Heating the Midwest

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Opening Remarks

• Vision 2025
  – 3% to 10% biomass thermal
  – Replace fuel oil-propane, and electric

• Jobs

• Economy

• Energy Supply

• Environment
Events Since Last Year

• Domtar Commercial Operation
  – 50 MW electric cogeneration
  – Rothschild, WI

• Other Success Stories

• Propane Shortage

• EPA Proposed Rulemaking
Propane: From Well to Customer

- Gas Well
- Oil Well
- Gas Plant
- Refinery
- Pipeline Terminal
- Underground Storage
- Pipeline Station
- Transport 10,000 Gallons
- Bulk Truck 3,000 Gallons
- 30,000 Gallons
- Retail Plant
- Cylinder Truck
- Retail Customer

Source: Energy Information Administration
Sources and Storage

The United States imports;
• about 10% of the propane
• 70% of that coming from Canada via pipeline and rail.
• The remaining 30% of imported propane via ocean transport.

North American propane is stored in huge salt caverns.  
• Fort Saskatchewan, Alberta;  
• Mont Belvieu, Texas and  
• Conway, Kansas.  
• When the propane is needed, much of it is shipped by pipelines to other areas of the United States.
Propane Pipelines
What Happened?

• Bumper corn crop, harvested late and wet
  – Impact: record use of propane in November drawing down inventories

• Cochin pipeline shuts down for 6 weeks in the fall
  – Impact: supply in Minnesota and Iowa eliminated
  – Cochin provides 40% of propane to Minnesota

• Record cold and snowstorms in Upper Midwest
  – Higher use of propane
  – Truck and rail delivery is more difficult

• Conway prices lower that Mt. Belvieu
  – Impact: Pipelines to Texas are running full reducing Conway inventory
PADD 2 (Midwest) propane inventories have trended lower on strong crop drying and extremely cold temperatures

PADD 2 propane inventories
million barrels

Typical corn harvest dates (Sept 20 – Nov 10)

Rolling five-year average 15.0 MMbbls

Inventory level

February 7 9.0 MMbbls

Source: EIA, Weekly Petroleum Status Report, data through February 7
Conway (KS) price premium over Mt. Belvieu (TX) grew rapidly in late January, but has since narrowed.

Propane and propylene spot prices in dollars per gallon.

The positive spread between Conway and Mont Belvieu prices drew supplies northward into areas most impacted by cold weather.

Conway, Kansas (PADD 2) vs. Mont Belvieu, Texas (PADD 3) price spread (Conway minus Mont Belvieu).

Source: U.S. Energy Information Administration, Thomson Reuters, data through February 11.
Residential Energy Prices

Wisconsin Propane Prices

December 23, 2013 to February 10, 2014

High

Low

Average

$/gallon

12/23/2013
$2.59
$1.79

12/30/2013
$2.60
$2.12

1/6/2014
$2.42
$2.17

1/13/2014
$2.60
$2.20

1/20/2014
$2.79
$2.25

1/27/2014
$3.59
$2.99

2/3/2014
$5.80
$4.15

2/10/2014
$4.30
$3.83
Residential Energy Prices

September 2010 through February 10, 2014

- Heating Oil
- Propane
- Natural Gas
- Electricity
Who Uses Propane?

Wisconsin Propane by Sector 2011

- Residential, 197,257, 69%
- Commercial, 43,396, 15%
- Industrial, 20,614, 7%
- Agriculture, 22,525, 8%
- Transportation, 1,584, 1%

Wisconsin State Energy Office
State Of Wisconsin

• Funded biomass boilers:
  – Appleton Coated Papers
  – Gunderson Lutheran

• Propane replacement projects:
  – Three projects
  – Pellet fired systems

• Low income pellet stove demonstration