



June 17, 2010

Michael Cronin  
NYS DEC - Division of Air Resources  
625 Broadway  
Albany, NY 12233-3254

Dear Mr. Cronin:

The Natural Resources Defense Council (NRDC) submits these comments with respect to draft Policy DAR-12 regarding the "Sustainably Harvested" determination for purposes of "Eligible Biomass" under Part 242. NRDC is grateful for this opportunity and encouraged that DEC has recognized the importance ecologically sustainable forest management and the complexity of carbon accounting for bioenergy.

All too often public policy and policy-makers repeat the mistake of assuming that all biomass is inherently carbon neutral. The purpose and background released with DEC's proposal captures the reality well:

However, the implicit carbon sequestration assumed with biomass is not a sufficient claim of carbon neutrality. That is because forest harvesting results in a decrease in the forest carbon stock and there are carbon emissions associated with harvesting, processing, and combusting biomass. Therefore, the premise of biomass carbon neutrality, or low carbon intensity, only holds true over time if adequate future re-growth and attendant carbon sequestration occurs to offset the CO<sub>2</sub> emissions from biomass harvesting, processing, and combustion.

A recent study, commissioned by the Massachusetts Department of Energy Resources and written by the Manomet Center for Conservation Sciences, does a good job of presenting an accounting framework and demonstrating how important the timeframe for reabsorption is to realizing any potential climate benefits of woody biomass.<sup>1</sup> The report is particularly sobering in laying out just how long it takes forests to reabsorb enough carbon to make the net emissions from burning biomass for energy the same as burning coal, let alone natural gas.

Another study released yesterday by the Environmental Working Group highlights the potential costs of not carefully accounting for biomass carbon.<sup>2</sup> The report estimates the quantity of wood

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<sup>1</sup> Manomet Center for Conservation Sciences. 2010. *Massachusetts Biomass Sustainability and Carbon Policy Study: Report to the Commonwealth of Massachusetts Department of Energy Resources*. Walker, T. (Ed.). Natural Capital Initiative Report NCI-2010-03. Brunswick, Maine. ([http://www.mass.gov/Eoeea/docs/doer/renewables/biomass/Manomet\\_Biomass\\_Report\\_Full\\_HiRez.pdf](http://www.mass.gov/Eoeea/docs/doer/renewables/biomass/Manomet_Biomass_Report_Full_HiRez.pdf))

<sup>2</sup> Dr. M. Booth and R. Wiles, *Clearcut Disaster: Carbon Loophole Threatens U.S. Forests*, Environmental Working Group, June 16, 2010. (<http://static.ewg.org/pdf/EWG-clearcut-disaster.pdf>)

that would be needed to meet a federal carbon cap and renewable electric standard if both move ahead with the mistaken assumption that all biomass is inherently carbon neutral, and how dramatically this assumption would undermine the greenhouse gas reduction goals of a cap. The report finds that even including agricultural residues, forest residues and other sources of biomass, the US would still need to cut tens of thousands of square miles of forests to meet these mandates. Furthermore, the resulting emissions from burning that biomass would negate 80 percent of the power sector greenhouse gas reductions targeted by the carbon cap in the comprehensive climate and energy bill passed by the U.S House of Representatives. While the assumptions about some sources of biomass such as energy crops are pessimistic, one cannot read this report without concluding that the task that DEC has set before itself in setting sustainable harvesting guidelines is critical to protecting our forests and climate.

Unfortunately, DEC's proposed guidelines are too broad when it comes to certifying sustainability and incomplete when it comes to accounting for carbon reductions, and ensuring that any reductions from eligible biomass are real, additional, permanent, verifiable and enforceable.

The range of certification options allows a wide array of different practices and not all of them produce ecologically sustainable outcomes. The Forest Stewardship Council (FSC) is the only system that maintains adequate requirements for protecting biodiversity and ecological values more broadly (old-growth, soil, water, etc), and prohibits ecologically damaging practices such as conversion to intensively managed single species plantations (which results in a decline of biodiversity at the stand and landscape level). FSC follows strict requirements for assessing and conserving High Conservation Value Forests (HCVFs), old growth and biodiversity. Each stand of old growth on an FSC-certified forest is protected. The other programs do not protect the extent or values associated with old growth or a broad range of biodiversity, and do not include sufficient protections for water and soil resources.

While not explicit, the proposed guidelines suggest that DEC may be counting on certification to ensure reabsorption of the carbon released when woody biomass is burned. Maintaining forest land cover is a necessary requirement if released forest carbon is every to be recovered, but given the wide range of practices allowable under the five different certification options, one can hardly assume that all of them—or really any of them—will result in increased carbon sequestration over any period of time. Even the FSC—the most rigorous of the bunch—was not developed to account for carbon flows. Certainly, many of FSC's practices are likely to increase sequestration (increased rotation lengths, protection of late-successional habitat, wider stream buffers, etc), but in the absence of accounting, one cannot be completely sure how these practices will affect carbon on the ground when adopted. In the case of SFI, ATF and USDA Stewardship plans, allowable practices such as conversion, reduction of rotation length and minimal streamside buffers will likely reduce total carbon sequestration. Intensive management—allowable under all three of these programs—will not guarantee a recovery of carbon from the combusted biomass over a 100 year time frame.

As to DEC's proposed permanence requirement, not enough information is presented to understand exactly what sort of accounting DEC is relying on, but the 100 year standard is not a

guarantee of carbon neutrality. Furthermore, even if it was, 100 years is simply too long to wait for significant carbon reductions. Finally the option to “demonstrate” that a shorter time period is sufficient is simply too open-ended and does not provide the industry sufficient direction or enough certainty around climate protection.

Taking these concerns in order, after the initial release of carbon sequestered in a standing forest, a well-managed forest will start re-growing and may achieve approximately the same level of carbon density as the original forest. However during that time, the atmospheric concentration of heat trapping gases has been higher than it would have otherwise been, increasing associated environmental damages, and we have foregone the sequestration that would have happened in the original forest. Additionally, as noted above, given the range of management practices allowed under some of the certification systems, carbon concentrations in the forest may never reach their original level. The combined result is that 100 years does not assure carbon neutrality and, more importantly, provides even less assurance that a shift to bioenergy is good from a warming forcing perspective. In other words, the concentration of heat trapping gases may end up the same over time but result in more global warming and its associated damages.

Even if 100 years did offer sufficient assurance of carbon neutrality, it is simply too far in the future and therefore uncertain to warrant accepting the higher emissions rates that occur in the near-term. The Manomet study calculates that burning whole trees emits about 30 percent more carbon pollution than coal per kilowatt-hour. According to the study, under normal forest management, it takes over 21 years just to reabsorb this extra pollution that is released in the first year of burning the wood. And assuming (as we normally would) that we operate the biomass plant every year, it would take over 40 years for the reabsorption to simply offset these emissions. This means that co-firing coal plants with trees leaves the climate worse off for over 40 years. Even after 90 years of operations, the biomass energy would only result in a 19 percent improvement in carbon emissions over coal.

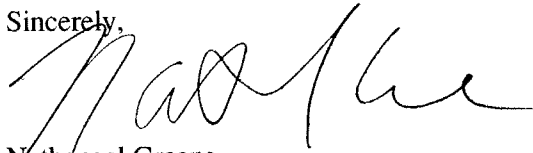
We cannot afford to make global warming pollution concentrations worse for 20 years—let alone 40—nor should we be gambling that good forest management will be maintained decades into the future to offset the near-term damage we know we’ll cause by burning trees for energy.

Fortunately, there are sources of biomass that can either be re-grown on much shorter time frames or would be releasing their carbon to the atmosphere anyway. Short-rotation woody crops grown on fallow land, if carefully managed to limit synthetic fertilizer inputs and energy-intensive irrigation practices, should provide a source of low-carbon biomass for energy. Similarly, a fraction of residues from sustainable lumbering and wastes from wood removed for non-energy purposes can provide low-carbon biomass. Their carbon would have been released through natural decomposition anyway, so capturing energy prior to this release does not result in additional atmospheric releases. These materials, however, are very limited because of their ecological and economic value.

Based on these concerns, NRDC recommends that DEC limit the list of eligible certification systems to FSC and shorten the timeframe during which it requires biomass to achieve low or

near zero net carbon emissions. Finally, the accounting method that DEC uses to determine net carbon emissions from biomass and judge any “demonstrations” of partial values or different timeframes should be clear and transparent. There are sources of biomass that can help us meet our energy and climate needs. Unfortunately, they are more limited than we would all prefer, but only predictable, transparent and accurate accounting will drive the markets to develop these options.

Sincerely,

A handwritten signature in black ink, appearing to read "Nathanael Greene". The signature is fluid and cursive, with the first name being the most prominent.

Nathanael Greene  
Director of Renewable Energy Policy