

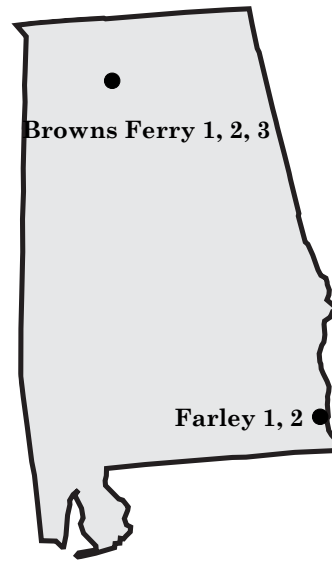
## Nuclear Energy in Alabama

July 2007

### Alabama's Electricity Generation

Nuclear	22.6%
Coal	55.4%
Oil	0.1%
Gas	13.8%
Hydro	5.3%
Renewable and Other	2.8%

Source: EIA, 2006



### Nuclear Power Plants in the State

	City	Capacity (MW)	2006 Generation (MWh)	2004-2006 3-year Average Capacity Factor (%)
Browns Ferry 1*	Athens	1,065	0	0.0
Browns Ferry 2	Athens	1,118	9,232,644	94.6
Browns Ferry 3	Athens	1,114	8,638,830	90.4
Joseph M. Farley 1	Houston County	851	6,419,323	90.4
Joseph M. Farley 2	Houston County	860	7,620,299	91.4
<b>Total</b>		<b>5,008</b>	<b>31,911,096</b>	<b>73.4</b>

Source: Energy Information Administration

\*Note: Browns Ferry 1 was restarted in May 2007

### Clean Air Benefits

#### Economic Growth and Emission-Free Electricity

Alabama has experienced average growth in Gross State Product of 2.9 percent per year over the past 5 years. To keep Alabama's economy growing, the state will need new sources of power. At the same time, parts of Alabama must deal with poor air quality. Electricity from emission-free sources, like nuclear power plants, supplies 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 Birmingham and Chattanooga (Jackson, Jefferson, Shelby and Walker). Ozone contributes to smog, which can lead to asthma attacks and respiratory impairment in young children and the elderly. The Browns Ferry and Farley nuclear power plants supply emission-free power to Birmingham and helps improve the air quality.

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# **Nuclear Energy in Alabama**

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## ***Nuclear Energy Prevents Emissions***

Generating electricity with nuclear energy prevents the emission of pollutants like sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) and greenhouse gases like CO<sub>2</sub> associated with burning fossil fuels. The nuclear power plants in Alabama avoided the emission of 152,000 tons of SO<sub>2</sub>, 50,400 tons of NO<sub>x</sub> and 29.3 million metric tons of CO<sub>2</sub> in the year 2006. (*Source: NEI/EPA*) Emissions of SO<sub>2</sub> lead to the formation of acid rain. NO<sub>x</sub> is a key precursor of both ground level ozone and smog. Greenhouse gases, like CO<sub>2</sub>, contribute to global warming.

For perspective, 50,400 tons of NO<sub>x</sub>, which is a precursor to ground level ozone, is the amount released every year into the air by 2.6 million

passenger cars. There are only 1.8 million cars registered in the state of Alabama.

## ***Potential Uprates at Nuclear Plants***

With additional capital investment, more power can be generated at most existing nuclear power plants. This process of increasing power output is called an "uprate." According to analysis performed for the U.S. Department of Energy, uprates at Alabama's nuclear power plants and the planned restart of Browns Ferry Unit 1, could supply thirty-six percent more electricity, and avoid annual emissions of 34,900 tons of SO<sub>2</sub>, 8,400 tons of NO<sub>x</sub> and 9.0 million metric tons of CO<sub>2</sub>.

*This fact sheet is also available at [www.nei.org](http://www.nei.org), where it is updated periodically.*