



May 22, 2006

***Via Electronic Mail:*** [rggicomm@gw.dec.state.ny.us](mailto:rggicomm@gw.dec.state.ny.us)

To: RGGI Staff Working Group  
Subject: RGGI Draft Model Rule

Waste Management, Inc. (WM) appreciates the opportunity to comment on the Draft Regional Greenhouse Gas Initiative (RGGI) Model Rule. WM has participated in the development of the RGGI as a member of the Northeast Greenhouse Gas Coalition (Coalition). WM contributed to the development of Coalition comments regarding RGGI and endorses the Coalition comments on the draft model rule and incorporates them herein by reference.

WM commends the hard work and creativity of the Staff Working Group in developing the RGGI program. We support the underlying goals of the program to both reduce greenhouse gas (GHG) emissions and to serve as a potential prototype for a national GHG reduction program. Our comments are focused primarily on providing constructive advice to improve the carbon offsets provisions of the program so that they will serve to control costs and stimulate voluntary GHG reductions.

As the nation's largest operator of municipal waste landfills, waste-to-energy facilities, and refuse collection vehicles, as well as the nation's largest recycler, Waste Management is a major stakeholder in any public policy that addresses climate change. WM recognizes its obligation as an industry leader to continue its efforts in developing technical solutions to reduce greenhouse gas emissions from the waste industry and to participate in the development of sound climate change policy in the U.S. WM contributions to greenhouse gas (GHG) reduction occur through:

- 1. The destruction of methane gas emissions from landfills,***
- 2. The operation of landfill gas-to-energy, biomass-to-energy and waste-to-energy plants that produce electricity, fuels, and chemicals to displace fossil fuel use,***
- 3. Development of landfill gas to liquid natural gas conversion technology,***
- 4. Development of bioreactor landfill technology that will allow the more effective collection and use of landfill gas,***
- 5. Advancing technology for alternative fuel use and engine design to lower the greenhouse gas emissions from refuse collection and transport vehicles, and***
- 6. Increasing the recovery of valuable materials through the nation's largest recycling program.***

Waste Management is a founding member of the Chicago Climate Exchange, the only and original voluntary GHG reduction and trading exchange in the United States. WM viewed the CCX program as an opportunity to learn how to operate under a cap and trade program. We committed to making a 4% reduction from our baseline emissions by 2006. In exchange, we have participated in developing and implementing methods for inventorying, documenting and verifying GHG emissions and reductions, so that we can present credible, understandable and verified information to the public and to buyers of our emission reduction credits. Based on our experience as a GHG offsets developer and trader, we offer the following comments aimed at making the RGGI program a success.

### ***The Model Rule Should Remove Unnecessary Constraints on Use of GHG Offsets***

Waste Management believes that flexible offsets provisions are the key to making the RGGI program a success. GHG offsets offer the most effective means to control RGGI program costs by promoting diverse, lower-cost compliance options. Flexibility should extend to full recognition of carbon offsets from projects throughout North America, recognition and development of diverse types of offsets projects, and flexibility in the amount of offsets a regulated source can use for compliance with its GHG emission limits. If RGGI is going to be a successful model for eventual establishment of a national GHG reduction program, it will need to have the scope and feel of a national program, inducing low-cost GHG reductions within the regulated sector and promoting voluntary reductions from a broad array of sectors across the country.

Despite the ongoing learning experiences for participants in the CCX program, the development, documentation, certification, and trading of offsets in the U.S. is a very nascent market. Offsets are not an easily developed or acquired commodity as seems to be assumed by the draft model rule. Many barriers exist to development of innovative technologies or practices that result in GHG reductions, particularly regulatory and financial uncertainties. Rather than establishing program policies to overcome or mitigate these barriers, the draft model rule incorporates limits and disincentives that only strengthen them, or create new obstructions to participating in and building a vibrant offsets market. We urge the Staff Working Group to make fundamental changes to the offsets provisions to build-in flexibility and eliminate disincentives that will prevent a broad array of sectors from participating and making voluntary GHG reductions.

### ***Geographic Discounts on Offsets should be Eliminated***

The draft model rule should incorporate provisions that encourage and equally credit projects located anywhere in North America that create real, surplus, verifiable, enforceable and permanent GHG reductions. WM supports the GHG Coalition comments highlighting the problems inherent with the 2:1 discount for out-of-region offset projects incorporated in the draft model rule. North American offsets should be available for use by regulated sources at the initiation of the program, independent of the spot price for allowances. The limitations and “rules” for use of offsets incorporated in the safety valve triggers in the draft model rule are mind numbing in their complexity and

should be scrapped in favor of simple flexibility. The complexity of the rules and the short time periods in which flexible use of offsets may be made, make it very difficult for project developers to estimate revenue streams from sale of offsets, which is essential for obtaining needed capital. Regulated sources face the same difficulties in trying to establish compliance strategies. We recommend the model rule fairly and equally credit GHG reduction offsets produced anywhere in North America, and allow their use at the outset of the program. Expanding the geographic eligibility of offset projects will ensure a consistent supply of offsets, reduce overall program costs and complexity, and foster accurate forecasting with respect to offset availability and pricing.

### ***Eligible Offset Project Categories Should be Expanded***

WM recommends that the RGGI program offer a more diverse and extensive array of allowable offset projects. Inclusion and recognition of a wide variety of GHG offset sources will promote innovation and new technologies, lower costs and stimulate voluntary GHG reductions from a broader array of sectors. Within the waste management sector, we recommend that work begin soon on establishing protocols for crediting offsets from use of biomass, waste-to-energy, conversion of heavy-duty trucks to alternative fuels, and use of landfill gas to produce energy or fuels that replace fossil fuel, and recycling.

### ***Limitation on the Use of Offsets should be Eliminated or Increased***

As drafted, the Model Rule limits the use of CO<sub>2</sub> offset allowances to no more than 3.3% of the CO<sub>2</sub> budget source's CO<sub>2</sub> emissions for that control period. This limitation on the quantity of offsets for compliance with RGGI is an unnecessary constraint that limits the viability of the cap and trade program and compromises the successful transition to a national program. There are a number of uncertainties in the Staff Working Group's analysis supporting this limitation as outlined in the GHG Coalition comments. WM suggests the Staff Working Group either eliminate the 3.3% limit altogether, or increase the percentage limitation on the use of offsets to meet emissions caps. Allowing regulated sources to choose the most cost-effective compliance options will help control rising costs for electricity and help mitigate the occurrence of 'leakage.'

### ***Timing of Offset Projects Must be Reassessed***

The RGGI Staff Working Group, in the Model Rule, proposed that emissions reductions projects must commence on or after December 20, 2006 to qualify as an eligible offset project under RGGI. Use of this date will unfortunately eliminate many positive early action projects, which have been implemented since the creation of the Conference of New England Governors and Eastern Canadian Premiers, Climate Action Plan of 2001. Consequently, a project start date of 2002 would be more reasonable. Alternatively, the RGGI program could recognize and make eligible, emission reduction offsets produced after December 20, 2005 by projects installed prior to that date.

WM believes that the proposed project start date of December 20, 2005 will likely result in an inadequate pool of eligible offset projects, which will undermine the effectiveness of the program. We believe that the Staff Working Group may have overestimated the quantity of available offset projects within the program's geographic boundaries. We researched the methods and supporting information and found that the 1999 and 2001 EPA<sup>1,2</sup> emission estimates are based predominantly upon a 1988 EPA survey of a small number of landfills. That data did not include the effects of installation of landfill gas collection and control systems associated with new Clean Air Act requirements. Consequently, this analysis appears to have underestimated the current emission reduction projects already in existence and thus, greatly overestimated the number of landfills where post-December 20, 2005 projects could be used as sources of offset allowances.

WM has found that 95% of its landfill sites located in the RGGI region, that meet all of the eligibility requirements as potential sources of offsets would nonetheless be deemed ineligible because the landfill gas collection and control systems were installed prior to December 20, 2005. It would be counterproductive to establish program requirements that both exclude desirable projects with truly additional emission reductions, and also penalize project owners or affected facilities that took early action to reduce emissions in anticipation of this program. We urge the RGGI Staff Working Group to revise the rule to incorporate an earlier project start date of January 1, 2002. Alternatively, the rule could make eligible, projects that were commenced prior to December 20, 2005 and produce new offsets after that date in accordance with the baseline established for that offset category.

### ***Project Commencement Should be Clarified***

Presently, the RGGI Model Rule defines project commencement for an offset project involving physical construction or installation of equipment or materials, as the date of the beginning of such activity. WM believes that the project commencement date should be the date the project begins to produce emissions reductions for offset credits rather than the date equipment installation is initiated. There may be an unavoidable lag time between project installation and project operation and the project owner should not lose valuable time from the allowable crediting period.

### ***WM Supports the Maximum Crediting Period***

Regulatory agencies may award CO<sub>2</sub> offset allowances for no more than 10 allocation years, but may award offset allowances for an additional ten allocation years upon demonstration by the project sponsor that the project meets all applicable requirements at the end of the first ten-year period and applies for and receives a consistency determination. WM supports this type of project control. The review of a project after

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<sup>1</sup> U.S. Methane Emissions 1990 – 2020: Inventories, Projections, and Opportunities for Reductions. U.S. EPA, September 1999.

<sup>2</sup> Addendum to the U.S. Methane Emissions 1990 – 2020: 2001 Update for Inventories, Projections, and Opportunities for Reductions. U.S. EPA, May 2004.

ten years is reasonable. If the review shows the project continues to meet all the appropriate criteria, the project should be allowed to continue to create “offset allowances.”

### ***Project Eligibility Should be Clarified***

The draft model rule provides that eligible offsets shall occur at landfills that are not subject to New Source Performance Standards (NSPS) (40CFR part 60, Subpart Cc and Subpart WWW). This is an acceptable general approach to ensure regulatory additionality; however, the literal implementation could eliminate potential projects, which go beyond compliance with the NSPS requirements. The protocol for the “additional reductions” would have to be developed, however the model rule should not prohibit such projects.

A landfill gas collection and control system, for example, may be expanded or “over-engineered” to capture and combust landfill gas above and beyond the requirements of NSPS. Also, a landfill owner/operator might accelerate landfill gas recovery (i.e., before required by regulation) from new cells at an existing NSPS landfill. The Chicago Climate Exchange has already developed a protocol for early landfill gas recovery at new cells, and is planning to establish a protocol for system expansions that are additional to regulatory requirements. This “beyond compliance” activity should be eligible for offset credits under RGGI. Projects deemed to be “additional” to regulatory requirements would still have to meet the tests of “real, surplus, verifiable, permanent and enforceable.”

### ***Landfill Emissions Baseline Determination & Reductions Calculation Should be Revised***

As a founding member of the Chicago Climate Exchange, WM has assisted with the development protocols for measuring and verifying emissions reductions from the combustion of landfill gas. WM has also participated in the U.S. Department of Energy’s 1605(b) Voluntary GHG Registry reporting methane emissions reductions for the past 5 years. The overall approach to quantifying methane emissions reductions is to rely on measured quantities of methane collected and destroyed through the operation of a gas collection and control system (GCCS). Either direct measurement by continuous monitoring of methane recovery, or periodic measurement of methane concentrations in landfill gas, coupled with continuous monitoring of landfill gas flows are acceptable approaches. The rates of methane capture and destruction at a landfill are a function of the following measurable quantities:

1. The rate of landfill gas (LFG) flow to the control device (flare station, power plant or other facility that combusts LFG)
2. The methane content of the recovered LFG; and
3. The methane destruction efficiency in the control device.

The Solid Waste Association of North America's manual of practice outlines widely accepted best management practices for types and installation of flow meters. Measurement of methane concentration in LFG is almost exclusively performed using an infrared gas analyzer. Since methane is the combustion fuel for the control device and is reduced to parts per million levels during combustion, flare manufacturers typically provide warranties for destruction efficiency of 99.9%. Tabulated records of total daily LFG flows (in standard cubic feet per day) need to be matched against methane concentrations measured during the corresponding time period to determine daily methane recovery rates, using the following equation:

$$[\text{CH}_4 \text{ recovered (standard ft}^3\text{/day)}] = [\text{LFG recovered (standard ft}^3\text{/day)}] \times [\% \text{CH}_4]$$

In the Chicago Climate Exchange program, prior to submitting records of annual amounts of methane combusted, all calculations of daily, monthly, and annual methane recovery rates, and metric tons of methane combusted, need to be verified by an approved third-party verifier.

The RGGI draft model rule seems to present a hybrid approach that measures LFG collected in the gas collection system, but then reduces that measured amount by misapplying a methane oxidation factor associated with conversion of methane in the landfill cover. A landfill oxidation factor is normally applied when trying to estimate methane generation by a landfill in the absence of a landfill gas collection and control system. However, as described above, in the presence of a landfill GCCS, LFG recovery can be measured through the application of a proper flow meter. There is no need to use an oxidation factor to offset or reduce the measured flow, as any methane converted in the landfill cover is not part of the "offset" being generated and credited, and thus is not being double-counted.

We urge the Staff Working Group to modify the emissions baseline determination and emissions reduction calculations in the draft model rule to rely on measured quantities using widely accepted equipment, installation, documentation and verification procedures. Any references to use of a methane oxidation factor should be deleted from these calculations, as it is a misapplication of the concept.

***Additionality Requirements Should Not Include Regulatory "Plus" or Financial Test Provisions***

Establishing reasonable and widely accepted criteria for defining "additionality" is a policy challenge. As the World Resource Institute's Protocol for Project Accounting states, "Setting the stringency of additionality rules involves a balancing act...on the one hand, criteria that are too lenient and grant recognition for "non-additional" reductions will undermine a program's effectiveness...on the other hand, making criteria too stringent may exclude project activities that are truly additional and highly desirable." WM supports definitions of additionality, which focus on a "legal regulatory test" rather than a "financial test." We recommend that additionality of offsets projects should be premised on GHG reductions that are surplus to regulatory requirements rather than on the financial motivations of the project developers

WM urges against the use of financial tests when defining the eligibility of offset projects, as they are overly complicated and subjective. Financial tests may be appropriate for government assistance and private sector grant programs where the grantor requires assurance that the supplied funding is the precipitating factor that makes the project possible (e.g., the Oregon Climate Trust). However, this is not the case for a cap and trade program such as RGGI. We further urge that the “regulatory plus” requirements (e.g., the requirement to surrender renewable energy credits (RECs) generated at landfill gas to energy projects) be deleted from the model rule, as these present serious disincentives to selling methane destruction offsets into the RGGI cap and trade program.

WM believes that draft model rule’s bundling of RECs with emission reduction credits (ERCs) is inappropriate. The emissions reductions from methane collection and destruction at a landfill are wholly separate and distinct from the RECs, which originate from reductions in CO<sub>2</sub> emissions originating from the displacement of fossil fuel power generation sources. The protocol for measuring emissions in the US Inventory of GHG Emissions and Sinks, EPA’s Climate Leaders Program, and DOE 1605(b) all recognize the separate and distinct emissions reductions associated with landfill gas collection and destruction (direct GHG emissions reductions) and the “avoided emissions reductions” associated with production of electricity from landfill gas, which offsets fossil-fuel derived electricity. These two credit categories are unique and wholly unrelated. Consequently, the project owner should maintain control of the RECs when selling methane destruction offsets into RGGI. Since RGGI only accepts and credits the methane destruction offsets, there is no reason for landfill projects to be required to surrender their RECs. The avoided emission reductions memorialized in RECs are not recognized as creditable offsets in the RGGI program, and so could not be claimed as offsets. Thus, eliminating the danger of double counting.

### ***The Definition of Biomass Should be Modified***

The definition of eligible biomass in the draft model rule is much too exclusionary and is counterproductive to the promotion of increased electricity generation from renewable resources. The modifier “unadulterated and non-construction and demolition debris” will preclude biomass plants from co-firing many of the existing sources of biomass in the Northeast region. If the material is not beneficially reused as fuel it will likely be disposed in landfills. We recommend that the definition of XX-1.2 (f) read as follows:

Eligible biomass includes organic fuel stocks including construction and demolition debris, biogenic municipal waste, brush, stumps, lumber ends and trimmings, wood and wood wastes and residues, wood pallets, bark wood chips, shavings, sawdust and slash; or fuel from energy crops; syn-gas, biogas and liquid biofuels.

Biomass materials that can be beneficially reused as fuel should be eligible “biomass” under the RGGI program as they are renewable fuels that replace use of fossil fuels, their combustion does not create additional greenhouse gas emissions, and they can be safely combusted in regulated units that meet all applicable Clean Air Act requirements.

Waste Management appreciates the opportunity to comment on the RGGI draft model rule, and looks forward to continuing to work with the State Staff Working Group and individual State regulators and legislators as the program evolves. If you have any questions, or require further information, please call me at 202-639-1218 or e-mail at [Kkelly5@wm.com](mailto:Kkelly5@wm.com).

Sincerely,

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