Commodities Energy Market Update
IL Community College CFO Conference

September 27, 2011
Market Overview

1. Supply & Demand Fundamentals
2. Seasonal Buying Opportunities
4. Bearish & Bullish Indictors
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**Background: Map of Energy Assets**

- Large Coal and Nuclear fleet (95% of total electric output)
- Key transportation hub for Midwest gas
- Largest Residential heating market in US
- Ameren territory in southern part of state
- ComEd in northern IL

Source: NRC
NG Leading Future Generation Growth

- 162 new power generators equivalent of 11,255MW added in 36 states
- In 2011 natural gas added 5,519MW of new capacity, apx ½ of total build
- NG makes up 75% of new builds in top two states

**Customer Takeaway:** Natural gas is leading the way for new power plant builds in 2011 and growth trend is expected to continue as electric demand recovers

Source: EIA
Supply Growth Continues: What is supporting gas?

- NG rigs are an indicator of future NG supply and currently at 6 month high
- Natural Gas Liquids contain other resources like Propane, Butane and Ethane which have increased more in line with Crude Oil
- As a result producers drill at lower gas prices to extract other resources

Customer Takeaway: The higher returns offered via NGL and investment by international majors in U.S. shale will likely continue support rig counts levels into 2012

Source: Baker Hughes & EIA

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Nuclear Outages: Quieter Fall than Spring

- Fall and spring are ideal times for **base load power plants** to shut down for routine maintenance
- As a result capacity increases for more expensive intermediate and peak load power plants
- Because of the high level of Nuc outages this spring, shuts downs this fall are forecast to be lower than the past several years

**Customer Takeaway:** Lower nuclear outages imply less gas fired generation demand during shoulder month period

Source: Reuters
State of the Economy: Will commodity demand decline?

**Economic Momentum**
- Inflation data currently soft
- Industrial production still in the positive at 0.2% growth
- Existing Home Sales increase 7.7%

**Economic Headwinds**
- Zero jobs created in month of Aug
- Real Q2 GDP +1%, a negative rev from the previous est. of 1.3%
- Fed Res. “significant downside risk”
- EU & US sovereign debt leading to lack of confidence in global economy
- Excess housing supply


**Customer Takeaway:** Fragile recovery still in place as leading indicators continue to show market softness

NOTE: 92% Correlation b/t U.S. Total GDP & U.S. Total Electric Demand
Weather Drives Demand

- Record setting heat in summer of 2011 resulting in all major grids either set new demand records or had 2nd all time highs
- High electric demand levels can occur during soft economic periods and prices can still spike
- Initial winter outlook shows cold start to heating season

Source: NOAA, Earthsat
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Seasonality and Price Movement of Natural Gas

**Customer Takeaway:** Market settles are typically lower in Spring and Fall compared to Winter and Summer due to seasonal drivers.
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12-Month Nat Gas Strip Continues To Test Y-T-D Lows

Strip currently 15% off Summer high

Note: $4.20 / mmBtu continues to be the main level of support to break-through

Customer Takeaway: Lower shoulder-month demand amid high production and calm tropics continue to put downward pressure on the 12-month strip

Source: Reuters
1. TransCanadian pipeline rates have increased
2. Canadian gas supplies West to East have declined
3. Result less Canadian imports → supportive of price

Customer Takeaway: Daily cash gas has averaged $0.13 over the past year which is above implied forward basis for 2012 and 2013

Winter spike $0.65/MMBtu
Customer Takeaway: 2011 Y-t-D index prices have risen 30% since market lows in 2009 and are approaching the 5 yr average.
Customer Takeaway: Forward view of On-Peak prices indicates upward pressure
Pricing Impacts

What are these pressures?

• Inflation and economic growth play a part

• Another driver is EPA Proposed Regulations:
  • Cooling Water Intake Structures (CWIS) – section 316(b) of the Clean Water Act (CWA)
  • Coal Combustion Residuals (CCR)
  • Cross State Air Pollution Rule (CSAPR) formerly known as Clean Air Transport Rule (CATR)
  • Mercury and Air Toxics Standards (MATS) formerly known as EGU Maximum Achievable Control Technology (MACT)
Overview of EPA Impacts

- Roughly 13 GW of Coal Capacity Identified as at-risk or as likely to retire depending on the impact.
  - Capital Investment of $31.6 to $33.0 Billion will be required to retrofit/replace units
  - Energy Prices could increase by $1/MWh to as high as $5/MWh

- Uncertainties could drive higher numbers of at risk units
  - Compliance Costs
  - Rule Finalization
  - Carbon
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## Market Impact on Customer

### Bears
- Shoulder-month load typically low
- Hurricanes staying out of Gulf
- Continued strength in natural gas production
- NG Rig counts high
- NG storage at adequate levels
- Downward trending economic indices/ European sovereign debt issues

### Bulls
- Cold start to winter
- Risk of hurricanes entering Gulf (majority of US refineries in Gulf)
- EPA rules curbing emissions*
- Early coal generation retirements
- Price support for emissions credits
- Outage season
- Coal prices remaining elevated

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*Source: CNE*
Questions:
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