USCC Position Statement on the Performance Standard Provisions in the American Clean Energy and Security Act

July, 2009

The American Clean Energy and Security Act of 2009 should include, not cut, carbon offset incentives for composting and municipal anaerobic digestion projects

Position of the US Composting Council (USCC) on the Performance Standard Provisions in the American Clean Energy and Security Act of 2009 (ACES; H.R. 2454):

- The USCC supports a consistently-applied, market-based approach to climate change regulation that provides flexible incentives for achieving large and sustainable reductions in landfill methane emissions

- We are concerned that the currently proposed "performance standard" approach for reducing landfill methane emissions will inadvertently discourage the diversion of methane-producing wastes from landfills, and ultimately lead to an overall *increase* in landfill methane emissions

- We believe that market-based, carbon offset incentives for landfill methane avoidance projects will provide a more flexible, sustainable and cost-effective mechanism for reducing landfill methane emissions, while returning carbon to the soil

- **We urge the removal of performance standard requirements for landfill methane emissions and support the inclusion of composting and municipal anaerobic digestion as eligible offset project types**

Background:

The US Composting Council (www.compostingcouncil.org) is a national, non-profit trade and professional organization promoting the recycling of organic materials through composting.

The USCC supports strong national environmental and energy policy. The American Clean Energy and Security Act (ACES), passed recently by the US House of Representatives, is a critical step in establishing the fundamental regulatory structure needed to significantly reduce carbon emissions while growing the economy and dramatically increasing the sustainable use of organic resources. We applaud Speaker Pelosi, Chairmen Waxman and Markey, and all the members of the House who helped craft and pass this landmark legislation.

However, we believe that the bill, as currently drafted, **will not fully accomplish its goal of substantially reducing landfill methane emissions**, a significant source of US greenhouse gas emissions. By choosing to impose performance standards[1] rather than employ market-based mechanisms to regulate landfill methane, ACES may inadvertently discourage the adoption of technologies and practices that represent the most cost-effective and sustainable approaches, **possibly even leading to unintended and undesirable *increases* in landfill methane emissions**.

Furthermore, ACES requires the EPA to regulate landfill methane emissions using (currently unspecified) performance standards that may impact the "additionality" of ***avoided*** landfill emissions, and therefore **creates substantial uncertainty about the eligibility of composting and municipal anaerobic digestion projects to earn carbon offset credits**. This uncertainty is likely to discourage early investment in the development of recycling, composting and anaerobic digestion infrastructure, including the creation of 'green jobs', critical to achieve significant and cost-effective diversion of methane-producing organic wastes from landfills in order to avoid landfill methane emissions altogether.
Just like electricity, water and gasoline, waste disposal is a fundamental necessity of modern life. A trip to the supermarket to buy even the 'greenest' goods inevitably results in discarded metal, glass, plastic, paper and food. Although many of these materials can be reused or recycled, some still aren't: in particular, over 97% of the 30 million tons of food

[1] Title III, Section 331 "Section 811. Standards of performance"

discards produced in the US ends up in landfills where they produce methane, a potent greenhouse gas[2]. According to the EPA, 133 million metric tons of CO_2 equivalents, almost 2% of the human-caused greenhouse gas emissions in the US, come from decaying organic materials in landfills[3].

Ways to reduce landfill methane emissions:
There are two fundamental approaches for reducing methane emissions from landfills:

1. Don't put organic wastes in landfills and avoid methane production in the first place, or
2. Capture and destroy methane from landfills as it is being generated.

Of these two options, ***avoiding*** **landfill methane is much more effective than** ***capturing*** **it**. Here's why: Many of the large landfills in the US are already required to collect and combust landfill gas as a result of the Clean Air Act's New Source Performance Standards (NSPS) rule. However, on average, **for each ton of organic waste that is landfilled in the US, only about 45% of the methane it produces is captured**[4]. There are three main reasons why landfill methane capture is currently so inefficient: i) not all landfills are required to capture landfill gas, ii) gas collection systems vary widely in their collection efficiencies, and, iii) gas collection systems are typically installed several years after wastes are buried, yet rapidly decaying organic wastes, such as food discards and yard wastes, produce much of their methane before gas collection can occur.
One option for regulation is to simply extend existing NSPS rules to require that all landfills install gas collection systems. However, **even if *all* landfills were required to install conventional gas collection systems, somewhere between a quarter and a third of the methane produced by organic wastes would be completely missed (emitted to the atmosphere) due to the lag time between waste deposition and onset of gas collection[5].**
On the other hand, **diverting organic wastes from landfills can be a highly effective practice for avoiding methane emissions in the first place**. The most common alternatives to the landfilling of organic wastes include composting, use as a nutrient source on agricultural land, and use as a renewable energy source for waste-to-energy facilities. Emerging technologies such as anaerobic digestion, gasification, and production of cellulosic ethanol are also likely to create additional demand for organic resources. All of these processes either avoid significant methane production or produce methane under enclosed and highly-controlled conditions where methane collection efficiency is, by design, close to 100%
In fact, several states and numerous communities have for many years banned the landfilling of organic materials such as yard wastes and wastewater biosolids; many others have set diversion goals. Such bans are already a highly effective means of avoiding methane emissions from landfills. And until landfill gas collection efficiencies improve dramatically, any reversals of these bans would only ***increase*** methane emissions and overall climatic impact (despite any small increases in renewable energy production that may occur through the use of landfill gas).

Performance standards for landfill methane emissions (and their consequences):
Require all landfills to capture landfill gas?
As mentioned above, an easy (albeit inefficient) regulatory option would be to simply extend existing NSPS rules to require that almost all US landfills install conventional gas collection systems. This is the approach that California has taken recently as an early action measure adopted under their Global Warming Solutions Act of 2006.[6] While this type of performance standard may be appropriate for closed or older landfills where waste has already been deposited, on newer landfills it may inadvertently create a perverse economic incentive to increase the landfilling of organic waste and minimize diversion. To understand why, it's important to recognize who would ultimately pay for this type of unfunded mandate. With very few waste disposal options currently available, **increased landfill costs resulting from installation of required gas collection systems will be passed on to waste generators (including households, schools and hospitals, communities, businesses, food providers, etc.) in the form of increased disposal fees**. Once limited capital is sunk in mandated gas collection systems, it will be less available for alternative approaches such as organic waste diversion programs.

[2] US EPA (2007) MSW Generation, Recycling and Disposal in the US: Facts and Figures for 2006
[3] EPA (2009). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007
[4] Ibid, Annex 3, Table A-230, page A-284.
[5] Based on first order decay model assuming no gas collection in the first three years and from 75-90% thereafter; although new technologies may enhance gas collection efficiency or methane oxidation – unproven technologies are not typically viewed as suitable candidates for performance standards.
[6] http://www.arb.ca.gov/regact/2009/landfills09/landfills09.htm

In order to keep these additional costs as low as possible, captured methane could be used to produce renewable energy (which receives attractive subsidies in ACES). The more methane collected, the lower the cost. Methane-producing waste will be viewed as a 'resource' for landfills and ***increasing*** landfill methane production to 'fuel' renewable energy production will make good economic sense. Unfortunately, given the low overall methane recovery rate of conventional landfill gas collection systems, **increased landfill methane production will also increase methane emissions to the atmosphere**. And, without offset credits, any economic incentive to improve gas collection efficiency would be based solely on the subsidized gas value, not on carbon emissions. The net result of this type of performance standard is that **communities will be forced to invest in technologies that create economic incentives to *increase* overall methane emissions from landfills**. Certainly not what was intended by the authors of ACES.

Ban methane-producing wastes from landfills?

Theoretically, this would be an extremely effective option for reducing and eventually eliminating landfill emissions (as long as only low-carbon emitting practices were allowed as alternatives to landfilling). The concept of "zero-waste to landfills" is a fundamental principle of sustainability and a common goal among green communities, environmentalists and Fortune 500 manufacturers alike. However, due to a lack of alternative waste management infrastructure at the appropriate scale, organic waste diversion and management options are currently too expensive for this to be an equitable or politically feasible solution without substantial subsidies. ACES neither anticipates nor provides a funding mechanism for this option.

Other types of performance standards?

Many other performance standards could be imagined for regulating landfill methane emissions, but unfortunately, none are specified in ACES. Presumably the authors felt that no matter what performance standard the EPA might select in the future, it would prove to be more effective than reliance on market-based incentives such as carbon offsets, but failed to make clear the justification for this belief.

Yet according to the IPCC[7], in sectors where the development of new technologies and infrastructure is critical to achieve substantial emission reductions (such as the waste management sector), financial incentives may perform better than regulations and standards. The USCC, based on its long experience developing sustainable alternatives to landfilling, agrees with the IPCC on this point.

<u>Carbon offsets provide a flexible, sustainable and cost-effective mechanism for reducing landfill methane emissions:</u>

Currently, voluntarily landfill methane capture projects represent a success story for carbon offsets; with at least 60 formally-registered projects in the US that are reducing landfill methane emissions aided by carbon market incentives. The EPA developed an offset quantification protocol for this several years ago as a part of its Climate Leaders Program, and most other state and voluntary registries (CCAR, RGGI, CCX, ACR, VCS, etc.) have done the same. The Environmental Defense Fund recently developed a list of twelve "*high-quality projects that we've reviewed carefully and would turn to for our own offset needs*" [8] – nine of these were landfill methane capture projects. Clearly, carbon offset projects that capture and destroy landfill methane are well understood and broadly accepted by a large group of landfill operators, municipalities, regulatory agencies, environmental groups and voluntary carbon programs and markets.

Projects that ***avoid*** landfill methane emissions, such as composting, are also beginning to participate formally in the carbon market. Recently, the Chicago Climate Exchange approved a protocol to quantify the amount of landfill methane emissions that could be avoided by composting projects that divert methane-producing wastes from landfills. The California Climate Action Registry is slated to release a similar protocol late this year. Numerous municipalities, school, hospitals, food retailers, and others are also implementing or developing new programs to divert food and other wastes from landfills to composting and anaerobic digester projects with an expectation that carbon offset incentives will provide revenue streams important to the success of these projects. The USCC strongly supports the establishment of a robust, market-based offset program as an essential component of national cap-and-trade climate regulation, as well as a clear mechanism for supporting and transitioning existing offset projects until a federal program is in place. This will not only provide effective program-wide cost-containment, but

[7] IPCC, 2007: Summary for Policymakers. In: *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*

[8] CarbonOffsetList.org

will promote the early and rapid development and penetration of innovative mitigation practices into sectors, such as the waste management sector, that are otherwise difficult to cap directly.

We do not believe that landfill methane emissions should be regulated by new command-and-control style performance standards, which are likely to discourage needed innovation and infrastructure development. Instead, **all technologies and projects that capture or avoid landfill methane emissions, such as landfill gas collection, composting, and municipal anaerobic digestion, should be eligible for carbon offset incentives**.

This will create a strong and immediate stimulus for both landfill gas capture ***and*** organics diversion projects and will reduce landfill methane emissions more quickly, cost-effectively and sustainably than a plan to eventually impose performance standards.

Recommended language modifications:

1. **The following changes to Title III, Section 331 "Section 811. Standards of Performance (a)(1)(B) (page 956, line 21) would remove the requirement for performance standard regulations for landfill methane emissions:**

   ''(B) The Administrator shall include in the inventory under this paragraph each source category that is responsible for at least 10 percent of the uncapped methane emissions in 2005. Notwithstanding any other provision, the inventory required by this section shall not include sources of enteric fermentation and landfill methane emissions.

2. **The following changes to Title III, Section 331 "Section 733. Eligible Offset Types (a) (page 782, line 14) would adopt and modify language from S. 2191 (Section 2403. Eligible Offset Project Types (b)(4)(B)), as passed by the Senate Environment and Public Works Committee, to include projects that capture or avoid landfill methane emissions as eligible offset project types:**

   ''SEC. 733. ELIGIBLE PROJECT TYPES.
   (a) LIST OF ELIGIBLE PROJECT TYPES.—
   (1) IN GENERAL.—As part of the regulations promulgated under section 732(a), the Administrator shall establish, and may periodically revise, a list of types of projects eligible to generate offset credits, including international offset credits, under this part.

   (2) INITIAL LIST —The list of eligible project types under subparagraph (a) shall initially include, at a minimum –

   (A) methane capture and combustion at landfills;

   (B) avoidance of landfill methane emissions by composting or anaerobic digestion

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