

Nuclear Energy in Michigan

July 2007

Michigan's Electricity Generation

Nuclear	25.7%
Coal	60.6%
Oil	0.3%
Gas	10.7%
Hydro	0.1%
Renewable and Other	2.5%

Source: EIA, 2006



Nuclear Power Plants in the State

	City	Capacity (MW)	2006 Generation (MWh)	2004-2006 3-year Average Capacity Factor (%)
Donald C. Cook 1	Bridgman	1,016	7,296,160	90.5
Donald C. Cook 2	Bridgman	1,077	8,388,758	90.9
Fermi 2	Newport	1,111	7,477,386	84.5
Palisades	Covert	775	5,903,861	87.8
Total		3,982	29,066,165	88.4

Source: Energy Information Administration

Clean Air Benefits

Economic Growth and Emission-Free Electricity
Michigan has experienced an average growth in Gross State Product of 1.0 percent per year over the past 5 years. To keep Michigan's economy growing, the state will need new sources of power. At the same time, parts of Michigan must deal with poor air quality. Emission-free sources, like nuclear power plants, supply safe, reliable and affordable power to meet the state's economic growth without polluting the air.

Status of the State's Air Quality

Counties in non-attainment for EPA's new 8-hour ozone standard surround Detroit-Ann Arbor. Ozone contributes to smog, which can lead to asthma attacks and respiratory impairment in young children and the elderly. Michigan's nuclear power plants supply emission-free power to these cities and help improve the air quality.

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Nuclear Energy Prevents Emissions

Generating electricity with nuclear energy prevents the emission of pollutants like sulfur dioxide (SO₂) and nitrogen oxides (NO_x) and greenhouse gases like CO₂ associated with burning fossil fuels. The nuclear power plants in Michigan avoided the emission of 181,200 tons of SO₂, 49,200 tons of NO_x and 27.5 million metric tons of CO₂ in the year 2006. (Source: NEI/EPA) Emissions of SO₂ lead to the formation of acid rain. NO_x is a key precursor of both ground level ozone and smog. Greenhouse gases, like CO₂, contribute to global warming.

For perspective, the 49,200 tons of NO_x avoided by the nuclear power plants in Michigan is the amount of NO_x released in a year by 2.6 million passenger cars. There are

4.8 million cars registered in the state of Michigan.

Potential Uprates at Nuclear Plants

With additional capital investment, more emission-free power can be generated at most existing nuclear power plants. This process of increasing power output capacity is called an "uprate." According to an analysis performed for the U.S. Department of Energy, uprates at Michigan's nuclear power plants could supply seven percent more electricity and avoid annual emissions of 7,800 tons of SO₂, 1,200 tons of NO_x and 1.9 million metric tons of CO₂.

This fact sheet is also available at www.nei.org, where it is updated periodically.