



# New Hampshire: Pathway to 2030

EnergyVision 2030 describes in detail how seven Northeast states can be on a pathway towards a reliable, consumer-oriented clean energy future that meets a goal to reduce climate pollution at least 45% from 1990 levels by 2030. Reducing climate pollution 45% by 2030 is in line with the goals New Hampshire agreed to as a part of the New England Governors and Canadian Premiers and is necessary for the long-term goal of reducing its emissions 80% below 1990 levels by 2050 laid out in its 2009 Climate Action Plan. Using a data-driven approach, EnergyVision 2030 sets technology-specific targets in four key clean energy markets—grid modernization, electric generation, buildings, and transportation—and proposes supporting policies to achieve those goals.

New Hampshire is achieving the standard for best practices in key areas such as solar net metering; in others, it can do more. The summary tables below detail policies that can be used to reach the clean energy benchmarks presented in EnergyVision 2030. They show New Hampshire’s current levels of implementation for specific policies and technologies in each of the four key areas compared to the best practice levels needed to meet emissions targets.

While some states are leading in individual areas, a more uniform and consistent approach is needed across all Northeast states. EnergyVision 2030 shows that a goal to reduce greenhouse gas emissions by 45% can be achieved if all states adopt the best practices of each leading state.



## Electric Generation

Solar and wind power are emerging as cost-effective alternatives to traditional fossil-fueled generation sources. Across the United States, solar prices have dropped dramatically and installed capacity has grown exponentially. New York and New England have vast untapped solar and on- and off-shore wind resources. Harnessing this clean, low-cost generation is critical to meeting the 2030 emissions target. New Hampshire’s progress toward this goal is represented below.

Policy	Best Practice Status	New Hampshire Current Status	2030 Recommendations
<b>Renewable Portfolio Standard (RPS)</b>	New York – 50% by 2030 <sup>1</sup> Rhode Island – 38.5% by 2035	New 15% by 2025 and Total 25.2% by 2025	42% by 2030, primarily wind and solar
<b>Distributed Solar Annual Installation Rate</b>	Vermont – 118 watts per capita (2016) Massachusetts – 56 watts per capita (2016)	21 watts per capita (2016)	48 watts per capita through 2030



## Transportation

Transportation is the largest source of emissions in the Northeast and traditionally the most difficult emissions sector to address, but rapidly evolving technology offers deep reduction potential. Electric vehicles (EVs) and innovations in mobility options can help improve transportation efficiency and reduce emissions. In cities and towns of all sizes and in the state’s more rural areas, increased transit options like buses, trains, and carpools can grow. See how much New Hampshire needs to do in this area to meet emissions targets below.

Policy	Best Practice Status	New Hampshire Current Status	2030 Recommendations
<b>EV Sales Annual Growth</b>	Vermont – 42% (average, 2013–2016)  Massachusetts – 41% (average, 2013–2016)	36% (average, 2013-2016)	40% annually through 2030
<b>EV Incentive Level</b>	Connecticut – up to \$3000	None	Market levels needed to achieve growth targets
<b>Stable Funding Source?</b>	Colorado – \$5000	N/A	Yes
<b>California ZEV Standard Adoption</b>	Several states have adopted	No	Yes
<b>EV Chargers</b>			
<b>DC Fast Chargers per 1000 Miles of Highway</b>	Massachusetts – 17	3	
<b>L2 Chargers per Billion VMT</b>	Vermont – 18	5	
<b>EV Charging Rate/Demand Management Program</b>	New York – EV time of use rates and demand program pilots	Limited – Some utilities offer opt-in whole-house time of use rates	Time of use rates that vary all rate components to reflect actual costs
<b>Annual Transit Trips per Capita (Buses, Trains, and Subways)</b>	New York – 195	3	
<b>Percentage of Workers 16+ Carpooling</b>	Maine – 10.6%	8.1%	
<b>Emissions Pricing for Transportation Fuel</b>	California – \$13/ton		Yes – market-based price



## Grid Modernization

To take full advantage of opportunities to benefit consumers and advance emissions-reducing technologies, the rules and regulations governing the electric grid need to be comprehensively updated. The present grid was designed at a time when centralized power generators exclusively controlled a one-way flow of electricity to consumers. A modern grid needs to accommodate greater consumer control and two-way flows of power. Grid modernization will provide the backbone that supports the carbon-cutting changes in all sectors. See how grid modernization processes in New Hampshire are progressing below.

Policy	Best Practice Status	New Hampshire Current Status
<b>Distribution System Planning to Consider Clean Local Alternatives to Infrastructure</b>	<p>Rhode Island – System Reliability Procurement Plan and Power Sector Transformation</p> <p>New York – Reforming the Energy Vision (REV) proceeding</p> <p>Vermont – Renewable Energy, Efficiency, Transmission, and Vermont’s Energy Future Act</p>	<p>Limited: Grid Modernization working group has submitted recommendations on a grid modernization planning process, but a final order from the PUC is pending.</p> <p>The working group also recommends utilities provide information about the hosting capacity for each circuit to DER providers and other stakeholders.</p> <p>Non-wires alternative pilots will be conducted by each of three utilities as part of the net metering docket, DE 16-576.</p>
<b>Regulatory Proceeding or Other Process Underway to Align Utility Business Models</b>	<p>New York – REV proceeding</p> <p>Rhode Island – Power Sector Transformation</p>	<p>Limited: Not in scope of current grid modernization proceeding, but utilities are required to file a decoupling proposal with their next rate case.</p>
<b>Regulatory Proceeding Underway to Modernize Grid</b>	<p>New York – REV proceeding</p> <p>Rhode Island – Power Sector Transformation</p>	<p>Working group report recommends utilities file grid modernization plans. Order from PUC is pending</p>
<p><b>Consumer-Friendly Rate Design</b></p> <p><b>Limited Reliance on Fixed Charges</b></p> <p><b>Easy to Understand Time-Varying Rates for Energy Supply, Transmission and Distribution (T&amp;D)</b></p>	<p>Several states have utilities with residential fixed charges in the \$5 to \$10 range</p> <p>Green Mountain Power (VT) offers three options for highly differentiated bundled residential rates.</p> <p>Several New York utilities offer residential rates with differentiated energy and transmission/distribution components.</p> <p>United Illuminating (CT) offers a residential rate with differentiated transmission and energy components.</p>	<p><b>Fixed Charges</b>            Unital: \$15.24            Eversource: \$12.89            Liberty: \$14.54            NHEC: \$28.93</p> <p><b>Time-varying Rates</b>            Liberty: T&amp;D            NHEC: All            Eversource: T&amp;D            Unital: no</p>
<b>Shared Solar or Virtual Net Metering</b>	<p>New York, Massachusetts, and Vermont</p>	<p>Yes. RSA 362-A:9, XIV</p>
<b>Distributed Generation Compensation</b>	<p>Monetary crediting, with initial reforms to align credit structures with value</p>	<p>Monetary crediting – yes, established in DE 16-576, but tied to portions of residential retail rate. Value of DER study scoping process has commenced.</p>
<b>Storage Mandate</b>	<p>California – 1325 MW by 2020</p>	<p>No</p>



## Buildings

Buildings offer significant energy efficiency investment opportunities that can be combined with clean heating technologies to provide deep emissions reductions. The Northeast is a national leader in investing in energy efficiency. While New Hampshire is on track to meet only 0.6% of its electricity needs with efficiency in 2017, far below neighboring states, it plans to increase this to 1.3% in 2020. Not only is efficiency the lowest cost and cleanest energy choice, it provides enormous economic gains, creates jobs, and saves consumers money. Increasing investments in efficiency has made nearly \$500 million of expensive transmission line upgrades no longer necessary in New England. More information about current efficiency efforts in New Hampshire are below.

Policy	Best Practice Status	New Hampshire Current Status	2030 Recommendations
<b>Electric Energy Efficiency Annual Savings Level</b>	Massachusetts – 2.9% (2017 plan)	0.6% (2017 plan) 2018-2020 .8%, 1%, 1.3%	3.0% <sup>3</sup>
<b>Natural Gas Energy Efficiency Annual Savings Level</b>	Massachusetts – 1.2% (2016)	0.8% (2016), 0.7% in 2018, 0.75% in 2019, 0.8% in 2020	1.2%
<b>Residential Heat Pump Conversion Rate</b>	Maine – 0.8% (2016)	0.02% (2015)	1.0% through 2030
<b>Fossil Fuel or Carbon-based Incentive Funding for Heat Pumps</b>	Massachusetts – MassCEC’s \$30 million Clean Heating and Cooling program	No	Yes

## Conclusion

New Hampshire continues to lag behind neighbors in several areas related to clean energy, but has begun to address this through recent actions on energy efficiency, grid modernization and net metering policy. To build a low-carbon energy system, the state must excel across all policy areas. To reach EnergyVision 2030 goals, the state should strengthen efforts to modernize the grid through current regulatory proceedings and proposed legislation; expand the Renewable Portfolio Standard and eliminate barriers to adoption of solar PV; continue to adopt all cost-effective energy efficiency and increase support for switching to heat pumps; and finally, continue to incentivize and remove barriers to purchasing and using electric vehicles. If New Hampshire follows these policy recommendations, it will be on its way to a clean energy future.

## References

- 1 Eligible resources vary by state. New York’s Clean Energy Standard includes large-scale hydro, which is not included in the EnergyVision 2030 recommended minimum target.
- 2 EnergyVision 2030 calls for an average of 2.5% annual electric savings through 2030. Because Massachusetts and other states have demonstrated that savings of 3% or more are currently achievable and lower total electric costs, Acadia Center is currently recommending that states aim for higher near-term levels.

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