

# OCRRA Greenhouse Gas Committee FINAL REPORT

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## Additional resources (available online)

[Online Resource 1.](#) Choi, Jaewon. 2009. *2007 OCRRA Greenhouse Gas (GHG) Emissions Inventory.*

[Online Resource 2.](#) Lawrence, Amy. 2009. *Identifying and Quantifying OCRRA's Mobile Source Greenhouse Gas Reduction Opportunities*

[Online Resource 3.](#) Radin, Andrew. 2009. *Strategies for Effective Public Education and Waste Reduction* (Full version of the report summarized in section 5)

[Online Resource 4](#). Witkowski, M. 2009. *Final report to the GHG subcommittee on Outreach* (6 pp.)

Other resources that can be made available upon request

Carey, A. 2008. Institutional waste minimization: A guide for Hospitality Professionals in Onondaga County (16 pp)

Carey, A. 2008. Commercial waste minimization: A Guide for Small and Medium Businesses in Onondaga County (16 pp).

Owusu-Ansah, 2007. F. Report on OCRRA GHG emissions, including results from the WARM waste reduction model (80 pp.)

## Introduction

The Board and staff of OCCRA take seriously their leading role in promoting environmentally responsible solid waste management. As part of this effort, OCRRA is taking steps to measure and reduce greenhouse gas emissions from its own operations and to promote climate-friendly waste management practices throughout the region. We consider this an ethical imperative, because greenhouse gases are a prime cause of global climate disruption, but also a pragmatic decision, because greenhouse gas emissions are an indicator of wasteful practices with respect to both energy use and the management of solid waste.

Many effective measures can be taken to reduce energy use and to process recyclables and waste products so as to minimize emissions of methane and other greenhouse gases. But the best way to reduce our societal impact on the atmosphere is to reduce the amount of stuff that goes to waste in the first place. Therefore, this report focuses on waste minimization strategies, including extended producer responsibility (whereby producers plan for the re-use or disposal of their products before they even make them), composting, conservation of paper, and packaging reduction. All of these efforts have multiple benefits in addition to reducing emissions, such as cost savings or even the simple satisfaction that comes from environmentally responsible behavior. Our research indicates that in most cases people understand or value these other benefits more than the invisible and rather abstract notion of reducing emissions. For this reason, many of our recommendations focus on achieving the *result* of emissions reduction rather than proselytizing about emissions reduction. If our machinery operators reduce their energy use and local residents reduce their trash volume, our efforts will have been successful, even if none of them ever considers greenhouse gases as a reason for changing their behavior.

Many hours of research went into the production of this report. Anyone who is interested in the full details of our findings can refer to the online resources listed in the Table of Contents. The main sections of this report are designed to give substantive overviews of the main points in the scope of one or two pages that can be downloaded at your convenience. We hope that you will find them useful, and we invite anyone interested in managing solid waste for the protection of our common atmosphere to borrow and apply our findings.

*Rachel May, Chair*  
*OCRRA Greenhouse Gas Committee*  
*2009*

## Section 2 – Background and methodology

In 2007, the OCRRA Board Chairman created an *ad hoc* Greenhouse Gas (GHG) Committee to explore opportunities and challenges for reducing greenhouse gas emissions in Agency operations and promoting reductions in OCRRA's participating communities, including developing a legislative agenda and evaluating ways to change the regulatory context. The Committee Charter (Appendix 1) states,

the Greenhouse Gas Committee and OCRRA aspire to lead by example and, wherever possible, shape and encourage policies that enhance energy efficiency in the context of solid waste management in Onondaga County.

The GHG Committee undertook extensive research into the emissions from solid waste management in Onondaga County, including the Agency's own operations; methods for reducing those emissions; and best practices for operations and outreach in other waste management agencies and communities.

The USEPA's Waste Reduction Model (WARM) was used to estimate GHG emissions associated with the management of various waste types. Four key waste management methods were reviewed: recycling, combustion (waste-to-energy), composting and landfilling. In addition, the GHG impacts of incremental increases in recycling and composting were examined. A final report and a summary of key findings, prepared by GHG Committee intern Fred Owusu –Ansah, are available as Online Resources 1a and 1b.

The committee brought two resolutions to the Board. A resolution to reduce OCRRA's GHG emissions by 10% over five years was adopted on Sept. 10, 2008 (See Appendix 3.). A resolution calling for the consideration of GHG emissions, fuel economy and life cycle assessment for large equipment acquisitions. was adopted by the Board in June 2009 (Appendix 4).

### Outreach:

A subcommittee on outreach determined that its major targets for GHG reduction were business organizations and institutions, and the primary means of achieving GHG reduction at such organizations was waste minimization. The findings of this subcommittee are summarized by the Agency Recycling Director in section 5 of this report. The following research products were developed, with the help of interns Alison Carey and Mary Witkowski.

- A review of national incentive programs, incentives in other cities, and waste reduction organizations;
- A compilation of some small scale business case studies
- Two guides for 1) hospitality professionals and 2) small and medium businesses in Onondaga County. These guides included best practices for reducing carbon footprint and waste reduction (these are available on request).
- A summary of interviews with facility managers, primarily for hospitality operations in OCRRA's waste shed, focused on their waste minimization and recycling practices and ways OCRRA can promote resource conservation at such organizations ([Online Resource 4](#))
- A survey on shoppers' attitudes toward recycling and waste minimization, particularly with regard to disposable shopping bags, with a goal of understanding message design for

promoting GHG reduction. Another related effort was production of OCRRA reusable bags made, in part, of recycled plastic.

### Carbon footprint

A GHG carbon footprint subcommittee worked to quantify GHG emissions related to operations directly under the Agency's control; made recommendations for overall GHG reductions; and began an evaluation of changes to Agency operations for potential GHG reductions. The subcommittee

- acquired and evaluated data related to operations directly under the Agency's control, including hauling and processing of C&D waste, hauling of ash to a landfill, heating and lighting..
- recommended a target of 2%/year reduction in GHG emissions for the Agency.
- developed a custom spreadsheet for all OCRRA internal operations and activities. The major opportunities for GHG reduction were found in mobile sources, e.g., trucks hauling material to transfer stations and the landfill as well as off road trucks and loaders. Intern Jaewon Choi's final report is provided in [Online Resource 1](#).

The Agency Engineer developed specific recommendations from these studies, which appear in Section 4 of this report, and in greater detail, in [Online Resource 2](#).

### Section 3 – Policy Context

With Environmental Stewardship as a Core Value for the Agency, the Board of Directors adopted a resolution to reduce 10% of the OCRRA's greenhouse gas emissions by 2013. Meeting this goal must be considered in the context of adopted and proposed local, state, regional and federal policy changes regarding managing the solid waste stream and controlling greenhouse gas emissions.

#### *Local*

The Onondaga County Legislature passed a [resolution in August, 2008](#), requesting the County Executive to develop policies “to make the County of Onondaga one of the leading counties in the nation in an effort to reduce and reverse the negative impacts of global warming.” The resolution sets no binding requirements.

The City of Syracuse has issued an [Action Plan for Sustainability](#) that includes “reducing the City's total annual greenhouse gas emissions by 11,000 tons”

Syracuse University, SUNY College of Environmental Science and Forestry, and Onondaga Community College are all signatories to the American College and University Presidents' Climate Commitment. They have pledged “to develop a comprehensive plan to achieve climate neutrality as soon as possible.” Waste minimization is one part of that effort.

#### *New York State*

(Adopted) Renewable Portfolio Standard (RPS). In 2003, the New York State Public Service Commission established an order to have 25% of electricity on New York's electric grid to be generated from renewable sources. The RPS specifically defined renewable energy sources. The RPS recognized the heterogeneous nature of the solid waste stream and specifically excluded Waste-to-Energy from the definition. Sustainable biomass, wind, solar, and low-impact hydro are included.

(Adopted) 15 x 15 or Energy Efficiency Portfolio Standard. The Public Service Commission adopted an order to increase energy efficiency and renewable energy by 15% by 2015 in June 2008.

(Draft) New York State Energy Plan. Governor Paterson's Executive Order No. 2 established the process to develop a state energy plan. A series of meetings will be held in August and September to solicit feedback on the draft plan that was released in mid August. The comment period is scheduled to end in early October 2009.

(Pre-Draft?) New York State Solid Waste Management Plan revisions. The NYSDEC has begun a stakeholder process to revise the state's solid waste management plan. It is unclear where the state is in this process.

#### *Regional*

Regional Greenhouse Gas Emission Initiative (RGGI). The first mandatory, market-based effort in the United States to reduce greenhouse gas emissions, the ten RGGI Northeastern and Mid-Atlantic states will cap and then reduce CO<sub>2</sub> emissions from the power sector 10% by 2018. After January 1, 2009, the ten states' rules will require power plants to obtain enough CO<sub>2</sub> allowances to cover their emissions during a three-year compliance period. RGGI is limited to the electric power sector and provides a model for national cap and trade policy. New York State, as a participant in the RGGI, has promulgated regulations which address GHG emissions (primarily CO<sub>2</sub>) from fossil fuel-fired power plants larger than 25 MW. These plants are defined as having a “stationary

boiler, combustion turbine, or combined cycle system” which uses greater than 50% fossil fuels (NYSDEC, 2008). Thus, RGGI regulations *do not currently apply to solid waste combustion units*.

[Western Climate Initiative](#). The Western US states have developed their own program to achieve mandatory reductions of greenhouse gas emissions economy wide.

#### *Federal*

[EPA GHG Federal Endangerment Finding](#). In response to *Massachusetts, et al v. EPA*, the EPA recently accepted public comments on issuing a public endangerment finding from GHG, which provides a regulatory path to reduce greenhouse gas emissions under the EPA’s existing authority in the Clean Air Act.

[The American Clean Energy and Security Act HR 2454](#). The US House of Representatives passed the legislation that would require the nation’s first mandatory reduction on greenhouse gas emissions, economy wide. The legislation is under consideration in the US Senate and action is anticipated in the fall of 2009. Following passage in the US Senate, the two versions would be “conferenced” before being sent to the President for his signature to become law.

Obviously the bill is extremely broad in scope. The provision(s) that would probably affect OCRRA most directly are that the ACES Act:

- 1) Requires stationary sources subject to the Clean Air Act to have permits that require the covered entity to hold a number of emission allowances at least equal to the total annual amount of carbon dioxide equivalents for its combined emissions and attributable GHG emissions.
- 2) Establishes systems of carbon credits and offsets, so that net emitters of GHG can invest in actions to reduce GHG elsewhere. It is possible that OCRRA's efforts for resource conservation could qualify as GHG reductions.

## Section 4 – Operations

### Identifying and Quantifying OCRRA’s Mobile Source Greenhouse Gas Reduction Opportunities

(A full version of this report is available in [Online Resource 2.](#))

#### Introduction

The 2007 GHG Emission Inventory Report estimated OCRRA’s GHG emissions at 1,985 metric tons of carbon dioxide equivalents (CO<sub>2</sub>eq). [The framework and methodology for this report is available in [Online Resource 1.](#)] Therefore, to achieve OCRRA’s goal of a 10% reduction, OCRRA will need to reduce GHG emissions by approximately 200 tons.

The Board’s intent is to reduce actual emissions, but for purposes of comparison, the cost of purchasing GHG “offsets” ranges from \$3 to \$30 per metric ton CO<sub>2</sub>eq. Therefore, efforts to reduce GHG emissions will focus on those that are least costly (and preferably that save money), as well as those that are most likely to produce significant GHG reductions. Any changes in OCRRA’s operations will of course maintain the Agency’s high standards of safety and environmental protection.

#### Mobile Source GHG Emissions

Since 86.4% of OCRRA’s GHG emissions are from mobile fuel combustion, initial efforts to reduce GHG emissions should focus on improving fuel economy in OCRRA’s trucks and off-road equipment.

#### Mobile Source GHG Emissions – Behavioral Changes

##### *Reduce maximum vehicle speed*

OCRRA has reduced the maximum speed set by the tractor and dump truck governors from 72 mph to 68 mph. A 4 mph decrease in peak speed could potentially reduce highway emissions by approximately 6 percent at no cost.

##### *Check tire pressure daily*

Proper tire pressure is important for achieving maximum fuel efficiency. Properly inflated tires are also safer and last longer. This is already embedded in OCRRA’s protocol, but oversight and enforcement can always be improved.

##### *Educate drivers*

The way drivers handle the trucks has a major impact on fuel economy. Unnecessary rapid acceleration, hard braking, and improper shifting can all negatively impact fuel efficiency. In April 2009, OCRRA’s drivers received training with a Bridgestone video, “What Drivers Can Do to Save Fuel.”

##### *Perform proper vehicle maintenance*

Proper vehicle maintenance is critical for optimal vehicle performance, but for safety and longevity reasons, OCRRA’s vehicle maintenance program is already rigorous.

##### *Monitor fuel economy*

The OCRRA management team is working on ways to improve monitoring of fuel economy.

##### *Reduce time idling*

OCRRA already employs devices to turn engines off after 5 minutes of idling. Further benefits may be achieved from improving driver education and data analysis. General improvements in fuel management are expected with improved GPS monitoring.

#### Mobile Source GHG Emissions – Equipment Component Alterations

##### *Change to low rolling resistance tires*

Such a change is not feasible in our climate or for off-road conditions.

*Install aerodynamic features*

In general, a 10% reduction in air resistance increases mpg by 5%. OCRRA's tractors have an air foil on the top of the cab; smooth-sided trailers are an option that is being explored.

*Increase biodiesel content in fuel*

GHG emissions from the combustion of biofuels are considered biogenic, and do not contribute to OCRRA's GHG footprint, according to current GHG reporting protocols. Therefore, by increasing the biodiesel content of the fuel, one can reduce GHG emissions. A 20/80 blend in the warm months and 5/95 in the winter months are feasible options. The Board has temporarily suspended the use of biodiesel as a cost-cutting measure.

Mobile Source GHG Emissions – Equipment Purchases

*Purchase hybrid vehicles*

The new Class 8 hybrid vehicles offer significant reductions in fuel use over the life of the vehicle. In line with the Board resolution to take GHG emissions into account in major purchases, OCRRA will explore whether there are appropriate hybrid vehicles for our operations that offer cost-effective reductions in emissions, as current vehicles are replaced. A hybrid car for OCRRA's enforcement officers is also a possibility.

*Purchase dump pups or double trailers*

These would reduce the number of trips to the landfill by a maximum of one third, but there are feasibility issues in our climate and road conditions, and reduced fuel economy might cancel out the gains.

Offsetting Mobile Source GHG Emissions that cannot be eliminated

The cost of purchasing GHG "offsets" ranges from \$3 to \$30 per metric ton CO<sub>2</sub>eq. At the most recent Regional Greenhouse Gas Initiative auction, allowances traded for approximately \$3.73 per metric ton. Therefore, for benchmarking purposes, the cost for OCRRA to "buy its way" to GHG reductions ranges from about \$400 to \$6,000 per year. OCRRA could also explore carbon sequestration as an alternative to directly reducing GHG emissions.

Recommendations

Of all the steps OCRRA can take to reduce mobile source GHG emissions, it seems that the most important at this point is to improve fuel economy and idling management capabilities. Proper management will result in further identification of GHG reduction opportunities. OCRRA is currently evaluating the existing fuel management and GPS systems and identifying opportunities for upgrades. Additional investment in fuel management systems may be required. Vehicle fuel economy and idling time should be monitored on a monthly basis. Operators should be trained in accurate record-keeping methods, and OCRRA should explore appropriate software for recording engine utilization, mileage, and GPS data. It's also critical that OCRRA continue to annually train drivers in proper vehicle handling techniques for optimal fuel efficiency. At some point, it may be appropriate to implement a fuel economy incentive program for drivers. In summary, there does not appear to be a "silver bullet" solution, but that instead by focusing time and resources on proper fuel management, OCRRA will be able to gradually achieve its GHG emissions reduction goal and, over time, to seek even greater reductions in GHG emissions as the technology advances and market conditions change.

## Section 5 – Strategies for Effective Public Education and Waste Reduction

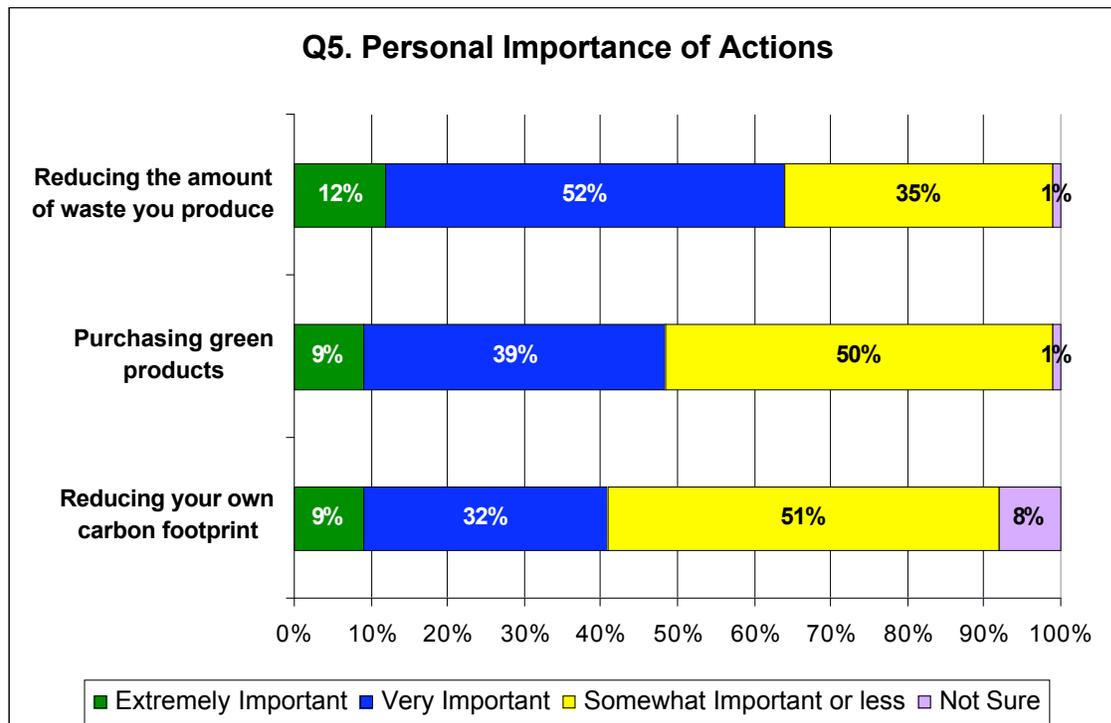
(A [full version of this report](#) is available online.)

This section summarizes recommendations and/or findings related to developing or implementing community outreach aimed at greenhouse gas reduction.

### A. GHG Survey Summary

A public opinion survey among residents of Onondaga County, NY, found that they tend to be concerned about environmental issues, they believe that lifestyle choices have an important impact on the environment, and they are willing to take concrete steps to reduce packaging waste, such as contacting manufacturers. Economic messages resonate most with consumers, so for example putting a price on plastic bags would be the best way to discourage their use. Women are more likely to see the importance of recycling than men, and city residents are more likely to do so than rural dwellers.

A significant finding relative to reducing greenhouse gas emissions is that the concept of a carbon footprint has not caught on with the general public. Fortunately, many of the actions that OCRRA encourages local residents to take, such as recycling and reducing waste, have the result of reducing GHG emissions. The committee recommends that public outreach campaigns seek GHG reductions through actions that people can understand as “environmentally friendly” or responsible, rather than expending effort on educating the public about greenhouse gases themselves.



### B. Business Messaging Recommendations and Public Communications

The following recommendations are excerpted from a report developed by Mary Witkowski, Outreach Intern, December 2008 (please see [Online Resource 4](#) for further details and findings):

- Develop and implement a green business certification program.
- Waste reduction tips and strategies in a website format would be most helpful to businesses. Businesses don't want to receive more paper.
- To make information easily accessible for businesses, tips and strategies for waste reduction should be organized by business sector. (Please see online resource: Institutional waste minimization: A guide for Hospitality Professionals in Onondaga County)
- Featuring case studies to the website (to be added to the new website as businesses qualify) not only gives businesses recognition, but is a source of information for other businesses looking for new strategies and tips.

In sync with these recommendations, OCRRA is launching a new web portal to help local businesses and institutions recycle more, reduce more, and consequently reduce their GHG impacts. Please visit: <http://www.BlueRibbonRecycler.com/>. The GHG committee supports focusing OCRRA's recycling and waste reduction message on large generators of fiber (businesses, schools, and institutions) as the best way to reduce waste and thereby most effectively reduce GHG. Still, the Agency's website does not disregard waste reduction in the home; for example, information on reducing junk mail in the home and at work is featured at [www.ocrra.org/recycling\\_creditoffers.asp](http://www.ocrra.org/recycling_creditoffers.asp).

### **C. Extended Producer Responsibility**

OCRRA has taken an active role in promoting Extended Producer Responsibility legislation in New York State, to encourage manufacturers to design and market products that are easier to manage and recycle at the end of their useful life. If producers must take responsibility for disposal of their products, they will make them less toxic and easier to recycle. And if they incorporate disposal costs into the sales price of their products, then purchasers will be able to make wiser decisions about their overall value.

Implementing EPR legislation would reduce the cost of safe disposal, recycling, or reuse, taking some of the burden off of municipal solid waste programs. It would also have environmental benefits, including reducing the need to extract raw materials and reducing the quantities of toxic hazardous materials in the waste stream. These benefits, in turn, would reduce greenhouse gas emissions from mining (which tends to be highly energy-intensive), transportation, and hazardous waste disposal.

The OCRRA Board has passed a Resolution supporting "statewide efforts to hold producers responsible for hazardous product discard management and other product waste management costs . . .". The resolution urges the State of New York and its member agencies to include EPR language , such as specifying product and packaging collection and recycling requirements, in contracts for commodities. The resolution and supporting letter has been distributed to state senate and assembly elected officials in Albany. The NYS Assembly passed EPR legislation (A.7571) on 5/5/09. A companion bill in the State Senate is pending.

## Section 6 - Recommendations

OCRRA has many direct and indirect avenues for promoting a reduction in greenhouse gas emissions, both internally and in the communities we serve. Here are the priorities we see:

1. Energy conservation measures in OCRRA operations. These have the benefit of saving money on fuel and, in some cases, wear and tear on equipment. We fully endorse the Agency Engineer's efforts to pursue conservation, including monitoring vehicle idling times, installing fuel efficiency management modules, and educating vehicle operators about fuel efficiency. Electricity use can also be reduced through common-sense conservation measures (task-appropriate lighting and appliances, turning lights and appliances off when not in use, etc.). Visible and eye-catching signage and incentive programs are appropriate ways to promote these behavioral changes. More costly efforts, such as insulating buildings or purchasing more efficient vehicles, will need to wait for better economic times. Meanwhile, we recommend that Agency staff perform periodic reviews of available technologies, so as not to miss cost-effective opportunities for upgrading equipment.

2. Include carbon pricing in OCRRA's budget. For now, this will be a "shadow" price, but it could become a real cost (or benefit) in the near future, and it is both wise and practical to prepare for that eventuality. Internal decision-makers should be able to see whether a given activity adds to or reduces the Agency's carbon footprint or the footprint of the larger community. This would also bring other Agency financial decisions in line with the new purchasing policy.

3. Continue aggressive promotion of waste reduction, recycling and composting. Seek additional funding sources for these activities, preferably a steady source of income rather than grants. Make the case to local communities, state agencies, and county, state, and federal legislators that OCRRA's waste reduction efforts bring widespread benefits and should be supported independently of waste processing fees. Promote changes in local waste disposal fee structures to encourage waste reduction. (Utica's blue bag system or Ithaca's trash tags could be a model.<sup>1</sup>) Lobby vigorously for protection of OCRRA's access to yard waste for composting purposes. Promote backyard composting, in concert with Cornell Cooperative Extension. Continue to promote Extended Producer Responsibility. Consider supporting an opt-in system for phone books (<http://www.banthehonebook.org/>) and a ban on unsolicited phone book distribution. Consider promoting a fee for disposable grocery bags that would help fund OCRRA's waste reduction efforts. We applaud the recycling staff's speedy implementation of a Blue Ribbon Recycler program for businesses, as recommended by our outreach subcommittee. Since peer pressure is acknowledged to be an effective driver of behavioral change, perhaps an equivalent to the Blue Ribbon Recycler program could be developed for individuals, highlighting household efforts to reduce waste. OCRRA could also associate itself with educational efforts in the

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<sup>1</sup> From the City of Ithaca web site: "Trash collection is paid for through the purchase of trash tags. Residents can purchase tags at City Hall or at any of the local grocery stores. There are two sizes of trash tags: Half Tags are for 20 pounds of trash; in 2008, a sheet of 6 tags costs \$15.00. Full Tags are for 35 pounds of trash; in 2008, a sheet of six (6) tags costs \$24.00." <<http://www.ci.ithaca.ny.us/>> Utica residents pay \$2 per 35-gallon blue bag, and they can recycle more items than we can <[http://www.ohswa.org/resident/municipal\\_programs/utica.php#trash\\_bulk](http://www.ohswa.org/resident/municipal_programs/utica.php#trash_bulk)>.

community, such as the class at SUNY-ESF in which students carry their trash with them for two weeks.

4. Weigh in on climate change legislation to urge that waste reduction be given priority. OCRRA should take advantage of the opportunity laid out in the Climate and Energy bill, if approved by Congress (HR2454, section 733) to petition for waste reduction measures to be included as allowable carbon offsets. Such offsets must represent new and measurable reductions that would not happen anyway as the result of some law or pre-existing plan or process. (For example, the ongoing reduction in the size of newspapers is not a waste reduction measure that OCRRA can take credit for.) Measurability is particularly challenging in the case of waste reduction, but common sense dictates that robust conservation efforts should be valued highly in the catalog of potential offsets.

5. As we think strategically about OCRRA's future relationship with the WTE facility, we should consider carefully how to restructure that relationship so that it reinforces our stated priority on environmental protection and waste reduction. The Board should take pains to clarify whether OCRRA's main mission is to be waste management (trash disposal) or waste reduction (including recycling and re-use). If the agency will continue to do both, then it is appropriate to ask the county and municipalities to separate the funding for the two, or to consider other ways to return to OCRRA some of the social and environmental benefits from waste reduction. As things stand at present, OCRRA suffers a financial penalty when it is successful at reducing waste or increasing recycling. It would also be appropriate to seek changes in regulations where they discourage or fail to reward waste minimization. For example, the requirement in the WTE permit that 40% of burnable materials be recycled may appear to be enlightened, but it gives no credit for waste reduction. Similarly, state and federal grant funds should be allocated to bring about GHG reductions, not just reward underachievers or the most politically populous areas.

Appendix 1

## **AD HOC GREENHOUSE GAS COMMITTEE CHARTER**

In keeping with OCRRA's long standing commitment to manage its operations to promote public health and improve the environment, and in recognition of rapidly developing science, law, and regulatory programs associated with the reduction of greenhouse gas (GHG) emissions, OCRRA has established this ad hoc committee, to be known as the "Greenhouse Gas Committee," to explore and evaluate, among other things, how these dynamic factors may involve or impact OCRRA's solid waste management activities.

To that end, the Greenhouse Gas Committee and OCRRA aspire to lead by example and, wherever possible, shape and encourage policies that enhance energy efficiency in the context of solid waste management in Onondaga County.

The Greenhouse Gas Committee recognizes the need to be flexible in this dynamic field and accordingly establishes the following general goals:

- Building a foundation of useful information for OCRRA to make decisions in this emerging arena and to better provide GHG reduction and mitigation solutions.
- Exploring existing and projected GHG (carbon dioxide, methane, nitrous oxide, and hydrofluorocarbon) emissions data in correlation with solid waste management and related public education in Onondaga County; including reuse/reduction of waste, hauling, composting, recycling, waste-to-energy, landfilling of solid waste, and other solid waste management methods which potentially impact GHG emissions.
- Considering opportunities and/or challenges to OCRRA's operations under various proposed carbon tax or GHG emissions reduction credit scenarios.
- Evaluating emerging New York State, Federal, and regional regulations and preparing OCRRA to participate in a constructive fashion on regulatory changes in the context of GHG taxes or emissions trading markets.
- Developing in association with OCRRA's Board, a legislative agenda related to carbon taxes, emissions reductions credits, and ownership of the emissions reduction credits for solid waste management activities.
- Carefully considering and ensuring that any GHG reduction and mitigation operations undertaken by OCRRA are consistent with and further OCRRA's Vision, Mission and Core Values.
- Bringing together and seeking the advice of academic experts and professional leaders, as well as OCRRA employees and Board members, on GHG issues pertaining to solid waste management.
- Incorporating effective methods to reduce GHG emissions into existing public education efforts to promote sound solid waste practices.

*Adopted by the OCRRA Board of Directors, 2007*

Appendix 2

*Members and Staff of the Greenhouse Gas Committee*

Board Participants:

Jake Barrett  
John Brennan  
Dereth Glance  
Don Hughes, Chair (2007-2008)  
Gary Lavine  
Rachel May, Chair (2009)  
Richard Sardon  
Mark Donnelly

Staff Participants:

Bill Bulsiewicz  
Dave Carleo  
Amy Lawrence  
Kristin Lawton  
Andrew Radin  
Tom Rhoads

Additional Committee Members

Gerald Aloï, CNY Regional Planning and Development Board  
Mark Lichtenstein, Syracuse Center of Excellence  
Kenneth Lynch, NYSDEC Region 7  
Mary Jane Peachey, NYSDEC Region 7  
Sarah Pesek, EPA Environmental Finance Center  
Paul Thompson, NYSERDA

Interns

Alison Carey  
Fred Owusu-Ansah  
Mary Witkowski

**RESOLUTION OF ONONDAGA COUNTY RESOURCE RECOVERY AGENCY  
EXPRESSING AGENCY’S INTENT TO REDUCE CARBON FOOTPRINT  
FOR AGENCY OPERATIONS**

**WHEREAS**, the Onondaga County Resource Recovery Agency did, in 2007, appoint a Greenhouse Gas ad hoc committee to study the Agency’s greenhouse gas emissions as well as greenhouse gas emissions from the Onondaga County Solid Waste Disposal System and to develop an action plan for reducing those emissions both through direct Agency action and through public education, and

**WHEREAS**, the Greenhouse Gas Committee has now proposed a two phased action plan to reduce greenhouse gas emissions from OCRRA solid waste facilities as well as those greenhouse gas emissions from extended solid waste operations which the Agency contracts with or otherwise interfaces with in our County, and

**WHEREAS**, the Greenhouse Gas Committee has recommended, as a first phase that the Agency set a goal of a 10% reduction in greenhouse gases over five years for internal Agency operations, using a 2007 baseline and commencing in 2009, and

**WHEREAS**, the Greenhouse Gas Committee has further recommended that the Agency commit to an active program to also encourage those entities with which the Agency has direct contractual commitments, as well as others in our community who generate solid waste, to reduce their own carbon footprint and that the Agency will provide support mechanisms and identify opportunities to achieve such emission reductions, and

**WHEREAS**, the Agency Board wishes to express its strong commitment to these two endeavors and to commit necessary Agency staff resources as well as to retain necessary interns and other contractors to successfully accomplish these goals, including the 10% reduction in greenhouse gas emissions over five years for internal Agency operations and to promote and support a similar goal for extended solid waste operations in our County, now, therefore be it

**RESOLVED**, that the Onondaga County Resource Recovery Agency commits to achieving a 10% reduction in greenhouse gas emissions from internal Agency operations over a five (5) year period commencing in 2009 with 2007 established as the baseline year. The Agency further commits to establishing and implementing a program to advise, assist, and encourage those entities in Onondaga County, as well as those out-of-County entities who have solid waste contractual commitments with our Agency and those who generate solid waste in our County, to identify and implement available measures to also reduce greenhouse gas emissions associated with solid waste management practices. This Resolution shall take effect immediately.

**Resolution Adopted Date:** \_\_\_\_\_

**Vote:** Ayes \_\_\_\_\_ Nays \_\_\_\_\_ Abstentions \_\_\_\_\_

**Signed:** \_\_\_\_\_

WJB/pe

**RESOLUTION AMENDING AGENCY'S PURCHASING POLICY TO INCLUDE REDUCING GREENHOUSE GAS AND OTHER EMISSIONS AS A CONSIDERATION IN EQUIPMENT PURCHASING DECISIONS**

**WHEREAS**, the Onondaga County Resource Recovery Agency has adopted a Purchasing Policy to govern the Agency's purchasing of goods, services and equipment, and

**WHEREAS**, the Agency did, by Resolution No. 1617 of September 10, 2008, commit to achieving a 10% reduction in greenhouse gas emissions from internal Agency operations over a five (5) year period commencing in 2009, and

**WHEREAS**, through its Purchasing Policy OCRRA can use its influence in the marketplace to encourage vendors to make information available about emissions and fuel consumption and, ultimately, to provide more fuel-efficient equipment that emit reduced levels of greenhouse gases and other pollutants, and

**WHEREAS**, the Greenhouse Gas Committee has recommended, as a significant step toward achieving those Agency emission reductions, that the Agency adopt the following amendment to the Agency's Purchasing Policy:

- When purchasing vehicles, trucks, or other major pieces of equipment that utilize carbon based fuels and that are potentially significant emitters of greenhouse gases, the Agency will, when purchasing such goods by bid, incorporate consideration of the greenhouse gas impact in developing the bid specifications and, where practical, include the opportunity for bidding an option for alternative goods that offer reduced greenhouse gas emissions. The Agency may then consider whether such optional goods are financially viable in light of the Agency's existing budgetary constraints.
- The Agency may also purchase such goods through a Request for Proposal process in which weighting for a contract award may include a credit of up to 3% for greenhouse gas emissions reduction efficiency.
- Finally, when purchasing such goods off State contract the Agency will consider the greenhouse gas impact of optional goods available thereunder in selecting the goods that meet the Agency's functional needs within existing Agency budgetary constraints.

now, therefore be it

**RESOLVED**, that the Onondaga County Resource Recovery Agency does hereby adopt the above-referenced amendment to the Agency's existing Purchasing Policy to implement a competitive selection process that will, where appropriate, assist the Agency in achieving its goal of reducing greenhouse gas emissions as stated in Board Resolution No. 1617 of September 10, 2008. This Resolution shall take effect immediately.

**Resolution Adopted Date:** \_\_\_\_\_

**Vote:** Ayes \_\_\_\_\_ Nays \_\_\_\_\_ Abstentions \_\_\_\_\_

**Signed:** \_\_\_\_\_

WJB/pe