

The New England electric grid is an 8,000-mile high-voltage transmission system that connects electric utilities, publicly-owned electric companies, power generators, suppliers, alternative resources, and end users in the six-state wholesale electricity marketplace. This is a brief profile of the electric grid and wholesale markets serving New Hampshire based on information from New England's regional system planning process and wholesale market reports.

Introduction

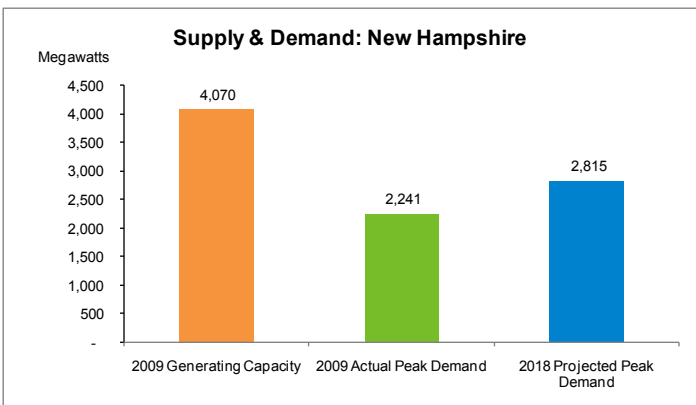
New Hampshire represents approximately 9% of the population in New England and 9% of the region's total electricity consumption. The state's demand for electricity is highly concentrated in the southern and seacoast areas.

Generators in the state generally produce more electricity than the state consumes each year and the surplus is sold into the region's wholesale electricity market. Transmission, generation and demand resources are being added to the system to ensure the reliability of the system. The state is promoting new transmission to access renewable resources in the North Country.

Demand resources (DR) are customer efforts to reduce electricity consumption through conservation and energy efficiency (EE). DR is treated as a resource in New England's wholesale electricity markets. ●●●

Growth in Demand

In the 2009 Regional System Plan, ISO New England (ISO) forecasts the state's overall electricity demand to grow at a rate of 1.2% annually over the next decade, above the 0.9% rate projected for New England. The ISO forecasts the state's peak (summer) demand to grow 1.6% annually over the next decade, above the 1.2% rate projected for the region.



Updating the forecast: The ISO issues a new 10-year forecast each year based on the latest economic data. The 2009 forecast shows that New England's demand for electricity fell in 2008 compared with 2007, and future demand growth is expected to slow as a result of current economic conditions.

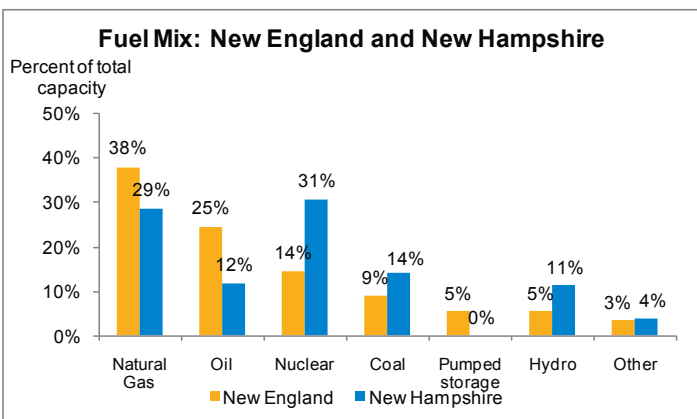
New Hampshire has been proactive in developing programs and initiatives to promote EE and reduce the growth in electricity use, including peak demand. ●●●

Generating Resources

The total capacity of generating plants located in New Hampshire is approximately 4,100 megawatts (MW). This is 13% of the total capacity in New England. Generator availability has increased systemwide in New England since the start of competitive markets, from 81% in 1999 to 86% in 2008. At any given time, however, individual generators may not operate due to planned or unexpected outages, environmental restrictions, or other reasons. Some resources do not operate because their offers to sell electricity in the wholesale market are above the market-clearing price. In New Hampshire, generators are owned and operated by private generation companies and electric and municipal utilities. ●●●

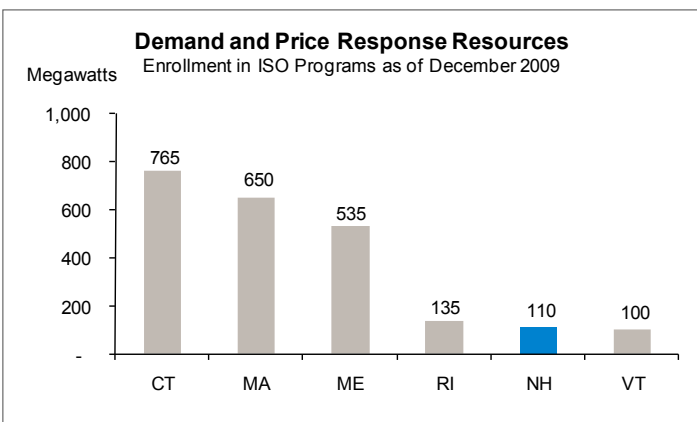
Fuel Mix

Natural gas and oil are the primary fuels for more than 60% of the existing generating capacity in New England and more than 40% of the capacity in New Hampshire. Nuclear power represents about a third of the capacity in the state. ●●●



Demand & Price Response

There are approximately 2,300 MW of demand resources in New England that can reduce electricity consumption when there is a shortage of operating reserves on the electric grid or in response to high wholesale prices. There are about 100 MW of DR in New Hampshire. DR has grown substantially since the start of competitive markets and continues to grow with efforts to integrate it into the wholesale electricity markets. ●●●



Proposals for New Resources

In New England, the Forward Capacity Market (FCM) provides opportunities for existing and new generation (supply), DR, and imports to compete to provide the capacity resources the region needs to meet future reliability requirements.

Resources must qualify, clear (i.e., be selected) in the auction, and then perform when called upon by the ISO to be eligible for capacity payments.

The most recent Forward Capacity Auction (FCA-3), conducted in October 2009, procured resources that need to be available June 1, 2012 to May 31, 2013. About 8 MW of *new* generation resources in New Hampshire cleared in the auction, representing 0.5% of the new generation cleared in New England. About 16 MW of *new* DR in New Hampshire cleared in the auction, representing 5% of the new DR cleared in New England.

The ISO will conduct the fourth auction (FCA-4) in August 2010, for resources needed in the 2013-2014 timeframe.

In addition to the wholesale markets, New Hampshire provides incentives for the development of certain resources that help achieve its policy goals.

Connecting New Generating Resources

In order to connect to the grid, a proposed generator must be studied and approved under the ISO's Generator Interconnection Procedures to ensure the project will not adversely impact the reliability of the electric grid. This is known as the "queue" process.

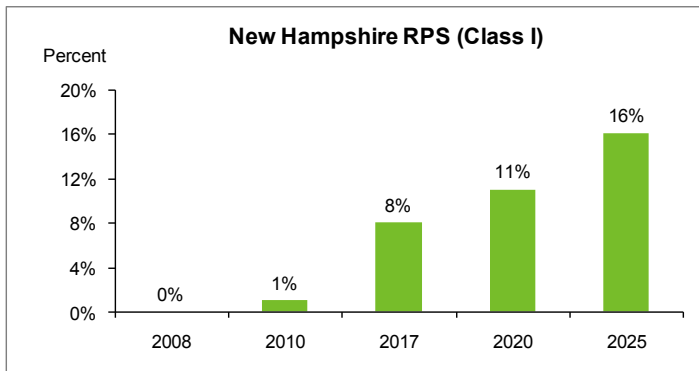
There are approximately 500 MW of proposals in New Hampshire that have entered the queue, representing 5% of the proposals in New England as of December 2009. Historically, not all of the proposals in the queue have been developed, but it is an indication of the potential for new resources.

About 400 MW of the proposed resources in the queue are for wood-burning plants and wind projects in Coos County. ●●●

Renewable Resources

Utilities and competitive suppliers must obtain specified percentages of the electricity they provide to customers from renewable sources to meet New Hampshire's state-mandated renewable portfolio standard (RPS).

New Hampshire has established four classes of renewable resources. Class-I renewable resources include certain types of solar, wind, biomass, hydro, and landfill gas. The Class-I RPS increases to 11% in 2020 and to 16% in 2025.

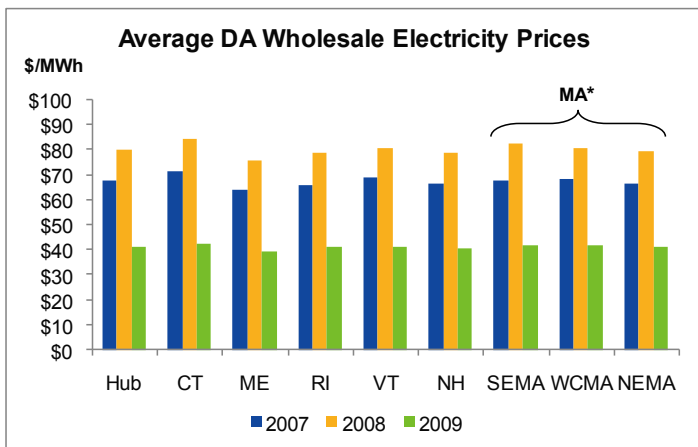


The state's RPS law describes it as an important step in meeting Governor Lynch's goal of meeting 25% of the state's energy needs from renewable resources by 2025.

The 24 MW Lempster Wind farm in Sullivan County began commercial operation in 2008. ●●●

Wholesale Market Prices

Locational pricing is a key feature of New England's wholesale electricity markets. The ISO administers Day-Ahead (DA) and Real-Time (RT) Energy Markets and calculates prices for eight zones in New England. Except for Massachusetts, each state is a separate zone. Price differences occur between zones when physical transmission constraints limit the ISO's ability to dispatch the lowest-priced resources. This requires the ISO to dispatch higher-priced local generation, resulting in congestion. The ISO calculates an average "Hub" price to show the wholesale price without congestion. *Average DA prices in 2009 were about 50% below average annual prices in 2008, primarily due to reductions in fuel costs.* ●●●



* Massachusetts has three zones: Southeastern Mass. (SEMA), Western/Central Mass. (WCMA), and Northeastern Mass./Boston (NEMA/Boston).

Transmission

Several major transmission projects developed through the ISO's regional system planning process or identified as priorities by the state are underway or under study for New Hampshire. The ISO has prepared a 10-year transmission needs assessment identifying areas of the state in need of improvements to maintain reliability through 2018. Changes in the forecast of electricity demand or development of market-based responses to system needs can affect the need for transmission projects, and the ISO re-evaluates these needs as part of the planning process.

A state-sponsored transmission commission is developing an action plan to expand the transmission system in northern New Hampshire to facilitate development of renewable energy resources in the North Country. Northeast Utilities and NSTAR are proposing a new transmission line from Québec to southern New Hampshire that could deliver approximately 1,200 MW of hydroelectric power from the Hydro Québec (HQ) system to New England. HQ plans to finance the cost of the line through long-term power sales to New England. ●●●

About ISO New England

ISO New England is the Independent System Operator responsible for ensuring the reliable operation of the New England electric grid, administration of the region's wholesale electricity markets, and administration of the regional Open Access Transmission Tariff, including regional system planning. The ISO is a not-for-profit corporation governed by an independent Board of Directors. The ISO does not own transmission or generation assets and has no financial interest in any companies participating in the region's wholesale electricity markets. ●●●

Sources and Additional Information

U.S. Census Bureau, *2009 Regional System Plan, 2008 Annual Markets Report*, FCA results, and other public ISO information.

ISO New England: www.iso-ne.com

NH Public Utilities Commission: www.puc.state.nh.us