FLORIDA AND NUCLEAR ENERGY

Key Facts

- Florida's four nuclear power reactors generate **12 percent** of the state's electricity while emitting no greenhouse gases
- Nuclear energy is Florida’s **most reliable source**, producing electricity around-the-clock
- Florida’s nuclear energy facilities employ more than **1,600 workers**

Infrastructure for Clean, Reliable Electricity

Florida is home to four nuclear power reactors that produce **91 percent of the state's emission-free electricity**. These nuclear energy facilities protect air quality and public health. Nuclear energy generates nearly 20 percent of our nation's electricity and provides more than 55 percent of our emission-free power, making it an essential partner to renewable energy.

Nuclear is America’s most reliable source of electricity. Florida nuclear plants produced power more than 93 percent of the time over the past three years, ensuring power is available whenever it is needed. Nuclear energy is a vital part of U.S. infrastructure that keeps electricity prices and grids stable. It ensures that consumers are not overly reliant on just one or two sources of electricity.

Sources of Electricity in Florida

<table>
<thead>
<tr>
<th>Facility</th>
<th>Company</th>
<th>Location</th>
<th>Capacity (MW)</th>
<th>Capacity Factor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>St Lucie 1</td>
<td>FPL/NextEra</td>
<td>Hutchinson Island</td>
<td>981</td>
<td>90.5</td>
</tr>
<tr>
<td>St. Lucie 2</td>
<td>FPL/NextEra</td>
<td>Hutchinson Island</td>
<td>987</td>
<td>93.4</td>
</tr>
<tr>
<td>Turkey Point 3</td>
<td>FPL/NextEra</td>
<td>Florida City</td>
<td>802</td>
<td>93.8</td>
</tr>
<tr>
<td>Turkey Point 4</td>
<td>FPL/NextEra</td>
<td>Florida City</td>
<td>802</td>
<td>96.7</td>
</tr>
</tbody>
</table>

**State Totals**: 3,572 (93.4)

Supporting Jobs and the Economy

- Nuclear energy facilities in Florida employ more than **1,600 workers**. The facilities pay more than $70 million in state and local taxes.
- American innovators are developing new nuclear technologies that have the potential to create additional jobs and bring in export dollars.

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Other includes petroleum, biomass and geothermal along with hydro, wind and solar if they account for less than 3% of electricity generated.
Comparison of Life Cycle Emissions
Tons of Carbon Dioxide Equivalent per Gigawatt-Hour

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>979</td>
</tr>
<tr>
<td>Gas</td>
<td>462</td>
</tr>
<tr>
<td>Biomass</td>
<td>253</td>
</tr>
<tr>
<td>Solar PV</td>
<td>53</td>
</tr>
<tr>
<td>Geothermal</td>
<td>42</td>
</tr>
<tr>
<td>Hydro</td>
<td>26</td>
</tr>
<tr>
<td>Nuclear</td>
<td>13</td>
</tr>
<tr>
<td>Onshore Wind</td>
<td>12</td>
</tr>
</tbody>
</table>

Source: Annex III: Technology-specific cost and performance parameters. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Edenhofer, O., et.al, Cambridge University Press, 2014. The numbers shown are the median of studies examined by the IPCC in grams CO2e per kWh and are converted to tons CO2e per GWh.

Managing Used Nuclear Fuel

- Each nuclear energy facility stores used fuel safely and securely on-site, awaiting consolidated storage and disposal by the U.S. Department of Energy. As of 2016, Florida has contributed approximately $903.6 million to the federal Nuclear Waste Fund.
- There are 3,420 metric tons of used nuclear fuel in storage at nuclear plant sites in Florida.
- All the used nuclear fuel produced by the nuclear energy industry over 60 years—if stacked end to end—would cover an area the size of a football field to a depth of less than 10 yards.

Nuclear Is Clean Air Energy

- The use of nuclear energy in 2018 prevented the emission of 528 million metric tons of carbon dioxide. This equals the amount released in a year by 112 million passenger cars.
- Nuclear energy is the only clean air electricity source that can produce large amounts of electricity around-the-clock.
- Numerous studies demonstrate that nuclear energy’s life cycle greenhouse gas emissions are comparable to renewable energy, such as wind and hydropower, and far less than coal or natural gas-fueled power plants.
- The nation’s nuclear energy facilities also prevented the emission of 346,485 short tons of sulfur dioxide and 286,516 short tons of nitrogen oxide in 2018.

Emissions Prevented in Florida | Quantity Prevented in 2018
------------------------------|---------------------
Sulfur dioxide (SO2)          | 4,442 short tons
Nitrogen oxide (NOX)          | 5,333 short tons
Carbon dioxide (CO2)          | 14.86 million metric tons

Source: U.S. Environmental Protection Agency and U.S. Energy Information Association

Committed to Safety

- America's nuclear energy facilities are among the safest and most secure industrial facilities.
- The independent U.S. Nuclear Regulatory Commission regulates and monitors plant performance in three areas: reactor safety, radiation safety and security.
- After more than 60 years of commercial nuclear energy production in the United States and more than 4,000 reactor years of operation, there have been no radiation-related health effects linked to the operation of nuclear energy facilities.

Used fuel at nuclear energy facilities is cooled in secure steel-lined concrete pools filled with water.

After the cooling period, nuclear energy facilities store used fuel safely on-site in steel and concrete vaults.

Source: Gutherman Technical Services