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Wood-to-Energy in Virginia: Boon or Bane?

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It's likely most of you have heard about using wood to generate large-scale, domestic energy. Advances in converting wood to energy, estimates of lower energy returns from other renewable sources, questions about the consistency of solar and wind, and unease about the future of fossil fuel and changes in our climate have catapulted wood into the renewable energy discussion. It is also likely that many of you have wondered what this may mean for the sustainability of Virginia's forests. To be frank, the answer is less than clear. What we do know is that in large part it depends upon the state's forest owners and their ability to balance wood-to-energy and other forest uses.



Small woody materials being harvested for bioenergy. Photo by Ben Jackson, University of Georgia.

As interest in using wood for energy grows, so do questions about the affects that large-scale wood-to-energy markets will have on the sustainability of existing forest amenities and products. For instance, would a viable wood-to-energy market diminish or enhance timber productivity on working Commonwealth forests? And how might it impact wildlife habitat and visual quality? To find a telling parallel, one need only look to the challenges Iowan's face when balancing corn-to-energy with other objectives such as food.

Advocates argue that wood-to-energy will improve forest sustainability by providing much needed markets for low-grade and small-diameter trees. Detractors counter that wood-to-energy markets will only extract another commodity from our overtaxed forests and therefore increase the use of unsustainable practices. Both arguments have merit, but the truth is that forest owners in Virginia will ultimately decide whether wood-to-energy is a boon or bane.

Oddly enough, by improving the revenue opportunities associated with low-grade and small-diameter trees, wood-to-energy markets could actually encourage unsustainable practices. Such a result would be something akin to the Jevons Paradox which argues that threats to the sustainability of a natural resource are often heightened when improvements are made in the efficiency with which it can be used. Forest owners in Virginia may be tempted to squeeze more goods from their forests in the short-term at the expense of long-term forest sustainability.

A more constructive outlook suggests large-scale wood-to-energy markets will improve forest sustainability by providing much needed small-diameter and low-grade markets. Recent harvesting simulations on working forests in Mississippi and New York demonstrate that an operable and sustainable balance is possible between the trees removed for energy purposes and those dedicated for sale in the timber market. If wood-to-energy is to enhance forest sustainability in Virginia rather than threaten it, forest owners must commit to balancing existing amenities and products and cutting for energy purposes.

If and when large-scale wood-to-energy markets become viable in Virginia, the ability for its forest owners to



Wood chips, raw material of the wood-to-energy market. Photo by Shawn Baker, University of Georgia.

balance wood-to-energy demands and other amenities and products will be tested. If this balance is overlooked in favor of the short-term gains associated with wood-to-energy markets, then forest sustainability in the Commonwealth will certainly be jeopardized. The hope is that the state's forest owners will use forthcoming wood-to-energy markets as an opportunity to improve the possibilities.

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