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Meredith Hatfield, Director
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Dear Meredith,

The Society for the Protection of New Hampshire Forests is pleased to be able to participate in the process of helping the Energy Strategy Council develop a new Energy Strategy for the State of New Hampshire.

The senior staff at the Forest Society and I have reviewed the current draft of the "New Hampshire Straw-man Energy Vision for 2025" and we fully support it as drafted. We believe that the path to a more economically and environmentally healthy energy landscape in our state is highly dependent on first using all energy in the most efficient and effective manner possible, and then gradually replacing fossil fuels with appropriately designed and sited renewable energy technology. Some of these technologies are already available, some are in development and some we cannot foresee at this time, but will appear on the horizon within the timeframe of the Energy Strategy.

We specifically note that much of what is envisioned in the Energy Vision closely parallels the climate action plan adopted in 2009 by a citizens panel appointed by former Governor John Lynch. Initiatives proposed in the CAP will be a major part of the achievement of the Energy Vision, and we urge the Council to recommit the State to the CAP's recommendations and develop policies that will result in their implementation.

Beyond the vision, the Forest Society has some specific concerns and proposals that we hope the Council will consider as it continues its work. These are:

- 1) All New Hampshire businesses and residents benefit from taking actions to conserve energy and reduce expenditures through efficiency improvements. These capital investments in buildings, industrial processes, lighting, and other uses of energy not only reduce current costs for fossil fuels, but allow for future investments in renewable technologies to be more cost effective because the size and cost of such technologies are lower.

The Forest Society's Conservation Center in Concord is a concrete example of the benefits of creating highly efficient buildings that can then rely on renewable resources for heat. Originally built in 1980 with energy innovation grant assistance from DOE, the Conservation Center now has three sections that demonstrate highly efficient design and the use of both passive solar and biomass heating. A small 5KW photovoltaic system has been demonstrated for more than a decade. The net result is a building that uses 60% less energy than a comparable conventional building of the same size. The



cost of construction was comparable to conventional construction, and the consensus of the occupants is that it is both comfortable and beautiful to work in.

It is clear to us that among the keys to both building and retrofitting New Hampshire buildings are not just in using state of the art technology. Proper siting, so that buildings can take advantage of passive solar gains can substantially reduce net heating costs. State policy should consider ways to encourage municipal planning agencies and boards to provide guidance to developers on how to plan development to allow for new buildings to effectively use passive solar design. The costs are minimal and the payback is immediate and substantial over time. The good news is that many New Hampshire builders are already responding to marketplace interest in such cost saving designs. Further, rules and regulations at many levels should be examined to determine if they either discourage or encourage building renovations that take advantage of passive solar design. Such design is not technologically complex. In essence, it simply requires that windows be incorporated properly into south facing walls and steps taken to include heat storage materials into interior spaces. It's not rocket science.

- 2) New Hampshire is blessed as the second most forested state at 84%. There are two key points that should be made about this. First, we have an enormous wood resource that already generates approximately 2.8 million tons of forest products annually. The forests grow approximately 6.58 million tons of new biomass annually, and while a substantial portion of this is unlikely to be available for harvest, it has been estimated by recent studies that at least another 500,000 tons of wood could be sustainably harvested annually for biomass energy.

The Forest Society agrees with the premise that the most efficient way to use this fuel is for thermal and combined heat and power purposes. Low-grade wood comprises about 60% of New Hampshire's standing timber. While we have strongly endorsed the development of the wood to electricity plants that are in place, it is clear that the most beneficial use of low-grade wood in the future is for heating. First, because it is a local resource that can be used directly in round-wood heating units (stoves and boilers) and readily converted into pellets for using modern highly efficient residential, commercial and district heating systems. Second, studies we have reviewed indicate that the local economic benefits of using wood for thermal purposes far outweigh that of simply burning it at low efficiencies in power plants where the heat is wasted.

We concur with others that it would be possible to reduce residential heating oil use by as much as 50% if 500,000 tons of low grade wood could be used for heating.

Of course, a key to the sustainability of this approach is responsible forest management. The Forest Society, NH Timberland Owners Association, DRED and others have long advocated for thoughtful and sustainable forest management. Removal of low grade wood is one of the key tools in the forester's tool box for both producing fuel wood and simultaneously improving the quality of residual forest stands for future harvest of saw timber and other high value wood products. With strong markets for biomass fuel, we believe there is a strong incentive for better forest management.

However, there is a need for experts, perhaps convened under the guidance of the Division of Forests and Lands (DRED) to optimize the use of wood for fuel while simultaneously promoting good forestry practices. The forestry community of New Hampshire has consistently favored voluntary forest management practices as evidenced in the publication *Good Forestry in the Granite State*, and we continue to endorse this. We would encourage the examination of potential economic incentives for good forestry associated with harvesting for wood energy.

- 3) Careful siting of new energy facilities is essential. New Hampshire's second largest "industry" is now, and for decades has been tourism. A 1999 study done for the Forest Society by Resource Systems Group entitled the "Economic Impact of Open Space in New Hampshire" showed that over 25% of economic activity in the state is related to open space and uses of open space. This amounted to \$8.2 billion/year in 1999 dollars. Studies by many others have ranked New Hampshire high or highest in the nation in "quality of life" in part because of our clean air, water, recreational opportunities and scenic rural landscapes.

While the transition to renewable energy technologies is critical, it is also essential that the development respect the underlying values of our natural resources both for productive uses and their attractive characteristics to tourists and residents alike. In short, there are good and bad places to site new energy facilities such as overhead transmission lines, wind farms, hydro-electric plants, biomass plants, and even large scale solar arrays. The Forest Society encourages the Council to acknowledge this reality and actively encourage policies and procedures that make sure sound decisions are made on the siting of new, especially large scale energy facilities. We want these resources to be used, but in ways that do not undermine the other benefits of our cherished and coveted natural landscapes.

Thank you for the opportunity to offer these comments. We look forward to further opportunities to engage through the public stakeholder activities of Navigant, and through our attendance at Council meetings.

Sincerely,



Paul A. Doscher
Senior Advisor