

# ONEIA Business & Policy Forum – Innovation Pecha Kucha

May 30, 2017



### World Leader in Energy from Waste (EfW)



• Operate **42 modern EfW facilities** in North America, China and Europe.



• Annual capacity to process 20 million tons of waste



 Generate 9 million megawatt hours—enough clean energy to power over 1 million homes.





Annually recycle over 500,000 tons of metal - the equivalent amount of steel that would be used to build 90 CN Towers per year, and over 2 billion beverage cans.



#### **Courtice, Ontario – Durham York Energy Centre**





#### **Durham York Energy Centre**

- Processes 140,000 tonnes per year
- 78.6% owned by Durham Region, 21.4% owned by York Region
- Covanta has a 20-year DBOM contract
- 17.5 MW gross electrical production





#### **Solid Waste Management Hierarchy**

 The European Union and the U.S. EPA have both concluded that following the waste management hierarchy generally maximizes energy savings and minimizes greenhouse gas emissions





### **GHG Reducing Technology**

### Landfills are 3<sup>rd</sup> Largest Global CH<sub>4</sub> Source

Figure 2: Estimated and Projected Global Anthropogenic Methane Emissions by Source, 2010 and 2020



Source: Global Methane Initiative https://www.globalmethane.org/documents/analysis\_fs\_en.pdf



#### **GHG Benefits of EfW**



In Ontario, the net GHG benefit is estimated to be **0.8 tonne GHG savings as CO<sub>2</sub>e** / tonne MSW diverted from landfilling, assuming displacement of natural gas fired electrical generation.



### **GHG Benefits – International Recognition**



Powering Today, Protecting Tomorrow,

#### **Energy-from-Waste Process**

After reducing, reusing and recycling, residual waste is used to produce clean renewable energy at Covanta's EfW facilities.



One Ton of Municipal Solid Waste (MSW)





### **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







#### **Energy-from-Waste – Barriers to Innovation**

Policy

**Environmental Permitting** 

Political Agendas / Cycles

Education





### **Covanta Environmental Solutions (CES)**

- **1.** Sustainable Material Management Over 1,300,000 tons managed in North America Through our MPF and EFW Network we provide the following services:
  - Secure Destruction, Zero Waste to Landfill
  - > Liquid Treatment: Direct Injection, Treatment, Evaporation
  - Shredding, Solidifying, Warehousing
  - Recycling/ Reuse: Unwrapp, Ewaste, Universal Waste, Haz Waste



#### 2. Field Services:

- Facility & Site Cleaning
- Rail Car & Tanker Cleaning
- Demolition and Remediation

#### 3. Healthcare Solutions:



- > Pharmaceutical Services: Pharmaceutical Waste and Controlled Drugs Destruction
- > Pharmaceutical Services: Reverse Distribution, Pharma EPR Retail Programs
- Medical Waste Services: EfW for Regulated Medical Waste and Treated Medical Waste



#### **CES Ontario and Quebec Capabilities**

- Combination of Material Processing Facilities (MPFs) and Energy-from-Waste facilities to strategically service the Profiled Waste needs of industry in Ontario and Quebec.
- Full menu of services for liquid and solid hazardous and non hazardous waste streams.
- Energy from Waste, shredding, lab packing, bulk liquids, recycling, medical waste, pharmaceuticals and controlled drugs, industrial waste.









We help our customers become "greener" by providing solutions to help them sustainably manage the materials they no longer want.



Services...

- Landfill free disposal programs
- End-of-life recovery solutions
- Recycling management
- Assured destruction
- Electronic waste management and recovery
- Liquid waste beneficial reuse
- Organics recycling solutions
- Equipment and hauling







## Thank You