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***Via Electronic Transmission: Stallworth.holly@epa.gov
Jenkins.jennifer@epa.gov***

Dr. Holly Stallworth, Ph.D.
Economist and Designated Federal Officer
Clean Air Scientific Advisory Committee (CASAC)
Environmental Protection Agency
Mail Code 1400R
1300 Pennsylvania Ave., NW
Washington D.C. 20004

RE: Comments to SAB Review of EPA's Draft Accounting Framework for Biogenic CO₂ Emissions from Stationary Sources, March 9, 2012

Dear Dr. Stallworth:

On behalf of the Solid Waste Association of North America (SWANA), I would like to take this opportunity to comment on the Scientific Advisory Board's (SAB) review of the United States Environmental Protection Agency's (EPA) *Accounting Framework for Biogenic CO₂ Emissions from Stationary Sources*, dated March 9, 2012. SWANA is a not-for-profit professional association with nearly 8,000 members from both the public and private sectors of the solid waste management field.

Overall the solid waste management sector has accomplished very significant reductions of greenhouse gas (GHG) emissions from the activities for which we are responsible. Since the 1970s, GHG emissions from this sector have been reduced by 75% while total generation of solid waste has more than doubled. No other major industrial sector in North America can make a similar claim for the goods or services they provide. These reductions have been achieved through an integrated system of solid waste management that includes landfill gas recovery, waste-to-energy, increased diversion from landfills through recycling and composting, as well as compliance with emissions requirements and improvement in overall management.

Waste is a "must manage" product of society and environmentally sound waste management is an essential public service. Solid waste management agencies and companies are responsible for safely managing wastes that are generated by other residential, commercial or industrial activities, while also protecting public health and welfare.

SWANA has previously provided feedback and comments to EPA with respect to biogenic carbon emissions including being a signatory on the July 2010 letter to Administrator Jackson, responding to the call for information regarding biogenic emissions in September 2010, and providing comments to the biogenic deferral in May 2011. We are pleased to provide comments to the SAB's review of EPA's Framework.

The Nature of Municipal Solid Waste Management Emissions

Landfill gas (LFG) is produced from the decomposition of municipal solid waste within a landfill. It typically contains approximately 50% methane. The balance of the gas contains carbon dioxide (CO₂), oxygen, nitrogen and various other organic compounds. Emissions from landfills occur through the surface of the landfill (fugitive emissions) and through control devices (engines, flares, etc.). Control devices convert methane to CO₂ for emission controls (flares) or to produce energy (engines, turbines, etc). Cover soil also oxidizes methane to also produce CO₂. Methane is considered anthropogenic, but all CO₂, including the CO₂ component of fugitive emissions, CO₂ generated from cover soil methane oxidation and CO₂ from control devices (including both pass through CO₂ and CO₂ converted from methane) are all biogenic emissions.

Waste to energy (WTE) operations generate energy by burning municipal solid waste materials. The CO₂ generated has both a biogenic component and an anthropogenic component. The delineation of biogenic versus anthropogenic CO₂ at WTE facilities is well understood. In fact, the EPA's Mandatory Green House Gas Reporting Rule requires MSW combustion facilities to separately report fossil-based and biogenic CO₂ emissions. This is accomplished with the required use of the ASTM method D-6866, which uses radiocarbon dating analysis to delineate fossil-based from biogenic CO₂ emissions. The range of biogenic CO₂ emissions from MSW combustion ranges from about 65-70 percent.

Categorical Exemption for Biogenic CO₂ Generated from the Management of Municipal Solid Waste

EPA's determination of the regulatory status of biogenic CO₂ will have very significant consequences for the regulatory burden associated with the Prevention of Significant Deterioration (PSD) and Title V GHG Tailoring Rule ("Tailoring Rule"). The decision will also have enormous consequences for other Administration priorities to promote production and use of renewable fuels and renewable electricity. SWANA encourages the SAB to note that the use of municipal solid waste (MSW) biomass as an energy source is vastly different from the use of many other types of biomass. Not all sources of biomass reduce emissions equally on a lifecycle basis. The Manomet Institute raised this concern in their June 2010 study. Direct and indirect emissions from land use changes should be considered when determining the sustainability of a particular type of biomass. In the 2010 study the authors contend that across-the-board exemption of carbon dioxide (CO₂) emissions from bioenergy -- the use of plant materials known as biomass for the production of renewable fuels -- is improper in greenhouse gas regulations if emissions due to land-use changes also are not included". However as EPA stated in the preamble to the renewable fuel standard in March 2010, "Renewable fuel produced from feedstocks consisting of wastes that would normally be discarded or put to secondary use, and which have not been intentionally rendered unfit for productive use, should be assumed to have little or no land use emissions of GHGs." MSW is not a product that is harvested or grown. It is made up of waste items that have met their intended use and therefore are extending their usefulness by being used as energy. The use of waste as a fuel source is unique from other types of biofuels and results in a lower life cycle emissions rate. Because of this the use of biogenic MSW is widely accepted as carbon neutral.

One of the first questions the SAB panel considered was whether it supported either a categorical approach to biogenic emissions inclusion or exclusion from regulation. We agreed with the panel's response that carbon neutrality cannot be assumed for all biomass energy absent a consideration of a particular feedstock's production and consumption cycle. However, we disagree with the panel's "all or nothing" approach to this question. SWANA requests that the SAB panel reconsider this issue and recommend to EPA that biogenic CO₂ emissions from management of MSW (including LFG and WTE) warrant a categorical exclusion from the Tailoring Rule.

Biogenic Accounting Factor for Municipal Solid Waste Should be Zero

The Panel recommended EPA consider identifying appropriate feedstock categories that could be classified as “anyway” emissions so that their biogenic accounting framework (BAF) would automatically be set to zero. SWANA agrees with the Panel’s recommendation, and believes that the LFG category warrants an automatic BAF of zero, given the extensive life cycle analyses already conducted by the Agency. For WTE, the panel recommends that the EPA should take into account the mix of biogenic and fossil carbon when waste is combusted. We also agree with this recommendation.

The Panel also recommended that for LFG, EPA should incorporate emissions and partial capture of methane from landfills. There was no further explanation of this concept. Methane collection efficiency has no impact on the nature of CO₂ emissions from landfills and must be dealt with outside of the biogenic deferral. There is certainly no scientific or policy basis for regulating biogenic CO₂ emissions from landfills differently from other biogenic CO₂ emissions sources simply because landfills also emit methane. Landfill methane emissions are widely recognized to be anthropogenic GHG emissions, and the biogenic deferral never encompassed them nor will it affect the way they are regulated. Furthermore, under the Mandatory GHG Reporting Rule, MSW landfills calculate and report only methane emissions. Their biogenic CO₂ emissions are recognized in Subpart HH of the Rule as carbon neutral and are not even required to be reported as biogenic emissions. The only biogenic emissions associated with MSW landfills that are reportable under the Mandatory GHG Reporting Rule are those from combustion sources using LFG as a fuel that are otherwise required to report under Subpart C of the Rule.

Landfill Carbon Sequestration Should be Incorporated

The biogenic emissions panel notes that “the focus of the *Framework* is on point source emissions from stationary facilities with the goal of accounting for any offsetting carbon sequestration that may be attributed to the facility’s use of a biogenic feedstock.” Thus, the long-term storage of the biogenic carbon component of MSW sequestered in landfills should be reflected in the BAF for MSW management in landfills. This carbon sequestration is a significant offset in the mass balance of carbon flows within landfills. EPA and the Intergovernmental Panel on Climate Change account for this offset in national inventories, and the offset can be readily applied at the facility level as well.

SWANA recommends that the EPA *Framework* account for carbon sequestration of MSW disposed in landfills when assessing the BAF for biogenic emissions of CO₂ from MSW landfills. Carbon sequestration is as quantifiable as methane emissions from landfills, the biological process is well understood and described in Agency documents and peer-reviewed scientific literature, and is offsetting effects are easily assigned at the facility level.

SWANA appreciates the opportunity to comment on the SAB’s review document. If you have any questions please feel free to contact me directly at 301.585.2898 or at jskinner@swana.org.

Respectfully Submitted,



John H. Skinner, Ph.D.
SWANA Executive Director and CEO