

## **Solid Waste Policy—Third Party Documents**

There are many third party documents and data to support the expansion of an integrated solid waste management system to reduce greenhouse gas emissions while creating jobs and generating renewable energy. The policy of expanding recycling and EfW to accomplish these goals is supported widely by scientists, the international community and in this country by both Republicans and Democrats. Below are some excerpts of third party documents that support an integrated solid waste management system.

### **EEA Briefing—European Environment Agency—“Better management of municipal waste will reduce greenhouse gas emissions”— Jan 31, 2008**

[http://www.eea.europa.eu/publications/briefing\\_2008\\_1](http://www.eea.europa.eu/publications/briefing_2008_1)

Page 1 States:

“Increased recovery of waste, and diverting waste away from landfill play a key role in tackling the environmental impacts of increasing waste volumes.

As recycling and incineration with energy recovery are increasingly used, net greenhouse gas emissions from municipal waste management are expected to drop considerably by 2020.”

### **Rio+20 Conference—Outcome of the Conference—June 19, 2012**

<http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N12/381/64/PDF/N1238164.pdf?OpenElement>

Page 41 States:

218. We recognize the importance of adopting a life cycle approach and of further development and implementation of policies for resource efficiency and environmentally sound waste management. We therefore commit to further reduce, reuse and recycle waste (3Rs), and to increase energy recovery from waste, with a view to managing the majority of global waste in an environmentally sound manner and, where possible, as a resource. Solid wastes, such as electronic waste and plastics, pose particular challenges, which should be addressed. We call for the development and enforcement of comprehensive national and local waste management policies, strategies, laws and regulations.

### **United States Environmental Protection Agency, Memo August 10, 2007**

Attached

Page 1 States:

“The performance of the MACT retrofits has been outstanding. Emissions reductions achieved for all CAA section 129 pollutants are shown below. Of particular interest are dioxin/furan and mercury emissions. Since 1990 (pre-MACT conditions), dioxin/furan emissions from large and small MWCs have been reduced by more than 99 percent, and mercury emissions have been reduced by more than 96 percent.”

### **Is It Better To Burn or Bury Waste for Clean Electricity Generation?—P. Ozge Kaplan, Joseph DeCarolis, and Susan Thorneloe— *Environ. Sci. Technol.*, Article: 10 February 2009**

<http://pubs.acs.org/doi/pdf/10.1021/es802395e>

Page 7 States:

“Discarded MSW is a viable energy source for electricity generation in a carbon constrained world. One notable difference between LFGTE and WTE is that the latter is capable of producing an order of magnitude more electricity from the same mass of waste. In addition, as demonstrated in this paper, there are significant differences in emissions on a mass per unit energy basis from LFGTE and WTE. On the basis of the assumptions in this paper, WTE appears to be a better option than LFGTE. If the goal is greenhouse gas reduction, then WTE should be considered as an option under U.S. renewable energy policies. In addition, all LFTGE scenarios tested had on the average higher NO<sub>x</sub>, SO<sub>x</sub>, and PM emissions than WTE.”

## Green Investing: Towards a Clean Energy Infrastructure—World Economic Forum—2009

<https://members.weforum.org/pdf/climate/Green.pdf>

Page 10 States:

“Eight Emerging Large-Scale Clean Energy Sectors

1. Onshore Wind
2. Offshore Wind
3. Solar Photovoltaic (PV)
4. Solar Thermal Electricity Generation (STEG)
- 5. Municipal Solid Waste-to-Energy (MSW)**
6. Sugar-based Ethanol
7. Cellulosic and Next Generation Biofuels
8. Geothermal Power”

Page 27 States:

“**5. Municipal Solid Waste-to-Energy (MSW).** The use of municipal solid waste to generate energy is increasing, led by the EU countries. Waste has traditionally been deposited in landfill sites, a practice which is becoming increasingly expensive and constrained by shortage of sites. Landfill also creates methane, a powerful greenhouse gas. Waste that cannot be recycled, however, can be used to generate electricity by a variety of technologies at costs starting at 3 to 10 c/kWh. Government support for the development of MSW plants is increasing, for example through the Private Finance Initiative (PFI) in the United Kingdom. The US MSW sector is also seeing a resurgence, with specialist operators planning to build several new plants.”

## Green Investing 2010: Policy Mechanisms to Bridge the Financing Gap—World Economic Forum—2010

[http://www3.weforum.org/docs/WEF\\_IV\\_GreenInvesting\\_Report\\_2010.pdf](http://www3.weforum.org/docs/WEF_IV_GreenInvesting_Report_2010.pdf)

Page 54 States:

“Solid waste-to-energy (WtE) uses the same conversion technologies as biomass”

“In the short term, prospects are good as waste legislation tightens and alternatives to dumping waste in landfill are sought.”

“As landfill gate fees rise and burying rubbish is increasingly considered environmentally unacceptable, burning waste will become more attractive.”

## Europe Finds Clean Energy in Trash, but U.S. Lags—New York Times, April 12, 2010—By Elisabeth Rosenthal

<http://www.nytimes.com/2010/04/13/science/earth/13trash.html?pagewanted=all>

Page 1 States:

“Their use has not only reduced the country’s energy costs and reliance on oil and gas, but also benefited the environment, diminishing the use of landfills and cutting carbon dioxide emissions. The plants run so cleanly that many times more dioxin is now released from home fireplaces and backyard barbecues than from incineration.”

“With all these innovations, Denmark now regards garbage as a clean alternative fuel rather than a smelly, unsightly problem. And the incinerators, known as waste-to-energy plants, have acquired considerable cachet as communities like Horsholm vie to have them built.”

## Maryland Green Jobs & Industry Task Force—July 2010

[http://www.choosemaryland.org/industry/energy/green%20jobs%20task%20force%20report\\_final.pdf](http://www.choosemaryland.org/industry/energy/green%20jobs%20task%20force%20report_final.pdf)

Page 12 States:

“2.5 Strengthen landfill diversion policies. Improved waste management policies will reduce space and materials devoted to landfills, as well as the harmful methane emissions that they

produce. Furthermore, strategies such as increasing the State’s recycling requirements, charging additional fees on landfill disposal, and prohibiting the disposal of certain reusable materials would stimulate job creation in industries such as recycling, food waste composting, material recovery facilities (MRFs) and greener manufacturing. The Maryland Department of the Environment (MDE) should be the lead in mapping out a feasibility plan for increased landfill diversion.

Page 13 States:

3.1 Incentivize construction of waste-to-energy plants. With an increased focus on renewable energy sources, there is renewed interest in waste-to-energy (WTE) plants as an approach to managing solid waste. WTE is a generally lower-carbon alternative to landfills, which generate methane, a greenhouse gas 21 times more potent than an equivalent amount of CO<sub>2</sub>. Further, construction of new WTE facilities generates significant economic activity.”

### **Statement from Governor Martin O'Malley on His Decision to Sign Senate Bill 690—May 2011**

<http://www.governor.maryland.gov/pressreleases/110517c.asp>

“After careful deliberation, I have decided to sign Senate Bill 690. Our State has an aggressive goal of generating 20% of our energy from Tier I renewable sources by 2022 and we intend to achieve that goal through as much in-state energy generation as possible. This will require a diverse fuel mix including onshore and offshore wind, solar, biomass including poultry litter, and now waste-to-energy if we are to realize our 20% goal.

“Maryland is not alone in this determination. Over half of the states that have a renewable energy goal classify municipal solid waste as a renewable fuel. European countries that are many decades ahead of the United States in reducing their carbon footprint and their reliance on fossil fuels make broad use of modern waste to energy facilities and employ comprehensive recycling efforts in order to land fill as little waste as possible. In fact, Sweden, a leader in this arena, sends 45% of it’s waste to waste-to-energy facilities, recycles 41%, and has reduced the quantity of waste going to landfills by 50% over a 1994 baseline.

### **Center for American Progress—Taking Action on Clean Energy and Climate Protection in 2012—A Menu of Effective and Feasible Solutions—April 2012**

[http://www.americanprogress.org/wp-content/uploads/issues/2012/04/pdf/energy\\_solutions\\_exec\\_summ.pdf](http://www.americanprogress.org/wp-content/uploads/issues/2012/04/pdf/energy_solutions_exec_summ.pdf)

Page 26 States:

“Transform the waste industry to create jobs and reduce pollution  
Why it matters: Transforming America’s enormous waste industry into a “materials management” industry that emphasizes waste reduction, reuse, and recycling is critical for domestic job creation as well as a productive way to combat climate change. A recent Tellus Institute study estimates that increasing our national recycling rate to 75 percent would create more than 1.1 million more jobs than a business-as-usual recycling growth rate. The same study finds that the effort would lower greenhouse gas pollution by the equivalent of 515 million metric tons of CO<sub>2</sub> pollution (the same impact as taking 50 million cars off the road). **Combining recycling policies with waste-to-energy programs would reduce pollution even more.**”

### **Citizens Budget Commission—Taxes In, Garbage Out—The Need for Better Solid Waste Disposal Policies in New York City—May 2012**

[http://www.cbcny.org/sites/default/files/REPORT\\_SolidWaste\\_053312012.pdf](http://www.cbcny.org/sites/default/files/REPORT_SolidWaste_053312012.pdf)

Page i States:

“Beyond the financial burden, exporting garbage does enormous environmental harm. The trucks and trains that carry residential and commercial waste emit a large volume of greenhouse gases, and putting the garbage in landfills generates additional emissions. The waste that New York City sends to landfills generates about 679,000 metric tons of greenhouse gases per year – the equivalent of adding more than 133,000 cars to the roads.

This report makes the case for a significant change in New York City's solid waste disposal practices, a shift from heavy reliance on long-distance exporting to landfills to greater reliance on use of local waste-to-energy facilities. The case is based on three fundamental points.”

*“1. Waste-to-energy technology is cheaper and environmentally better than long-distance exporting.”*

*“2. Waste-to-energy technology is now underutilized in New York City.”*

*“3. Opposition to expanded use of waste-to-energy technology is rooted in misunderstanding its impacts.”*

### **Governor Talks Trash—Gov. Bob McDonnell visits Covanta Energy’s Energy Resource Recovery Facility in Lorton. By Justin Fanizzi, Connection Newspapers, VA—May 19, 2010**

<http://connectionarchives.com/PDF/2010/051910/Lorton.pdf>

Page 4-5 States:

"This is my first trip here and I’m very impressed," McDonnell said. "We need to expand alternative energy in order to reduce our dependence on foreign oil and this is a great way to do so."

"This plant is amazing," McDonnell said. "I’m very focused on trying to make Virginia the energy capital of the East Coast. To do that, we need a comprehensive approach and turning trash into energy is amazing and efficient."

### **Virginia Energy Plan—2007—Kaine Administration**

<http://media.gatewayva.com/rtd/pdfs/govenergyplan.pdf>

Page 23 States:

“Virginia should support expansion of and development of new waste-to-energy facilities to reduce the need for landfills, reduce environmental impacts of managing animal wastes, and meet growing demands for energy.”

### **Pennsylvania Final Climate Action Plan, December 18, 2009—Rendell Administration**

<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-77736/ALL%20OF%20VOLUME%201%20AND%202.pdf>

Page 121 States:

“The CCAC recommends an increase in WTE derived from MSW by 20% by 2020 and 40% by 2030 at existing facilities.”

### **GOVERNOR GIBBONS: “WE NEED TO STOP WASTING NEVADA.”—November 2009**

[http://ndep.nv.gov/jungo/docs/pr\\_2009-11-06\\_landfill.pdf](http://ndep.nv.gov/jungo/docs/pr_2009-11-06_landfill.pdf)

Governor Jim Gibbons today announced his intention to sponsor a major initiative to completely eliminate landfills as we presently know them. “Federal law does not allow us to ban the importation of waste from California. But state law allows me to require enough recovery that a waste stream becomes an asset. The availability of economical recycled materials will encourage manufacturers to locate in Nevada,” Gibbons said, “Mandated waste recovery can be a significant part of diversifying our economy and provide much needed jobs.”

“I expressed to them that I will not let Nevada become the landfill of the west. I am pleased that they understand the need to do a better job of protecting our environment and that they have agreed to work with us for the benefit of Nevada.” Gibbons said that he will propose various incentives and abatements to encourage businesses to locate in Nevada and utilize recycled materials. He will also promote low cost financing alternatives to help build waste recovery facilities.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

AUG 10 2007

OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

MEMORANDUM

SUBJECT: Emissions from Large and Small MWC Units at MACT Compliance

FROM: Walt Stevenson *WS*  
OAQPS/SPPD/ESG (D243-01)

TO: Large MWC Docket (EPA-HQ-OAR-2005-0117)

This memorandum presents information on the overall emissions reductions achieved by large and small municipal waste combustion (MWC) units following retrofit of Maximum Achievable Control Technology (MACT). This memorandum is a companion to the memorandum titled "Emissions from Large MWC Units at MACT Compliance (note a). Consistent with Clean Air Act (CAA) section 129, large and small MWC units completed MACT retrofits by December 2000 and December 2005, respectively. The performance of the MACT retrofits has been outstanding. Emission reductions achieved for all CAA section 129 pollutants are shown below. Of particular interest are dioxin/furan and mercury emissions. Since 1990 (pre-MACT conditions), dioxin/furan emissions from large and small MWCs have been reduced by more than 99 percent, and mercury emissions have been reduced by more than 96 percent. Dioxin/furan emissions have been reduced to 15 grams per year\* and mercury emissions reduced to 2.3 tons/year.

Emissions From Large and Small MWC Units

<i>Pollutant</i>	<i>1990 Emissions (tpy)</i>	<i>2005 Emissions (tpy)</i>	<i>Percent Reduction</i>
CDD/CDF, TEQ basis*	4400	15	99+ %
Mercury	57	2.3	96 %
Cadmium	9.6	0.4	96 %
Lead	170	5.5	97 %
Particulate Matter	18,600	780	96 %
HCl	57,400	3,200	94 %
SO <sub>2</sub>	38,300	4,600	88 %
NO <sub>x</sub>	64,900	49,500	24 %

(\*) dioxin/furan emissions are in units of grams per year toxic equivalent quantity (TEQ), using 1989 NATO toxicity factors; all other pollutant emissions are in units of tons per year.

Internet Address (URL) = <http://www.epa.gov>

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The MACT performance data presented above is from the initial MACT compliance tests from all large and small MWC units. The inventory of large MWC units at MACT compliance identifies 167 large MWC units located at 66 MWC plants (note b). The inventory of small MWC units at MACT compliance identifies 60 small MWC units located at 22 MWC plants (note c). The baseline 1990 emissions data are from the large and small MWC emissions trend memo (note d and e). In combination, the above information defines the 1990 and 2005 emissions for large and small MWC units.

notes

(a) see docket A-90-45, item VIII-B-11.

(b) see docket A-90-45, item VIII-B-6

(c) see docket OAR-2004-0312, "National Inventory of Small Municipal Waste Combustor (MWC) Units at MACT Compliance (Year 2005)", dated November 1, 2006.

(d) see docket A-90-45, item VIII-B-7

(e) see docket OAR-2004-0312, "National Emissions Trends for Small Municipal Waste Combustion Units [year 1990 – 2005]", dated June 12, 2002.