

The background of the slide is a collage of financial and scientific imagery. It includes a bar chart with green bars, a line graph with a green line, a pie chart with green segments labeled with percentages like 7.61%, 14.73%, and 15.73%, and a close-up of a calculator's numeric keypad with dark blue buttons. A green semi-transparent rectangle is overlaid on the left side of the slide, containing the title and event information.

# *Plastics & Energy Recovery*

2012 WTER Conference

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American Chemistry Council (ACC)  
October 18, 2012



# Overview

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- A decorative graphic in the top right corner consisting of several 3D cubes. Some cubes are white with orange outlines, while others are light blue with orange outlines. They are arranged in a cluster, with some overlapping and others floating slightly above or below.
- **ACC's Plastics Division**
  - **Plastics & Sustainability**
  - **Recycling**
  - **Energy Recovery**
  - **From Chemistry to Energy**

# **ACC's Plastics Division**

**BASF Corporation**

**Bayer Material Science**

**Braskem America, Inc.**

**Chevron Phillips Chemical Company**

**The Dow Chemical Company**

**DuPont**

**ExxonMobil Chemical Company**

**LANXESS Corporation**

**LyondellBasell Industries**

**SABIC Innovative**

**Solvay America, Inc.**

**Styron LLC**

**Total Petrochemicals & Refining USA**

**Vinyl Institute\***

The background features a collage of financial data visualizations. In the upper left, a bar chart with green bars is partially visible. To its right, a line graph shows a green line trending upwards. On the right side, a close-up of a calculator's keypad is shown, with buttons for numbers 1 through 7, a decimal point, and an equals sign. In the lower right, a 3D pie chart with green segments is displayed, with one segment labeled '14.73%'. The entire scene is overlaid with a semi-transparent dark green rectangle that serves as a backdrop for the title text.

# Plastics & Sustainability

# Why do we use plastics?

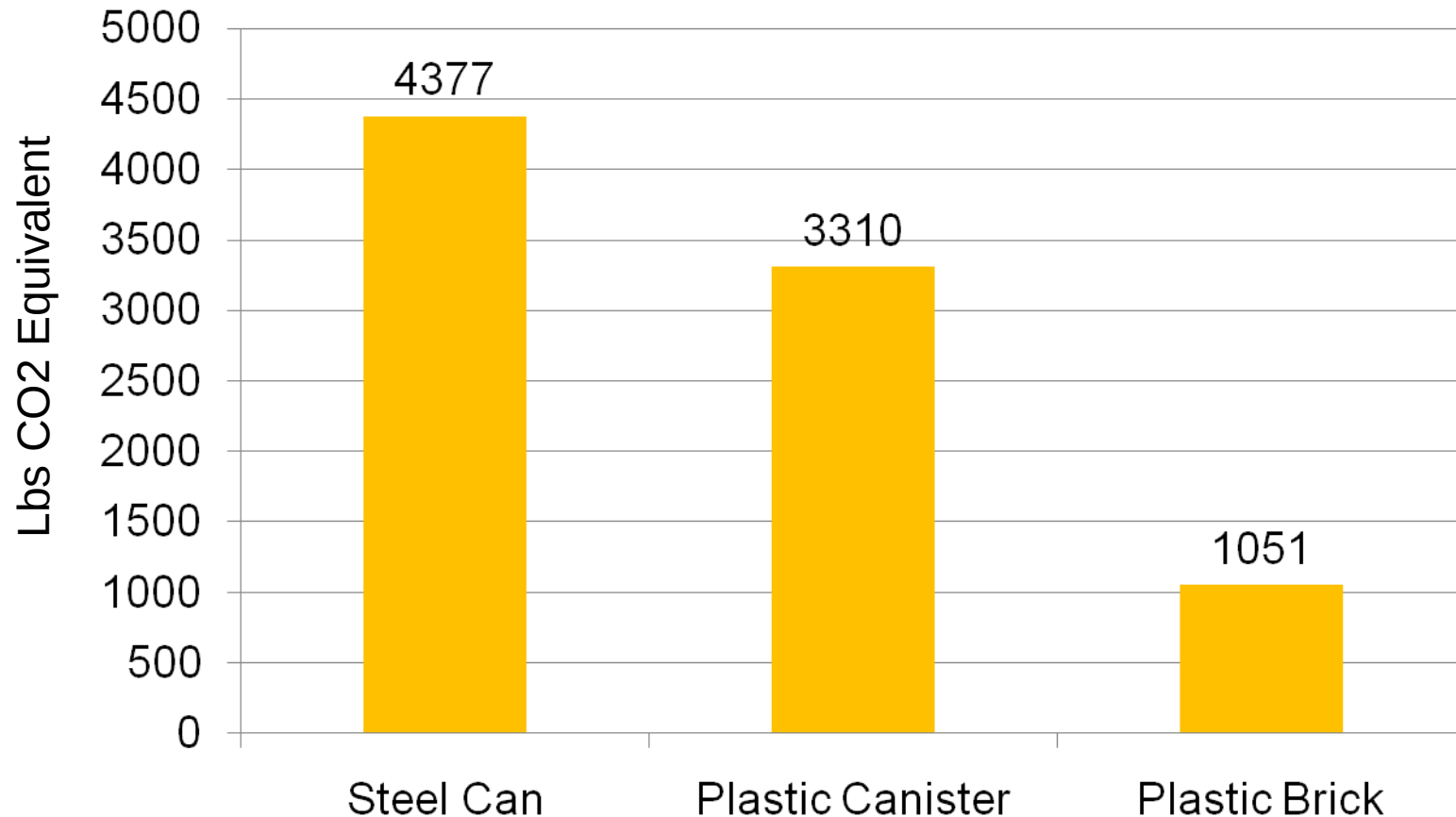
- **Reduce Material Use and Weight**
- **Maintain Freshness**
- **Reduce Breakage**
- **Reduce transportation costs through light weighting**
- **Economical**



# Plastics & Sustainability Coffee Packaging



## Greenhouse gas



# Recycling Success

## Plastic Bottles

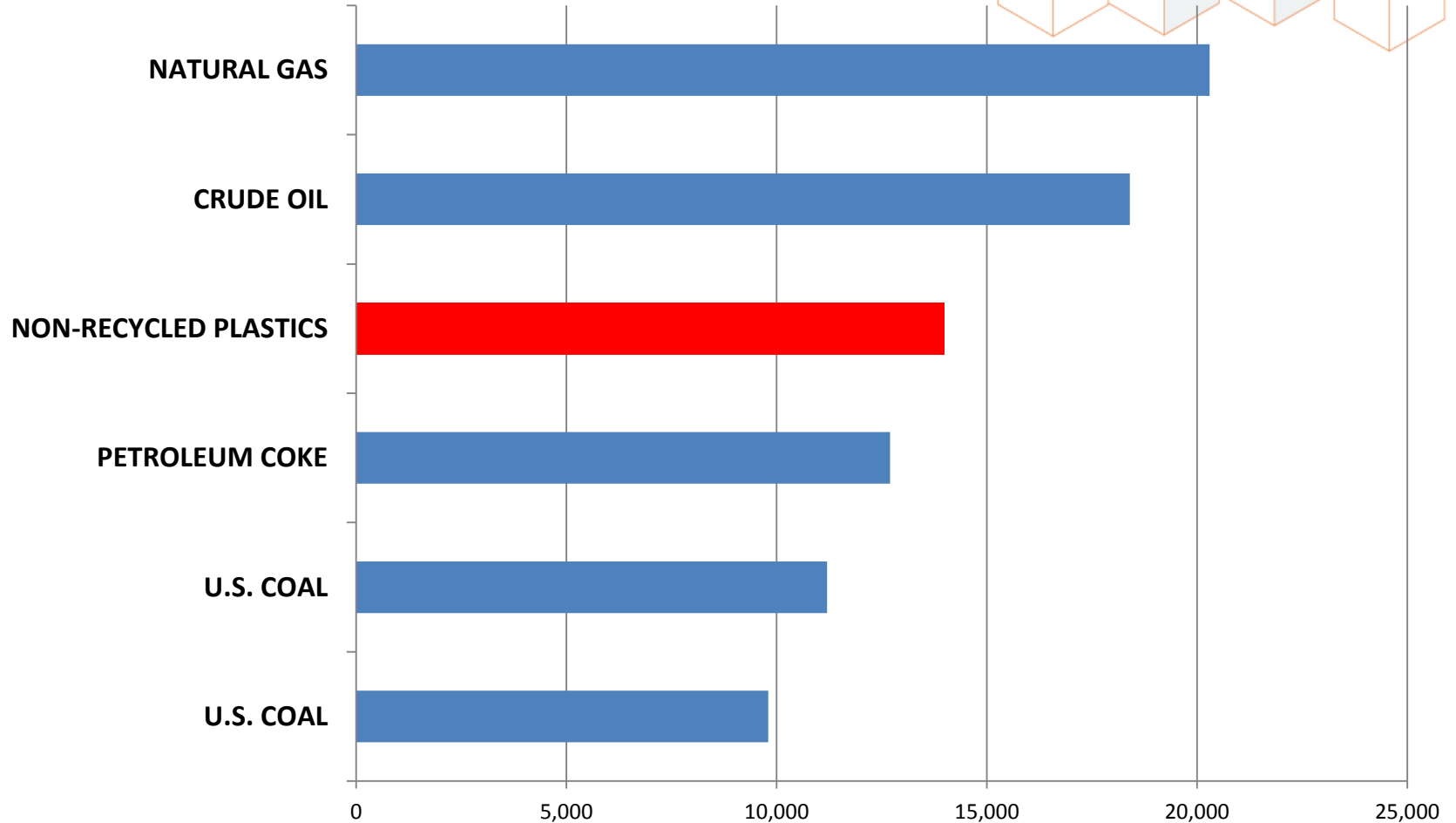
- US EPA: more than 4.7 billion pounds of plastic are recycled annually.
- 2011: more than 2.6 billion lbs. of plastic bottles were collected for recycling.
- In 2010 nearly 820 million pounds of post-consumer rigid plastics were collected for recycling.
- In 2010 over 970 million pounds of bags, wraps, and films collected for recycling.
- Growth continues in access to recycling plastics beyond bottles.



# What to do with Multi-Layer, Multi- Polymer Pouch

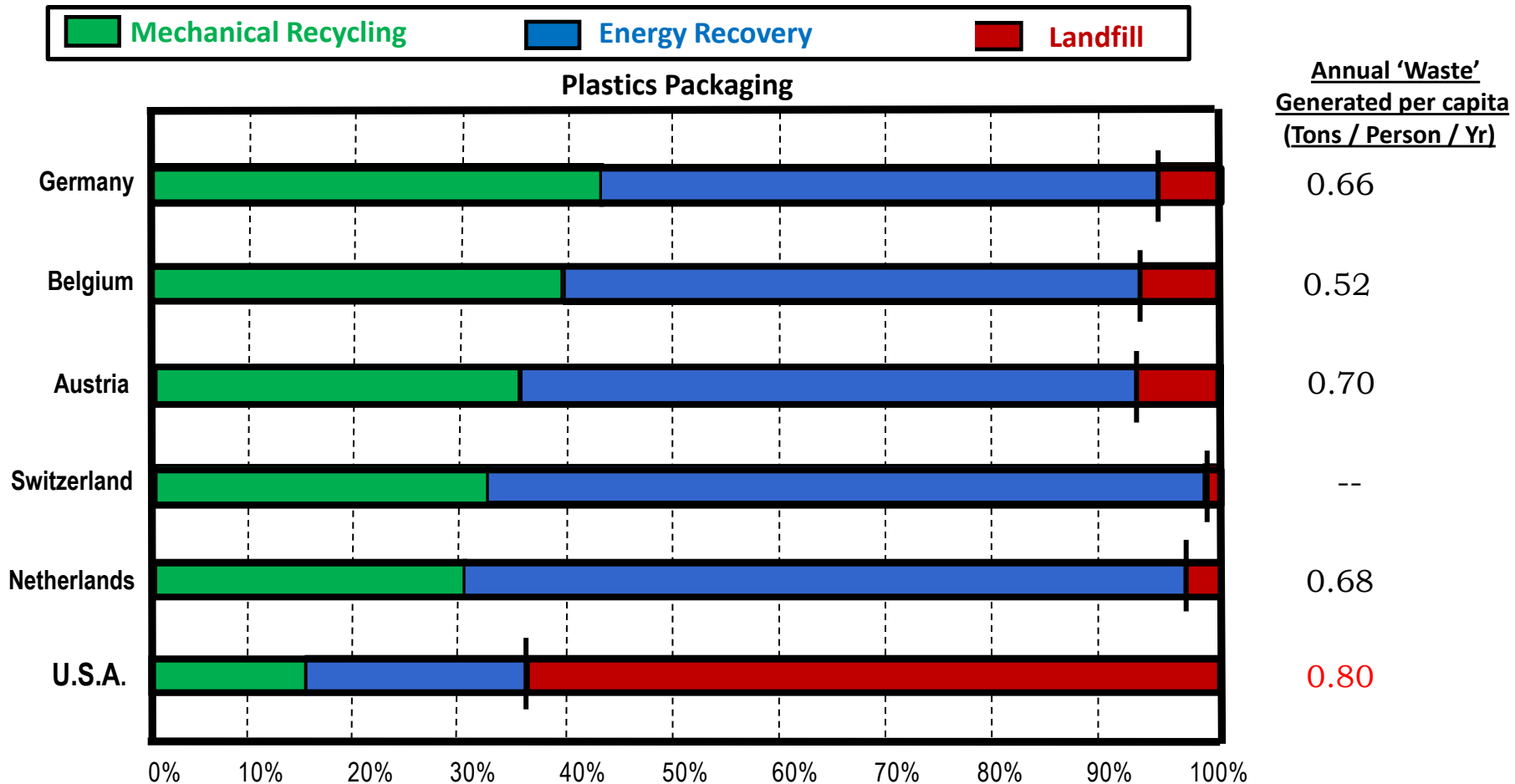
- Huge environmental impact reductions versus glass jars
  - landfill volume - 95% ↓
  - GHG - 93% ↓
  - Energy - 87% ↓
- Rapid market growth
- Yet, multi-layer means very difficult to recycle economically

# Plastics are Captured Energy



Natural Gas = 20,300 Btu/lb Crude Oil = 18,400 Btu/lb **NRP = 14,000 Btu/lb** Pet Coke = 12,700 Btu/lb Coal (High) = 11,200 Btu/lb Coal (Low) = 9,800 Btu/lb

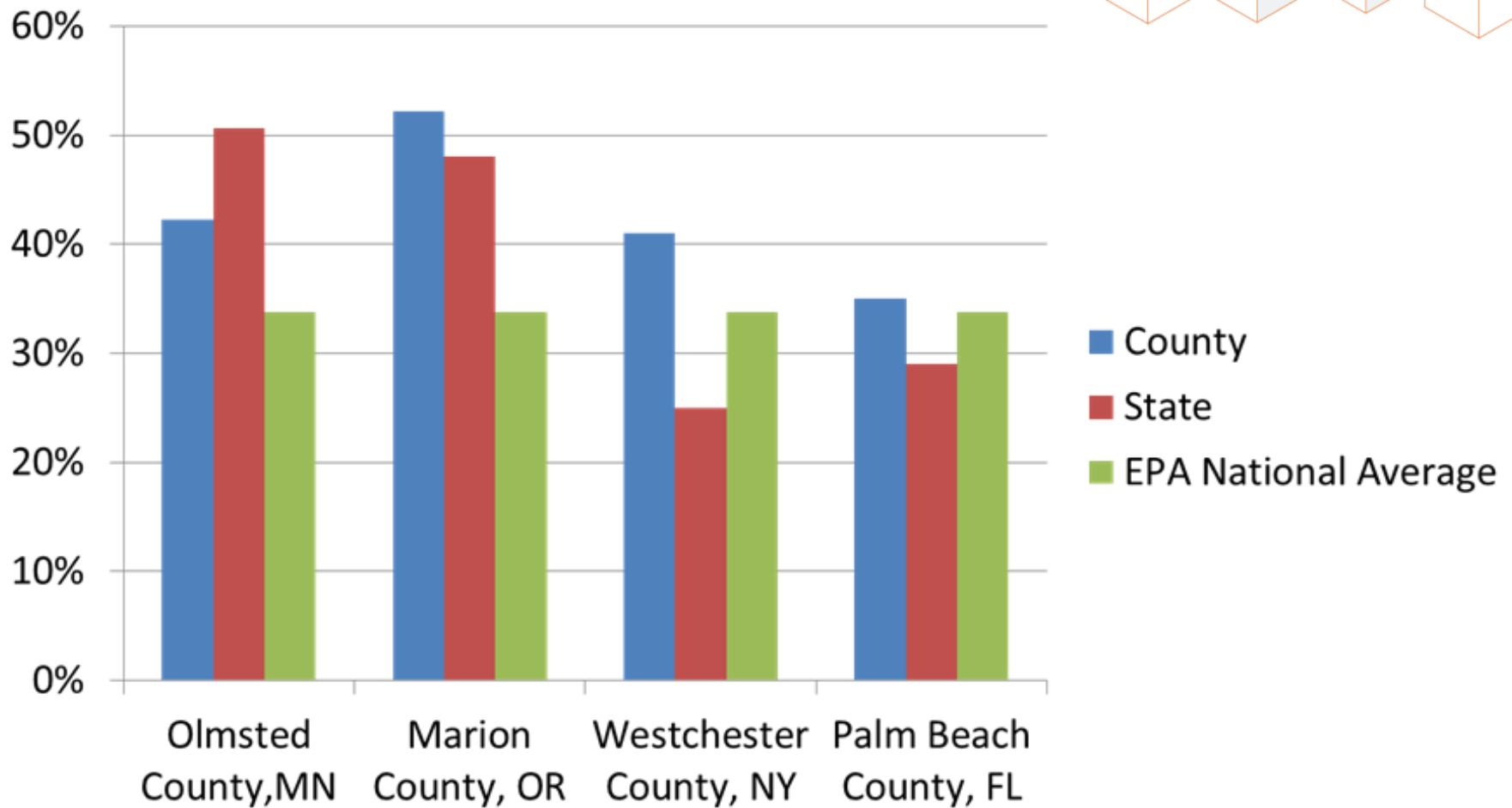
# Recycling + Energy Recovery = Higher Diversion Rates



N.A. recycling includes composting

Source: American Chemistry Council Plastics Division (ACC PD) / Plastics Europe / The Canadian Plastics Industry Association (CPIA)

# Recycling & Waste-to-Energy are Complementary



# What is the Opportunity?

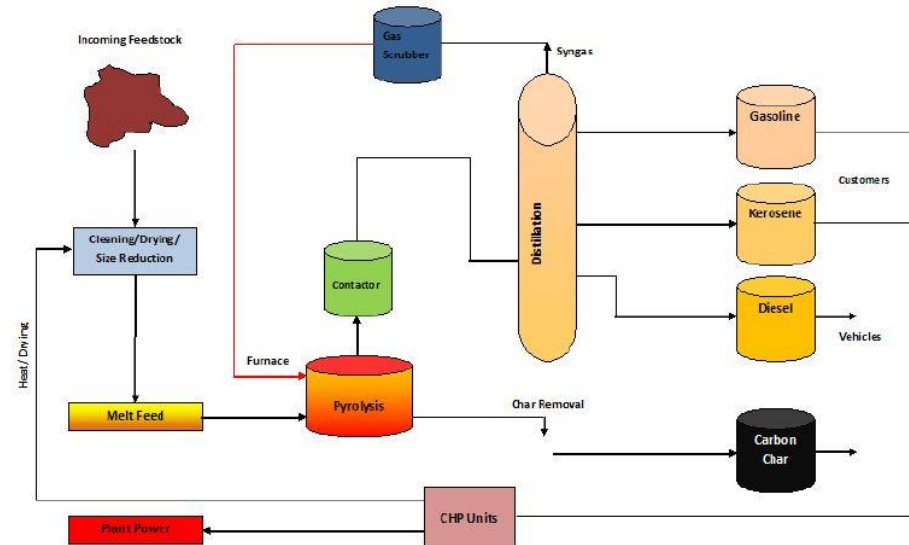
- If we recovered all of our MSW to energy, we could power 16.4 million households for a year.
- If we recovered all of the non-recycled plastics in MSW and converted to energy, we could power 5.2 million households for a year.
- Or, if we converted all of the non-recycled plastics in MSW to oil, we could power 6 million cars for a year.

# **Solid Fuel Project Phase I**

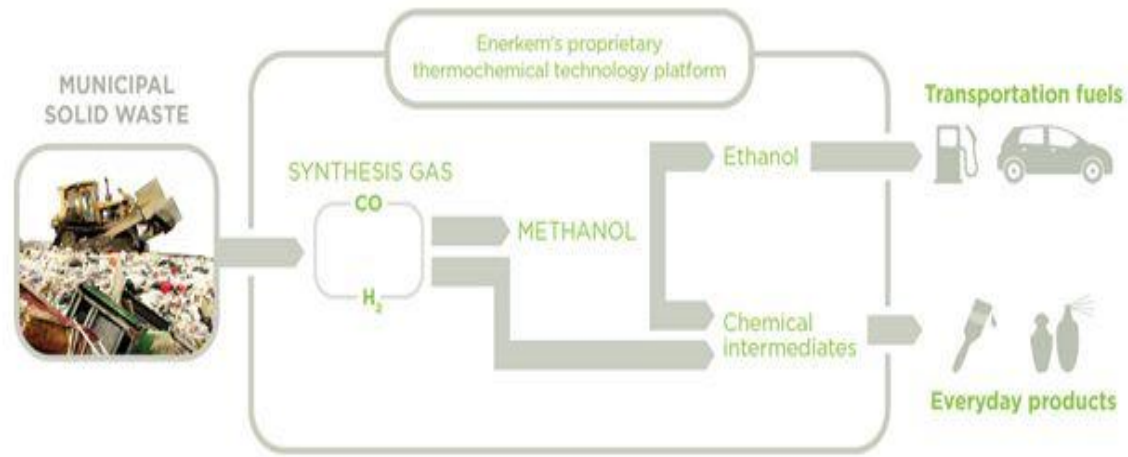
- **Collaboration with 3 Key Partners**
- **130 Tons of Alternative Fuel**
  - 60/40 - Plastics/Paper
  - 60/40 - Post-consumer MRF residue/Post-Industrial
- **Trial at Texas Cement Kiln**
- **Modeled 3 Scenarios**
  - Energy Savings
  - Greenhouse Gas Reductions
  - Other emissions benefits
- **Successful Communications**

# Plastics to Oil

- Report Released 2011
- Phase II report released late 2012
- 2013 Project(s)
  - Process Bulky Rigid/Toys
  - Flexible Packaging/Foodservice



# Gasification Project w/ WTERT



- Partnership w/ City of Edmonton
- Process 4 controlled trials
- Measure Impact of Plastics
- WTERT Report

# *From Chemistry to Energy Campaign*

Chemistry draws on alternative energy sources like energy recovery to enhance our national energy security.

Find Out How



- Three Key Pillars
  - Shale Gas
  - Energy Efficiency
  - Energy Recovery
- Advocacy
- Education

The background features a collage of financial data visualizations. In the top right, a line graph shows a fluctuating green line with data points, accompanied by a vertical axis with values like 102,0, 104,0, 106,0, and 108,0, and a horizontal axis with values like 30,00 and 40,00. Below this, a pie chart is partially visible with green segments and labels such as 7,61%, 14,73%, and 15,73%. To the right, a portion of a silver calculator is shown, featuring dark blue buttons with white numbers and symbols like a percentage sign and an equals sign. A green semi-transparent rectangle is overlaid on the left side of the image, containing white text.

[plastics.americanchemistry.com/  
energyrecovery](http://plastics.americanchemistry.com/energyrecovery)

<http://chemistrytoenergy.com/>

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