# Argus US Electricity

*Incorporating the Energy Market Report*

www.argusmedia.com

Power Market Prices and Analysis Issue 11-200 17 October 2011

## Day-ahead peak prices

*Trade date 17-Oct-11*

| | $/MWh | Price* | Change | Low | High | MW | Trades |
|---|---|---|---|---|---|---|---|
| East | NY G | 49.25 | 2.25 | 48.75 | 49.75 | - | - |
| | PJM W | 42.00 | -0.25 | 41.50 | 42.50 | - | - |
| | NE Pool | 46.00 | -5.00 | 45.50 | 46.50 | - | - |
| ERCOT | Houston | 36.25 | -6.00 | 35.75 | 36.75 | - | - |
| | North | 30.67 | -7.00 | 30.50 | 31.00 | 225 | 4 |
| | South | 35.75 | -2.75 | 35.25 | 36.25 | - | - |
| | West | 18.00 | -11.00 | 17.50 | 18.50 | - | - |
| Midwest | Cinergy | 36.75 | 1.75 | 36.25 | 37.25 | - | - |
| | N. Ill. | 35.00 | 5.00 | 34.50 | 35.50 | - | - |
| | PJM AD | 39.50 | 2.50 | 39.00 | 40.00 | - | - |
| Southeast | Entergy | 33.25 | -1.00 | 32.75 | 33.75 | - | - |
| | Southern | 35.00 | 0.00 | 34.50 | 35.50 | - | - |
| West | COB | 29.46 | 2.15 | 29.00 | 30.00 | 325 | 10 |
| | Four Corners | 39.75 | 5.25 | 39.25 | 40.25 | - | - |
| | Mead | 38.75 | 3.75 | 38.25 | 39.25 | - | - |
| | Mid-C | 27.42 | 1.50 | 27.00 | 28.75 | 2,725 | 101 |
| | Mona | 35.00 | 6.00 | 34.50 | 35.50 | - | - |
| | NP 15 | 38.00 | 5.00 | 37.50 | 38.50 | - | - |
| | Palo Verde | 39.18 | 3.50 | 37.50 | 41.00 | 600 | 24 |
| | SP 15 | 39.00 | 3.50 | 38.50 | 39.50 | - | - |

## Day-ahead off-peak prices

*Trade date 17-Oct-11*

| | $/MWh | Price* | Change | Low | High | Volume | Trades |
|---|---|---|---|---|---|---|---|
| East | NY G | 28.25 | -4.75 | 27.75 | 28.75 | - | - |
| | PJM W | 31.50 | 0.50 | 31.00 | 32.00 | - | - |
| | NE Pool | 33.50 | -0.50 | 33.00 | 34.00 | - | - |
| ERCOT | Houston | 20.75 | -1.50 | 20.25 | 21.25 | - | - |
| | North | 21.45 | 0.01 | 21.25 | 21.55 | 200 | 3 |
| | South | 21.00 | -1.00 | 20.50 | 21.50 | - | - |
| | West | 11.75 | -3.25 | 11.25 | 12.25 | - | - |
| Midwest | Cinergy | 28.00 | 3.25 | 27.50 | 28.50 | - | - |
| | N. Ill. | 21.25 | 10.50 | 20.75 | 21.75 | - | - |
| | PJM AD | 31.00 | 3.00 | 30.50 | 31.50 | - | - |
| Southeast | Entergy | 25.75 | 0.75 | 25.25 | 26.25 | - | - |
| | Southern | 26.25 | 0.25 | 25.75 | 26.75 | - | - |
| West | COB | 28.31 | 2.95 | 27.70 | 29.00 | 175 | 6 |
| | Four Corners | 22.75 | -1.50 | 22.25 | 23.25 | - | - |
| | Mead | 23.25 | -2.75 | 22.75 | 23.75 | - | - |
| | Mid-C | 26.41 | 2.02 | 25.50 | 28.50 | 1,650 | 66 |
| | Mona | 19.25 | -4.75 | 18.75 | 19.75 | - | - |
| | NP 15 | 24.25 | -3.00 | 23.75 | 24.75 | - | - |
| | Palo Verde | 24.00 | -2.00 | 23.50 | 24.50 | - | - |
| | SP 15 | 24.00 | -3.00 | 23.50 | 24.50 | - | - |

* When MW and trade number are blank, the low/high/price represent bid/ask/assessment. When MW and trade number have values, low/high/price represent low trade, high trade and volume-weighted average

## News

### East

New York dailies decreased today on slightly lighter loads forecast for tomorrow. **New York Zone G's peak day-ahead declined 1.8pc to $49.23/MWh.** New York City's peak daily went down 2pc to $50.80.

*Continued on page 2*

### Midwest

**Weekend prices in the Southwest Power Pool (SPP) were more volatile than during the 8-9 October weekend,** creating locational price differentials within the footprint. Peak and off-peak averages fell sharply from the previous weekend.

*Continued on page 5*

### West

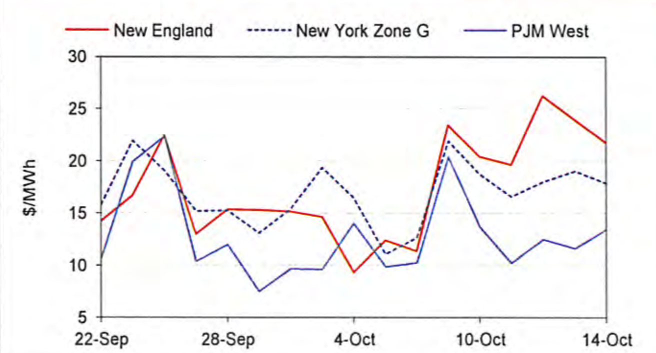
**Peak prices popped for tomorrow on divergent weather patterns.** SP 15 approached $40 and was up 13pc. NP 15 lagged SP 15 by $1 but gained 15pc. Mid-Columbia gained 6pc on the day to $27.42/MWh, only 4pc more than off-peak.

*Continued on page 9*

### ERCOT

ERCOT North next-day peak dropped 19pc to $30.67/MWh today in the *Argus* index on a drastically reduced demand forecast for tomorrow, off-peak was unchanged at $21.44.

## Northeast peak gas spark spreads




## Inside

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• Gas prices slip despite cooler forecasts 12

Exhibit SEL-04



## East Markets

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• Average daily peak load in New England on 18-23 October is 15,673MW, 1pc lower than the projected peak for 11-16 October, according to the grid operator's forecast. **Outages are forecast to total 63,154MW, 9pc lower than forecasted outages for the prior period.**

• **Heating demand in eastern states this week is forecast to be well below normal for this time of year.** New England is projected to have 34pc fewer heating degree days (HDDs) than normal for the week ending 22 October, according to the National Weather Service's Climate Prediction Center. The mid-Atlantic is forecast to have 27pc fewer HDDs than usual. New York is projected to have 26pc fewer HDDs.

• Operators returned the 498MW Ginna reactor in New York State to full output today after the nuclear plant automatically tripped off line on 12 October. **The station was running at 49pc of power yesterday,** *Argus* data show.

• Exelon continued to bump up capacity at its 1,112MW Peach Bottom Unit 3 reactor in Pennsylvania following the unit's maintenance and refueling outage. **The unit was operating at 68pc of capacity today, up 37 percentage points from yesterday.**

• **Southeastern nuclear capacity jumped 10.72 percentage points over the past week to 90.53pc** following the restart of several reactors from maintenance outages. Northeastern output increased 2.62 percentage points over the same period to 80.35pc

• **PJM West's peak load will increase 9pc 17-20 October, likely putting upward pressure on dailies this week.**

### Market-implied heat rates and spark spreads

| | | Heat rate | Spark spreads in 000 Btu/kWh at heating efficiencies of: | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | (Btu/kWh) | 7 | 8 | 10 | 12 | 15 | 18 |
| Peak | NYISO G | 12,116 | 20.80 | 16.73 | 8.60 | 0.47 | -11.73 | -23.92 |
| | PJM West | 10,714 | 14.56 | 10.64 | 2.80 | -5.04 | -16.80 | -28.56 |
| | NE Pool | 11,690 | 18.46 | 14.52 | 6.65 | -1.22 | -13.03 | -24.83 |
| | Southern | 9,162 | 8.26 | 4.44 | -3.20 | -10.84 | -22.30 | -33.76 |
| Off-peak | NYISO G | 6,950 | -0.21 | -4.27 | -12.40 | -20.53 | -32.73 | -44.92 |
| | PJM West | 8,036 | 4.06 | 0.14 | -7.70 | -15.54 | -27.30 | -39.06 |
| | NE Pool | 8,513 | 5.95 | 2.02 | -5.85 | -13.72 | -25.53 | -37.33 |
| | Southern | 6,872 | -0.49 | -4.31 | -11.95 | -19.59 | -31.05 | -42.51 |

### Forward markets $/MWh

| | PJM West | | | | NEPOOL | | | New York A | | | New York G | | | New York J | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Peak | | | Off-Peak | Peak | | Off-Peak | Peak | | Off-Peak | Peak | | Off-Peak | Peak | | Off-Peak |
| | Price | Gas Spark | Coal Spark | Price | Price | Gas Spark | Price | Price | Gas Spark | Price | Price | Gas Spark | Price | Price | Gas Spark | Price |
| Nov-11 | 44.00 | 16.42 | 3.70 | 34.70 | 48.35 | 20.56 | 38.50 | 38.95 | 11.51 | 32.90 | 50.50 | 20.05 | 37.95 | 55.05 | 25.93 | 39.55 |
| Dec-11 | 52.25 | 15.43 | 12.05 | 41.55 | 64.85 | 24.74 | 52.25 | 41.85 | 12.10 | 36.75 | 65.40 | 25.08 | 50.55 | 72.10 | 29.12 | 53.85 |
| Jan-12 | 56.25 | 13.97 | 16.55 | 46.15 | 75.95 | 19.04 | 58.25 | 46.80 | 14.53 | 38.55 | 75.50 | 26.85 | 56.50 | 85.15 | 30.41 | 58.60 |
| Feb-12 | 53.25 | 13.56 | 14.35 | 45.70 | 67.75 | 13.57 | 56.35 | 45.00 | 13.29 | 38.65 | 67.40 | 20.64 | 56.60 | 76.00 | 24.62 | 58.70 |
| Mar-12 | 48.30 | 17.15 | 9.00 | 38.15 | 50.45 | 10.41 | 39.80 | 40.45 | 9.58 | 34.55 | 54.25 | 17.43 | 40.25 | 61.00 | 24.04 | 42.25 |
| Apr-12 | 47.40 | 18.07 | 8.60 | 35.30 | 45.45 | 12.27 | 35.90 | 39.00 | 9.11 | 33.65 | 48.85 | 17.49 | 39.75 | 54.95 | 23.17 | 41.20 |
| Win-12 | 54.75 | 13.80 | 15.45 | 45.95 | 71.85 | 16.27 | 57.35 | 45.90 | 13.91 | 38.60 | 71.45 | 23.78 | 56.55 | 80.60 | 27.54 | 58.65 |
| Spr-12 | 47.85 | 17.61 | 8.45 | 36.75 | 48.00 | 11.39 | 37.90 | 39.75 | 9.37 | 34.10 | 51.60 | 17.51 | 40.00 | 58.05 | 23.68 | 41.75 |
| Sum-12 | 59.90 | 29.66 | 20.20 | 38.20 | 55.30 | 23.80 | 38.65 | 45.15 | 12.25 | 36.20 | 65.10 | 33.46 | 43.70 | 73.80 | 41.88 | 48.30 |
| Q4-12 | 47.50 | 13.48 | 8.10 | 37.90 | 53.70 | 18.21 | 42.45 | 40.55 | 7.44 | 34.90 | 54.85 | 17.89 | 42.45 | 60.25 | 23.15 | 43.90 |
| Win-13 | 56.85 | 14.43 | 16.75 | 47.80 | 73.40 | 15.72 | 58.90 | 48.05 | 11.23 | 40.35 | 73.85 | 23.73 | 56.70 | 82.70 | 28.45 | 59.75 |
| Spr-13 | 50.15 | 16.06 | 9.75 | 39.05 | 50.80 | 9.43 | 39.75 | 41.40 | 6.96 | 35.65 | 55.30 | 16.59 | 41.70 | 61.70 | 22.50 | 44.00 |
| Sum-13 | 62.75 | 29.85 | 21.05 | 41.70 | 58.40 | 23.61 | 42.20 | 47.90 | 11.57 | 37.30 | 70.95 | 35.88 | 46.50 | 80.75 | 45.54 | 52.45 |
| Q4-13 | 50.50 | 14.24 | 10.10 | 39.50 | 55.85 | 17.56 | 43.10 | 42.75 | 6.42 | 35.60 | 58.40 | 18.50 | 42.50 | 63.75 | 23.78 | 45.30 |
| Cal-12 | 51.45 | 18.55 | 11.85 | 38.35 | 54.30 | 17.20 | 41.75 | 41.80 | 9.88 | 35.20 | 58.30 | 22.39 | 43.85 | 65.25 | 28.29 | 45.95 |
| Cal-13 | 54.05 | 18.56 | 13.45 | 40.30 | 56.65 | 16.33 | 43.50 | 44.00 | 8.30 | 36.30 | 62.15 | 22.88 | 44.85 | 69.25 | 29.14 | 48.05 |
| Cal-14 | 57.05 | 20.37 | 15.35 | 43.40 | 58.50 | 16.78 | 44.90 | 46.60 | 8.66 | 38.50 | 64.45 | 23.71 | 47.05 | 71.30 | 29.79 | 49.70 |
| Cal-15 | 59.55 | 19.65 | 16.75 | 45.80 | 60.25 | 14.89 | 45.75 | 48.80 | 8.97 | 39.95 | 67.25 | 23.29 | 49.10 | 74.75 | 28.83 | 51.80 |

Exhibit SEL-04



# East Markets

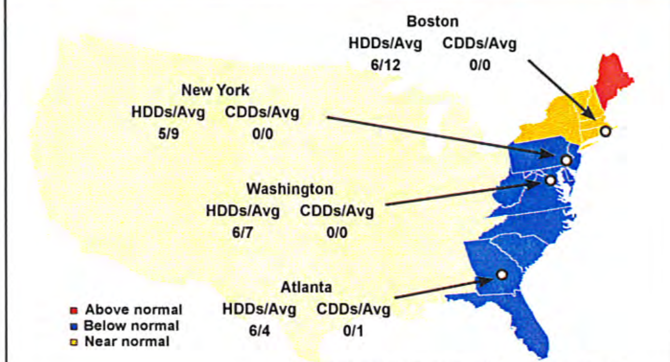
## Spot natural gas in $/mmBtu

| Location | Average | Low | High |
|---|---|---|---|
| Col Gas Appalachia | 3.795 | 3.700 | 3.850 |
| Dominion South Point | 3.800 | 3.752 | 3.830 |
| Florida Gas, zone 3 | 3.695 | 3.605 | 3.720 |
| Texas Eastern zone M3 | 3.920 | 3.770 | 3.970 |
| Transco zone 4 | 3.690 | 3.630 | 3.755 |
| Transco zone 6 NY | 3.955 | 3.870 | 4.060 |

## Forward natural gas in $/mmBtu

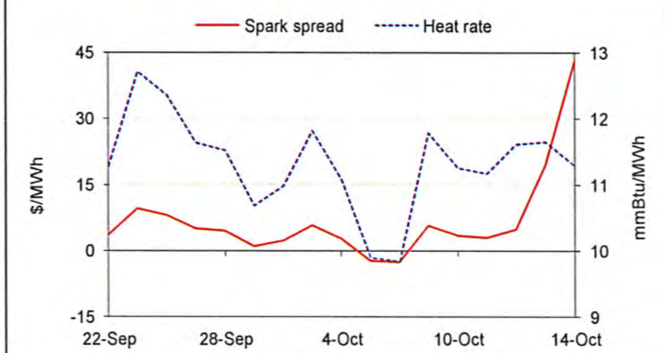
| Location | November | Nov 2011-Dec 2011 | Nov 2011-Mar 2012 |
|---|---|---|---|
| Columbia Gas App. | 3.718 | 3.906 | 4.044 |
| Dominion South Pt. | 3.773 | 4.001 | 4.044 |
| Florida Gas Zone 3 | 3.748 | — | 4.062 |
| Texas Eastern M-3 | 4.028 | 4.901 | 5.429 |
| Transco Zone 4 | 3.693 | — | 4.027 |
| Transco Zone 6 NY | 4.228 | 5.836 | 6.759 |

## Degree days outlook vs temperature: 23-Oct

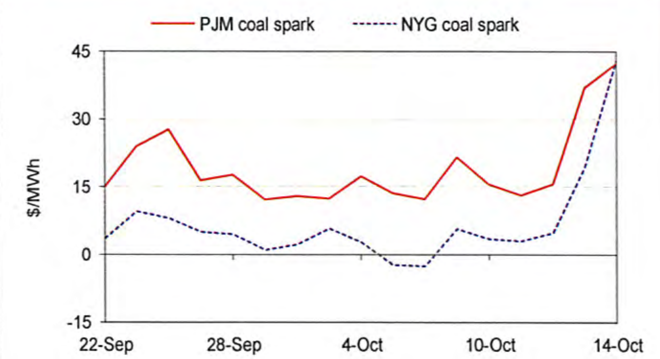



Temperature projections based on NOAA 6-10 day forecast

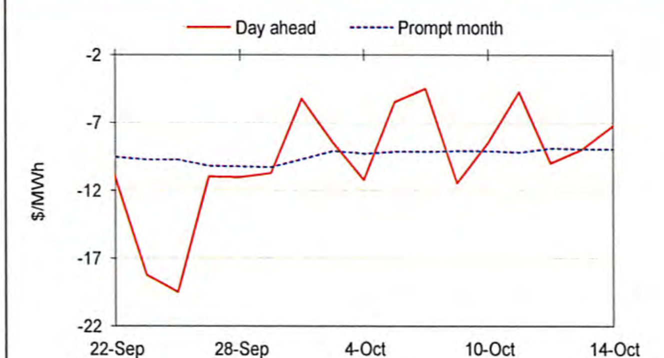
## Carbon-adjusted coal generation: NYG



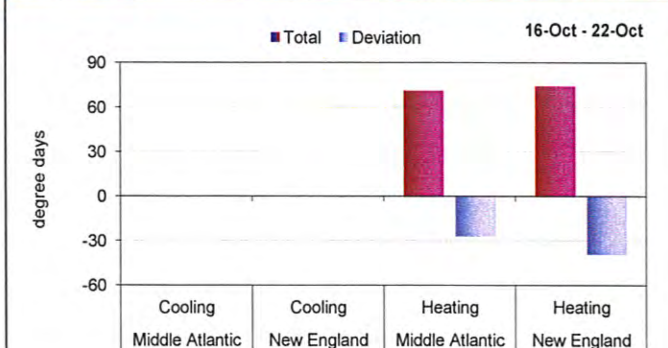

## Carbon-adjusted coal spark spreads



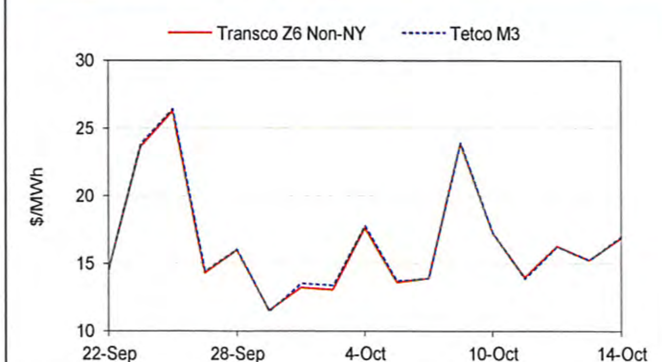

## PJM W vs Cinergy, daily and prompt month spreads




## Degree days

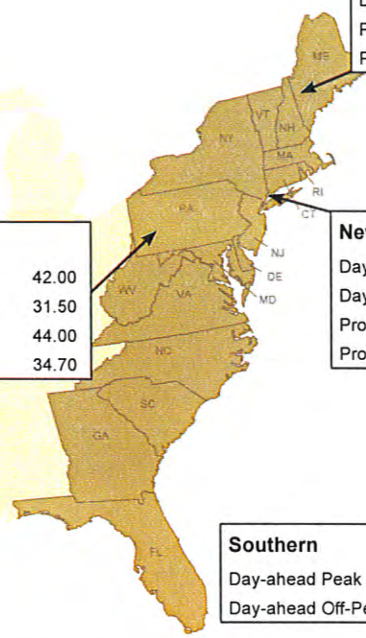



## Implied gas spark spreads



## East Prices at a Glance $/MWh

### Day ahead markets for 17-Oct-11



| New England | |
|---|---|
| Day-ahead Peak | 46.00 |
| Day-ahead Off-Peak | 33.50 |
| Prompt Peak | 48.35 |
| Prompt Off-Peak | 38.50 |

| New York zone G | |
|---|---|
| Day-ahead Peak | 49.25 |
| Day-ahead Off-Peak | 28.25 |
| Prompt Peak | 50.50 |
| Prompt Off-Peak | 37.95 |

| PJM West | |
|---|---|
| Day-ahead Peak | 42.00 |
| Day-ahead Off-Peak | 31.50 |
| Prompt Peak | 44.00 |
| Prompt Off-Peak | 34.70 |

| Southern | |
|---|---|
| Day-ahead Peak | 35.00 |
| Day-ahead Off-Peak | 26.25 |

### Day-ahead minus hourly spread

| *14-Oct-11* | Peak | Off-Peak |
|---|---|---|
| **ISO NE** | | |
| Internal Hub | 2.87 | -0.03 |
| Phase I/II | 2.01 | -0.09 |
| **NY ISO** | | |
| Zone A | 2.57 | 1.41 |
| Zone G | 2.14 | 1.88 |
| Zone J | 5.73 | 2.40 |
| Cross Sound | -1.03 | 1.89 |
| **PJM** | | |
| PJM Western Hub | -0.42 | 1.46 |
| PJM Eastern Hub | -0.35 | 3.00 |
| PJM Dominion Hub | 1.17 | 1.16 |
| PJM New Jersey Hub | 2.24 | 10.00 |

### Hourly price averages

| | Peak | | Off-peak | |
|---|---|---|---|---|
| | 14-Oct-11 | 13-Oct-11 | 14-Oct-11 | 13-Oct-11 |
| **ISO NE** | | | | |
| Internal Hub | 48.72 | 43.45 | 32.56 | 32.56 |
| Phase I/II | 49.51 | 42.89 | 32.29 | 32.30 |
| **NY ISO** | | | | |
| Zone A | 37.72 | 37.69 | 31.00 | 29.66 |
| Zone G | 46.36 | 43.17 | 33.37 | 31.99 |
| Zone J | 47.08 | 43.50 | 33.34 | 31.95 |
| Cross Sound | 49.93 | 52.15 | 32.85 | 31.53 |
| **PJM** | | | | |
| PJM Western Hub | 40.92 | 48.27 | 30.29 | 34.12 |
| PJM Eastern Hub | 42.81 | 53.35 | 28.86 | 33.08 |
| PJM Dominion Hub | 40.21 | 51.70 | 31.00 | 35.00 |
| PJM New Jersey Hub | 40.93 | 57.34 | 21.91 | 32.83 |

### Emissions-adjusted day-ahead power prices

| | $SO_2$ | RGGI | All credits |
|---|---|---|---|
| **Peak** | | | |
| Nepool | 46.28 | 47.91 | 48.19 |
| New York G | 49.33 | 51.16 | 51.23 |
| PJM West | 42.08 | 43.91 | 43.98 |
| **Off-peak** | | | |
| Nepool | 33.78 | 35.41 | 35.69 |
| New York G | 28.33 | 30.16 | 30.23 |
| PJM West | 31.58 | 33.41 | 33.48 |
| **24-hour emissions-adjusted pricing, all credits** | | | |
| Nepool | 42.11 | 43.74 | 44.02 |
| New York G | 42.33 | 44.16 | 44.23 |
| PJM West | 38.58 | 40.41 | 40.48 |

### Day-ahead peak spreads

| | New England | NY G | PJM West | Cinergy | AEP Dayton | Northern Ill | Southern |
|---|---|---|---|---|---|---|---|
| **New England** | — | -3.25 | 4.00 | 9.25 | 6.50 | 11.00 | 11.00 |
| **NY G** | 3.25 | — | 7.25 | 12.50 | 9.75 | 14.25 | 14.25 |
| **PJM West** | -4.00 | -7.25 | — | 5.25 | 2.50 | 7.00 | 7.00 |
| **Cinergy** | -9.25 | -12.50 | -5.25 | — | -2.75 | 1.75 | 1.75 |
| **AEP Dayton** | -6.50 | -9.75 | -2.50 | 2.75 | — | 4.50 | 4.50 |
| **Northern Ill** | -11.00 | -14.25 | -7.00 | -1.75 | -4.50 | — | 0.00 |
| **Southern** | -11.00 | -14.25 | -7.00 | -1.75 | -4.50 | 0.00 | — |

*Sources: ISOs, Argus assessments*

Exhibit SEL-04



## Midwest Markets

*Continued from page 1*

• Peak-hour locational imbalance prices at many generation points in SPP had a much wider range this weekend than last. **Peak averages ranged from $11.63 at Nebraska Public Power District's Cooper plant in the north to $40/MWh at the New Mexico interties.** Last weekend's range was $25.75 to $39.62. Peak fell 18pc week-to-week to about $28; off-peak dropped 33pc to $17.

• Falling temperatures and reduced cooling demand are expected to reduce peak loads this week in Texas. **ERCOT calls for peak demand of 36,564MW tomorrow, a 27pc decrease from today's expected peak demand.** The National Weather Service is calling for a high of 70°F (21.1°C) tomorrow in Dallas following today's high of 90°F.

• **Cooling degree days (CDDs) in Texas are forecast to drop 44pc** over the seven days ending 20 October to about 36 CDDs according to forecaster MDA Federal. The result will be 2pc fewer CDDs than normal.

• Maximum hourly wind output during the light-load hours tomorrow in ERCOT is expected to be lower than during those same hours today. **But mid-day peak-hour wind generation tomorrow is expected to exceed today's.** Maximum hourly output from 10am to 6pm CT tomorrow is forecast to average 68pc more than it did today.

• Average peak demand in ERCOT for the week ending 23 October will be 38,717MW, according to ERCOT's models today. This is 10pc less than the average for the 10-16 October period because high temperatures will probably come into line with historical norms. **Month-to-date peak demand in ERCOT has averaged 43,192MW, 11pc more than during the same period last year.**

### Market-implied heat rates and spark spreads

| | | Heat rate | Spark spreads in 000 Btu/kWh at heating efficiencies of: | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | (Btu/kWh) | 7 | 8 | 10 | 12 | 15 | 18 |
| Peak | Cinergy | 9,709 | 10.26 | 6.47 | -1.10 | -8.67 | -20.03 | -31.38 |
| | N. Ill. | 9,174 | 8.30 | 4.48 | -3.15 | -10.78 | -22.23 | -33.67 |
| | PJM AD | 10,408 | 12.94 | 9.14 | 1.55 | -6.04 | -17.43 | -28.81 |
| | Entergy | 8,974 | 7.31 | 3.61 | -3.80 | -11.21 | -22.33 | -33.44 |
| Off-peak | Cinergy | 7,398 | 1.51 | -2.28 | -9.85 | -17.42 | -28.78 | -40.13 |
| | N. Ill. | 5,570 | -5.45 | -9.27 | -16.90 | -24.53 | -35.98 | -47.42 |
| | PJM AD | 8,169 | 4.44 | 0.64 | -6.95 | -14.54 | -25.93 | -37.31 |
| | Entergy | 6,950 | -0.19 | -3.89 | -11.30 | -18.71 | -29.83 | -40.94 |

### Forward markets $/MWh

| | Cinergy | | | | Northern Illinois | | | | PJM AD | | | | ERCOT North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Peak | | | Off-Peak | Peak | | | Off-Peak | Peak | | | Off-Peak | Peak | | | Off-Peak |
| | Price | Gas Spark | Coal Spark | Price | Price | Gas Spark | Coal Spark | Price | Price | Gas Spark | Coal Spark | Price | Price | Gas Spark | Coal Spark | Price |
| Nov-11 | 35.45 | 8.43 | 5.25 | 26.40 | 34.00 | 6.91 | 12.40 | 22.25 | 38.45 | 11.99 | 6.05 | 31.85 | 31.35 | 6.22 | 7.35 | 24.25 |
| Dec-11 | 40.00 | 11.23 | 9.80 | 28.65 | 39.50 | 10.80 | 17.90 | 26.55 | 43.50 | 14.73 | 11.00 | 34.05 | 34.05 | 7.24 | 9.95 | 27.60 |
| Jan-12 | 43.15 | 13.33 | 11.15 | 32.90 | 43.95 | 14.34 | 20.15 | 33.50 | 47.15 | 17.05 | 16.75 | 37.95 | 37.90 | 10.39 | 14.40 | 31.30 |
| Feb-12 | 41.75 | 12.00 | 10.05 | 32.45 | 42.90 | 13.15 | 19.30 | 33.05 | 46.10 | 16.49 | 16.10 | 37.50 | 38.00 | 10.42 | 13.70 | 31.40 |
| Mar-12 | 38.15 | 8.54 | 4.85 | 30.35 | 37.70 | 8.16 | 13.60 | 26.65 | 42.20 | 12.59 | 10.60 | 35.05 | 34.50 | 6.78 | 9.50 | 26.95 |
| Apr-12 | 37.35 | 7.88 | 5.15 | 27.60 | 37.40 | 8.98 | 13.40 | 24.05 | 41.30 | 11.83 | 10.70 | 31.65 | 34.95 | 7.51 | 10.95 | 26.85 |
| Win-12 | 42.45 | 12.63 | 10.15 | 32.70 | 43.45 | 13.77 | 19.65 | 33.30 | 46.65 | 16.83 | 15.95 | 37.75 | 37.95 | 10.37 | 13.65 | 31.35 |
| Spr-12 | 37.75 | 8.21 | 5.25 | 29.00 | 37.55 | 8.57 | 13.55 | 25.35 | 41.75 | 12.21 | 10.85 | 33.35 | 34.70 | 7.12 | 10.20 | 26.90 |
| Sum-12 | 46.15 | 15.91 | 13.35 | 28.80 | 48.25 | 18.92 | 24.05 | 29.35 | 51.75 | 22.00 | 20.65 | 34.85 | 70.65 | 42.09 | 45.95 | 37.00 |
| Q4-12 | 37.25 | 5.40 | 4.75 | 28.40 | 35.90 | 4.61 | 11.90 | 24.75 | 40.65 | 9.08 | 9.85 | 33.40 | 36.95 | 6.99 | 12.45 | 28.10 |
| Win-13 | 43.80 | 9.29 | 11.00 | 35.55 | 44.45 | 10.43 | 19.75 | 34.45 | 48.10 | 13.38 | 16.60 | 41.05 | 43.55 | 11.21 | 18.25 | 35.10 |
| Spr-13 | 40.40 | 6.87 | 7.60 | 30.85 | 39.05 | 6.29 | 14.25 | 27.90 | 44.45 | 10.78 | 12.65 | 35.80 | 39.20 | 7.56 | 13.80 | 32.05 |
| Sum-13 | 49.45 | 15.92 | 15.45 | 31.70 | 51.10 | 18.48 | 25.60 | 30.50 | 55.50 | 22.32 | 22.60 | 37.00 | 77.15 | 45.30 | 51.25 | 39.20 |
| Q4-13 | 39.50 | 4.57 | 5.60 | 29.85 | 38.55 | 4.11 | 13.75 | 26.10 | 43.60 | 8.81 | 11.80 | 34.75 | 40.45 | 7.27 | 15.05 | 31.15 |
| Cal-12 | 40.05 | 9.67 | 7.35 | 28.80 | 40.15 | 10.40 | 16.05 | 26.90 | 44.30 | 14.20 | 13.20 | 33.85 | 43.95 | 15.46 | 19.35 | 30.25 |
| Cal-13 | 42.60 | 8.58 | 9.00 | 31.00 | 42.25 | 9.00 | 17.25 | 28.35 | 47.20 | 13.32 | 15.20 | 36.00 | 48.70 | 16.57 | 23.20 | 33.95 |
| Cal-14 | 46.35 | 10.30 | 11.75 | 34.25 | 44.70 | 8.79 | 18.80 | 30.80 | 50.40 | 14.28 | 17.40 | 39.75 | 52.00 | 17.77 | 25.40 | 36.45 |
| Cal-15 | 49.25 | 11.59 | 13.55 | 36.95 | 46.90 | 10.78 | 20.00 | 33.05 | 53.20 | 15.33 | 19.10 | 42.40 | 55.10 | 19.12 | 27.30 | 38.05 |

# Midwest Markets

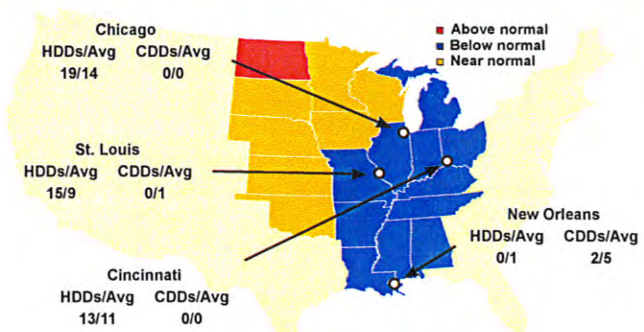
## Spot natural gas in $/mmBtu

| Location | Average | Low | High |
|---|---|---|---|
| CenterPoint | 3.530 | 3.465 | 3.600 |
| Chicago Citygates | 3.815 | 3.770 | 3.890 |
| Mich Con Citygates | 3.835 | 3.792 | 3.880 |
| NGPL Texok Zone | 3.650 | 3.590 | 3.690 |
| NNG Ventura | 3.780 | 3.770 | 3.800 |
| Panhandle OK Mainline | 3.525 | 3.470 | 3.545 |

## Forward natural gas in $/mmBtu

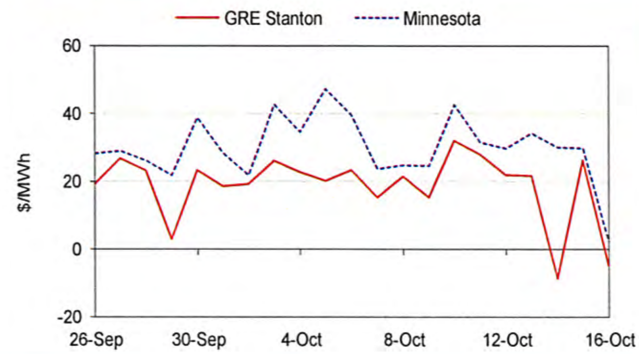
| Location | November | Nov 2011-Dec 2011 | Nov 2011-Mar 2012 |
|---|---|---|---|
| CenterPoint | 3.531 | — | 3.979 |
| Chicago Citygates | 3.837 | — | 4.319 |
| MichCon Citygate | 3.908 | — | 4.332 |
| NGPL Texok Zone | 3.603 | — | 4.023 |
| NNG Ventura | 3.763 | — | 4.267 |
| Panhandle OK Mainline | 3.521 | — | 3.974 |

## Degree days outlook vs temperature: 23-Oct

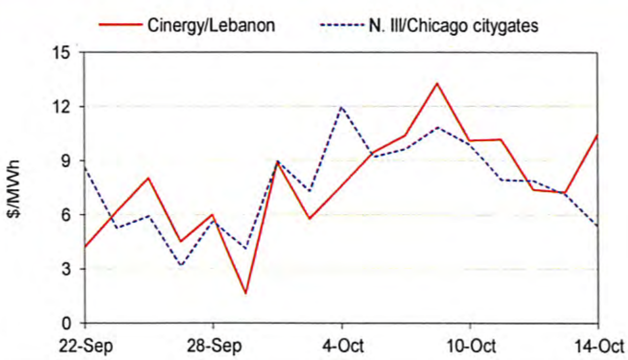



Temperature projections based on NOAA 6-10 day forecast

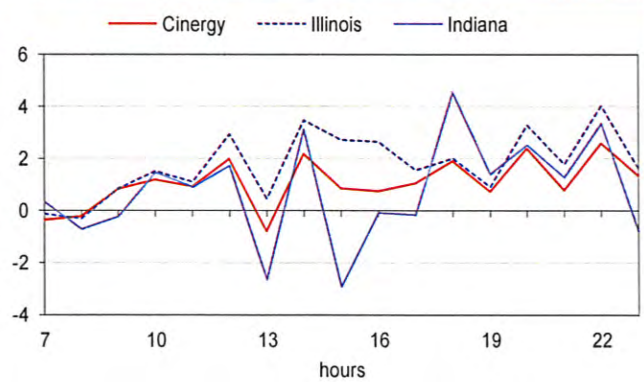
## Average peak price



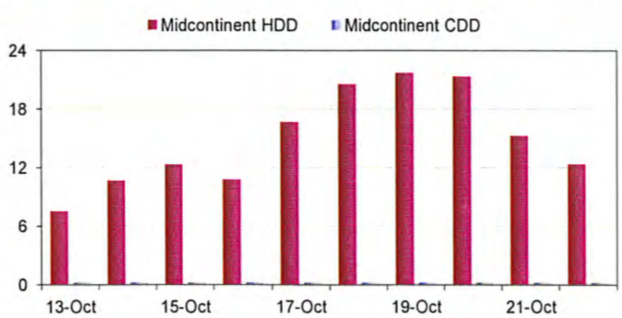

## Implied gas spark spreads




## MISO day-ahead minus real-time

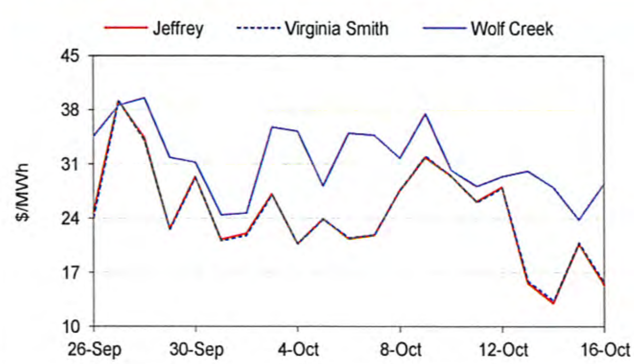



## Degree days



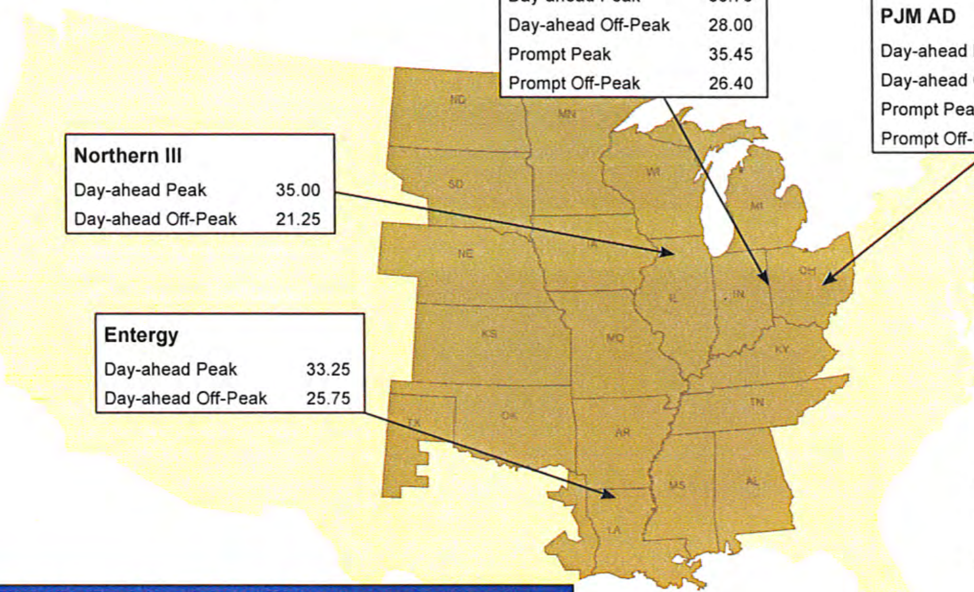

Data Source: AccuWeather

## SPP North nodes LIP



## Midwest Prices at a Glance $/MWh

### Day ahead markets for 17-Oct-11



| Cinergy | |
|---|---|
| Day-ahead Peak | 36.75 |
| Day-ahead Off-Peak | 28.00 |
| Prompt Peak | 35.45 |
| Prompt Off-Peak | 26.40 |

| PJM AD | |
|---|---|
| Day-ahead Peak | 39.50 |
| Day-ahead Off-Peak | 31.00 |
| Prompt Peak | 38.45 |
| Prompt Off-Peak | 31.85 |

| Northern Ill | |
|---|---|
| Day-ahead Peak | 35.00 |
| Day-ahead Off-Peak | 21.25 |

| Entergy | |
|---|---|
| Day-ahead Peak | 33.25 |
| Day-ahead Off-Peak | 25.75 |

### Day-ahead minus hourly spread

| *14-Oct-11* | Peak | Off-Peak |
|---|---|---|
| **MISO** | | |
| Cinergy | -1.39 | -0.24 |
| Indiana | 3.18 | -0.40 |
| Michigan | -2.68 | -1.43 |
| Minnesota | 0.03 | 3.48 |
| Illinois | 4.79 | 3.49 |
| **PJM** | | |
| Northern Ill | 7.20 | 0.95 |
| A-D | -0.18 | 1.72 |

### SPP imbalance prices: Flow date — 14-Oct-11

| | Peak | Off-peak |
|---|---|---|
| **SPP North** | | |
| Cooper | 7.95 | 13.90 |
| Gentleman | 13.26 | 14.80 |
| Holcomb | 17.71 | 15.45 |
| Jeffrey | 12.98 | 14.75 |
| Emporia | 22.57 | 17.13 |
| Empire | 27.49 | 17.57 |
| Wolf Creek | 28.01 | 17.61 |
| WAPA-Nebraska | 13.34 | 14.82 |
| **SPP East** | | |
| Sibley | 34.00 | 19.13 |
| Ameren Missouri | 25.35 | 17.22 |
| AECI | 26.06 | 17.31 |
| SPA-Arkansas | 25.65 | 17.26 |
| **SPP South** | | |
| Sooner | 26.32 | 17.44 |
| Muskogee | 26.53 | 17.46 |
| Oneta | 26.71 | 17.48 |
| Redbud | 26.35 | 17.47 |
| Seminole | 26.30 | 17.48 |
| Kiamichi | 26.19 | 17.47 |
| Wilkes | 25.64 | 17.31 |
| Arsenal Hill | 25.57 | 17.29 |
| Entergy | 25.24 | 17.21 |
| Cleco | 25.25 | 17.21 |
| Ercot-East | 25.69 | 17.32 |
| Ercot-North | 27.74 | 18.23 |
| **SPP West** | | |
| Tolk | 35.35 | 21.45 |
| WAPA-Colorado | 13.85 | 14.94 |
| Blackwater | 24.88 | 17.33 |
| EDDY | 35.07 | 21.33 |

### Emissions-adjusted day-ahead power prices

| | $SO_2$ Peak | $SO_2$ Off-peak | 24-hour average |
|---|---|---|---|
| Cinergy | 36.83 | 28.08 | 33.91 |
| Northern Ill | 35.07 | 21.32 | 30.49 |
| PJM A-D | 39.58 | 31.08 | 36.74 |
| Entergy | 33.27 | 25.77 | 30.77 |

### Hourly price averages

| | Peak | | Off-peak | |
|---|---|---|---|---|
| | 14-Oct-11 | 13-Oct-11 | 14-Oct-11 | 13-Oct-11 |
| **MISO** | | | | |
| Cinergy | 32.89 | 38.53 | 26.99 | 26.67 |
| Indiana | 28.36 | 38.85 | 27.34 | 27.01 |
| Michigan | 36.55 | 40.14 | 29.11 | 28.71 |
| Minnesota | 30.02 | 34.15 | 12.04 | 16.93 |
| Illinois | 23.24 | 25.58 | 16.86 | 18.51 |
| **PJM** | | | | |
| Northern Ill | 24.05 | 36.95 | 9.80 | 26.73 |
| A-D | 37.43 | 43.82 | 29.78 | 33.60 |

### Day-ahead peak spreads

| | Cinergy | Northern Ill | PJM A-D | PJM West | Entergy | Southern |
|---|---|---|---|---|---|---|
| **Cinergy** | — | 1.75 | -2.75 | -5.25 | 3.50 | 1.75 |
| **Northern Ill** | -1.75 | — | -4.50 | -7.00 | 1.75 | 0.00 |
| **PJM A-D** | 2.75 | 4.50 | — | -2.50 | 6.25 | 4.50 |
| **PJM West** | 5.25 | 7.00 | 2.50 | — | 8.75 | 7.00 |
| **Entergy** | -3.50 | -1.75 | -6.25 | -8.75 | — | -1.75 |
| **Southern** | -1.75 | 0.00 | -4.50 | -7.00 | 1.75 | — |

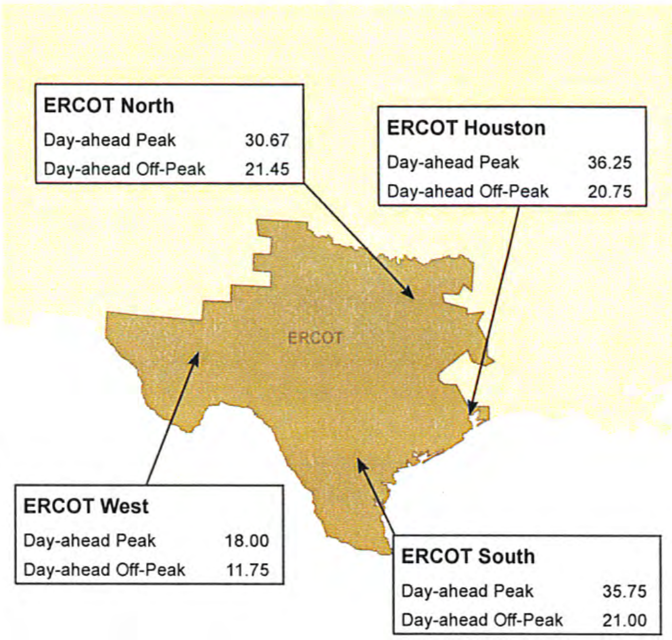
*Sources: ISOs, Argus assessments*

Exhibit SEL-04

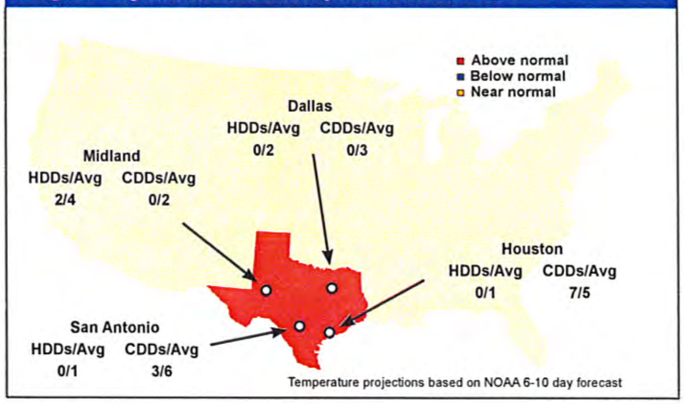


## ERCOT Prices at a Glance $/MWh

### Day ahead markets for 17-Oct-11




### Degree days outlook vs temperature: 23-Oct




### Day-ahead minus real time

| 16-Oct | Peak ($/MWh) | Off-peak ($/MWh) |
|---|---|---|
| **Hubs** | | |
| Houston | -3.56 | 11.06 |
| North | -6.20 | 4.27 |
| South | -75.85 | -8.47 |
| West | -12.71 | 2.02 |
| **Load zones** | | |
| Houston | -3.41 | 11.26 |
| North | -6.40 | 4.12 |
| South | -112.90 | -23.38 |
| West | -56.50 | 0.70 |

### Emissions-adjusted day-ahead power prices

| | $SO_2$ | Voluntary RECs | All credits |
|---|---|---|---|
| **Peak** | | | |
| Houston | 36.27 | 37.80 | 37.82 |
| South | 35.77 | 37.30 | 37.32 |
| North | 30.69 | 32.22 | 32.24 |
| West | 18.02 | 19.55 | 19.57 |
| **Off-peak** | | | |
| Houston | 20.77 | 22.30 | 22.32 |
| South | 21.02 | 22.55 | 22.57 |
| North | 21.47 | 23.00 | 23.02 |
| West | 11.77 | 13.30 | 13.32 |
| **24-hour emissions-adjusted pricing, all credits** | | | |
| Houston | 31.35 | 32.88 | 32.90 |
| South | 31.10 | 32.63 | 32.65 |
| North | 27.87 | 29.40 | 29.42 |
| West | 16.19 | 17.72 | 17.74 |

### Day-ahead nodal prices

| 18-Oct | Peak ($/MWh) | Off-peak ($/MWh) |
|---|---|---|
| **Hubs** | | |
| Houston | 38.00 | 20.68 |
| North | 27.27 | 19.75 |
| South | 37.36 | 22.85 |
| West | 21.99 | 11.72 |
| **Load zones** | | |
| Houston | 39.25 | 20.64 |
| North | 27.30 | 19.69 |
| South | 40.36 | 24.23 |
| West | 27.45 | 13.36 |
| **Hub average** | **31.17** | **18.75** |
| **Bus average** | **30.00** | **19.54** |

### Market-implied heat rates and spark spreads

| | | Heat rate | Spark spreads in 000 Btu/kWh at heating efficiencies of: | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | (Btu/kWh) | 7 | 8 | 10 | 12 | 15 | 18 |
| Peak | Houston | 10,014 | 10.91 | 7.29 | 0.05 | -7.19 | -18.05 | -28.91 |
| | North | 8,403 | 5.12 | 1.47 | -5.83 | -13.13 | -24.08 | -35.03 |
| | South | 9,972 | 10.66 | 7.07 | -0.10 | -7.27 | -18.03 | -28.78 |
| | West | 5,049 | -6.95 | -10.52 | -17.65 | -24.78 | -35.48 | -46.17 |
| Off-peak | Houston | 5,732 | -4.59 | -8.21 | -15.45 | -22.69 | -33.55 | -44.41 |
| | North | 5,877 | -4.10 | -7.75 | -15.05 | -22.35 | -33.30 | -44.25 |
| | South | 5,858 | -4.09 | -7.68 | -14.85 | -22.02 | -32.78 | -43.53 |
| | West | 3,296 | -13.21 | -16.77 | -23.90 | -31.03 | -41.73 | -52.42 |

## West Markets

*Continued from page 1*

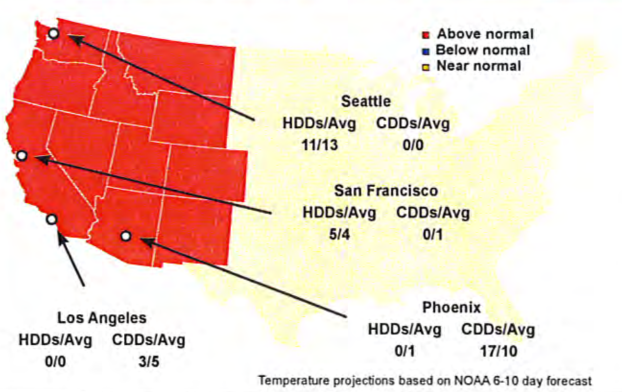
• **A full weekday load also boosted prices across the region.** Mona gained 21pc, Mead 10pc. Off-peak prices were inconsistent. Most locations were down around 10pc, but COB and Mid-Columbia gained by the same proportion.

• Below normal temperatures foreseen in the west this month by the Climate Prediction Center (CPC) of the National Weather Service have not occurred. For the rest of October, the CPC is looking at above average readings. Cooling degree days persist in the southwest, **but lower temperatures and high winds are predicted to move tonight from the Northwest to the central Rockies.**

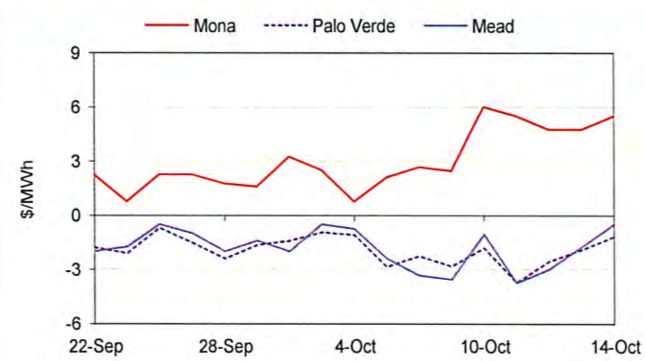
• La Niña conditions in the Pacific are expected to strengthen this winter, usually making the northwest extra wet. **The implicit forecast for more water seemed to depress November as the prompt through late last week.** California points and Mid-Columbia were down at least 7 pc for November for 1-13 October. But November Henry Hub gas futures rose 2pc the next day, so Mead and Palo Verde were little changed. SP 15, NP 15 and Mid-Columbia were down 3-4pc.

• Key nodes in the California Independent System Operator were around $25/MWh at 10:10am PT today. **But Friday, 14 October pricing was in the low-$90s for the peak hours.**

### Degree days outlook vs temperature: 23-Oct




### Four Corners daily peak spreads




### Forward markets $/MWh

| | Mid-Columbia | | | | Palo Verde | | | | SP-15 | | | | NP-15 | | | Mead | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Peak | | | Off-Peak | Peak | | | Off-Peak | Peak | | | Off-Peak | Peak | | Off-Peak | Peak | | Off-Peak |
| | Price | Gas Spark | Coal Spark | Price | Price | Gas Spark | Coal Spark | Price | Price | Gas Spark | Coal Spark | Price | Price | Gas Spark | Price | Price | Gas Spark | Price |
| Nov-11 | 29.65 | 5.78 | 9.75 | 26.60 | 31.35 | 6.36 | 7.35 | 23.20 | 32.75 | 7.34 | 15.45 | 25.30 | 33.60 | 7.14 | 27.05 | 33.55 | 8.00 | 23.35 |
| Dec-11 | 35.15 | 9.46 | 15.15 | 30.00 | 32.75 | 5.73 | 8.65 | 24.50 | 34.75 | 7.80 | 17.35 | 26.60 | 35.75 | 7.82 | 28.60 | 35.05 | 7.82 | 24.65 |
| Jan-12 | 32.30 | 6.12 | 11.80 | 27.05 | 33.10 | 4.82 | 8.10 | 25.20 | 35.70 | 7.84 | 13.30 | 26.90 | 35.55 | 6.64 | 28.60 | 36.35 | 8.07 | 27.90 |
| Feb-12 | 31.05 | 4.94 | 10.95 | 25.20 | 33.00 | 5.84 | 7.30 | 25.00 | 35.45 | 7.45 | 11.85 | 26.70 | 35.20 | 6.22 | 28.40 | 36.20 | 8.27 | 27.40 |
| Mar-12 | 28.25 | 2.21 | 8.55 | 21.80 | 32.65 | 4.44 | 6.15 | 23.95 | 35.10 | 7.31 | 11.00 | 25.55 | 34.65 | 5.88 | 27.20 | 35.80 | 7.59 | 26.30 |
| Apr-12 | 27.40 | 1.85 | 7.50 | 18.00 | 33.65 | 6.56 | 8.05 | 22.85 | 34.15 | 6.43 | 11.15 | 21.50 | 33.65 | 4.88 | 20.20 | 36.35 | 8.49 | 24.95 |
| Q1-12 | 30.45 | 4.34 | 10.35 | 24.75 | 32.90 | 5.04 | 7.20 | 24.75 | 35.40 | 7.54 | 12.00 | 26.40 | 35.10 | 6.19 | 28.10 | 36.10 | 7.96 | 27.25 |
| Q2-12 | 23.05 | -2.50 | 2.75 | 9.90 | 34.65 | 7.56 | 8.75 | 19.30 | 33.80 | 6.08 | 10.30 | 18.15 | 32.95 | 4.18 | 17.05 | 37.40 | 9.54 | 21.25 |
| Q3-12 | 36.00 | 9.68 | 15.50 | 23.75 | 44.15 | 16.08 | 18.05 | 27.00 | 43.75 | 15.05 | 20.15 | 28.25 | 41.30 | 11.55 | 28.25 | 47.60 | 18.76 | 29.65 |
| Q4-12 | 36.75 | 8.54 | 16.45 | 32.15 | 37.65 | 7.48 | 11.75 | 28.40 | 40.50 | 10.26 | 17.10 | 30.75 | 40.25 | 9.03 | 31.60 | 40.70 | 10.18 | 31.20 |
| Q1-13 | 38.25 | 8.08 | 17.15 | 31.85 | 39.85 | 7.30 | 13.35 | 30.35 | 49.75 | 17.27 | 26.05 | 37.10 | 47.90 | 15.14 | 36.45 | 42.20 | 9.44 | 34.30 |
| Q2-13 | 28.70 | -0.56 | 7.50 | 14.75 | 39.85 | 9.05 | 13.15 | 23.75 | 45.20 | 13.84 | 21.30 | 25.35 | 42.90 | 10.14 | 25.05 | 42.30 | 10.80 | 26.90 |
| Q3-13 | 43.00 | 13.32 | 21.30 | 30.10 | 52.50 | 21.00 | 25.20 | 32.75 | 59.65 | 27.59 | 34.75 | 38.25 | 56.50 | 23.74 | 38.50 | 55.60 | 23.40 | 37.15 |
| Q4-13 | 43.50 | 10.25 | 22.30 | 34.10 | 41.75 | 8.43 | 15.05 | 32.35 | 53.30 | 19.98 | 29.40 | 38.35 | 53.20 | 20.44 | 40.20 | 44.25 | 10.58 | 36.70 |
| Cal-12 | 31.55 | 4.95 | 11.15 | 22.70 | 37.30 | 11.26 | 11.30 | 24.90 | 38.35 | 12.17 | 14.75 | 25.95 | 37.40 | 10.17 | 26.30 | 40.40 | 14.01 | 27.35 |
| Cal-13 | 38.35 | 7.69 | 17.05 | 27.75 | 43.50 | 15.15 | 16.70 | 29.85 | 51.95 | 23.25 | 27.85 | 34.80 | 50.15 | 20.40 | 35.10 | 46.10 | 17.19 | 33.80 |
| Cal-14 | 43.50 | 9.34 | 21.20 | 31.15 | 48.35 | 16.22 | 20.65 | 32.50 | 58.25 | 25.91 | 33.55 | 38.45 | 56.10 | 23.34 | 39.10 | 51.80 | 19.18 | 37.45 |
| Cal-15 | 48.25 | 15.98 | 24.85 | 33.80 | 53.20 | 19.18 | 24.60 | 35.85 | 63.60 | 29.44 | 38.30 | 41.85 | 61.20 | 26.06 | 42.50 | 56.35 | 21.91 | 39.65 |

Exhibit SEL-04



# West Markets

## Western generating unit outages

| Capacity | Unit | Owner | Fuel | Begins | Reason |
|---|---|---|---|---|---|
| 11,872 | Total CAISO units curtailed | various | various | NA | planned and unplanned |
| 820 | Big Creek | SCE | hydro | 3-Oct-11 | @108MW, unplanned |
| 668 | Colusa Generating Station | PG&E | gas | 17-Oct-11 | @282MW, planned |
| 407 | Helms Pump-Gen 2 | PG&E | hydro | 26-Sep-11 | planned |
| 933 | Hyatt-Thermalito | CDWR | hydro | 18-May-11 | @503MW, planned/unplanned |
| 366 | Inland Empire 2 | Calpine | gas | 17-Oct-11 | planned |
| 525 | Mountainview 3 | SCE | gas | 17-Oct-11 | planned |
| 741 | Ormond Beach 1 | GenOn | gas | 14-Oct-11 | unplanned |
| 590 | Sunrise 2 | Edison Mission | gas | 6-Oct-11 | planned |
| 625 | Termoelectrica de Mexicali 1 | Sempra | gas | 5-Oct-11 | @270MW, planned |

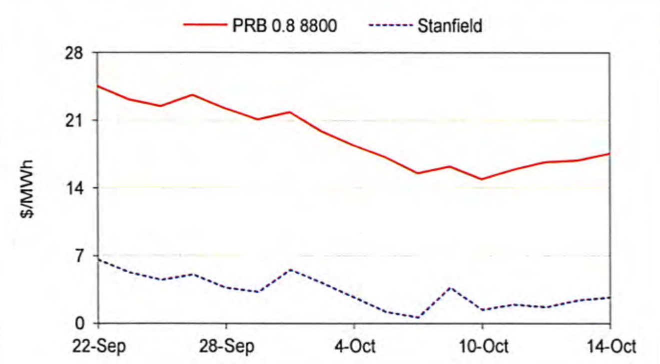
## Spot natural gas in $/mmBtu

| Location | Average | Low | High |
|---|---|---|---|
| PG&E Citygates | 3.800 | 3.770 | 3.825 |
| Stanfield | 3.510 | 3.510 | 3.520 |
| SoCal Gas Co | 3.670 | 3.645 | 3.700 |
| El Paso San Juan Basin | 3.435 | 3.370 | 3.500 |
| El Paso Permian Basin | 3.540 | 3.440 | 3.565 |
| El Paso, South Mainline | 3.735 | 3.730 | 3.755 |
| Northwest Sumas | 3.470 | 3.440 | 3.530 |
| Northwest Wyoming | 3.495 | 3.440 | 3.530 |

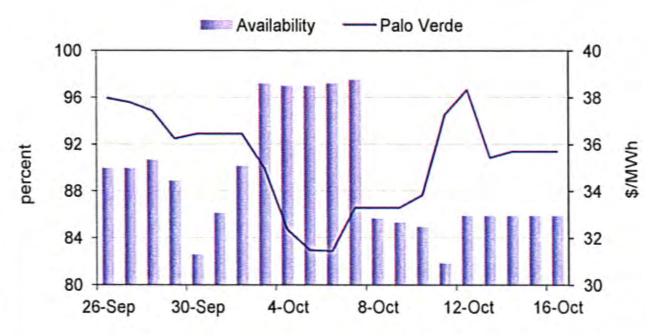
## Forward natural gas in $/mmBtu

| Location | November | Nov 2011-Dec 2011 | Nov 2011-Mar 2012 |
|---|---|---|---|
| El Paso Permian | 3.461 | — | 3.809 |
| El Paso San Juan | 3.368 | — | 3.774 |
| Northwest, Wyoming | 3.486 | — | 3.849 |
| Northwest PL at Sumas | 3.568 | — | 3.984 |
| PG&E Citygates | 3.823 | — | 4.114 |
| SoCal Gas | 3.603 | — | 3.974 |

## Mid-C spark spreads: Coal vs gas




## West nuclear availability vs Palo Verde



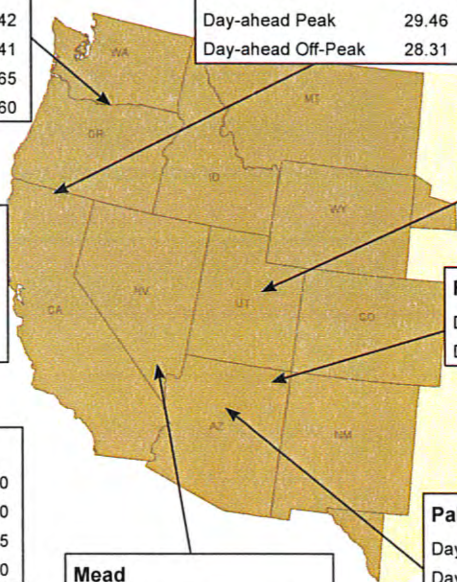

Nuclear availability data source: NRC

## Market-implied heat rates and spark spreads

| | | Heat rate (Btu/kWh) | Spark spreads in 000 Btu/kWh at heating efficiencies of: 7 | 8 | 10 | 12 | 15 | 18 |
|---|---|---|---|---|---|---|---|---|
| Peak | COB | 8,027 | 3.77 | 0.10 | -7.24 | -14.58 | -25.59 | -36.60 |
| | Four Corners | 11,505 | 15.57 | 12.11 | 5.20 | -1.71 | -12.08 | -22.44 |
| | Mead | 10,559 | 13.06 | 9.39 | 2.05 | -5.29 | -16.30 | -27.31 |
| | Mid-C | 7,812 | 2.85 | -0.66 | -7.68 | -14.70 | -25.23 | -35.76 |
| | Mona | 9,915 | 10.29 | 6.76 | -0.30 | -7.36 | -17.95 | -28.54 |
| | NP 15 | 10,000 | 11.40 | 7.60 | 0.00 | -7.60 | -19.00 | -30.40 |
| | Palo Verde | 10,676 | 13.49 | 9.82 | 2.48 | -4.86 | -15.87 | -26.88 |
| | SP 15 | 10,627 | 13.31 | 9.64 | 2.30 | -5.04 | -16.05 | -27.06 |
| Off-peak | COB | 7,714 | 2.62 | -1.05 | -8.39 | -15.73 | -26.74 | -37.75 |
| | Four Corners | 6,585 | -1.44 | -4.89 | -11.80 | -18.71 | -29.08 | -39.44 |
| | Mead | 6,335 | -2.44 | -6.11 | -13.45 | -20.79 | -31.80 | -42.81 |
| | Mid-C | 7,524 | 1.84 | -1.67 | -8.69 | -15.71 | -26.24 | -36.77 |
| | Mona | 5,453 | -5.46 | -8.99 | -16.05 | -23.11 | -33.70 | -44.29 |
| | NP 15 | 6,382 | -2.35 | -6.15 | -13.75 | -21.35 | -32.75 | -44.15 |
| | Palo Verde | 6,540 | -1.69 | -5.36 | -12.70 | -20.04 | -31.05 | -42.06 |
| | SP 15 | 6,540 | -1.69 | -5.36 | -12.70 | -20.04 | -31.05 | -42.06 |

## West Prices at a Glance $/MWh

Day ahead markets for 17-Oct-11



**Mid-Columbia**

| | |
|---|---|
| Day-ahead Peak | 27.42 |
| Day-ahead Off-Peak | 26.41 |
| Prompt Peak | 29.65 |
| Prompt Off-Peak | 26.60 |

**COB**

| | |
|---|---|
| Day-ahead Peak | 29.46 |
| Day-ahead Off-Peak | 28.31 |

**Mona**

| | |
|---|---|
| Day-ahead Peak | 35.00 |
| Day-ahead Off-Peak | 19.25 |

**NP-15**

| | |
|---|---|
| Day-ahead Peak | 38.00 |
| Day-ahead Off-Peak | 24.25 |
| Prompt Peak | 33.60 |
| Prompt Off-Peak | 27.05 |

**Four Corners**

| | |
|---|---|
| Day-ahead Peak | 39.75 |
| Day-ahead Off-Peak | 22.75 |

**SP-15**

| | |
|---|---|
| Day-ahead Peak | 39.00 |
| Day-ahead Off-Peak | 24.00 |
| Prompt Peak | 32.75 |
| Prompt Off-Peak | 25.30 |

**Mead**

| | |
|---|---|
| Day-ahead Peak | 38.75 |
| Day-ahead Off-Peak | 23.25 |
| Prompt Peak | 33.55 |
| Prompt Off-Peak | 23.35 |

**Palo Verde**

| | |
|---|---|
| Day-ahead Peak | 39.18 |
| Day-ahead Off-Peak | 24.00 |
| Prompt Peak | 31.35 |
| Prompt Off-Peak | 23.20 |

### Day-ahead minus hourly spread

| *14-Oct-11* | Peak | Off-Peak |
|---|---|---|
| CAISO | | |
| COB | -65.98 | -2.10 |
| Four Corners | -61.69 | -6.67 |
| Mead | -61.02 | -5.65 |
| Mona | -50.00 | -7.61 |
| NOB | -58.14 | -3.04 |
| NP-15 | -61.81 | -5.01 |
| Palo Verde | -57.51 | -5.30 |
| SP-15 | -60.95 | -5.25 |

*Source: CAISO*

### Hourly price averages

| | Peak | | Off-peak | |
|---|---|---|---|---|
| | 14-Oct-11 | 13-Oct-11 | 14-Oct-11 | 13-Oct-11 |
| CAISO | | | | |
| COB | 93.51 | 22.59 | 27.79 | 23.40 |
| Four Corners | 95.19 | 29.19 | 27.17 | 23.14 |
| Mead | 96.27 | 28.17 | 27.53 | 23.40 |
| Mona | 78.75 | -131.84 | 26.61 | -167.60 |
| NOB | 97.81 | 34.21 | 28.04 | 23.81 |
| NP-15 | 93.81 | 27.12 | 28.26 | 23.31 |
| Palo Verde | 92.92 | 29.61 | 27.11 | 23.06 |
| SP-15 | 97.44 | 45.33 | 27.75 | 23.58 |

*Source: CAISO*

### Emissions-adjusted day-ahead power prices

| | $SO_2$ | | 24-hour average |
|---|---|---|---|
| | Peak | Off-peak | |
| COB | 29.47 | 28.32 | 29.09 |
| Four Corners | 39.77 | 22.77 | 34.10 |
| Mead | 38.76 | 23.26 | 33.59 |
| Mona | 35.02 | 19.27 | 29.77 |
| Mid-C | 27.43 | 26.42 | 27.09 |
| NP-15 | 38.01 | 24.26 | 33.43 |
| Palo Verde | 39.20 | 24.02 | 34.14 |
| SP-15 | 39.01 | 24.01 | 34.01 |

### Day-ahead peak spreads

| | COB | Four Corners | Mead | Mona | Mid-C | NP-15 | Palo Verde | SP-15 |
|---|---|---|---|---|---|---|---|---|
| COB | — | -10.29 | -9.29 | -5.54 | 2.04 | -8.54 | -9.72 | -9.54 |
| Four Corners | 10.29 | — | 1.00 | 4.75 | 12.33 | 1.75 | 0.57 | 0.75 |
| Mead | 9.29 | -1.00 | — | 3.75 | 11.33 | 0.75 | -0.43 | -0.25 |
| Mona | 5.54 | -4.75 | -3.75 | — | 7.58 | -3.00 | -4.18 | -4.00 |
| Mid-C | -2.04 | -12.33 | -11.33 | -7.58 | — | -10.58 | -11.76 | -11.58 |
| NP-15 | 8.54 | -1.75 | -0.75 | 3.00 | 10.58 | — | -1.18 | -1.00 |
| Palo Verde | 9.72 | -0.57 | 0.43 | 4.18 | 11.76 | 1.18 | — | 0.18 |
| SP-15 | 9.54 | -0.75 | 0.25 | 4.00 | 11.58 | 1.00 | -0.18 | — |

*Source: Argus assessments*

Exhibit SEL-04



## Markets

# Gas slips despite cooler forecasts

**NYMEX gas for November delivery fell by 1.5¢/mmBtu, or 0.4pc, to settle at $3.688/mmBtu. The 12-month strip and the 2012-calendar strip were each down 1.1pc to $4.039/mmBtu and $4.153/mmBtu, respectively.**

Heading into today's session, prices had climbed 6.1pc since 12 October on a wave of bargain buying following a US government report showing a massive build in natural gas inventories. The steep price increase spurred some traders, who had bet on higher prices, to sell off contracts today and take profits.

"After a considerably large move on [13-14 October], we are seeing some give-back," Summit Energy commodity analyst Matt Smith said.

At the same time, forecasters are predicting colder weather over the next few weeks that could stoke demand for the heating fuel. The National Weather Service sees below-normal temperatures across parts of the southeast and midcontinent from 22-26 October and cooler-than-normal temperatures across the eastern US the following week.

Colder weather could stunt the recent rapid growth natural gas inventories. The US Energy Information Administration (EIA) has reported a larger-than-average build in each of the last five weeks.

**Nymex natural gas settlements** $/mmBtu

| Contract | Price | Change | Volume* |
|---|---|---|---|
| Nov-11 M1 | 3.688 | -0.015 | 106,129 |
| Dec-11 M2 | 3.903 | -0.057 | 57,787 |
| Jan-12 M3 | 4.037 | -0.063 | 31,115 |
| Feb-12 M4 | 4.052 | -0.059 | 9,261 |
| Mar-12 M5 | 4.020 | -0.053 | 12,584 |
| Apr-12 M6 | 4.008 | -0.045 | 13,372 |
| May-12 M7 | 4.044 | -0.043 | 2,150 |
| Jun-12 M8 | 4.086 | -0.040 | 1,533 |
| Jul-12 M9 | 4.131 | -0.038 | 2,475 |
| Aug-12 M10 | 4.155 | -0.039 | 657 |
| Sep-12 M11 | 4.156 | -0.040 | 544 |
| Oct-12 M12 | 4.192 | -0.041 | 2,199 |
| Nov-12 M13 | 4.342 | -0.036 | 537 |
| Dec-12 M14 | 4.607 | -0.038 | 552 |
| Jan-13 M15 | 4.747 | -0.038 | 365 |
| Feb-13 M16 | 4.725 | -0.038 | 76 |
| Mar-13 M17 | 4.660 | -0.038 | 125 |
| Apr-13 M18 | 4.539 | -0.034 | 121 |
| May-13 M19 | 4.557 | -0.034 | 1 |

*Volume data estimated by Nymex, subject to verification.

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## Argus North American Electricity Methodology

Prices are based on daily survey data received from the non-commercial departments of market participants. Day-ahead peak and off-peak volume-weighted price indexes and assessments are compiled based on this data. Argus publishes the total volume of trades reported, the number of transactions, the high price, low price, and the volume weighted average price where sufficient data exists.

In low-liquidity markets when insufficient data is received to support a volume weighted index calculation (less than three trades of 25MW minimum each are received) a clearly marked price assessment is made. Volume and number of trades are left blank when an assessment is made.

Peak and off-peak electricity price indexes are based on data submitted daily to Argus voluntarily by the risk-management divisions or non-commercial departments of market participants.

All data submitted is treated confidentially and used only to establish the index or form a market price assessment. The Argus electricity index procedures are audited at least annually by the company's global compliance officer.

Only firm deals equal to or greater than 25MW are included in each index. Firm delivery means that a contract for liquidated damages in the event of non-performance is in place. Swaps, contracts for difference, and derivative-linked deals are not included but financially settled deals are included where the price does not diverge from what is observed in the physical market.

In low-liquidity markets, Argus publishes assessments based on an intelligent range of trade. Argus assesses the range within which electricity did or could have traded, based on actual deals and bids and offers throughout the trading day for next-day power, historical price relationships and other market conditions.

Assessments are clearly identifiable from volume-weighted average indexes. The volume and number of trades will be blank where an assessment is made.

## News

# Exelon, EdF argue over utility

**Exelon, Constellation Energy stakeholder EdF SA of France and Maryland regulators disagree over the affects of the US power companies' proposed merger.**

EdF, which owns 7.3pc of Constellation and has a nuclear power joint venture with it, filed testimony with the Maryland Public Service Commission last week saying Exelon's acquisition would have "serious and negative ramifications for Maryland, as well as for EdF," and that the state agency should reject the merger. An Exelon spokesman told *Argus* the company is "perplexed" by EdF's testimony and that EdF will be "unharmed" by the transaction.

The commission will begin hearings on Exelon's proposed $7.9bn purchase of Constellation next week. It is expected to issue a decision in January.

"The proposed merger raises serious market power concerns," Jeffrey Johnson, a consultant to the chief executive of EdF Trading and a director at the EdF-Constellation joint venture Constellation Energy Nuclear Group (CENG), said in testimony to the commission filed on 12 October.

Other testimony filed last week by the Office of People's Counsel recommended that Constellation's Baltimore Gas & Electric (BGE) subsidiary be prohibited from asking for permission to increase rates for at least three years following the merger, contrary to the public service commission's staff recommendation. It also recommended Exelon be required to put up a $68mn "reliability fund" to "address the immediate impacts of the merger on BGE and commission decisions regarding the trade-off between reliability and rates."

The proposed merger has faced other challenges, including from Maryland officials who last month said it should proceed only if conditions are set to protect electricity consumers. The transaction received approval from the Public Utility Commission of Texas in August.

A primary concern for EdF is the size of Exelon's nuclear fleet, which accounts for about 20pc of US nuclear output. The merger might preclude CENG from buying more capacity within its home PJM Interconnection market and in other areas of the country because Exelon already is the largest US provider of nuclear energy, Johnson said.

The transaction also might hurt CENG because Exelon would want to support its wholly-owned nuclear plants more than the joint venture, Johnson said. And CENG "would be highly vulnerable" to job losses and a change in management as well as moving headquarters out of Maryland, which could affect state-based jobs and its tax revenue, he said.

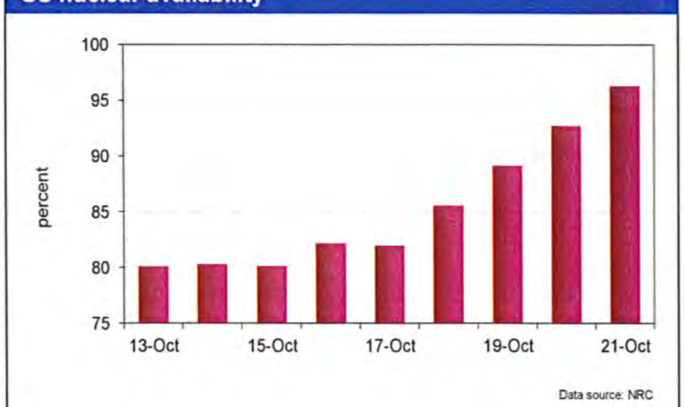
Johnson proposed that if regulators choose to approve the merger, they consider requiring "ring-fencing" to support CENG's autonomy, including entering a contract that would require the joint-venture's chief executive be a US citizen independent of either EdF or the combined Exelon-Constellation, that the right to remove the chief executive should alternate between the companies every two years, that EdF have the right to appoint the chief financial officer and that the size of the board be expanded by three.

"As EdF knows, the merger will not change their prior agreement with Constellation Energy Nuclear Group, nor will it in any way affect their ability to build new generating plants," Exelon spokesman Paul Elsberg said. He added that Exelon and Constellation do not need EdF's approval to proceed with the merger.

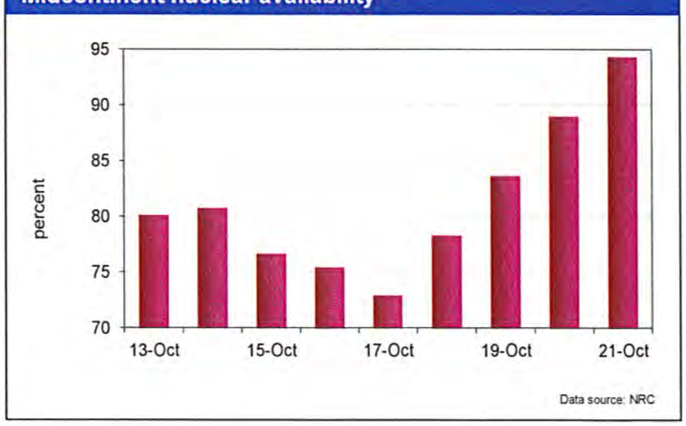
Exelon last week filed testimony from executives that it says "strengthens the companies' commitments related to the proposed merger," and "addresses BGE's ability to continue to provide safe and reliable service and operate in the public interest." The provisions include having BGE chief executive Kenneth DeFontes Jr. serve on Exelon's executive committee as well as corporate governance measures that "will ensure that BGE will remain locally managed and has the resources to provide safe and reliable power."

The company said some proposals, including one from the Maryland Energy Administration to require Exelon to increase its 25MW commitment to new renewable energy projects in the state, are "unnecessary, could harm BGE and its customers, or would adversely impact the terms of the transaction." It also said the Officer of People's Counsel suggestion of a three-year rate

**US nuclear availability**




**Midcontinent nuclear availability**



News

freeze "would jeopardize BGE's ability to make significant capital expenditures needed to maintain the reliability of the distribution system."

Exelon earlier this month agreed to restrict the sale of three coal-fired units to exclude eight power companies that already own 3pc or more of the overall PJM market. The companies also agreed to give 18 months written notice before retiring any generating unit and to limit the price on offers from gas units used during peak energy demand to PJM guidelines plus "the higher of 10pc of such costs or the applicable percentage of cost permitted under the PJM tariff to the extent a unit is a frequently mitigated unit, plus an adder not to exceed $1/MWH," according to terms of the letter that Joseph Bowring, the independent market monitor for PJM, sent to the Federal Energy Regulatory Commission and the Maryland Public Service Commission.

## California mulls new RPS criteria

**The California Energy Commission is moving toward incorporating the state's new 33pc by 2020 renewable portfolio standard (RPS) into the agency's renewable energy eligibility guidebook, with a draft released last week showing several changes to the criteria.**

Some of the most significant changes in the guidebook will have to wait until the California Public Utilities Commission (PUC) revises its regulations on renewable energy certificate (REC) procurement, trading and enforcement to meet the stipulations in the law that established the 33pc RPS, SB 2X. But the CEC had to revise the guidebook at this time because its last revision was issued before the PUC decided to allow using tradable, unbundled RECs for compliance.

The commission stripped the language associated with the in-state delivery requirement. SB 2X eliminates the criteria that formerly required all renewable energy to be delivered into the state for it to be RPS-eligible.

The agency also needed to incorporate mandatory RPS levels for publicly owned utilities (POU), which had previously faced only voluntary targets. The commission will administer the POU requirements of the standard, but the Air Resources Board will impose any non-compliance penalties, while the PUC will continue to administer and enforce the RPS for retail utilities. The CEC guidebook sets compliance deadlines and monitoring and reporting requirements for POUs. It establishes an interim tracking system but POUs must complete their compliance reporting through the Western Renewable Energy Information Generation System by 2013.

The draft rulebook incorporates the feed-in tariff the PUC adopted this year. It stipulates that distributed generation facilities participating in retail utilities' net-metering programs retain all of the RECs associated with their generation, including any surplus power they sell to utilities rather than use onsite. The PUC's decision did not allow utilities to count the distributed generation from their net-metering customers to their RPS obligation, but the CEC says because tradable RECs can be used for compliance, utilities can procure and surrender RECs from distributed generation.

The draft would expand RPS eligibility to hydroelectric facilities larger than 30MW, so long as they operate as part of a water supply or conveyance system and are 40MW or less.

The draft guidebook revision also clarifies that while SB 2X has three-year compliance periods, utilities and POUs will be required to submit annual procurement reports to the CEC.

The CEC has determined that facilities can use up to 2pc of nonrenewable resources and still meet the RPS eligibility requirements. That de minimis level can be raised to 5pc if a facility meets several stipulations, including that the use of nonrenewable fuel will increase the renewable energy facility's generation "significantly" more than generation associated with using nonrenewable fuel.

And for a facility to become eligible after repowering, the capital investment to revamp the facility must be at least 80pc of the total value of the repowered facility.

The CEC is holding a workshop on 21 October to discuss the draft. It has particularly asked for feedback on how to define "significantly" the measure of increased generation associated with a facility's use of nonrenewable fuel. It is also seeking input on whether the 80pc investment requirement is appropriate in terms of determining whether a repowered facility is considered "new" for eligibility requirements.

The commission is also seeking stakeholder thoughts on the process of pre-certification and whether it should continue. The CEC says nearly 650 facilities have been pre-certified, many for five years or longer. Facilities cannot begin generating RECs until they have been certified by the CEC and pre-certification is designed to speed up the process of certification when the project is operating. A pre-certified facility can also boast the likelihood of its RPS eligibility based on the CEC's pre-approval. But the CEC is considering eliminating the pre-certification process for any facilities that are not fully developed and operational.

The agency is soliciting comment on the benefits of pre-certi-

Carbon-adjusted coal generation: PJM W

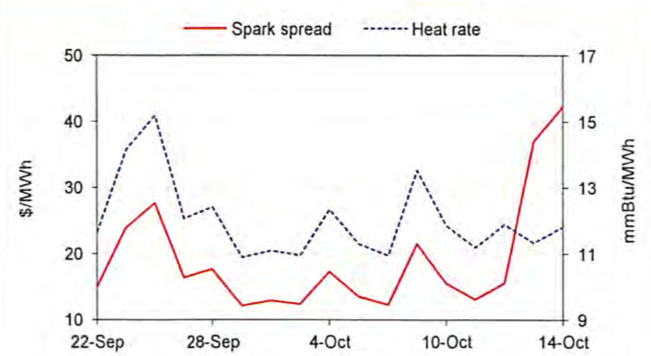


Exhibit SEL-04



fication and if the process is continued, whether an expiration date should be set for the eligibility assurance.

## RGGI fix may hinge on state laws

**Seven of nine states in the Regional Greenhouse Gas Initiative (RGGI) can ratchet down on their part of the program's collective carbon cap administratively, according to an *Argus* analysis of each RGGI state's laws.**

Expanding the program to cover imported electricity or other sectors of the economy would be a heavier lift, with four states legislatively specifying what entities could be covered under RGGI's cap-and-trade program.

Each RGGI state, except for New York, has passed laws enabling its regulators to create and participate in the regional $CO_2$ trading program. New York's regulators relied on a broad grant of authority under the state's clean air act to implement the program. Broadly, each enabling law recognized the 2005 memorandum of understanding between the RGGI states and directed their state's environmental regulators to implement the program outlined in the memorandum.

But New Hampshire and Maine, which both have Republican-controlled legislatures, specified their state's carbon emissions cap under RGGI in their enabling legislation, which means that the state's regulators would need the law amended before their portion of RGGI's cap can be lowered.

Republicans in New Hampshire's legislature spent most of the spring attempting to leave RGGI, but the Democratic governor vetoed the bill and the Senate fell short of a passing a measure to override the veto. During the floor debates on the RGGI repeal bill, Republican members of the state's House of Representatives bitterly attacked RGGI on philosophical grounds, making it unlikely that they will warmly receive legislation to improve the program.

While the majority of the states referred to the memorandum and left most of the details up to regulators, several legislatively enacted the terms of the memorandum, making it difficult or impossible for regulators in those states to make changes without asking the legislature to amend the enabling law. The legislation largely specifies which facilities may be covered by the rule and could limit the ability to extend the cap to include imported power or other economic sectors.

RGGI's emissions are far below the program's caps, which has left the $CO_2$ allowance market significantly oversupplied. RGGI $CO_2$ allowance prices have held very close to the program's price floor and the program has not led to any meaningful emissions reductions in the regulated sector. Any serious action to fix the program will require that the emissions cap is set at, or below, the program's current $CO_2$ emissions.

The RGGI-enabling laws in New Hampshire, Maine, Vermont and Massachusetts specified that the covered entities in RGGI are fossil fuel-fired electric units above 25MW. The RGGI states recently held a learning session on how to put electricity imports under the program's cap, which would likely require those states, which make up slightly more than a quarter of the program's emissions, to amend their enabling laws.