

## New Hampshire Energy Facts 2006: Policy Notes

### Why it's worth knowing where energy is used – and where it comes from

New Hampshire has obligations and statutory requirements regarding the production and use of energy. For example:

1. [Obtaining 25 percent of New Hampshire's energy needs from renewable sources by the year 2025](#). This will probably require at least two major approaches: a) Reduce overall energy use, and b) Increase the total amount of renewable energy in the gross energy use mix.

Increasing the total amount of renewable energy used for each of the three end use categories shown in Chart 3 of the [NH Energy Snapshot](#) is one possible approach. However, it may prove more feasible to adopt a different strategy: An overall 25% renewable energy goal might be more easily achieved by reducing demand for energy in the transportation sector, where renewable energy may not be so easily utilized, and increasing beyond 25% the renewable energy used to produce heat and electricity.

Reducing transportation energy demand (its pie slice is made smaller) would increase the other sectors' *percentages* of the total energy demand (their pie slices become larger), even if the pie's size remains constant. This is potentially helpful because greater portions of the non-transportation sectors' energy demands are more readily met by renewables such as solar electric panels or wood pellets, for example.

In any case, reducing overall energy demand (making the whole pie smaller) reduces the amount of new renewable energy resources that would be required to meet the 25% goal.

Examples of New Hampshire statutory energy requirements include:

- [Renewable Portfolio Standard \(RPS\)](#)
- [Regional Greenhouse Gas Initiative \(RGGI\)](#)

2. Comparable amounts of energy provided by different sources may have significantly different environmental and economic impacts. Therefore, it is important to analyze the potential costs and benefits carefully when formulating policy initiatives that might encourage a change in the energy mix for the State. New Hampshire's Transportation sector and Electric Power sector consumed similar amounts of energy in 2006 (see Chart 3 in [NH Energy Snapshot](#)). Nearly 100 percent of our transportation energy is derived from crude petroleum. Technically and logistically, petroleum products offer significant advantages over electricity for transportation, given New Hampshire's current transportation infrastructure. However, 100 percent of New Hampshire's petroleum products are imported from other States and Nations. They are also 100% non-renewable. And, over 75% (see table) of the money we spend for petroleum products each year leaves the State. This was about \$2,384,550,000 of the \$3,179,400,000 [EIA - estimated](#) 2006 NH energy expenditure for petroleum products. Based on the US Department of Energy's State Energy Program (SEP) conservative metrics for jobs creation (\$92,000 invested creates one new job), the exported dollars could have supported the creation of over 25,000 jobs.

What We Pay For in a Gallon of Gasoline				
EIA Data				
Mo/Yr	Refining (percentage)	Distribution & Marketing (percentage)	Taxes (percentage)	Crude Oil (percentage)
Dec. 2006	12.9	9.4	19.7	58
<b>OEP Assumptions for what portion of the item leaves the state &gt;</b>	All; there are no refineries in NH.	Includes company overhead; half (est.) leaves NH.	NH road toll tax approx. = federal; so half leaves NH.	No crude oil is produced in NH.
<b>Net % leaving NH &gt;</b>	12.9	4.7	9.9	58
<b>Sum of Net %: 85.5</b>		However, most petroleum products aren't taxed; thus assume a conservative average of 75 cents/each petroleum products dollar is exported from NH.		

Note: Changes in crude oil price and other costs cause percentages to vary somewhat over time.

Electricity is an extremely versatile form of energy delivery. It provides convenient, clean energy for a wide variety of end uses. However, the end-use electricity represents, on average, only about 30% of the energy inputs to generate the electricity; the other 70% is unavoidably “lost” in generation, transmission and distribution. That is, the State’s electricity end users “see” only about 36.3 TBtu of the 120.9 TBtu actually used to generate the electricity consumed in-State. Thus, using electricity may have impacts that are not readily apparent.

Much energy used to generate electricity in New Hampshire comes from in - State renewable sources. Generating electricity from these sources invests more money in local economies instead of sending it out of State. At the same time, obtaining energy from in-State sources inevitably entails changes to the environment. These changes may be perceived as either positive, negative or neutral, depending on one’s perspective and environmental priorities.

In summary, even these simplified examples illustrate the importance of evaluating all attributes - including cost, efficiency, environmental impacts, usability, and substitutability - of various energy sources in order to make the best decisions for energy use in your home, your business, and your State.