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To: **Senate Finance committee**

Re: **S-1 Ryegate Power plant renewal agreement**

February 17, 2021

Greetings,

We would like to express our support for the renewal of the power purchase agreement for Ryegate power plant. The Vermont Forest Products Association (VFPA) is a member organization serving the interests of a full range of participants in forestry and wood products, from landowners, loggers and truckers, to sawmills and other processing facilities. We support the working landscape with farm and forestland providing raw materials for value added business, and family wage jobs dispersed through the region. Active forest management provides for a wide range of benefits to society, and to the ecosystem, besides the wonderful wood products that enrich our lives every day.

Wood products from Vermont are used close to home and sent around the world, with high grade furniture hardwoods like sugar maple as a well-known product. We produce veneer grade hardwoods, and specialty softwoods, along with "ordinary" dimension softwoods, and utility hardwood lumber. The logs that are not good enough for lumber are sent to nearby states to be made into paper, cardboards and other processed fibers. From poor-quality trees, we also produce homeowner firewood, along with pellets, industrial chips for fuel, and biomass chips which are used to generate electricity at Burlington and Ryegate, with a small volume of chips going out of state. Logging, lumber and wood manufacturing generate over a billion dollars in shipments annually in Vermont, by harvesting less than half of the annual growth.

And we do this while providing clean water, good wildlife habitat for game and general wildlife species, and the scenic background for forest-based recreation, which adds another half-billion to Vermont's economy. A great majority of the harvesting (92% by a recent study) is under the direction of professional foresters, such as land enrolled in Use Value Appraisal (UVA), or publicly owned forest. Vermont landowners annually receive tens of millions of dollars in stumpage paid for their wood products, which pays their costs of ownership such as taxes, boundary maintenance, insurance, and forestry fees – and hopefully they have some return on their investment in their land. Tree growth is a long-term business with small but steady rewards.

Let me mention how all these products are integrated into a cooperative marketplace. Our forests are mostly mixed species, naturally generated from native seeds into "post-pasture" forests. We have a tiny percent of planted forests, like red pine, or Norway spruce which you might see in neat rows. These mixed forests often include both hardwoods and softwoods; trees with prime lumber, or the potential for these high-value products; and mixed with trees of poor quality, poor shape, or diseased in some way. Since trees grow, these natural forests get naturally crowded. Thinning and removal of disease is important for forest health, and allows us to concentrate the

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growth onto preferred species, and preferred stems. Replacing old forests with desired species is critical to sustainability, and a full mix of forest products is critical to managing these forests economically. A typical harvest sorts wood-products into 8 or 10 different markets.

As mentioned above, we have mixed forests, and mills that specialize in particular species or groups. Small knotted pine logs for quality lumber goes to mills like Mill River in Clarendon, whereas white cedar goes to Goodrich Lumber in Albany. Spruce and fir can go over to Milan New Hampshire, and hemlock is sawn by a few local mills. These are all sorted on the landing and loaded to different trucks. The hardwoods are also diverse, with mills like Ames True Temper in Wallingford specializing in ash for tool handles. Most hardwood lumber mills, like Allards in Brattleboro, take a full range of "furniture grade" logs. Columbia Forest Products in Newport purchases only "high-grade" veneer logs in certain species like maple, birch and oak. Some lumber logs are exported to Canada or overseas, and we prefer to add more value locally.

Ironically, we have a worldwide demand for our quality products, but we have to use the low-grade close to home. The logs that are not good enough for lumber get cut into particular lengths (usually 8-20') and sorted for firewood processing, homeowner firewood, and making wood pellets, such as VT wood pellets in Clarendon. Logs for pulp products get sorted by species groups, and sent to mills in Maine or New York. Some of our logging crews have the equipment to chip the waste products and send them for biomass fuel, such as is used at Ryegate.

This describes the sorting, at the landing, which is needed to accomplish long-term forestry objectives. Seldom do we have timber sales where only certain species of lumber-logs are harvested for just one market. To implement our forestry plans, we are harvesting the surplus stocking, and retaining particular forest structure, desired trees to grow, and seed sources for the future. Therefore, there is almost always a moderate or high percent of low grade wood to be removed. Logs and products are also sold between mills, and brokers accumulate and sort products as well. For example, a hardwood sawmill buys mixed loads of logs which include some softwoods which are re-sold, or some veneer which might go to Columbia in Newport. Slabs and edgings from lumber production are chipped and sold for paper, pellets, or industrial fuel around the region.

The Ryegate facility plays a critical role in these by-products, particularly in the forest management sector. We can cut and sell our high-quality hardwoods all around Vermont and all around the world. To continually harvest the best trees is not "good forestry". This has happened in Vermont forests, and still does to some extent. The best trees are more profitable to handle, and easy to sell. Sustainable forestry requires that we harvest poor quality trees to improve the future growth and future value. Forestland parcels enrolled in Use Value Appraisal are required to be sustainably managed, and this includes the removal of inferior/cull/unacceptable growing stock at some point in the forest life-cycle.



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Some of the poor-quality trees can be cut into firewood. Some can be made into pulp and trucked out of state. But the demand for these products, all combined, cannot keep up with the growth in the forests. Pulp processing in the northeast has declined in recent decades, and is not likely to rebound. Firewood, though popular in rural areas, can only use a fraction of the low-grade wood, and Vermont customers are fussy about what they will accept. From a forestry perspective the beauty of Ryegate is that they are not fussy. Limbs, tree-tops, crooked pines, rotten birches, are all “good enough” if they meet the sustainability standard. Ryegate chips from Vermont sources have to meet a high standard for both forestry and wildlife criterion.

Plenty of wood:

As our post pasture forests mature, the mortality rate has almost tripled in the past 30 years. This is mostly due to over-crowding. Our net growth has declined by this same amount - almost a million cords per year. This is the excess stocking in our forest. Some acres are well-managed, some are understocked or regenerating, but 70% are fully stocked to overstocked, and this is where the mortality is highest. We have harvested about half the total growth rate for 100+ years; this has been raved about by the forestry community as a success story. It is now catching up to us with maturing, overstocked forests and high rates of mortality. If anyone needs a quick check on wood supply, take a look at Google Earth, around Ryegate and Burlington. There are a few “heavy cuts” visible, but well-within the “1% per year” required to grow trees to 100 years of age on a sustainable basis. Ryegate can expect to be able to purchase wood at low prices for the next century.

Well-regulated harvesting:

Vermont harvest comply with a high level of stewardship, partially due to regulation but more due to the demands of landowners and their interaction with professional foresters – largely due to the success of Use Value Appraisal. Vermont foresters are now licensed by the Office of Professional Regulation. Most of the harvesting is on UVA land, with plans for harvesting approved by state foresters and regular inspections. Any “heavy cut” or regeneration cut over 40 acres has to be permitted with a review for forestry and wildlife standards. Every harvest has to meet Vermont’s strict water quality standards, and Ryegate harvests have an additional level of review for forestry and wildlife standards.

Carbon accounting:

“Good forest management is good carbon management.” This is a quote from Bill Leak, the “grandfather of northern hardwood silviculture” and a research scientist with the US Forest Service, based in Durham NH. Keeping forests forested is the first step, which we all agree on. The well-managed forest provides the best benefits, particularly to private owners who have to either justify the investment, or sell the land to someone else. Private lands are often “multiple use” for recreation, investment, wood products, clean water, and carbon is a part of this. And



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biomass harvesting can be part of the forest plan to provide these benefits, which help to keep the land as productive forests for generations to come.

You will likely be confronted with complex accounting and modeling systems for carbon in forests, and biomass harvesting. The VFPA is volunteer organization and does not have the staffing to provide Vermont-specific studies. But keep an eye on that mortality rate. Most of the "anti-biomass" models want to start their study at today's situation (which can make sense) but ignore that Vermont landowners have been growing trees for 100 years in many cases, and our timber-crop is not like corn, to be planted and cut each year. The "carbon debt" immediately after harvest is only applicable on the small scale/short time: the entire forest has been growing for a century. The studies want to look at one stand at a time, and not consider that 4 million acres of timber growth is happening each summer in Vermont alone. And no one wants to consider that a million cords of wood dies and rots in Vermont forests every year releasing carbon with no energy benefit. Harvesting the poorest quality trees for biomass, on a larger scale than presently, is the actual solution to this problem and can provide up to 2 million tons of carbon benefit annually, from our small state. We grant that a medium sized facility like Ryegate is only a portion of the solution, but the acres that have had biomass harvesting will have much lower mortality rates for the next decades. More would be better.

The Vermont Forest Products Association finds it confounding that such organized opposition to biomass energy is mobilized in the northeast; where our forests are generally well managed; no forests are "cut to make biomass fuel"; biomass is always a by-product of other forestry objectives. There is a recent movie called "Burned" that you may be asked to watch- it is full of items that are completely untrue of our region, that may be true elsewhere, but are irrelevant. There are many national and regional scientific studies that will confirm that bioenergy from sustainably managed forests is carbon neutral, or nearly so – and that managed forests overall provide a significant carbon benefit, partially due to the carbon-friendly wood products. We have directors who can provide greater information on this.

Economic impacts:

How can this low-value product have a significant impact on the economy? Landowners typically get a dollar per ton, or less, for their biomass in today's market. Loggers and truckers do make a portion of their daily rate from these chips. These tend to be the larger, mechanized logging crews with a million dollars' worth of equipment, employees who are professional loggers, paid a family wage with benefits and insurance, and these jobs are especially important in our rural communities. These dollars spread out for a 50-100 mile radius from our biomass plants in Ryegate and Burlington. (Wouldn't it be nice to have a couple of biomass plants in southern Vermont?) And these are energy dollars that are not sent out-of-state or out-of-country, so they have a multiplier effect as dollars get cycled through Vermont.

More importantly, the forestry benefits are profound. Each load of chips represents the weeds from one or two acres, and the trees that would have died, or be left to rot, if we had no biomass option. Worse yet, these weeds could be left to occupy the space of a higher value crop-



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tree. So, a load of chips represents improved growth and reduced mortality on an acre or two. With wood products business at about 1 billion dollars per year, divided by 4 million acres, is \$250 per average acre. Removing the weeds moves more of that growth toward high value products, with value added opportunities.

Biomass is a renewable, available source of energy for the northeast, and best of all, it is steady base-line power. It does not depend on the weather, and is not waiting for new battery technology. The raw material is naturally stored solar energy, converted to very efficient, reliable electricity as it is needed. It needs only a low level of subsidy to keep this as an important part of our energy mix. As the price of fossil fuels like natural gas go up, less subsidy is needed.

Thank you for considering the Ryegate Power Plant situation. It is unique. The wood products industry runs with very little subsidy compared to farming, and biomass requires very little compared to wind or solar electricity. Ryegate Power allows landowners to meet their goals of improving the quality of their forests, removing the weeds with some useful market to grow quality lumber products in sustainable ways, and reducing the mortality rate in the forest. We hope you will consider the public benefit to tens of thousands of landowners, the workers in forest products, and everyone who benefits from the health and services of our working forests.

We can provide expert testimony on many aspects of this, along with landowners, loggers and foresters who are directly impacted by the availability of the Ryegate plant as a market for biomass chips.

Respectfully yours,

Steve Hardy
President
Vermont Forest Products Association