

Building Better NH Buildings: Critical Energy Efficiency Action

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The Challenge of New Hampshire Energy Use:

- NH has no fossil fuel reserves. Money for fossil fuel energy leaves the state. (1)
- Statewide, > \$6B annually spent on energy; 65% of this leaves the state. (1)
- > 80% of households use fossil fuel heating (Fuel oil, natural gas, propane).(1)
- NH per capita home petroleum use is among highest in USA. (1)
- NH has the 6th highest electric rate in the country. (2)

Potential Savings With More Efficient Buildings:

- Buildings use 40% of energy supplied in the USA (3)
- Potential for cost-effective building efficiency improvements is 10 times greater than currently achieved through existing NH energy efficiency programs. (4)
- Energy efficiency measures taken are among cheapest "sources" of energy at +/- \$0.03 / kWh. (4)

Energy Efficiency Policy Opportunities

Adopt the latest International Energy Conservation Code (IECC) for both NH Residential and NH Commercial Sectors.

NH is still using the 2009 IECC code. An updated IECC came out in 2015 and the most recent adoptable energy code is IECC 2018. NH is nearly 10 years behind current practice. The building trades have caught up to the 2009 requirements and common practice easily achieves the 2009 energy code. The state needs to be 10 years ahead to make important impact on energy cost savings and global climate and environmental concerns!

The slightly higher upfront cost of enhanced energy efficiency measures reduces the overall operational costs of buildings saving much money in the near and longer term. Nearly every aspect of improved building energy efficiency positively affects occupant health and safety and improves resiliency in the event of power outages or extreme weather events.

Create a "Stretch Energy Code" of enhanced performance standards that towns may voluntarily adopt over and above the current state minimum energy code.

A stretch energy code is a voluntary appendix to a mandatory statewide minimum energy code that allows municipalities to adopt a uniform beyond-code option to achieve greater levels of energy efficiency. This flexible code outlines measurable percentages of increased efficiency above minimum code by using the widely accepted, standardized Home Energy Rating System (HERS) methodology. (5)

Durham, NH has unilaterally done a version of this by voluntarily adopting the 2018 IECC. A state-wide "Stretch Energy Code" would make it easier for other towns to voluntarily take enhanced energy efficiency actions by laying out a standard, measurable program to follow. (6)

Support, enhance and increase funding and citizen oversight for the "NH Saves" energy efficiency collaboration.

"NHSaves" is a collaborative program by NH electric and gas utilities that provides NH customers with information, incentives and support designed to save energy, reduce costs and protect the environment. This program is overseen by the NH Public Utilities Commission and is funded by utility ratepayers through various means. (7)

This is our main state-wide approach to making progress on energy efficiency measures and should be fully supported and enhanced. Policy measures that include enhanced energy efficiency goals, ample citizen input and increased funding are needed.

Support expedited development of renewable energy policy, infrastructure, action for the built environment.

A stronger state focus on producing cost effective, clean and local energy will have a huge impact on the building sector and wider. A sampling of examples for local and state policy consideration include:

- All new buildings sited and built to easily allow for PV installation, be that when built or at a later date.
- Planning for on-site battery storage of electricity, whether from local source or grid source, be part of every construction or renovation proposal.
- Electric vehicle charging considerations included in every new construction or renovation plan.
- Air source heat pumps suitable for cold climates favored for all new and replacement building heating systems.

Sources:

- (1) US Energy Information Administration - New Hampshire
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- (2) New Hampshire's Electricity Markets: Natural Gas, Renewable Energy, and Energy Efficiency 2017
<https://scholars.unh.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1006&context=sustainability>
- (3) Intelligent Infrastructure for Energy Efficiency
<http://science.sciencemag.org/content/327/5969/1086>
- (4) Increasing Energy Efficiency in New Hampshire: Realizing Our Potential
https://www.nh.gov/osi/resource-library/energy/documents/nh_eers_study2013-11-13.pdf
- (5) Center for EcoTechnology
<https://www.cetonline.org/massachusetts-stretch-energy-code-expand-mean/>
- (6) Durham, NH Town Website
<https://www.ci.durham.nh.us/codeenforcement/energy-codes>
- (7) NH Statewide Energy Efficiency Plan by NHSaves
<https://www.puc.nh.gov/EESE%20Board/NHSaves%202018-2020%20Draft%20EE%20Plan.pdf>