Paul J. Spicer, PE
Vice President - Gas and Renewable Generation
WEC Energy Group
Serving the region’s energy needs

- Fortune 500 company
- Eighth largest natural gas distribution company
- One of the 15 largest investor-owned utility systems
- Approximately 8,500 employees

- We Energies
- Michigan Gas Utilities Corporation
- Minnesota Energy Resources Corporation
- North Shore Gas Company
- The Peoples Gas Light and Coke Company
- Wisconsin Public Service Corporation
Wisconsin Energy Policy

  - Planning priority for energy efficiency and renewable generation

- **Wisconsin Focus on Energy**
  - 1.2% of utility revenues dedicated to energy efficiency

- **Renewable Portfolio Standard**
  - Act 9 (1999)
  - Act 141 (2005)
  - 10% by 2015
Renewable Portfolio Standard

- Both WPSC and We Energies successfully comply with the rule with diverse sources.

**Major WEC Renewable Sources**

- We Energies Wind: 41%
- WPSC Wind: 12%
- WPSC Purchased Wind Energy: 8%
- WPSC Hydro: 10%
- WPSC Purchased Hydro: 12%
- We Energies Hydro: 11%
- We Energies Biomass: 6%
Major WEC Zero Carbon Assets

- Hydro Operations
  - Crane Creek
    - (99 MW nameplate)
  - (100 MW)

- Hydro Operations
  - (86 MW)

- Blue Sky Green Field, Montfort, Glacier Hills
  - (337 MW nameplate)

- Rothschild Biomass Cogeneration Facility
  - (50 MW)
Major Zero Carbon Energy Purchases

Point Beach Nuclear (~1,000 MW)

Manitoba Hydro (100 MW)

Forward Wind (~60 MW)
EPA’s Clean Power Plan
Potential Compliance Options

- Approximately 42% Reduction from 2012 Levels
- Building-block related
  - Improve power plant efficiency
  - Increase natural gas combined-cycle capacity factors
  - Build new wind or solar in Wisconsin or other states
  - Build new or uprate hydro, including Canadian hydro
- Other options
  - Switch from coal to natural gas (e.g., Valley) or co-fire natural gas with coal
  - Reduce use of or retire coal power plants
  - Buy credits/allowances
  - Build new natural gas combined-cycle
  - Invest in new demand-side energy efficiency
  - Improve energy delivery system efficiency
  - Build new or uprate existing nuclear
Estimate of Compliance Shortfall

WEC Energy Group - Wisconsin
Clean Power Plan Compliance Position

Annual CO₂ Shortfall (tons)

<table>
<thead>
<tr>
<th>Year</th>
<th>NGCC @ 75%</th>
<th>Remaining Shortfall</th>
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<tbody>
<tr>
<td>2022-2024</td>
<td>5,000,000</td>
<td>1,000,000</td>
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<tr>
<td>2025-2027</td>
<td>5,000,000</td>
<td>1,000,000</td>
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<tr>
<td>2028-2029</td>
<td>5,000,000</td>
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<tr>
<td>2030+</td>
<td>5,000,000</td>
<td>1,000,000</td>
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</tbody>
</table>
Modern, efficient combined cycle natural gas plants

Fox Energy Center
(550 MW)

Port Washington
(1,150 MW)

WEC Combined Cycle Capacity Factor Trend
Plants that ceased coal operations and instead use natural gas
Conclusion

- WEC has a robust portfolio of conventional and renewable power generation resources.
- Our employees that operate and maintain these assets are committed to:
  - Safety
  - Integrity
  - Diversity
  - Inclusion
  - Customer focus
  - Sense of urgency
  - Financial discipline
  - Personal responsibility for results