Energy From Woody Biomass

What might the drive for wood-based bioenergy mean to forests?

Well, managing forests and removing forest products has been ongoing for decades. If we're to remove more biomass, then we simply need a bit more information about ecological effects in sensitive areas and updates on evolving harvesting technology. Existing research clearly shows that additional biomass removal will have few negative environmental impacts.

Using forests for energy production will certainly expand market opportunities, which in turn will expand forest management opportunities and may allow us to more easily meet additional goals and objectives. Better markets mean better forests.

The technology of producing heat and electricity from wood is well-established. Within a few years, transportation fuels and a new range of chemical products will be produced from wood. "Technology" is only a part of the bioeconomy equation. Getting wood to the mills and marketing the mill products involve complexities that we may not at first consider.

Supplying woody feedstocks are within the domain of forestry.

There is no doubt that Michigan forests are among the nation's most underutilized. We have huge volumes of net annual growth each year. The relative size of our wood-based industry is on the low side. The difficult part is figuring how much of that volume is actually accessible. How many forest owners will simply refuse to sell? And, what sort of forest products will new industries require? How much will they cost?

Foresters may be looking at additional ways to harvest forests and will likely need to modify silvicultural prescriptions. Existing and new research about forest types and site conditions will certainly limit the harvest in some places. Much this is already known.

We'll have more choices and will need to update our knowledge base. Machines that effectively thin small diameter stands are rare in the USA, as well as machines that harvest energy plantations, such as willow or hybrid poplar. Harvesting and moving woody energy biomass to a mill engages different sets of economic factors than what it takes to move logs or roundwood.

With another set of markets, we may be able thin stands at earlier ages, increasing growth rates. We will be able to use large volumes of currently non-commercial fiber. Abandoned farmlands might be used to grow energy crops. And lastly, we can better utilize the tops from logging operations. All this, of course, will need to be done within a framework of ecological sustainability, which is not as limiting as some might believe.

Policy decisions, new industries, and bioenergy technology all create exciting media sound bytes. But the fact remains that the forest component of a wood-based bioeconomy still needs quality forest management. And in Michigan, we have a wealth of competent expertise.

The energy potential from our forests exceeds that of all other combined Michigan renewable resources, all of which are needed to make a dent in our fossil fuel consumption. Sooner or later, folks will be knocking on the door of our forests to figure out the best ways to increase utilization of Michigan forests. A new and expanding industry is on the horizon. It should complement our existing industry, enhancing both.

Michigan may not be the first state in the country to develop in this arena and we're certainly far behind countries such as Sweden, Finland, and Denmark. Yet, we possess qualities that could make us a leader, if we play our cards right and embark on some strategic thinking.