

# US Electric Utilities & IPPs

## Reaching the Summit in New England

### Equities

Americas  
Electric Utilities

#### New England capacity auctions clear up significantly YoY for 2018/19 period

FCA 9 cleared at \$9.55/kW-mo, just \$0.02 behind our \$9.57/kW-mo formal auction estimate (albeit at the low end of the range we had projected of \$9-13/kW-mo), up substantially from the \$7.025/kW-mo cleared in FCA 8. We assume the price was set by CPV's new 725MW CCGT, Towantic plant in CT, a dual-fuel (oil/gas) plant. We see the results as only modestly constructive for DYN, NRG, EXC and other regional players (a full sensitivity is included subsequently for relevant companies). *We see the results as signifying the near-term 'top' of this market, as generators finally saw prices sufficient to compensate the most gas-fired capacity in the country* – alongside added risk of performance penalties and need for dual-fueled units.

#### EXC seemingly steals the show in SE Mass region, likely clearing new peaker

It appears EXC likely cleared a new 190MW peaker at its Medway plant in the SEMA region; few had discussed the possibility for EXC to clear a plant, with many focused on NRG. At the \$17.73/kW-mo clearing price, we estimate the plant would generate ~\$35-40 Mn/yr in incremental EBITDA to the portfolio (locked in for 7-yr); for EXC this would translate to ~\$0.02 in EPS. We estimate the cost at between \$700-1,100/kW (brownfield economics apply) for the 190MW, suggesting costs of ~\$150 Mn. The site appears permitted for new units to run dual-fuel (low sulfur diesel and gas), alongside the existing 3-units, which today total 180 MW of capacity.

#### But many others get uplift from higher SEMA price, namely NRG

Meanwhile, NRG's units at Canal (2 x 550MW) would benefit from the higher regional price in this constrained part of the region at \$11.08/kW-mo (right on top of our formal estimate for the region, equal to Net Cone). We suspect next year prices will likely converge back to the rest of pool as the NEMA (Boston) zone did this year. Footprint Power completed its successful repowering of the legacy Salem Harbor coal unit into a CCGT, improving supply in the pocket.

#### Long-term looks somewhat resilient, supported by transmission and DR?

Perhaps most importantly, what is the outlook for future auctions? While it's clear that this year is the peak auction price, the question is what resources will soften the impact next year once new plants bidding into the auction are offered in at a zero price (1,005 MWs). We estimate next year's auction could tentatively be in the ~\$6-7/kW-mo range (keeping our \$6/kw-mo estimate unchanged in our models), seeing this as the level at which transmission backs out of the auction (1.028GW of NY imports cleared at \$7.97/kW-mo) as well as expecting a continued decline in demand response. We see this parity with adjacent capacity markets, such as New York as a major support level for future prints (although we acknowledge NY too is likely heading lower).

#### Bigger long-term risk remains threat of merchant transmission line entry

The big wildcard remains whether large-scale transmission (such as NU's Northern Pass or competing projects) are able to bid in and clear the auction at least partially unmitigated (would be up to ~400MW negative for next year). Recall the deal that allowed for the latest regulatory reforms in ISO-NE allowed for up to 600MWs to clear the auction *without* being subject to a MOPR under state programs (ie – what MD and NJ did), except in this case oriented towards renewables (presumably hydro imports).

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[Click here to see link to the auction results.](#)

## The Bigger Picture for Capacity in 2015

We see the latest auction clearing price as \$9.55/kW-mo in New England as part of a wave of capacity auctions in 2015 to clear at their peak levels following reforms put in place in both New England and PJM designed to improve the overall performance of the underlying portfolio. While at the lower end of our expectations for the latest outcome, we suspect prices will head back to their recent clearing levels as new supply is absorbed. We continue to be surprised by the extent to which new supply materializes and see the pending EPSA case before the Supreme Court (coupled with a broadly more challenging regulatory environment for DR) as among the chief drivers to support capacity prices. We see the latest auction in ISO-NE as a microcosm of the same dynamics at play in PJM – and suspect this auction in May could yet see a similar outcome, with prices jumping YoY (albeit not necessarily as high as many would want it) – and representing a near-term peak in prices. While we don't expect investors to capitalize the upside in either the ISO-NE auction or the PJM auction, we suspect both will prove positive datapoints in the broader transition to greater capacity compensation, away from energy rents in the current low gas price environment.

We see the latest New England capacity auction result as supportive for the major IPPs and Utilities in the region (including CPN, D, DYN, ETR, EXC, NEE, NRG), having seen expectations for the auction as relatively modest (without a firm price expectation from nearly anyone aside ourselves on the Street).

## ... Now Back to the Details of this Auction...

### What else cleared? Likely LS Power's Wallingford units

Following recent success in obtaining permits to develop, we suspect LS Power has opted to expand its Wallingford site it acquired from PPL in 2011. The expansion would include two peaking plants (likely dual fuel as well) in CT, totalling 90MW (45 MWs each).

### Appears NRG did not clear any new capacity in the SEMA region

NRG likely did not clear its proposed 340 MW CCGT repowering at its Canal site within its GenOn unit, as was widely anticipated by many. With the need to bolster the FCF outlook for its GenOn subsidiary into a potential refi later this year of its '17 maturities, the new asset would have helped on the margin. We suspect *did not clear*, seeing both that NRG may yet have succeeded in placing a bilateral contracts with local muni's for its offtake as well as finding adequate capital to finance the plant's construction (likely ~\$350 Mn in capital a minimum) at the GenOn level. We suspect the plant may still yet be developed as the SEMA region cleared *deficient still* to the tune of 238 MWs (out of a 7.479GW needed).

### PSEG does not appear to have cleared its Bridgeport unit either

While some investor expectations had been keen to see PSEG clear its proposed 450 MW 1x1 CCGT at the Bridgeport location. We suspect between its relatively high price tag of \$1,400/kW and PSEG's very conservative mgmt team, there was always little chance the asset would clear.

## Detailing the Big Changes YoY

### Demand response sees another step-down

The auction appears to have gone forward as anticipated, with Demand Response continuing to see a pullback YoY, likely as a reflection of the pending EPSA case before the Supreme Court. We continue to see this as a major driver of YoY reversal of DR in the wider upcoming PJM auction (cut nearly in half). We suspect much of the remaining DR in the case of New England is actually 'passive DR', otherwise known as energy efficiency.

### But what about imports? Saw a move back to reflect capacity

Imports stepped back up by 213 MWs, reflecting the tacit push by the FERC to clear more capacity in the auction (following the FERC show cause around the last auction) as well as simply reflecting the higher prices YoY. We note greater transmission likely did not materialize as participants like HQ, are unlikely to have wanted to commit their units into New England for fear of facing penalties if they couldn't source adequate capacity from their source during any eventual performance period. Rather, this provides transmission owners continued flexibility in selling between the two markets.

### The key question remains whether transmission fall off again next year?

We see transmission imports as liable to fall off partially again, as prices *without* any offsetting decline in transmission and DR would likely crash as low as \$4-5/kw-mo. We suspect floors around transmission and tolerances for DR to continue to participate suggest a trend towards \$5-6/kW-mo. We're maintaining our formal auction expectation in the long-term at \$6/kW-mo for modelling purposes.

Figure 1: FCA #9: ~34.7GW capacity acquired with ~1GW new generation

| Forward Capacity Auction (FCA) #            | 4             | 5             | 6             | 7              | 8              | 9              |
|---|---------------|---------------|---------------|----------------|----------------|----------------|
| Period                                      | 2013/14       | 2014/15       | 2015/16       | 2016/17        | 2017/18        | 2018/19        |
| <b>Resources Cleared (a+b+c)</b>            | <b>37,588</b> | <b>37,040</b> | <b>36,326</b> | <b>36,219</b>  | <b>33,702</b>  |                |
| <b>Generating Resources (a)</b>             | <b>32,247</b> | <b>31,439</b> | <b>30,757</b> | <b>31,641</b>  | <b>29,424</b>  | <b>30,442</b>  |
| Existing                                    | 32,103        | 31,397        | 30,678        | 30,841         | 29,397         | 29,437         |
| New   | 144           | 42            | 79            | 800            | 27             | 1,005          |
| <b>Demand Resources (b)</b>                 | <b>3,349</b>  | <b>3,590</b>  | <b>3,645</b>  | <b>→ 2,748</b> | <b>→ 3,042</b> | <b>→ 2,803</b> |
| YoY Change                                  |               | 3,590         | 296           | (842)          | (603)          | (239)          |
| <b>Percent of Total Cleared</b>             | <b>8.9%</b>   | <b>9.7%</b>   | <b>10.0%</b>  | <b>7.6%</b>    | <b>9.0%</b>    |                |
| Existing                                    | 2,834         | 3,327         | 3,331         | 2,503          | 2,686          |                |
| New   | 515           | 263           | 314           | 245            | 355            | 367            |
| Onpeak                                      | 970           | 1,134         | 1,288         | 1,320          | 1,604          |                |
| Seasonal Peak                               | 328           | 352           | 355           | 312            | 357            |                |
| Real Time                                   | 1,363         | 1,382         | 1,385         | 854            | 810            |                |
| Real Time Emergency Generators (RTEG)       | 688           | 722           | 617           | 262            | 271            |                |
| Energy Efficiency & Distributed Gen         | 1,295         | 1,486         | 1,770         | 1,752          | 2,059          |                |
| <b>Implied Remaining MWs of 'Active' DR</b> | <b>2,054</b>  | <b>2,104</b>  | <b>1,875</b>  | <b>996</b>     | <b>983</b>     |                |
| <b>Cleared Imports (c)</b>                  | <b>1,992</b>  | <b>2,011</b>  | <b>1,924</b>  | <b>1,830</b>   | <b>→ 1,236</b> | <b>→ 1,449</b> |
| YoY Change                                  |               | 2,011         | (68)          | (181)          | (688)          | 213            |
| Existing                                    | 1,161         | 1,140         | 276           | 112            | 82             |                |
| New   | 831           | 871           | 1,648         | 1,718          | 1,154          |                |

Source: ISO New England

## Totalling up what cleared in the latest auction

We include our best estimate of what cleared in the latest New England auction. Overall, we continue to under-appreciate the low cost of capital employed and the total magnitude of new capacity entering the restructured markets of late. We see the auction as politically important in demonstrating the ability for suppliers to respond to robust price signals to develop new assets. The auction had 5.4GW of new resources qualified to compete. All of them have likely elected to receive the cleared price for a 7-year period as part of the new build lock-in.

**Figure 2: New generation cleared in FCA #9**

| Owner               | Power Plant          | Capacity (MW) | Region | Fuel                |
|---------------------|----------------------|---------------|--------|---------------------|
| CPV                 | Towantic             | 725           | CT     | Dual Fuel (Oil/Gas) |
| LS Power            | Wallingford 1st Unit | ~45           | CT     | Dual Fuel (Oil/Gas) |
| LS Power            | Wallingford 2nd Unit | ~45           | CT     | Dual Fuel (Oil/Gas) |
| EXC                 | Medway               | ~190          | MA     | Dual Fuel (Oil/Gas) |
| <b>New Capacity</b> |                      | <b>1,005</b>  |        |                     |

Source: ISO New England, SNL, UBS estimates; unclear if remaining units are dual fuel

## Looking at the previous auction trends

Below we show our forecast and actual FCA 9 clearing prices (vs actual historicals). We flag our formal estimate of \$10/kW-mo and our range of \$9-13/kW-mo compares to our modelled estimate of \$9.57 and the actual result of \$9.55.

**Figure 3: Actual vs Forecast FCA 9 Results – We're relatively close...**

| ISO New England FCM Results - Historic & UBS Forecast      |         |         |         |         |         | Forecasted | Actual  | Forecasted |
|--|---------|---------|---------|---------|---------|------------|---------|------------|
| FCA Auction #  | 4       | 5       | 6       | 7       | 8       | 9          | 9       | 10         |
| Auction Date   |         |         |         | Feb '13 | Feb '14 | Feb '15    | Feb '15 | Feb '16    |
| Period (Years)   | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19    | 2018/19 | 2019/20    |
| Net CONE (Updated)   | 4.918   | 5.349   | 5.723   | 6.05    | 6.39    | 11.08      | 11.08   | 11.08      |
| Increase/Decrease  |         | 9%      | 7%      | 6%      | 6%      | 74%        | 74%     |            |
| Clearing Price, \$/kW-month (Actual/Forecasted)            | 2.95    | 3.21    | 3.43    | 3.15    | 7.025   | 10.00      | 9.55    | 6.00       |
| Increase/Decrease  |         | 9%      | 7%      | -8%     | 123%    | 42%        | 42%     | -40%       |
| Pro-Rated Price (Actual/Forecasted)                        | 2.52    | 2.86    | 3.13    | 2.88    | 7.025   | 10.00      | 9.550   | 6.00       |
| \$/MW-day Equivalent                                       | 82.72   | 94.03   | 102.87  | 94.78   | 230.96  | 328.77     | 313.97  | 197.26     |
| SEMA (Southeast Mass Clearing Price)                       |         |         |         |         |         | 11.08      | 11.08   | 6.00       |
| NEMA (Boston Clearing Price), \$/kW-month [1x1 * Net CONE] |         |         |         | 6.66    | 15.00   | 10.00      | 9.55    | 6.00       |
| \$/MW-day Equivalent                                       |         |         |         | 219     | 493     | 329        | 314     | 197        |

Source: ISO New England, UBS estimates

## Impact from potential change in 2018/19 clearing prices

Below we show the impact on EPS/EBITDA for companies exposed to New England generation; we split their generation assets according to exposure to SEMA, NEMA and ROP.

**Figure 4: Capacity Revenue YoY Uplift in 2018/19 Auction vs. 2017/18 by Company**

| FCM Capacity<br>Market Upside               | Nameplate<br>Capacity (MW) | EFORD Adj. (MW) | Shares | \$10/kW-<br>month (Rest<br>of Pool)<br>(\$mn) | \$10/kW-<br>month<br>(NEMA)<br>(\$mn) | \$11/kW-<br>month<br>(SEMA)<br>(\$mn) | Impact to<br>EPS or<br>EBITDA<br>(\$) | % of<br>total<br>2017 UBS<br>Estimate |
|---|----------------------------|-----------------|--------|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| <i>YoY Improvement from '17/'18 auction</i> |                            |                 |        |   |                                       |                                       |                                       |                                       |
| NRG ROP                                     | 1,845                      | 1,707           | 323    | 61  |                                       |                                       | 61                                    |                                       |
| NRG SEMA                                    | 1,143                      | 1,057           | 323    |   |                                       | 51                                    | <u>51</u>                             |                                       |
| NRG Total                                   |                            |                 |        |   |                                       |                                       | <b>112</b>                            | <b>3.7%</b>                           |
| Dynegy                                      | 1,810                      | 1,720           | N/A    | 61  |                                       |                                       | <b>61</b>                             | <b>5.1%</b>                           |
| NEE ROP                                     | 1,880                      | 1,739           | 427    | 62  |                                       |                                       | 0.09                                  |                                       |
| NEE SEMA                                    | 168                        | 155             | 427    |   |                                       | 8                                     | <u>0.01</u>                           |                                       |
| NEE Total                                   |                            |                 |        |   |                                       |                                       | <b>0.11</b>                           | <b>1.7%</b>                           |
| D ROP                                       | 2,576                      | 2,447           | 580    | 87  |                                       |                                       | <b>0.10</b>                           | <b>2.3%</b>                           |
| ETR SEMA                                    | 683                        | 632             | 179    |   |                                       | 31                                    | 0.11                                  |                                       |
| ETR ROP                                     | 588                        | 544             | 179    | 19  |                                       |                                       | <u>0.07</u>                           |                                       |
| ETR Total                                   |                            |                 |        |   |                                       |                                       | <b>0.18</b>                           | <b>3.1%</b>                           |
| PSEG  | 1,161                      | 1,073           | 508    | 38  |                                       |                                       | <b>0.05</b>                           | <b>1.7%</b>                           |
| CPN ROP                                     | 554                        | 526             | 445    | 19  |                                       |                                       | 19                                    |                                       |
| CPN SEMA                                    | 837                        | 795             | 445    |   |                                       | 39                                    | <u>39</u>                             |                                       |
| CPN Total                                   |                            |                 |        |   |                                       |                                       | <b>57</b>                             | <b>2.7%</b>                           |
| EXC SEMA                                    | 2,273                      | 2,103           | 860    |   |                                       | 102                                   | 0.08                                  |                                       |
| EXC NEMA                                    | 247                        | 228             | 860    |   | (14)                                  |                                       | -0.01                                 |                                       |
| EXC ROP                                     | 36                         | 33              | 860    | 1   |                                       |                                       | <u>0.00</u>                           |                                       |
| EXC Total                                   |                            |                 |        |   |                                       |                                       | <b>0.07</b>                           | <b>2.5%</b>                           |
| <b>Total</b>                                | <b>15,800</b>              | <b>14,615</b>   |        | <b>349</b>                                    | <b>(14)</b>                           | <b>231</b>                            |                                       |                                       |

Source: UBS estimates, ISO New England, Company Sources, Factset

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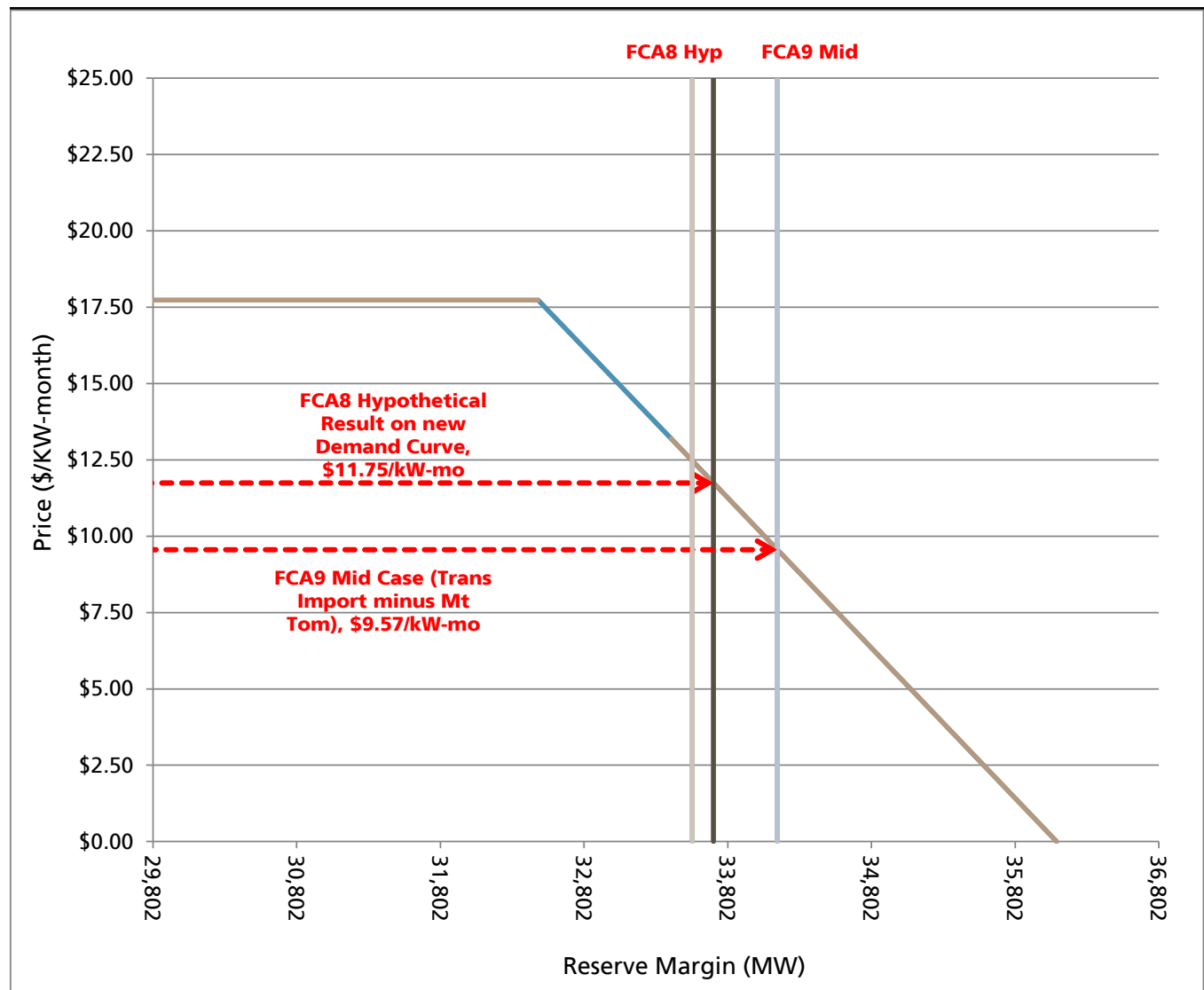
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[Burning the Midnight Oil as Clock Counts Down on New England's Adequacy](#)

**For those also interested in the latest at PJM, please refer to our note from Tuesday following our recent trip.**

## What did the demand curves look like?

Figure 5: FCA9 Auction Results, as best we see it.



Source: ISO-NE and UBS estimates

## Figures supporting the New Demand Curves

We delineate the three clearing assumptions on the figure in the bottom right scenarios below. We don't explicitly include new generation as a positive to capacity under any, seeing this as a 'high' price scenario. We flag our model derived a price of \$9.57/kW-mo vs. the actual auction price of \$9.55.

**Figure 6: Demand Curve Assumptions for our ISO-NE Mini-Model**

| ISO-NE Demand Curve      |                  |         |   |        |                  |         |
|--------------------------|------------------|---------|---|--------|------------------|---------|
| Net Cone                 |                  |         | Multiplier  |        |                  |         |
| Revised                  |                  |         | \$11.08   |        |                  |         |
| Prior                    |                  |         | \$11.08   |        |                  |         |
| Revised                  |                  |         | Prior   |        |                  |         |
| LOLE                     | Reserve Margin % | MWs     | Price   | LOLE   | Reserve Margin % | Price   |
| 0.20                     | 0.0%             |         | 29,802 \$17.73                                      | 0.14   | 0.0%             | \$18.28 |
| 0.20                     | 9.0%             |         | 32,484 \$17.73                                      | 0.14   | 10.6%            | \$18.28 |
| 0.10                     | 12.1%            |         | 33,408 \$13.20                                      | 0.10   | 12.1%            | \$14.10 |
| 0.01                     | 21.1%            |         | 36,090 \$0.00                                       | 0.06   | 14.5%            | \$7.70  |
|                          |                  |         |   | 0.01   | 21.5%            | \$0.00  |
| <b>Min Acceptable RM</b> |                  |         | <b>FCA8 Hypothetical Result on new Demand Curve</b> |        |                  |         |
| Reserve Margin %         | Price            |         | Reserve Margin %                                    | Price  |                  |         |
| 9%                       | 32,484           | \$0.00  | 12%   | 33,702 | \$0.00           |         |
| 9%                       | 32,484           | \$25.00 | 12%   | 33,702 | \$25.00          |         |
| <b>Net CONE</b>          |                  |         | <b>Cross</b>  | -      | <b>\$11.75</b>   |         |
| 0%                       | 29,802           | \$11.08 | FCA8 Hyp  |        | \$11.75          |         |
| 12%                      | 33,408           | \$11.08 |   |        |                  |         |
|                          |                  |         | <b>FCA9 Mid Case (Trans Import minus Mt Tom)</b>    |        |                  |         |
|                          |                  |         | 590 Full Transmission Imports                       |        |                  |         |
|                          |                  |         | (146) Retirement of Mt Tom                          |        |                  |         |
|                          |                  |         | 444 34,146 \$0.00                                   |        |                  |         |
|                          |                  |         | 34,146 \$25.00                                      |        |                  |         |
|                          |                  |         | <b>Cross</b> - <b>\$9.57</b>                        |        |                  |         |
|                          |                  |         | FCA9 Mid \$9.57                                     |        |                  |         |
|                          |                  |         | <b>FCA9 New Gas Case - No Transmission Imports</b>  |        |                  |         |
|                          |                  |         | (146) 33,556 \$0.00                                 |        |                  |         |
|                          |                  |         | 33,556 \$25.00                                      |        |                  |         |
|                          |                  |         | <b>Cross</b> - <b>\$12.47</b>                       |        |                  |         |
|                          |                  |         | FCA9 New \$12.47                                    |        |                  |         |

Source: ISO-NE and UBS estimates

## But where could it clear in future years?

We include our initial assessment of FCA10 using the FCA9 model as our baseline still. We estimate the auction, when including 1005MWs of new generation without any offsets would clear near \$4.60/kW-mo.

Figure 7: ISO-NE Auction Results Scenario for FCA10.. Low-Case

| <b>FCA10 Low Case - using FCA9 as a Baseline...</b> |                            |               |  |
|---|----------------------------|---------------|--|
| 213   | Full Transmission Imports  |               |  |
| (239)   | Demand Response            |               |  |
| (146)   | Retirement of Mt Tom       |               |  |
| 620   | Other Adjustment to Plug   |               |  |
| 448   | FCA9 Baseline to \$9.55    |               |  |
| 725   | CPV Towantic Energy Center |               |  |
| 90  | LS Power Wallingford       |               |  |
| 190   | EXC Medway                 |               |  |
| 1,453   | 35,155                     | \$0.00        |  |
|   | 35,155                     | \$25.00       |  |
| <b>Cross</b>  | -                          | <b>\$4.60</b> |  |
| FCA10 Mid   |                            | \$4.60        |  |

Source: ISO-NE and UBS estimates

## Our More Realistic FCA10 Case

We suspect Demand Response will continue to re-entrench and transmission imports will choose not to sell at this lower price, suggesting prices could yet normalize closer to the \$6/kW-mo range. Assuming imports are entirely reversed out (not out of the question seeing prices were at this level just last year), this becomes the key wildcard.

Figure 8: FCA10 Mid-Case

| <b>FCA10 Mid Case - using FCA9 as a Baseline...</b> |                            |               |  |
|---|----------------------------|---------------|--|
| 213   | Full Transmission Imports  |               |  |
| (239)   | Demand Response            |               |  |
| (146)   | Retirement of Mt Tom       |               |  |
| 620   | Other Adjustment to Plug   |               |  |
| 448   | FCA9 Baseline to \$9.55    |               |  |
| (213)   | Imports Reversal           |               |  |
| (239)   | Continued DR Declines      |               |  |
| 725   | CPV Towantic Energy Center |               |  |
| 90  | LS Power Wallingford       |               |  |
| 190   | EXC Medway                 |               |  |
| 1,001   | 34,703                     | \$0.00        |  |
|   | 34,703                     | \$25.00       |  |
| <b>Cross</b>  | -                          | <b>\$6.83</b> |  |
| FCA10 Low   |                            | \$6.83        |  |

Source: ISO-NE and UBS estimates



We include a list of the plants used for our analysis for calculating EPS/EBITDA sensitivity below:

**Figure 9: New England Capacity (for companies analysed in this report)**

| Owner           | Power Plant Name                     | ISO(s)      | State/<br>Province | Region | Owned<br>Existing<br>Capacity (MW) | Technology     |
|-----------------|--------------------------------------|-------------|--------------------|--------|------------------------------------|----------------|
| Calpine Corp.   | Fore River                           | New England | MA                 | SEMA   | 836.6                              | Combined Cycle |
| Calpine Corp.   | Westbrook Energy Center              | New England | ME                 | ROP    | 553.5                              | Combined Cycle |
| Dominion Energy | Dominion Bridgeport Fuel Cell        | New England | CT                 | ROP    | 14.9                               | Fuel Cell      |
| Dominion Energy | Manchester Street                    | New England | RI                 | ROP    | 510.2                              | Combined Cycle |
| Dominion Energy | Millstone                            | New England | CT                 | ROP    | 2035.7                             | Nuclear        |
| Dominion Energy | Rumford Cogeneration                 | New England | ME                 | ROP    | 9.7                                | Steam Turbine  |
| Dominion Energy | Somers Solar Center Facility         | New England | CT                 | ROP    | 5.0                                | Photovoltaic   |
| Entergy         | Pilgrim Nuclear Power Station        | New England | MA                 | SEMA   | 683.4                              | Nuclear        |
| Entergy         | Rhode Island State Energy Center     | New England | RI                 | ROP    | 588.0                              | Combined Cycle |
| Exelon          | Dracut                               | New England | MA                 | SEMA   | 0.4                                | Photovoltaic   |
| Exelon          | Framingham                           | New England | MA                 | NEMA   | 43.4                               | Gas Turbine    |
| Exelon          | Holyoke Solar Cooperative at Mueller | New England | MA                 | SEMA   | 2.7                                | Photovoltaic   |
| Exelon          | Medway CT                            | New England | MA                 | NEMA   | 181.4                              | Gas Turbine    |
| Exelon          | Mystic                               | New England | MA                 | SEMA   | 560.5                              | Steam Turbine  |
| Exelon          | Mystic CT                            | New England | MA                 | SEMA   | 11.8                               | Gas Turbine    |
| Exelon          | Mystic River 8 and 9                 | New England | MA                 | SEMA   | 1693.7                             | Combined Cycle |
| Exelon          | New Boston CT                        | New England | MA                 | NEMA   | 21.8                               | Gas Turbine    |
| Exelon          | Norfolk Medway Branch Solar Project  | New England | MA                 | SEMA   | 1.2                                | Photovoltaic   |

Source: SNL, ISO New England

**Figure 10: Cont'd: New England Capacity (for companies analysed in this report)**

| Owner          | Power Plant Name                      | ISO(s)      | State/<br>Province | Region | Owned<br>Existing<br>Capacity (MW) | Technology        |
|----------------|---------------------------------------|-------------|--------------------|--------|------------------------------------|-------------------|
| Exelon         | Springdale Industrial Park Solar Farm | New England | MA                 | SEMA   | 1.0                                | Photovoltaic      |
| Exelon         | Uxbridge Commerce Drive Solar Project | New England | MA                 | SEMA   | 1.8                                | Photovoltaic      |
| Exelon         | William F. Wyman                      | New England | ME                 | ROP    | 35.7                               | Steam Turbine     |
| NextEra Energy | Bates Mill Upper                      | New England | ME                 | ROP    | 2.7                                | Hydraulic Turbine |
| NextEra Energy | Bellingham Cogeneration               | New England | MA                 | SEMA   | 168.0                              | Combined Cycle    |
| NextEra Energy | Cape Gas Turbine                      | New England | ME                 | ROP    | 40.0                               | Gas Turbine       |
| NextEra Energy | Cataract W Channel                    | New England | ME                 | ROP    | 0.9                                | Hydraulic Turbine |
| NextEra Energy | Continental Mills                     | New England | ME                 | ROP    | 1.4                                | Hydraulic Turbine |
| NextEra Energy | Hill Mill                             | New England | ME                 | ROP    | 1.8                                | Hydraulic Turbine |
| NextEra Energy | Seabrook                              | New England | NH                 | ROP    | 1 100.0                            | Nuclear           |
| NextEra Energy | William F. Wyman                      | New England | ME                 | ROP    | 733.6                              | Steam Turbine     |
| PSEG           | Bridgeport Harbor 2                   | New England | CT                 | ROP    | 146.2                              | Steam Turbine     |
| PSEG           | Bridgeport Harbor 3                   | New England | CT                 | ROP    | 389.1                              | Steam Turbine     |
| PSEG           | Bridgeport Harbor CT                  | New England | CT                 | ROP    | 21.9                               | Gas Turbine       |
| PSEG           | New Haven Harbor                      | New England | CT                 | ROP    | 455.6                              | Steam Turbine     |
| PSEG           | New Haven Harbor Peaking              | New England | CT                 | ROP    | 145.5                              | Gas Turbine       |
| PSEG           | PSEG Essex Solar                      | New England | VT                 | ROP    | 2.2                                | Photovoltaic      |
| Equipower/DYN  | Lake Road                             | New England | CT                 | ROP    | 812.0                              | Combined Cycle    |
| Equipower/DYN  | Masspower                             | New England | MA                 | ROP    | 265.0                              | Combined Cycle    |
| Equipower/DYN  | Dighton                               | New England | MA                 | SEMA   | 178.0                              | Combined Cycle    |
| Equipower/DYN  | Milford                               | New England | MA                 | SEMA   | 555.0                              | Combined Cycle    |

Source: SNL, ISO New England

**Figure 11: ISO-NE FCA 8 Auction Results – SEMA Region**

| Name                           | Type      | Intermittent | Generating Fuel Type | DR Type | Active/Passive | Load Zone | Summer Qual | Winter Qual | FCA Qual |
|--------------------------------|-----------|--------------|----------------------|---------|----------------|-----------|-------------|-------------|----------|
| CANAL 1                        | Generator | No           | OIL                  |         |                | SEMASS    | 547.1       | 564.8       | 547.1    |
| CANAL 2                        | Generator | No           | OIL/GAS              |         |                | SEMASS    | 545.1       | 561.0       | 545.1    |
| CLEARY 99A CC                  | Generator | No           | OIL/GAS              |         |                | SEMASS    | 104.9       | 109.9       | 104.9    |
| CLEARY 8                       | Generator | No           | OIL                  |         |                | SEMASS    | 25.9        | 26.0        | 25.9     |
| DARTMOUTH POWER                | Generator | No           | GAS                  |         |                | SEMASS    | 62.2        | 68.0        | 62.2     |
| MILFORD POWER                  | Generator | No           | GAS                  |         |                | SEMASS    | 149.0       | 170.7       | 149.0    |
| NEA BELLINGHAM                 | Generator | No           | GAS                  |         |                | SEMASS    | 277.6       | 336.5       | 277.6    |
| PILGRIM NUCLEAR POWER STATION  | Generator | No           | NUCLEAR              |         |                | SEMASS    | 677.3       | 684.7       | 677.3    |
| POTTER 2 CC                    | Generator | No           | OIL/GAS              |         |                | SEMASS    | 74.2        | 92.2        | 74.2     |
| SEMASS 1                       | Generator | Yes          | REFUSE               |         |                | SEMASS    | 47.0        | 49.1        | 47.0     |
| SEMASS 2                       | Generator | Yes          | REFUSE               |         |                | SEMASS    | 22.1        | 25.0        | 22.1     |
| WEST MEDWAY JET 3              | Generator | No           | OIL                  |         |                | SEMASS    | 35.4        | 55.8        | 35.4     |
| ATTLEBORO LANDFILL - QF        | Generator | Yes          | LANDFILL GAS         |         |                | SEMASS    | 0.2         | 0.3         | 0.2      |
| BG DIGHTON POWER LLC           | Generator | No           | GAS                  |         |                | SEMASS    | 160.3       | 185.0       | 160.3    |
| BUNKER RD #12 GAS TURB         | Generator | No           | GAS                  |         |                | SEMASS    | 2.4         | 3.0         | 2.4      |
| BUNKER RD #13 GAS TURB         | Generator | No           | GAS                  |         |                | SEMASS    | 2.8         | 3.3         | 2.8      |
| OAK BLUFFS                     | Generator | No           | DIESEL OIL           |         |                | SEMASS    | 8.1         | 8.1         | 8.1      |
| WEST TISBURY                   | Generator | No           | DIESEL OIL           |         |                | SEMASS    | 5.6         | 5.6         | 5.6      |
| ANP-BLACKSTONE ENERGY CO. #1   | Generator | No           | GAS                  |         |                | SEMASS    | 237.4       | 276.4       | 237.4    |
| ANP-BLACKSTONE ENERGY 2        | Generator | No           | GAS                  |         |                | SEMASS    | 241.2       | 279.3       | 241.2    |
| ANP-BELLINGHAM 1               | Generator | No           | GAS                  |         |                | SEMASS    | 241.4       | 287.6       | 241.4    |
| ANP-BELLINGHAM 2               | Generator | No           | GAS                  |         |                | SEMASS    | 243.6       | 293.8       | 243.6    |
| GRS-FALL RIVER                 | Generator | No           | WOOD/REFUSE          |         |                | SEMASS    | 3.1         | 3.8         | 3.1      |
| HULL WIND TURBINE U5           | Generator | Yes          | WIND                 |         |                | SEMASS    | 0.0         | 0.2         | 0.0      |
| FORE RIVER-1                   | Generator | No           | GAS                  |         |                | SEMASS    | 688.3       | 836.6       | 688.3    |
| PLAINVILLE GEN QF U5           | Generator | Yes          | METHANE/REFUSE       |         |                | SEMASS    | 3.0         | 3.2         | 3.0      |
| ngrid sema odr eeproject_1     | Demand    |              |                      | ON_PEAK | Passive        | SEMASS    | 5.6         | 5.3         | 5.6      |
| NSTAR SEMA                     | Demand    |              |                      | ON_PEAK | Passive        | SEMASS    | 3.6         | 3.4         | 3.6      |
| GRTR NEW BEDFORD LFG UTIL PROJ | Generator | Yes          | LANDFILL GAS         |         |                | SEMASS    | 2.6         | 2.7         | 2.6      |
| HULL WIND TURBINE II           | Generator | Yes          | WIND                 |         |                | SEMASS    | 0.1         | 0.3         | 0.1      |
| BROCKTON BRIGHTFIELDS          | Generator | Yes          | SOLAR                |         |                | SEMASS    | 0.1         | 0.0         | 0.1      |
| Thomas A. Watson               | Generator | No           | GAS                  |         |                | SEMASS    | 105.2       | 114.8       | 105.2    |
| ngrid_sema_fca1_eeodr          | Demand    |              |                      | ON_PEAK | Passive        | SEMASS    | 120.8       | 106.7       | 120.8    |
| NSTAR EE SEMA                  | Demand    |              |                      | ON_PEAK | Passive        | SEMASS    | 38.8        | 35.6        | 38.8     |

Source: ISO New England

**Figure 12: Cont'd: ISO-NE FCA 8 Auction Results – SEMA Region**

| Name   | Type      | Intermittent | Generating Fuel Type | DR Type   | Active/Passive | Load Zone | Summer Qual   | Winter Qual   | FCA Qual      |
|--|-----------|--------------|----------------------|-----------|----------------|-----------|---------------|---------------|---------------|
| Acushnet Company - Ball Plant II - Combined Heat and Power Project | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 2.1           | 2.1           | 2.1           |
| Cape Light Compact Energy Efficiency Portfolio                     | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 23.8          | 22.4          | 23.8          |
| Bridgewater Correctional Complex Cogeneration                      | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 1.4           | 1.4           | 1.4           |
| Norfolk Walpole Correctional Complex Cogeneration                  | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 1.3           | 1.3           | 1.3           |
| MA SEMA state colleges   | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 0.1           | 0.1           | 0.1           |
| CSG Aggregation of DG and 24 hr lighting EE - SEMA1                | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 1.5           | 1.5           | 1.5           |
| CPLN MA SEMA OP  | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 0.2           | 0.2           | 0.2           |
| Dartmouth Power Expansion  | Generator | No           | GAS                  |           |                | SEMASS    | 20.6          | 21.3          | 20.6          |
| Plymouth Wind  | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 0.3           | 0.5           | 0.3           |
| Main Street Whitinsville PV  | Generator | Yes          | SOLAR                |           |                | SEMASS    | 0.3           | 0.0           | 0.3           |
| RTDR_50744_Lower SEMA (7511) - Grp C                               | Demand    |              |                      | REAL_TIME | Active         | SEMASS    | 0.9           | 0.9           | 0.9           |
| RTDR_50744_SEMA (7512) - Grp C                                     | Demand    |              |                      | REAL_TIME | Active         | SEMASS    | 5.7           | 5.7           | 5.7           |
| RTDR_50786_Lower SEMA (7511)                                       | Demand    |              |                      | REAL_TIME | Active         | SEMASS    | 5.0           | 5.0           | 5.0           |
| RTDR_50786_SEMA (7512)   | Demand    |              |                      | REAL_TIME | Active         | SEMASS    | 12.4          | 12.4          | 12.4          |
| RTEG_50017_Lower SEMA (7511)                                       | Demand    |              |                      | REAL_TIME | Active         | SEMASS    | 5.4           | 5.4           | 5.4           |
| Cape Wind Offshore   | Generator | Yes          | Wind                 |           |                | SEMASS    | 74.2          | 145.7         | 74.2          |
| East Bridgewater Solar Energy Project                              | Generator | Yes          | Solar                |           |                | SEMASS    | 0.9           | 0.0           | 0.9           |
| RTDR_50017_Lower SEMA (7511) - 3                                   | Demand    |              |                      | REAL_TIME | Active         | SEMASS    | 5.2           | 4.4           | 5.2           |
| RTDR_50017_SEMA (7512) - 3   | Demand    |              |                      | REAL_TIME | Active         | SEMASS    | 31.9          | 27.0          | 31.9          |
| RTEG_50017_SEMA (7512) - 3   | Demand    |              |                      | REAL_TIME | Active         | SEMASS    | 10.6          | 10.6          | 10.6          |
| ngrid_sema_fca1_eeodr  | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 24.4          | 26.5          | 24.4          |
| NSTAR EE SEMA  | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 27.5          | 29.8          | 27.5          |
| Cape Light Compact Energy Efficiency Portfolio                     | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 7.6           | 22.4          | 7.6           |
| CPLN MA SEMA OP  | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 1.1           | 1.1           | 1.1           |
| SEMA EE  | Demand    |              |                      | ON_PEAK   | Passive        | SEMASS    | 0.5           | 0.5           | 0.5           |
| <b>Total Generation</b>  |           |              |                      |           |                |           | <b>4608.9</b> | <b>5214.7</b> | <b>4608.9</b> |
| <b>Total DR</b>  |           |              |                      |           |                |           | <b>337.9</b>  | <b>332.3</b>  | <b>337.9</b>  |
| <b>Total Capacity</b>  |           |              |                      |           |                |           | <b>4946.8</b> | <b>5547.0</b> | <b>4946.8</b> |

Source: ISO New England

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Risks for Utilities and Independent Power Producers (IPPs) primarily relate to volatile commodity prices for power, natural gas, and coal. Risks to IPPs also stem from load variability, and operational risk in running these facilities. Rising coal and, to a certain extent, uranium prices could pressure margins as the fuel hedges roll off Competitive Integrations. Further, IPPs face declining revenues as in the money power and gas hedges roll off. Other non-regulated risks include weather and for some, foreign currency risk, which again must be diligently accounted in the company's risk management operations. Major external factors, which affect our valuation, are environmental risks. Environmental capex could escalate if stricter emission standards are implemented. We believe a nuclear accident or a change in the Nuclear Regulatory Commission/Environment Protection Agency regulations could have a negative impact on our estimates. Risks for regulated utilities include the uncertainty around the composition of state regulatory Commissions, adverse regulatory changes, unfavorable weather conditions, variance from normal population growth, and changes in customer mix. Changes in macroeconomic factors will affect customer additions/subtractions and usage patterns.

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|--|---------|-----------------|-------------------|------------|-------------|
| <b>Calpine Corporation</b> <sup>2, 4, 5, 6a, 16</sup>        | CPN.N   | Neutral         | N/A               | US\$21.70  | 04 Feb 2015 |
| <b>Dominion Resources</b> <sup>2, 4, 6a, 6b, 6c, 7, 16</sup> | D.N     | Buy             | N/A               | US\$77.63  | 04 Feb 2015 |
| <b>Dynegy, Inc.</b> <sup>2, 4, 5, 6a, 16</sup>               | DYN.N   | Buy             | N/A               | US\$28.29  | 04 Feb 2015 |
| <b>Entergy Corp.</b> <sup>16</sup>                           | ETR.N   | Neutral         | N/A               | US\$87.47  | 04 Feb 2015 |
| <b>Eversource Energy</b> <sup>13, 16</sup>                   | NU.N    | Buy             | N/A               | US\$55.61  | 04 Feb 2015 |
| <b>Exelon Corp.</b> <sup>4, 5, 6a, 6c, 7, 16</sup>           | EXC.N   | Neutral         | N/A               | US\$36.19  | 04 Feb 2015 |
| <b>NextEra Energy</b> <sup>2, 4, 5, 6a, 16</sup>             | NEE.N   | Buy             | N/A               | US\$109.44 | 04 Feb 2015 |
| <b>NRG Energy Inc.</b> <sup>16</sup>                         | NRG.N   | Buy             | N/A               | US\$26.04  | 04 Feb 2015 |
| <b>Public Service Enterprise Group</b> <sup>6b, 7, 16</sup>  | PEG.N   | Neutral         | N/A               | US\$42.18  | 04 Feb 2015 |

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