Massachusetts Environmental Energy Alliance

June 1, 2009

Attn: Stacy DeGabriele
Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
One Winter Street 6th Floor
Boston, MA 02108
climate.strategies@state.ma.us

Re: Draft Report: Statewide Greenhouse Gas Emissions Level: 1990 Baseline and 2020 Business as Usual Projection

Dear Ms. DeGabriele,

The Massachusetts Environmental Energy Alliance is pleased to submit the following comments on DEP's draft report on Statewide Greenhouse Gas Emissions Level: 1990 Baseline and 2020 Business as Usual Projection. Formed in 2009, our group is committed to providing science-based analysis of the environmental impacts of energy policy in the state of Massachusetts. We commend the progressive policy of the State of Massachusetts in initiating greenhouse gas (GHG) accounting, and hope that our comments will help increase the utility of the 1990 baseline and 2020 business-as-usual (BAU) scenarios. We offer the following comments:

Consistency with national and international carbon accounting protocols

In order to make data most useful, Massachusetts GHG accounting should be at least as detailed as that employed by EPA, and should follow the best accounting practices offered by the International Panel on Climate Change (IPCC). On this point, we note that while the public hearing draft correctly includes some of the sources required to be reported by EPA, the list is not comprehensive. Sources of GHG emissions are listed as including fossil fuels, industrial processes, agriculture, and waste management, but forestry activities and biomass burning are not included. This omission seems especially glaring since the agricultural category includes emissions from burning, but forest products harvesting and burning is not included.

Inclusion of forests and forestry activities in baseline and BAU scenarios

The public hearing draft states that because of uncertainties around historical data, gross emissions figures are used that do not account for carbon sequestration in forests and soils. As the draft document acknowledges, increased use of biofuels, including burning of woody biomass for energy, has the potential to affect emissions in the state. As such, it is essential that forest carbon be estimated and that effects of forestry activities be assessed as laid out in the IPCC best practices document, which calls for explicit yearly accounting in forest carbon stocks and considers any harvesting to represent an immediate and direct source of GHG emissions. Transparent accounting that separately itemizes harvest emissions and forest growth is necessary not only to develop a scientifically defensible and generically consistent baseline, but also to ensure

acknowledgment of the degradation in the state's forest carbon sink that will occur with biomass harvest for large-scale biomass energy plants.

Forest carbon and emissions accounting should also apply to calculations of Massachusetts importation of excess energy capacity produced in other states, especially where biomass constitutes a significant portion of "renewable" energy generation. This argument does not only apply to the GHG impacts of burning forest biomass; currently Maine generates a significant proportion of its "biomass" energy from construction and demolition debris, an activity considered "carbon neutral" even though the capacity for re-sequestration of carbon emissions is undocumented and virtually non-existent in the absence of new forest establishment.

We also encourage DEP to acknowledge indirect effects of biofuels on land use change in its greenhouse gas accounting, and to conduct full lifecycle analyses. The recent decision of EPA to account for indirect effects of land use change driven by biofuels development is a welcome precedent that should encourage the State to adopt these conventions as well.

We understand that there exist several studies that can provide forest and land-use data for the 1990 and 2020 scenarios. We suggest use of the US Forest Service Forest Vegetation Simulator tool, which should not only allow back-casting to 1990 levels but development of various BAU scenarios to embody differing levels of forest exploitation. Forest Service personnel have indicated that this is a reasonable use of the model.

We also note that the draft document indicates that accounting for land use change presents difficulties. Such accounting is clearly a necessity for development of accurate GHG scenarios. Acknowledging the difficulty of developing such scenarios, EPA's methodology and approach encourages revisions and back-casting as historical data are refined, and the State's approach need be no different. The perfect should not be the enemy of the good.

Categories where data are not available from EPA SGIT data

The draft document requests suggestions for how to report emissions for categories where EPA SGIT data are not available for Massachusetts. It is dismaying to note that agricultural fertilizer use is among these categories. Agricultural fertilizer use is a major source of greenhouse gases. Since parts of Massachusetts are heavily agricultural, omission of this category, at least, could constitute a major "hole" in accounting. To remedy this omission, we remind DEP that data from the USDA agricultural census are available on not only a county basis, but also even at the zip-code level. Data on the acreage planted to individual crops can be combined with data from USDA on average fertilization levels to produce a very credible yearly accounting of fertilizer use, an approach that has been used in a number of agricultural and water pollution modeling studies.

Emissions of "indirect" greenhouse gases

It is not clear from the guidance document whether baseline and business as usual scenarios will include the indirect greenhouse gases. However, we note from EPA's

inventory document that such reporting is now considered best practice. The following is from EPA's 1990 – 2007 Inventory of Greenhouse Gas Emissions and Sinks:

> *2.3. Indirect Greenhouse Gas Emissions (CO, NOx, NMVOCs, and SO2)*
> The reporting requirements of the UNFCCC41 request that information be provided on indirect greenhouse gases, which include CO, NOx, NMVOCs, and SO2. These gases do not have a direct global warming effect, but indirectly affect terrestrial radiation absorption by influencing the formation and destruction of tropospheric and stratospheric ozone, or, in the case of SO2, by affecting the absorptive characteristics of the atmosphere. Additionally, some of these gases may react with other chemical compounds in the atmosphere to form compounds that are greenhouse gases.

We encourage DEP to include indirect greenhouse gases in state accounting.

Conclusion

The short amount of time left before the July 1 deadline for DEP's first GHG inventory will obviously preclude inclusion of all categories of greenhouse gas sources and sinks. However, it is not unreasonable that a year from now these suggestions and others could be incorporated. MEEA stands ready to assist with science-based analysis as the state moves forward and refines greenhouse gas accounting over time.

Thank you for consideration of these comments.

Mary S. Booth, PhD
Massachusetts Environmental Energy Alliance