



Energy,
Environment and
Economic Development Conference:
*Energy Prices – How High and How
Long Are They Going to Last?*

Panel 3

Where Are Rates Going, And What Can You Do About It?

Where are Rates Going and What Can You Do About It?

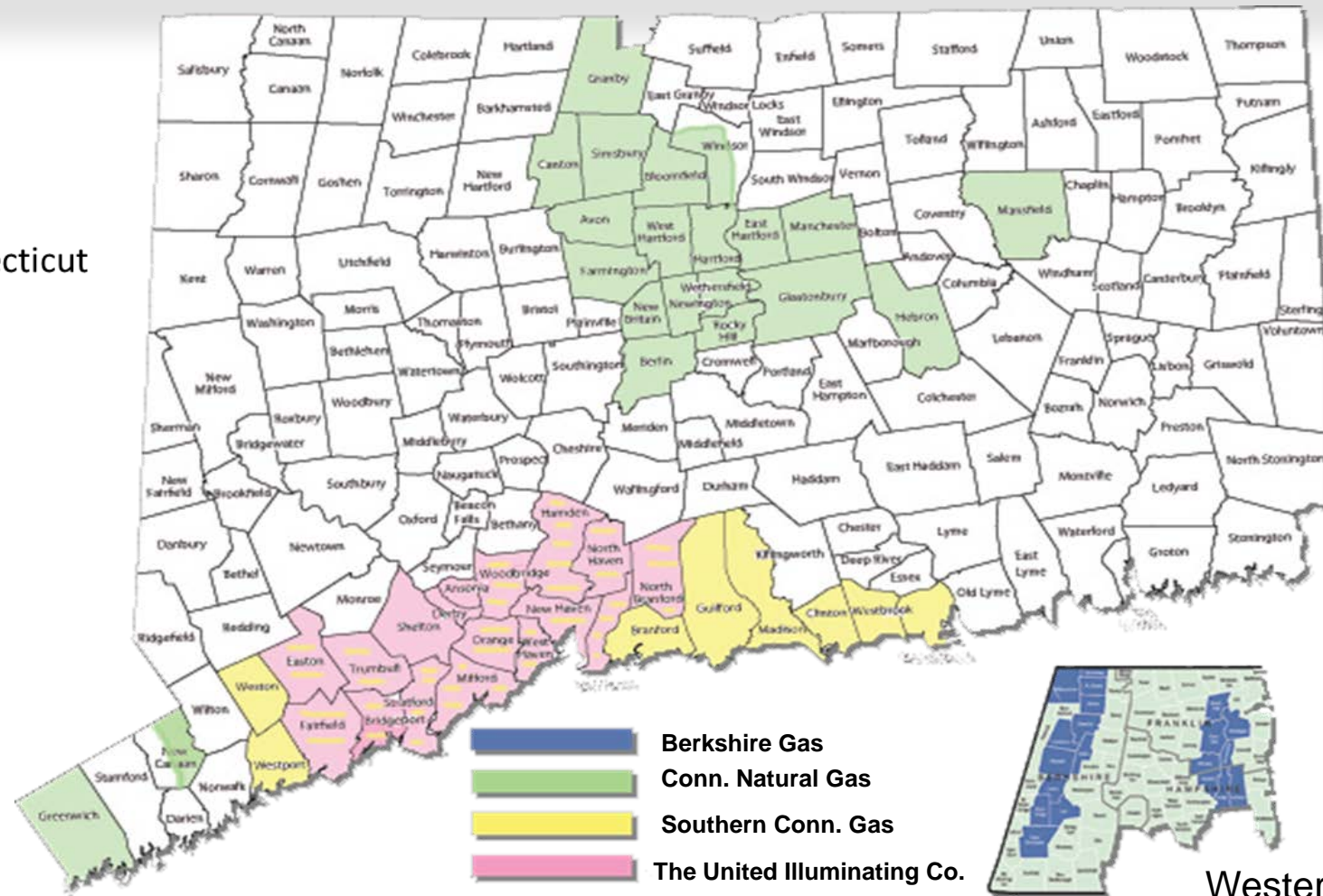
An LDC & EDC's Perspective

Topics

- Who Are We
- A Gas LDC perspective
 - Supply Outlook
 - Recent History of Retail Natural Gas Commodity Rates
 - How Rates Vary by Customer Class (R, C, I)
- An Electric EDC's perspective
 - Power Procurement process
 - How Rates Vary by Customer Class (R, C, I)

Who Are We

Connecticut



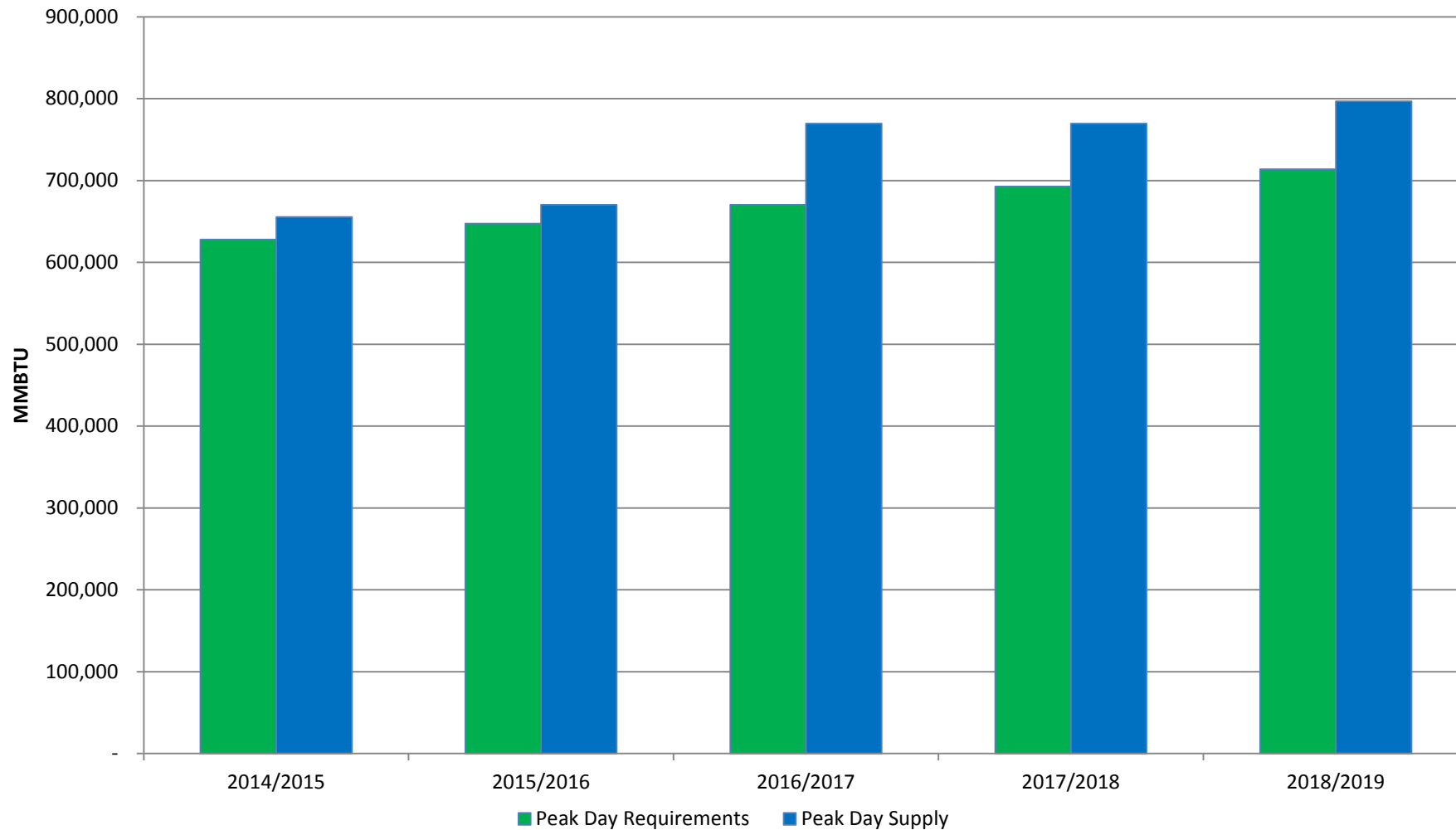
Western
Massachusetts

A Natural Gas LDC Perspective

- Procure sufficient capacity to meet peak load of “design day”, which is the coldest day in a rolling 30-year period.
- Peak Day needs are met through Primary firm pipeline capacity and on-site peaking (LNG) resources.

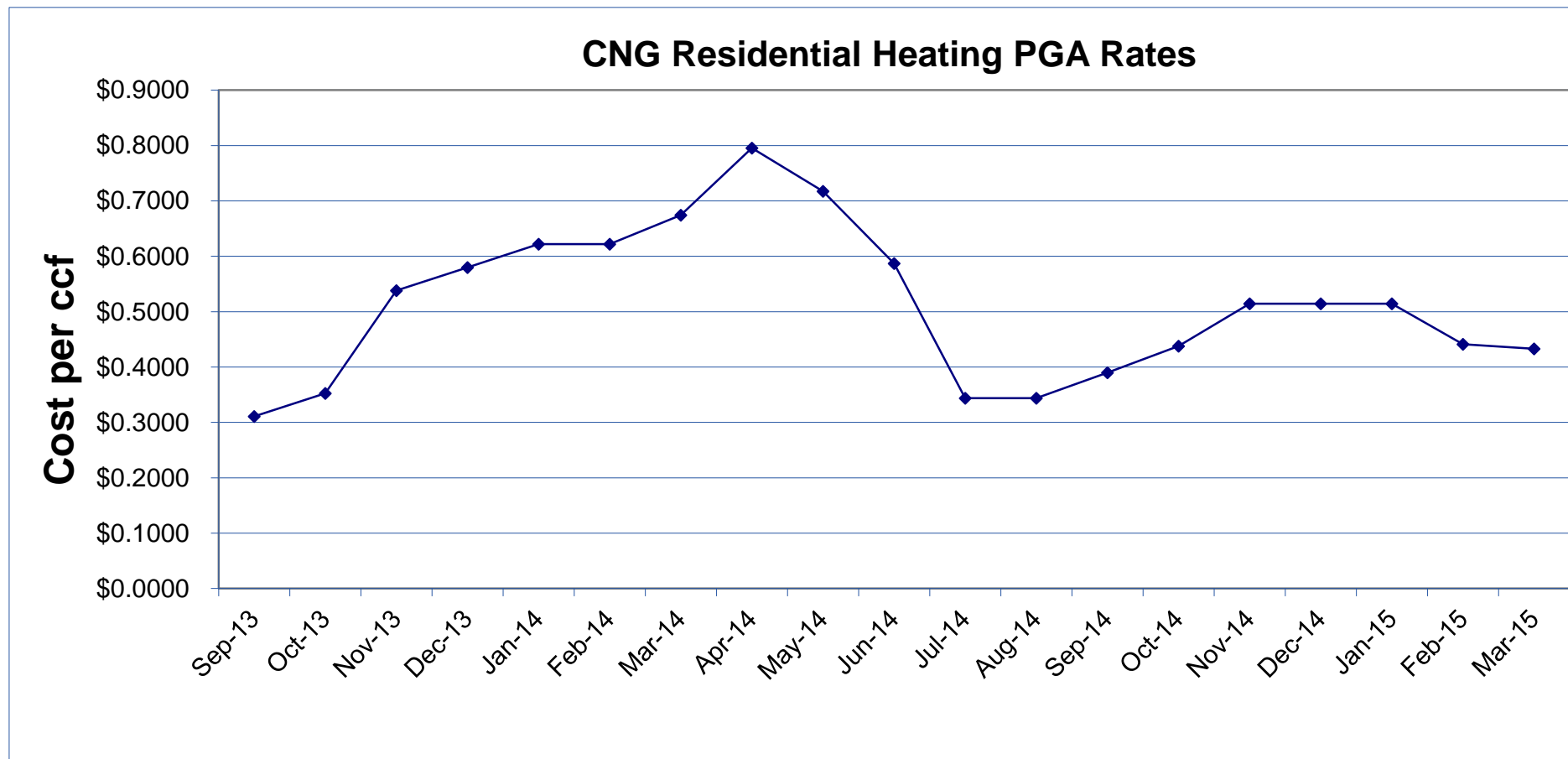
A Natural Gas LDC Perspective

CNG+SCG Combined Firm Peak Day Demand & Supply Forecast



A Natural Gas LDC Perspective

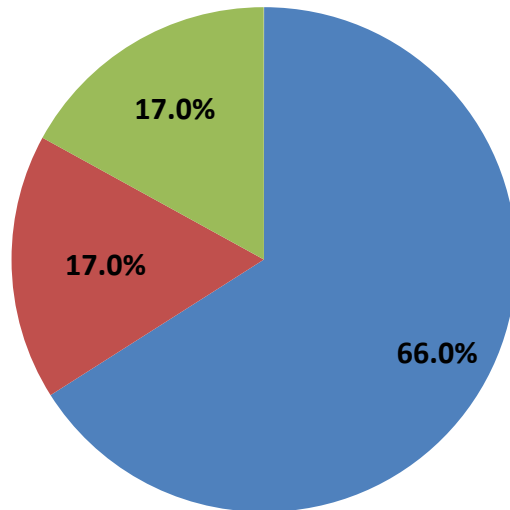
● *How have natural gas commodity rates varied through the past two winters?*



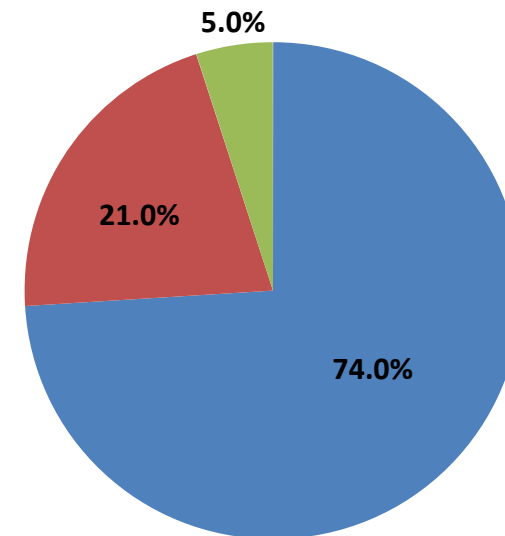
Percentage of Typical C&I Bills that are Volumetric, Demand-based and Fixed

- Based on Current CNG Rates....

Typical Medium General Service Customer



Typical Large General Service Customer



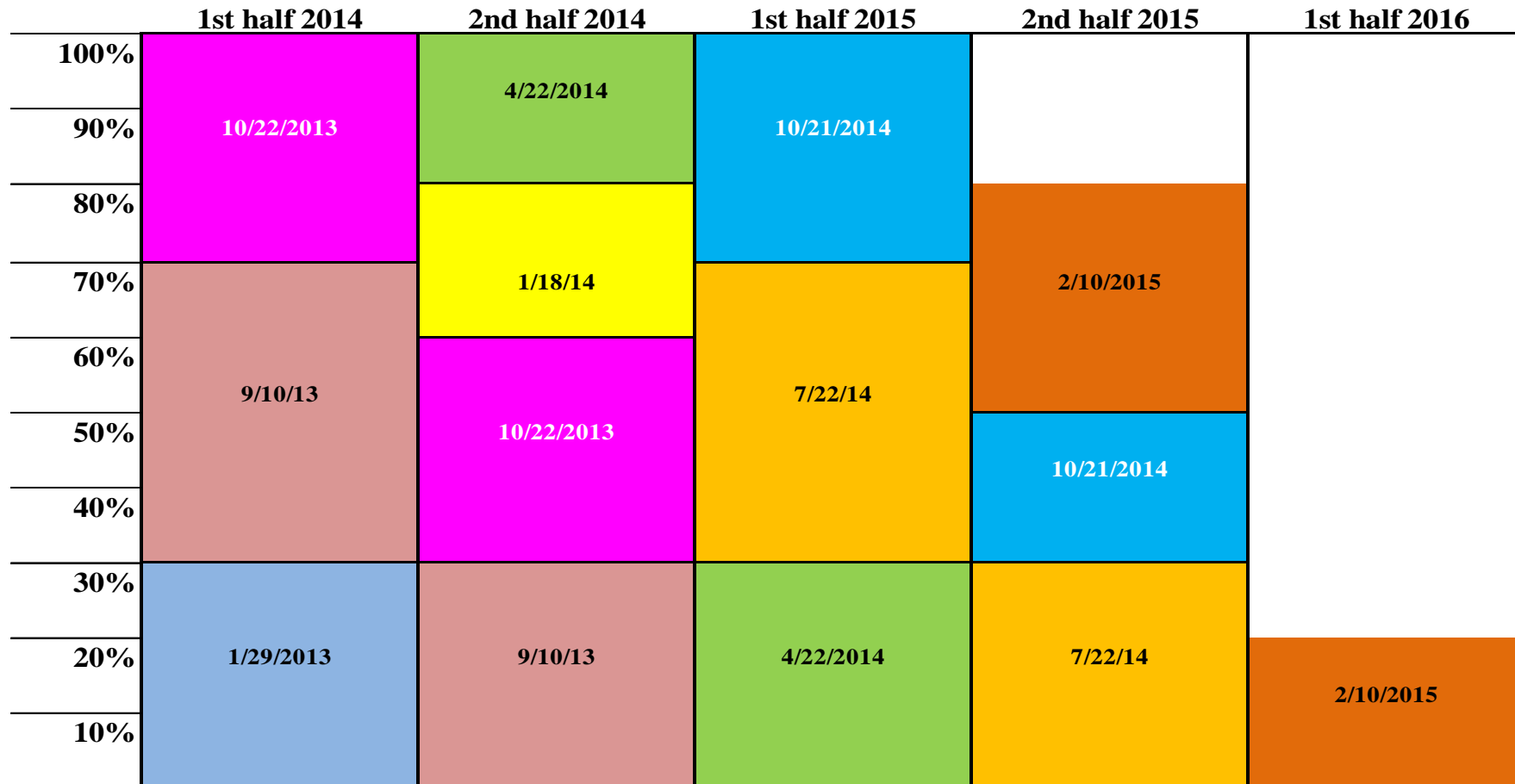
■ Volumetric
■ Demand
■ Basic Service Charge

An Electric EDC Perspective

- *Procurement of Standard Service* (for those customers who do not choose to receive their generation services from a licensed retail supplier).
- Process is fairly prescriptive and is contained in the PURA-approved Procurement Plan.
- Overarching principle is **laddering**.
- Multiple procurements for a given delivery period, done at various times.
- Similar to “dollar-cost-averaging” in the investment world.

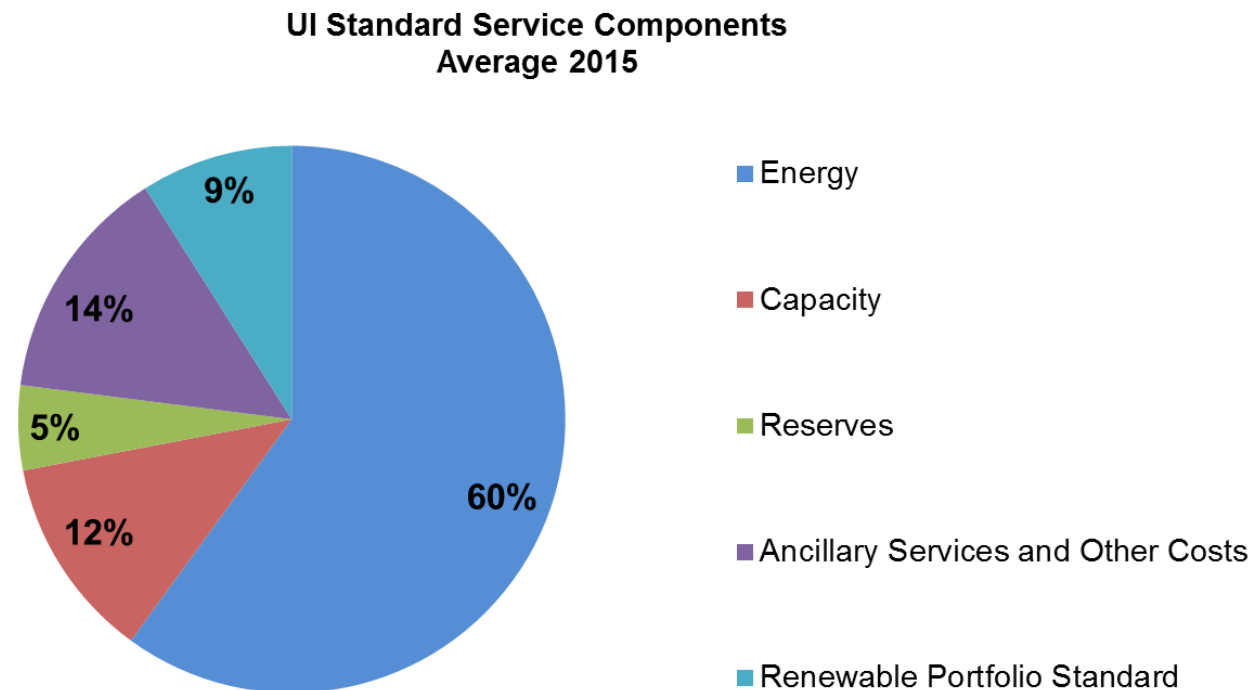
Laddering of Standard Service Procurement

United Illuminating
Procurement of Standard Service - Filled Tranches



An Electric EDC Perspective Procurement of Standard Service

What makes up Full Requirements Service?

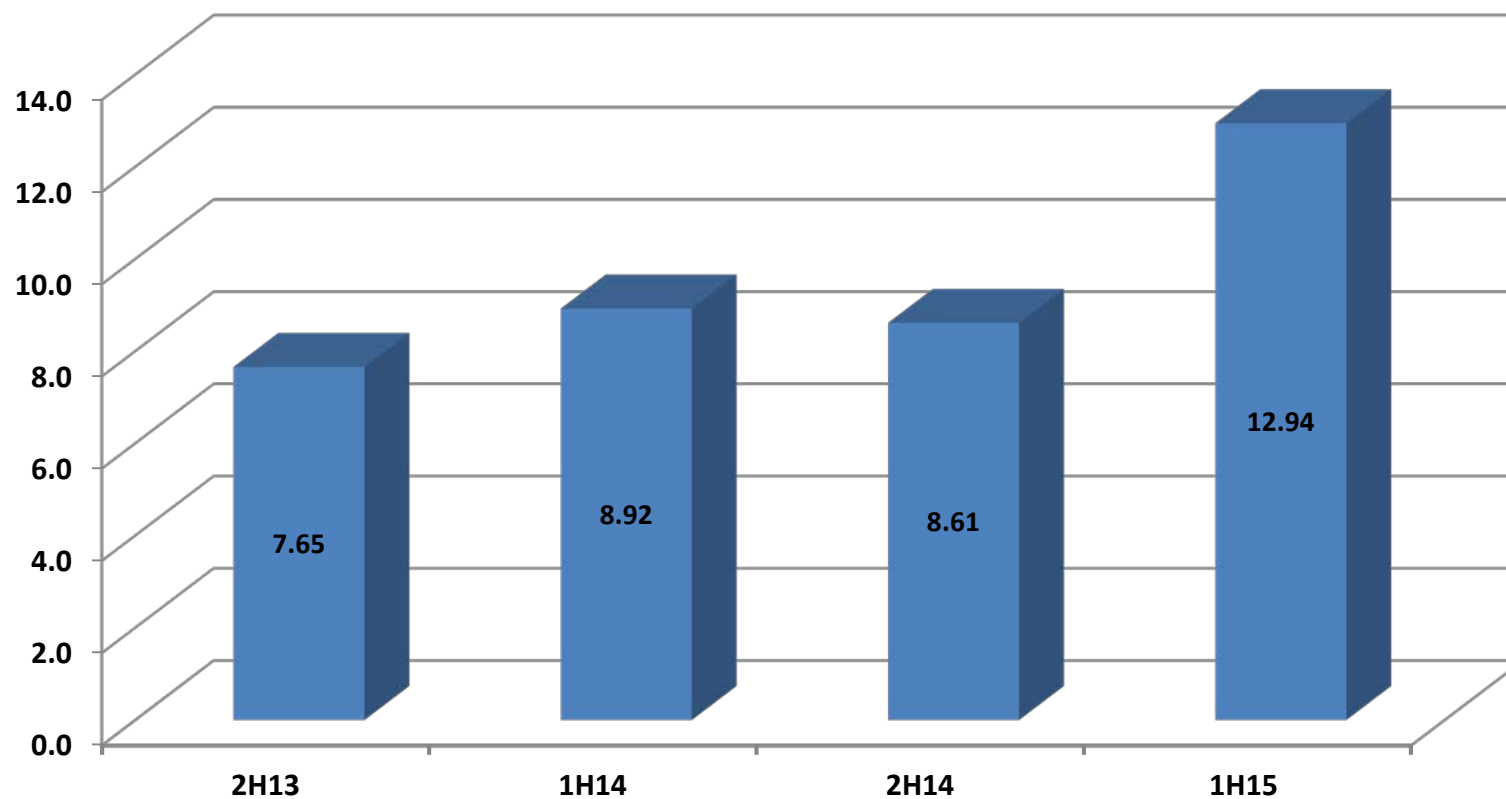


- Therefore, the EDC's Standard Service prices will generally follow the natural gas futures prices.

An Electric EDC Perspective

Procurement of Standard Service

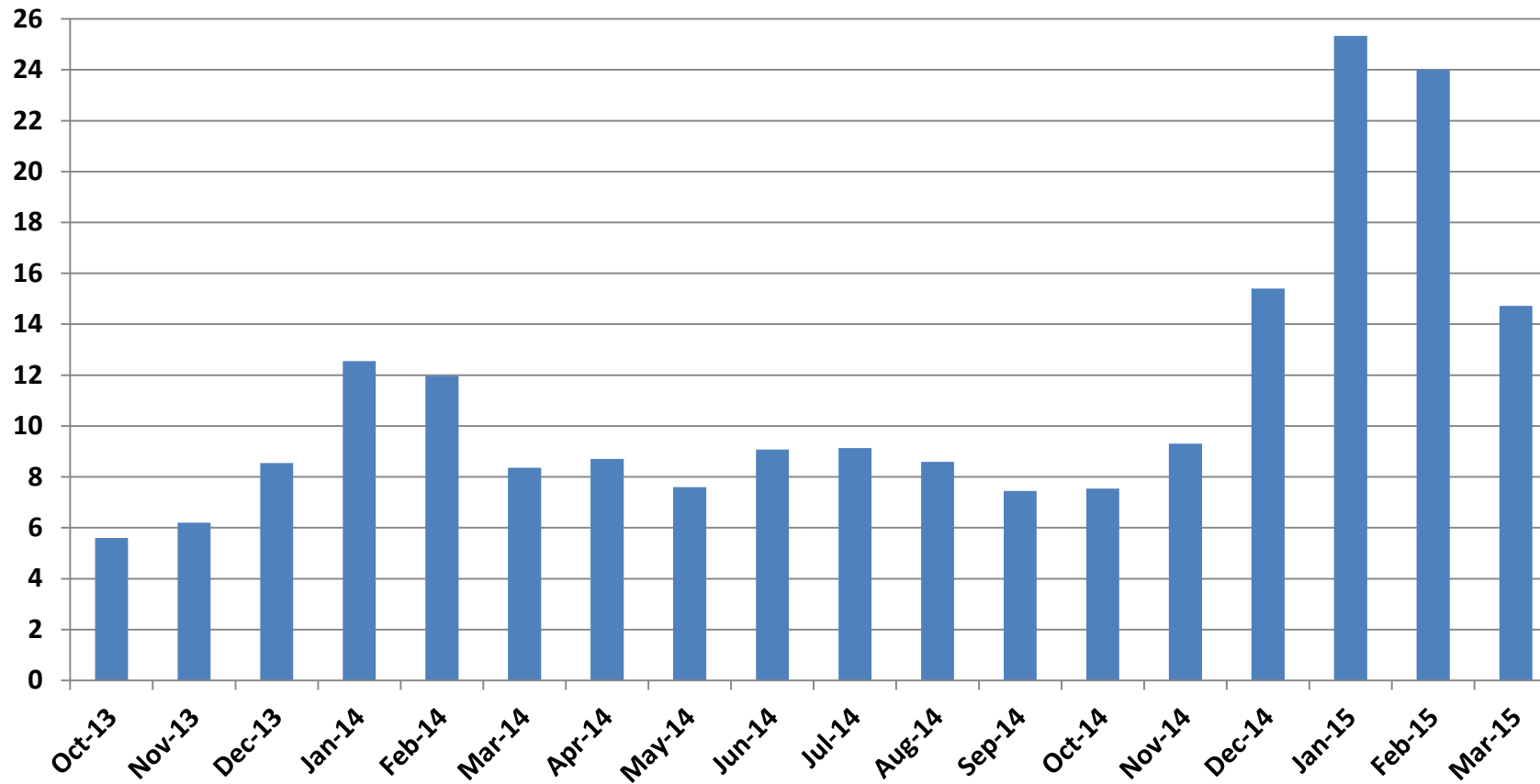
Average Standard Service Rate



An Electric EDC Perspective

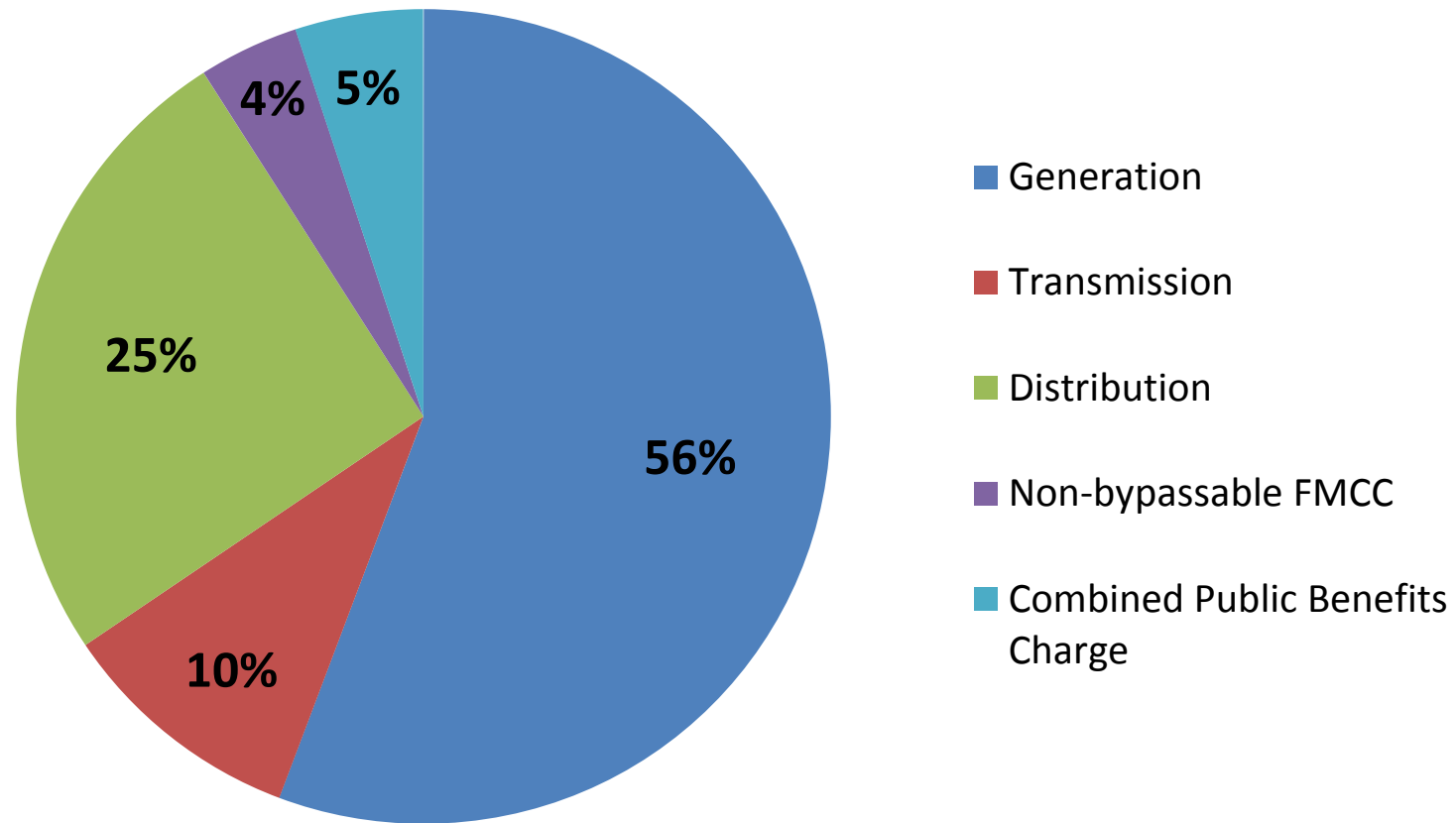
Procurement of Last Resort Service

Last Resort Generation Service Rates
(c/kWh)



UI System Average Electric Rate

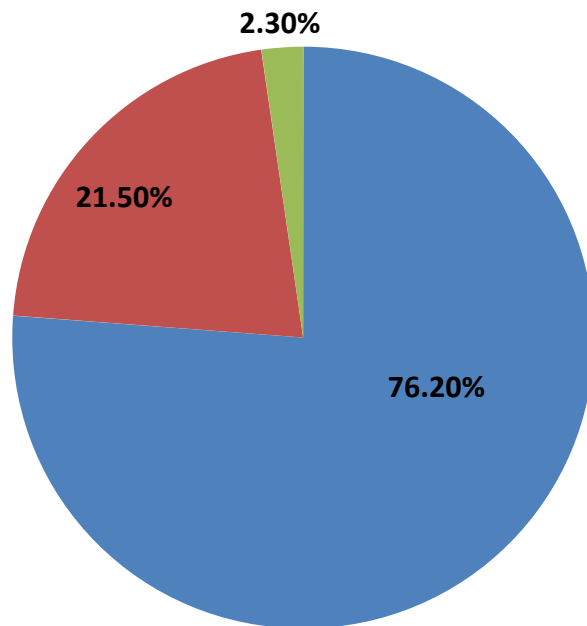
Based on Rates effective 1/1/2015



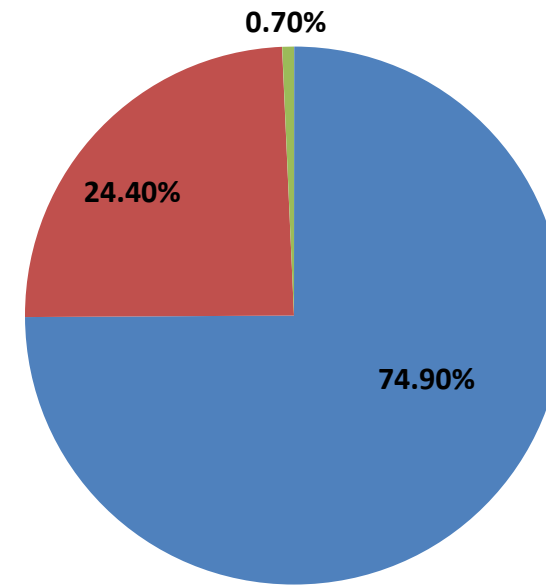
Percentage of Typical C&I Bills that are Volumetric, Demand-based and Fixed

Based on Current UI Rates.....

Typical Commercial Customer



Typical industrial Customer



■ Energy
■ Demand
■ Basic Service Charge

Thank You!

Where are Rates Going and What Can You Do About It?

Connecticut Energy, Environment and
Economic Development Conference

March 11, 2015

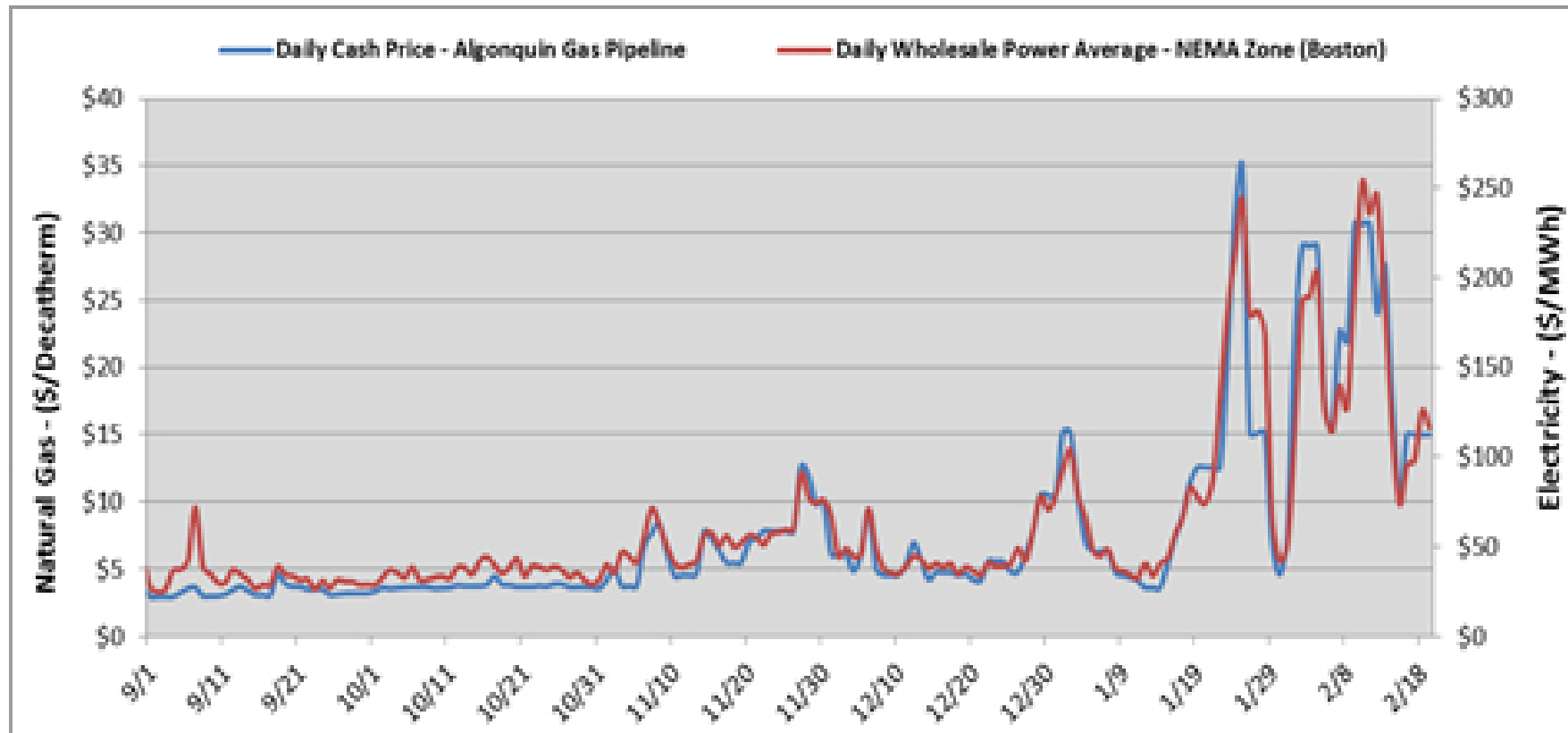


**Direct
Energy®**

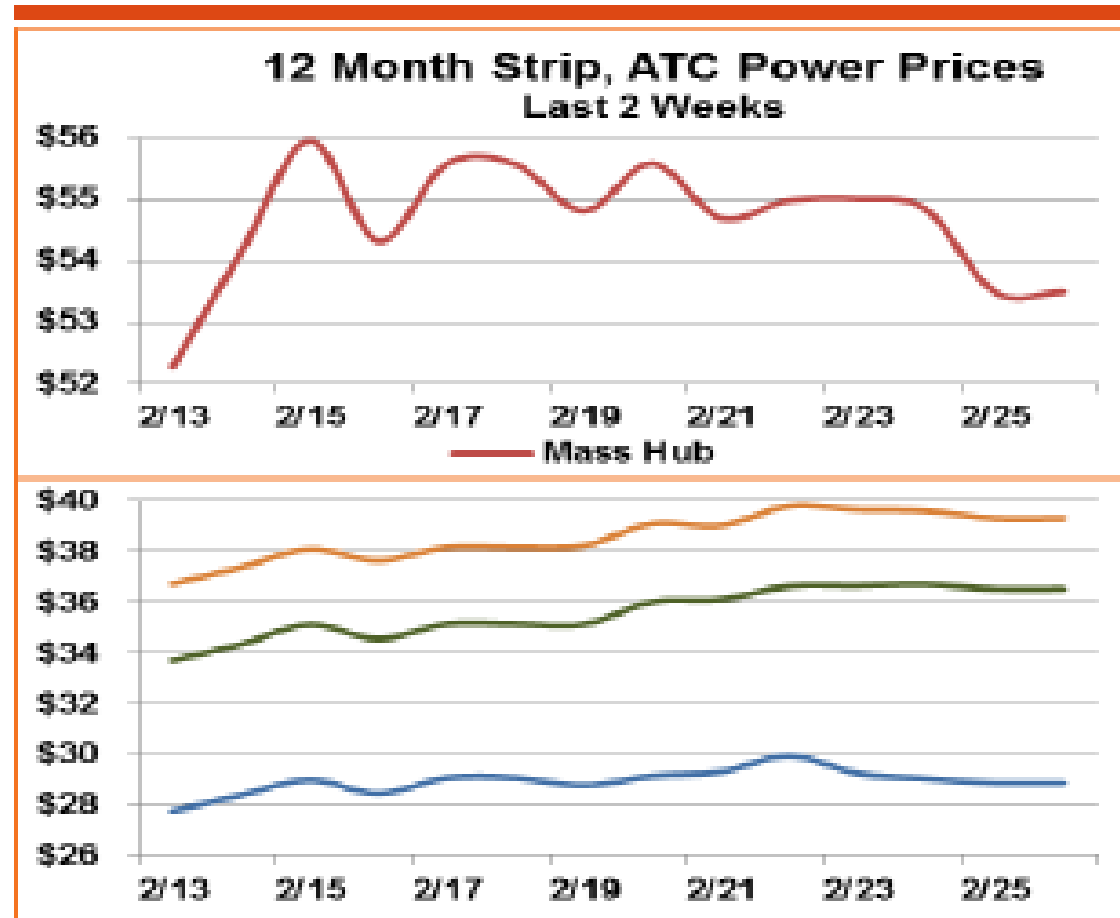
Where are prices going?

- Official disclaimer: I don't know!

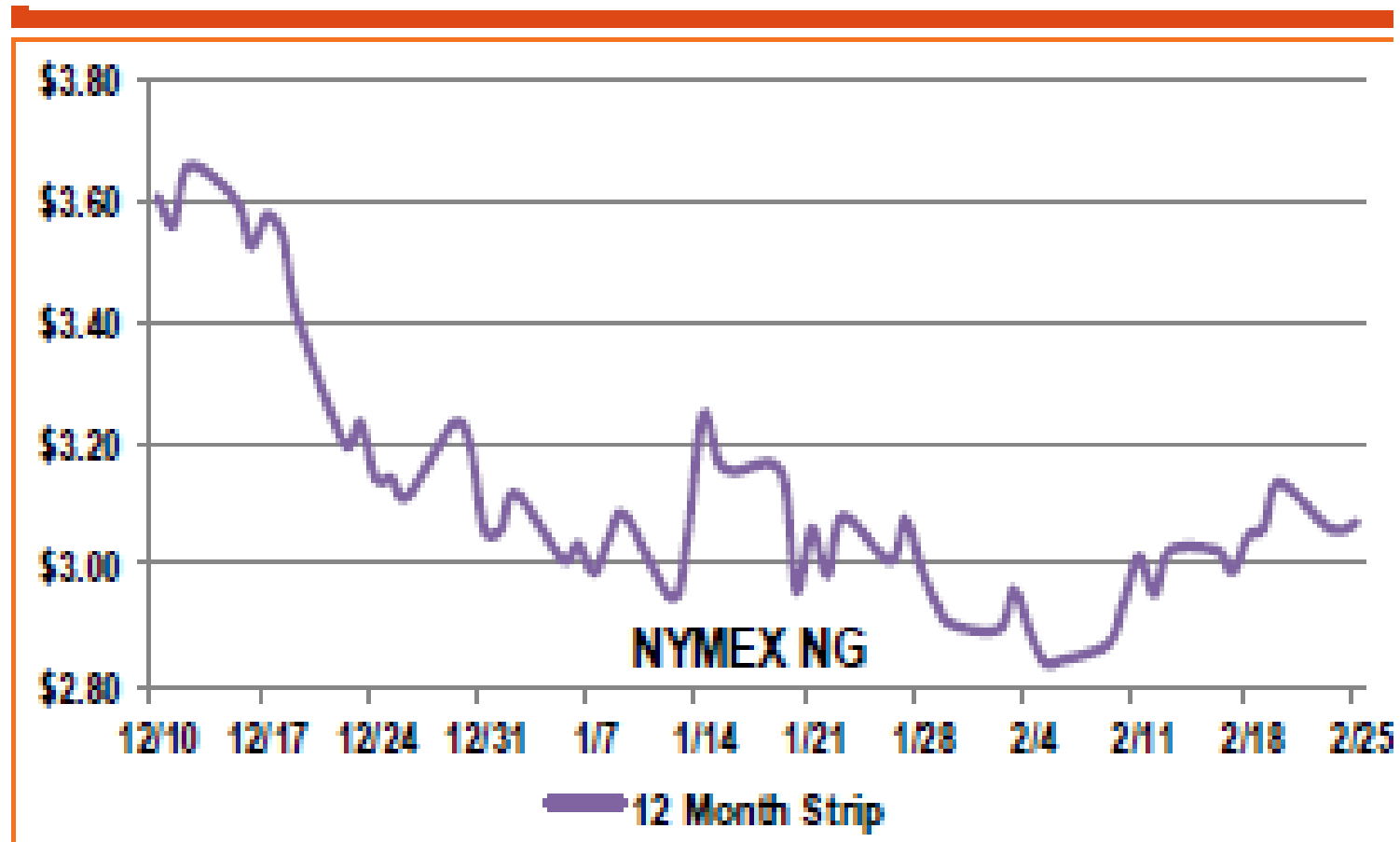
A Few Snapshots of Prices



A Few Snapshots of Prices



A Few Snapshots of Prices



Where are prices going?

- Influencing factors:
 - Gas capacity
 - Treatment of demand response
 - Environmental regulation
 - Other policy decisions
 - Treatment of behind-the-meter resources will affect economics of some options
 - Carryover issues from Patrick administration

What can you do about it?

- Buy some
- Make some
- Save some

Energy Management Options

- Unofficial disclaimer: Shamelessly Direct Energy-branded materials used as examples only.
- Many other excellent companies offered similar services.

Total Energy Management

Managing Both Sides of the Equation

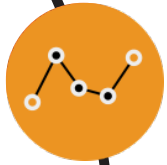


$$\begin{matrix} \downarrow \uparrow \\ \text{Supply :} \\ \text{Price (\$)} \end{matrix} \times \begin{matrix} \downarrow \uparrow \\ \text{Demand:} \\ \text{Usage (MWs)} \end{matrix} = \begin{matrix} \downarrow \uparrow \\ \text{Total Cost} \\ \text{(\$/MWh)} \end{matrix}$$

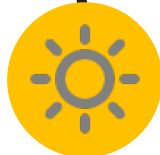
Total Energy Management Propositions



Advisory Services: Best-in-class risk management energy products, sold across all markets, that tailor a customer's procurement strategy to their risk & cost preferences – **15 TWh under contract in 2013 with a customer retention of 96%**



Demand Response: Offering customers the ability to participate in demand side markets & generate returns for curtailing load during peak times – **356 MW of capacity under contract in 2013**



Solar: Leveraging a tax & capital efficient investment with an industry-leading partner, to unlock affordable renewable energy opportunities – **Invested \$8M to date against \$50M plan**



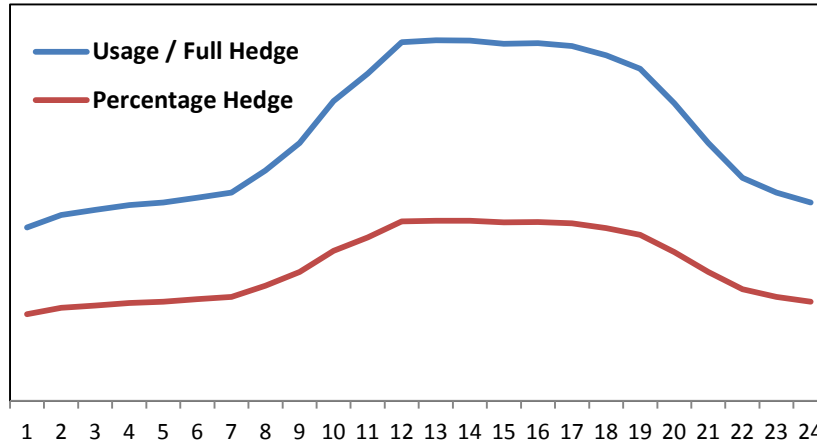
Efficiency: Enabling customers to become smarter, more efficient users of energy through building audits, retrofit engineering, & project management – **Reduced customer usage on average by 6% with over \$1M in annual savings**



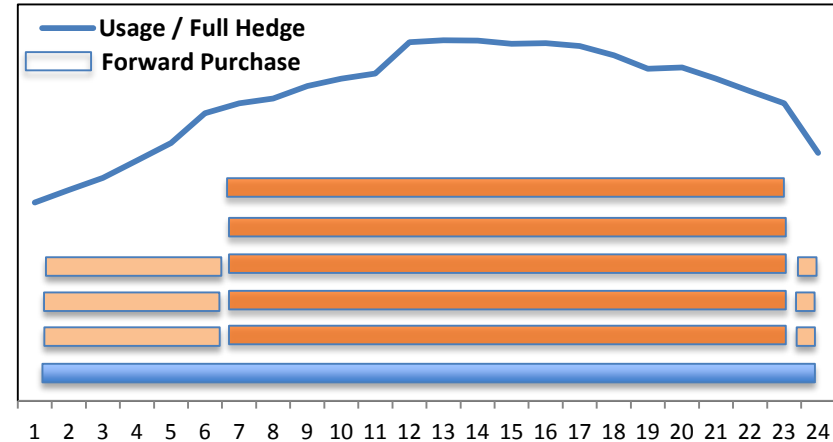
Gas Solutions: Creating market leading fuel solutions in oil conversions, & CNG services, to accelerate the benefits of natural gas to customers – **Generated 5 BCF of gas demand via conversions, reduced emissions from oil, & saved customers \$14.5M annually**

Direct Energy's Managed Products

Load Following Block and Index



Block & Index



Product Comparisons

- Advisory Services & Customized Reporting
- Layering Capability
- Index Market Access (optional)
- Ability to create a fully-fixed energy price
- Limited bandwidth risk
- Fixed price premiums

- Advisory Services & Customized Reporting
- Layering Capability
- Index Market Access (always)
- Transparent access to wholesale market
- No shaping/hedging premium
- Customer owns bandwidth risk

Both products offer flexibility in retail adder configurations

Panoramic Power by Direct Energy

- A sub-metering solution
- Hundreds of sensors can be installed in a few hours with no disturbance of daily operations.

1 Snap



- Easy install
- Wireless
- No disruption
- No maintenance
- Unlimited scale

2 Connect



- Plug & Play
- Cellular or WiFi

3 Set Up



- Role definition
- Executive reports and alerts
- Set goals
- Measure benchmarks

4 Start Saving

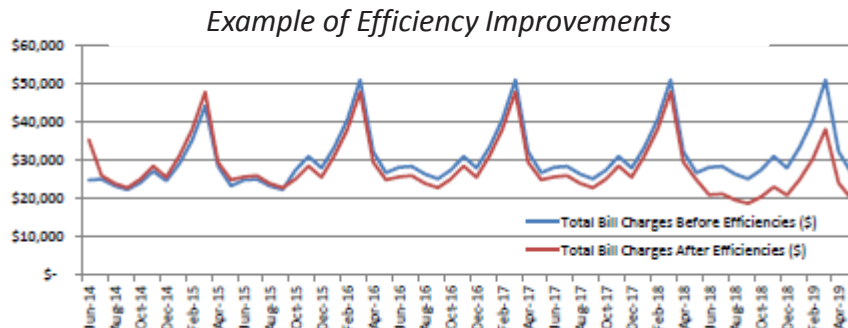


- Scheduled reports
- Real time alerts
- Online analytics
- Manage chain-wide

Ongoing customer engagement

On-Bill Financing for Energy Efficiency

- **On-bill financing with Direct Energy for energy efficiency projects can reduce your overall energy spend**
 - Can be combined with other DE product offerings, Demand Response
 - Common projects include lighting and HVAC retrofits
- **Direct Energy handles your efficiency projects from start to end**
 - Detailed analysis of your energy needs and efficiency opportunities
 - Project and contractor management including installation of improvements
 - Consolidate efficiency project and energy charges into one invoice
- **Energy efficiency projects may be eligible for rebates, potentially lowering your overall costs**



Additional opportunities and products may exist to meet your specific needs. Please inquire.



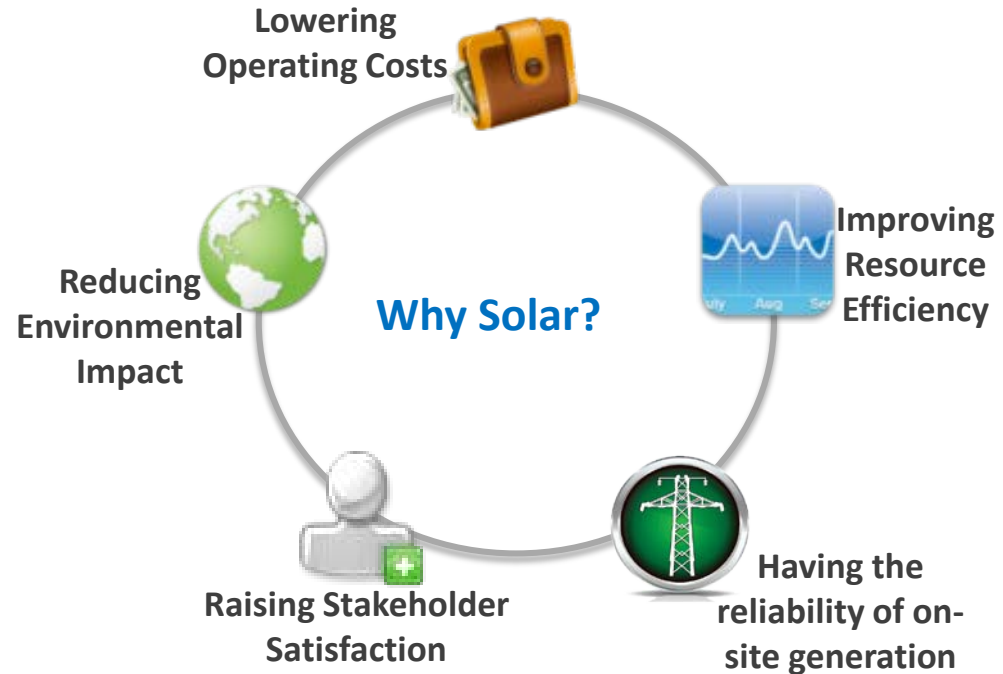
DEB and SolarCity

Tax equity partnership worth \$125 million

- DE contributes \$50 million (minority owner)
- SolarCity contributes \$75 million (majority owner)
- Partnership finances, constructs and owns PV systems

No upfront costs via
long-term PPA
Or cash option

Onsite and remote
alternatives



Thank you for your attention!

***Where are Rates Going
and What Can You Do
About It?***

**Energy Conservation &
Renewable Energy**

Areas of Discussion

- Economic Benefits of Conservation and Renewable Energy
- Opportunity Cost of Delayed Action
- Review of Available Programs and Vehicles
 - Utility Programs
 - C-PACE
 - Lead-by-Example
 - ZREC / LREC

Why Energy Conservation?

- In any utility rate climate, which is the cheapest kW or Therm you can buy?
- The one you don't use!
- Lower usage and overall cost
- Improve Operations and Performance of Asset
- Upgrade Facility and Add Asset Value
- Secure Long-Term Price Stability

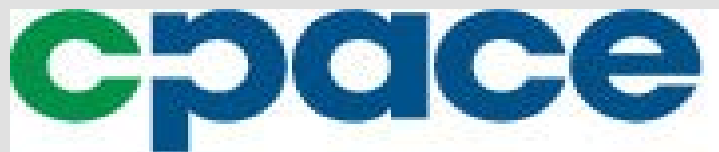
Opportunity Cost

Parameter	Value	Note
Size of Facility	50,000 sf	General C&I
Annual Energy Cost	\$100,000	\$2/sf
Annual Savings Opportunity	\$25,000	20%-40% Reduction
Total Capital Benefit Over Term	\$500,000	20 Year Term



Leverage Utility Programs

- Programs
 - SBEA (Small B)
 - PRIME
 - RCx – Retro-Commissioning
 - Multi-Family
- Financing Partner
 - On-Bill Programs
 - Low to No Cost of Capital



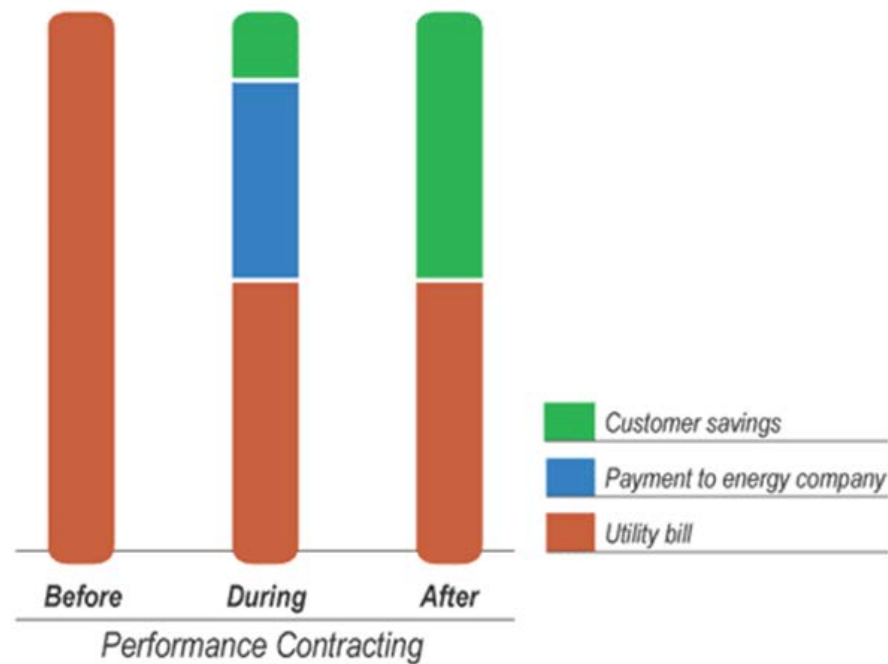
- **Commercial Property Assessed Clean Energy**
- **Drive Improvements to Facility and Bottom Line**

- ECM 1 - Premium Efficiency Lighting System Upgrades & Lighting Controls
- ECM 2 - Energy Management Control System
- ECM 3 - Building Envelope Improvements
- ECM 4 - Water Conservation
- ECM 5 - Kitchen Hood Controls
- ECM 6 - Replace Electric Dishwasher Booster with Gas Unit
- ECM 7 - Solar Heating System for Pool
- ECM 8 - Pool Cover
- ECM 9 - Chlorine Generator for Pool
- ECM 10 - Steam to Hot Water Heating Conversion
- ECM 11 - PV Solar Array
- ECM 12 - Steam Trap Replacement & Thermostatic Radiator Valves (TRV)



Lead-By-Example

- State Performance Contracting Program
 - State Agencies
 - Municipals



Lead
by Example

Renewable Energy Deployment

- ZREC / LREC Programs
 - Variety of Technology Specific Solutions
 - Integrate with Energy Efficiency
 - Secure Long-Term Price Stability



Jim Daylor
Senior Account Executive
508.598.3035
jdaylor@ameresco.com
www.ameresco.com

Thank You!