# *Commercial and Industrial Usage*

**Maine Natural Gas: Energy for Maine's Future?!**

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# Maine Natural Gas: Energy for Maine's Future?!

Commercial and Industrial Usage
Presented by
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FREEDOM
energy logistics

# Commercial and Industrial Usage (C & I)

- Price Volatility
  - Function of periodic disparity between supply and demand.
    - Cure>   bring supply and demand into balance
    - How>
      - Increase supply     OR,
      - Reduce demand

# C&I Usage

- Desired Outcomes:
  - Ample natgas fuel supplies > will stabilize and ultimately lower nat gas prices > which will result in employment gains > and cause growth in disposable income.
  - More natgas is needed in Maine (and the region)

1. to meet electricity generation needs
2. comfort heating requirements
3. Industrial applications
4. To replace oil – fired power plants

# C&I Usage

- Details:
  - Peak Usage (on a winter day) of natgas in New Eng calls for about 4.5bcf of send out. To FIRM customers. Where does it go> *residences and businesses for primary use in space heating. And, it is needed to run machinery in plants and factories.*
  - Another 1 bcf is needed to fuel about 22 natgas fired power plants
  - **Thus, total regional needs on peak day = 5.5 bcf**

  ______________________________________________

  - **Yet………Natgas coming in by pipeline = 3.4 bcf on peak day.**

# C&I Usage

- The SUPPLY  (3.4bcf)  vs.  DEMAND (5.5 bcf) GAP is what causes the price volatility.  The "missing" gas spikes to 2.1 bcf on a peak day; but because demand exceeds supply all winter,  is the cause of <u>**price rationing**</u> on most days from December to March.

# C & I Usage

- Some Maine Specifics
  - Only New England state in which industry is largest energy consuming sector.
  - Electricity rates (because they are tied to natgas prices) nearly doubled from the January 2013 levels to January 2014 – and stayed as high into 2015.
  - Many of Maine's largest plants and factories had to idle their operations and dismiss their workforce because of the ruinous expense of power and for some, lack of natgas supply.
  - Permanent Closures>  Great Northern and Bucksport.
  - Mainer's collective power bill in the winter of 2012-13, when compared to the prior winter, was $148 million more; in winter 2013-14 the bill was $312 million greater than 2012-13.
  - Lack of access to ample natgas supplies has materially hurt the state's economic growth, been the cause of job loss in Maine's industrial base, rendered energy more expensive for all Mainers and been a serious set back to achievement of renewable energy and climate change goals.

# *"Will There Be Enough Gas to Fully Support Electricity Generation in New England?"*

# Yes, We Believe So, But New Capacity Will Be Needed (And Several Projects Are in the Pipeline)

Massachusetts Electric Restructuring Roundtable
February 16, 2001

Thomas M. Kiley, President
The New England Gas Association

# Thank You!


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Woodland Pulp LLC

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International Grand Investment Corporation

*Woodland Pulp LLC / St. Croix Tissue*

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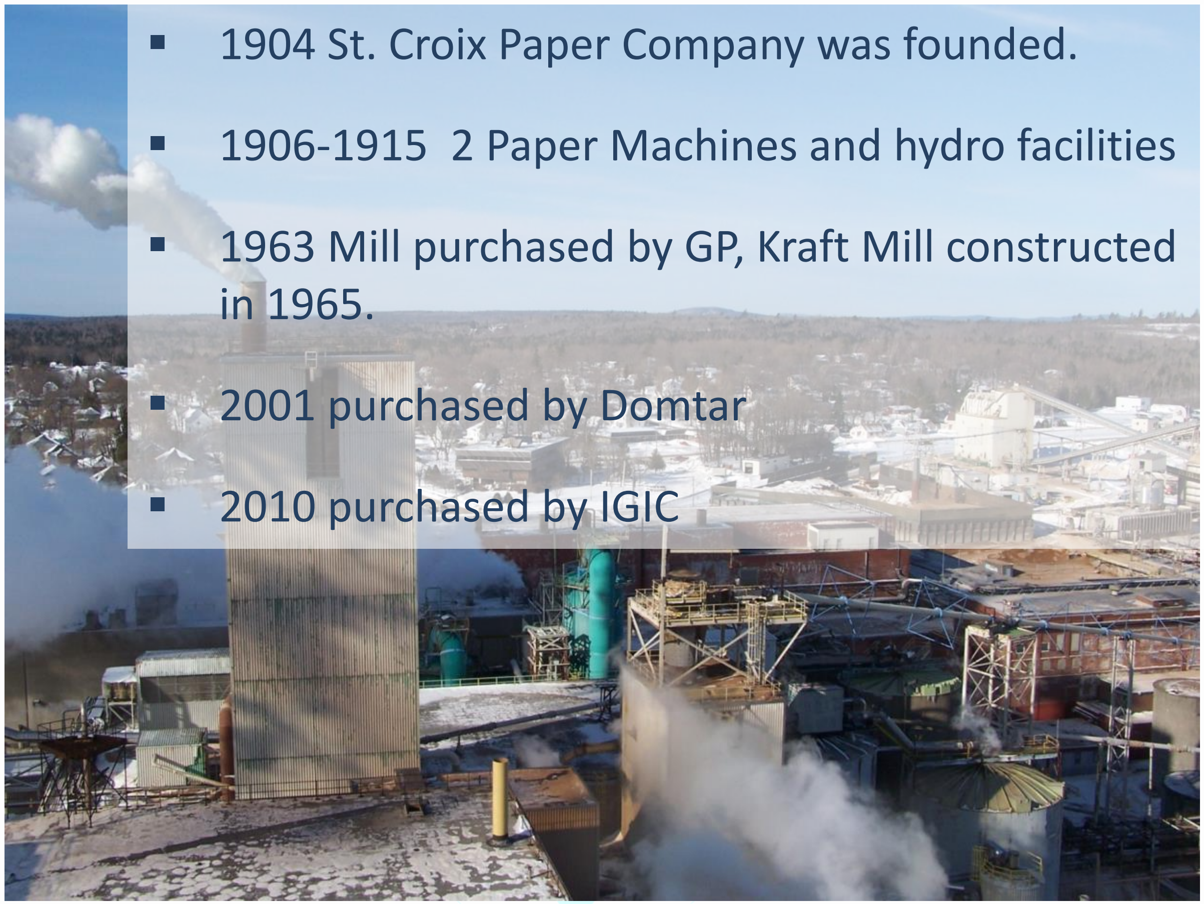
Attorneys at Law

# Woodland Pulp History

- 1904 St. Croix Paper Company was founded.
- 1906-1915  2 Paper Machines and hydro facilities
- 1963 Mill purchased by GP, Kraft Mill constructed in 1965.
- 2001 purchased by Domtar
- 2010 purchased by IGIC



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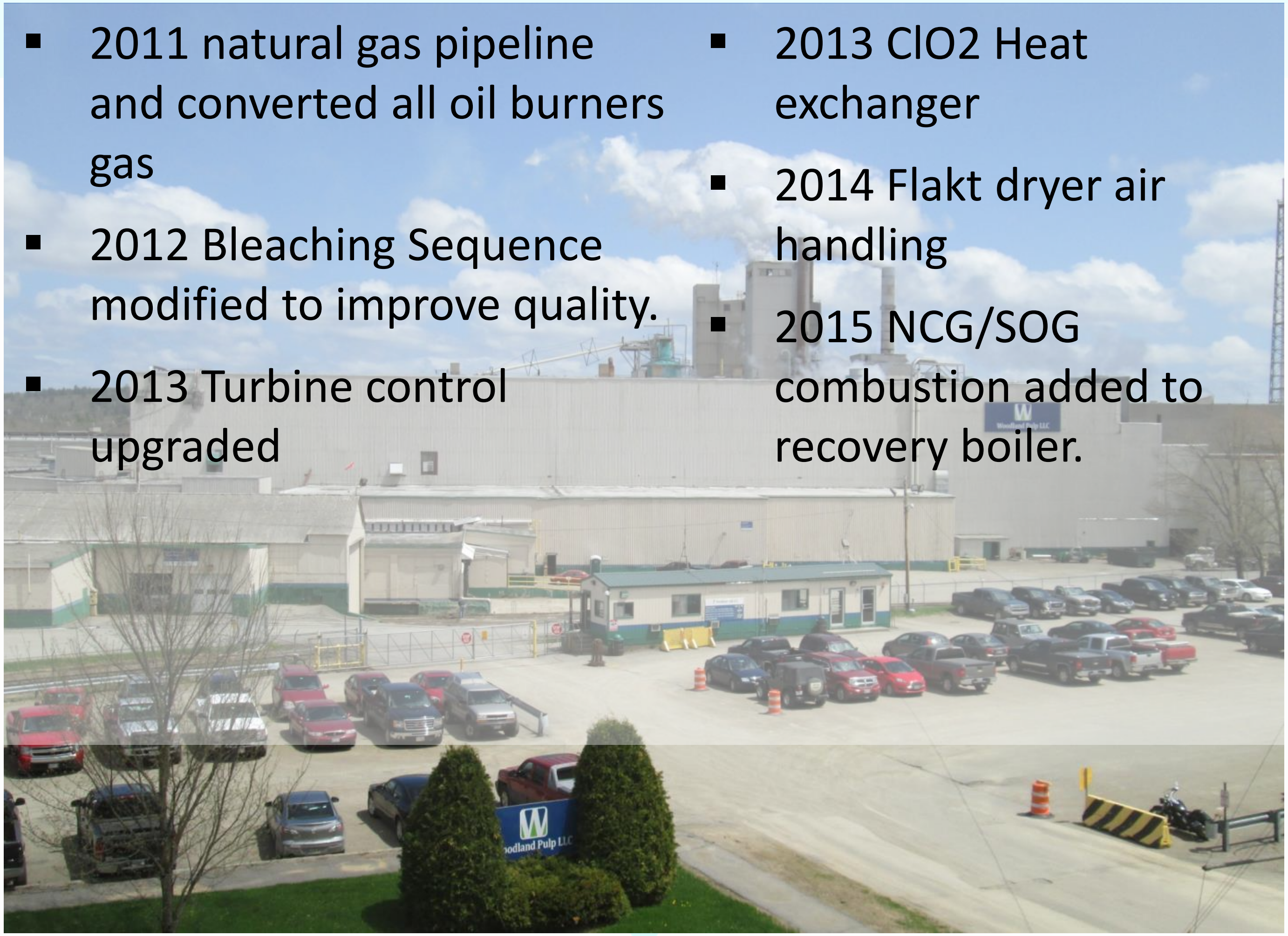
# *Under IGIC ownership*



- 2011 natural gas pipeline and converted all oil burners gas
- 2012 Bleaching Sequence modified to improve quality.
- 2013 Turbine control upgraded
- 2013 ClO2 Heat exchanger
- 2014 Flakt dryer air handling
- 2015 NCG/SOG combustion added to recovery boiler.

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# St. Croix Tissue

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# *Woodland Pipeline*


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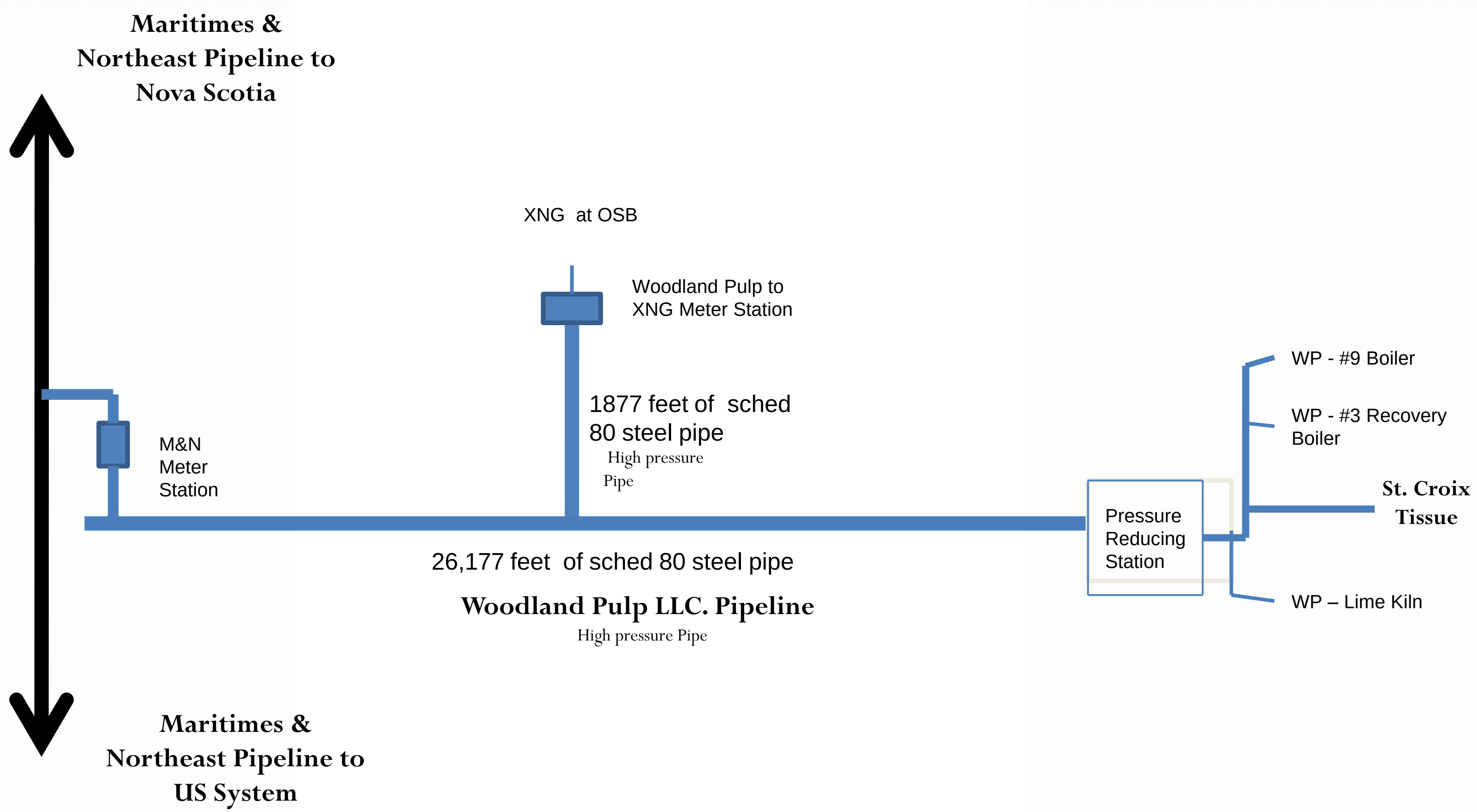
# Natural Gas Pipeline

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# *Energy Profile*

**Energy Sources**

- Black Liquor 68%
- Natural Gas 15%
- Wood waste 17%

**Electrical Generation Avg**

- (2) Steam Turbines 36 MW
- (10) Hydro 12 MW
- Power Sales 11 MW

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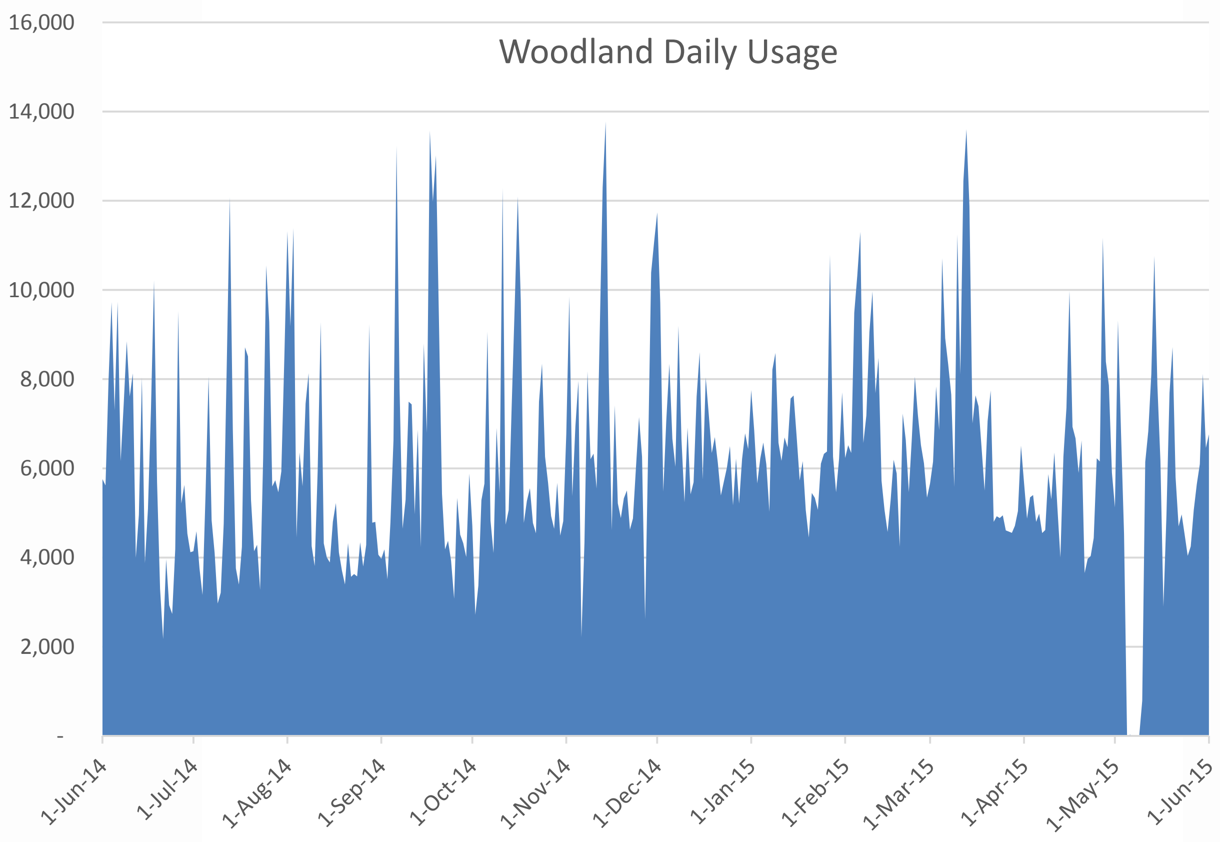
# *Daily Gas Consumption*

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# Winter Gas Price Volatility

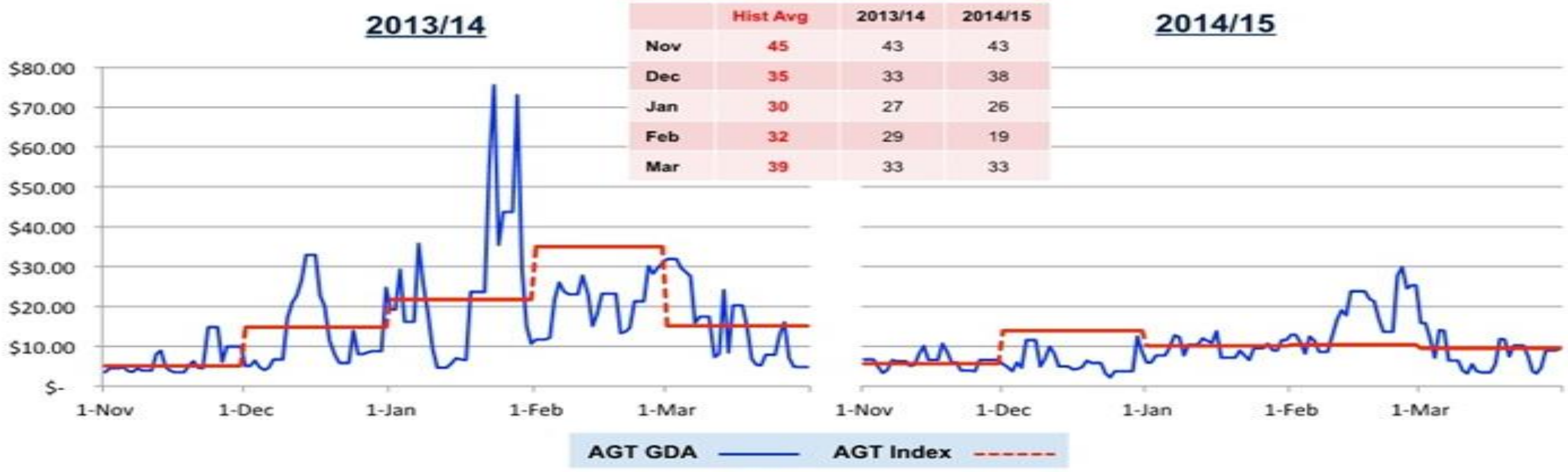
## WINTER GAS PRICE VOLATILITY
2013/14 vs. 2014/15

REPSOL

**The 2014/15 Winter in New England was much less volatile in terms of gas prices, yet much colder in February.**

AVERAGE TEMPERATURES IN BOSTON

| | Hist Avg | 2013/14 | 2014/15 |
|---|---|---|---|
| Nov | 45 | 43 | 43 |
| Dec | 35 | 33 | 38 |
| Jan | 30 | 27 | 26 |
| Feb | 32 | 29 | 19 |
| Mar | 39 | 33 | 33 |

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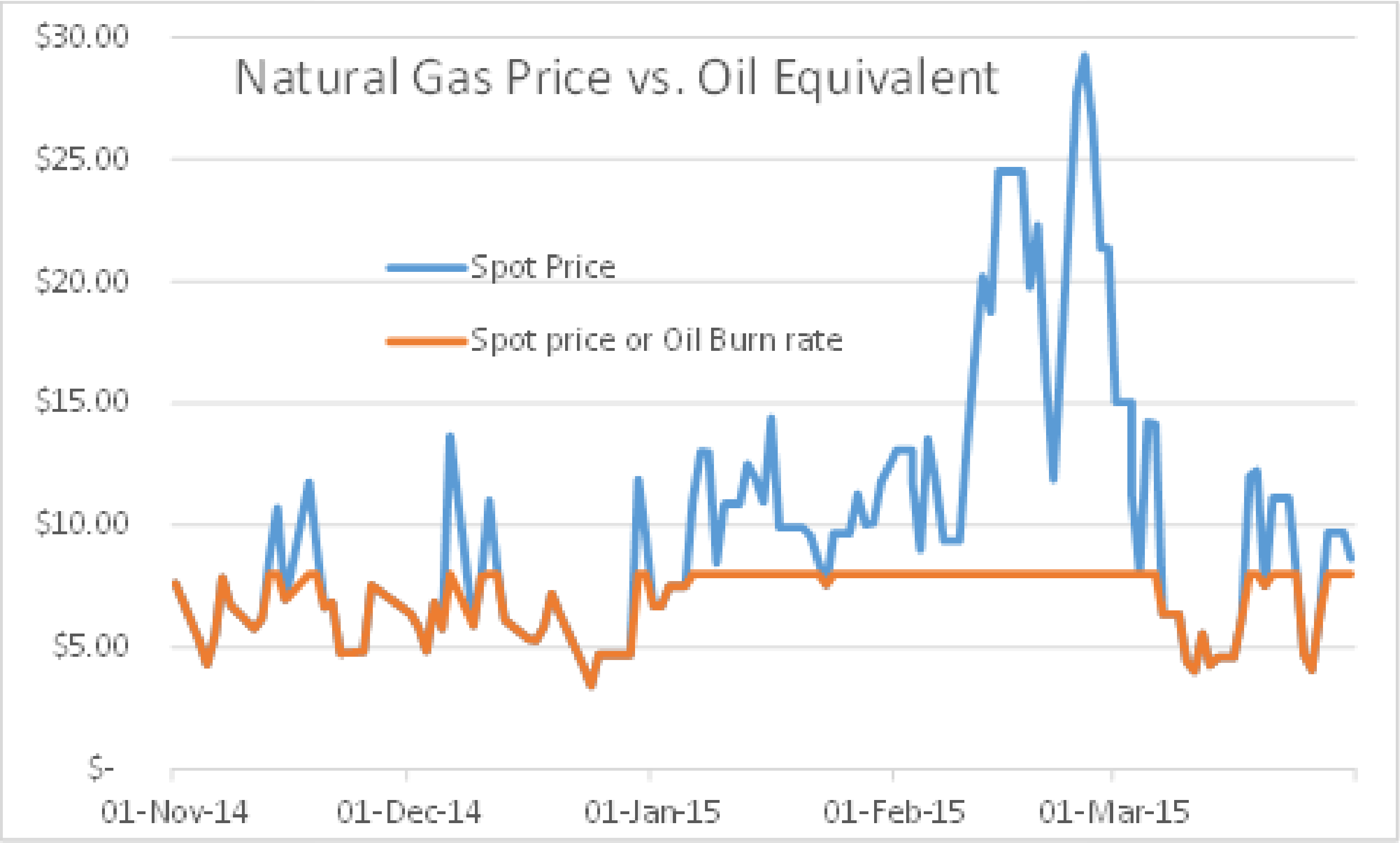
# *Oil as Alternative Fuel*

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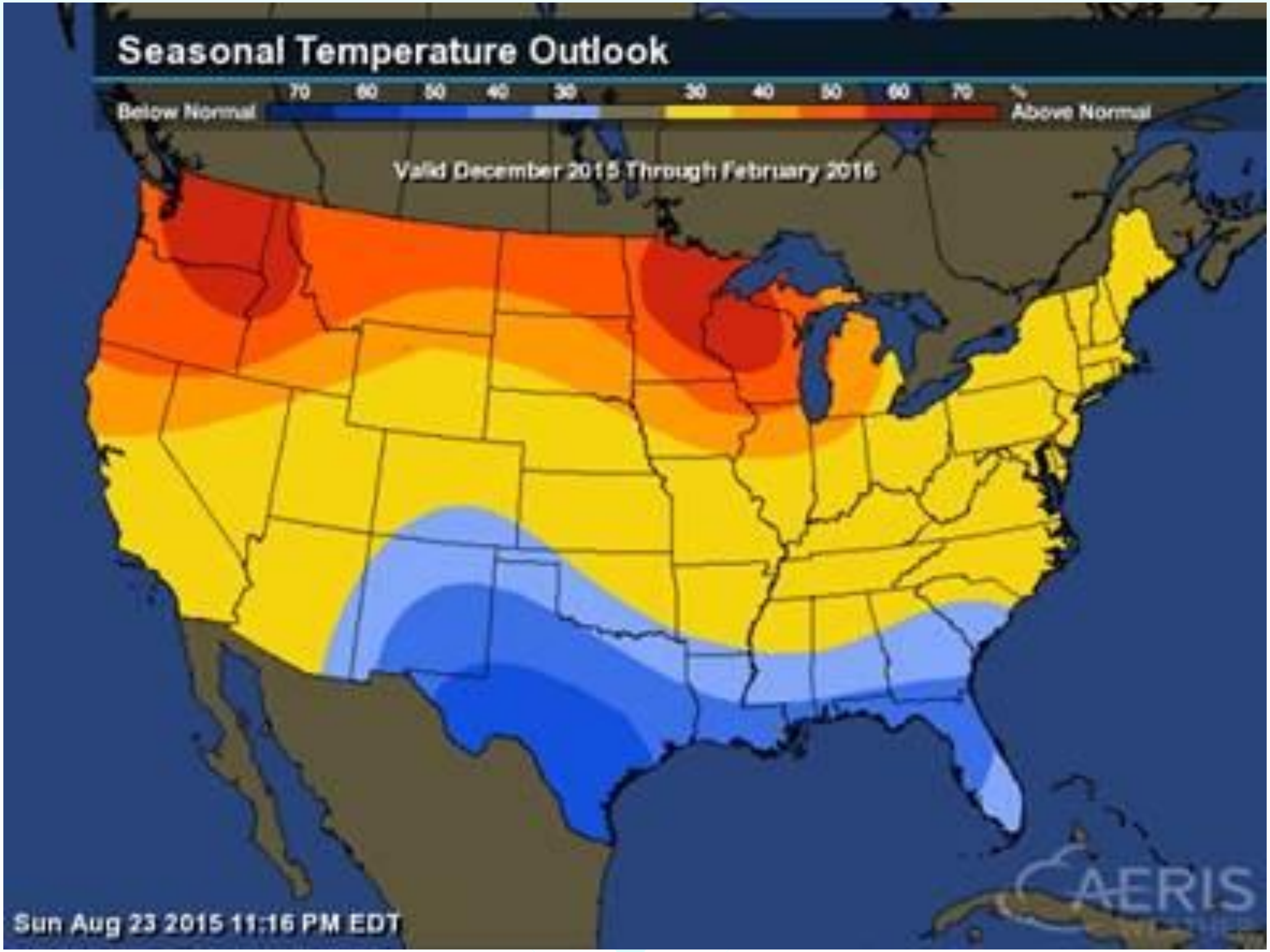


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# Conclusions

- Alternative fuel options are a must
- Know the weather
- Expand gas supply options
- Hire an expert – energy is complicated

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# *Market View*

Delivering on A promise.℠

Dead River Company

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# Market View

- Dead River Company supply infrastructure
- Outlook for propane and oil pricing
- Current propane and oil pricing options for commercial loads
- Propane AutoGas for pickup and van fleets

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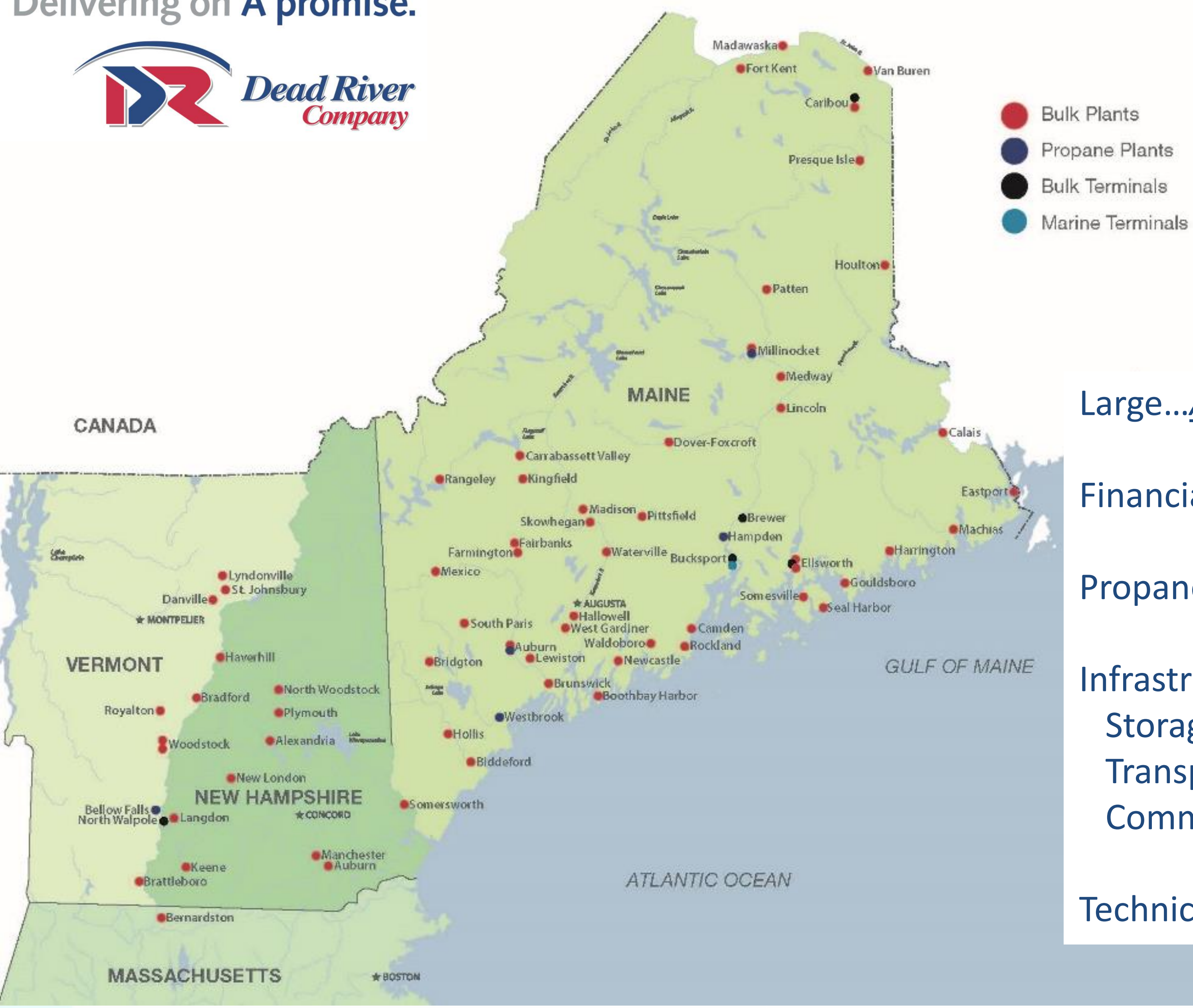


Large…<u>*And*</u> Local

Financially Stable

Propane, Heating Oil, CNG

Infrastructure:
- Storage
- Transportation
- Commercial Professionals

Technical Expertise

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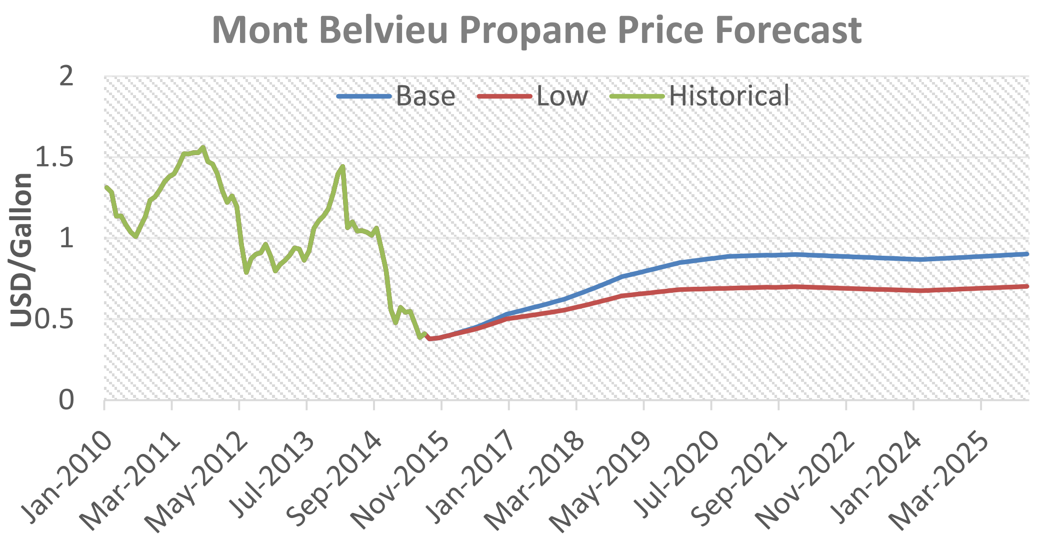
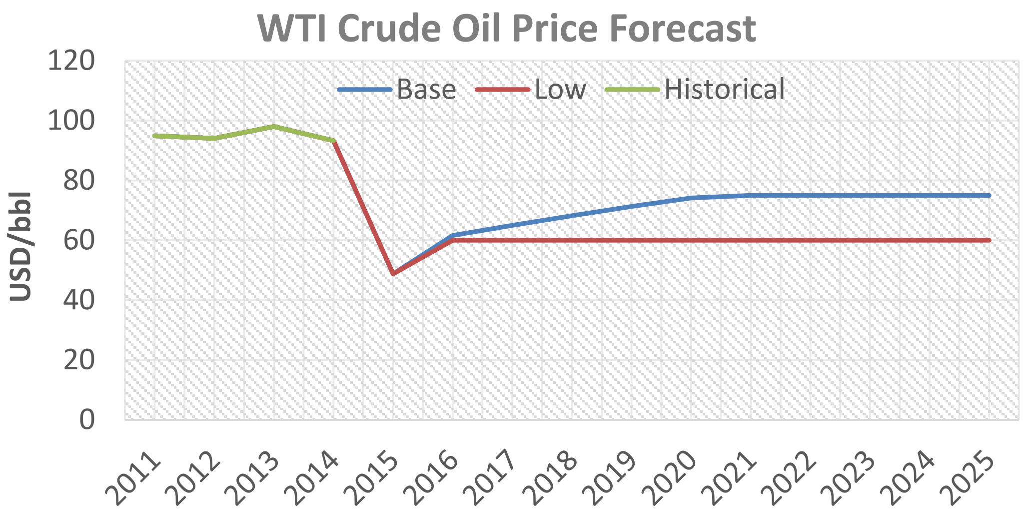
# Propane & Crude Oil Price Outlook

- Propane spot prices are projected to remain much lower than recent averages for the foreseeable future.
  - Current prices are around $0.47/gal ~$5.00/Dth
  - *Low/Avg Case:* ~$0.70/gal in 2025 ~$7.50/Dth
  - *Base Case:* ~$0.90/gal in 2025 ~$9.75/Dth




- WTI crude oil spot prices are also forecasted to remain lower than average through 2025.
  - Current prices are around $44/bbl ~$7.75/Dth
  - *Low/Avg Case:* ~$60/bbl in 2025 ~$10.50/Dth
  - *Base Case:* ~$75/bbl in 2025 ~$13.25/Dth




Source: ICF International; author Michael Sloan

# Considerations for Pricing

Load Profile –

- Delivery size
- Overall volume, load curve and timing of commitments
- Delivery location relative to our storage facilities

Onsite Storage Investment – who owns the tank installation, vaporizers

Price Options –

- Spot market – changes daily
- Customized fixed price options for up to 18 months for oil; up to 3 years for propane

# Illustrative *Delivered* Pricing in Current Market for Commercial/Industrial Users

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## Heating oil customer; owns the tank(s); transport loads

- Spot heating oil market is in the $1.70/gallon range, or approximately ~$12.50/Dth
- Fixed prices are in the $1.90/gallon range, or ~$14.00/Dth, and can be made for up to 18 months.

## Propane customer; owns the tank(s); transport loads

- Spot propane market is in the $.90/gallon range, or ~$9.75/Dth
- Fixed prices are in the $1.00 range, or ~$11.00/Dth, and can be made for up to 3 years.

Actual pricing quotes provided for specific requests.

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# Recommendations?

Consider how to leverage your existing, *owned* infrastructure in dual, tri, or even quad fuel solutions.


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Dead River Company

# Propane Autogas …

*A Safe, Economical, and Environmentally Friendly Option for Fleet Vehicles*



Safe – fuel tanks are more puncture resistant than gasoline; same fueling experience as gasoline or diesel

Economical – 50% lower maintenance costs; double life expectancy; current propane pricing ~$1.55/gallon including taxes; lower state fuel taxes in Maine

Environmentally Friendly – 17% lower greenhouse gas emissions


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# *Commercial / Industrial End User Gas Supply Options*

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# *Purchase Gas from an LDC*

Producer, Pool, or Hub

Interstate Pipeline

LDC Supplier

End User

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# *Purchase Gas from a Competitive Supplier with LDC Transport*

Marketer

Producer, Pool, or Hub

Interstate Pipeline

LDC Transporter

End User

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# Purchase Gas from a Competitive Supplier with Plant Line or Direct Connect

Marketer

Producer, Pool, or Hub

Interstate Pipeline

Plant Line, Private Pipeline, or Direct Connection

End User

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# Trucked LNG or CNG


Trucked CNG/LNG

End User

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