



***Engineers Week Seminar Series
Energy-from-Waste on Long Island
February 17, 2011***

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Certified Ecologist***



Agenda

- EfW Overview
- EfW Long Island Perspective
- Some Sustainability Efforts



COVANTA
ENERGY
for a cleaner world

Who is Covanta?

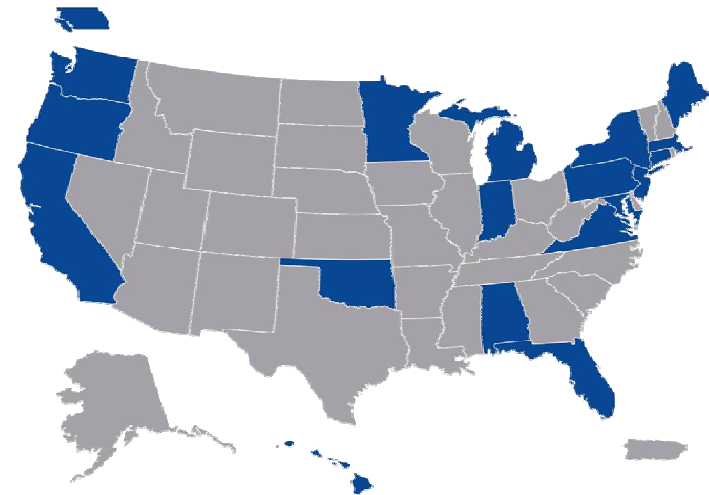




Leading Producer of Energy-from-Waste

- Largest Energy-from-Waste (EfW) operator in the world
 - Global presence; local relationships
 - North America, Asia & Europe
 - 4,000 employees
- 44 EfW facilities owned and/or operated
 - Serve more than 20 million people
 - 19+ million tons of waste per year
 - 9,000,000 MW-hr of renewable electricity/yr
 - 400,000+ tons of metal recycled each year

Covanta Operates in 18 States and Canada



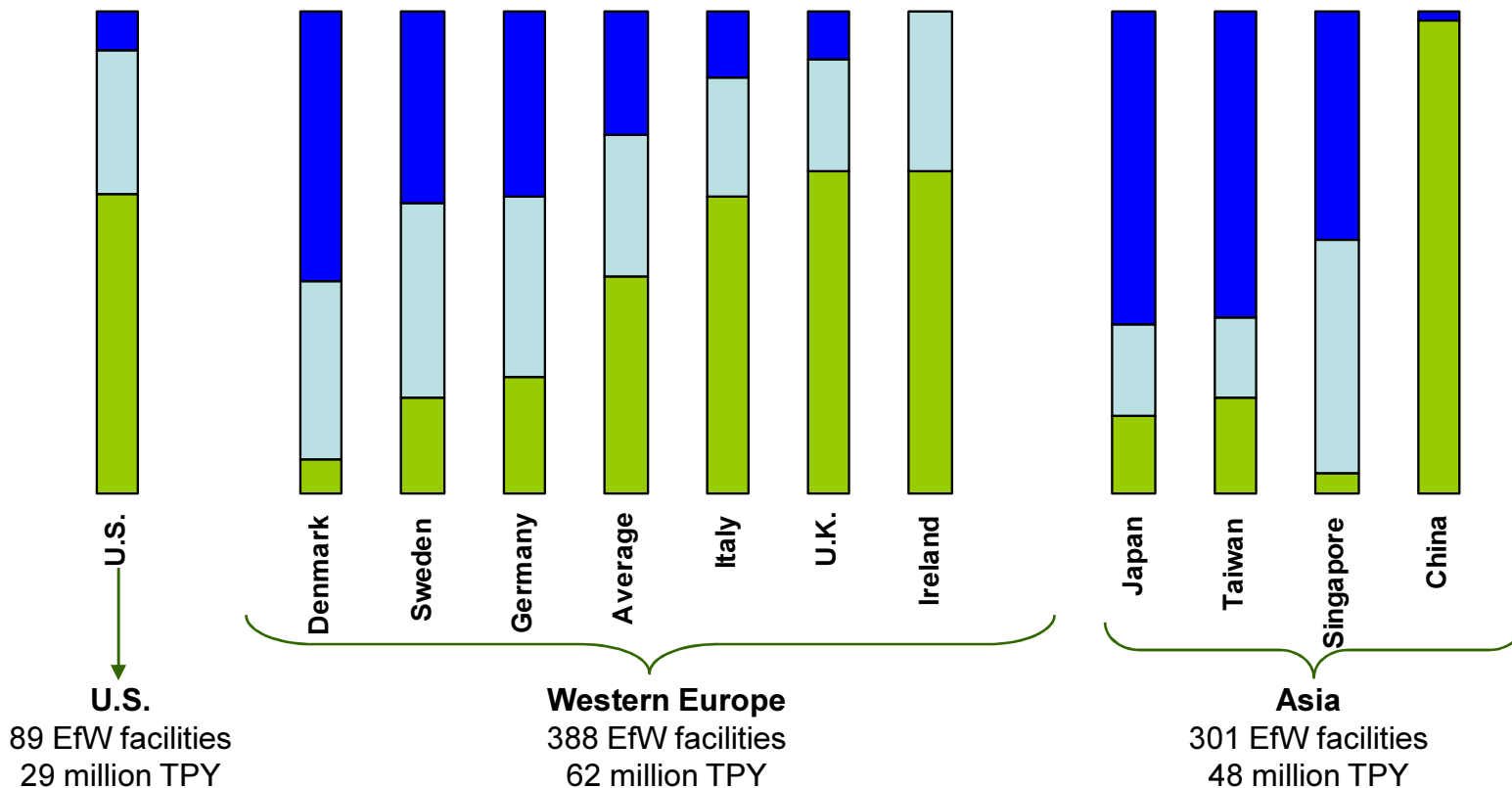
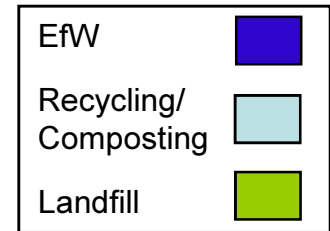
 Covanta

Number one position in the U.S. Energy-from-Waste industry



Energy from Waste Industry

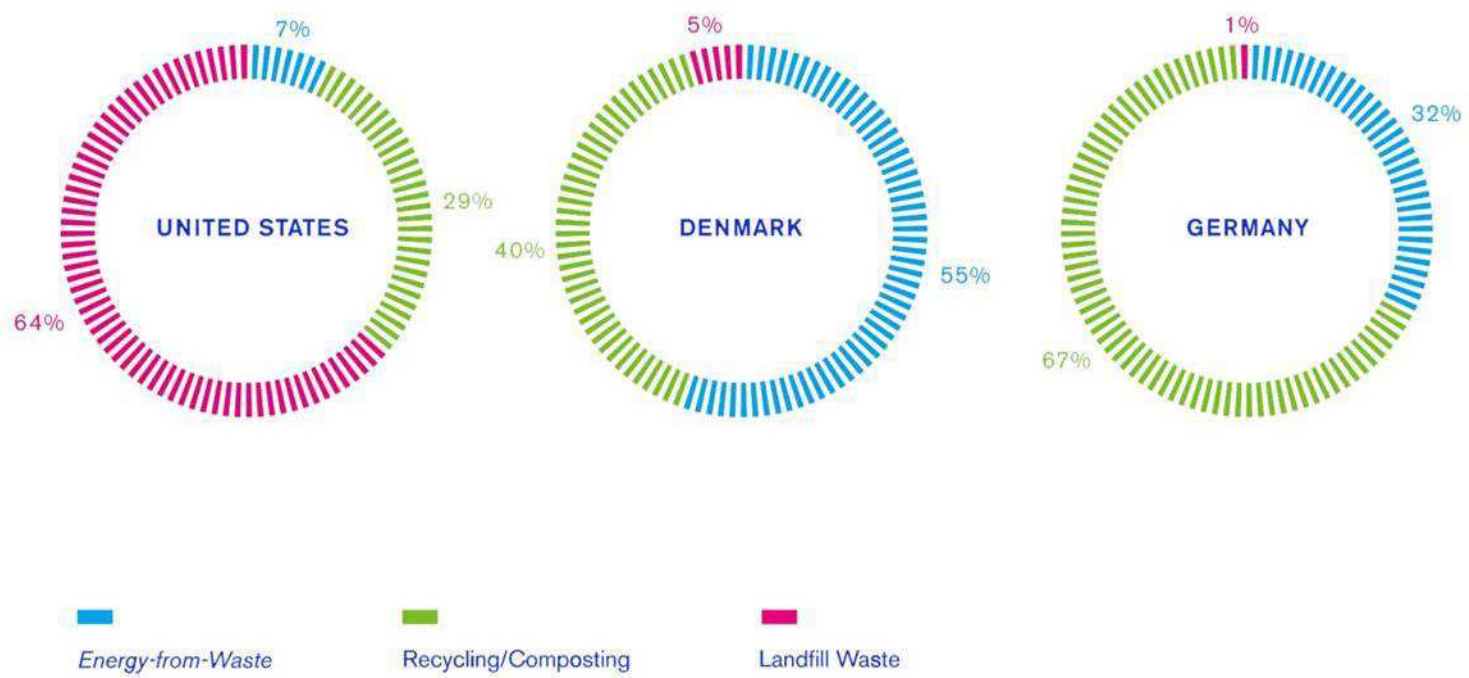
- Energy from Waste is used extensively worldwide
 - 780 EfW facilities; 140 million tons per year (TPY)



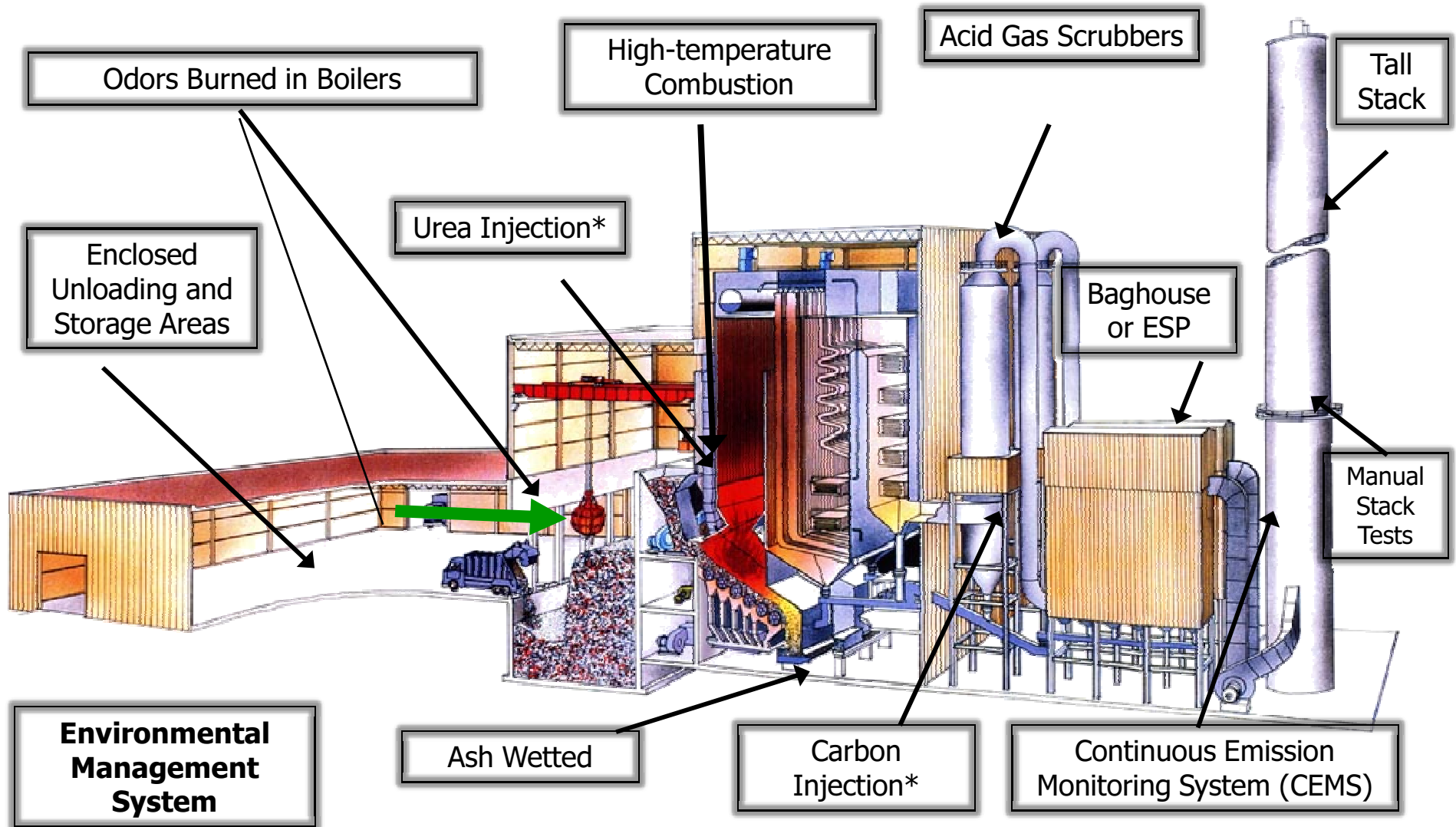


What a contrast

- Energy-from-Waste is used extensively worldwide
 - Nearly 800 Energy-from-Waste facilities: ~140 million tons/year



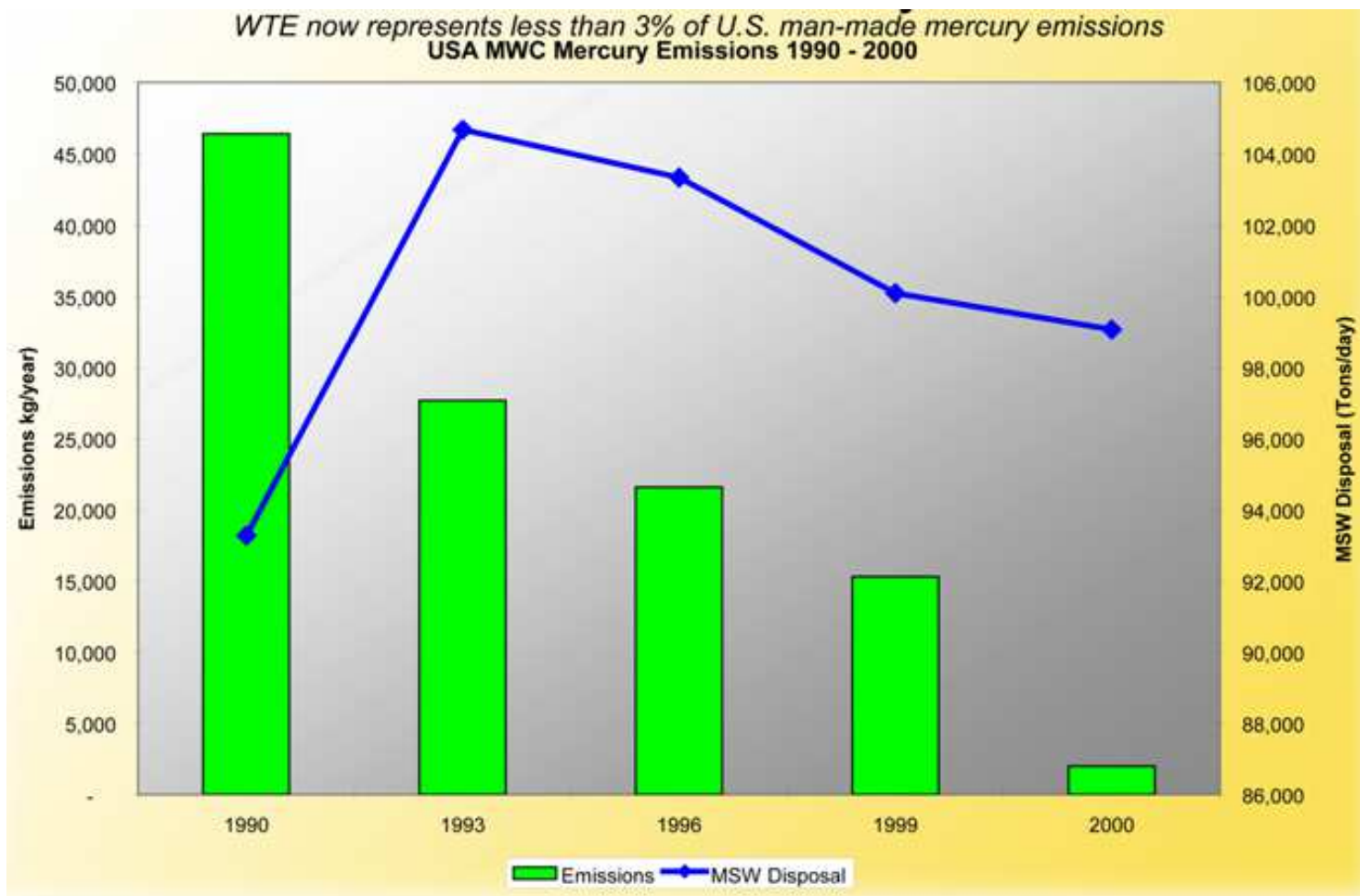
Typical Energy from Waste Facility Air Pollution Control Systems



* Some Plants

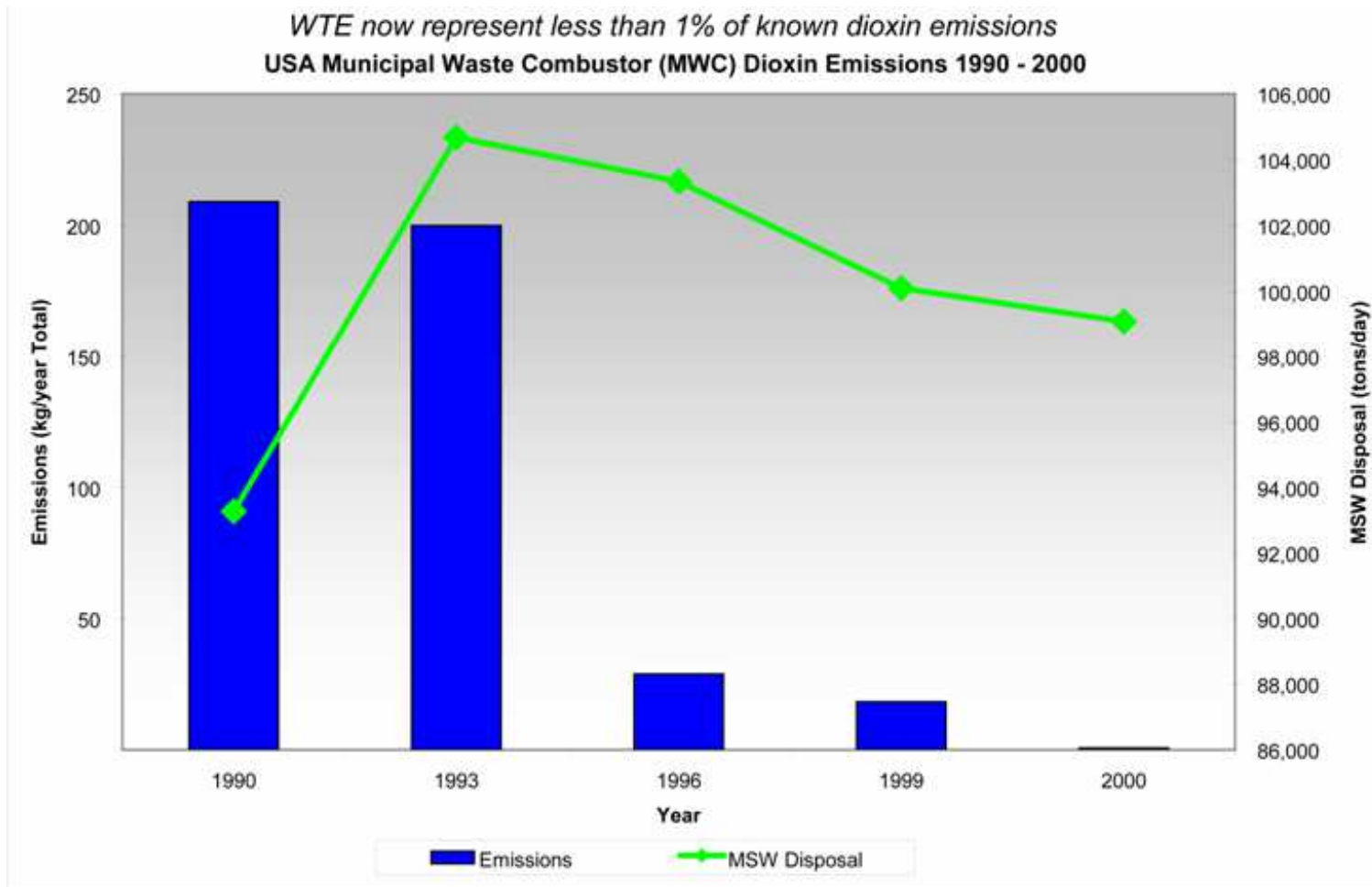


Air Emissions - Mercury





Air Emissions - Dioxins





Our Sustainability Argument

- Post Reuse / Recycling
- Net Greenhouse Gas Reducer Compared to Landfills
- Do Ferrous / Non-Ferrous Recovery
- A Source of Non-Fossil Energy



Benefits of EfW which Landfills Cannot Provide:

- 50 lbs./ton recycling of ferrous and non-ferrous metals
- About 500+ Kwh/ton more energy than landfilling
- Zero methane emissions



Benefits of EfW which Landfills Cannot Provide: (Continued)

- Destruction of pharmaceuticals without impact to waters*
- Destruction of the Asian Longhorn Beetle**
- Destruction of counterfeit and contraband seized by local law enforcement
- Destruction of off-spec products to prevent grey marketing
- Destruction of virus or prion infected carcasses

* *Source: Maine DEP, P²D².org, NYSDEC*

** *Source: NJDEP, NYSDEC*

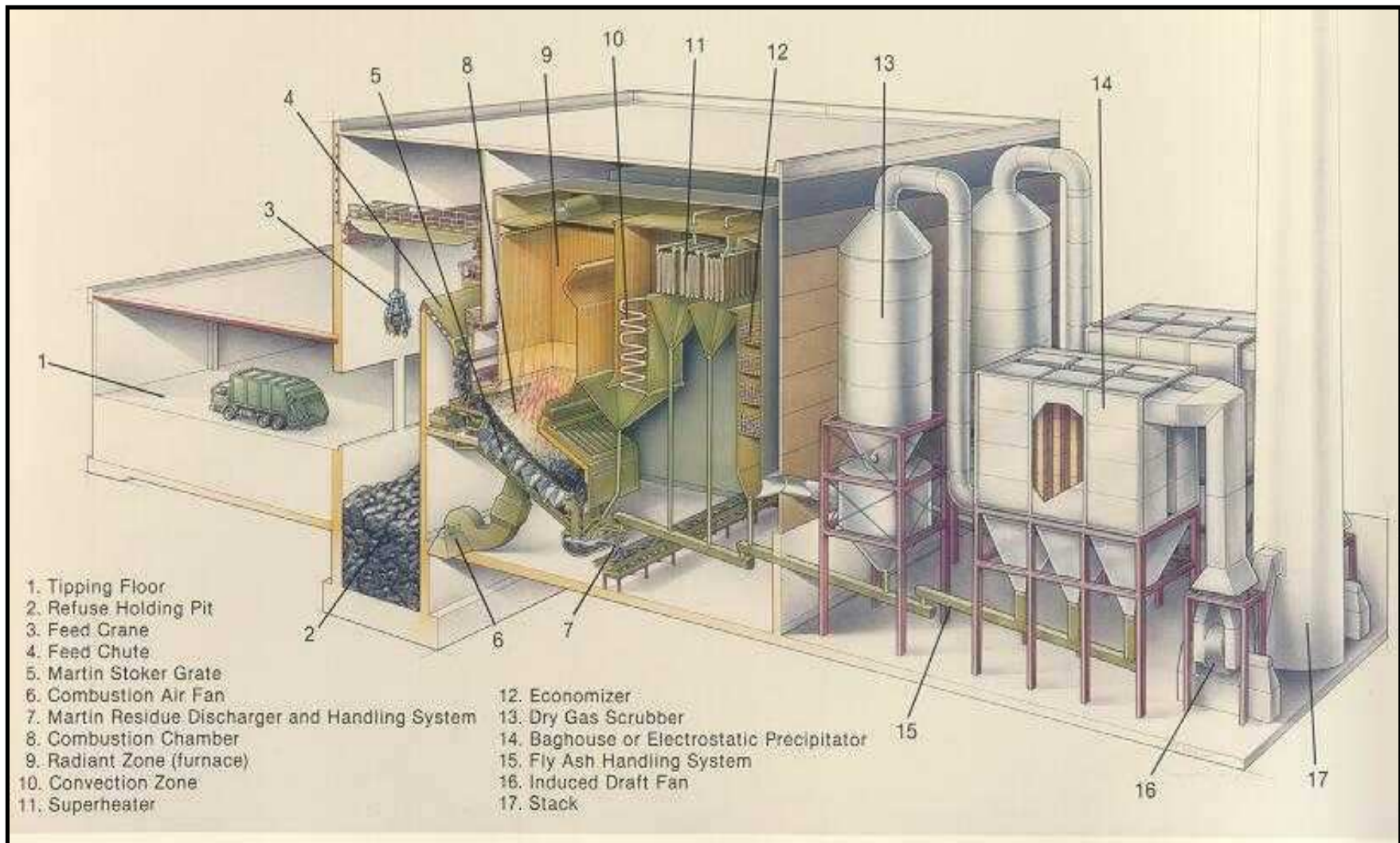


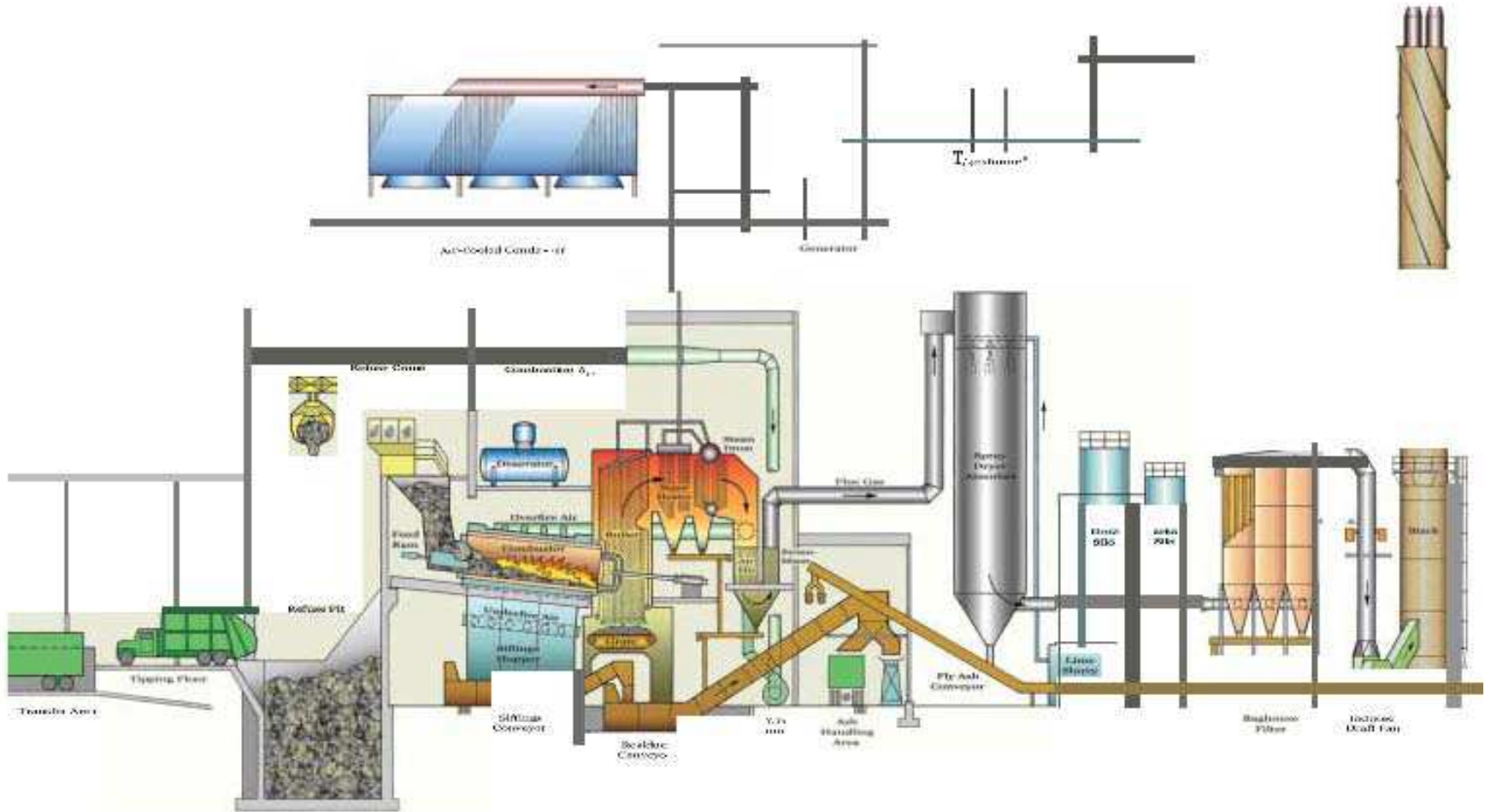
Long Island Electricity Fuel Sources, 2009

	<u>MW</u>	<u>%</u>
Oil and Gas	5151	92.9
MSW	118	2.1
Landfill Gas	10	0.2
Nuclear	205	3.7
Other	<u>61</u>	1.1
	5545	



Martin Grate

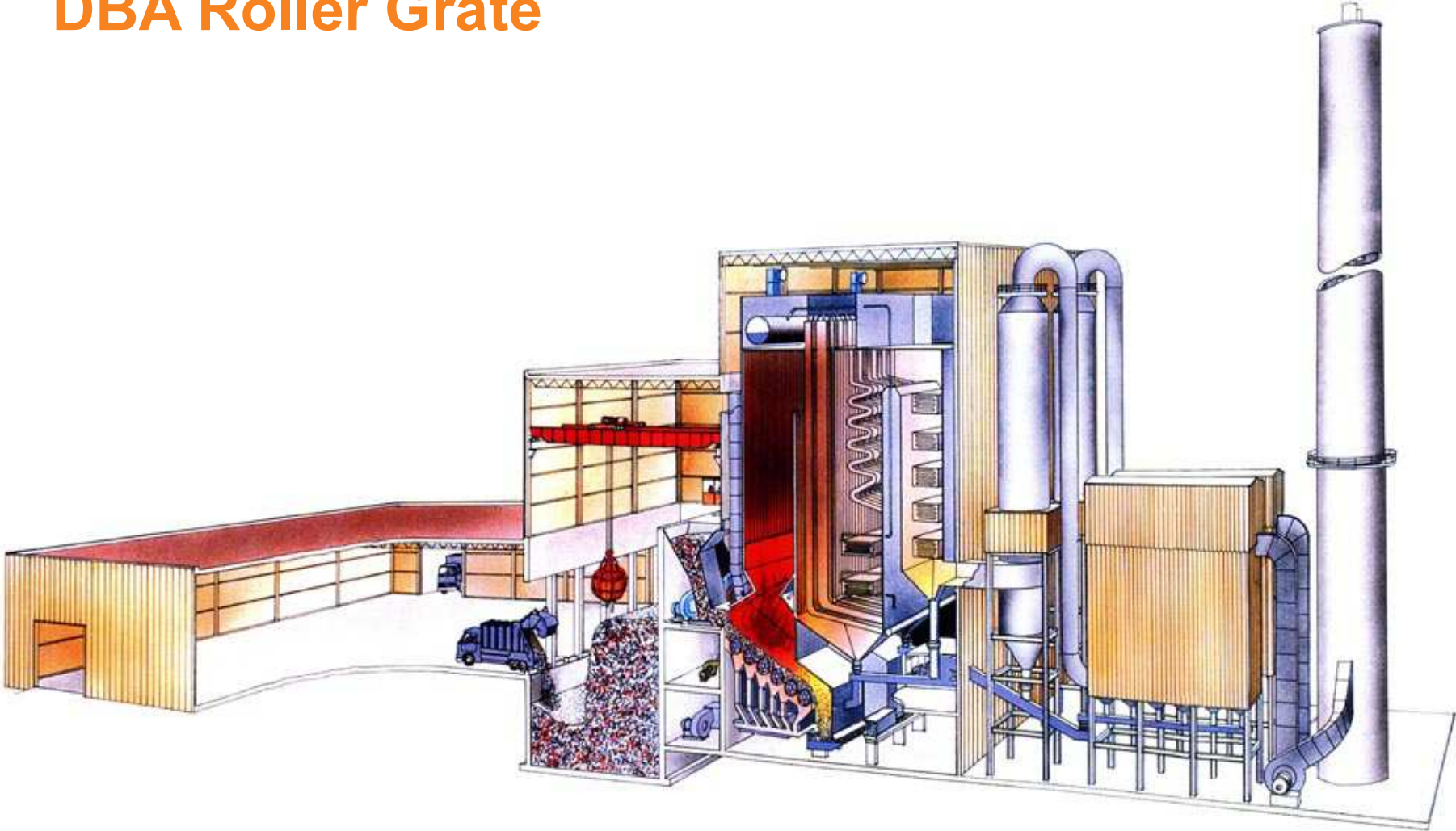




O'Connor Combustor



DBA Roller Grate





Facility Rendering

Existing



Proposed





Babylon Energy-from-Waste Facility

Actual vs. Allowable Emissions

	<u>Permit Limit</u>	<u>2008 – 2010 Actual Results</u>	<u>% Below Limit</u>
Particulate (mg/dscm)	25	1.4	94.4%
Dioxin/Furan (ng/dscm)	30	4.1	86.3%
Mercury (µg/dscm)	28 – NY State (50 – Federal)	10.9	61.1% (78.2%)
Lead (µg/dscm)	400	7.7	98.1%
Cadmium (µg/dscm)	35	0.8	97.7%

Note: All concentrations corrected to 7% oxygen.



Hempstead Energy-from-Waste Facility

Actual vs. Allowable Emissions

	Permit Limit	2008 – 2010 Actual Results	% Below Limit
Particulate (mg/dscm)	25	0.7	97.2%
Dioxin/Furan (ng/dscm)	30	1.8	94.0%
Mercury (µg/dscm)	28 – NY State (50 – Federal)	4.0	85.7% (92.0%)
Lead (µg/dscm)	400	2.9	99.3%
Cadmium (µg/dscm)	35	0.3	99.1%

Note: All concentrations corrected to 7% oxygen.



Huntington Energy-from-Waste Facility

Actual vs. Allowable Emissions

	Permit Limit	2008 – 2010 Actual Results	% Below Limit
Particulate (mg/dscm)	25	3.3	86.8%
Dioxin/Furan (ng/dscm)	30	1.1	96.3%
Mercury (µg/dscm)	28 – NY State (50 – Federal)	1.9	93.2% (96.2%)
Lead (µg/dscm)	400	7.1	98.2%
Cadmium (µg/dscm)	35	0.6	98.3%

Note: All concentrations corrected to 7% oxygen.



MacArthur Energy-from-Waste Facility

Actual vs. Allowable Emissions

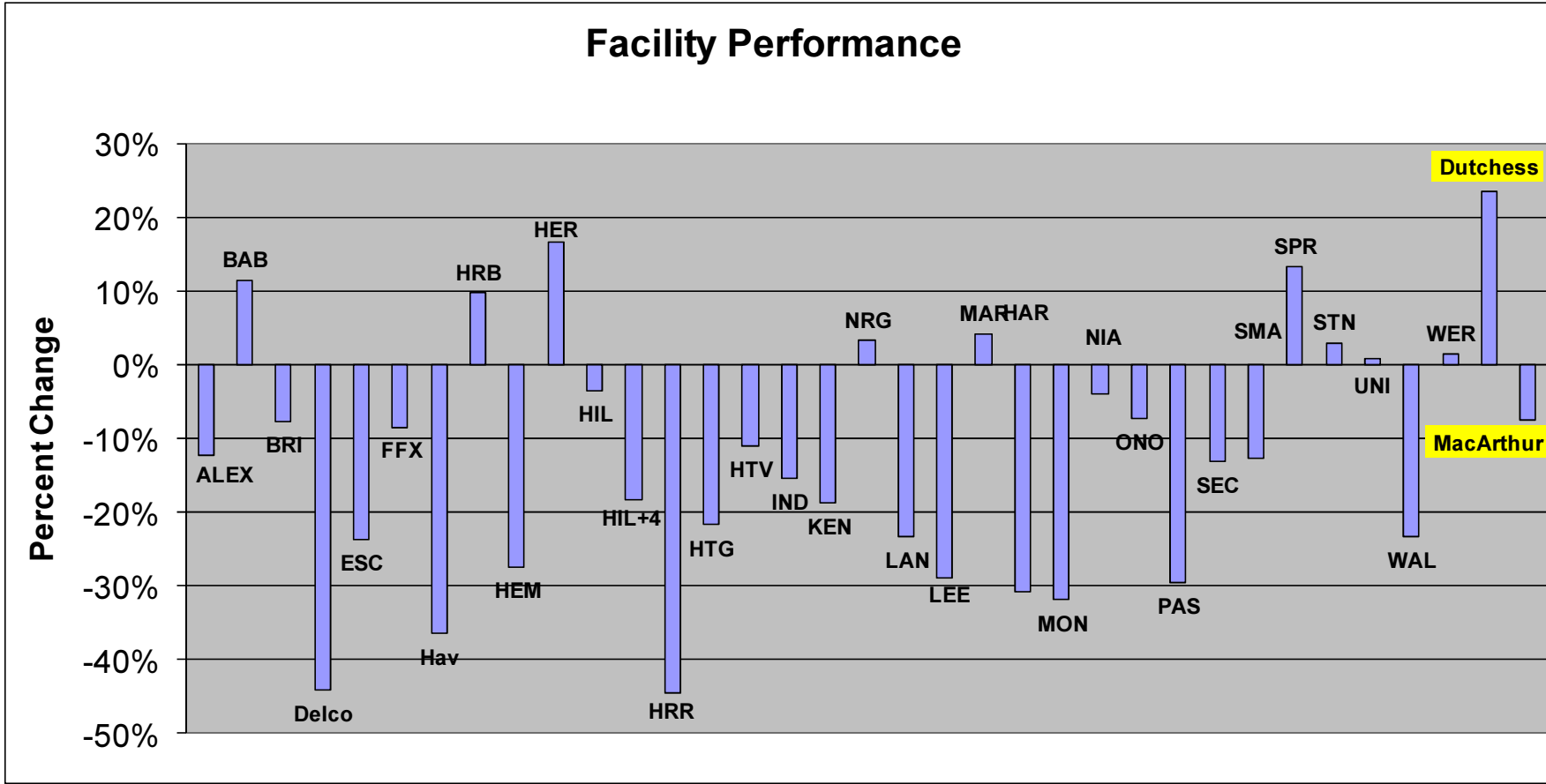
	Permit Limit	2008 – 2010 Actual Results	% Below Limit
Particulate (mg/dscm)	27	1.0	96.3%
Dioxin/Furan (ng/dscm)	30	1.2	96.0%
Mercury (µg/dscm)	80 – NY State (50 – Federal)	4.0	95.0% (92.0%)
Lead (µg/dscm)	490	2.8	99.4%
Cadmium (µg/dscm)	40	1.0	97.5%

Note: All concentrations corrected to 7% oxygen.



CWI Emissions Performance Bonus Index for 2009

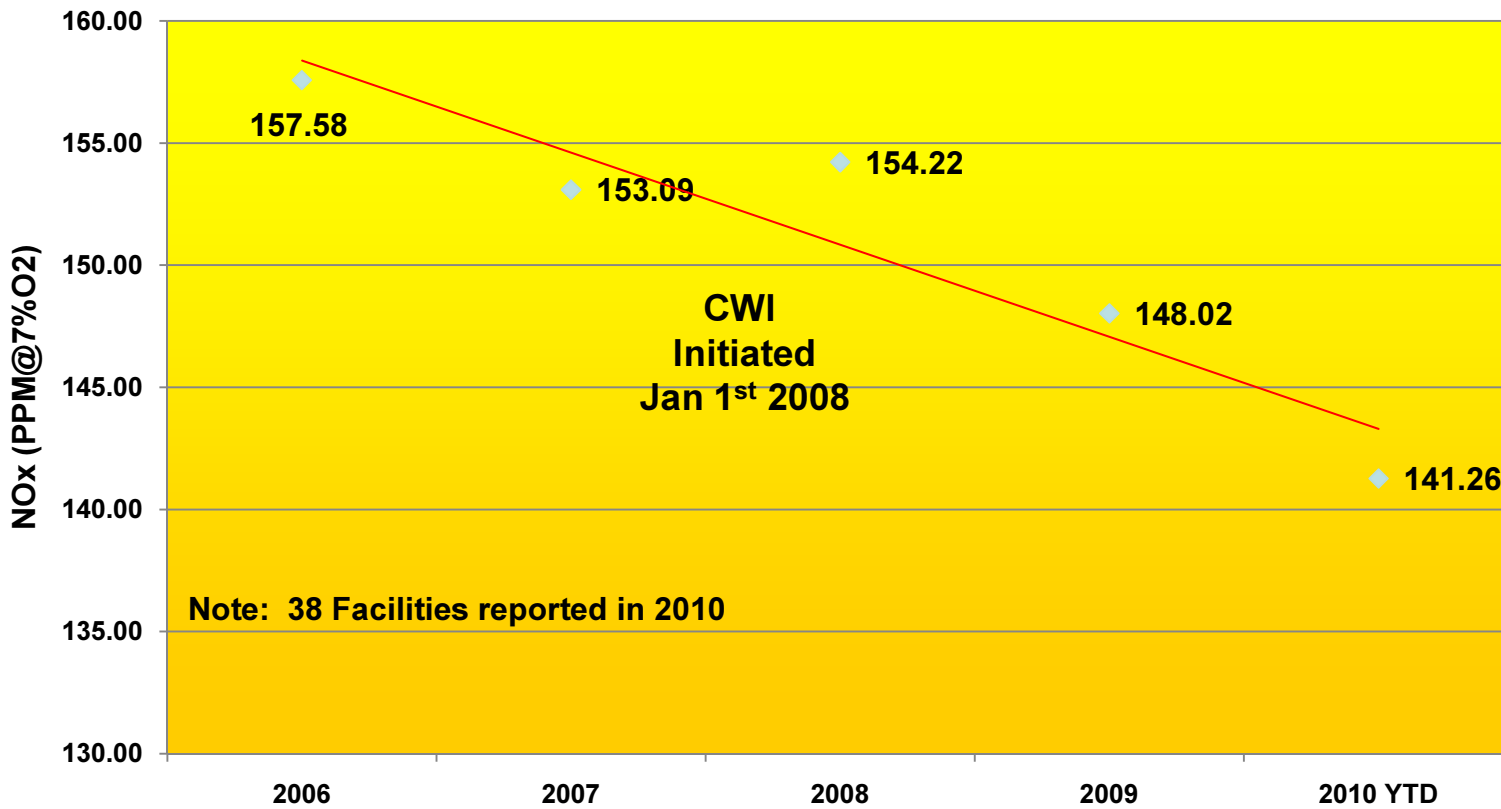
Six pollutants combined in an index and facilities are measured against themselves – not the fleet





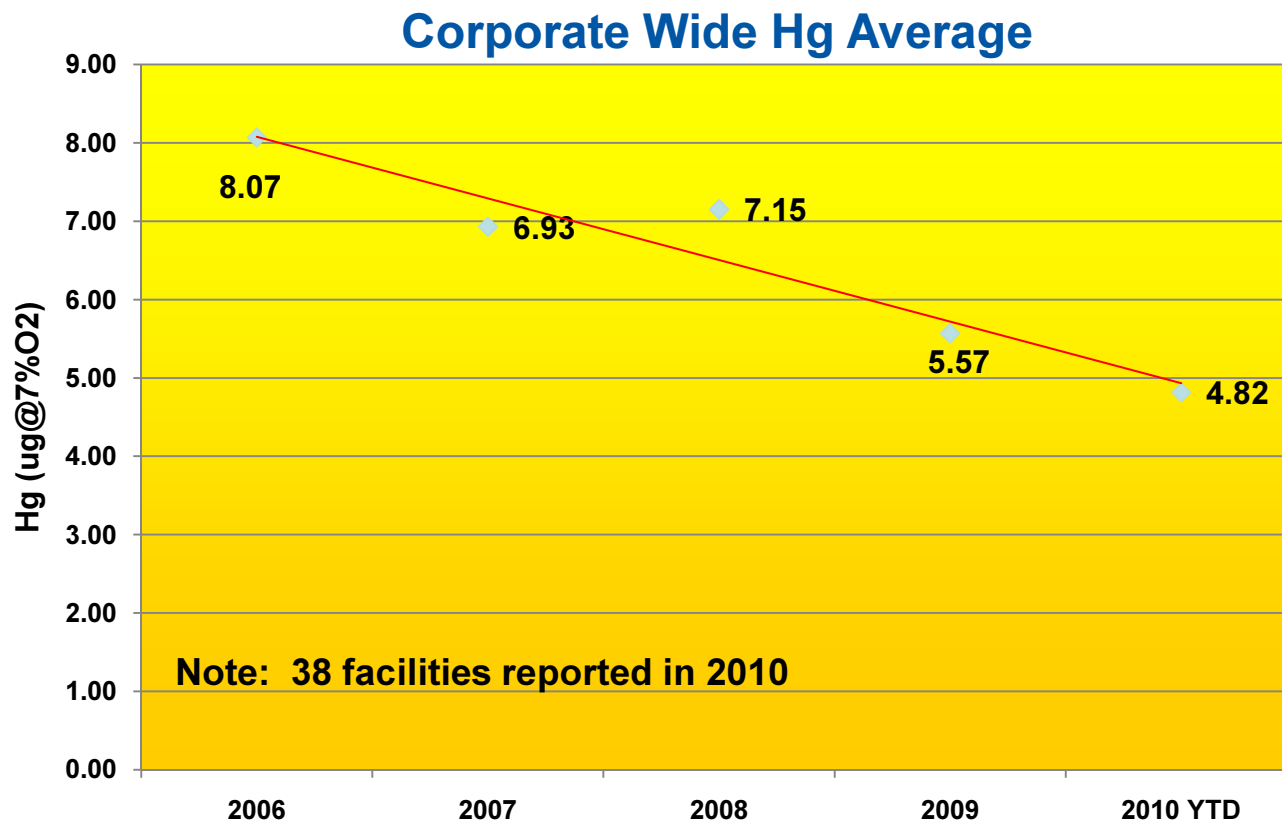
“reduce NOx emissions”

Corporate Wide NOx Average



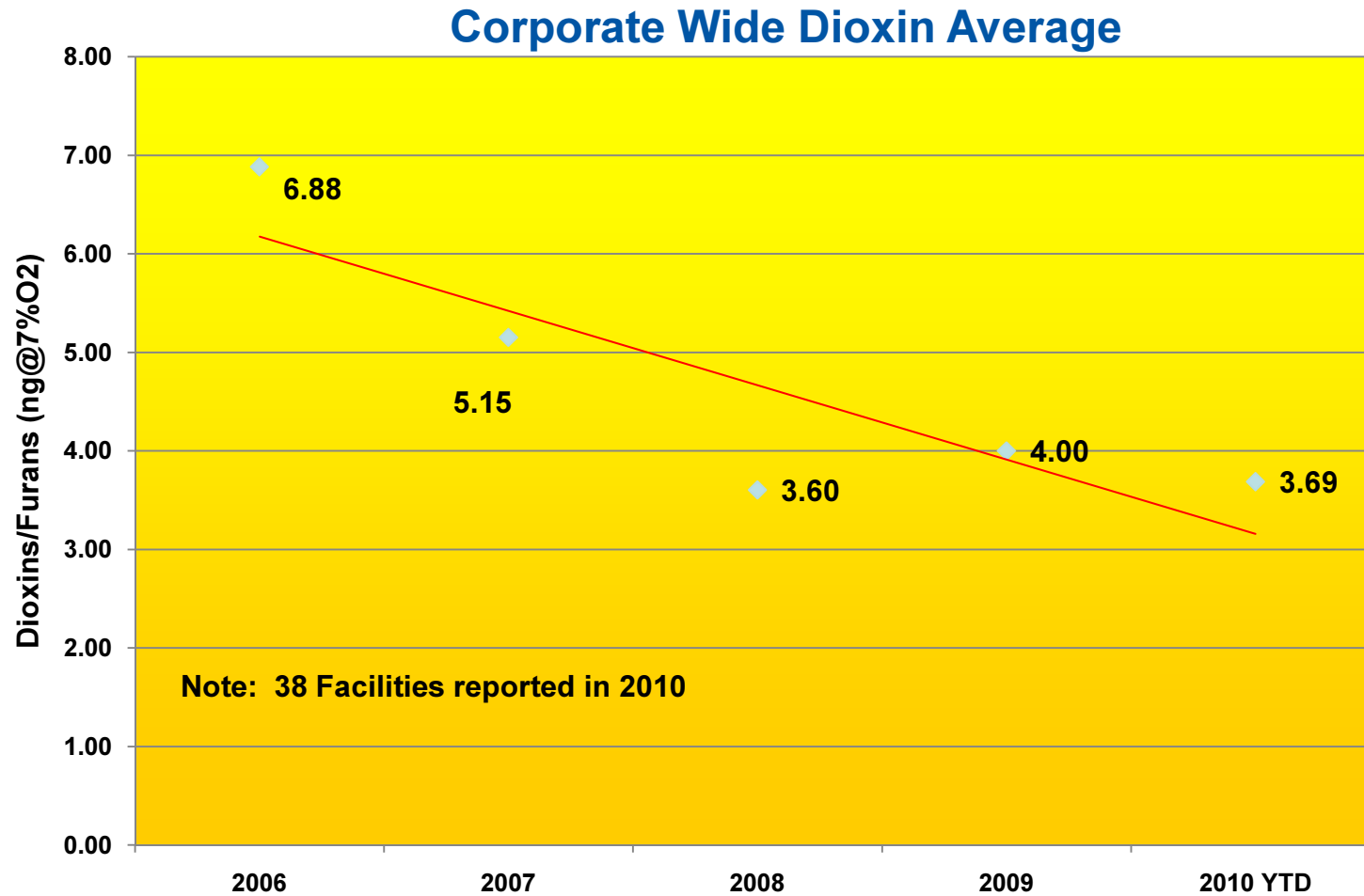


Mercury emissions





Dioxin emissions





Covanta Mercury Collection

Thermostats	~13,634
Thermometers	~7,065
Other Hg	~962.46 lbs.
Total Hg	1,112.2 lbs

39 out of 42 facilities participating
January 2009 to December 2010





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Covanta Energy Extends Program to Safely and Securely Destroy Prescription Drugs Collected at Take-Back Events

The Rx4Safety program aids in the proper destruction of potentially harmful prescription drugs

Morristown, NJ – December 17, 2010—Based on evidence of pollution in waterways and drinking water, as well as an increase in pharmaceutical drug abuse, Covanta Energy Corporation developed the Prescription for Safety Program (Rx4Safety) to safely dispose of medications collected at community sponsored drug take-back programs, free of charge. The program was set to expire in 2010; however, based on the program’s success and encouragement by its partners and clients, Covanta has elected to extend the program through the end of 2011.

COUNTERTHINK



FACT: PHARMACEUTICALS DESTROY AQUATIC ECOSYSTEMS.

Covanta Free Municipal Pharmaceutical Disposal

FACT SHEET

What is Covanta’s program? Started in 2010 and extended for 2011, Covanta is offering to provide free disposal at select Covanta Energy-from-Waste (EfW) facilities for municipally-collected household pharmaceutical waste. This program is available to all communities in the United States. To be eligible for acceptance at a Covanta facility, household pharmaceutical





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Fishing for Energy Partnership

- National Fish & Wildlife Foundation
- Covanta Energy
- NOAA's Marine Debris Program
- Schnitzer Steel Industries





Fishing for Energy





Clinton Global Initiative – Project Kaisei



Covanta Energy and Project Kaisei have joined forces to clean up ocean debris as part of a project commitment with the Clinton Global Initiative.



Covanta Environmental Justice Policy

“Covanta Energy Corporation believes in the meaningful opportunity for all people, regardless of race, ethnicity, color, income, national origin, or education level to be knowledgeable and have the right to participate in decisions which are made about actions in their neighborhoods”.



Thank you.

Have a nice day and a pleasant
tomorrow 😊

