

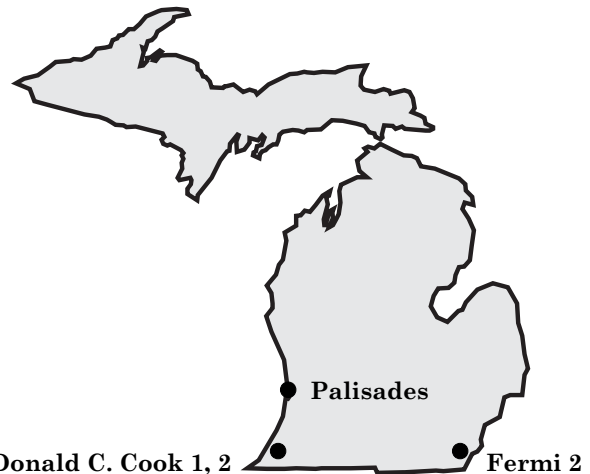
Nuclear Energy in Michigan

July 2009

Michigan's Electricity Generation

Nuclear	27.4%
Coal	61.1%
Oil	0.3%
Gas	8.5%
Hydro	0.3%
Renewable and Other	2.4%

Source: U.S. Energy Information Administration (EIA), 2008



Donald C. Cook 1, 2 Palisades Fermi 2

Nuclear Power Plants in the State

	City	Capacity (MW)	2008 Generation (MWh)	2006-2008 3-year Average Capacity Factor (%)
Donald C. Cook 1	Bridgman	1,009	5,639,686	82.4
Donald C. Cook 2	Bridgman	1,060	9,396,600	92.0
Fermi 2	Newport	1,122	9,613,406	86.1
Palisades	Covert	778	6,834,736	90.7
Total		3,969	31,484,428	87.8

Source: EIA

Clean Air and Economic Benefits

Economic Growth and Emission-Free Electricity
Michigan has experienced an average growth in gross state product of -0.7 percent per year over the past five years. To get 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 nonattainment for the U.S. Environmental Protection Agency's new eight-hour ozone standard make up the Detroit-Ann Arbor area. 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.



NUCLEAR
ENERGY
INSTITUTE

SUITE 400
1776 I STREET, NW
WASHINGTON, DC
20006-3708
202.739.8000
www.nei.org

Nuclear Energy in Michigan

Page 2 of 2 – July 2009

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 154,000 tons of SO₂, 47,200 tons of NO_x and 29.9 million metric tons of CO₂ in the year 2008 (*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 47,200 tons of NO_x avoided by the nuclear power plants in Michigan is the amount of NO_x released in a year by 2.5 million passenger cars. There are 4.9 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 7 percent more electricity and avoid annual emissions of 5,900 tons of SO₂, 1,500 tons of NO_x and 1.8 million metric tons of CO₂.

New Nuclear Plants

The U.S. Energy Information Administration predicts that demand for energy will grow 21 percent by the year 2030. To meet this growing electricity demand in a manner that is cost effective and protects our air quality, energy companies are planning to build nuclear power plants to provide affordable electricity to consumers and prevent greenhouse gases. In Michigan, Detroit Edison has filed a license application with the U.S. Nuclear Regulatory Commission to build one reactor in Fermi. Upon completion, the plant will provide enough electricity to serve 1.2 million homes annually.

Economic Growth & Job Creation

Nuclear energy is one of the few bright spots in the U.S. economy because it creates more high-paying jobs than other sources of electricity and helps stimulate the economy. On average, a nuclear power plant creates 1,400-1,800 high-paying jobs during construction, with peak employment estimated as high as 2,400 jobs during that period, and yields 400-700 jobs during the operation of the plant. Additionally, the average nuclear plant generates approximately \$430 million a year in total output for the local community and nearly \$40 million per year in total labor income.

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