

CLIMATE ISSUES

Renewables: Is there potential in Mississippi?

Renewable energy is a hot topic in the media. Southeastern states have received negative publicity because of their lack of support for legislation mandating renewables.

Renewable energy effectively uses natural resources such as sunlight, wind, rain, tides and geothermal heat, which are naturally replenished.

Most renewables have little to no emissions, making them favorable electric energy sources from an environmental standpoint; however, the major problem with renewable energy sources is their small output for electric energy generation.

“When our wholesale energy providers evaluate renewables for electric energy production, they find a lot of issues with them, including high costs for construction, availability of the natural resources in the Southeast and very small production potential,” General Manager Wayne Henson said.

Here is a brief look at some of the renewable resources and their limitations in the South, specifically Mississippi.



Hydroelectric power releases water from a reservoir through generators. Hydropower is used in the Southeast for generation, but for the most part, it is a mature resource, meaning most waterways suitable for hydropower are being used. Recently, low water tables and below normal rainfall patterns have limited the output from some hydroelectric facilities.



Solar power is converting energy from the sun's radiation into heat and electricity. The southeastern United States has too much cloud coverage for solar power on a massive commercially feasible scale, according to the Energy Information Administration. There is potential for solar power on a residential or small commercial scale, but the cost is very prohibitive, and the return on investment is very lengthy.



Wind as a generation resource in the Southeast is simply not possible. There is not enough sustained wind of the needed velocity to produce electric energy. Wind is available in the Upper Midwestern United States; however, wind isn't dependable because it does not blow at a constant velocity at a specific time. Electric utilities must have a back up resource, such as natural gas units, to generate electricity when the wind is not blowing or when it stops suddenly.



Biomass is the process of producing fuels or energy from renewable organic matter such as plants or animal wastes; fuel produced by this process is sometimes used to generate electricity. There is some potential for producing electric energy from wood or wood waste and from landfills in Mississippi; however, biomass and biofuels have emissions issues. The Environmental Protection Agency's Landfill Methane Outreach Program (LMOP) states that there are 12 candidate landfills in Mississippi that could produce a mere 30 megawatts of electricity. (By comparison, one coal unit usually produces 600 megawatts.) The cost of building the landfill facilities is expensive, making biomass generation from methane gas a poor choice.



Geothermal power is energy generated by heat stored beneath the Earth's surface or the collection of absorbed heat in the atmosphere and oceans. Again, the southeastern United States has little to no geothermal capacity on a massive scale for energy production.

By Lydia Walters