

Vital Signs: Economic and Social Indicators for New Hampshire

# NH Vital Signs Readings

## Energy

### **Generation in New Hampshire**

Over half of the electricity generated in New Hampshire is produced from nuclear power.

#### Where does electricity come from?

On a large scale, electricity must be produced in a power plant. Power plants convert mechanical energy to electrical energy. Electricity must be converted from a primary source such as coal, natural gas, nuclear, wind, or solar.

Simplified, electricity is produced by burning a fuel, such as coal or natural gas, which boils water, converting it to steam, which then turns a turbine blade, and produces a current. That current passes through transmission and distribution lines and eventually makes its way to homes and businesses.



Source: www.c2es.org/technology/overview/electricity

#### Utilities may use multiple fuel sources to

produce electricity. Depending on economics and the relative price of source fuels, the fuel source can change over time. Other factors may affect the use of specific source fuels, such as a mandate to produce power from renewable sources like solar, wind, or biomass.

#### **Source Fuels for Producing Electricity**

In 2014, more than half the electricity produced in New Hampshire was from nuclear power. New Hampshire's share of total electricity generation from nuclear power has held steady since Seabrook Station went on line in 1990 and is one of the highest shares in the U.S.<sup>1</sup> Nationally, nuclear power currently accounts for 19 percent of electricity generation.

As a fuel source, natural gas has grown from less than one percent of fuel used for generation in New Hampshire to the second largest share. Natural gas was used for nearly one-quarter of total generation in 2014. In some years, natural gas fueled nearly 30 percent of electricity generation.

<sup>1</sup> U.S. Energy Information Administration, Form EIA-860, "Annual Electric Generator Report." < www.eia.gov/electricity/data/state/>.

The share of electricity generated using natural gas peaked at 36 percent in 2012. The drop to around 20 percent in 2014 may have been in response to the price of natural gas relative to other fuel sources at that time.

Other fuel sources, such as coal and hydro, each accounted for seven percent of total 2014 generation. Coal fueled 39 percent of electricity generation. At one time, coal was the second largest fuel source to generate electricity, but that was before Seabrook Station went online. From 1990 to 2000, hydro power showed promise, but was rarely used for more than 10 percent of generation. Renewables, such as wood and wind, together accounted for another nine percent of generation.

Once used in oil-fired generation plants at the Schiller and Newington stations, use of petroleum fuel has declined to less than one percent of electricity generation. These plants, fearing the volatility in oil prices, switched over to natural gas. In 1990, nearly 20 percent of generation was petroleum-based generation at Schiller and Newington Stations, but the share declined to less than ten percent due to relatively lower natural gas prices.

Renewable energy sources, which include wind, wood, biomass, and solar, accounted for only 8.6 percent of the generation in 2014, but are a growing part of the fuel source mix.

Michael Argiropolis



#### Fuel Source Share of Electricity Generation in NH

Source: U.S. Energy Information Administration, 2014

*Vital Signs Readings* discuss topics relevant to one of the 18 sections of *Vital Signs*, a compilation of social and economic indicators for New Hampshire. *Vital Signs* may be accessed at <u>www.nhes.nh.gov/elmi/products/vs.htm</u>.