

Comments to DOER on proposed new Biomass Thermal Regulations

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I have been a practicing forester in my own business in Massachusetts for the last 26 years managing thousands of acres of private forest land for my landowner clients. My business helps landowners lower their property taxes through the Chapter 61 Forest Land Tax Program while I help them improve both their property and timber values by designing and supervising improvement cuttings on their woodlots. I support more utilization of forest biomass because without low grade timber markets, we cannot practice great forestry.

Biomass is, in essence, stored solar energy and is a byproduct of our forestry operations which allows us to grow more high quality sawtimber which is the main product. Increased markets for forest biomass have produced more forest improvement cuttings which help landowners: manage their woodlots to a high standard by greatly improving timber quality and species composition; improve wildlife habitat; generates income; increases property values as well as timber values; and encourages landowners to keep their land in forest. Biomass markets and improvement cuttings also provide many real green jobs right up the wood supply chain and help to provide many different forest products for consumers and a source of clean locally produced renewable energy.

The use of wood for energy is carbon neutral as long as the forests are growing faster than they are being cut. Here in Massachusetts, forests are growing many times faster than they are being cut. There are numerous studies that show the great carbon benefits of biomass utilization.

For the last 10 years, I have designed and supervised biomass improvement cuttings on thousands of acres across the state. My work has been highly praised by the DCR Service Foresters who review my work as being among the best in the business. I have no problem finding work; work comes to me as landowners love the work we do. My forestry photo albums - <https://www.facebook.com/107694529310729/photos/?tab=albums> have achieved nationwide acclaim through the Society of American Foresters as well as social media.

The Decline of the Forestry Sector in Massachusetts

There has been a rapid decline of the forestry sector in our state. The legacy of our forests and our once thriving forest industry is a very sad one.

The beautiful Harvard Forest dioramas at the Fisher Museum - <http://harvardforest.fas.harvard.edu/dioramas> in Petersham show how our forests changed over time. First they were cleared for farms and then regenerated after the farmland was abandoned in the 1800's and into the early 1900's. The forests grew and a local sawmill industry grew along with the forest. Many small to medium sized sawmills operated in Massachusetts until the 1990's when almost all of them shutdown due to higher energy, regulatory, and labor costs. In addition, almost all of the timber harvesting done has been and continues to be destructive high-grade logging despite our Forest Cutting Law and Forester Licensing Law forbidding it. High-grading (also known as liquidation cutting) is the worst thing you could do to a forest. It removes all of the high value trees like red oak, sugar maple, cherry, and good white pine while leaving low value red maple, other low grade hardwoods suffering serious defects, hemlock pulpwood, and big multi-forked bully white pine. The low value trees cannot "pay their way out of the woods"

without a market for low grade timber. The only way we can restore the productivity of the staggering 1.5 million acres of private forest land that has been subject to devastating highgrade logging is to create more markets for low grade timber. About 10 years ago, we had a great opportunity to do so. The state at first promoted more forest biomass utilization then pulled the rug out from our industry. Madera Energy proposed a 50 MW biomass plant in Greenfield, Russell Biomass proposed a 50 MW plant in Russell and other smaller plants like the 5 MW plants for Munksjo Paper and Simonds International in Fitchburg. But after a small band of anti-forestry extremists raised some false flags, the Patrick Administration commissioned the “Manomet Biomass Study” in which the result was pre-ordained. Former Gov. Patrick instructed the participants of that study to put out a study which would kill local biomass production. Yes the fix was in. That “Study” acted as cover so Gov. Patrick could cripple an emerging industry in MA. Since then, that study has been totally discredited by the widely acclaimed Futuremetrics of Maine as well as by many other educational and industrial institutions around the country and the world. After that study was done, the most onerous and outrageous regulations were put in place which no other state in the entire country has! It has requirements for fuel certificates, slash retention, efficiency standards, and many other egregious and unnecessary rules.

Forests in Massachusetts are growing many times as fast as they are being cut! So as long as our forests are growing faster than they are being cut, the utilization of low grade junk timber for biomass energy is carbon neutral. It’s just common sense. After one of my Biomass Improvement Cuttings, the junk wood is processed into: chipwood for biomass plants which reduce fossil fuel consumption, firewood which reduces the consumption of imported heating oil; and the low grade white pine and hardwood sawlogs are processed into various lumber products which store CO2 for a long time. All the products produced from an improvement cutting have significant CO2 benefits. The end result is a higher quality forest which will be much better for future high value timber production while enhancing wildlife habitat and increasing property values.

Governor Patrick’s anti-biomass regulations killed over 2,000 new jobs in the forestry sector but most importantly, it ended all hope for landowners in western Massachusetts to improve the property and timber values of their woodlots. Good markets for all grades of timber provide many good jobs especially in our rural areas where there are few good jobs for our youth. Governor Patrick’s new regulations were the most devastating blow to the forestry sector in history.

Failures of the Massachusetts Forest Bureaucracy

The Massachusetts Forestry Committee has been defunct for 10 years as Gov. Patrick and now Governor Baker have refused to appoint any new members. The Forest Cutting Law states: “The state forestry committee, with recommendations of such other advisory committees as the director in his discretion may appoint, shall prepare tentative minimum forest cutting practices and guidelines.” The last Committee worked hard to revise the Forest Cutting Law and came up with many good recommendations but nothing ever happened as Gov. Patrick allowed the members’ terms to expire and never appointed any replacements as required by law.

The Chapter 132 Forest Cutting Law states in part that “the public welfare requires the rehabilitation, maintenance, and protection of forest lands for the purpose of conserving water, preventing floods and soil erosion, improving conditions for wildlife and recreation, and

protecting air and water quality, and providing a continuing and increasing supply of forest products...” But DCR approved liquidation cuttings defeat all of these noble purposes! Liquidation cutting is also a violation of the “Global Warming Solutions Act” as poorly managed forests sequester much less CO2 than well managed forests.

The Forester Licensing Law states that” Licensed Foresters shall advocate and practice land management consistent with ecologically sound principles”. However, DCR continues to approve Forest Cutting Plans filed by Licensed Foresters which call for destructive liquidation cuttings. This is illegal. It’s equivalent allowing a doctor to deliberately engage in malpractice!

The Forester Licensing Law also says that “the purpose is to protect forest landowners by requiring that individuals offering professional forestry services meet minimum requirements of education and experience.” But DCR insults us Licensed Foresters by allowing anyone to pretend they practice forestry as long as they don’t call themselves a forester! But every other licensed professional that are in the Division of Professional Licensure are protected against this devaluation and fraud of their profession. If you try and pretend to practice any of those other professions, you are subject to prosecution and severe penalties. This is because Licensed Foresters are for some strange reason licensed by DCR and not in the DPL.

NH has a consumer protection law for landowners called the “Deceptive Forest Business Practices Act”. In MA, landowners are constantly being ripped off by timber thieves and the state looks the other way. It’s long overdue that landowners had consumer protections too. Many elderly landowners have had their timber stolen and nothing was done!

As regulatory costs, energy costs, labor costs all greatly increased, and as a result of the big reduction in the availability of high value timber due to widespread destructive liquidation cutting, almost all of the sawmills in MA have gone out of business. It is not possible to bring them back, but we can begin to enforce our existing forestry laws, reduce job killing regulations, and promote more landowner friendly policies while improving our forests and creating more local jobs.

In NH, the forestry sector adds \$1.4 billion to their economy while they constantly are managing and improving their forests. In MA the forestry sector adds a small fraction of that number because almost all the wood cut here is exported except for some firewood. So not only are we exporting our wood, but we are also exporting many jobs as well. Forest industry in MA is essentially dead. But with your help, we can improve forestry in Massachusetts, create thousands of new jobs, while helping many Massachusetts landowners better manage their woodlots for timber production, wildlife habitat, recreation, and for its scenic value.

The huge Silvicultural Debt trumps the mythical “Carbon Debt”

Harvard Forest Timber Harvesting Study:

<http://harvardforest.fas.harvard.edu:8080/exist/apps/datasets/showData.html?id=hf080>

“The predominant form of harvesting was selective removal of commercially valuable tree sizes, grades, and species (e.g., red oak and white pine).

Removals of red oak sawtimber exceeded those of red maple by more than a factor of 4, in spite of the fact that red maple stem density is more than 4 times that of red oak and red maple sawtimber exceeds red oak by 8%. There is potential for a shift in regional species composition, as harvest preferentially focuses on red oak and white pine and generates conditions that favor red maple.

This regime of chronic disturbance is occurring over the entire landscape and exerting a major influence on forest composition, dynamics, and habitat quality. The pattern and intensity of harvesting has major ecological implications”

Harvard Forest could not bring itself to call it by its rightful name but we practicing foresters call that destructive highgrade logging. While the anti-forestry extremists and the discredited Manomet Biomass “Study” ranted about fictitious “carbon debts”, nothing is ever said about the huge “silvicultural debt” that has built up in our forests after ½ century of destructive highgrade logging which “takes the best and leaves the rest”.

But the only way we will be able to reduce the huge silvicultural debt is by throwing out the fraudulent Manomet Biomass “Study” as well as all the job killing regulations it spawned and get busy building at least 80 MW of biomass electric power plants (4 20 MW plants spread out across the state) which would serve as anchor tenants for the small emerging biomass thermal markets. Talk about other low grade markets is 100% pure bullcrap. They’ve been talking about it for decades and wasted millions promoting various scams but nothing ever worked. The only thing that has worked is biomass electric.

Good forest management reduces CO2 emissions by carbon sequestration and reducing the consumption of fossil fuel as we produce forest products and renewable energy. Good forestry enhances a forest’s carbon sequestration capacity by keeping trees healthy and promoting vigorous growth. Strong healthy forests are more resistant to insect pests and tree diseases and are better able to adapt to any future climate change. But the only proven way to promote good forestry everywhere is by promoting biomass electric.

The Discredited and Fraudulent Manomet Biomass “Study”

MA DOER has already cost over 2,000 jobs in the forestry/biomass sector when they used the Manomet Biomass “Study” to enact regulations that no other state in the country has. But Manomet has been widely discredited by many different studies:

<http://biomassmagazine.com/articles/5528/study-points-out-inherent-flaws-in-manomet-woody-biomass-study>

<https://www.google.com/#q=Carbon+Emissions+Accounting+%26+Manomet+Carbon+Policy+Study+Review+Jay+O%27Laughlin>

<http://phys.org/news/2015-11-export-wood-pellets-eu-environmentally.html> - New study from the University of Illinois shows that the greenhouse gas intensity of exporting wood pellets to Europe to generate electricity there is up to 85% lower than that of coal based electricity! So when we use biomass here, the carbon benefits are even greater!

<http://www.stateforesters.org/current-issues-and-policy/other-priorities/biomass-and-renewable-energy> - National Association of State Foresters support biomass

US Congress agrees that biomass utilization helps fight climate change: <http://thehill.com/blogs/congress-blog/energy-environment/281734-congress-confirms-biomass-should-help-fight-climate>

<http://northquabbinforestry.com/2010/12/14/forest-biomass-markets-promote-great-forestry/> - my own analysis.

<http://economics.mit.edu/files/7337> - This study by MIT shows it costs up to \$600 to displace one ton of carbon using solar pv while it only cost \$50 to displace one ton of carbon when using wood pellets instead of fuel oil. Thus wood pellets are more than 10X as cost effective as solar! Why are we subsidizing made in China solar anyway?!

The speculation that biomass power increases asthma rates because of the tiny amount of additional particulate emissions is false. Modern biomass plants – both electric and thermal – are very efficient, clean burning, and well within strict EPA standards. In addition, a peer reviewed study by the prestigious John Hopkins Hospital concluded that it is indoor air pollution that is the main cause of higher asthma rates.

http://harvardforest.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Be_rlik_JBiogeography_2002.pdf - In this paper by Harvard Forest entitled “The Illusion of Preservation”, the authors argue correctly that when we lock up or stop the management of our own forest lands, then we import more wood often from areas that don’t have our high environmental standards. So forest degradation and carbon emissions are simply exported. Hence, the “illusion”.

MA DOER should have been working with the other states that are in the RGGI to promulgate the same region wide regulations.

Biomass electric power can only supply about 5% of our power needs but the great benefit is the market it provides for low grade junk timber that has few if any other markets and it is essential to have large “anchor tenants” to support the smaller biomass thermal (heat) markets.

Large Biomass Markets in or near Massachusetts: New England Wood Pellet in Jaffrey, NH has a capacity to produce 84,000 tons of wood pellets from about 150,000 tons of mostly green wood and is the only significant thermal market near MA. Pinetree Power uses about 200,000 tons of wood chips/year and is the only significant market in Massachusetts.

<http://www.mass.gov/eea/docs/doer/renewables/biomass/bio-08-03-04-forest-ecol.pdf>

According to this research, MA forests can sustain a biomass harvest of 900,000 dry tons/year, which is equivalent to 1,800,000 green tons or enough to fuel 137 megawatts of biomass power. In addition, waste wood from tree trimmings, land clearing, ROW maintenance, etc. could fuel at least another 100 MW of biomass power.

There are about 400,000 acres of private forest land enrolled in the Ch.61 Forest Land Tax Program and/or Forest Stewardship Program. Harvesting an average of 30 tons/acre of biomass on 20,000 acres would produce 600,000 tons. A cutting cycle of 15 years could produce 300,000-600,000 tons/year. Another one million acres of private forest land could easily produce an additional 750,000 – 1,500,000 tons.

So before DOER enacts any more biomass regulations, you need to throw out the fraudulent Manomet Biomass “Study”. ALL biomass derived from Forest Cutting Plans that call for Long Term Forest Management should be eligible for REC credits. There is no need for elaborate and costly paper trails. In addition, green chips as well as firewood should be eligible for REC credits.

Real solutions for the Forestry and Biomass Sectors:

1. Build 4 20MW biomass power plants– one in the Northern Berkshires, one in the Southern Berkshires, one in the North Quabbin, one in eastern MA and the 38 MW plant scheduled for Springfield. Attached to each the 4 20 MW plants would be wood pellet facilities each producing 75,000 tons manufactured using heat from the plants. Homeowners would be encouraged to switch from oil to wood pellets by offering \$5,000 grants. Businesses would be offered larger grants depending on the size of the oil burner replaced. As more people start using pellets, more imported oil would be displaced and thousands more jobs would be created.

The REC credits and grants for this proposal would come from transferring all REC credits from destructive wind power and declaring a moratorium on any new REC credits for made in China solar “farms” and keep the cap on net metering for any more solar. Providing these new REC credits for both heat and power would provide the “biggest bang for the buck” in terms of local energy production, local job growth, and greenhouse gas reduction. But the greatest benefit would be for our forest land where forest productivity would be greatly enhanced and landowners would be encouraged to keep their land in forest.

In terms of CO₂ and biomass, this is the bottom line: Managed forests can sequester more Carbon annually than unmanaged forests. This is accomplished by utilizing materials from thinnings for energy to offset fossil fuel consumption, calculating the long term storage of carbon in durable wood products from harvested wood, and successfully regenerating the harvested forest to meet or exceed previous sequestration rates. Therefore, increasing the acreage under actual forest management will enhance the terrestrial C storage potential for existing forests in Massachusetts. Managed forests are also less apt to be developed rather than unmanaged forests so Carbon continues to be sequestered in those managed forests rather than being lost to development.

Let's work on real solutions for the forestry and renewable energy sectors rather than enacting yet more job killing regulations that are worse for the environment.