New Hampshire State Biomass Policies and Instruments

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Tax Policy:

Property Tax Exemption for Renewable Energy (1976) – Eligible technologies include solar-energy systems (photovoltaic systems, solar space-heating systems, solar water-heating systems, passive solar-energy systems); wind-energy systems, and wood-fired central heating systems. In addition, the Statute 72:76 Property Tax Exemption, an eligible municipality may, by vote of the local legislative body pursuant to RSA 72:77 adopt a new construction property tax exemption for commercial or industrial uses, or both. The exemption shall apply only for municipal and local school property taxes assessed by the municipality which shall exclude state education property taxes under RSA 76:3 and county taxes assessed against the municipality under RSA 29:11, and shall be a specified percentage on an annual basis of the increase in assessed value attributable to construction of new structures, and additions, renovations, or improvements to existing structures. The exemption may run for a maximum period of 10 years following the new construction; provided, however, that the exemption for all years shall cumulatively not exceed 500 percent of the increased assessed value.

Rules and Regulations:

Renewable Portfolio Standard – The state of New Hampshire’s energy policy commission, established by 2006, 257:1 identified in its December 1, 2006 interim report principles that the governor and general court should use to evaluate any new energy policy initiative. One principle is to increase the state’s fuel diversity by reducing the fossil fuel component of the state’s energy mix and promoting use of renewable energy resources to buffer against global instability.

Net Metering – Competitive electricity suppliers registered under (N.H. Admin. Rules, Puc 900) may determine the terms, conditions, and prices under which they agree to provide generation supply to and purchase net generation output from eligible customer-generators.

III. Metering shall be done in accordance with normal metering practices. A single net meter that shows the customer’s net energy usage by measuring both the inflow and outflow of electricity internally shall be the extent of metering that is required at facilities with a total peak generating capacity of not more than 100 kilowatts. A bi-directional metering system that records the total amount of electricity that flows in each direction from the customer premises, either instantaneously or over intervals of an hour or less shall be required at facilities with a total peak generating capacity of more than 100 kilowatts. Customer-generators shall not be required to pay for the installation of net meters, but shall pay for the installation of all bi-directional metering systems as outlined in utility interconnection tariffs or rules.

IV. (a) For facilities with a total peak generating capacity of not more than 100 kilowatts, when billing a customer-generator under a net energy metering tariff that is not time-based, the utility shall apply the customer’s net energy usage when calculating all charges that are based on kilowatt hour usage. Customer net energy usage shall equal the kilowatt hours supplied to the customer over the electric distribution system minus the kilowatt hours generated by the customer-generator and fed into the electric distribution system over a billing period.

(b) For facilities with a total peak generating capacity of more than 100 kilowatts, the customer-generator shall pay all applicable charges on all kilowatt hours supplied to the customer over the electric distribution system minus the kilowatt hours generated by the customer-generator and fed into the electric distribution system over a billing period.

V. When a customer-generator’s net energy usage is negative (more electricity is fed into the distribution system than is received) over a billing period, such surplus shall either:

(a) Be credited to the customer-generator’s account on an equivalent basis for use in subsequent billing cycles as a credit against the customer’s net energy usage or bill in a manner consistent with either subparagraph IV(a) or IV(b), as applicable; or

(b) Except as provided in paragraph VI, the customer-generator may elect to be paid or credited by the electric distribution utility for its excess generation at rates that are equal to the utility’s avoided costs for energy and capacity to provide default service as determined by the commission consistent with the requirements of the Public Utilities Regulatory Policy Act of 1978 (PURPA).
**Interconnection Standards** - New Hampshire (N.H. Admin., Rules, Puc 900) requires all utilities selling electricity in the state to offer net metering to customers who own or operate systems up to one megawatt (1 MW) in capacity that generate electricity using solar, wind, geothermal, hydro, tidal, wave, biomass, landfill gas, bio-oil or biodiesel. CHP systems that use natural gas, wood pellets, hydrogen, propane or heating oil are also eligible.

**Disbursements:**

**Renewable Energy and Energy Efficiency Business Loan** – The EEF is a low-interest loan and grant program available to businesses and nonprofit organizations to help finance energy improvements and renewable energy projects in their buildings. The goals are reduction of energy costs and consumption and promotion of economic recovery and job creation. The EEF is available to finance improvements to the overall energy-efficiency performance of buildings owned by businesses and nonprofit organizations, thereby lowering their overall energy costs and the associated carbon emissions. A wide range of activities are eligible for funding, including energy audits, whole building improvements, equipment and appliance upgrades, lighting upgrades, heating and cooling upgrades, solar thermal technologies, and renewable energy installations.

**Commercial and Industrial Renewable Energy Grants** - The New Hampshire Public Utilities Commission (PUC) offers grant funding for renewable-energy projects installed at commercial, industrial, public, non-profit, municipal or school facilities, or multi-family residences with at least three units. There is no stated maximum individual award.

**Enterprise Energy Fund Grants** - The New Hampshire Community Loan Fund and the New Hampshire Community Development Finance Authority (CDFA) initiated the Enterprise Energy Fund in 2010. This revolving loan program, supported by State Energy Program (SEP) funds and the federal American Recovery and Reinvestment Act (ARRA), is designed to help businesses and non-profits in the state make energy improvements to their buildings. Many improvements are eligible for funding, including energy audits, whole-building improvements, equipment and appliance upgrades, lighting upgrades, heating and cooling upgrades, solar-thermal systems, and renewable energy installations, among others. The CDFA and Community Loan Fund will work with organizations to try to make the cost of financing less than the energy savings.

**Enterprise Energy Fund Loans** - The New Hampshire Community Loan Fund and the New Hampshire Community Development Finance Authority offer the Enterprise Energy Fund. This revolving loan is funded through New Hampshire’s State Energy Program allocation under the American Recovery and Reinvestment Act (ARRA). The purpose of the fund is to help business owners and non-profit organizations in the state make energy improvements on their buildings. A wide range of activities are eligible for funding including energy audits, whole building improvements, equipment and appliance upgrades, lighting upgrades, heating and cooling upgrades, solar thermal technologies, and renewable energy installations, among others. The CDFA and Community Loan Fund will work with organizations to try to make the cost of financing less than the energy savings.

**Residential Bulk-Fed Wood-Pellet Central Boilers and Furnace Rebate Program** - The program offers rebates of 30% of the system and installation cost, or $6,000, whichever is less, for New Hampshire residents who invest in high-efficiency (80% or greater), bulk-fuel fed, wood-pellet central heating boilers and furnaces that become operational on or after May 1, 2012.

**Government Services:**

**Renewable Energy Program** – Commercial and net metering alternative energy investments of $5,000 or more are eligible for a tax credit of up to 35% against individual or corporate tax on income generated by the investment. The credit is applied only against taxes due as a consequence of taxable or net income produced by one of the following: a manufacturing plant that is located in Montana and that produces alternative energy generating equipment. a new business facility or the expanded portion of an existing business facility for which the alternative energy generating equipment supplies, on a direct contract sales basis, the basic energy needed; or the alternative energy generating equipment in which the investment was made, for the credit being claimed.
Cost-Share and Grants:

Final Report: Technical, Environmental, and Economic Feasibility of Bio-Oil in New Hampshire’s North Country – Scientists at the University of NH researched the technical, environmental, and economic feasibility of a Bio-Oil facility in New Hampshire. They also researched end-use markets. This study was spurred by the availability of labor and low-quality wood chips, as well as an interest in finding a new way to use these wood chips and small-diameter wood. Envisioned benefits were new markets, jobs, and healthier forests.

New Hampshire Bio-Oil Feasibility Study – Bio-Oil is a liquid produced by fast pyrolysis (or thermolysis) of low-grade wood. Although there are several fast pyrolysis processes, two, fluidized bed and circulating fluid beds are the most developed and well understood. The social advantages of a Bio-Oil facility are that it would help the economy by creating jobs and another market for low grade wood chips in New Hampshire. Environmentally, creating Bio-Oil generates little wastes, and when used as a fuel, it produces fewer emissions than petroleum fuels. Some of the obstacles to Bio-Oil are that it is highly acidic, immiscible with petroleum fuels, and difficult to store without aging. The Bio-Oil production economics are affected by the low-grade wood chips cost, which we took to be $18/ton, and by the plant size. Our study show that the approximate cost for Bio-Oil from a 440 US ton wet wood/day is $0.89/gal or $0.16/Mbtu (million Btu), while that of a 110 US ton wet wood/day plant is $1.21/gal or $0.216/Mbtu. These production costs include a payment plan for capital cost. Economically this makes Bio-Oil about twice as expensive as number two fuel oil when it comes to producing heat or electricity. This is because Bio-Oil has about half the heating value of number two fuel oil. This had led UNH to look more into non-energy uses for Bio-Oil, which all requires further validation or development.

Renewable Energy Generation Incentive Program – The Act authorizes the public utilities commission to make a one-time payment from the renewable energy fund to certain owners of small renewable generation facilities. In addition, it increases payment rates for the renewable energy fund for the calendar year of 2008. The public utilities commission shall make and administer a one-time incentive payment of $3 per watt of nominal generation capacity up to a maximum payment of $6,000, or 50 percent of system costs, whichever is less, per facility to any residential owner of a small renewable generation facility, that would qualify as a Class I or Class II source of electricity, has a total peak generation capacity of less than 5 kilowatts, begins operation on or after July 1, 2008, and is located on or at the owner’s residence. Such payments shall be allocated from the renewable energy fund established in paragraph I, to the extent funding is available, up to a maximum aggregate payment of 10 percent of the fund per year.

Market Activity: