NCSL Legislative Summit: 2016
The Electric Grid Revolution and the Clean Power Plan

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U.S. Power Plants by Fuel Type

Electric Sector Trends and Macroeconomic Indicators

**Electric Sector Emissions**
(Indexed; 2000 = 100)

- CO₂: 85
- SO₂: 26
- NOx: 20

**Generation Fuel Mix**
(Indexed; 2000 = 100)

- Natural Gas: 222
- Renewable*: 154
- Nuclear: 106
- Coal: 69
- Total Generation: 

**Macroeconomic Indicators**
(Indexed; 2000 = 100)

- GDP**: 130

*Includes hydroelectric, wind, solar, biomass, geothermal and other renewable sources.

**GDP in chained 2009 dollars.

Source: MJB&A Analysis; EPA Clean Air Markets Data Acid Rain Program; U.S. EIA Net Generation for All Sectors; U.S. Department of Commerce Bureau of Economic Analysis Gross Domestic Product.
Annual Capacity Factors by Fuel Type and Technology (%)

## Total U.S. ERC/CO₂ Price

### Allowance Prices (2012$/ton)

<table>
<thead>
<tr>
<th>Code</th>
<th>Assumptions</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB03</td>
<td>Existing + New, National, Current EE</td>
<td>$0.00</td>
<td>$6.05</td>
</tr>
<tr>
<td>MB04</td>
<td>Existing + New, National, 1% EE</td>
<td>$0.00</td>
<td>$2.97</td>
</tr>
<tr>
<td>MB05</td>
<td>Existing + New, National, 2% EE</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>MB07</td>
<td>Existing Only, National, Current EE</td>
<td>$0.00</td>
<td>$4.14</td>
</tr>
</tbody>
</table>

**Note:** This analysis does not assume banking of allowances and the CPP goals are assumed to remain constant post-2030.

### ERC Prices (2012$/MWh)

<table>
<thead>
<tr>
<th>Code</th>
<th>Assumptions</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR01</td>
<td>Dual Rate, Current EE</td>
<td>$1.26</td>
<td>$20.79</td>
</tr>
<tr>
<td>DR02</td>
<td>Dual Rate, 1% EE</td>
<td>$0.00</td>
<td>$11.69</td>
</tr>
<tr>
<td>DR03</td>
<td>Dual Rate, 2% EE</td>
<td>$0.00</td>
<td>$3.18</td>
</tr>
</tbody>
</table>

**Note:** Nationwide trading of RE, EE, Nuclear, and GS-ERCs (except California and RGGI).
Generation Fuel Mix: 2030

<table>
<thead>
<tr>
<th>Reference Cases</th>
<th>TWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Case [RCa, no EE]</td>
<td>1,214</td>
</tr>
<tr>
<td>Reference Case [RCb, CEE]</td>
<td>1,160</td>
</tr>
<tr>
<td>MB03 [E+N, National, CEE]</td>
<td>965</td>
</tr>
<tr>
<td>MB04 [E+N, National, EE1]</td>
<td>1,003</td>
</tr>
<tr>
<td>MB05 [E+N, National, EE2]</td>
<td>1,029</td>
</tr>
<tr>
<td>MB07 [E, National, CEE]</td>
<td>1,091</td>
</tr>
</tbody>
</table>

Mass-Based

| MB03 [E+N, National, CEE]        | 1,091     |
| MB04 [E+N, National, EE1]        | 1,003     |
| MB05 [E+N, National, EE2]        | 1,029     |
| MB07 [E, National, CEE]          | 1,091     |

Dual Rate

| DR01 [DR, CEE]                  | 857       |
| DR02 [DR, EE1]                  | 938       |
| DR03 [DR, EE2]                  | 1,024     |

Legend:
- Coal
- Existing NGCC
- New NGCC
- O/G Steam
- CT
- Nuclear
- Hydro
- Renewables
- Other
- EE

TWh
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