

## **Defining Landfill Gas as Solid Waste Implications for Renewable Energy & Innovative Materials Management**

The Agency's statements in the NHSM rulemaking record (the Response to Comments document), and the deletion from the CISWI rule of the definition of "contained gaseous material" clarified as "gases that are in a container when the container is combusted" have created significant uncertainty about the regulatory status of landfill gas combusted in pollution control devices and as a fuel.

### **Regulating LFG as a solid waste will have a dramatic and detrimental impact on the use of LFG as a renewable fuel,**

disrupting a significant portion of the US renewable energy portfolio. According to DOE's Energy Information Administration, the entire domestic solar industry produced a little over 800-thousand megawatt hours of power in 2009. That same year WM produced over five times that amount of electricity from landfill gas.

WM has 131 landfill gas-to energy (LFGTE) projects and has been producing LFGTE since the mid-1980's. Municipalities, state and federal agencies, and private entities have invested in LFG to energy projects with strong encouragement from:

- Congress (Renewable Energy Production Tax Credit) available since the early 1990's;
- EPA's Landfill Methane outreach Program (LMOP);
- 29 state Renewable Portfolio Standards that recognize LFG as a renewable energy source; and
- EPA's Renewable Fuel Standard (RFS2) regulation (for transportation & heating fuel) that specifies LFG as an advanced biofuel and biogenic MSW remaining after reasonably practicable separation of recyclables as renewable biomass;
- OSWER cites LFG to energy as part of its "Green Remediation" goals.

Private companies and local governments have made significant capital investments to make these renewable energy projects possible. About a half a billion dollars have been invested in projects across the country to deliver landfill gas to third parties for use as fuel.

### **Failure to recognize LFG as a legitimate fuel will undermine significant sustainability investments by cities and small communities, private companies large and small, and members of the federal family.**

Examples of how LFG fuels many companies' and Federal Agencies' sustainability goals:

- LFG provides 95% of NASA Goddard Spaceflight Center's heating energy;
- DoD is turning to LFG to electricity to power its bases (e.g., Ft Benning);
- DARPA awarded WM's partner, Terrebon, a \$20M contract to make jet fuel from LFG and organic waste;
- LFG powers Dell's Corporate HQ campus, BMW's Greenville Mfg facility, DuPont, Dow, GM, Ford plants to name a few;
- LFG powers U. of New Hampshire's facility heating;
- LFG powers small businesses in rural communities: paint shops, greenhouses, glassblowing, schools
- LFG converted to LNG powers over 300 WM garbage trucks in CA

## **Regulation of landfill gas under Section 129 would be detrimental to the economy and the environment.**

Regulation of the combustion of landfill gas for energy recovery under section 129 would likely end these beneficial projects. We would simply return to flaring the landfill gas. Customers purchasing landfill gas as a fuel would stop doing so. The benefits of criteria pollutant reductions and greenhouse gas emission reductions associated with using landfill gas as a fuel would be lost.

Regulation of landfill gas under Section 129 of the CAA would also dramatically affect the cost of capture and control of landfill gas. Landfill gas flares, engines and turbines (all of which are approved pollution control devices under the MSW Landfill NSPS and NESHAP) would need to be replaced with thermal oxidizers to meet the section 129 standards. EPA estimated the annual costs of compliance per site to be about \$186,000, or for WM more than \$50 million per year. Our rough estimates of the capital costs for WM to install thermal oxidizers to replace flares would exceed the total estimated costs of the CISWI rule for its intended sources (about \$412 million). The costs would be ruinous to the local governments that own and operate many landfills.

## **EPA is already successfully regulating Landfill gas emissions.**

EPA has established extensive regulatory programs based on the determination that landfill gas is not a solid waste.

WM has already invested about \$330 million in over 200 active LFG collection systems and spends about \$30 million each year on O&M.

Federal regulation of MSW landfills under sections 111 and 112 of the CAA, and promotion of LFG capture and beneficial use has been highly successful as demonstrated in EPA's U.S. GHG Inventory, which shows LFG emissions have declined by over 20% from 1990 through 2009.

## **The Derived-From Rule has never been pertinent to the status of Non-Hazardous Solid Waste.**

The Derived-From rule states that all wastes that are produced as the result of treatment, storage, or disposal of a listed hazardous waste are regulated as that listed hazardous waste §261.3(c)(2)(i). The same is true of characteristic wastes, unless the resulting waste does not exhibit a hazardous characteristic §261.3(d)(1). **There is no such derived-from concept in Subtitle D of RCRA.** (see §257.2 Solid Waste Facility Definitions and 258.2 Definitions under MSW Landfill Criteria) In fact, the Derived-From Rule only applies to wastes derived from hazardous wastes. (See <http://homer.ornl.gov/sesa/environment/guidance/rcra/derived.pdf>)

**Extension of this Derived-From concept to Non Hazardous Solid Waste will render renewable energy and materials recovery from MSW inoperable in the U.S.**