

Response to Proposed Changes to RPS Class 1 part A &B: Woody Biomass

When the Regional Greenhouse Gas Initiative (RGGI) was first written in 2005, the inclusion of woody biomass as a category in the Renewable Portfolio Standard (RPS) was a naïve error in the understanding of the timeframe within which the problem of greenhouse gases needed to be solved. At that time, the simple thought that trees can be re-grown must have seemed enough to justify woody biomass as a “renewable” fuel source for energy generation.

Then in 2010, Massachusetts DOER commissioned a study by the Manomet Center for Conservation Sciences. References to Manomet in the following are from the Executive Summary of the Biomass Sustainability and Carbon Policy Study published by Manomet in June 2010. Manomet took into account that burning a tree in an industrial furnace might take a matter of minutes and growing a replacement tree would take 20 to 40 years; thus at the beginning of the cycle, the generator is emitting CO₂ into the atmosphere that will not be reabsorbed by new growth for many years. The study compared this cycle of emissions and re-capture of CO₂ with generation by several different fossil fuels which have no means of re-capturing the CO₂. Coal and natural gas for generating electricity are the only ones relevant to this discussion.

The first thing to note in the comparison is that using woody biomass to generate electricity is much less efficient any fossil fuel. Manomet refers to this excess CO₂ emission as the “carbon debt” of using wood rather than a fossil fuel to generate a given amount of power. Manomet found that generating electricity from woody biomass as fuel repays the debt compared to coal after 21 years of generation along with a faithful program of re-planting trees. However, electricity generation using fossil fuels in Massachusetts has already transitioned from coal to natural gas, a much cheaper and more efficient fuel. The Manomet reports states on page 7 “When biomass is assumed to replace natural gas electric capacity, carbon debts are still not paid off after 90 years.” That is to say: **for almost the first century of operation, generation by woody biomass will produce MORE CO₂ than would natural gas for an equivalent amount of electric power!** The only reasonable conclusion from this is that woody biomass is NOT in any realistic, practical, effective way a renewable fuel.

But it gets worse. In 2018 the Intergovernmental Panel on Climate Change (IPCC) published a study titled Global Warming of 1.5°C. References here are from the

Summary for Policymakers part of that document. This report carefully documents:

- 1) the current status of close to 1°C of warming above the historical average,
- 2) the risks associated with an increase beyond 1.5°C and
- 3) an analysis of pathways to limit warming to that 1.5°C goal.

From page 14 of the IPCC report “In model pathways with no or limited overshoot of 1.5°C, global net anthropogenic CO₂ emissions decline by about 45% from 2010 levels by 2030”. The analysis calls for continued reductions until net zero emissions are achieved by 2050: 31 years from now. And this goal would not even reverse the recently increasing power of storms, extent of wildfires, recurrence of floods in some regions and droughts in others. It is only an attempt to stabilize our climate at a level somewhat worse than the current situation as global average temperature increases from 1 to 1.5°C above the historical average.

With this in mind, it should be clear that any method of energy generation that puts more carbon into the atmosphere than currently operating fossil fuel plants should not qualify for a subsidy via Renewable Energy Credits (RECs). This error in judgement of including woody biomass power generation as eligible for RECs may not have been foreseeable by the authors of the RGGI agreement in 2005, but it should have been corrected after the publication of the Manomet study in 2010. Now in 2019 after publication of the IPCC report, the continued presence of woody biomass as a fuel qualifying for RECs is a travesty.

Those RECs are financed by charges on electric bills across Massachusetts making this not only a travesty, but an insult to the ratepayers of this state. Diverting those funds into an activity that is now known with a high degree of certainty to put the lives and property of those ratepayers at greater risk than other possible uses of the funds is irresponsible at best, malfeasance at worst.

While it may take a change in law by the legislature to completely eliminate woody biomass from the RPS, any proposed rule change by the DOER should be designed to make it MORE difficult for a generator to receive RECs by using that fuel. The proposed changes to eliminate capacity requirements, lessen the administrative burden, and lower the efficiency standards are wrong and should be rejected.

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