Charting a New Path for Mississippi's Electricity Generation and Use

Mississippi's energy future is at a crossroads

One path leads to increased dependency on fossil fuels—threatening our economy and fueling global warming. The other leads to a new, smarter energy future for Mississippi. Investing in clean energy alternatives—like solar and wind power—can create and protect jobs in Mississippi, save families and businesses money, and make America more energy independent. Clean energy is also the most effective solution to the threat of global warming. We can start making progress right away using proven technology, and then draw on American innovation to take us the rest of the way with new technologies.

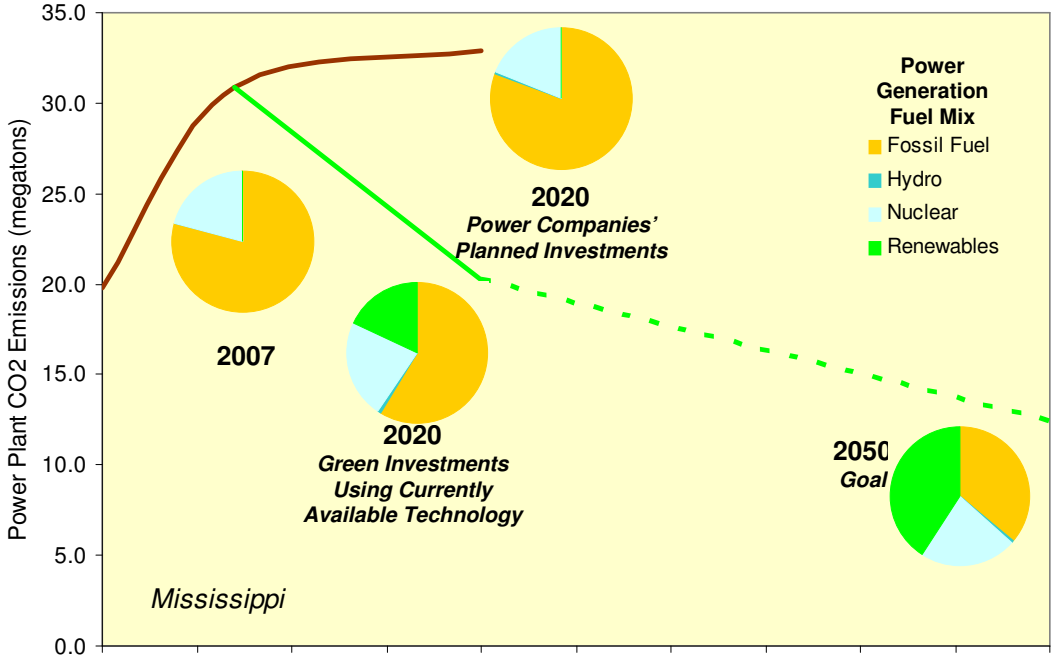
How does Mississippi generate electricity today?

In 2007, electric power generated in Mississippi primarily came from coal (28.1 percent), gas (41.3 percent), and nuclear (20.9 percent). Most utilities intend to continue relying heavily on fossil fuels in the coming decade. Mississippi power companies plan to increase the energy generation from gas by 13.1 percent. Less than 0.1 percent of electricity generated in Mississippi is expected to come from renewable sources like wind, solar, geothermal, and biomass under current plans.

Mississippi has a choice to invest in a cleaner energy future

Mississippi can achieve a new energy future by making better investments as utilities replace increasingly aged infrastructure and expand capacity. An important first step is for Mississippi to generate at least 20 percent of electricity from renewable sources by 2020, a goal readily achievable with today's technology. Continuing to convert 15 percent of the state's energy portfolio to renewable energy sources each decade could yield an energy profile of at least 65 percent renewables by 2050.

Mississippi can also benefit from improved energy efficiency. Technologies are available that could reduce demand nationally by 20 to 30 percent over the next decade. Innovations in energy efficiency should allow us to keep demand constant after 2020, even as the population grows.



About the chart: 2000, 2007 and 2020 Power Companies' Planned Investments from CARMA 1.0 (www.CARMA.org). The 2020 Green Investments projection assumes that, using currently available technology, Mississippi makes (1) improvements in efficiency to reduce overall demand by 25 percent and (2) shifts away from fossil fuels so that 20 percent of power generation is from renewable energy sources. The 2050 Goal assumes (1) hydro and nuclear are unchanged, (2) continued efficiency improvements keep total demand flat, and (3) renewable energy replaces at least 65 percent of power generation formerly done through fossil fuel burning. Note that the projection of future CO_2 emissions from fossil fuels assumes no investment in carbon capture and storage.

Making a Difference in Mississippi

Mississippi is in a great position to take advantage of biomass energy. Biomass energy is the production of clean, renewable, carbon neutral energy from waste materials and by-products. Similar to ethanol and biodiesel, biomass can be used to produce electricity. Sumesh Arora, director of the Strategic Biomass Initiative, believes there is a bright future for biomass in the state. "Mississippi is rich in biomass materials; the state is mostly agriculture or forest land, both of which can provide really huge amounts of biomass."

There are currently 13 active projects in the state utilizing biomass energy, and a number of other projects are in the works. Mississippi also hosts the annual Southern Bioproducts & Renewable Energy Conference.

Sources:
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http://deltafarmpress.com/news/060719-fuels-biomass/

Making a dent in global warming pollution

Simply by shifting to renewable energy sources and improving energy efficiency over the next decade or so, Mississippi can reduce its future carbon dioxide (CO_2) emissions from electricity generation by 39 percent compared to the business-as-usual path that utilities are following now.

Given that 38 percent of Mississippi's CO_2 emissions come from electricity generation, diversifying and updating our power sources is critical for cutting the state's total global warming pollution.

Increasing Mississippi's energy and economic security

Investing in renewable energy sources will reduce Mississippi's dependence on fossil fuels and at the same time create new green collar jobs. A new energy future in Mississippi could include:

Expanded solar power. Mississippi has enough solar resources to produce 4,500 to 5,000 Whr per square meter using photovoltaic systems and 3,500 to 4,500 Whr per square meter using concentrating solar power systems. This means that devoting just 1 square mile in Mississippi to solar power can provide enough electricity for about 1,100 households each year.

Expanded wind power. Mississippi is currently ranked 42nd for wind power, with MW of existing electricity generation capacity. The American Wind Energy Association ranks Mississippi 48th in terms of its future wind potential.

Biomass power. Mississippi has 17.9 million dry tons of biomass available each year that could be used to generate about 3,600 MW of electricity.

How does Mississippi use electricity?

Mississippi's energy is used to power:

- homes (39 percent),
- businesses (28 percent), and
- industry (33 percent).

Per capita residential electricity use is 6,304 kilowatt hours per year, 39 percent greater than the national average.

References and Additional Reading:

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For more information, visit www.nwf.org/globalwarming.