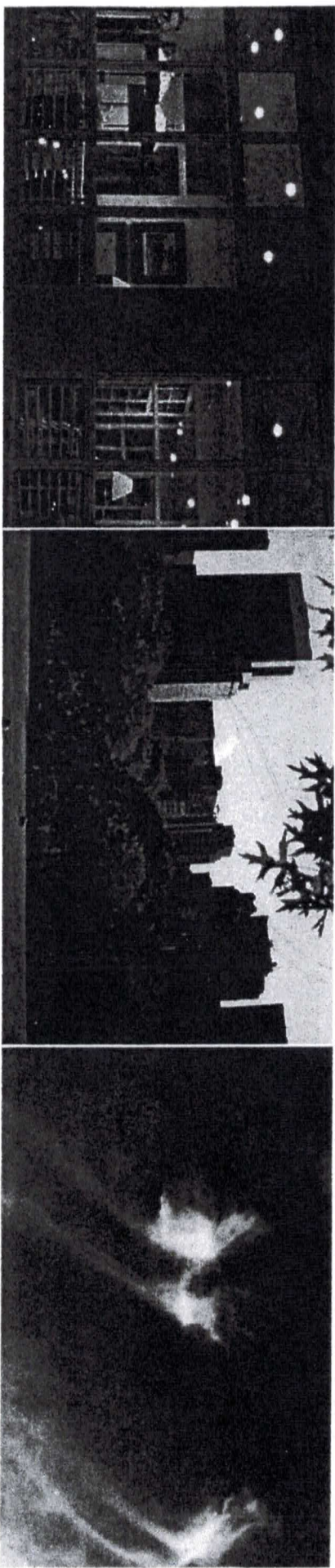


Plot/Album = 45 cases
1001AD

COVANTA

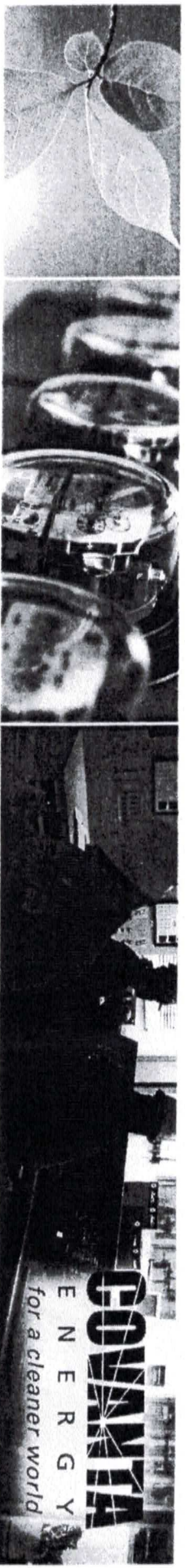
E N E R G Y

for a cleaner world



Energy from Waste - Virginia

Covanta Energy



Introduction to Covanta Energy

Leading Producer of Energy-from-Waste

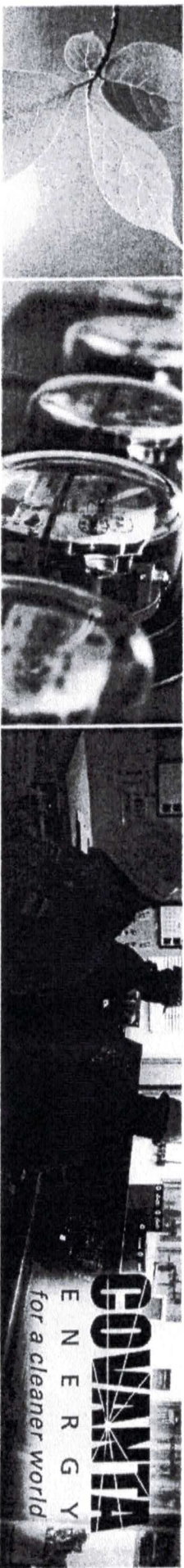
Covanta Holding Corporation (NYSE: CVA)

Largest Energy-from-Waste (EFW) operator

- 41 EFW facilities in the US
- North America, Asia & Europe
- 4,000+ employees worldwide

Virginia

- Covanta operates 2 facilities in Virginia – Alexandria and Fairfax
 - Employs 130 people with a payroll of \$15 million
 - \$1.9 million in local taxes, host fees and surcharges
 - Spend \$79 million in the state economy
- Covanta's Renewable Power
 - Produce 113 megawatts of base load electricity
 - Enough energy to power 100,000 homes each year
- Covanta VA converts 1.40 million tons of waste per year into renewable energy
- Avoiding the equivalent of ~ 1.40 million barrels of oil each year



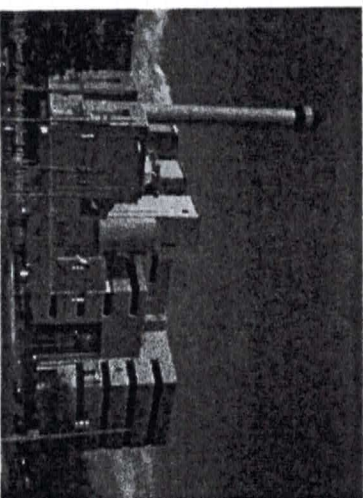
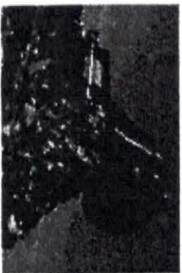
Converting Waste Into Clean Renewable Power

Helps Solve Four of the Nation's Biggest Challenges

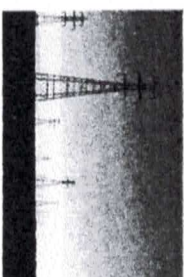
- Clean Renewable Energy —————> Baseload power near the load center, with lower price than other renewable sources
- Climate Change —————> One ton of trash reduces one ton of CO₂ eq
- Green Jobs —————> New facility creates ~\$1 billion in economic activity
- Sustainable Waste Management —————> Follows EPA and EU waste hierarchy

Energy-from-Waste is a specially designed energy generation facility that uses household waste as fuel and helps solve some of society's big challenges

Municipal Solid Waste
(MSW): 1 ton

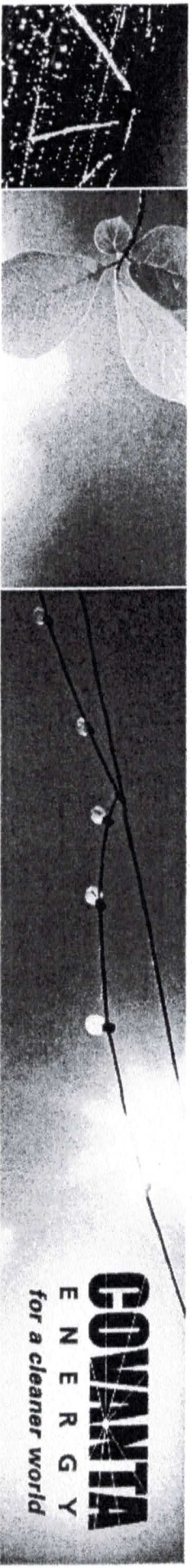


Alexandria, VA



*Waste-to-Energy
Solutions*

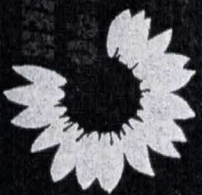
- Power: 550-750 kWh
- Metal: 50 lbs
- Ash: 10% of original volume



After Recycling, there are two choices: EfW or landfill

- EfW manages 1 ton of MSW in 1-hour vs. 100 years in a landfill and avoids trucking related emissions
- EfW is a process with continuous combustion controls, dedicated air pollution control systems and continuous monitoring systems. Landfills do not have any air pollution monitoring or controls.
- EfW generates more net electrical power per ton of MSW than any landfill process - 700 kWh versus 65kWh
 - EfW avoids 100 % of methane potential from landfills
- EfW enables recovery and recycling of metals

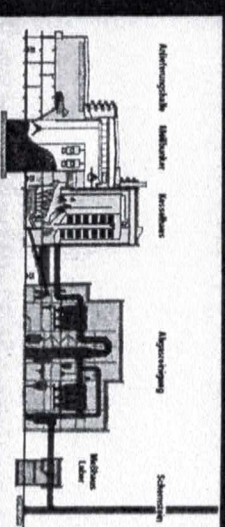
*Not greenhouse
gas to reduce*

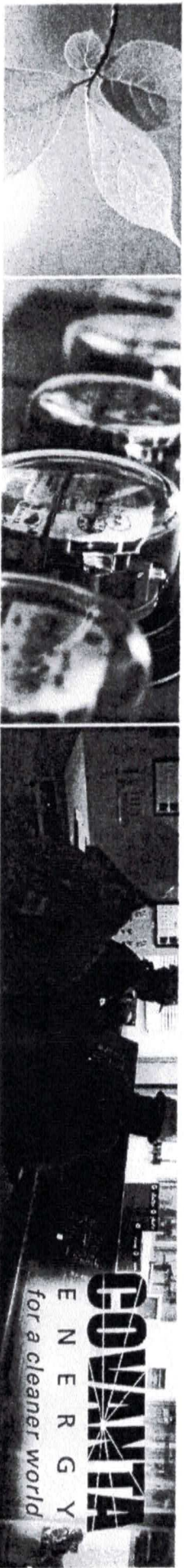


Incineration

Dr. Michael Weltzin
Scientific Assistant
in the Parliamentary
Group

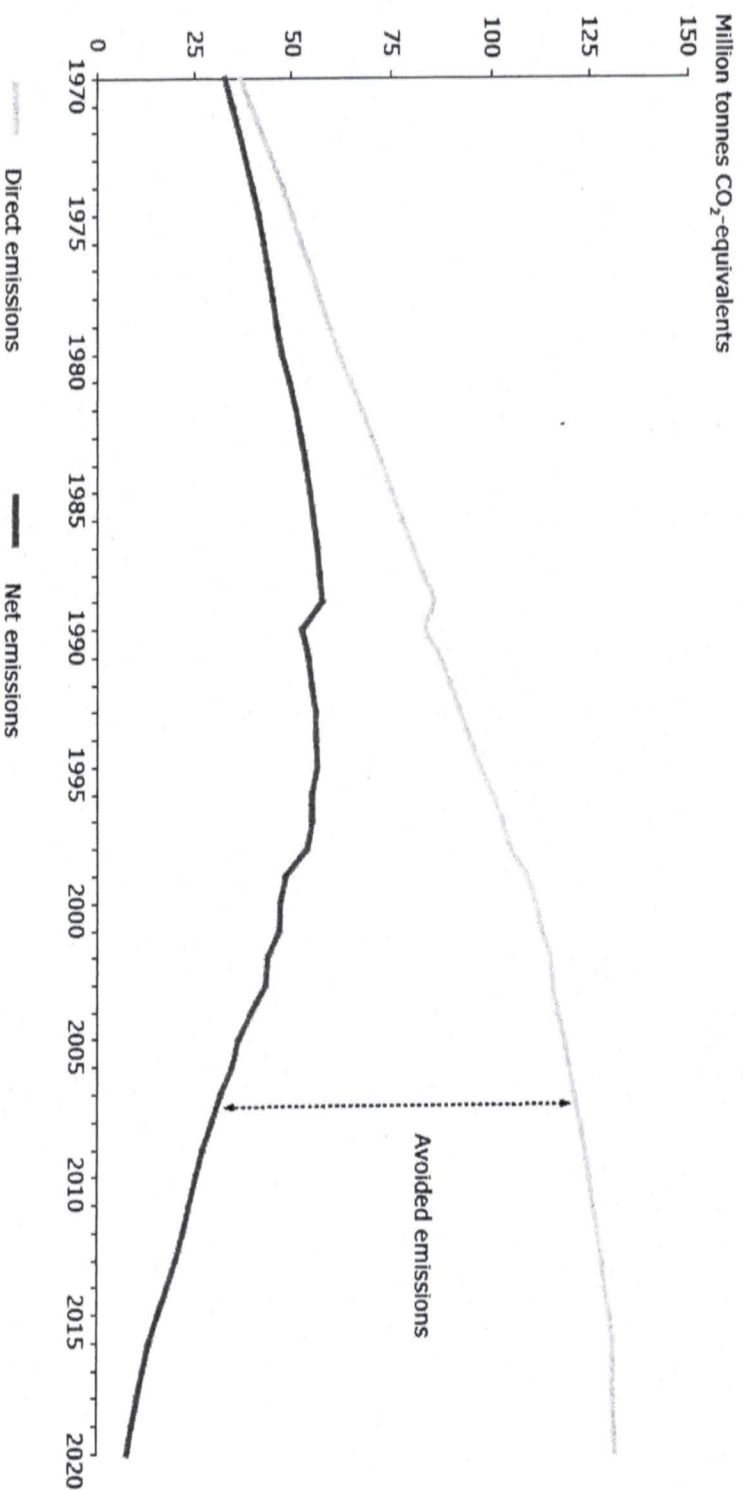
- **Advantage: proven technology for many years**
- **When using a facility with the best available technology - very low environmental impact:**
 - high efficiency in recovering of heat and electricity
 - low emissions
 - use of different by-products by producing acid and gypsum
 - use of ashes e.g. in the construction industry
 - no landfilling, only small amount of the input has to be left over to be deposited in the subsoil
 - potential to be developed into more decentral, flexible structures
 - producer responsibility leads to products free of harmful substances, like heavy metals, means future potential for much lower emissions





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ENERGY
for a cleaner world

Trends and projections of greenhouse gas emissions from municipal waste in the EU

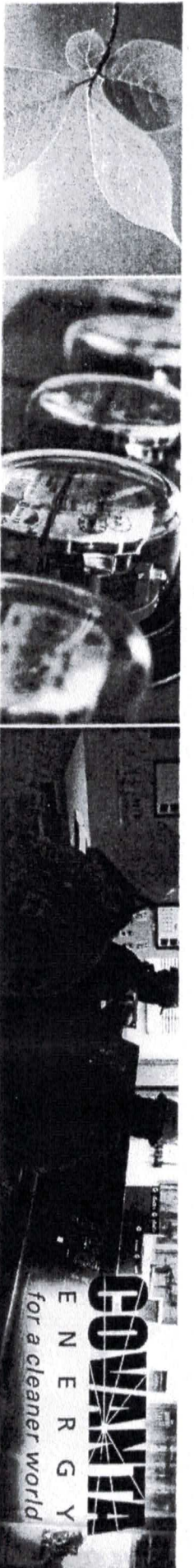


Source: ETC/RWM.

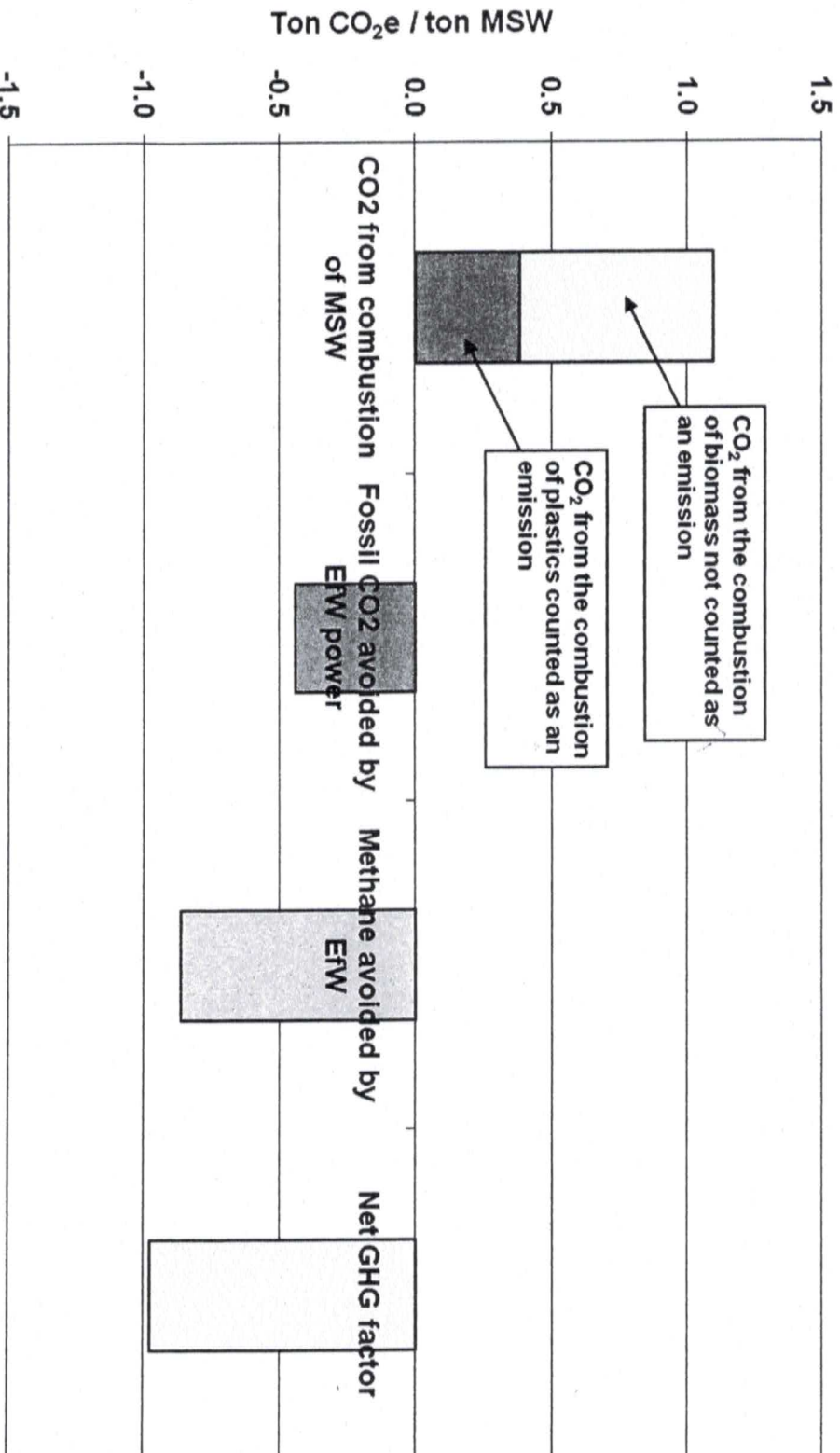
European Environment Agency



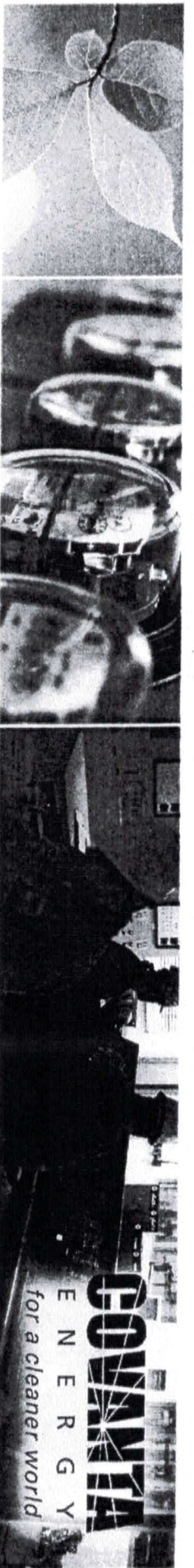
EEA Briefing, "Better management of municipal waste will reduce greenhouse gas emissions"



EfW is a Net Reducer of GHG



EfW Life Cycle Unit Operations



Carbon Offsets: Recognizing the Benefits

RGGI should recognize landfill methane avoidance as an offset project type.

- **Voluntary Markets:**

636 tpd capital expansion Lee
County EFW Facility in Ft. Myers,
FL

- **International / Kyoto Protocol:**

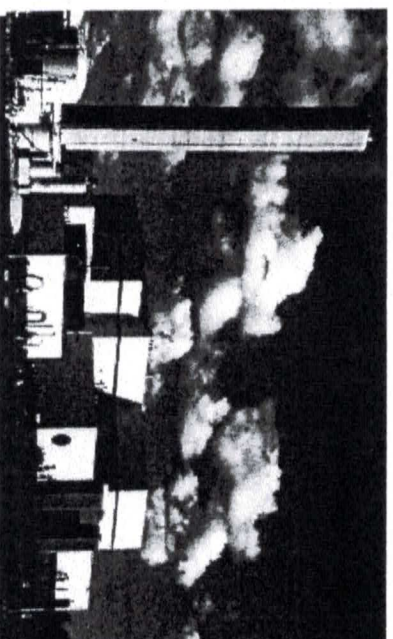
Huzhou Nantaihu facility in China
approved and registered as CDM
project – Sept 2010 (AM00025)



Project Description
Lee County Waste to Energy (WtE) Facility
2007 Capital Expansion – Unit #3

10500 Buckingham Road
Ft. Myers, FL

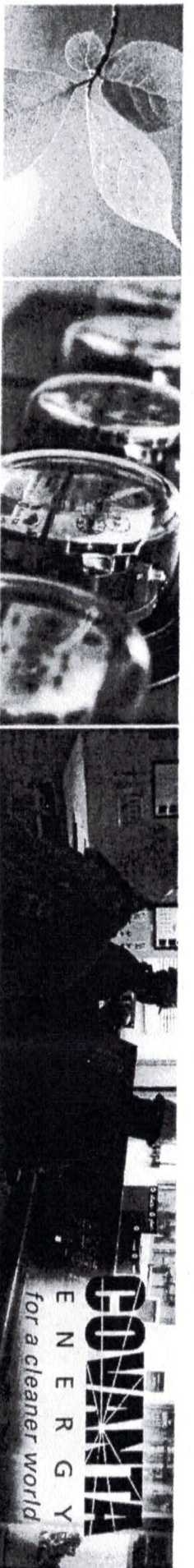
August 2009





"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%
HCl	57,400	3,200	94%
SO ₂	38,300	4,600	88%
NO _x	64,900	49,500	24%



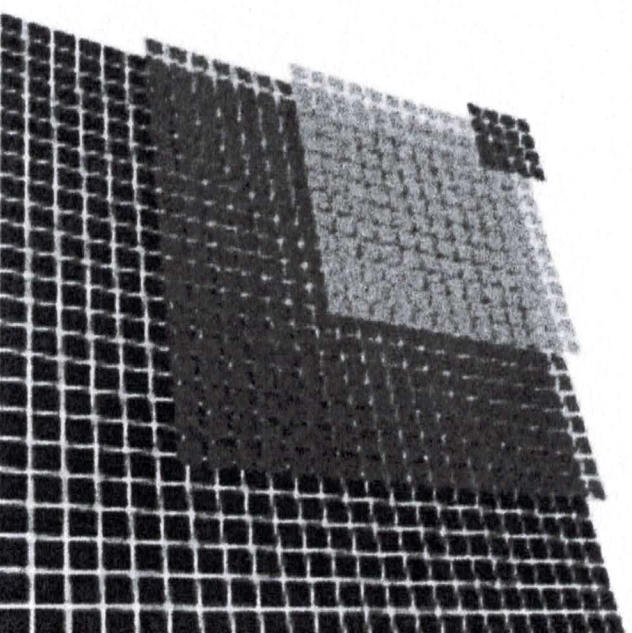
Energy-from-Waste Is Land Dense

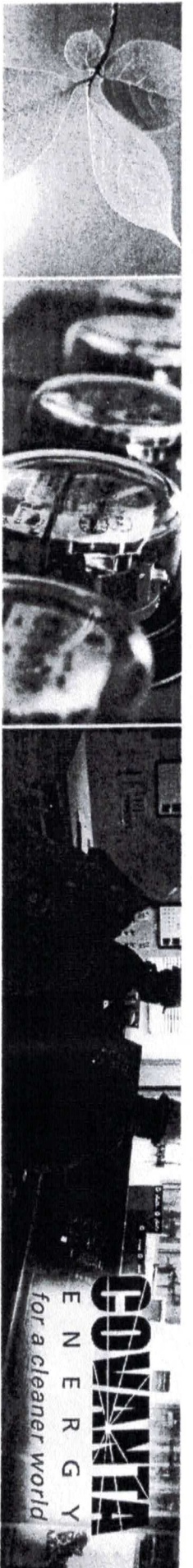
Energy-from-Waste uses less land per megawatt than other renewable energy sources.

- EFW facilities require an average of 0.7 acres/MW
- Landfill gas 27 acres/MW
- Solar requires 8 acres/MW
- Wind requires 18 acres/MW

How low

- Covanta Energy-from-Waste
- Solar Power
- Wind Power
- Landfill gas to energy

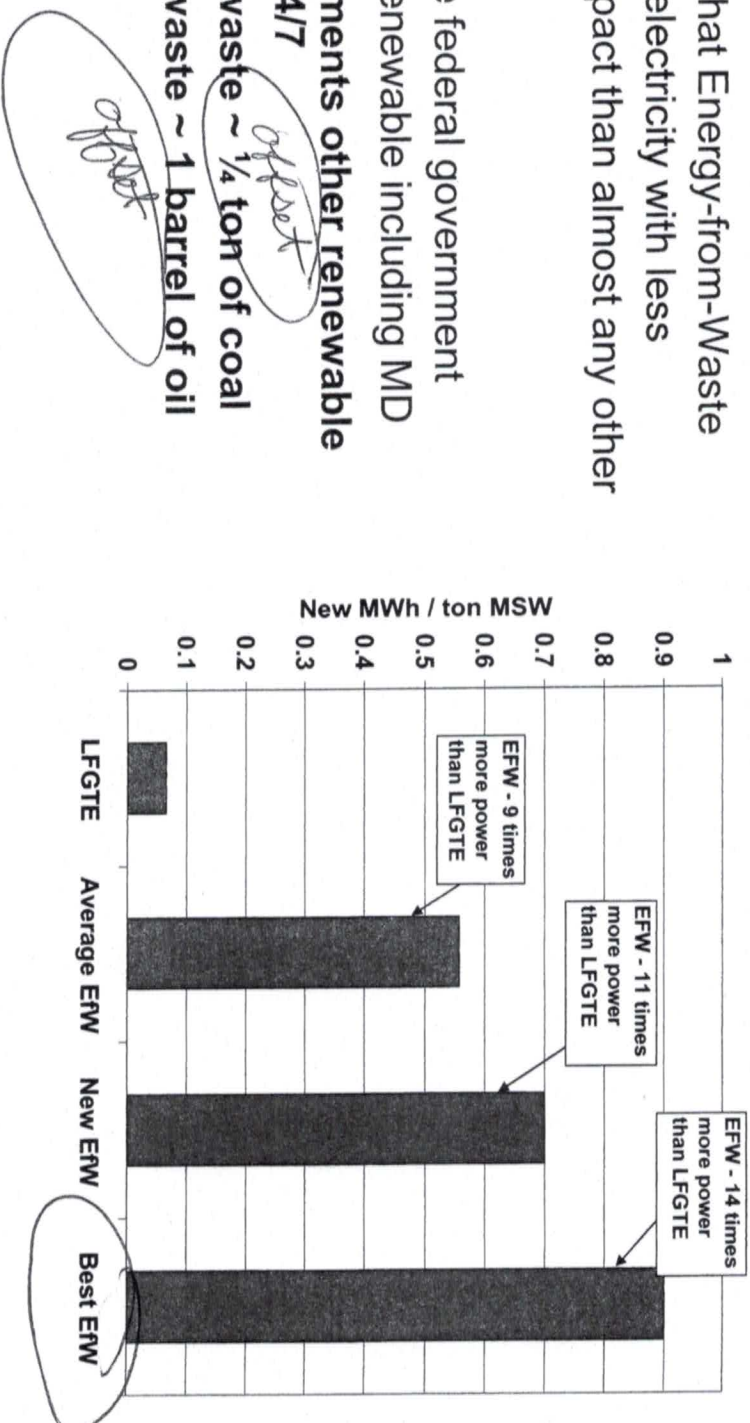


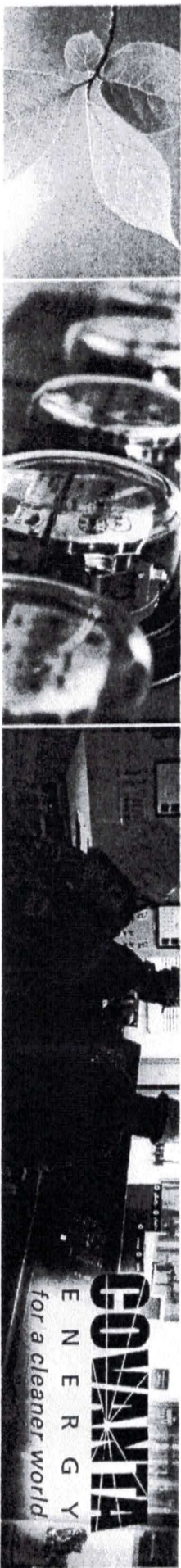


Renewable Energy

EFW facilities produces 9 to 14 times the energy per ton compared to landfills.

- U.S. EPA states that Energy-from-Waste (EFW) "produces electricity with less environmental impact than almost any other source"
- 25 States and the federal government defined EFW as renewable including MD
- **EFW complements other renewable sources – 24/7**
- **One ton of waste ~ 1/4 ton of coal**
- **One ton of waste ~ 1 barrel of oil**





Thank you

