fact sheet

NORTH CAROLINA AND NUCLEAR ENERGY

Key Facts

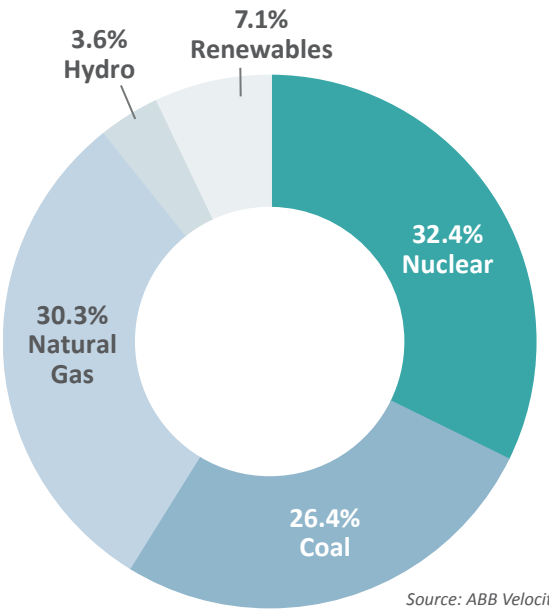
- North Carolina's five nuclear power reactors generate **32.4 percent** of the state's electricity while emitting no greenhouse gases
- Nuclear energy is North Carolina's **most reliable power source**, producing electricity around-the-clock
- North Carolina's nuclear energy facilities employ more than **2,600 workers**

Infrastructure for Clean, Reliable Electricity

North Carolina is home to five nuclear power reactors that produce 79.7 percent of the state's emission-free electricity. These nuclear energy facilities protect air quality and public health. Nuclear energy generates 20 percent of our nation's electricity and provides 56 percent of our emission-free power, making it an essential partner for renewable energy.

Nuclear is America's most reliable source of electricity. North Carolina nuclear plants produced power more than 94 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 North Carolina



Source: ABB Velocity Suite / Energy Information Administration

Nuclear Energy Facilities

Facility	Company	Location	Capacity (MW)	Capacity Factor (%)[1]
1 Brunswick 1	Duke Energy	Southport	938	96
2 Brunswick 2	Duke Energy	Southport	932	91.2
3 McGuire 1	Duke Energy	Huntersville	1,158	97
4 McGuire 2	Duke Energy	Huntersville	1,158	94.8
5 Harris	Duke Energy	New Hill	928	94.2
		State Totals	**5,114**	**94.6**

[1] *Capacity factor three-year average is electricity produced compared to the maximum that could be produced.*

Supporting Jobs and the Economy

- Nuclear energy facilities in North Carolina employ more than 2,600 workers with an annual payroll of $203 million. The facilities pay more than $14 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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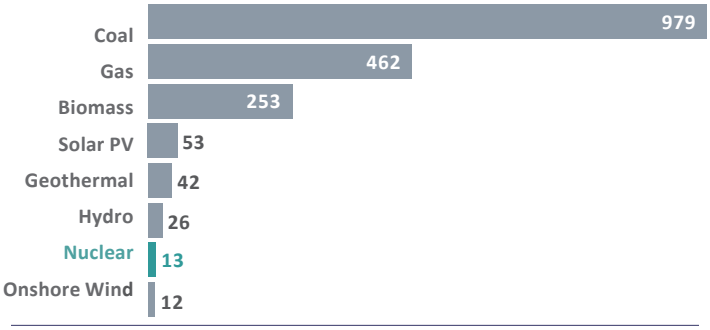
Comparison of Life Cycle Emissions

Tons of Carbon Dioxide Equivalent per Gigawatt-Hour



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.

Nuclear Is Clean Air Energy

- The use of nuclear energy in 2017 prevented the emission of 547 million metric tons of carbon dioxide. This equals the amount released in a year by 117 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 373,563 short tons of sulfur dioxide and 315,042 short tons of nitrogen oxide in 2017.

Emissions Prevented in North Carolina	Quantity Prevented in 2017
Sulfur dioxide (SO_2)	6,826 short tons
Nitrogen oxide (NO_X)	13,697 short tons
Carbon dioxide (CO_2)	26.16 million metric tons

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 a half-century 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.

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, North Carolina has contributed approximately $1.05 billion to the federal Nuclear Waste Fund.
- There are 3,869 metric tons of used nuclear fuel in storage at nuclear plant sites in North Carolina.
- 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.

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

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