

**Comments of Biotechnology Industry Organization on  
EPA's Science Advisory Board *Deliberative Draft Report* for Biogenic Carbon Accounting**

**May 10, 2012**

The Biotechnology Industry Organization (BIO) appreciates the opportunity to submit comments on the Environmental Protection Agency's (EPA) Science Advisory Board's (SAB) Deliberative Draft Report (Draft) of the Biogenic Carbon Emissions Panel. BIO is the world's largest biotechnology organization, with over 1,100 member companies worldwide. BIO's members are the leaders in the development and production of conventional and advanced biofuels, renewable chemical intermediates, bioplastics, and other bioproducts, bioprocesses, biocatalysts, and next generation energy crops, such as switchgrass, miscanthus, short rotation woody crops, and algae.

BIO commends the SAB on its efforts to review and comment on EPA's Accounting Framework for Biogenic Carbon Emissions from Stationary Sources (Accounting Framework), taking into consideration the scientific and technical issues associated with accounting for emissions of biogenic carbon dioxide (CO<sub>2</sub>) from stationary sources.

**Renewable Biomass Carbon Credit**

The treatment of biogenic carbon is a complex issue that is closely tied to the treatment of land use change (LUC). Several metrics are possible for biogenic carbon and these are applied inconsistently among fuel LCA models, for example. BIO is concerned that the complexity of the proposed Accounting Framework may effectually disincentivize the use of sustainable biomass for biofuels, biopower and other forms of bioenergy. Accordingly, we agree with the fears expressed in comments submitted by the Edison Electric Institute and National Alliance of Forest Owners that the complexity of the Framework and the associated regulatory compliance costs may cause some facilities to move away from using biomass even though some

biomass sources compare favorably to fossil energy. BIO encourages the EPA and its SAB Panel to work toward streamlining and simplifying the requirements of the Accounting Framework to help better support industry's efforts to transition to and utilize sustainable biomass, thereby helping to increase U.S. production and use of domestically produced alternative energy in a sustainable manner.

Some of the comments submitted to the SAB, which express concern about the short-term effects of combusting sustainable biomass for biofuels, fail to consider all of the benefits associated with utilizing sustainable biomass for biofuels. Combustion of fossil fuels permanently and irreversibly leads to increased concentrations of CO<sub>2</sub> in the atmosphere. Combustion of biofuels and other biogenic energy sources recycles CO<sub>2</sub> emissions at different temporal and spatial scales, through renewable biomass feedstocks. If sustainably sourced, such combustion does not result in lasting increases in CO<sub>2</sub> concentrations in the atmosphere. As the American Forestry and Paper Association points out in its comments on the Draft, in contrast to fossil fuels, carbon is stored in biomass and after release upon combustion can be recaptured in biomass re-growth. Other uses of biogenic carbon, such as biochemicals and bioplastics, may even sequester CO<sub>2</sub>, reducing atmospheric GHG concentrations.

The inherent benefits of utilizing renewable biomass feedstocks versus traditional fossil fuel consumption are consistent with federal policies designed to increase U.S. energy security and independence and reduce carbon emissions, and should therefore be recognized in the Accounting Framework. Indeed, when regulating biofuels, life-cycle based methodologies should start from the premise that all renewable biomass receives full credit for recycling carbon. Deviations from this premise should be considered only as consistent with internationally recognized methodologies for taking into account all direct life-cycle emission impacts.

As BIO has previously stated, it is essential to recognize that not all sources of biogenic carbon are renewable. Biogenic carbon from old growth forests, peat bogs, or other sensitive and enduring ecosystems is clearly not rapidly renewable. Time accounting for the carbon stocks and fluxes in longer-rotation forestry and its multiple potential products is extremely complex and accepted methodologies for doing so are only just emerging (e.g. Matthews et al. 2010). Use of high carbon stock lands (see EC RED) to grow feedstocks for biofuels or other bioenergy would result in damage to vital ecosystems and increased atmospheric concentrations of CO<sub>2</sub>, and is not supported by BIO and its membership.

### **Indirect Land Use Change Calculations**

A recently published report by the National Academy of Sciences highlights important concerns with calculating indirect land use change (ILUC) for biofuels. Generally, as the report points out, there are significant uncertainties inherent with ILUC for several reasons, including the fact that it is very difficult to make the causal links necessary to calculate ILUC – especially the ILUC of biofuels. The report further explains that the range of ILUC greenhouse gas (GHG) emissions estimates for biofuels is so great because of the difficulty of separating biofuels from other drivers. Current model estimates of carbon intensity for biofuels may be biased downwards or upwards if not accurately inclusive of all indirect emissions (without much more research, this issue will not be easily solved). These include: the inability of economic models to recognize unmanaged, therefore un-priced and untraded, land; much of this land is high-carbon-stock forest, and forest has been an important source of cropland (Gibbs et al., 2010); overestimates of price-yield elasticities for crops (Roberts & Schlenker 2010); the assumed production period over which ILUC is ‘amortized’ may be too long or too short for some fuels; decreases in livestock GHG emissions may offset a large fraction of ILUC emissions. It suggests

that in order to understand the differential, a reference scenario of a world without biofuels, potentially including GHGs from oil sands and other nonconventional sources of oil, would be needed.

### **Recommendations on the treatment of carbon in products**

BIO commends EPA for the inclusion of the term for carbon in products (“PRODC”) in the Accounting Framework. This is a very appropriate term when considering the CO<sub>2</sub> emissions from stationary sources. It excludes from the emissions calculation carbon that comes in with the feedstock that goes out in products. It allows the product users to account for the emissions (if any) related to the use and disposal of the products, and does not force the stationary source operator to track or model the use of materials, which are beyond their control. Although some products may be combusted into CO<sub>2</sub> in the near future, others may become durable goods or captured essentially inert in a landfill. The SAB Draft suggests that the PRODC term is invalid, and that the stationary source operator must account for all downstream emissions. This is an unreasonable burden on the operator, is not controlled by the operator, and is not relevant to the emissions that the operator is responsible for. EPA was correct to exclude the burdens for product carbon to be excluded by the stationary source operator.

### **Equal treatment for combustion and decomposition within the BAF framework for each feedstock category**

If the BAF framework is chosen, BIO encourages the EPA and its SAB Panel to provide clear guidance related to how decomposition of biologically-based materials will be treated: The focus on SAB’s Draft seems to be how biogenic GHG emissions will be treated assuming that these biological-based materials would be combusted. If BAFs are generated for various feedstocks, BIO would encourage that these default BAFs would apply for both combustion and decomposition, including, but not limited to, digestion and fermentation. This

would work towards a system that is more streamlined and simplified related to the Accounting Framework to better support industry's efforts to utilize sustainable biomass.

### **Treatment of Municipal Solid Waste**

With respect to treatment of municipal solid waste (MSW), BIO member companies agree with EPA's recommendation that the biogenic accounting factor (BAF) for the biogenic carbon emissions in MSW should be 0.

### **Conclusion**

BIO appreciates the opportunity to provide comment on the SAB's efforts to review and comment on EPA's Accounting Framework for Biogenic Carbon Emissions from Stationary Sources, EPA's initial consideration of the complex issues associated with carbon accounting for biogenic materials and energy sources. BIO looks forward to participating in future regulatory proceedings that will consider how to adapt accounting for biogenic GHG emissions for specific regulatory purposes that may differ from the Title V program, and will be happy to act as a resource for the SAB or the EPA at that time.