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Alternative Energy Resources in South Carolina

Below is a short summary of alternative energy resources for South Carolina. For more information on each technology, visit the State Energy Alternatives Technology Options page.

For more information, including links to resource maps, energy statistics, and contacts for South Carolina, visit EERE's State Activities and Partnerships Web site's South Carolina page.

Biomass

Studies indicate that South Carolina has excellent biomass resource potential. For more state-specific resource information, see Biomass Feedstock Availability in the United States: 1999 State Level Analysis.

Geothermal

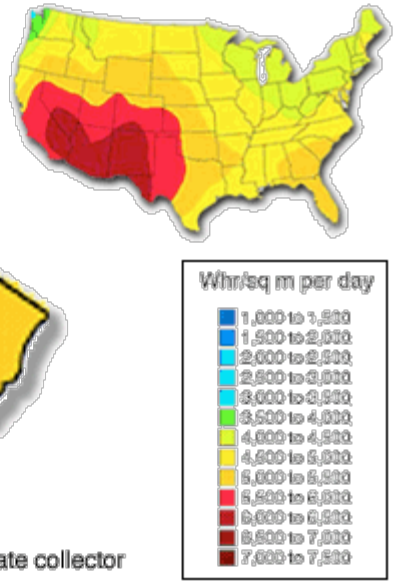
South Carolina has low to moderate temperature resources that can be tapped for direct heat or for geothermal heat pumps. However, electricity generation is not possible with these resources.

Hydropower

South Carolina has a moderate hydropower resource as a percentage of the state's electricity generation. For additional resource information, check out the Idaho National Laboratory's Virtual Hydropower Prospector (VHP). 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.

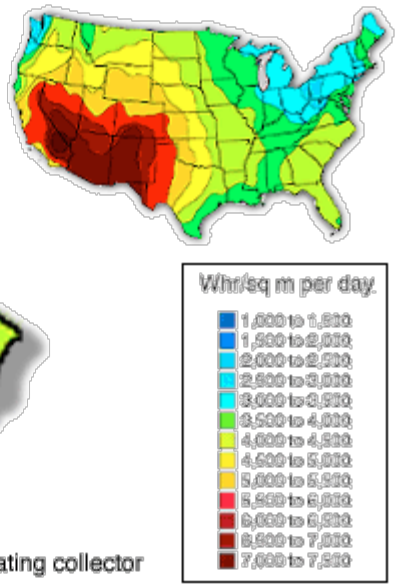
Solar

To accurately portray your state's solar resource, we need two maps. That is because different collector types use the sun in different ways. Collectors that focus the sun (like



Solar resource for a flat-plate collector

a magnifying glass) can reach high



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, South Carolina has good, useful resources throughout the state. For concentrating collectors, South Carolina could pursue some types of technologies, but large-scale thermal electricity systems are not effective with this resource.

Wind

Current resources indicate that South Carolina may have sufficient wind resources to use large-scale wind turbines. In addition, small wind turbines may have applications in some areas. For more information on South Carolina's wind resource, visit Wind Powering America's U.S. Wind Resource Map.

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.

Saving energy through efficiency is less expensive than building new power plants. Utilities can plan for, invest in, and add up technology-based 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 450-megawatt 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 short- and long-term economic and health benefits.

For more information on current state policies related to energy efficiency, visit the Alliance to Save Energy's State Energy Efficiency Policies page.

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