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

New Mexico'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 New Mexico. Investing in clean energy alternatives—like solar and wind power—can create and protect jobs in New Mexico, 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.

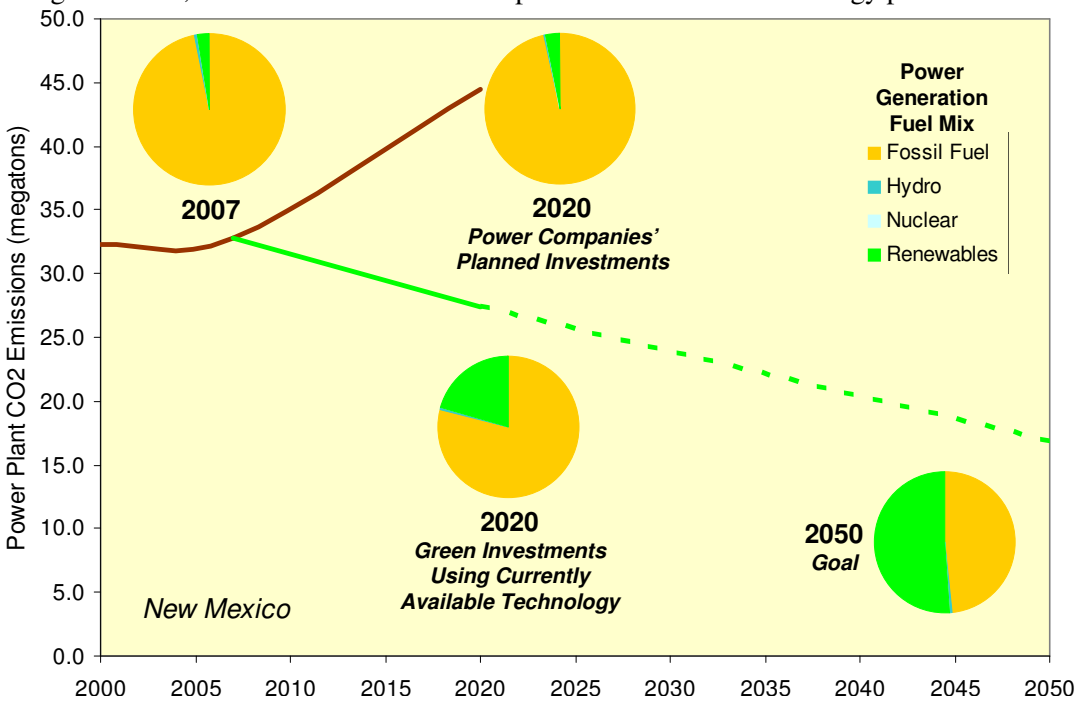
How does New Mexico generate electricity today?

In 2007, electric power generated in New Mexico primarily came from coal (83.1 percent), and gas (12.5 percent). Most utilities intend to continue relying heavily on fossil fuels in the coming decade. New Mexico power companies plan to increase the energy generation from coal by 33.2 percent, gas by 30.4 percent. Only about 2.5 percent of electricity generated in New Mexico is expected to come from renewable sources like wind, solar, geothermal, and biomass under current plans.

New Mexico has a choice to invest in a cleaner energy future

New Mexico 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 New Mexico 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.

New Mexico 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, New Mexico 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 New Mexico

Solar power has a bright future in New Mexico. Four of the major utilities in New Mexico are planning to build a large solar farm that should be able to power up to 50,000 homes. The project was spurred by the state-mandated goal to produce 20 percent of it electricity through renewale sources by 2020. Projects like this have increased interest in New Mexico from manufacturers of solar equipment. In March 2008, the ground breaking of Schott AAG's newest facility took place near Albuquerque. The plant will produce photovoltaic panels and receivers for solar power plants. This new facility will initially provide 350 jobs, and expects to grow as the market for solar power grows. The plant could employ up to 1,500 people in the near future.

Sources:
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http://albuquerque.bizjournals.com/albuquerque/stories/2008/06/30/daily14.html

Making a dent in global warming pollution

Simply by shifting to renewable energy sources and improving energy efficiency over the next decade or so, New Mexico can reduce its future carbon dioxide (CO_2) emissions from electricity generation by 38 percent compared to the business-as-usual path that utilities are following now.

Given that 52 percent of New Mexico'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 New Mexico's energy and economic security

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

Expanded solar power. New Mexico has enough solar resources to produce 5,500 to 6,500 Whr per square meter using photovoltaic systems and 5,500 to 7,000 Whr per square meter using concentrating solar power systems. This means that devoting just 1 square mile in New Mexico to solar power can provide enough electricity for about 1,600 households each year.

Expanded wind power. New Mexico is currently ranked 11th for wind power, with 496 MW of existing electricity generation capacity and 100 MW under construction. The American Wind Energy Association ranks New Mexico 12th in terms of its future wind potential, with 49,700 MW of potential capacity.

Biomass power. New Mexico has 1.1 million dry tons of biomass available each year that could be used to generate about 200 MW of electricity.

Geothermal power. New Mexico has 1 geothermal project under development, with the potential to produce as much as 10 MW of new power capacity.

New jobs. Committing to a 30 percent growth in solar energy use in the United States will bring 577 jobs and $467 million investment to New Mexico.

How does New Mexico use electricity?

New Mexico's energy is used to power:

- homes (28 percent),
- businesses (40 percent), and
- industry (32 percent).

Per capita residential electricity use is 3,094 kilowatt hours per year, 32 percent less than the national average.

References and Additional Reading:

American Council for an Energy-Efficiency Economy, www.aceee.org.
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For more information, visit www.nwf.org/globalwarming.