WASTE MANAGEMENT

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Ms. Lucille Van Ommering
Executive Office, Office of Climate Change
California Air Resources Board
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Via Email and Web: lvanomme@arb.ca.gov and
http://www.arb.ca.gov/lispub/comm2/bcsubform.php?listname=dec-14-pdr-ws&comm_period=1

Subject: Proposed CARB GHG Cap and Trade Regulations with respect to Waste-to-Energy Facilities

Dear Ms. Van Ommering:

On behalf of Waste Management (WM), I appreciate the opportunity to submit the following comments on establishing a cap-and-trade program for greenhouse gases in California. WM firmly believes that waste-to-energy is an important tool in helping to reduce greenhouse gas emissions through the generation of clean, renewable energy and we are in strong support of the comments submitted on behalf of our industry by the Energy Recovery Council (ERC) recommending that waste-to-energy be excluded from the CARB cap-and-trade program. Waste Management, as does ERC, firmly believes that any future programs to control greenhouse gases, whether at the federal, regional, or state level, should recognize and capitalize on the net greenhouse gas reductions provided by waste-to-energy.

Waste Management, Inc. is the leading provider of comprehensive waste management and environmental services in North America. The company serves approximately 20 million municipal, commercial, industrial, and residential customers through a network of 367 collection operations, 355 transfer stations, 273 active landfill disposal sites, 16 waste-to-energy plants, 134 recycling plants, and 111 beneficial-use landfill gas projects – many of which operate in California.

Since the early 1970s, our Wheelabrator division has been delivering successful waste-to-energy projects, providing clean, renewable energy and saving space in local landfills. Wheelabrator facilities have converted more than 157 million tons of municipal solid waste into more than 85 billion kilowatt-hours of clean, reliable electric power. Each day Wheelabrator-operated waste-to-energy plants generate enough electricity to power more than 600,000 homes.

As articulated in the ERC letter, our industry is extremely concerned regarding the Preliminary Draft Regulation (PDR) for a California Greenhouse Gas Cap-and-Trade (C&T) Program – and the manner in which waste-to-energy facilities appear to be included in the proposed C&T regulations. While we are pleased that the PDR recognizes that biogenic emissions from waste to energy facilities are not subject to C&T regulations as these emissions are part of the "near term carbon cycle" and are not anthropogenic emissions. However, we are concerned that the PDR proposes to regulate the anthropogenic (fossil) waste combustion emissions under C&T – without recognizing the additional avoided GHG emissions associated with waste-to-energy facilities, including:

1. Avoided fossil emissions from other energy sources,
2. Avoided methane emissions by diverting waste from landfills, and
3. Avoided GHG emissions associated with the recovery and recycling of ferrous and non-ferrous metals as part of the waste-to-energy process.

CARB has expressed reservations in recognizing these avoided emissions in view of the need to avoid "double-counting" and other concerns. However, WM believes that these concerns can be simply avoided by simply recognizing waste-to-energy facilities as a form of waste management rather than within the electricity generating sector – and exclude waste-to-energy facilities from the C&T system.

WM acknowledges that we have argued that many landfills are capable of achieving high degree of methane capture and recovery. CARB has responded that while that may be true for individual landfills, it is clearly not the case for all landfills. CARB has consistently argued that waste disposal in landfills currently leads, on the average, to only a 77.5% methane control efficiency (75% collection and 2.5% methane oxidation) – that results in 22.5% methane emissions to the atmosphere. However, with the recent adoption of the new CARB adopted methane control measures, CARB and the CIWMB have previously estimated that an overall 83% control efficiency will be achieved resulting in additional methane emission reductions of 2.0 MTCO2e. However, even with these higher efficiencies, CARB still apparently believes that landfills will emit 17% of methane generated to the atmosphere. WM comtinues to maintain that it is possible for individual landfills to achieve even higher degrees of methane control efficiency. Using Tunable Diode Laser and Flux Box technologies we have estimated methane control efficiencies in excess of 90% at some of our California Landfills. Of course, all of the above numbers are speculative, but CARB cannot have it both ways:

- Assume that there are methane emissions from landfills, ***but***
- Not allow recognition of avoided methane emissions when waste is diverted from landfills.

One of the major problems with the PDR is that CARB has apparently chosen to regulate waste-to-energy facilities as part of the "Energy Sector", rather than part of the Waste and Recycling Sector. Waste Management firmly believes that CARB should reconsider this apparent draft decision and exclude waste-to-energy facilities from the energy sector by moving waste-to-energy to the Waste Sector. In so doing, *CARB should exclude waste-to-energy facilities in view of the real, albeit difficult to quantify, avoided emissions.* Why does this make sense? WM believes that the following reasons, many of them further articulated in the ERC letter, should lead CARB to this conclusion:

- Waste-to-energy facilities produce clean, renewable energy through the combustion of municipal solid waste in specially designed power plants equipped with the most modern pollution control equipment to clean emissions – fully capable of meeting California's strict emission standards.
- A lifecycle analysis, such as the Municipal Solid Waste Decision Support Tool (MSW-DST) developed by EPA, is the most accurate method for understanding and quantifying the complete accounting of any MSW management option. A life cycle approach should be used to allow decision makers to weigh all greenhouse gas impacts associated with various waste management activities rather than targeting, limiting or reducing greenhouse gas emissions on a source-by-source basis.
- The Intergovernmental Panel on Climate Change recognizes waste-to-energy facilities as a commercially available key GHG mitigation technology.
- Other greenhouse gas regulatory programs, such as the European Union Emission Trading Scheme (EU-ETS), the Regional Greenhouse Gas Initiative (RGGI), and Congressional climate change legislation (sponsored by California's Congressman Waxman and Senator Boxer) under consideration should be viewed as potential models upon which to base a new California cap-and-trade program – at least with respect to waste-to-energy. Under these regulatory schemes, waste-to-energy facilities are specifically excluded due to their ability to reduce GHG emissions from waste management (just as CARB has already recognized for mandatory commercial recycling).
- The net GHG reductions achieved by waste-to-energy have been recognized internationally under the Clean Development Mechanism, as part of the Kyoto Protocol. Waste-to-energy projects can generate credits through the approved methodology AM0025, "Avoided emissions from organic waste through alternative waste treatment processes."
- The German Ministry of the Environment published a report in 2005 entitled "Waste Sector's Contribution to Climate Protection," which states that "the disposal paths of waste incineration plants and co-incineration display the greatest potential for reducing emissions of greenhouse gases." The German report concluded that the use of waste combustion with energy recovery coupled with the reduction in landfilling of biodegradable waste will assist the European Union- 15 to meet its obligations under the Kyoto Protocol.
- The U.S. Conference of Mayors adopted a resolution in 2004 recognizing the greenhouse gas reduction benefits of waste-to-energy. In addition, the U.S. Mayors Climate Protection Agreement supports a 7 percent reduction in greenhouse gases from 1990 levels by 2012. By signing the agreement, mayors have pledged to take actions in their own communities to meet this target, and have recognized waste-to-energy technology as a means to achieve that goal. Over 900 mayors have signed the agreement.
- Columbia University's Earth Institute convened the Global Roundtable on Climate Change (GROCC), which unveiled a joint statement on February 20, 2007 identifying waste-to-energy as a means to reduce CO_2 emissions from the electric generating sector

and methane emissions from landfills. This important recognition from the GROCC, which brought together high-level, critical stakeholders from all regions of the world, lends further support that waste-to-energy plays an important role in reducing greenhouse gas emissions.

- Avoided emissions that are unique to waste-to-energy and that cannot be achieved by any of the other fossil fuel (or renewable energy) sources. Indeed, if an overall life-cycle assessment of the fossil fuel energy source were used to include energy production and transportation emissions, the emissions associated with the other fossil energy sources would be even higher.

- *Low Carbon Fuel Standard*. The CARB already employs life-cycle analyses as part of the LCFS estimate emissions associated with fuel sources that go far beyond the emissions from simply combusting the fuel.

- *Mandatory Commercial Recycling*. The CARB has included mandatory commercial recycling as one of the early action measures for which regulations will be developed in 2010 in conjunction with your "sister" agency – CalRecycle. The emissions reductions estimated to be achieved as part of increased commercial recycling do not occur at the point where the recycling and recovery activity takes place at the local government level. Rather, the GHG reductions are estimated GHG reductions that occur from the use of recycled commodities instead of virgin materials that result in estimated energy savings (e.g., by typically using the USEPA WARM model: http://www.epa.gov/climatechange/wycd/waste/calculators/Warm_home.html). These are exactly the same sort of avoided emissions associated with the ferrous and non-ferrous metal recovery in waste-to-energy operations.

- CARB has already made the apparent decision to not include landfills in the C&T regulations – at least for the time being. We applaud that decision. The stated reasons for excluding landfills is that the methane emissions associated with landfills are extremely difficult to reliably measure or estimate at the individual facility level and the CARB has already adopted direct control measure regulations to minimize fugitive methane emissions from landfills. A similar argument can be made regarding waste-to-energy facilities, which as "transformation facilities" are considered another form of disposal under California solid waste law. It will be extremely difficult to accurately quantify avoided emissions associated with waste-to-energy. Why not, as you are apparently doing with landfills, simply exclude waste-to-energy facilities from regulation under the forthcoming C&T regulations?

- Indeed, CARB's sister agency, the CIWMB (now CalRecycle) recently completed a comprehensive life-cycle assessment of GHG reductions associated with waste management practices – by employing a life cycle assessment. For more information go to: http://www.calrecycle.ca.gov/Temp/Climate/default.htm. The initial conclusions of the CIWMB life-cycle assessment is that the greatest degree of GHG reductions from the waste and recycling sector is achieved by maximizing energy recovery from waste.

- CARB has recognized that the Climate Action Reserve (CAR) as a possible entity through which tradable GHG reduction credits may be recognized. CAR has already adopted a GHG offset protocol for waste conversion technologies that recognizes the benefits of diverting organic waste from landfills to reduce methane emissions. The CAR

is also currently developing a parallel protocol form compost operations. Both protocols rely on avoided emissions from another source (landfills) to generate GHG emissions reductions.

Subjecting waste-to-energy facilities to a California GHG Cap and Trade system without recognizing their overall lifecycle benefits will be inconsistent with other California integrated waste management policies and will jeopardize the continuing economic viability of these operations. Any program that places waste-to-energy under the cap would have the unintended consequence of increasing the release of greenhouse gases since communities may choose to close facilities or cease pursuing new capacity rather than pay the cost of compliance with a cap-and-trade program. The potential closure or reduced operation by these facilities could easily result in more waste being disposed of in California landfills and reduced metal recycling & recovery, effectively a form of emissions "leakage" that CARB is aggressively attempting to minimize. By recognizing the net reductions in greenhouse gases achieved by waste-to-energy and not regulating it under a cap, CARB can insure that waste-to-energy continues as a viable means to reduce landfill disposal and increase metal recycling and recovery – along with associated GHG emission reductions.

Concluding Recommendations

Consistent with the views of the ERC, WM strongly requests that waste-to-energy facilities be recognized for their avoided GHG emission benefits that are unique to this energy source. Rather than include waste-to-energy in the proposed cap and trade regulations ***or*** to impose a convoluted process to track and record avoided emissions associated with waste-to-energy, WM recommends that CARB simply recognize the additional waste life-cycle GHG reduction benefits associated with waste-to-energy. We request that, on this basis, CARB exclude such operations from the forthcoming cap and trade system.

WM appreciates the opportunity to provide our views on greenhouse gas policies in California and is available to discuss this matter further at your convenience.

Very Truly Yours,

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Director of Regulatory Affairs/West

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