

COVANTA

Powering Today. Protecting Tomorrow.



Covanta's Clean World Initiative 2014 WTERT Conference October 9, 2014



CWI Goals

- Make Covanta's MSW EFW the cleanest and most reliable source of energy in the world.
- Improve the perception of MSW EFW and Covanta to protect the base US business and increase the likelihood of new MSW EFW capacity in the US
- Obtain economic benefits related to US renewable energy and GHG policies
- Advance the development and commercialization of new waste-based conversion technologies

CWI Early Strategy

- Demonstrate the environmental and GHG reduction benefits of MSW EFW technology
- Establish partnerships with a nationally recognized NGOs
- Accelerate R&D efforts focused on reducing emissions (e.g., Mercury and Dioxins), commercializing VLN and LN, researching gasification and plasma technologies and improving efficiency and combustion control
- Eliminate Mercury from the waste being delivered to Covanta facilities
- Reduce Dioxin and Mercury emissions by 50% in 5 years.
- Increase the efficiency of Covanta's fleet, i.e., increase the output of power and steam without increasing waste input

Covanta Sustainability Efforts

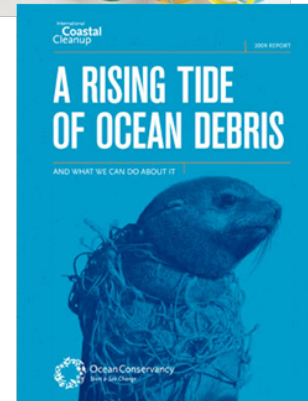
- 2007 Introduced “Clean World Initiative”
- 2010 Issued 1st Sustainability Report: Finalist for the Ceres ACCA North American sustainability reporting award
- 2011 Announced Community Outreach and Environmental Justice Policy
- 2012 Named among the top 11 U.S. companies in the Maplecroft Climate Innovation Indexes (CIIs)
- 2012 Environmental Step Up (e-Step Up) Announced
- 2013 Made significant progress on sustainability goals, meeting metal recovery, community toxics recovery, emissions reduction, and training goals



Fishing for Energy Partnership Created



"Congratulations on receiving the Coastal America Partnership Award...I applaud and support you in your efforts to bring together collective resources to meet common goals and better our coastal environment."
President Barack Obama

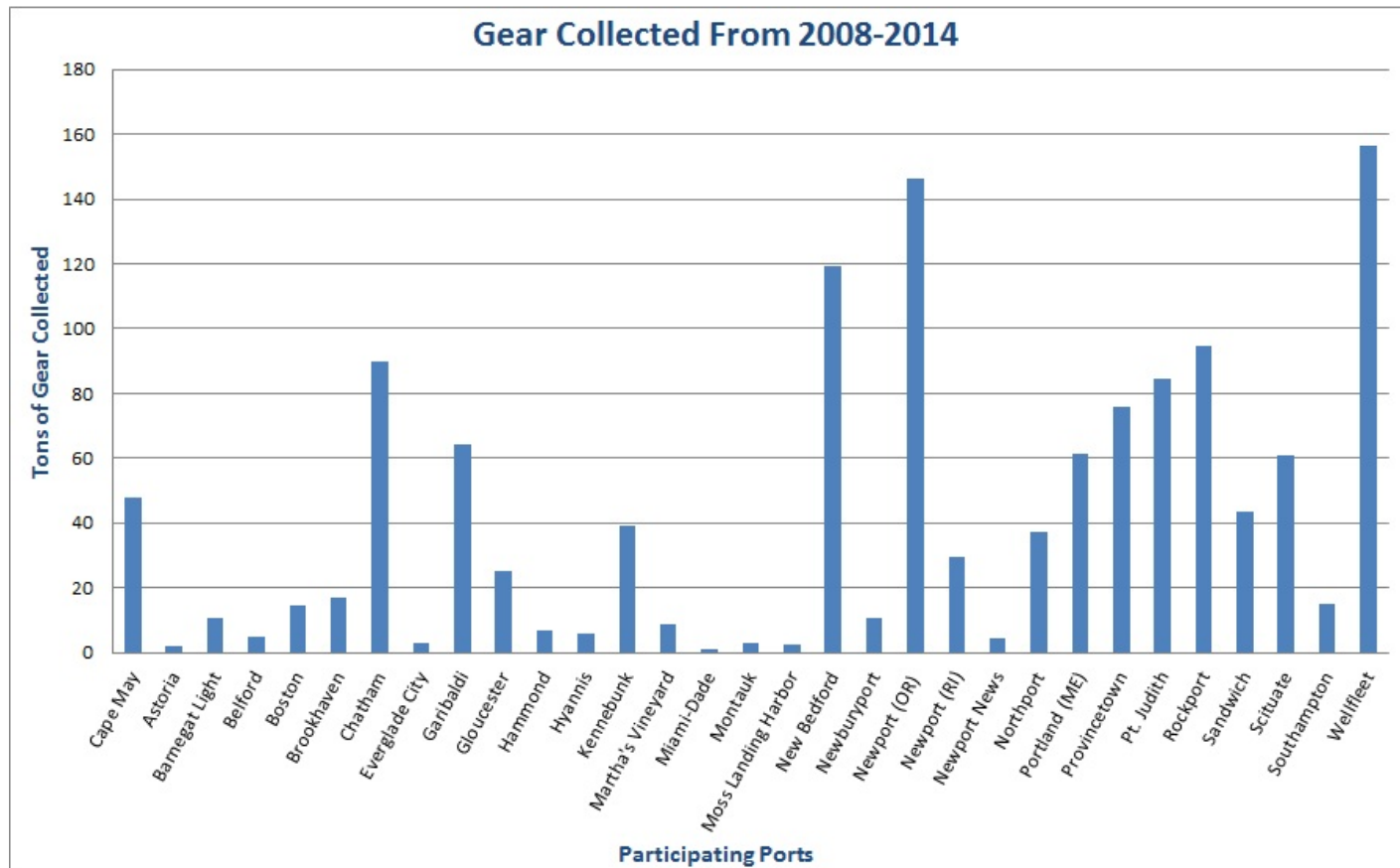


From *Rising Tide*:

"Recommendations #1 Expand public and private partnerships to monitor and reduce marine debris--

For instance, the National Oceanic and Atmospheric Administration, Schnitzer Steel Hawaii Corporation, **Covanta Energy**, and other public and private organizations all support the "Nets-to-Energy" program in Hawaii..."

Fishing for Energy



Rx4Safety

The Product Stewardship Institute held
A National Webinar series to evaluate
The most environmentally safe
Way of disposing of household
Drugs. ***The answer – EfW!***



Rx4Safety™
A Covanta Energy Program

Covanta developed the Prescription for Safety Program to
Provide communities with safe, free disposal of medications
Collected at drug take-back events.

1,226,416 pounds collected since 2010!

Eliminate Mercury from our trash

- Seek bans of Mercury Containing Products
- Support Mercury Export Ban
- Sponsored recycling
- Bounty programs

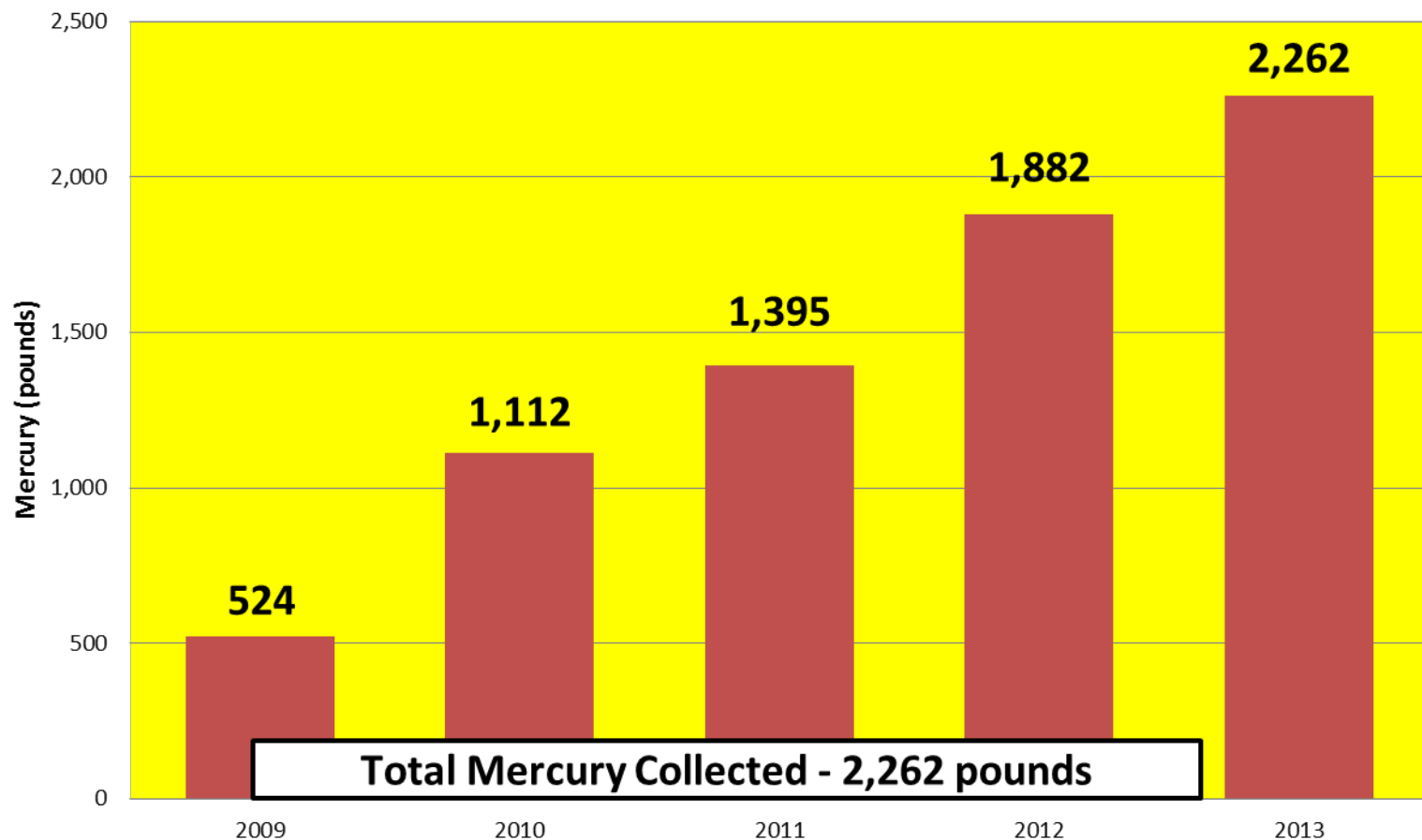


- Reduce our stacks
 - Conventional approaches
 - New Reagents/Technology
 - Test Facility at Haverhill



Mercury Collection Program

Cumulative Mercury Collection Data

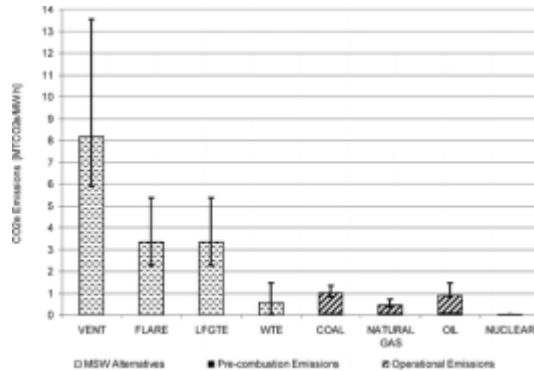




“The performance of the MACT retrofits have been outstanding.”

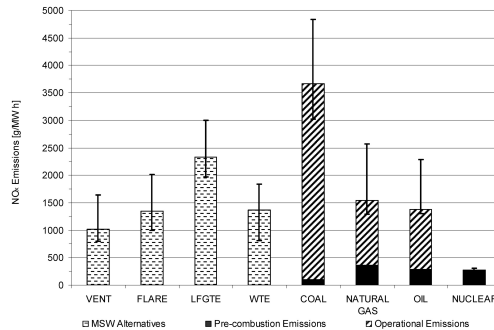
Pollutant	1990 Emissions (tpy)	2005 Emissions (tpy)	Percent Reduction
CDD/CDF, TEQ basis*	4400	15	99+%
Mercury	57	2.3	96%
Cadmium	9.6	0.4	96%
Lead	170	5.5	97%
Particulate Matter	18,600	780	96%
HC1	57,400	3,200	94%
SO ₂	38,300	4,600	88%
NO _x	64,900	49,500	24%

Emissions U.S. EPA Lifecycle Study



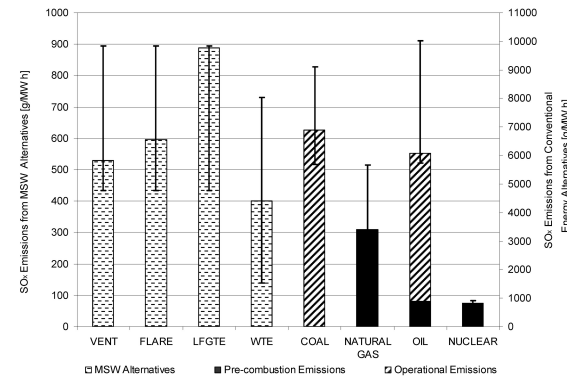
CO₂--EfW better than landfills, coal, oil,

and on par with natural gas.

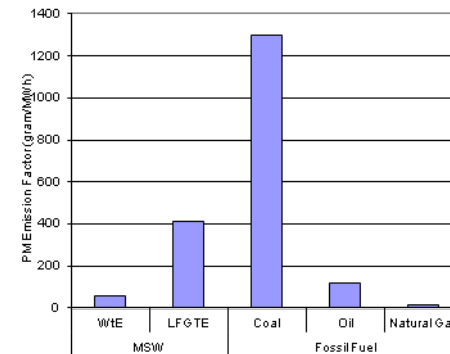


NO_x--EfW better than landfills, coal

and on par with oil and natural gas.



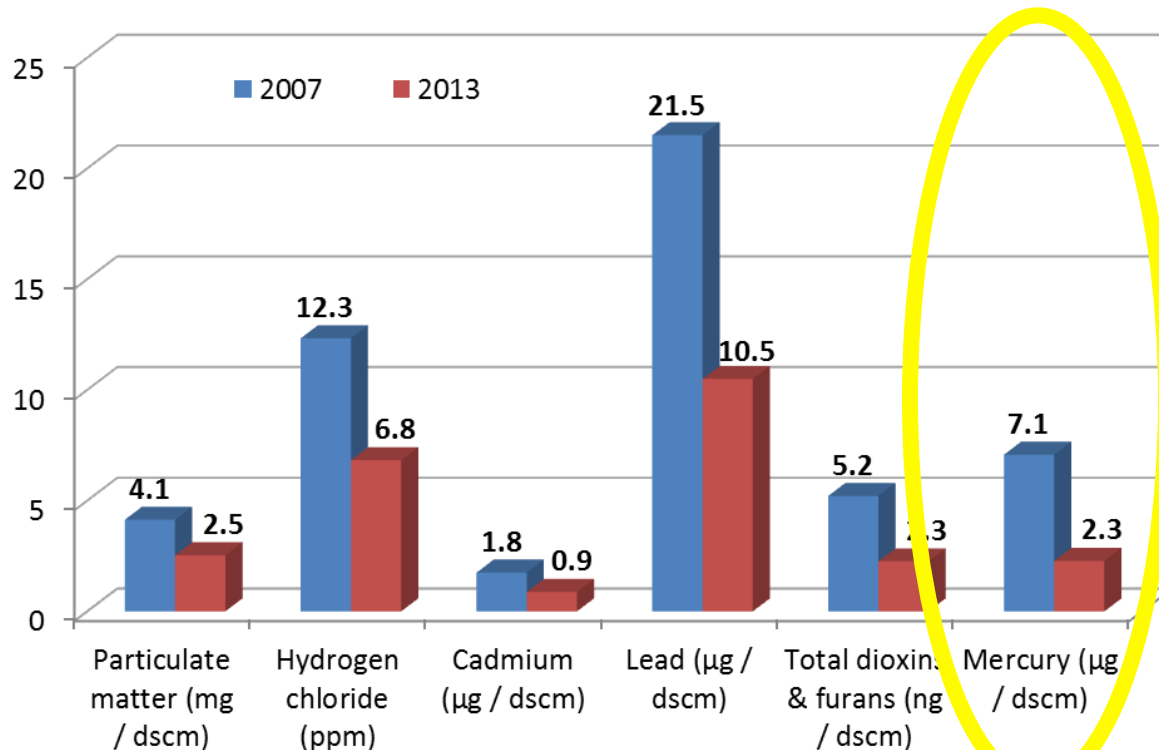
SO₂--EfW better than landfills, coal and oil.



PM--EfW better than landfills, coal and oil.

CWI Emissions Reductions

Covanta Emissions Reductions, 2007 - 2013



% Reduction, 2007 - 2013

NOx (ppm)	6%
PM (mg / dscm)	39%
HCl (ppm)	45%
Cd (µg / dscm)	50%
Pb (µg / dscm)	51%
Dioxin (ng / dscm)	57%
Hg (µg / dscm)	68%

Current Long-term Goals

- Achieve a zero accident and injury rate, inclusive of all employees and contractors.
- Reduce emissions to the point at which EfW becomes the cleanest source of energy available, as measured on a lifecycle assessment basis.
- Assist clients to achieve the most sustainable waste management solutions possible through greater adoption of recycling and recovery operations, including EfW.
- Support legislation and regulatory and policy development that promotes renewable energy and supports sustainable waste management.

Near-term goals & targets

Set in 5 categories:

- Operations
- Sustainable materials management
- Environment
- Employees
- Communities

Each goal linked to financial performance and long-term business success per GRI Guidelines

Goals: Operations

Goal
Increase waste managed by 20% by 2025 to 24.7 M tons / yr.
Increase net power generation by 20% by 2025 to 10.8 million MWh / yr.
Increase gross metal recovery run rate to 490k tons / yr.
Implement energy efficiency improvements at all facilities where local communities support efforts.
By 2020, expand water reduction efforts at all facilities where local communities support efforts.

Goals: Sustainable Materials Management

Goal
1MM tons commercial & industrial waste (Services; Solutions – solids, LDI, and beneficial reuse water; e-Waste) by 2015 from 490k tons in 2011.
Expand recycling options at >50% of EfW facilities.
Liquid direct injection (LDI) capability at 4 facilities.
Contracts for 3 CLEERGAS units by 2015.

Goals: Environment

Goal
100% Compliance for all reportable periods by 2015, including stack, CEMS, and start-up / shut-down.
All units below federal standards for new units by 2015 (dioxin: 13 ng/dscm; mercury: 50 µg/dscm).*
Develop voluntary GHG offset projects at all eligible facilities by 2015.
Develop & assess technology for improved env. performance.

Reporting on Progress: Web Updates

Covanta Corporate Sustainability Goal Update



Existing Goal & Target

METALS Recovery



The recovery of metals provides Covanta with a growing revenue stream while providing important environmental benefits from the reuse of metals as compared to the mining and processing of virgin ore.

GOAL

Increase the amount of ferrous and non-ferrous metal recovered at Covanta's EfW facilities.

TARGET

By the end of 2013, increase total (gross) recovered ferrous by 50,000 tons and non-ferrous metals by 10,000 for a total of 490,000 tons.

Annualized rate of EfW facility metal recovery



How Did We Do?

Covanta has been recovering ferrous metals for decades, with the number of facilities capable of engaging in metals recovery steadily increasing over time. Most recently, we have been adding non-ferrous (i.e., aluminum, copper, brass, etc.) recovery systems to augment existing ferrous recovery systems. In 2012, we set the goal & target above for our metals recovery program.

By the end of 2013, we increased our non-ferrous metals recovery rate by roughly 10,000 tons,

Clean World Initiative

- In the five+ years since launching CWI, Covanta has;
 - **Maintained unparalleled boiler availability making Covanta EfW facilities one of the most reliable sources of energy in the world**
 - **Driven down facility emissions**
 - cut dioxin, mercury, cadmium, lead, and hydrogen chloride emissions in half
 - facility emissions are 60-90 percent below U.S. EPA requirements
 - **Enhanced metals recycling with innovative technology**
 - Installing new ferrous and non-ferrous metals recovery systems
 - **Announced a new gasification technology called CLEERGAS™**
 - **Implemented world-class safety programs with the majority of facilities achieving VPP Star Status**