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Ten Biomass Myths

The attached article (*Ten Biomass Myths*) helps clarify the use of wood for energy in our society where fossil fuel alternatives are clearly essential to our future. Energy from woody sources has huge potential with little downside and will need to a part of a new energy infrastructure.

Feel free to contact me if you have questions about this article or natural resources and natural resource management in general. I'm also open to suggestions for additional articles, if you have identified a particular need. The entire collection can be viewed on the Michigan Society of American Foresters website [*http://michigansaf.org/ForestInfo/Newspaper/0000-Directory.htm*]. **Contact: Bill Cook, 906-786-1575 (voice), 786-9370 (fax), email: *cookwi@msu.edu***

Ten Biomass Myths

Opponents of wood-based energy continue to employ inflammatory tactics, misinformation, and obscure or out-of-context science to make their points, even if some of the points have a dash of merit to them. Some of these counter productive claims, on the surface, appear to make sense. However, if one takes the time to either think about them, or better yet, do a review of the research and case studies, these myths evaporate rather quickly.

Our energy consumption is massive. Numbers with lots of zeros. This situation is important to keep in mind when thinking about how we are going to build a new energy infrastructure. Without a doubt, the current system is not going to work for too many more decades. Conservation and efficiency will be critical. Without them, little else is going to be effective. With that also in mind, we need to develop as many non fossil fuel technologies as possible. All of them. Including wood.

The good litmus test of a newer technology would be a comparison with current fossil fuel technologies, rather than against some idealized utopia. Consumption of fossil fuels has far greater negative impact than anything that is currently on the drawing board.

Below are some of the wood energy myths gleaned from actual "news" reports and oppositionist websites.

1. Wood-fired power plants are no environmental cure-all. Of course not. No single energy source will be a "cure-all," short of something yet undiscovered. However, wood energy, done properly, has an enormous potential. And for the most part, wood can be harvested with a minimum, if any, negative environmental consequences. Inversely, many positive outcomes are derived from timber harvest. Nobody has suggested that forests could replace all of our fossil fuel consumption, except the oppositionists.

2. Cutting down trees causes carbon to be released which contributes to climate change. Okay, this is sometimes true for the first several years following harvest, but after those forests have rebuilt their soil carbon capital (from atmospheric carbon), the regenerating forests then actually absorb carbon at a faster rate than before. More importantly, combusted carbon released into the atmosphere is the same carbon that came from the atmosphere. It's simply a matter of moving carbon among normal pools within the natural carbon

cycle. Scientists are still working on the mechanics of this cycle and there's more to learn, but the general picture seems to be reasonably clear. The big benefit of using wood, and other non fossil fuel sources, is preventing long-buried carbon from fossil fuel combustion from entering carbon cycle.

3. Ethanol takes more energy to produce than what you get. Almost certainly a myth when a complete life cycle assessment is used. Also, there is a large difference between ethanol from cellulose (e.g. wood) and ethanol from grains (e.g. corn). More important, again, is the displacement of fossil fuel consumption. Furthermore, consider the energy budgets of our current energy consumption. For example, coal-generated electricity, the bulk of our electricity, is grossly inefficient. That should make one think twice about the "greenness" of a plug-in electric car.

4. The emerging biomass industry will devastate our forests. Hmmm. If an owner and their forest could be so easily separated, it would have been done long ago. Simply because a new market emerges does not mean forest owners will be lining-up to harvest their woodlands. In fact, recent research from Wisconsin and Pennsylvania suggest that providing wood for energy is not a significant motivator for future timber harvest. On public lands, the current forest management mechanisms will remain in place, with the addition of recently developed biomass harvest guidelines.

5. Wood energy doesn't create many jobs. Not true. In Sweden, where wood based energy infrastructures are advanced, 250-300 jobs were created for each terawatt of wood energy. Michigan consumes 900 terawatts per year. Do the math. The jobs are not in utility facilities, which is often what opponents cite. The jobs are in the procurement, handling, and support within the feedstock supply chain. And, these are local jobs that keep energy dollars local.

6. Energy plantations will displace land used for forests and food crops. Nonsense. First, it is far too expensive to clear forests for energy plantations. The financial and economic budgets for such plantations are already marginal. Second, revenue from energy plantations is not likely to be competitive with that of traditional food or forest crops, at least in the near term. Third, the place to grow energy crops is on some (not all) of the millions of acres of retired productive farmland.

7. Energy plantations will exhaust soil nutrients. Not likely. The bulk of research regarding soil nutrient capabilities suggest biomass harvesting on most of our soil types and in most of our forest types is feasible. However, there are some soil types and some forest types where caution will be required. This knowledge is built into biomass harvesting guidelines.

8. Wood-fired facilities present a health risk from air pollution. The Europeans have studied this extensively. Proper emission control technology, which is well understood and a relatively simple technology, reduces potential pollutants well below acceptable levels. Wood combustion, compared to other feedstocks, is among the cleanest available, especially when compared to coal, which is currently our largest source of energy in the US. The black sheep of the wood burning world are those backyard furnaces. Modern wood-fired facilities don't have those problems.

9. Energy fiber will consume sawlogs and pulpwood that would be better used for higher value-added products. Think about this. Why would someone take a $500 log and sell it for $25? The market will determine where wood fiber goes. At this time, and well into the near future, energy markets will not typically be price competitive with already existing wood markets. In reality, lower quality material lacks sufficient markets. Today, there are huge volumes of currently non-commercial wood that could be sold into an emerging energy market.

10. There isn't enough wood out there to supply all the proposed projects. This, actually, is true but it's also a bit of a lame-duck argument. Feedstock supply is just one item on a long list that determines if a project

moves forward. Projects without feedstock won't happen.

Using wood to produce a portion of our energy demand has a lot of merit - environmentally, socially, and economically – especially in forest-rich regions like ours. Building a new energy economy will not be easy but it will be necessary. Challenges are known, and are being worked on. If oppositionist claims sound a bit exaggerated or dramatic, they probably are. Using science-based information and taking lessons from those more experienced will need to be important components of building our future.

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