

U.S. Department of Energy Energy Efficiency and Renewable Energy

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Alternative Energy Resources in New Jersey

Below is a short summary of alternative energy resources for New Jersey. For more information on each technology, visit the State Energy Alternatives <u>Technology Options</u> page.

For more information, including links to resource maps, energy statistics, and contacts for New Jersey, visit EERE's State Activities and Partnerships Web site's <u>New Jersey</u> page.

Biomass

Studies indicate that New Jersey has fair biomass resource potential. For more state-specific resource information, see <u>Biomass Feedstock</u> <u>Availability in the United States: 1999 State Level Analysis</u>.

Geothermal

New Jersey has low to moderate temperature resources that can be tapped for direct heat or for geothermal heat pumps. However, electricity generation is not possible with these resources.

Hydropower

New Jersey has a low hydropower resource as a percentage of the state's electricity generation. For additional resource information, check out the Idaho National Laboratory's <u>Virtual Hydropower Prospector (VHP</u>). VHP is a convenient geographic information system (GIS) tool designed to assist you in locating and assessing natural stream water energy resources in the United States.



http://www.eere.energy.gov/states/alternatives/resources_nj.cfm

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State Energy Alternatives: Alternative Energy Resources in New Jersey





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Solar resource for a concentrating collector

temperatures and efficiencies. These are called concentrating collectors. Typically, these collectors are on a tracker, so they always face the sun directly. Because these collectors focus the sun's rays, they only use the direct rays coming straight from the sun.

Other solar collectors are simply flat panels that can be mounted on a roof or on the ground. Called flat-plate collectors, these are typically fixed in a tilted position correlated to the latitude of the location. This allows the collector to best capture the sun. These collectors can use both the direct rays from the sun and reflected light that comes through a cloud or off the ground. Because they use all available sunlight, flat-plate collectors are the best choice for many northern states. Therefore, this site gives you two maps: one is the resource for a concentrating collector and one is the resource for a flat-plate collector.

What do the maps mean? For flat-plate collectors, New Jersey has a useful resource; southern New Jersey has the best resource. For concentrating collectors, New Jersey has a marginal resource. Although certain technologies may work in specific applications, most concentrating collectors are not effective with these resources.

Wind

Wind Powering America indicates that he highest resource areas are found along the Atlantic Ocean and Delaware Bay coastal areas, and on the ridges of western and northwestern New Jersey. In addition, small wind turbines may have applications in some areas. For more information on New Jersey's wind resources including wind maps, visit Wind Powering America's <u>State Wind Activities</u>.

Energy Efficiency

Energy efficiency means doing the same work, or more, and enjoying the same comfort level with less energy. Consequently, energy efficiency can be considered part of your state's energy resource base — a demand side resource. Unlike energy conservation, which is rooted in behavior, energy efficiency is technology-based. This means the savings may be predicted by engineering calculations, and they are sustained over time. Examples of energy efficiency measures and equipment include compact fluorescent light bulbs (CFLs), and high efficiency air conditioners, refrigerators, boilers, and chillers.

State Energy Alternatives: Alternative Energy Resources in New Jersey

Saving energy through efficiency is less expensive than building new power plants. Utilities can plan for, invest in, and add up technologybased energy efficiency measures and, as a consequence, defer or avoid the need to build a new power plant. In this way, Austin, Texas, aggregated enough energy savings to offset the need for a planned 450megawatt coal-fired power plant. Austin achieved these savings during a decade when the local economy grew by 46% and the population doubled. In addition, the savings from energy efficiency are significantly greater than one might expect, because no energy is needed to generate, transmit, distribute, and store energy before it reaches the end user.

Reduced fuel use, and the resulting decreased pollution, provide shortand long-term economic and health benefits.

For more information on current state policies related to energy efficiency, visit the Alliance to Save Energy's <u>State Energy Efficiency Index</u>.

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