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Looking into the Future of the U.S. WTE Industry

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Covanta by the Numbers

OVERVIEW OF ASSETS AND ANNUAL OPERATIONS

30+ year operating history

41 EfW facilities in **18** states / provinces
(24 owned and 17 operated)

4,000 employees

110+ boilers

50+ turbine generators

20 million tons of waste processed

10 million MWh of power generated

>500,000 gross tons of metal recovered

20 million tons of CO_2 equivalent offset

We are the largest EfW operator in the world

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EfW is *Sustainable* Waste Disposal

TWO CHOICES FOR POST-RECYCLED WASTE

EfW produces over 9 times the energy per ton compared to landfills

- Landfills are a major source of man-made methane
- Methane is 28 – 34x more potent than carbon dioxide over 100 years; 84 – 86x stronger over 20 years
- Non-sustainable use of land
- Renewable energy generation from landfills: ~65 kWh per ton of waste

- 90% reduction of waste in volume
- Clean energy generation
- Recovers metals for recycling
- Reduces GHG emissions an average of one ton of CO_2 equivalents for each ton of waste processed
- Renewable energy generation from EfW: ~550 kWh per ton of waste

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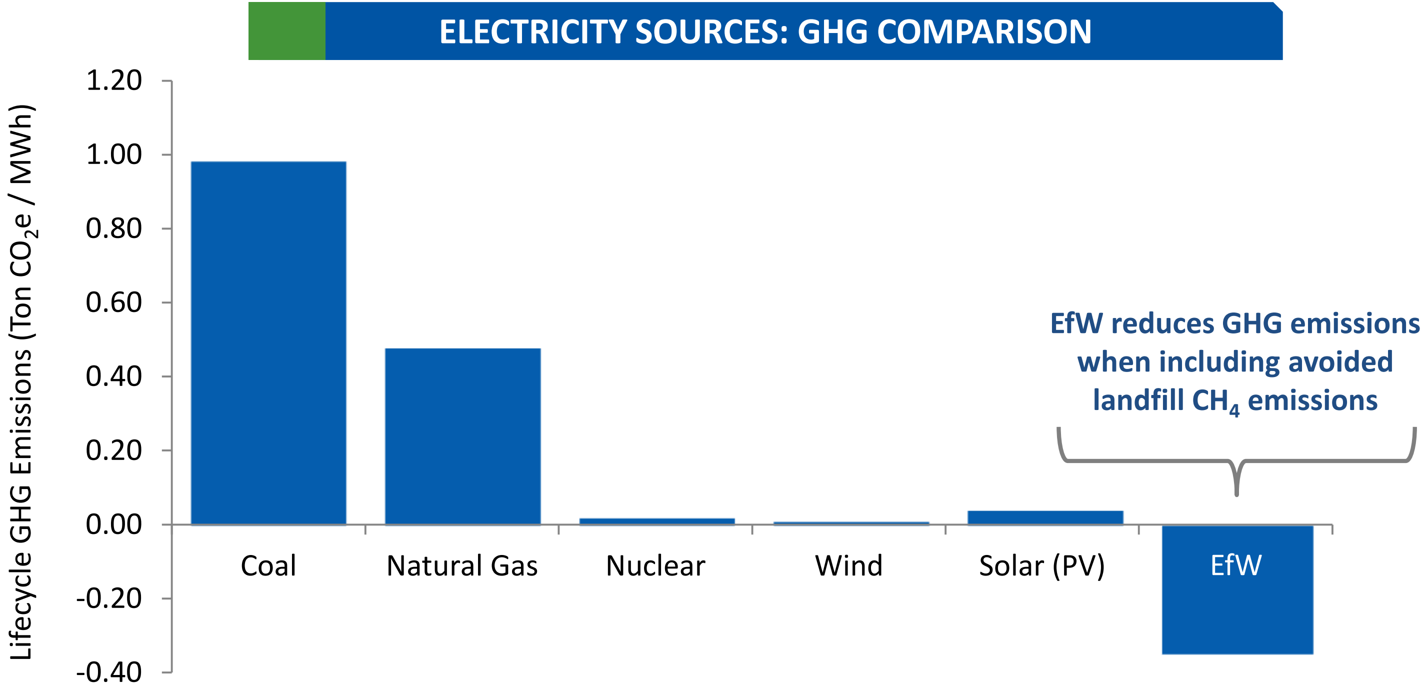
EfW is the Only Power Source Which Reduces GHGs



Sources: Sathaye et al. (2011) "Renewable Energy in the Context of Sustainable Development"; NREL Life Cycle Assessment Harmonization Results and Findings webpage, accessed 8/2015; U.S. EPA, NC State University, RTI International (2014) MSW Decision Support Tool.

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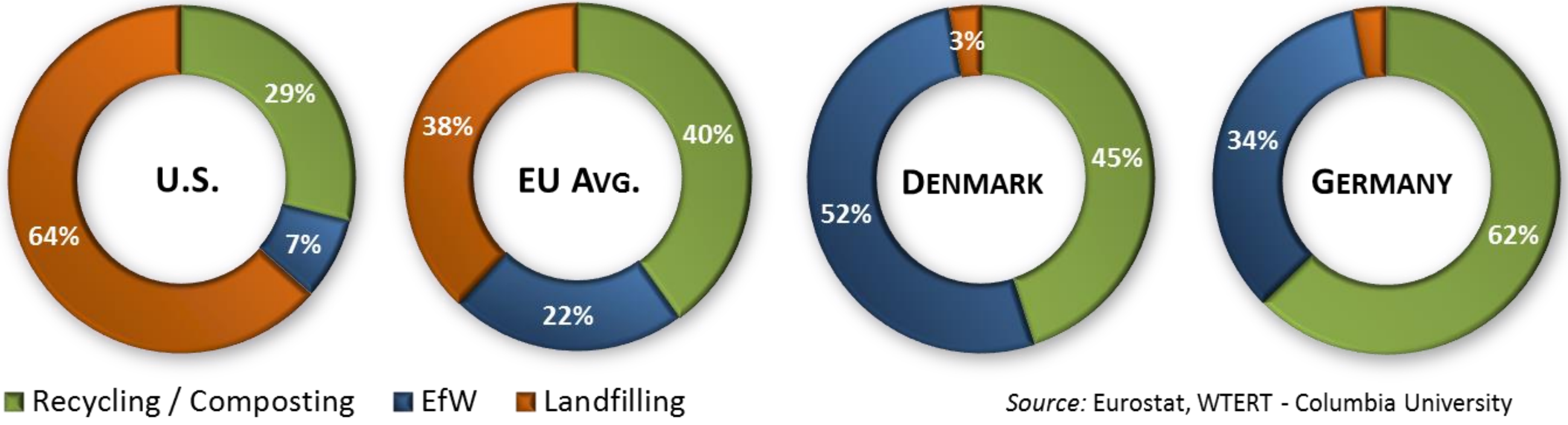
The United States has Fallen Behind...



Source: Eurostat, WTERT - Columbia University

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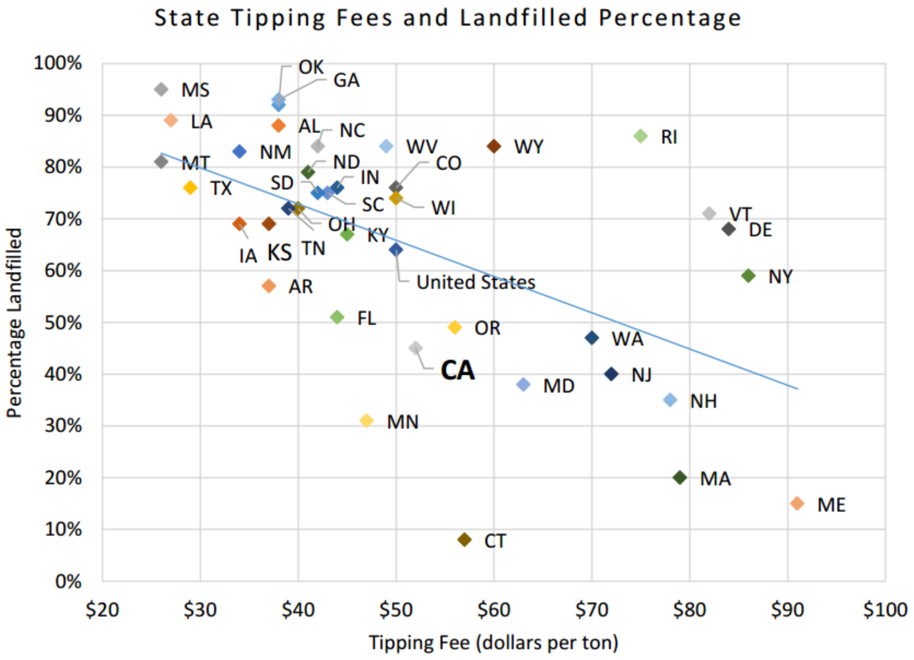
Why?

Economics

- Cheap landfilling
- Historically low natural gas prices driving wholesale electricity rates
- Roll-off of long term Power Purchase Agreements
- Volatile commodity pricing
- Cheap aggregate

Policy

- No national solid waste & energy policies
- National GHG policy under development



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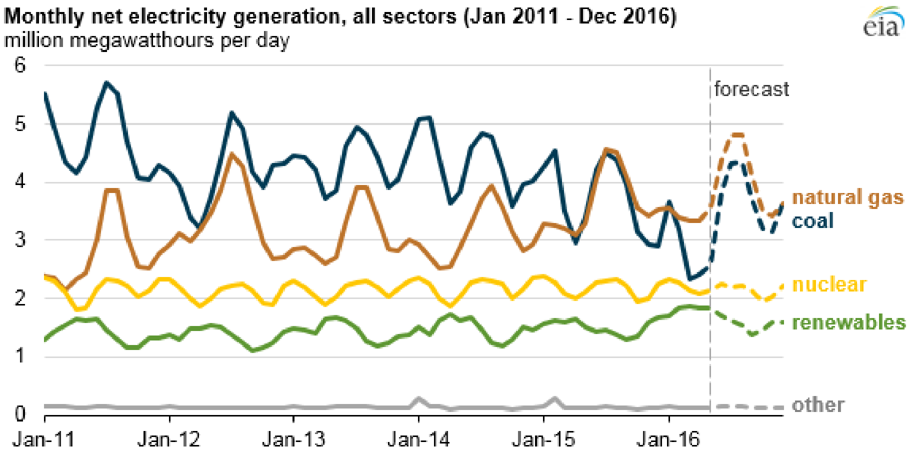
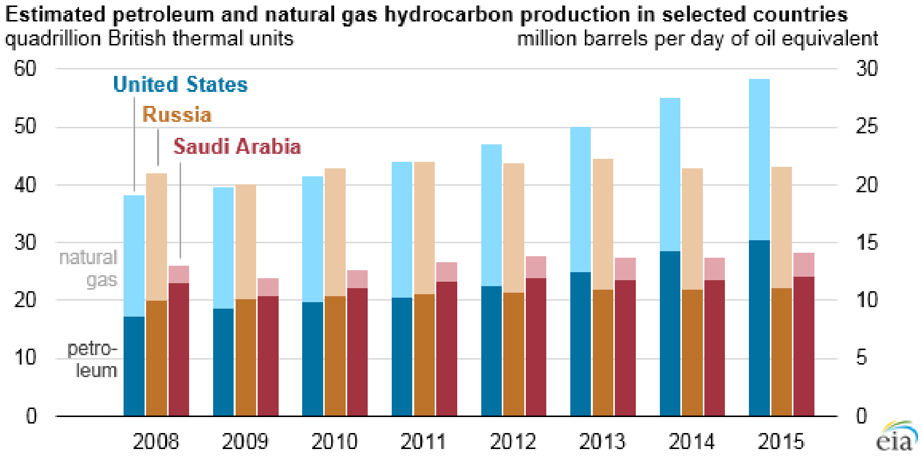
Why? Cheap & Plentiful Natural Gas sets the Price

- Natural gas surpassed coal electrical generation in 2015
- The U.S. is now the leading global producer of oil & gas (combined)





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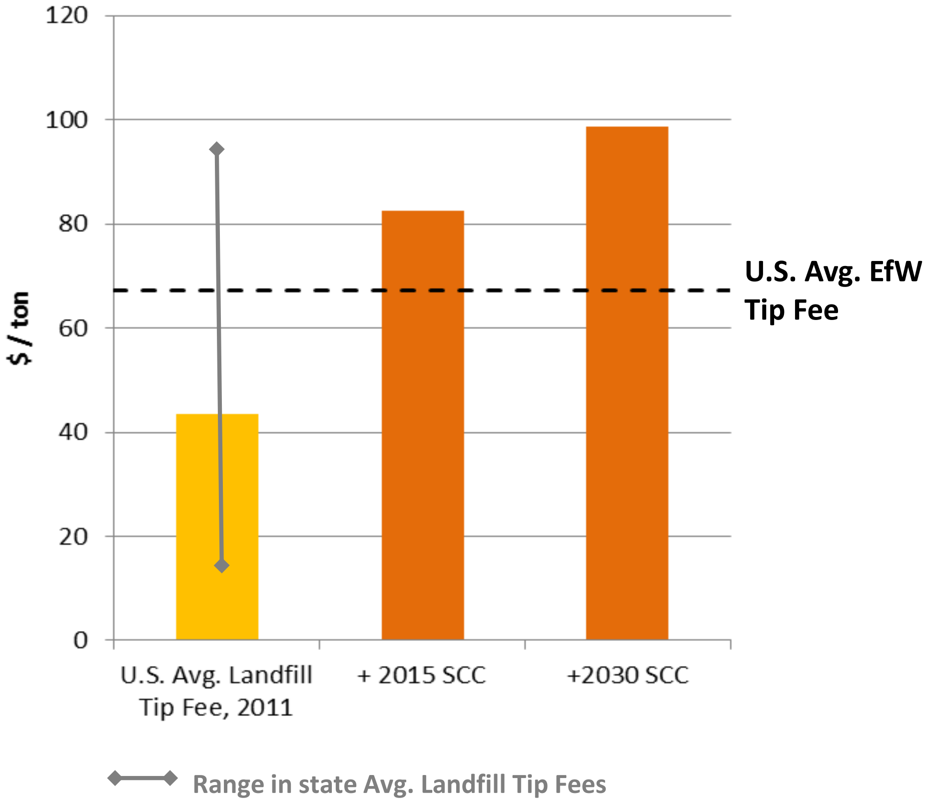
Consideration of Climate Could Change the Equation



- Monetizing the GHG benefit of EfW could fundamentally change the economics of waste management
- Landfills would become the more expensive option, if the social cost of carbon were applied
- The use of landfill taxes has been a significant analogous driver in the EU

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A First Step? EfW under the EPA Clean Power Plan

- Regulation Basics
  - Sets targets for Individual states to reduce GHG emissions from the electricity sector
  - Key component of meeting U.S. targets under Paris agreement
  - All eyes on the D.C. Circuit Court: on hold due to litigation
- Benefit to EfW development?
  - EfW isn't regulated and our power is "zero-carbon"
  - New capacity can generate Emission Rate Credits (ERCs)
  - The financial upside to EfW is real, but specifics yet to be determined

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And Growing Interest in Sustainable Waste Management

- Over 80% of S&P 500 reports on Sustainability, four-fold increase since 2011
- In a review of almost 80 corporate sustainability reports, 90% had some form of a waste related goal (e.g. zero waste to landfill, recycling, reduction)

Covanta Environmental Solutions

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Environmental
Solutions

- **Assured Destruction**

- **Zero Waste to Landfill**

- **Industrial Services**
  - Cleaning, spill response, remediation, etc.

- **Recycling and Repurpose Solutions**
  - De-packaging
  - Solidification
  - E-Waste

- **Liquid Waste Management**
  - Treatment
  - Destruction

Summary

- EfW will be a key to improving the state of sustainable waste management in the U.S.
- Greenhouse gas benefits being overlooked. Policy support needed for growth in the U.S.
- International growth of EfW shows a large addressable market
- We see exciting organic growth opportunities in leveraging current assets and serving new customers in the U.S.

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