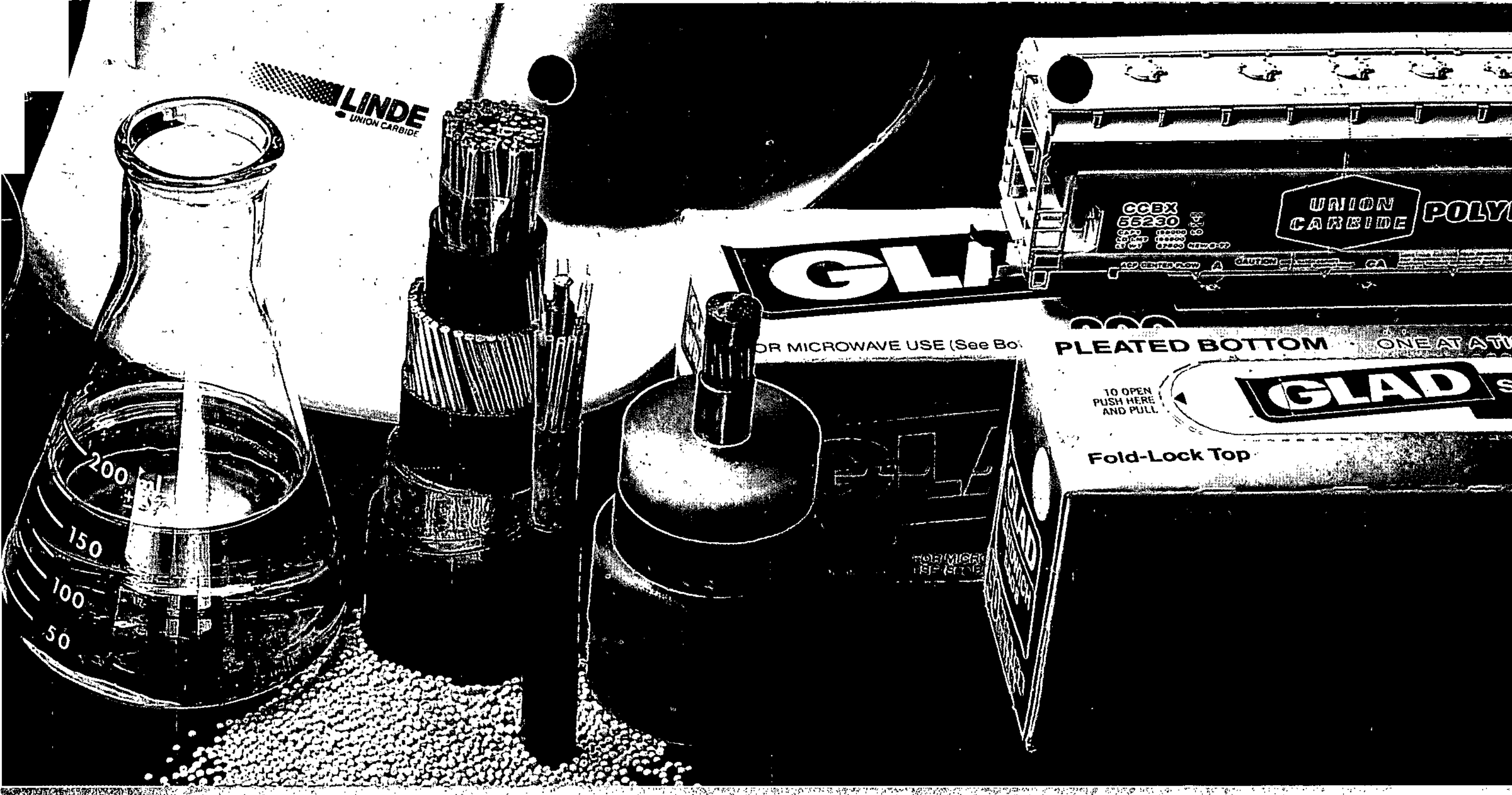
We have increased our participation in the helium market through an acquisition of helium reserves. Through other acquisitions, we have enhanced our strengths in the marketing of specialty gases to the electronics industry.

Recognizing the importance of maintaining a strong technology base, we have increased the funding necessary to support all aspects of the production, distribution, and application of industrial gases. Proprietary developments commercialized in 1983 included SMP, a process for modifying the surface of plastic containers to make them suitable for holding hydrocarbons and other chemicals; a high-pressure, industrial gas cylinder that has 30% more capacity but 10% less total weight; and an oxygen-fuel combustion system that reduces fuel consumption in high-temperature process furnaces.

In our welding products business, we continued our efforts to reduce costs and rationalize product lines. This program has reduced our break-even point and provided new products for specialized market niches.

Metals & Carbon Products

Segment sales in 1983 declined 7%, mainly due to lower sales of carbon products and electrode systems in Europe, which were affected by the prevailing strong dollar, and



Versatile Carbide polyethylene is used as insulation in wire and cable, as well as in familiar Glad *products.*

›wer metals sales in the United States. Domestic sales were % below those of last year, reflecting 4% lower average rices and 1% lower volume, as the steel, aluminum, and ɛrroalloys industries lagged the general economic recovery. 'rices for metals products were especially weak in 1983. egment sales in 1982, affected by the extremely low level f steel production for the year, had declined 33% from 1ose of 1981.

Except for Canada, all geographic areas within the segnent reported an operating profit decline from 1982. Segnent results in 1983 were adversely affected by special harges, including a write-down of electrode inventories. See Note on 1983 Operating Profit on page 18 and Notes Segment Data on page 19.) Operating profit had delined 73% in 1982, due mainly to lower carbon and elec:ode products volume in the United States.

›ollar amounts in millions	1983	1982	1981
ales	$1,024	$1,107	$1,644
6 of UCC Consolidated	11%	12%	16%
›perating Profit*	$ (14)	$ 79	$ 291
6 of UCC Consolidated	(2)%	12%	25%

xcludes non-recurring charge for facility closings in 1983. See Note 5 n page 31 and Note on 1983 Operating Profit on page 18.

In our electrode systems business, steps were taken durng 1983 to reduce manning levels and overhead costs, and o mothball idle production capacity. Some improvement n business levels was experienced at year-end. In our car›on products businesses, the focus was also on reducing ixed costs.

Worldwide recession continued to affect our metals busiesses. Major products—tungsten, vanadium, uranium, hromium, and asbestos—continued to face reduced denand and prices. As a result, our mines and mills operated at lower levels or intermittently in 1983. During the year we announced that we joined with a Canadian company in exploring a gold property in Ontario.

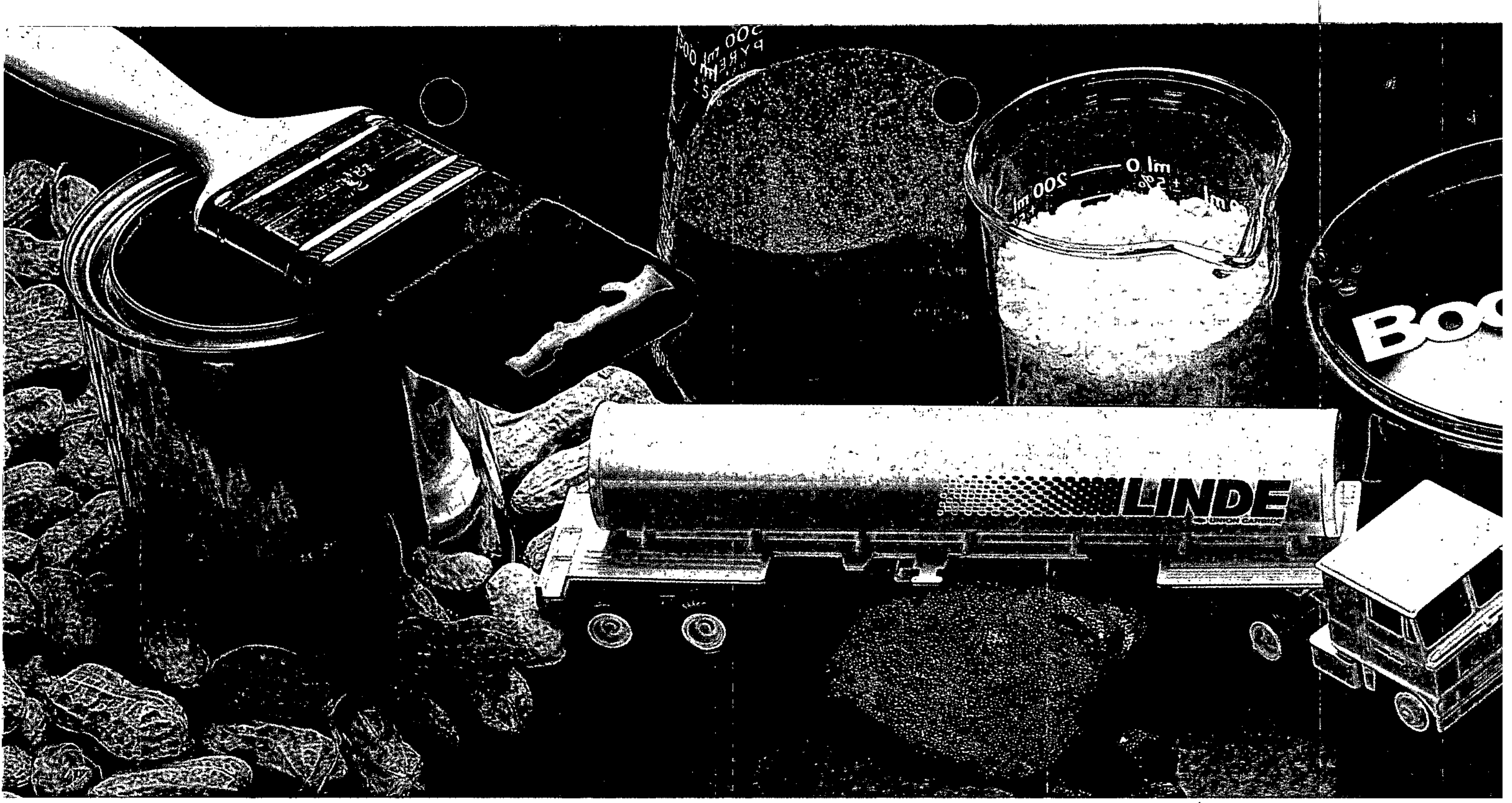
Consumer Products

Sales of consumer products were 2% below those of 1982 due to a decline in international sales, especially in Latin America and the Far East. Domestic sales were 5% above those of last year, reflecting 4% higher volume and 1% higher average prices. Segment sales in 1982 had increased 1% over those of 1981.

Operating profit declined 3% in 1983, especially due to a decline in international results. Domestic operating profit increased, despite higher advertising and promotion expenses, primarily related to new product introductions. Segment operating profit had increased 12% in 1982.

Dollar amounts in millions	1983	1982	1981
Sales	$1,895	$1,933	$1,906
% of UCC Consolidated	21%	21%	19%
Operating Profit	$ 217	$ 223	$ 199
% of UCC Consolidated	32%	34%	17%

Our leading domestic position in the primary battery and lighting product areas was maintained in 1983 despite intense competition from both domestic and off-shore producers. *Energizer* alkaline batteries, *Eveready* Super Heavy Duty premium carbon zinc batteries, and *Eveready* lighting products, in particular, enjoyed strong growth. *Energizer* alkaline batteries received strong advertising support on network TV, and all major product lines were buttressed by multiple consumer-oriented promotions at the retail level. Improvements continued to be made in manufacturing operations.



Many paints and coatings are based on Carbide petrochemicals.

In 1983, we introduced *Glad Handle-Tie* outdoor trash bags, another entry in our line of *Handle-Tie* plastic bags, which feature built-in handles for easy tying, lifting, and carrying. We also introduced a new line of disposer bags based on *Stress Flex* resins. These resins, made from linear low-density polyethylene manufactured using our *Unipol* process, make bags that are stronger and more puncture resistant than bags of equal plastic film thickness made from conventional polyethylene resins.

Our *Prestone II* antifreeze/coolant successfully resisted much of the price erosion that plagued the commodity segments of the antifreeze market in 1983, and the *Prestone II* product retained its leadership in the branded market. The price erosion stemmed from continuing excess glycol manufacturing capacity and lower demand due to larger-than-normal inventory carry-over from the preceding year. Our antifreeze operations at Texas City were terminated in late 1983.

Our automotive specialties business successfully introduced new *Simoniz BodyGard* wax products during the year, contributing to increased sales and a stronger market position for the *Simoniz* line.

Technology, Services & Specialty Products

Segment sales in 1983 increased 8% over those of 1982. Worldwide sales for our specialty chemical and food processing and packaging materials businesses improved significantly, while sales of agricultural products and engineering and technology services declined slightly. Sales in the United States were 10% higher, reflecting healthy gains in specialty chemical products. Prices for electronic products were substantially lower. Total segment sales had declined 5% in 1982.

Operating profit increased 1% in 1983, reflecting improved results for our specialty chemicals business. Operating profit for many of the remaining worldwide businesses in the segment declined versus 1982. Operating profit had declined 31% in 1982.

Dollar amounts in millions	1983	1982	1981
Sales	$2,170	$2,007	$2,120
% of UCC Consolidated	24%	22%	21%
Operating Profit*	$ 202	$ 200	$ 291
% of UCC Consolidated	30%	30%	25%

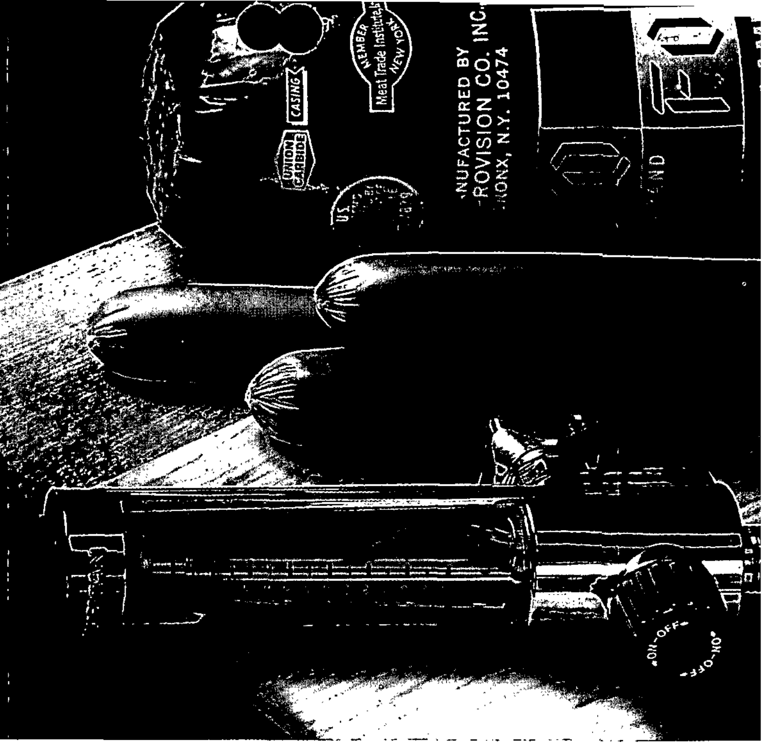
*Excludes non-recurring charge for facility closings in 1983. See Note 5 on page 31 and Note on 1983 Operating Profit on page 18.

Several new products added to 1983 sales in the specialty chemicals area, among them *Cellosize* thickener with enzyme resistance, *Ucarsol* solvents for natural gas treatment, *Ucar* DVX drilling systems, and *Ucarsan* sanitizers. Significant additions continued to be made to our low-profile additives line of fiber reinforced plastics—products developed during the past three years now account for over one-third of sales in that line. New high-performance plastics were introduced, and Rubbermaid, Inc., a major customer, offered a new line of microwave cookware based on our *Udel* polysulfone.

Alkyl alkanolamines capacity was increased, and new facilities were brought on stream to produce two new synthetic thickeners. A major silicone fluids plant came on stream in West Virginia, and a silane products plant in Italy.

Acreage reduction, record drought, and a strong dollar in export markets depressed our agricultural products business in 1983. On the plus side, export sales of *Larvin* thiodicarb insecticide were expanded in several key areas, and a new

Linde Homecare provides respiratory services to patients at home.



Our Films-Packaging Division provides casings for the production of hot dogs, sausages, and processed meats.

dry soluble *Amiben* chloramben was produced in saleable quantities.

Prep ethephon growth regulator was introduced into the cotton market. Initial production of *Broot* trimethacarb and *Zectran* mexacarbate insecticides began. After temporary suspension, *Temik* aldicarb pesticide was reinstated in Florida following an environmental impact evaluation by state authorities.

In the food processing and packaging materials business, our new high-speed *Shirmatic* system for ham wrapping was commercialized. A system for the packaging of processed meats that uses our new *Perflex* multilayer bag was successfully introduced.

In electronic components and materials, construction of a 1,200-metric-ton-per-year polysilicon plant proceeded on schedule. A smaller facility operated as planned, turning out product of a quality substantially exceeding present industry specifications.

In 1983, we announced an extension of our *Unipol* technology beyond polyethylene. Teaming with Shell Chemical, a leading polypropylene marketer, we plan to license our new *Unipol PP* polypropylene technology worldwide, and to install a commercial-scale production facility in the United States. Using our *Unipol* technology, licensees started up six new polyethylene plants in five countries.

During the year our licensing efforts were brought together with other engineering and technology services in a new business group. Its mission: the worldwide marketing of our technology, engineering services, catalysts and adsorbents, specialized process equipment, and manufacturing services and training to the chemicals, plastics, petroleum, gas, and other process industries. Construction began in 1983 on a plant for the commercial production of new-generation molecular sieves invented by Carbide researchers.

In our coatings service business, we won four new contracts for servicing military aircraft engines, and signed a distributor agreement for marketing our laser-engraved inking rolls to the printing industry. Introduction of a new line of refrigerators and dewars was well received in our cryogenics business.

Europe

Europe, our largest international segment in terms of sales, was affected by slow economic recovery, weaker local currencies which lowered dollar equivalent sales amounts, and continued weakness in the steel-related businesses, especially electrode systems. Sales in 1983 were 1% below those of 1982, with increased sales of petrochemicals, food casings, and medical and industrial services compensating for significantly lower sales of carbon products. Segment sales had declined 7% in 1982.

Operating profit declined 30%, chiefly reflecting lower carbon products and electrode results. Operating profit in 1982 had increased 15% over that of 1981. If 1981 had been adjusted to a comparable basis (Statement No. 52), 1982 operating profit would have been higher than that of the prior year by only about 2%.

Dollar amounts in millions	1983	1982	1981
Sales	$ 850	$ 856	$ 925
% of UCC Consolidated	10%	10%	9%
Operating Profit	$ 66	$ 94	$ 82
% of UCC Consolidated	10%	14%	7%

Through a general methods improvement program, we were able to reduce manpower in Europe during 1983.

Tergitol *surfactants.*

During the year, we reached agreement on the sale of our interest in a Swedish polyethylene company. We acquired Matheson Belgium, a major marketer of specialty gases in Europe. This acquisition ties into our worldwide specialty gases thrust and provides further entry into the small end-user market in Europe.

Latin America

Economic retrenchment in many Latin American countries, coupled with increasing government controls over prices and foreign exchange in an effort to curb runaway inflation, significantly reduced segment sales in 1983. Sales declined 22% versus those of 1982, with sales of industrial gases, carbon products, and batteries substantially lower. The lower sales resulted from a combination of generally lower prices, lower volumes and currency devaluations which lowered dollar-equivalent sales amounts. Segment sales in 1982 had remained unchanged versus 1981.

On the positive side were the effects of aggressive efforts at currency protection and cost containment. Currency gains directly associated with currency protection measures taken in Brazil, as well as overhead reduction by several affiliates, resulted in an operating profit decline of only 2% from that of 1982. Excluding the effect of an inventory adjustment, 1983 operating profit would have been slightly higher than in the prior year. Operating profit in 1982 had declined by 7%.

Dollar amounts in millions	1983	1982	1981
Sales	$ 557	$ 714	$ 714
% of UCC Consolidated	6%	8%	7%
Operating Profit	$ 105	$ 107	$ 115
% of UCC Consolidated	15%	16%	10%

We are the leading producer and marketer of dry cell batteries and portable lighting products in Latin America. We are also the leading supplier of electrode systems in Mexico (through our affiliate company there) and Brazil, and of industrial gases in Brazil.

Canada

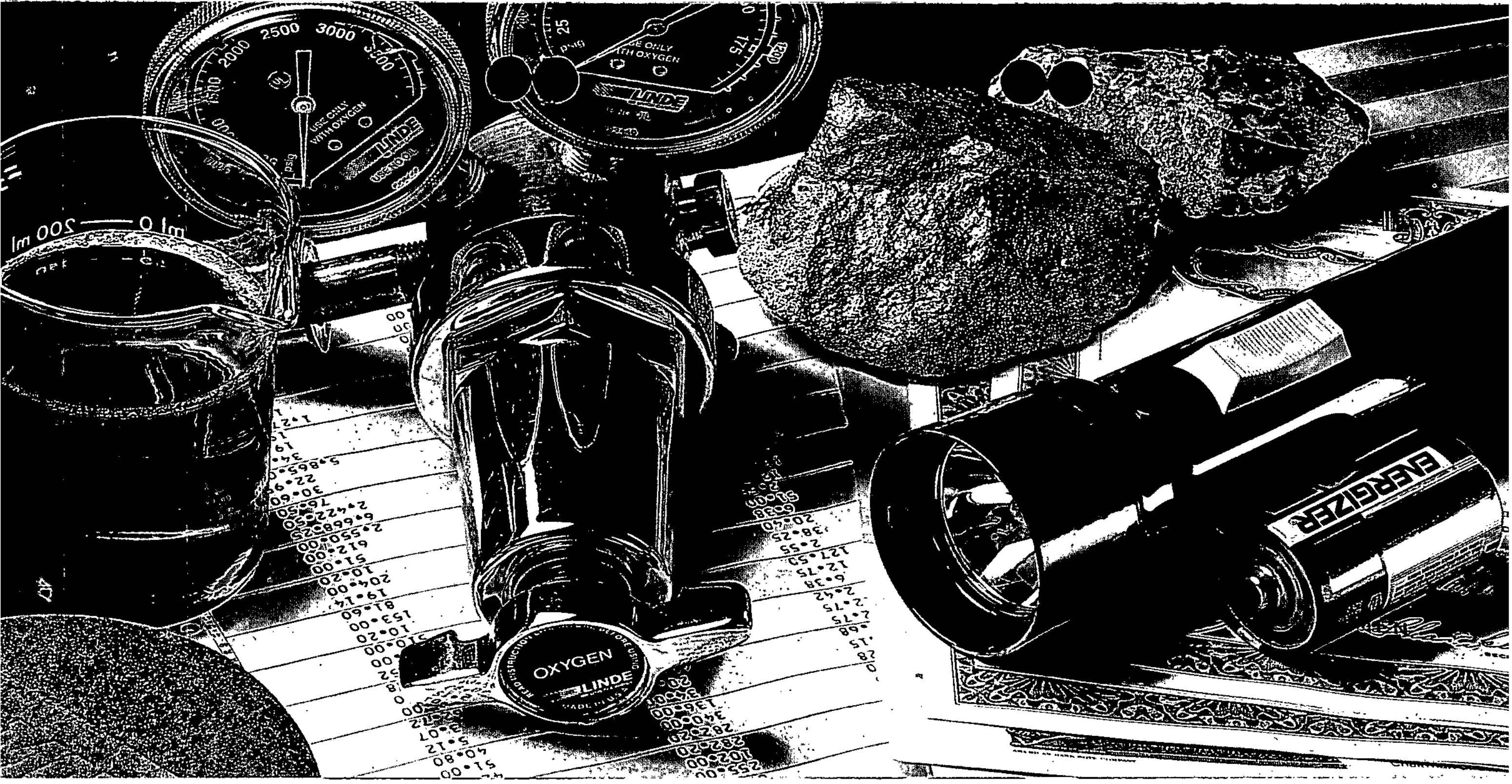
The gradual recovery of the Canadian economy was reflected in the sales of many of the segment's major businesses. Sales of petrochemicals and engineering products, however, were below those of 1982 and resulted in virtually no change for the sales of the total segment. In 1982, sales had declined 18% from 1981 as a result of severe recession.

Canada's operating profit increased to $11 million versus the $23 million loss reported in 1982. Significant improvement occurred in most major businesses. Operating profit in 1982 had declined $64 million from the $41 million profit reported in 1981.

Dollar amounts in millions	1983	1982	1981
Sales	$ 551	$ 553	$ 671
% of UCC Consolidated	6%	6%	7%
Operating Profit	$ 11	$ (23)	$ 41
% of UCC Consolidated	2%	(4)%	3%

Operations in Canada continued to focus on cost containment and productivity improvement in 1983. Capital spending included construction of an ethylene glycol facility at Prentiss, Alberta, and new air separation facilities at Prentiss, and Sarnia, Ontario.

Both air separation plants were essentially complete at year-end. The Prentiss plant will supply gaseous oxygen and nitrogen to the adjacent ethylene glycol facility and to other



Linde *oxygen regulator.*

customers in western Canada. The Sarnia expansion will satisfy the growing demands of customers supplied by our nitrogen pipeline complex.

Africa & Middle East

Sales for our smallest international segment declined 15% and operating profit declined 73%. Battery operations remained profitable despite lower sales, but continuing weakness in the worldwide chromium and vanadium markets severely affected metals sales and profits. Limited availability of foreign exchange led to some key raw material shortages. Sales in 1982 had increased 1% and operating profit had more than doubled, primarily due to improved operations at battery facilities.

Dollar amounts in millions	1983	1982	1981
Sales	$ 106	$ 125	$ 124
% of UCC Consolidated	1%	1%	1%
Operating Profit*	$ 3	$ 11	$ 5
% of UCC Consolidated	—%	2%	—%

*Excludes non-recurring charge for facility closings in 1983. See Note 5 on page 31 and Note on 1983 Operating Profit on page 19.

We have implemented significant cost containment programs while awaiting the revival of local economies and improved metals demand. We have established an engineering and technology unit, headquartered in the United Arab Emirates, to support increased marketing of our technology and licensing services.

Far East

Sales declined 2% from those of 1982, in spite of higher sales volumes of petrochemicals and industrial gases. Sales of agricultural products were significantly lower, due to a customs duty increase in India and the impact of currency devaluation in Indonesia. Sales of batteries declined due to shrinking markets caused by lower consumer purchasing power, as local currencies weakened against the U.S. dollar. Sales had increased 1% in 1982.

Operating profit declined 2% from that of 1982, especially due to the effect of lower battery earnings. Operating profits for petrochemical products, specialty chemicals, and industrial gases, however, were significantly improved. Operating profit in 1982 had increased 1% over that of 1981. If 1981 had been adjusted to a comparable basis (Statement No. 52), 1982 operating profit would have declined from that of 1981 by about 7%.

Dollar amounts in millions	1983	1982	1981
Sales	$ 748	$ 762	$ 755
% of UCC Consolidated	8%	8%	7%
Operating Profit*	$ 79	$ 81	$ 80
% of UCC Consolidated	12%	12%	7%

*Excludes non-recurring charge for facility closings in 1983. See Note 5 on page 31 and Note on 1983 Operating Profit on page 19.

During 1983, worldwide production efficiency standards were achieved at a new battery facility in Singapore. Asian markets showed good acceptance of resins made using our *Unipol* technology; a new *Unipol* process production facility in Japan began operations. Our Australian polyethylene business was sold, and agreement reached on the sale of our Indian chemicals and plastics business.

Segment Data

In 1983, Union Carbide redefined its industry segments to more appropriately reflect its current organization and strategic direction. Certain industry segment data for 1982 and 1981 have been restated to conform with Union Carbide's redefined industry segments, which are described on pages 8 and 9.

Industry Segments (millions of dollars)

Sales	1983	1982	1981
Petrochemicals	$ 2,551	$ 2,609	$ 3,025
Industrial Gases	1,361	1,405	1,473
Metals & Carbon Products	1,024	1,107	1,644
Consumer Products	1,895	1,933	1,906
Technology, Services & Specialty Products	2,170	2,007	2,120
Total UCC Consolidated	$ 9,001	$ 9,061	$10,168

Identifiable Assets	1983	1982	1981
Petrochemicals	$ 2,993	$ 3,259	$ 3,297
Industrial Gases	1,924	1,705	1,598
Metals & Carbon Products	1,274	1,639	1,788
Consumer Products	1,381	1,403	1,337
Technology, Services & Specialty Products	2,328	2,172	1,961
Inter-segment eliminations	(43)	(55)	(77)
Total UCC Consolidated	$ 9,857	$10,123	$ 9,904

Depreciation	1983	1982	1981
Petrochemicals	$ 153	$ 139	$ 124
Industrial Gases	117	104	92
Metals & Carbon Products	51	47	50
Consumer Products	53	49	44
Technology, Services & Specialty Products	103	87	76
Total UCC Consolidated	$ 477	$ 426	$ 386

Operating Profit	1983*	1982	1981
Petrochemicals	$ 71	$ (39)	$ 131
Industrial Gases	204	176	256
Metals & Carbon Products	(14)	79	291
Consumer Products	217	223	199
Technology, Services & Specialty Products	202	200	291
Inter-segment eliminations	(2)	18	9
Total UCC Consolidated	$ 678	$ 657	$ 1,177

Capital Expenditures	1983	1982	1981
Petrochemicals	$ 260	$ 363	$ 327
Industrial Gases	180	311	283
Metals & Carbon Products	48	76	134
Consumer Products	68	116	143
Technology, Services & Specialty Products	205	313	299
Total UCC Consolidated	$ 761	$ 1,179	$ 1,186

*Note on 1983 Operating Profit
Operating Profit for 1983 excludes the non-recurring charge for facility closings. See Note 5 on page 31. The write-offs and other costs comprising the non-recurring charge related to segments' facilities are as follows:

Petrochemicals	$ 179
Industrial Gases	4
Metals & Carbon Products	18
Consumer Products	1
Technology, Services & Specialty Products	39
Total UCC Consolidated	$ 241

Geographic Segments (millions of dollars)

Sales	1983	1982	1981
United States & Puerto Rico	$ 6,189	$ 6,051	$ 6,979
Africa & Middle East	106	125	124
Canada	551	553	671
Europe	850	856	925
Far East	748	762	755
Latin America	557	714	714
International Operations	2,812	3,010	3,189
Total UCC Consolidated	$ 9,001	$ 9,061	$10,168

Identifiable Assets	1983	1982	1981
United States & Puerto Rico	$ 7,150	$ 7,319	$ 7,115
Africa & Middle East	131	146	155
Canada	925	814	722
Europe	719	807	831
Far East	618	632	604
Latin America	728	799	678
International Operations	3,121	3,198	2,990
Inter-segment eliminations	(414)	(394)	(201)
Total UCC Consolidated	$ 9,857	$10,123	$ 9,904

Operating Profit	1983*	1982	1981
United States & Puerto Rico	$ 416	$ 369	$ 845
Africa & Middle East	3	11	5
Canada	11	(23)	41
Europe	66	94	82
Far East	79	81	80
Latin America	105	107	115
International Operations	264	270	323
Inter-segment eliminations	(2)	18	9
Total UCC Consolidated	$ 678	$ 657	$ 1,177

*Note on 1983 Operating Profit
Operating Profit for 1983 excludes the non-recurring charge for facility closings. See Note 5 on page 31. The write-offs and other costs comprising the non-recurring charge related to segments' facilities are as follows:

United States & Puerto Rico	$ 225
Africa & Middle East	2
Canada	—
Europe	2
Far East	12
Latin America	—
International Operations	16
Total UCC Consolidated	$ 241

Notes to Segment Data

• Segment sales as presented in the preceding pages are to customers. Transfers between segments were as follows:

Millions of dollars	1983	1982	1981
From Petrochemicals	$ 123	$ 187	$ 267
From other industry segments	73	86	114
Total between segments	$ 196	$ 273	$ 381
From United States & Puerto Rico	$ 442	$ 405	$ 419
From other geographic segments	88	78	104
Total between segments	$ 530	$ 483	$ 523

Products are transferred between segments at the estimated market value of the products.

• The following table reconciles segment operating profit to the consolidated financial statements. (The term operating profit is used as defined in Statement of Financial Accounting Standards No. 14.)

Millions of dollars	1983	1982	1981
Total segment operating profit	$ 678	$ 657	$ 1,177
Less: Non-recurring charge for facility closings	241	—	—
General corporate expenses—net	103	36	90
Interest on long-term and short-term debt	252	236	171
Income before provision for income taxes	$ 82	$ 385	$ 916

• The following table reconciles total identifiable assets to the consolidated financial statements:

Millions of dollars	1983	1982	1981
Total identifiable assets	$ 9,857	$10,123	$ 9,904
Investments and advances	421	418	411
Corporate assets	17	75	108
Total UCC Consolidated	$10,295	$10,616	$10,423

• 1983 and 1982 operating profit of the Petrochemicals and United States & Puerto Rico segments includes the favorable effect of LIFO inventory reductions. See Note 1 on page 30. 1983 operating profit for these segments also includes a credit of $19 million resulting from rebates of surcharges previously paid to a public utility company.

• 1983 and 1982 operating profit of the Metals & Carbon Products and United States & Puerto Rico segments includes credits of $20 million and $44 million, respectively, related to advance sales of uranium. 1983 operating profit for these segments also includes a charge of $11 million resulting from a write-down of electrode inventories in Puerto Rico.

Petrochemicals

We buy LPG and naphtha and make ethylene, propylene, and benzene. These, plus purchased materials, are used to make the following for use by us and our customers: polyethylene, for films, pipe, electrical insulation, wrap, bags, and other products; ethylene oxide/glycol and derivatives, for antifreeze, polyester fiber, petroleum processing, coatings, lubricants, and other uses; alcohols and oxo-alcohols, for coatings, preservatives, detergents, and cosmetics. We make and buy other materials to produce vinyl acetate, acrylates, and acetic acid, for coatings, latexes, and packaging and other products. Petrochemical products are sold directly and through distributors.

Industrial Gases

Oxygen, nitrogen, and argon are separated from air. A major operating cost is that of electrical power. Gases are sold primarily from on-site plants and in distributable form. Demand is primarily from the steel, chemicals, metal fabrication, food-freezing, medical, electronics, and oil and gas industries. Acetylene, hydrogen, helium and specialty gases are produced from our own or purchased materials. Purchased materials and chemicals are used to manufacture welding equipment and materials for sale to the metal fabricating and welding industries.

Metals & Carbon Products

Ores mined and milled from company-owned reserves are sold to the following industries: uranium, to electric utilities; tungsten, to the electrical, chemical and machine tool industries; vanadium, to the steel, chemical, and titanium industries; chromium, to stainless and specialty steel producers. An active exploration program seeks out new minerals and new reserves. Anthracite coal, premium-grade petroleum coke, coal-tar pitch; and petroleum pitch are purchased to make electrodes, refractory linings, metallurgical specialties, and other carbon and graphite forms, sold to the steel, ferroalloys, aluminum, chemicals, and transportation industries. Boron nitride and flexible graphite are sold for applications in the electronics and automotive industries, respectively.

Consumer Products

Zinc, silver, and other materials are purchased to manufacture dry cell batteries. Our own polyethylene and purchased steel, aluminum, and hardware are used to make flashlights, lanterns, and miniature lamps. Some flashlights and lamps are purchased for resale. Products are sold to original equipment manufacturers and through wholesalers and retailers under the *Eveready, Energizer, Ucar* and other trademarks. Our own polyethylene is used to make *Glad* brand, private label, and generic plastic wrap and bags, which are sold chiefly through brokers to supermarkets. Our own ethylene glycol is used to make *Prestone II* brand and private label antifreeze/coolant, sold to wholesalers and retailers and to the auto industry. *Simoniz* wax and other automotive specialties, produced by us and under contract, are sold to wholesalers and retailers.

Technology, Services & Specialty Products

Technology and engineering services, catalysts and adsorbents, specialized process equipment, and manufacturing and training services are sold to the chemicals, plastics, petroleum, gas and other process industries. We provide respiratory care services to patients at home. All of the following products are produced from manufactured or purchased chemicals and other materials: Specialty glycol ethers, alkyl alkanolamines, acrolein, water soluble polymers, phenolic resins, phenoxy resins, solution vinyl resins, alkyl silicates, and systems of these and other chemicals, for use in the cosmetic, electronic, automotive, aerospace, oil and gas, and industrial coatings industries, and for use as chemical intermediates; silicones, for lubricants, electronics, pharmaceuticals, fiberglass, and personal care uses; carbon fibers, for use in the aerospace, transportation, and recreation industries; polysulfones and other specialty and high-performance polymers, for use in food service, electrical and electronic applications, and medical and process equipment; specialty thermosetting resins and polymeric intermediates, sold to producers of coatings, compounds, and devices, for use in the automotive, electrical, electronic, food, medical, and aerospace industries; insecticides, herbicides, and plant growth regulators, sold through formulators and distributors to a broad range of agricultural and specialty markets; intermediates for pesticides, sold to chemical manufacturers; cellulosic casings made for production of hot dogs, sausages, and processed meats, and shrinkable plastic bags, made for fresh and processed meat and poultry packaging, both sold to meat and poultry processors and packers; capacitors, substrates, and proprietary processing chemicals and materials, sold to the electronics industry for computers, television receivers, communications systems, and automobiles; urethane intermediates, for automotive, furniture, and other products; cryogenic and process systems and equipment, to the oil, chemicals, medical, and industrial gases industries; molecular sieves, chiefly to the natural gas, oil, and chemicals industries; ceramic and metallic materials, to the aircraft, oil drilling, and textile markets.

Selected Financial Data

Union Carbide Corporation and Subsidiaries

Dollar amounts in millions (except per share figures)	**1983**[a]	1982[a]	1981	1980	1979
From the income statement					
Net sales	**$ 9,001**	$ 9,061	$10,168	$ 9,994	$ 9,177
Cost of sales	**$ 6,581**	$ 6,687	$ 7,431	$ 7,186	$ 6,491
Research and development expense	**$ 245**	$ 240	$ 207	$ 166	$ 161
Selling, administrative, and other expenses	**$ 1,243**	$ 1,249	$ 1,221	$ 1,152	$ 1,053
Depreciation	**$ 477**	$ 426	$ 386	$ 326	$ 470
Interest on long-term and short-term debt	**$ 252**	$ 236	$ 171	$ 153	$ 161
Other income (expense)—net	**$ 120**	$ 162	$ 164	$ 41	$ (42)
Non-recurring charge—closing of facilities	**$ 241**	—	—	—	—
Income before provision for income taxes	**$ 82**	$ 385	$ 916	$ 1,052	$ 799
Provision for income taxes	**$ (10)**	$ 58	$ 258	$ 360	$ 251
Income before cumulative effect of change in accounting principle	**$ 79**	$ 310	$ 649	$ 673	$ 556
Cumulative effect of change in accounting principle for ITC	**—**	—	—	$ 217	—
Net income	**$ 79**	$ 310	$ 649	$ 890	$ 556
Income per share before cumulative effect of change in accounting principle	**$ 1.13**	$ 4.47	$ 9.56	$ 10.08	$ 8.47
Cumulative effect per share of change in accounting principle for ITC	**—**	—	—	$ 3.28	—
Net income per share	**$ 1.13**	$ 4.47	$ 9.56	$ 13.36	$ 8.47
Pro forma net income with 1980 change in accounting principle for ITC applied retroactively					$ 573
Pro forma net income per share					$ 8.73
From the balance sheet (at year-end)					
Working capital	**$ 1,483**	$ 1,747	$ 2,147	$ 2,124	$ 2,070
Total assets	**$10,295**	$10,616	$10,423	$ 9,659	$ 8,803
Long-term debt	**$ 2,387**	$ 2,428	$ 2,101	$ 1,859	$ 1,773
Total capitalization	**$ 7,999**	$ 8,305	$ 8,018	$ 7,282	$ 6,317
UCC stockholders' equity	**$ 4,929**	$ 5,159	$ 5,263	$ 4,776	$ 4,042
UCC stockholders' equity per share	**$ 69.95**	$ 73.54	$ 76.74	$ 70.90	$ 61.06
Other data					
Funds from operations	**$ 708**	$ 715	$ 1,172	$ 1,211	$ 1,114
Dividends	**$ 240**	$ 235	$ 224	$ 206	$ 190
Dividends per share	**$ 3.40**	$ 3.40	$ 3.30	$ 3.10	$ 2.90
Shares outstanding (thousands at year-end)	**70,465**	70,153	68,582	67,367	66,206
Market price per share—high	**$ 73⅞**	$ 61	$ 62⅛	$ 52½	$ 44½
Market price per share—low	**$ 51**	$ 40⅛	$ 45¼	$ 35¼	$ 34
Capital expenditures	**$ 761**	$ 1,179	$ 1,186	$ 1,129	$ 831
Number of employees (at year-end)	**99,506**	103,229	110,255	116,105	117,031
Selected financial ratios					
Total debt/total capitalization (at year-end)	**34.0%**	33.9%	30.3%	29.9%	31.4%
Net income/average UCC stockholders' equity	**1.6%**	6.0%	12.9%	15.3%[b]	14.5%
Net income + minority share of income/average total capitalization	**1.4%**	4.3%	9.1%	10.6%[b]	9.6%
Dividends/net income	**303.8%**	75.8%	34.5%	30.6%[b]	34.2%
Dividends/funds from operations	**33.9%**	32.9%	19.1%	17.0%	17.1%

[a] Amounts for 1982 and subsequent years reflect the adoption of Statement of Financial Accounting Standards No. 52. (See Note 2, *Foreign Currency Translation,* on page 30.)

[b] Net income in these ratios excludes the non-recurring credit for the cumulative effect of the change in accounting principle for the investment tax credit (ITC).

Pro forma net income data for 1979 are restated to reflect the 1980 change in accounting principle for the ITC. Net income per share is based on weighted average number of shares outstanding during the year. Funds from operations include net income and non-cash charges (credits) to net income. (See *Consolidated Statement of Changes in Financial Position.*) *Total debt* consists of short-term debt, long-term debt, and current installments of long-term debt. *Total capitalization* consists of *total debt* plus *minority stockholders' equity in consolidated subsidiaries* and *UCC stockholders' equity.*

Financial Review

The subjects covered by the financial review are found on the following pages:

1983 Sales Fall Slightly

Total sales in 1983 declined about 1% to $9,001 million, in spite of significant recovery from the world recession during the second half of the year. Worldwide volume was 2% higher, reflecting a 3% increase in domestic volumes. Significantly higher volumes were recorded for many domestic specialty chemicals, metals, battery, and electronics products. Average selling prices declined 3%, especially due to generally lower international prices. Average domestic prices were 1% lower, reflecting considerably lower prices for many petrochemicals, electronic, and metals products. Some healthy worldwide sales increases were recorded, especially in our specialty chemicals businesses, but the feeble recovery in the steel and energy industries adversely affected the progress we would otherwise have expected from our businesses serving those markets. While total domestic sales were 2% above those of 1982, export sales, which are included in the domestic total, declined 16%. International sales were 7% lower. The decline in international sales and the sharp drop in export sales reflect the effect of the strong U.S. dollar worldwide, slow recovery in Europe, and weak economies in Latin America.

Percent change over prior year	1983	1982	1981
Sales	−1	−11	+2
Average selling prices	−3	−3	+7
Volume	+2	−9	−5

Year-to-year changes in sales and volume have been affected by divestitures of businesses, but the effects have been partially offset by increasing revenue from our technology licensing programs.

Gross Margin Ratio Improves

Cost of sales in 1983 decreased 2%, versus the 1% decrease in sales, resulting in an increase in the gross margin ratio to 26.9%. The effect of a significantly stronger domestic ratio was somewhat offset by the effect of a lower international ratio. In both 1982 and 1983, the gross margin ratio included a beneficial effect from LIFO inventory adjustments, which resulted from management's continuing program to reduce and control inventories. (See Note 1 on page 30.) In addition, the ratio for both years was affected by several unusual charges and credits. (See Notes to Segment Data on page 19.) Excluding these items, the gross margin ratio in 1983 would have been 26.2% versus 25.1% in 1982.

During the second half of 1983 domestic operating rates began to recover, providing the leverage needed to achieve more favorable absorption of period costs and improved operating efficiencies. The achievement of the higher ratio reflects, in part, rigorous cost control measures that are now a way of life at Union Carbide. Such cost controls have tended to offset the unfavorable effect of inflation in hydrocarbon feedstocks, which contributes to higher unit production costs. Changes in domestic purchase cost indices for three categories of raw materials and energy were as follows:

Percent change over prior year	1983	1982	1981
Hydrocarbon feedstocks	+13	−16	+12
Other major raw materials	−2	−1	+12
Fuels and electric power	—	+17	+24

In 1982, the gross margin ratio had declined to 26.2%. The effect of a stronger international ratio (largely due to Union Carbide's adoption of Statement No. 52 in 1982) was offset by the effect of a considerably weaker domestic ratio. Inflation in fuels, electric power, and labor contributed to higher unit production and distribution costs, and during the second half of 1982 domestic operating rates declined.

For more information about Union Carbide's principal raw materials, markets, and methods of distribution, see page 20. Unless otherwise indicated there, the products of Union Carbide are sold principally by its own sales force directly to customers in the industries named or for the uses mentioned.

Research and Development Expenses Increase

Research and development expenses increased by $5 million in 1983, to $245 million, an increase of 2%, mainly reflecting increased specialty products expenditures partly offset by lower expenditures in the petrochemicals area. In 1982 these expenses had increased 16% to $240 million.

Selling, Administrative, and Other Expenses Reduced

Programs established in 1982 to control overhead costs resulted in significant benefits to Union Carbide during 1983. Total selling, administrative, and other expenses declined 0.5% to $1,243 million; 1983 was the first year in which these expenses were reduced (on a year-to-year basis) since the current method of consolidation was adopted in 1967. These expenses increased 2% and 6%, respectively, in 1982 and 1981. Selling expenses in 1983 totaled $648 million, an increase of 3%. In 1982 the increase was 5%. Administrative and other expenses of $595 million were 4% below those of last year. These expenses were about equal in 1982 and 1981. Administrative expenses included charitable contributions of $3.8 million in 1983.

Employees

The number of employees and their respective employment costs follow:

Number of Employees

(Year-end)	1983	1982	1981
United States & Puerto Rico	51,235	53,379	59,088
Africa & Middle East	3,025	3,060	3,132
Canada	4,224	4,209	4,962
Europe	6,976	7,151	7,190
Far East	18,896	19,693	19,968
Latin America	15,150	15,737	15,915
International Operations	48,271	49,850	51,167
Total UCC Consolidated*	99,506	103,229	110,255

*Does not include 17,932 employees (17,814 in 1982 and 18,850 in 1981) of the Nuclear Division at facilities operated for the United States Government.

Employment Costs*

(Wages, benefits, payroll taxes)	1983	1982	1981
Domestic			
Millions of dollars	$1,825	$1,854	$1,834
Percent of domestic sales	29%	31%	26%
International			
Millions of dollars	$ 526	$ 574	$ 595
Percent of international sales	19%	19%	19%
Total UCC Consolidated			
Millions of dollars	$2,351	$2,428	$2,429
Percent of total sales	26%	27%	24%

*Does not include employment costs of employees of the Nuclear Division at facilities operated for the United States Government.

Increased Depreciation Expense

Depreciation expense in 1983 was $477 million, representing an increase of 12% over the 1982 figure. The comparable increase in 1982 was 10%. Although annual capital expenditures in 1983 were only $761 million, representing a decrease of 35% or $418 million from 1982, expenditures during the 1980 through 1982 period were the highest in the Corporation's history and represented significant increases over prior years. Depreciation expense therefore has continued to rise as expenditures are transformed into depreciable assets.

Higher Interest Expense

Interest expense on long-term and short-term debt increased 7% to $252 million in 1983, mainly reflecting higher interest incurred by Latin American subsidiaries, coupled with the effect of lower capitalized interest in the United States. If the translation gains associated with local currency borrowings were taken into account, the actual net borrowing costs in Latin America would compare favorably with those of 1982. Interest expense in 1982 increased 38% over 1981, due mainly to higher average levels of short-term debt.

Less Favorable Other Income—Net in 1983

Union Carbide's favorable *Other income—net* position was $120 million in 1983. For the two previous years a significantly more favorable position was recorded ($162 million and $164 million, respectively, in 1982 and 1981). The major items in 1983, 1982, and 1981 are explained in Note 9 on page 33.

Non-Recurring Charge—Closing of Facilities

During the fourth quarter of 1983, the Corporation decided to close permanently a number of its production facilities, principally petrochemical facilities located on the Gulf Coast, and to retire permanently certain other property and equipment. The resulting charge of $241 million ($139 million after tax, or $1.98 per share), representing write-off of facilities and equipment and certain other costs, has been reported separately in the Consolidated Statement of Income and Retained Earnings.

1982 Change in Policy for Translating Foreign Currency

Results for 1983 and 1982 reflect the adoption of a new policy for translating foreign currencies, Statement of Financial Accounting Standards No. 52. Results for 1981 on a Statement No. 52 basis are presented in Note 2 on page 30. Additional pro forma 1981 information is presented in Notes 6 and 9 on pages 31 and 33. Generally, other than in Latin America, unrealized gains and losses resulting from translating foreign subsidiaries' assets and liabilities into U.S. dollars are accumulated in an equity account on the balance sheet until such time as the subsidiary is sold or substantially or completely liquidated. An analysis by geographic area of the equity adjustment from translation as of December 31, 1983 and 1982 is shown below:

Equity Adjustment from Foreign Currency Translation

Millions of dollars	1983	1982
Africa & Middle East	$ (46)	$ (35)
Canada	(38)	(38)
Europe	(212)	(152)
Far East	(37)*	(24)
Total	$(333)	$(249)

*During 1983, $(7) million attributable to divested polyethylene operations of an Australian subsidiary was removed from Equity Adjustment from Foreign Currency Translation and included in income.

Favorable Foreign Currency Adjustments

Foreign currency adjustments included in *Other income—net* were as follows:

Millions of dollars	1983	1982	1981
Foreign currency adjustments	$ 49	$ 5	$ 67*

*Had Statement No. 52 been in effect in 1981, foreign currency adjustments would have been approximately $10 million.

Translation gains and losses relating to our operations in Latin America, where hyperinflation exists, continue to be included in the income statement on essentially the same basis as in 1981 and prior years. The gains in 1983 and 1982 resulted primarily from devaluation of the Brazilian cruzeiro. The significant gain in 1981, calculated under the previous accounting standard (Statement No. 8), resulted mainly from the translation into United States dollars of the Brazilian cruzeiro and European currencies.

Supplementary Income Statement Data

Supplementary income statement data for 1983, 1982, and 1981 are shown below:

Millions of dollars	1983	1982	1981
Taxes other than income taxes	$ 270	$ 271	$ 271
Maintenance and repairs	$ 524	$ 579	$ 658
Domestic advertising expenditures	$ 88	$ 90	$ 90
International advertising expenditures	38	40	35
Total advertising expenditures	$ 126	$ 130	$ 125

Maintenance and repair expenditures have declined since 1981, reflecting a higher proportion of new facilities.

Favorable Balance of Payments

A favorable balance was again achieved in 1983 although total exports declined versus prior years. Details are shown below:

Millions of dollars	1983	1982	1981
Exports to customers from domestic operations	$ 484	$ 574	$ 671
Exports to subsidiaries from domestic operations	442	405	419
Total exports	926	979	1,090
Proceeds from 14.75% notes issued abroad	—	148	—
Net dividends from international affiliates	38	35	53
Other receipts	46	66	99
Total dollar inflow	$ 1,010	$ 1,228	$ 1,242
Total imports	$ 381	$ 345	$ 493
International investments	4	63	26
Other disbursements	106	101	80
Total dollar outflow	$ 491	$ 509	$ 599
Net favorable balance	$ 519	$ 719	$ 643

Quarterly Data

Millions of dollars	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Year
1983					
Net sales	$2,191	$2,181	$2,274	$2,355	$9,001
Cost of sales	1,609	1,551	1,644	1,777	6,581
Depreciation	121	120	117	119	477
Net income	48[a]	62[b]	80[b]	(111)[c]	79
1982					
Net sales	$2,312	$2,299	$2,165	$2,285	$9,061
Cost of sales	1,693	1,636	1,644	1,714	6,687
Depreciation	106	106	106	108	426
Net income	91	118	71	30[d]	310

Quarterly Data

Dollars per share	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Year
1983					
Net income	$0.69[a]	$0.87[b]	$1.15[b]	$(1.58)[c]	$1.13
Dividends	0.85	0.85	0.85	0.85	3.40
Market price (high)[e]	62⅝	73⅞	72⅞	68¾	73⅞
Market price (low)[e]	51	57½	60½	61½	51
1982					
Net income	$1.32	$1.71	$1.02	$0.42[d]	$4.47
Dividends	0.85	0.85	0.85	0.85	3.40
Market price (high)[e]	52	48½	51¼	61	61
Market price (low)[e]	42⅜	40⅛	41	47⅛	40⅛

[a] Includes a net gain of $10 million, or $0.14 per share, related to an advance sale of uranium and a credit of $6 million, or $0.09 per share, from a rebate of surcharges from a public utility company.

[b] Includes the favorable effect of LIFO inventory reductions (approximately $8 million, or $0.11 per share, in the second quarter of 1983 and $4 million, or $0.06 per share, in the third quarter of 1983). See Note 1 on page 30.

[c] Includes a non-recurring after-tax charge of $139 million, or $1.98 per share, resulting from the write-off of facilities and certain other costs (see Note 5 on page 31) and a charge of $18 million, or $0.26 per share, resulting from a write-down of electrode inventories in Puerto Rico. Also, includes the favorable effect of LIFO inventory reductions (approximately $9 million, or $0.13 per share). See Note 1 on page 30.

[d] Includes the favorable effect of LIFO inventory reductions (see Note 1 on page 30) and a net gain of $23 million, or $0.33 per share, related to an advance sale of uranium.

[e] Prices are based on New York Stock Exchange composite transactions tape.

Provision for Income Taxes a Credit

For the total year 1983, Union Carbide reported a credit provision for income taxes of $10 million. This credit was mainly attributable to the non-recurring charge related to the closing of a number of production facilities and the permanent retirement of certain other property and equipment. Excluding the non-recurring charge, the 1983 effective income tax rate was 27.4%, considerably higher than the 1982 effective rate of 15.1%, due to reduced tax credits and a lower proportion of income derived from geographic areas subject to lower tax rates. Lower tax credits were primarily the result of reduced investment tax credits, which declined because of lower construction activity and a change in federal tax legislation. The effective income tax rate in 1982 had declined 13.1 percentage points from the 28.2% reported in 1981. The lower rate in 1982 was the result of an increased proportion of income from areas subject to lower tax rates and increased investment tax credits as a proportion of income before taxes. An analysis of the major items in 1983, 1982, and 1981 is included in Note 8 on page 32.

1983 Minority Interest Slightly Lower

The minority stockholders' share of income decreased in 1983 by 11% to $32 million. Excluding the effect of the non-recurring charge related to the closing of a number of production facilities, minority interest was virtually unchanged from that of 1982. The effect of increased earnings in Canada, Nigeria and Australia was more than offset by the lower earnings of companies in Brazil. A 23% decrease was reported in 1982, chiefly due to severe recession in Canada.

Income from Equity Companies Unchanged

Our share of income of companies carried at equity in 1983 was $19 million, the same as was reported in 1982. Canadian equity company earnings were significantly improved, reflecting the country's economic upturn, while the earnings of affiliate companies in South Africa were lower. In 1982, our share of income from companies carried at equity declined 50% from the $38 million reported in 1981 ($28 million on a Statement No. 52 basis). The largest decrease between the two years on a Statement No. 52 basis resulted from lower Canadian equity company earnings.

Analysis of Change in Earnings per Share

Dollars per share	1983 vs. 1982	1982 vs. 1981
Earnings per share, 1982 and 1981	$4.47	$9.56
Domestic gross margin		
Selling prices	−0.66	−1.79
Volume	+0.62	−2.28
Manufacturing and distribution costs	+1.51	−0.15
	+1.47	−4.22
International gross margin		
Selling prices	−2.52	−0.66
Volume	+0.02	−0.29
Manufacturing and distribution costs	+1.59	+1.34
	−0.91	+0.39
Total gross margin	+0.56	−3.83
Research and development	−0.07	−0.35
Selling, administrative and other expenses	+0.07	−0.29
Depreciation	−0.62	−0.43
Other income—net	−0.50	−0.04
Non-recurring charge for facility closings	−1.98	—
Interest on long-term and short-term debt	−0.19	−0.69
Effective income tax rate	−0.58	+0.74
Minority stockholders' share of income	—	+0.17
Share of income of companies carried at equity	+0.01	−0.28
Increase in shares outstanding	−0.04	−0.09
Net Change	−3.34	−5.09
Earnings per share, 1983 and 1982	$1.13	$4.47

Net Income

Net income in 1983 was $79 million, 75% lower than the $310 million reported in 1982. Excluding the adverse effect of the non-recurring charge related to the closing of production facilities, net income for the year was $218 million, or 30% lower than that of 1982. Although Union Carbide's earnings at the gross margin level were 2% above those of 1982, and total overhead was held flat (while research and development expenses increased), our net income excluding the effect of the non-recurring charge declined substantially, mainly as a result of less favorable *Other income—net* (see Note 9 on page 33) and a higher effective income tax rate (see discussion of provision for income taxes on page 24). Net income in 1982 was 52% lower than the $649 million reported in 1981. Had the new accounting standard for translation of foreign currencies adopted in 1982 been in effect in 1981, net income for that year would have been approximately $655 million.

Dividends Maintained

The cash dividend in 1983 was maintained at an annual rate of $3.40 per share, despite the significant earnings decline for the year. The dividend was last increased in September 1981 from the previous rate of $3.20 per share. Of the total dividends declared in 1983, $16 million, or 7%, was reinvested in Union Carbide Corporation common stock through our Dividend Reinvestment and Stock Purchase Plan. Total dividends declared in 1983, 1982, and 1981 were $240 million, $235 million and $224 million, respectively. Dividends as a percent of funds from operations for the past three years were as follows:

	1983	1982	1981
Dividends/funds from operations	34%	33%	19%

Lower Capital Expenditures

Approved strategic plans of the businesses in our portfolio form the basis for our capital expenditure program. Capital expenditures continue to be directed to replacements, cost reductions and energy conservation in order to maintain our capital-intensive operations as low-cost producers in the United States and worldwide. In 1983, real capacity expansions for existing products represented less than half of total capital expenditures. This is in keeping with a redirection of our construction expenditures to specialty and services businesses. The lower expenditure level also reflects continued moderate inflation.

Total spending in 1983 of $761 million represented a decrease of 35% from the 1982 total of $1,179 million. Capital expenditures in 1983, 1982, and 1981, as required by accounting standards, include capitalized interest totaling $86 million, $73 million and $58 million, respectively.

In 1983, approximately 62% of our capital spending was in the United States and Puerto Rico, as compared to 68% in 1982. The continued lower ratio is due to the capital expenditures for the nearly completed new ethylene glycol facility at Prentiss, Alberta, Canada.

At December 31, 1983, the cost of completing authorized construction projects for a[illegible]pacity, cost reduction, replacement, and other purposes was estimated to be approximately $600 million. A portion of this amount is covered by firm commitments, which are expected to be financed by a combination of internally generated cash flow and external financing.

Working Capital Decreases

In 1983, working capital declined by $264 million, or 15%. Inventories were reduced by $230 million, or 13%, as our tight inventory control program continued. This program has resulted in an inventory reduction of $392 million, or 21%, in the past two years.

Notes and accounts receivable increased by 3%, mainly due to increased sales levels in the final quarter of 1983. In terms of days' sales outstanding at year-end (based on fourth quarter sales), receivables represented about 57 days at year-end 1983, the same as at the end of both 1982 and 1981.

Lower Cash Flow from Operations

In 1983, the amount of cash flow, or funds, from operations was slightly lower than in 1982. The ratio of total funds from operations to total funds provided from all sources was 65% in 1983. The comparable ratios for 1982 and 1981, as reported in our annual reports for those years, were 47% and 64%, respectively. Funds from operations comprise net income before non-cash items such as depreciation, deferred income taxes, and facility write-offs.

Low Debt Ratio Maintained

Borrowings are the main source of funds supplementing funds generated by operations. In spite of the lower cash flow provided by operations in 1983, total debt was reduced by approximately $100 million, resulting in a relatively low debt ratio of 34.0% by year-end.

Year-end ratios of total debt to total capitalization have been as follows:

	1983	1982	1981
Debt Ratio	34.0%	33.9%	30.3%

Total debt includes short-term debt, long-term debt, and the current portion of long-term debt; total capitalization consists of total debt plus minority stockholders' equity in consolidated subsidiaries and UCC stockholders' equity.

Our target debt ratio is approximately 30-32%.

Funds from Financing and Other External Sources

In 1983, Union Carbide used both long- and short-term borrowings to supplement funds from operations. Funds from financing included $21 million from domestic revenue bonds issued by local authorities to finance pollution control and other facilities. There were no other domestic long-term borrowings during 1983.

Funds from other sources substantially benefited from the sale of Union Carbide's interest in a vessel used for transporting chemicals.

Short-term debt outstanding at year-end for the past three years was as follows:

Millions of dollars	1983	1982	1981
Domestic short-term debt	$ 79	$110	$ —
International short-term debt	161	218	217
Total	$240	$328	$217

Credit facilities of $1.2 billion are available to the Corporation, including a $400 million revolving credit arrangement. The remaining $800 million represents credit lines at various rates and are subject to customary review and annual renewal. Various lines of credit are also available to the Corporation's subsidiaries.

Management's Statement of Responsibility For Financial Statements

Union Carbide's financial statements are prepared by management, which is responsible for their fairness, integrity, and objectivity. The accompanying financial statements have been prepared in conformity with generally accepted accounting principles applied on a consistent basis, except for the change described in Note 2, and, accordingly, include amounts which are estimates and judgments. All historical financial information in this Annual Report is consistent with the accompanying financial statements.

Union Carbide maintains accounting systems, including internal accounting controls monitored by a staff of internal auditors, which are designed to provide reasonable assurance as to the reliability of financial records and the protection of assets. The concept of reasonable assurance is based on the recognition that the cost of a system must not exceed the related benefits. The effectiveness of those systems depends primarily upon the careful selection of financial and other managers, clear delegation of authority and assignment of accountability, inculcation of high business ethics and conflict-of-interest standards, policies and procedures for coordinating the management of corporate resources, and the leadership and commitment of top management.

Union Carbide's financial statements are examined by Main Hurdman, independent certified public accountants, in accordance with generally accepted auditing standards. These standards provide for a review of internal accounting control systems and tests of transactions to the extent they deem appropriate. The accountants' report appears on page 37.

The Audit Committee of the Board of Directors, which consists solely of non-employee directors, is responsible for overseeing the functioning of the accounting system and related controls and the preparation of annual financial statements. The Audit Committee recommends to the Board of Directors the selection of the independent auditors, subject to the approval of shareholders. The Audit Committee periodically meets with the independent auditors, management and internal auditors to review and evaluate their accounting, auditing and financial reporting activities and responsibilities. The independent and internal auditors have full and free access to the Audit Committee and meet with it, with and without management present.

Consolidated Statement of Income and Retained Earnings

Union Carbide Corporation and Subsidiaries

Millions of dollars (except per share figures), year ended December 31,	**1983**	1982	1981
Net sales	**$ 9,001**	$ 9,061	$10,168
Deductions (additions)			
Cost of sales	**6,581**	6,687	7,431
Research and development	**245**	240	207
Selling, administrative, and other expenses	**1,243**	1,249	1,221
Depreciation	**477**	426	386
Interest on long-term and short-term debt	**252**	236	171
Other income—net	**(120)**	(162)	(164)
Non-recurring charge—closing of facilities (Note 5)	**241**	—	—
Income before provision for income taxes	**82**	385	916
Provision for income taxes	**(10)**	58	258
Income of consolidated companies	**92**	327	658
Less: Minority stockholders' share of income	**32**	36	47
Plus: UCC share of income of companies carried at equity	**19**	19	38
Net income	**79**	310	649
Retained earnings at January 1	**4,670**	4,595	4,170
	4,749	4,905	4,819
Dividends declared	**240**	235	224
Retained earnings at December 31	**$ 4,509**	$ 4,670	$ 4,595
Per share			
Net income*	**$ 1.13**	$ 4.47	$ 9.56
Dividends declared	**$ 3.40**	$ 3.40	$ 3.30

*Based on 70,347,418 shares (69,305,609 shares in 1982 and 67,862,233 shares in 1981), the weighted average number of shares outstanding during the year.

The Notes to Financial Statements on pages 30 through 37 should be read in conjunction with this statement.

Consolidated Balance Sheet

Union Carbide Corporation and Subsidiaries

Millions of dollars, at December 31,	**1983**	1982
Assets		
Cash	**$ 46**	$ 34
Time deposits and short-term marketable securities	**72**	120
	118	154
Notes and accounts receivable	**1,460**	1,420
Inventories		
Raw materials and supplies	**473**	542
Work in process	**421**	473
Finished goods	**616**	725
	1,510	1,740
Prepaid expenses	**157**	187
Total current assets	**3,245**	3,501
Property, plant, and equipment	**10,708**	10,793
Less: Accumulated depreciation	**4,426**	4,437
Net fixed assets	**6,282**	6,356
Companies carried at equity	**300**	293
Other investments and advances	**121**	125
Total investments and advances	**421**	418
Other assets	**347**	341
Total assets	**$10,295**	$10,616

Liabilities and stockholders' equity		
Accounts payable	**$ 492**	$ 415
Short-term debt	**240**	328
Payments due within one year on long-term debt	**91**	59
Accrued income and other taxes	**114**	164
Other accrued liabilities	**825**	788
Total current liabilities	**1,762**	1,754
Long-term debt	**2,387**	2,428
Deferred credits	**865**	944
Minority stockholders' equity in consolidated subsidiaries	**352**	331
UCC stockholders' equity		
Common Stock		
Authorized—180,000,000 shares		
Issued—70,567,283 shares (70,240,377 shares in 1982)	**755**	739
Equity adjustment from foreign currency translation	**(333)**	(249)
Retained earnings	**4,509**	4,670
	4,931	5,160
Less: Treasury stock, at cost—101,784 shares (86,888 shares in 1982)	**2**	1
Total UCC stockholders' equity	**4,929**	5,159
Total liabilities and stockholders' equity	**$10,295**	$10,616

The Notes to Financial Statements on pages 30 through 37 should be read in conjunction with this statement.

Consolidated Statement of Changes in Financial Position

Union Carbide Corporation and Subsidiaries

Millions of dollars, year ended December 31,	1983	1982[a]	1981
Cash and time deposits and short-term marketable securities at beginning of year	$ 154	$ 253	$ 243
Funds provided by			
Net income	79	310	649
Non-cash charges (credits) to net income			
Non-recurring charge—closing of facilities (Note 5)	241	—	—
Depreciation	477	426	386
Deferred income taxes	(100)	(34)	133
Other non-cash charges—net	11	13	4
Total funds from operations	708	715	1,172
Long-term debt			
New borrowings	172	421	457
Reductions	(200)	(81)	(153)
Increase (decrease) in short-term debt and current portion of long-term debt	(56)	62	15
Increase in common stock	15	70	62
Total funds from financing	(69)	472	381
Portions of metals business sold (Note 4)			
Inventories	—	—	109
Net fixed assets	—	—	169
Long- and short-term debt assumed by purchaser	—	—	(60)
Other assets and liabilities—net	—	—	(9)
Net assets sold	—	—	209
Decrease (increase) in inventories	204[b]	142	(124)
Reductions of net fixed assets			
Disposals	101[b]	18	66
Translation adjustments	64	76	—
Decrease (increase) in investments and other assets	12	(9)	(177)
Increase (decrease) in payables and accruals	22[b]	(55)	(111)
Other—net	47	(29)	(78)
Total funds from other sources	450	143	(215)
Total funds provided	1,089	1,330	1,338
Funds used for			
Dividends	240	235	224
Capital expenditures	761	1,179	1,186
Increase (decrease) in notes and accounts receivable	40	(93)	(82)
Equity adjustments from foreign currency translation	84	108	—
Total funds used	1,125	1,429	1,328
Net increase (decrease) in funds	(36)	(99)	10
Cash and time deposits and short-term marketable securities at end of year	$ 118	$ 154	$ 253

[a] Amounts reported for 1982 changes in certain balance sheet accounts are exclusive of changes in account balances resulting from the aggregate equity adjustment from foreign currency translation at the beginning of the year of $(141) million relating primarily to fixed assets. See Note 2.

[b] Exclusive of write-off of facilities, which is reported separately in this statement. See Note 5.

The Notes to Financial Statements on pages 30 through 37 should be read in conjunction with this statement.

1. Summary of Significant Accounting Policies

Principles of consolidation—The consolidated financial statements include the assets, liabilities, revenues, and expenses of all significant subsidiaries except Ucar Capital Corporation, which is carried at equity in net assets. All significant intercompany transactions have been eliminated in consolidation. Investments in significant companies 20% to 50% owned are carried at equity in net assets, and Union Carbide's share of their earnings is included in income. Other investments are carried generally at cost or less.

Marketable securities—Marketable securities are carried at the lower of cost or market. Carrying value was substantially the same as market value at December 31, 1983 and 1982.

Inventories—Inventory values, which do not include depreciation, are stated at cost or market, whichever is lower. Cost is determined generally on the "last-in, first-out" (LIFO) method for U.S. companies and for certain subsidiaries operating outside the United States. The "average cost" method is used by most other subsidiaries.

Approximately 66% of inventory amounts before application of the LIFO method at December 31, 1983 (67% at December 31, 1982) have been valued on the LIFO basis. It is estimated that if inventories had been valued at current costs, they would have been approximately $1,048 million and $1,176 million higher than reported at December 31, 1983, and December 31, 1982, respectively.

Reductions of inventory quantities in 1983 and 1982 resulted in liquidations of certain LIFO inventory quantities, principally domestic petrochemicals inventories, acquired at lower costs prevailing in prior years. These liquidations reduced cost of sales by $34 million and $56 million in 1983 and 1982, respectively, and increased 1983 and 1982 net income by $21 million, or $0.30 per share, and $30 million, or $0.43 per share, respectively.

Fixed assets and depreciation—Fixed assets are carried at cost. Expenditures for replacements are capitalized and the replaced items are retired. Gains and losses from the sale of property are included in income.

Depreciation is calculated on a straight-line basis. The Corporation and its subsidiaries generally use accelerated depreciation methods for tax purposes where appropriate.

Patents, trademarks, and goodwill—Amounts paid for purchased patents and for securities of newly acquired subsidiaries in excess of the fair value of the net assets of such subsidiaries have been charged to patents, trademarks, and goodwill. The portion of such amounts determined to be attributable to patents is amortized over their remaining lives and the balance is amortized over the estimated period of benefit, but not more than 40 years.

Research and development—Research and development costs are charged to expense as incurred. Depreciation expense applicable to research and development facilities and equipment is included in *Depreciation* in the income statement ($12 million in 1983, $8 million in 1982, and $7 million in 1981).

Income taxes—Provision has been made for deferred income taxes where differences exist between the period in which transactions affect taxable income and the period in which they enter into the determination of income in the financial statements.

Benefits from investment tax credits and research and experimentation tax credits are included currently in net income.

Retirement program—The Corporation's contribution to the U.S. retirement program for each year is based on the recommendation of an independent actuarial firm using the entry age normal method. Accrued costs are funded for all employees age 25 and over, with unfunded prior service costs being amortized over periods up to 30 years.

Program costs of consolidated international subsidiaries are accounted for substantially on an accrual basis.

Net income per share—Net income per share is based on the weighted average number of shares of common stock outstanding in each year. There would have been no material dilutive effect on net income per share for 1983, 1982 or 1981 if convertible securities had been converted and if dilutive stock options had been exercised.

2. Foreign Currency Translation

Effective January 1, 1982, Union Carbide adopted Statement of Financial Accounting Standards No. 52, Foreign Currency Translation, which replaces Statement No. 8. Had the provisions of Statement No. 52 been applied in 1981, net income and net income per share would have been approximately $6 million and $0.10 per share higher than reported.

The following is an analysis of *Equity adjustment from foreign currency translation* included in stockholders' equity in accordance with the provisions of Statement No. 52.

Millions of dollars	1983	1982
Balance at beginning of year	$(249)	$ —
Opening balance adjustment	—	(141)
Adjustments during the year (principally translation adjustments)	(84)	(108)
Balance at December 31	$(333)	$(249)

3. *Ucar Capital Corporation*

Ucar Capital Corporation (Capital), a wholly owned finance subsidiary, purchases without recourse certain customer obligations from Union Carbide at a discount sufficient to yield earnings of not less than one and one-half times its fixed charges. In the Consolidated Statement of Income and Retained Earnings, Capital's income before income taxes, which amounted to $10 million in 1983 ($11 million in 1982 and $10 million in 1981), is included in *Other income—net* as a reduction of discount expense, and the related income tax is included in *Provision for income taxes*.

In December 1983, Capital privately placed $25 million of adjustable rate cumulative preferred shares. The shares are redeemable at stated value either after three years by Capital or after five years by the preferred shareholders.

The average effective interest rate on Capital's borrowings, which consist of $90 million of 15-year notes due from 1984 to 1992 ($100 million in 1982) and $139 million of commercial paper ($117 million in 1982), was 8.8% in 1983 (10.0% in 1982 and 9.7% in 1981).

Additional financial information relating to Capital is presented below:

Millions of dollars, December 31,	1983	1982
Total assets	$331	$288
Less: Total liabilities	237	225
Net assets	$ 94	$ 63
UCC Equity	$ 69	$ 63

4. *Sale of Portions of the Metals Business*

In June 1981, the Corporation completed the sale of portions of its metals business, including ferroalloys operations in the United States and Norway, for net proceeds after expenses of $181 million plus assumption by the purchaser of $60 million in long- and short-term debt. A charge of $22 million ($27 million after tax, or $0.40 per share) representing the loss on this transaction was included in *Other income—net* in 1980.

5. *Non-Recurring Charge—Closing of Facilities*

During the fourth quarter of 1983, the Corporation decided to close permanently a number of its production facilities, principally petrochemical facilities located on the Gulf Coast, and to retire permanently certain other property and equipment. A resulting charge of $241 million ($139 million after tax, or $1.98 per share), representing write-off of facilities and equipment and certain other costs, has been reported separately in the Consolidated Statement of Income and Retained Earnings.

6. *International Operations*

The following are financial summaries of consolidated international subsidiaries and international companies carried at equity:

	Consolidated Subsidiaries		
Millions of dollars	1983	1982	1981
Net sales	$2,812	$3,010	$3,189
Net income	$ 100	$ 121	$ 146*
UCC Share	$ 67	$ 86	$ 101*
Total assets	$3,258	$3,343	$3,121
Less: Total liabilities	1,618	1,709	1,433
Net assets	$1,640	$1,634	$1,688
UCC Equity	$1,296	$1,309	$1,366

*Had the new accounting standard for translation of foreign currencies adopted in 1982 been in effect in 1981 (see Note 2), net income would have been approximately $18 million (UCC share $16 million) higher than reported.

	Companies Carried At Equity		
Millions of dollars	1983	1982	1981
Net sales[a]	$ 884	$ 978	$1,182
Net income	$ 35	$ 60	$ 81[b]
UCC Share	$ 17	$ 19	$ 37[b]
Total assets	$1,021	$1,046	$1,201
Less: Total liabilities	618	612	715
Net assets	$ 403	$ 434	$ 486
UCC Equity	$ 172	$ 177	$ 204

[a] Exclusive of $96 million net sales to UCC and its consolidated subsidiaries in 1983 ($113 million in 1982 and $145 million in 1981).

[b] Had the new accounting standard for translation of foreign currencies adopted in 1982 been in effect in 1981, net income would have been approximately $23 million (UCC share $10 million) lower than reported.

7. *Segment Information*

Audited industry and geographic segment data are presented in *Segment Data* on pages 18 and 19.

Union Carbide's businesses and products are described on pages 8 through 17, page 20, and also on pages 4 through 7.

8. Income Taxes

The following is an analysis of income tax expense:

Millions of dollars	1983		1982		1981	
	Current	Deferred	Current	Deferred	Current	Deferred
U.S. Federal income taxes	$ (6)	$ (77)	$ 2	$ 5	$ 35	$ 148
U.S. investment tax credit	—	(20)	(9)	(49)	(17)	(44)
U.S. research and experimentation tax credit	(3)	(3)	(8)	—	(3)	—
U.S. state and local taxes based on income	3	—	—	—	4	—
Non-U.S. income taxes	96	—	107	10	106	29
	$ 90	$ (100)	$ 92	$ (34)	$ 125	$ 133
Provision for income taxes	$ (10)		$ 58		$ 258	

Deferred U.S. Federal income taxes for 1983 include $(100) million representing the tax effect of timing differences associated with facility closings and retirements described in Note 5. Additionally, 1983 includes $83 million related to depreciation timing differences ($71 million in 1982 and $110 million in 1981); $(21) million applicable to pension deduction timing differences ($(60) million in 1982); and $(16) million related to sales of tax benefits through tax leases ($14 million in 1982). Also, 1982 includes $(14) million related to timing differences for long-term contracts accounted for on a percentage of completion basis and $(9) million related to costs associated with an advance sale of uranium. Deferred non-U.S. income taxes in 1983 include $(7) million related to depreciation timing differences ($9 million in 1982 and $28 million in 1981), $20 million related to capitalized interest ($9 million in 1982), and $(10) million related to investment tax credits. The effects of timing differences for other items are not material.

At December 31, 1983, the Corporation had $160 million of U.S. Investment and Research and Experimentation Tax Credit carryforward, which has been recognized for book purposes as a reduction in the provision for deferred income taxes in current and prior years.

Portions of the income of several subsidiaries operating in Puerto Rico and outside the United States are exempt from income taxes under local tax statutes. Non-U.S. income taxes were reduced by $2 million in 1983 ($24 million in 1982 and $57 million in 1981) as a result of these exemptions, which expire principally in 1989.

The consolidated effective income tax rate was (12.1) % in 1983, 15.1% in 1982 and 28.2% in 1981. An analysis of the difference between the *Provision for income taxes* and the amount computed by applying the statutory Federal income tax rate to consolidated income before provision for income taxes is as follows:

	1983		1982		1981	
	Millions of dollars	Percent of pretax income	Millions of dollars	Percent of pretax income	Millions of dollars	Percent of pretax income
Tax at statutory Federal rate	$ 38	46.0	$ 177	46.0	$ 422	46.0
Taxes related to operations in Puerto Rico and outside the United States	(9)	(11.1)	(30)	(7.8)	(61)	(6.6)
U.S. investment and research and experimentation tax credits	(26)	(31.3)	(66)	(17.1)	(64)	(7.0)
Allowable depletion in excess of cost depletion	(5)	(6.1)	(10)	(2.6)	(10)	(1.1)
Domestic International Sales Corporation	(5)	(6.1)	(7)	(1.8)	(15)	(1.6)
Other, net	(3)	(3.5)	(6)	(1.6)	(14)	(1.5)
	$ (10)	(12.1)	$ 58	15.1	$ 258	28.2

The following is a summary of the U.S. and Non-U.S. components of income before provision for income taxes:

Millions of dollars	1983	1982	1981
Income before provision for income taxes:			
U.S.	$ (137)	$ 78	$ 501
Non-U.S. (includes Puerto Rico)	219	307	415
	$ 82	$ 385	$ 916

The Corporation provides for taxes on undistributed earnings of affiliates included in consolidated retained earnings to the extent such earnings are planned to be remitted and not reinvested indefinitely. Undistributed earnings of affiliates intended to be reinvested indefinitely amounted to $2 billion at December 31, 1983.

9. *Other Income—Net*

The following is an analysis of *Other income—net:*

Millions of dollars	1983	1982	1981
Investment income (principally from short-term investments)	$ 35	$ 52	$ 42
Foreign currency adjustments	49	5	67[a]
Net discount expense on sales of customer obligations to Ucar Capital Corporation	(20)	(21)	(20)
Sales of tax benefits through tax leases[b]	—	53	10
Sales and disposals of businesses and other assets	27	21	14
Other	29	52	51
	$ 120	$ 162	$ 164

[a] Had the new accounting standard for translation of foreign currencies adopted in 1982 been in effect in 1981, foreign currency adjustments would have been approximately $10 million.

[b] Represents the sale of tax benefits (investment tax credits and depreciation) on equipment expenditures of $243 million and $46 million in 1982 and 1981, respectively. The effect in 1982, after providing for income taxes and adjusting for the lower investment tax credit, was to increase net income by $4 million.

10. *Supplementary Balance Sheet Detail*

Millions of dollars, December 31,	1983	1982
Notes and accounts receivable		
Trade	$ 1,266	$ 1,247
Other	229	201
	1,495	1,448
Less: Allowance for doubtful accounts	35	28
	$ 1,460	$ 1,420
Fixed assets		
Land and improvements	$ 524	$ 530
Buildings	1,196	1,191
Machinery and equipment	8,093	8,121
Construction in progress and other	895	951
	$10,708	$10,793
Other assets		
Deferred charges	$ 98	$ 83
Long-term receivables	180	194
Patents, trademarks, and goodwill	69	64
	$ 347	$ 341
Short-term debt		
Commercial paper	$ 79	$ 110
Bank loans	161	218
	$ 240	$ 328
Other accrued liabilities		
Accrued accounts payable	$ 351	$ 358
Payrolls	150	151
Other	324	279
	$ 825	$ 788
Deferred credits		
Income taxes	$ 662	$ 765*
Deferred revenue from sales of certain customer obligations to Ucar Capital Corporation	130	114
Other	73	65
	$ 865	$ 944

*Deferred income taxes related to current items are included in accrued income and other taxes in the amount of $9 million in 1982.

11. *Long-Term Debt*

Millions of dollars, December 31,	1983	1982
Union Carbide Corporation		
3.50% Notes due semiannually to 1984	$ 15	$ 30
3.625% Notes due semiannually to 1990, issued at a discount (effective rate 4.50%)	18	20
4.50% Notes due semiannually to 1996	26	28
4.50% Notes due annually, 1985 to 1994	200	200
5.30% Sinking Fund Debentures, with equal annual sinking fund payments to 1997	128	140
7.50% Sinking Fund Debentures due 2006, issued at a discount (effective rate 7.55%) with annual sinking fund payments, 1987 to 2005	200	200
8.50% Sinking Fund Debentures due 2005, with annual sinking fund payments, 1986 to 2004	300	300
9.125% Notes due 1986, issued at a discount (effective rate 9.22%)	100	100
9.35% Sinking Fund Debentures due 2009, with annual sinking fund payments, 1990 to 2008	200	200
10.00% Notes due annually, 1984 to 1987	100	100
10.00% Convertible Subordinated Debentures due 2006, convertible into common stock at $65.875 per share	150	150
14.50% Notes due 1991, issued at a discount (effective rate 14.69%)	150	150
Pollution control and other facility obligations	159	183
Obligations under capital leases	40	38
Other debt	6	3
International subsidiaries		
8.375% Canadian Dollar Notes due 1992	16	17
9.75% Canadian Dollar Debentures due 1986	16	17
10.75% Canadian Dollar Debentures due 1995	53	55
14.75% U.S. Dollar Guaranteed Notes due 1989	150	150
16.00% Canadian Dollar Debentures due 1989	41	41
Canadian Dollar Bank Loan at prime rate	66	82
U.S. Dollar guaranteed bank loans at variable rates	123	—
Other debt—various maturities and interest rates	221	283
	2,478	2,487
Less: Payments due within one year	91	59
	$2,387	$2,428

During 1983, $12 million of the 5.30% Sinking Fund Debentures were purchased by the Corporation to apply against future sinking fund requirements. Previously, the Corporation and a subsidiary had purchased $110 million of the debentures.

Pollution control and other facility obligations represent state, commonwealth, and local governmental bond financing of pollution control and other facilities and are treated for accounting and tax purposes as debt of Union Carbide Corporation. These tax exempt obligations mature at various dates from 1984 through 2013 and have an average annual effective interest rate of 7.73%. During 1983, these obligations were reduced by $40 million in a defeasance transaction. At December 31, 1983, the Corporation had a contingent obligation with respect to $42 million of pollution abatement facility obligations assumed by purchasers of Union Carbide facilities.

International subsidiaries' debt includes $322 million ($220 million in 1982) due in U.S. dollars. At December 31, 1983, $181 million of international consolidated assets was pledged as security for $79 million of international subsidiaries' debt.

11. *Long-Term Debt (cont'd)*

Payments due on long-term debt in the four years after 1984 are: 1985, $244 million; 1986, $239 million; 1987, $122 million; 1988, $83 million.

Various lines of credit are available to the Corporation and its subsidiaries. Credit facilities of $1.2 billion are available to the Corporation. The principal corporate lines of credit, which are subject to customary review and annual renewal, provide for borrowings of up to $800 million at various rates of which $450 million may be borrowed in the U.S. dollar equivalent value of other major freely convertible currencies available to the lenders. Also, a $400 million revolving credit agreement permits the Corporation to borrow at various rates for short- or long-term periods. At December 31, 1983, there were outstanding borrowings of $5 million under the corporate line of credit arrangements. The Corporation compensates banks for credit lines, services and facilities by maintaining bank balances and/or paying fees.

12. *Interest Costs*

The following is an analysis of *Interest on long-term and short-term debt*:

Millions of dollars	1983	1982	1981
Interest incurred on debt	$ 338	$ 309	$ 229
Less: Interest capitalized	86	73	58
	$ 252	$ 236	$ 171

13. *Leases*

Leases that meet the criteria for capitalization set forth in Statement of Financial Accounting Standards No. 13 have been classified and accounted for as capital leases. For non-capitalized leases, primarily involving distribution equipment and facilities, commitments under noncancelable leases extending for one year or more will require the following future payments:

Millions of dollars					
1984	$ 64	1987	$ 30	1994-1998	$ 68
1985	49	1988	23	1999-2003	33
1986	37	1989-1993	92	After 2003	8

Total lease and rental payments under noncapitalized leases extending one month or more were $106 million in 1983 ($109 million in 1982 and $98 million in 1981).

14. *UCC Stockholders' Equity*

At December 31, 1983 and 1982, there were 25,000,000 shares of preferred stock ($1 par value) authorized and unissued.

Issuances of shares of common stock were as follows:

	1983	1982	1981
Dividend Reinvestment and Stock Purchase Plan			
Issued for dividend reinvestments	—	1,250,080	923,470
Issued for optional cash payments	8,442	75,480	54,507
Purchased at market price by the Trustee under the Savings Plan for Employees	20,681	186,887	133,091
Issued on conversion of convertible debentures	—	—	54,296
Issued under employee stock option plans	297,783	59,085*	49,808*
	326,906	1,571,532	1,215,172

*1982 and 1981 issuances are net of 838 and 1,728 shares, respectively, which were returned and canceled.

During 1983, 364,132 shares were reacquired as treasury common stock; 248,169 shares were issued out of treasury stock for dividend reinvestments and cash payments under the Dividend Reinvestment and Stock Purchase Plan; 59,269 shares were issued in business combination transactions; and 41,798 shares were issued to the Trustee under the Savings Plan for Employees.

Shares of common stock were reserved for issuance as follows:

At December 31,	1983	1982
For sale under the Dividend Reinvestment and Stock Purchase Plan	280,859	289,301
For conversion of convertible debentures	2,277,040	2,277,040
For stock option plans:		
Options granted but not exercised	1,128,064	1,131,458
Available for granting future options	6,336	331,618
For sale to Trustee under the Savings Plan for Employees	402,892	423,573
	4,095,191	4,452,990

At December 31, 1983, *Retained earnings* included $31 million and $170 million, representing the Corporation's share of undistributed earnings of a nonconsolidated finance subsidiary and 20 to 50 percent owned companies, respectively, accounted for by the equity method. The corresponding amounts at December 31, 1982, were $26 million and $170 million, respectively. Dividends received by the Corporation and the Corporation's share of dividends received by consolidated subsidiaries from companies carried at equity aggregated $4 million in 1983, $5 million in 1982 and $10 million in 1981.

15. *Retirement Program*

The retirement program of Union Carbide Corporation covers substantially all U.S. employees and certain employees in other countries. Various arrangements for providing retirement benefits are maintained by consolidated international subsidiaries. Total program costs for 1983 amounted to $186 million ($201 million in 1982 and $203 million in 1981 of which $165 million ($17[illegible] million in 1982 and $176 million in 1981) related to the U. S. Retirement Program.

A comparison of accumulated plan benefits and plan net assets for the U. S. Retirement Program is presented below:

Millions of dollars, January 1,	1983	1982
Actuarial present value of accumulated plan benefits		
Vested	$ 1,352	$ 1,206
Non-Vested	105	98
	$ 1,457	$ 1,304
Net Assets Available for Benefits	$ 2,176	$ 1,732

The weighted average assumed rates of return used in determining the actuarial present value of accumulated plan benefits were approximately 9.5% for 1983 and approximately 10% for 1982. The rates used reflect the expected (market) rates of return during the periods of benefit deferral as required by Statement of Financial Accounting Standards No. 36. These rates are approximately equivalent to rates established by the Pension Benefit Guarantee Corporation, a non-profit Federal Government corporation within the Department of Labor.

16. Incentive Programs

On April 27, 1983, stockholders approved the 1984 Union Carbide Stock Option Plan. The Plan, which will be effective for five years beginning January 1, 1984, provides for granting stock option awards to key employees. Employees awarded options may also be awarded the right to receive exercise payments in cash or common stock when they exercise a stock option. Employees may also be awarded stock appreciation rights related to part or all of the optioned shares. The amount of any exercise payment may not exceed 60% of the amount by which the market price of the common stock on the date of exercise exceeds the option price. On exercise, the stock appreciation rights would enable a holder to receive in cash or common stock the amount by which the market price of the common stock on the date of exercise exceeds the option price. The number of shares subject to options may not exceed 5,000,000 under this plan. Option prices are 100% of fair market value on the date of the grant. Options, and any related stock appreciation rights, generally become exercisable two years after such date. Options may not have a duration of more than 10 years.

Previously, stockholders had approved the 1979 Union Carbide Incentive Compensation Plan and the 1974 Union Carbide Incentive Program. No awards can be granted under the 1979 Plan for any year after 1983 and no further awards can be made under the 1974 Program. The 1979 Plan provided for granting stock options, stock appreciation rights, and annual bonus awards to key employees. Option prices were 100% of fair market value on the date of the grant and options, and any related stock appreciation rights, generally become exercisable two years after such date. Options could not have a duration of more than 10 years. On April 27, 1983, stockholders approved a supplement to the 1979 Plan and the 1974 Program, which, effective June 23, 1982, authorized the awarding of exercise payments to the holders of certain options.

When shares are issued upon exercise of options, no charges are made to income and the entire proceeds when received are credited to the common stock account. Income is charged in each quarter for the appreciation of stock appreciation rights exercised and exercise payments granted. The charge is based on the amount, if any, by which the market price of the common stock exceeds the option price set forth in the related stock option.

The status of options is as follows:

	1983	1982
Outstanding at January 1	1,131,458	877,634
Granted during the year	325,282	362,384
Exercised during the year	297,783	59,923
Canceled or expired during the year	30,893	48,637
Outstanding at December 31*	1,128,064	1,131,458

*At December 31, 1983, there were 119,865 shares outstanding with stock appreciation rights attached, which may be converted by option holders to exercise payment rights; 257,221 shares outstanding with only stock appreciation rights attached (330,257 at December 31, 1982); and 548,928 shares outstanding with only exercise payment rights attached.

17. Commitments and Contingencies

At December 31, 1983, the Corporation and its consolidated subsidiaries had contingent obligations of $375 million, principally for purchase and sale commitments related to the ordinary conduct of business and guarantees of outstanding loans and notes payable by others. It is not expected that these contingent obligations will have a material adverse effect on the consolidated financial position of the Corporation.

In the normal course of business, the Corporation and its consolidated subsidiaries are involved in a number of legal proceedings and claims with both private and governmental parties. These cover a wide range of matters, including trade regulation; product liability; utility regulation; Federal regulatory proceedings; health, safety, and environmental matters; patents and trademarks; contracts; and taxes. In some of these cases, the remedies that may be sought or damages claimed are substantial. In the opinion of counsel, the outcome of the legal proceedings and claims are not expected to have a material adverse effect on the consolidated financial position of the Corporation. Should any losses be sustained, in excess of provisions therefor, they will be charged to income in the future.

18. Supplementary Data on Changing Prices (Unaudited)

During the past decade inflation had a significant impact on the economy, resulting in the concern that conventional financial statements were not fully measuring the real growth of business enterprises. In response to this concern, the Financial Accounting Standards Board (FASB) issued Statement No. 33, which requires companies to adjust historical financial statements for the effects of changing prices. This Statement was later amended by Statement No. 70, which reconciles the foreign currency translation method adopted in Statement No. 52 with Statement No. 33 requirements. The presentation of historical cost information measured in units of constant purchasing power is no longer required for corporations that measure a significant part of their operations in currencies other than the U.S. dollar.

Data on Changing Prices

Millions of dollars, year ended December 31, 1983

Summary Statement of Income Adjusted for Changing Prices	At historical cost (nominal dollars)	Adjusted for changes in specific prices (current cost—nominal dollars)
Net Sales	$ 9,001	$ 9,001
Cost of sales	6,581	6,613
Depreciation	477	715
Other operating expense—net	1,349	1,349
Interest expense	252	252
Provision for income taxes	92	92
Minority share of income	32	18
Net income before non-recurring charge—closing of facilities*	$ 218	$ (38)
Per share	$ 3.11	$ (0.54)

Summary Balance Sheet Data Adjusted for Changing Prices		
Inventories	$ 1,510	$ 2,558
Property, plant, and equipment, net of accumulated depreciation	6,282	7,804
UCC stockholders' equity	4,929	7,499

Five-Year Comparisons	**1983**	1982	1981	1980	1979
Net sales					
At historical cost	**$ 9,001**	$ 9,061	$ 10,168	$ 9,994	$ 9,177
In average 1983 dollars		9,352	11,139	12,079	12,590
Net income (loss)*					
Current cost—in average 1983 dollars	**(38)**	12	427	573	543
Per share	**(0.54)**	0.18	6.30	8.59	8.27
Stockholders' equity					
Current cost—in average 1983 dollars	**7,499**	8,267	8,454	8,427	8,372
Excess of increase (decrease) in specific prices over changes in general price levels	**(534)**	307	(345)	(638)	(505)
Gain due to decline in purchasing power of net monetary liabilities	**116**	95	229	270	264
Dividends per share					
At historical cost	**3.40**	3.40	3.30	3.10	2.90
In average 1983 dollars		3.51	3.61	3.75	3.98
Market price per share (at year-end)					
At historical cost	**62.75**	52.88	51.38	50.25	42.00
In average 1983 dollars	**61.70**	53.98	54.17	57.65	54.47
Average consumer price index (1967 = 100)	**298.4**	289.2	272.4	246.8	217.4

*1983 net income excludes a non-recurring charge of $241 million ($139 million after tax, or $1.98 per share) in the historical cost amounts from the write-off of facilities and equipment and certain other costs. Inclusion of the write-off in net income from continuing operations resulted in historical cost net income of $79 million, or $1.13 per share. 1980 net income excluded provisions for a then-pending sale of certain metals businesses.

18. *Supplementary Data on Changing Prices (Unaudited) (Cont'd)*

The accompanying summary statement of income, summary balance sheet data, and five-year comparisons were prepared in accordance with Statement No. 33 as amended by Statement No. 70. The methodology required is experimental in nature, and because of the different assumptions and the variety of methods permitted, this information should not be considered precise when making comparisons with other companies. The FASB will evaluate the results of this experiment during 1984 and decide whether the present disclosure requirements should be continued.

In the accompanying statements the "current cost" method adjusts for "changes in specific prices." The objective of this method is to measure resources and their consumption at the current cost of replacing these resources, rather than the historical cost amounts actually expended to acquire them. This method measures the effects of actual price changes directly related to a company rather than those from general inflation. The effect of general inflation on current cost data for foreign operations is measured after translation (translate—restate method) based upon the U.S. Consumer Price Index for all Urban Consumers (CPI-U).

During the year, certain industries that are extremely important to Union Carbide did not keep up with the broad economic recovery in the U.S. and significantly impacted our 1983 performance. In measuring operations before the non-recurring charge for the closing of facilities, a net loss of $38 million resulted under the current cost method compared to net income of $218 million when measured at historical cost. This difference is principally due to the increase in current cost depreciation.

The impact of inflation on Union Carbide's net monetary liabilities is evident in the purchasing power gains over the past five years. These unrealized gains reflect the fact that Union Carbide's obligations are repaid in dollars of declining purchasing power.

The foreign currency translation adjustment calculated on the U.S. inflation-adjusted current cost of net assets, reflects exchange rate changes during the year. This translation adjustment, net of income taxes, reduced stockholders' equity by $81 million in 1983 and $88 million in 1982.

Current cost values presented in the supplementary data were determined as follows:

- *Inventories and Cost of Sales*—LIFO inventories and cost of sales were adjusted to reflect current material, labor and overhead costs.

- *Property, Plant, and Equipment*—The current cost of property, plant, and equipment is defined by Statement No. 33 as the current cost of acquiring the same service potential embodied by the asset owned. The current cost of an asset will be directly affected by the differences between its operating costs and the operating costs of a technologically superior asset as it becomes available. Therefore, the estimated current cost of fixed assets was calculated by the application of indices, adjusted for technological change, to historical cost of assets. Indices appropriate to domestic operations were selected on the basis of applicability to major business segment facilities. For foreign fixed asset calculations, indices utilized were selected based on major country/company operations. Adjustments for technology change based on representative facilities were extended to related asset groups before incorporation into the indices ultimately utilized. Land values have been based on estimates of current cost.

- *Depreciation*—Current cost depreciation is calculated on a straight line basis using estimated useful lives consistent with those used in the historical dollar financial statements.

Report of Independent Certified Public Accountants

Main Hurdman
Certified Public Accountants

To the Stockholders and Board of Directors
of Union Carbide Corporation

We have examined the consolidated balance sheet of Union Carbide Corporation and subsidiaries at December 31, 1983 and 1982, and the consolidated statements of income and retained earnings and of changes in financial position for the years ended December 31, 1983, 1982 and 1981 (pages 27 through 37). Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the consolidated financial statements identified above present fairly the financial position of Union Carbide Corporation and subsidiaries at December 31, 1983 and 1982 and the results of their operations and the changes in their financial position for the years ended December 31, 1983, 1982 and 1981, in conformity with generally accepted accounting principles consistently applied during the period except for the 1982 change, with which we concur, in method of accounting for foreign currency translation as described in Note 2 to the financial statements.

Main Hurdman
Certified Public Accountants

Stamford, Connecticut
February 14, 1984

Directors

Warren M. Anderson[4]
Chairman of the Board and Chief Executive Officer of Union Carbide Corporation

R. Manning Brown, Jr.[1,6]
Director of New York Life Insurance Company

Roberto de Jesus Toro[5,6]
Director and Chairman of the Executive Committee of Banco de Ponce

James L. Ferguson[1,4,5]
Chairman and Chief Executive Officer of General Foods Corporation

Alec Flamm[4]
President and Chief Operating Officer of Union Carbide Corporation

Harry J. Gray[2,6]
Chairman and Chief Executive Officer of United Technologies Corporation

James M. Hester[3,5]
President of The New York Botanical Garden

Jerome H. Holland[3,4,5]
Director of various corporations and organizations

Jack B. Jackson[2,6]
Director of various corporations and organizations

Horace C. Jones[2,3]
Chairman of the Finance-Pension Committee of Burlington Industries, Inc.

C. Peter McColough[2,3,4]
Chairman of Xerox Corporation

Hon. Ian D. Sinclair O.C., Q.C.[2,6]
Chairman of Canadian Pacific Enterprises Limited

William S. Sneath[3,4,6]
Director of various corporations; retired Chairman of the Board of Union Carbide Corporation

Russell E. Train[1,3]
President of World Wildlife Fund—U.S.

F. Perry Wilson[1,2]
Director of various corporations; retired Chairman of the Board of Union Carbide Corporation

Kathryn D. Wriston[1,4,6]
Director of various corporations and organizations

Management

Warren M. Anderson
Chairman of the Board and Chief Executive Officer

A. C. MacLeod
Vice-President, Employee Relations

James B. Reid
Vice-President and Secretary

John A. Stichnoth
Vice-President and General Counsel

Alec Flamm
President and Chief Operating Officer

R. F. Hibbs
President, Nuclear Division

Robert E. Pyle
Vice-President

J. Clayton Stephenson
Executive Vice-President and Chief Financial Officer

A. S. Hart
Vice-President, Public Affairs

R. S. Wishart
Vice-President—Federal Government Relations

L. G. Peloubet
Vice-President and Controller

Rolf H. Towe
Vice-President and Treasurer

John H. Field
Executive Vice-President

J. R. MacLean
President, Linde Division

F. V. McMillen
President, Metals Division

J. W. Rawlings
Chairman, Union Carbide Southern Africa, Inc.

R. G. Russel
President, Carbon Products Division

K. D. Rutter
Chairman, Union Carbide Pan America, Inc.

V. E. Sonnenberg
President, Electrode Systems Division

Robert D. Kennedy
Executive Vice-President

J. H. Bees
President, Ethylene Oxide/Glycol Division

W. N. Kissick
Chairman, Union Carbide Canada Limited

J. W. Luchsinger
President, Polyolefins Division

A. W. Lutz
President, International Petrochemicals Division

L. A. Wilkinson
President, Solvents and Coatings Materials Division

J. M. Rehfield
Executive Vice-President

F. P. Holloway
President, Electronics Division

J. B. Law
Chairman, Union Carbide Eastern, Inc.

N.S. Livingston, Jr.
President, Battery Products Division

B. Sokoloff, Jr.
Chairman, Union Carbide Africa and Middle East, Inc.

Elio E. Tarika
Executive Vice-President

G. E. Bailie
President, Films-Packaging Division

A. C. Egler
President, Home and Automotive Products Division

W. H. Joyce
President, Silicones and Urethane Intermediates Division

R. Oldford
President, Union Carbide Agricultural Products Company, Inc.

J. C. Soviero
President, Specialty Chemicals Division

T. T. Szabo
President, Specialty Polymers and Composites Division

N. L. Zutty
Chairman, Union Carbide Europe, Inc.

H. F. Tomfohrde III
Executive Vice-President

R. G. Chenoweth
President, Engineering and Technology Services Division

W. F. Silvia
President, Catalysts and Process Systems Division

Notes
[1]Member of Audit Committee
(Chairman: Mrs. Wriston)
[2]Member of Compensation and Management Development Committee
(Chairman: Mr. Jones)
[3]Member of Public Policy Committee
(Chairman: Mr. Hester)
[4]Member of Executive Committee
(Chairman: Mr. Anderson)
[5]Member of Nominating Committee
(Chairman: Sr. de Jesus Toro)
[6]Member of Finance and Pension Committee
(Chairman: Mr. Sinclair)

Operating Units

Union Carbide Corporation's business worldwide is conducted principally through the divisions, subsidiaries, and affiliates listed below. Subsidiaries and affiliates are 100% owned by the Corporation unless otherwise indicated.

Union Carbide Agricultural Products Company, Inc.

Battery Products Division

Carbon Products Division

Catalysts and Process Systems Division

Electrode Systems Division

Electronics Division

Engineering and Technology Services Division

Ethylene Oxide/Glycol Division

Films-Packaging Division

Home and Automotive Products Division

International Petrochemicals Division

Linde Division

Metals Division

Nuclear Division
Operates facilities owned by the U.S. Government. Effective April 1, 1984, the Corporation will withdraw as operator.

Polyolefins Division

Silicones and Urethane Intermediates Division

Solvents and Coatings Materials Division

Specialty Chemicals Division

Specialty Polymers and Composites Division

Union Carbide Africa and Middle East, Inc.

Egypt
Union Carbide Egypt S.A.E.—75%

Ghana
Union Carbide Ghana Limited—66.67%

Ivory Coast
Union Carbide Cote d'Ivoire

Kenya
Union Carbide Kenya Limited—65%

Nigeria
Union Carbide Nigeria Limited—60%

Sudan
Union Carbide Sudan Limited—84%

Union Carbide Canada Limited—74.73%

Union Carbide Eastern, Inc.

Australia
Chemos Industries Pty. Limited—60.02%
Union Carbide Australia Limited—60.02%

Hong Kong
Sonca Industries Limited
Union Carbide Asia Limited

India
Union Carbide India Limited—50.9%

Indonesia
P. T. Agrocarb Indonesia—67.6%
P. T. Union Carbide Indonesia

Japan
Nippon Unicar Company Limited—50%
Union Showa K.K.—50%
Sony-Eveready, Inc.—50%
Union Carbide Services Eastern Limited

Korea
Union Gas Company Limited—86.41%

Malaysia
Union Carbide Malaysia Sdn. Bhd.—80%
Union Polymers Sdn. Bhd.—60%

New Zealand
Union Carbide New Zealand Limited—60.02%

Philippines
Union Carbide Philippines, Inc.

Republic of Sri Lanka
Union Carbide Ceylon Limited—60%

Singapore
Metals and Ores Pte. Limited
Union Carbide Singapore Pte. Limited

Thailand
Union Carbide Thailand Limited

Union Carbide Europe, Inc.

Austria
Union Carbide Austria G.m.b.H.

Belgium
Union Carbide Benelux N.V.
Indugas N.V.—50%
Matheson N.V.
Calida Gas N.V.—50%

France
La Littorale S.A.—99.96%
Union Carbide France S.A.
Viscora, S.A.

Germany (West)
Union Carbide Deutschland G.m.b.H.
Union Carbide Industriegase G.m.b.H.

Greece
Union Carbide Hellas Industrial and Commercial S.A.

Italy
Union Carbide Italia S.p.A.
Elettrografite Meridionale S.p.A.
Uniliq S.p.A.
Unisil S.p.A.

Spain
Argon, S.A.—50%
Union Carbide Iberica, S.A.
Union Carbide Navarra, S.A.

Sweden
Unifos Kemi AB—50%
Union Carbide Norden AB

Switzerland
Union Carbide Europe S.A.

United Kingdom
Union Carbide U.K. Limited
Viskase Limited

Union Carbide Pan America, Inc.

Argentina
Union Carbide Argentina S.A.I.C.S.

Brazil
Eletro Manganes Ltda.—55%
Tungstenio do Brasil Minerios e Metais Ltda.
S.A. White Martins—50.14%
S.A. White Martins Nordeste—50.14%
Union Carbide do Brasil Ltda.

Colombia
Union Carbide Colombia, S.A.

Costa Rica
Union Carbide Centro Americana, S.A.

Ecuador
Union Carbide Ecuador C.A.

Mexico
Union Carbide Mexicana, S.A. de C.V.—45.70%

Venezuela
Union Carbide de Venezuela, C.A.

Union Carbide Puerto Rico, Inc.

Union Carbide Caribe Inc.
Union Carbide Films-Packaging, Inc.
Union Carbide Grafito, Inc.

Union Carbide Southern Africa, Inc.

Republic of South Africa
Elektrode Maatskappy Van Suid Afrika (Eiendoms) Beperk—50%
Tubatse Ferrochrome (Proprietary) Limited—49%
Ucar Chrome Company (S.A.) (Proprietary) Limited
Ucar Minerals Corporation

Zimbabwe (Unconsolidated companies)
Zimbabwe Mining and Smelting Company (Private) Limited
Union Carbide Zimbabwe (Private) Limited

Information for Investors

1984 Annual Meeting

The 1984 annual meeting of stockholders will be held on Wednesday, April 25, in the Grand Ballroom of the Danbury Hilton Inn and Conference Center, 18 Old Ridgebury Road, Danbury, Connecticut 06810, beginning at 10:00 A.M.

A notice of annual meeting and proxy statement, and a proxy voting card, are mailed to each stockholder in March, together with a copy of the current annual report.

A report on the annual meeting, including a summary of proceedings and the results of voting on items of business, appears in the June quarterly report to stockholders.

General Offices

The general offices of Union Carbide Corporation are located at Old Ridgebury Road, Danbury, Connecticut 06817 (Tel. 203/794-2000).

Stock Exchanges

Union Carbide stock is traded primarily on the New York Stock Exchange (Ticker Symbol: UK). The stock is also listed on the Midwest Stock Exchange and on the Pacific Stock Exchange in the United States, and overseas on the exchanges in Amsterdam, Basel, Brussels, Frankfurt, Geneva, Lausanne, London, Paris, and Zurich.

Stock Records and Transfer

The Corporation acts as its own stock transfer agent through Shareholder Services, Union Carbide Corporation, Tarrytown, N.Y. 10591 (Tel. 914/789-3655).

Shareholder Services maintains stockholder records, transfers stock, and can answer questions regarding stockholders' accounts, including dividend reinvestment accounts. Stockholders wishing to transfer stock to someone else or to change the name on a stock certificate, should contact Shareholder Services for assistance.

The Registrar is Manufacturers Hanover Trust Company, 4 New York Plaza, New York, N.Y. 10004.

Dividend Reinvestment

Through Union Carbide's Dividend Reinvestment and Stock Purchase Plan, stockholders may purchase shares free of commissions and service charges.

A prospectus explaining the plan in detail may be obtained from Shareholder Services, Union Carbide Corporation, P.O. Box 340, Tarrytown, N.Y. 10591.

Inquiries

Inquiries about stockholder accounts and dividend reinvestment should be directed to Shareholder Services, Union Carbide Corporation, P.O. Box 300, Tarrytown, N.Y. 10591 (Tel. 914/789-3655).

Inquiries about Union Carbide as an investment or questions about the company should be directed to Investor Relations, Section D4, Union Carbide Corporation, Old Ridgebury Road, Danbury, Connecticut 06817 (Tel. 203/794-6440).

"Investor Insight," a package of financial material that recapitulates quarterly results, is available upon written request to Investor Relations at the address above.

Form 10-K and Other Reports

A Form 10-K Report for the year ended December 31, 1983 will be available in April of 1984. A copy may be obtained without charge upon written request to the Secretary of Union Carbide Corporation, Section D4, Old Ridgebury Road, Danbury, Connecticut 06817.

Quarterly financial statements are mailed to stockholders in March, June, September, and December.

Each year the Corporation publishes a list of organizations receiving charitable, educational, cultural or similar grants of $5,000 or more. This list is available to any stockholder upon written request to the Secretary at the address above.

Printed in U.S.A.

UNION CARBIDE

Union Carbide Corporation
Old Ridgebury Road
Danbury, CT 06817