

Nuclear Energy in Missouri

July 2007

Missouri's Electricity Generation

Nuclear	11.0%
Coal	84.4%
Oil	0.1%
Gas	4.0%
Hydro	0.4%
Renewable and Other	0.1%

Source: EIA, 2006



Nuclear Power Plants in the State

City	Capacity (MW)	2006 Generation (MWh)	2004-2006 3-year Average Capacity Factor (%)
Callaway 1 Fulton	1,190	10,116,660	84.2

Source: Energy Information Administration

Clean Air Benefits

Economic Growth and Emission-Free Electricity
Missouri has experienced an average growth in Gross State Product of 1.6 percent per year over the past 5 years. To keep Missouri's economy growing, the state will need new sources of power. At the same time, parts of Missouri 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 St. Louis. Ozone contributes to smog, which can lead to asthma attacks and respiratory impairment in young children and the elderly. Callaway nuclear power plant supplies emission-free power to this city and helps improve the air quality.

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

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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. Callaway avoided the emission of 34,200 tons of SO₂, 12,400 tons of NO_x and 10.3 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 12,40 tons of NO_x avoided by the nuclear power plants in Missouri is the amount of NO_x released in a

year by 650,000 passenger cars. There are 2.5 million cars registered in the state of Missouri.

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, an uprate at Callaway could supply five percent more electricity and avoid annual emissions of 2,000 tons of SO₂, 300 tons of NO_x and 410,000 metric tons of CO₂.

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