Using Coal Effectively

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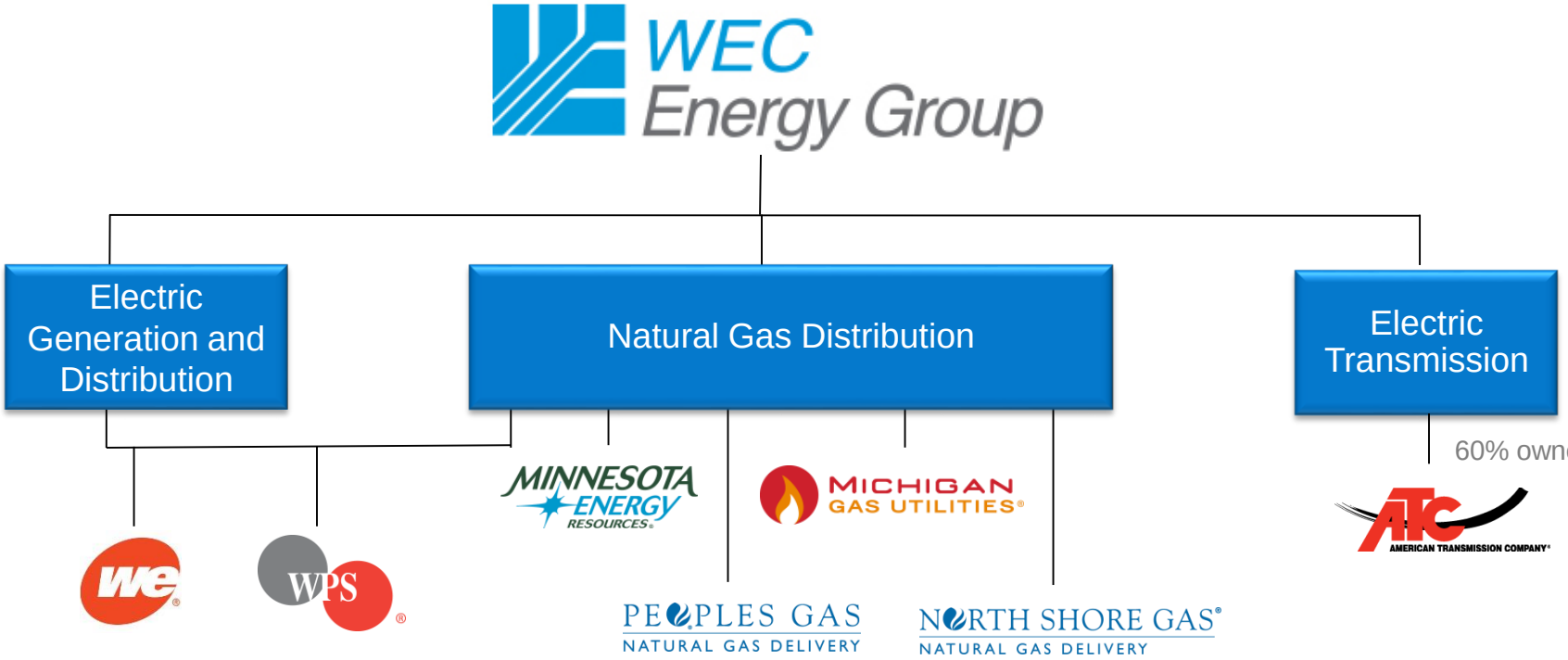
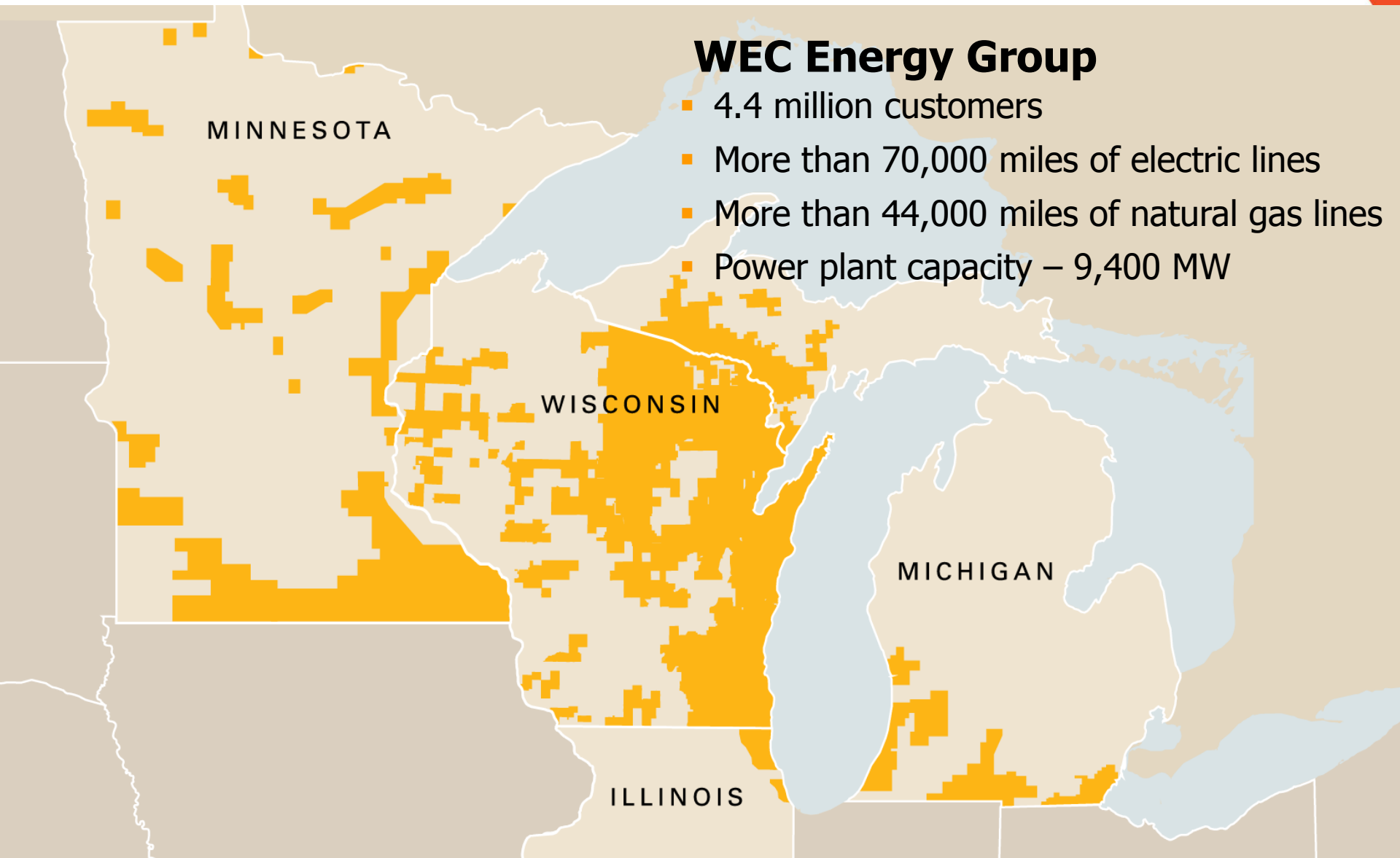
A family of companies



Serving the region's energy needs



WEC Energy Group

- 4.4 million customers
- More than 70,000 miles of electric lines
- More than 44,000 miles of natural gas lines
- Power plant capacity – 9,400 MW

Agenda

- Fuel flexibility
- Air Quality Control Systems (AQCS)
  - Pleasant Prairie Power Plant
  - Oak Creek Power Plant
- ReACT technology
- The Future

Elm Road Generating Station – Fuel Flexibility

- 2 x 634 MW
- Designed to burn 100% bit coal
- Modified during construction
- Additional in-service modifications
- Now able to burn PRB blends from 0% to 100%
- ‘Go-slow’ approach
  - Increase blend, identify limitation, fix limitation, repeat
  - 20% 40% 60% 80% 100%

Elm Road Generating Station – Fuel Flexibility

- Project rationale
  - Cost competitive
  - Security of supply
  - Lower emissions
  - Mill pulverizers redundancy/ability to run at full capacity
  - Flexibility to move from 100 percent bituminous to 100 percent PRB
- Net result
  - Significant fuel savings: $25-50 million per year

Pleasant Prairie Power Plant – Air Quality Control System

- 2 x 594MW
- SCR and scrubber
- First wet scrubber on a PRB unit in U.S.
- Emissions
  - SO2 down 95 percent
  - NOx down 85 percent
  - Hg down 85+ percent
- 100 percent saleable by-products
  - Gypsum, fly ash and bottom ash

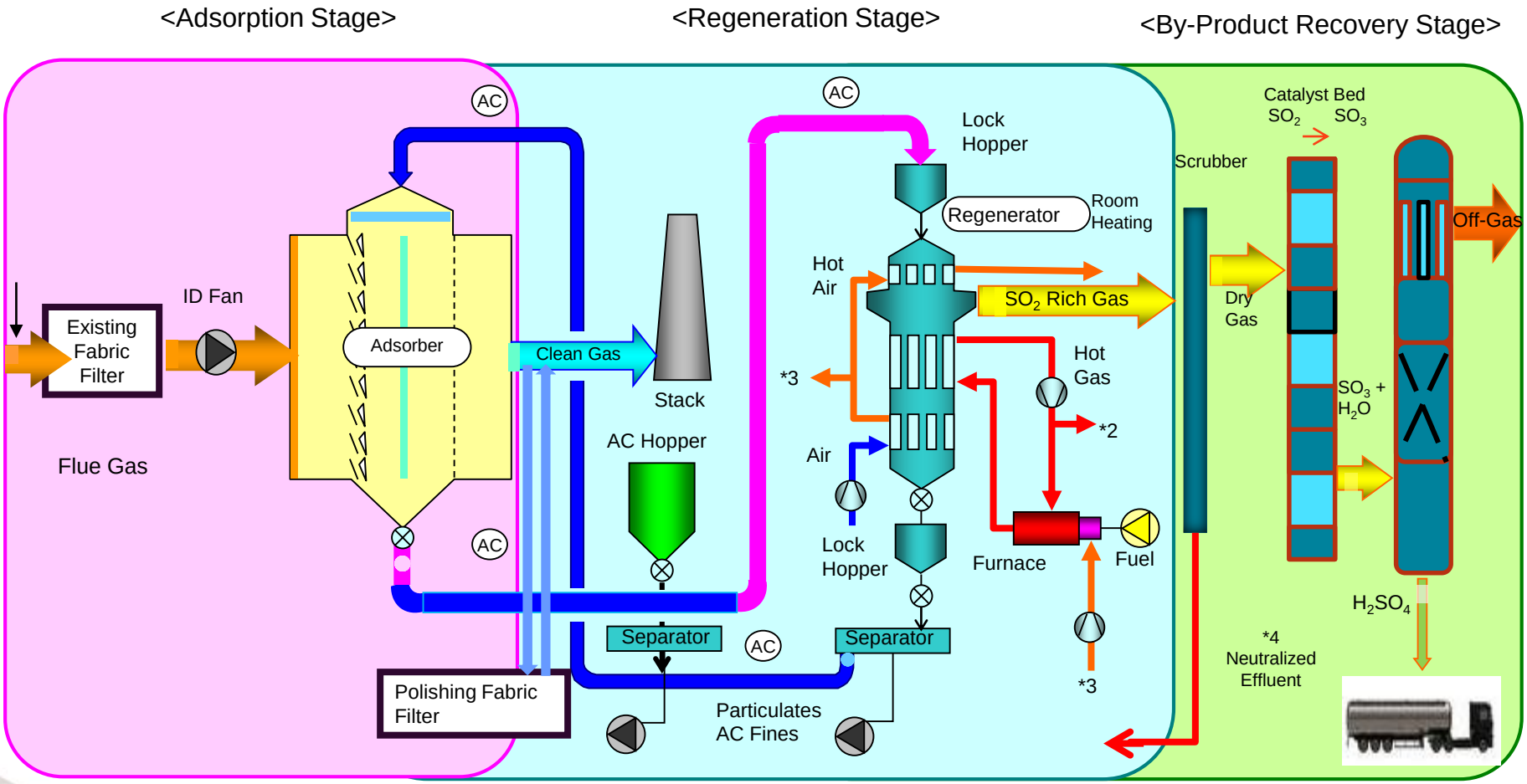
Oak Creek Power Plant – Air Quality Control System

- 2 x 230MW & 2 x 300MW
- Largest “tale end” SCR in the U.S.
- Largest gas to gas heat exchanger of its type in the world
- Geographic challenge
- Replicated Pleasant Prairie’s FGD
- Emissions
  - SO_2 down 95+ percent
  - NO_x down 75+ percent
  - Hg down 70+ percent

Weston 3 – Regenerative Activated Coke Technology (ReACT)

- 1 x 322 MW
- Multi-pollutant technology
- First U.S. application/first coal plant with this technology
- Early emissions testing proving very encouraging

ReACT Process

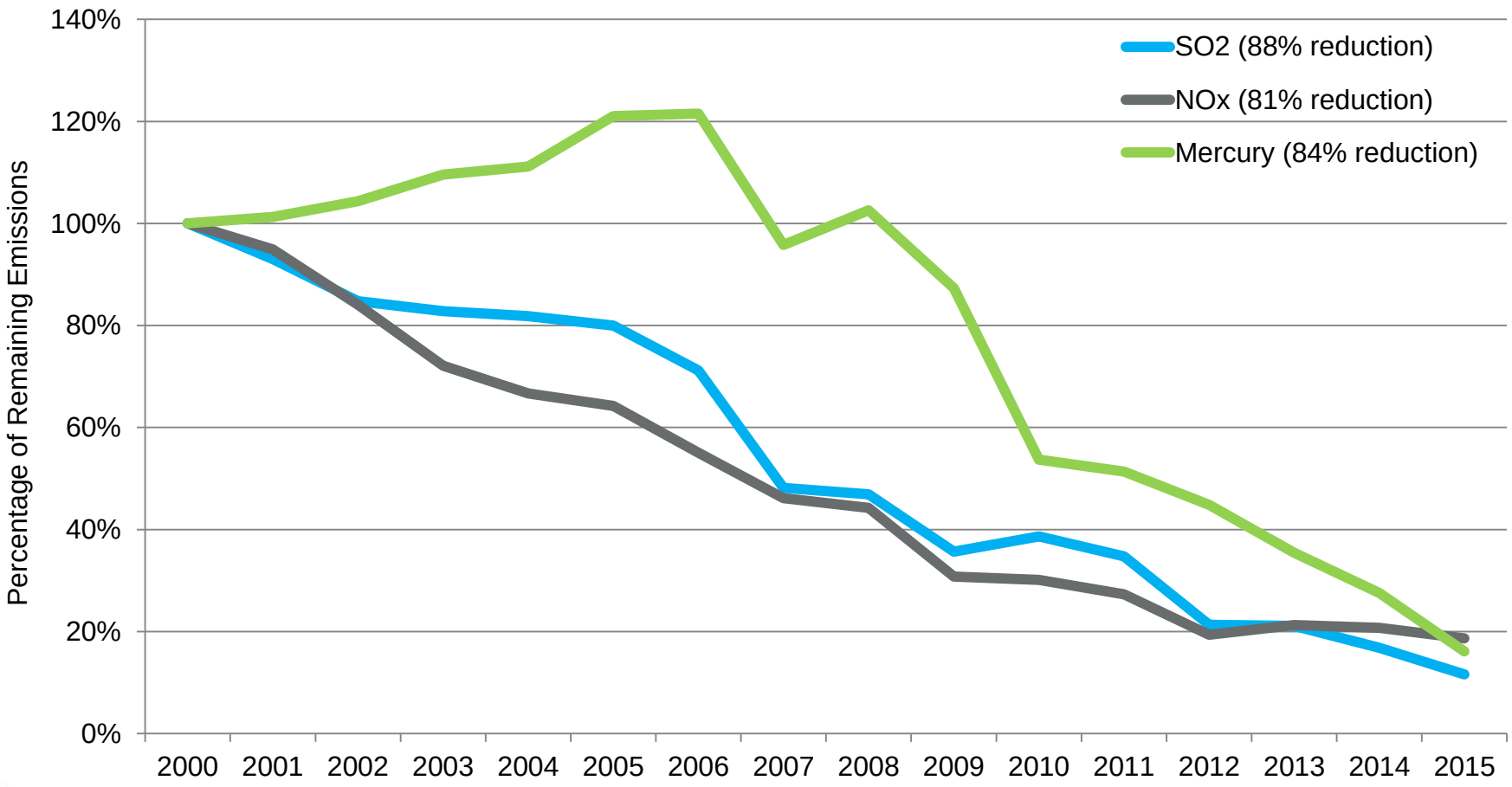


Supporting a Clean Energy Future

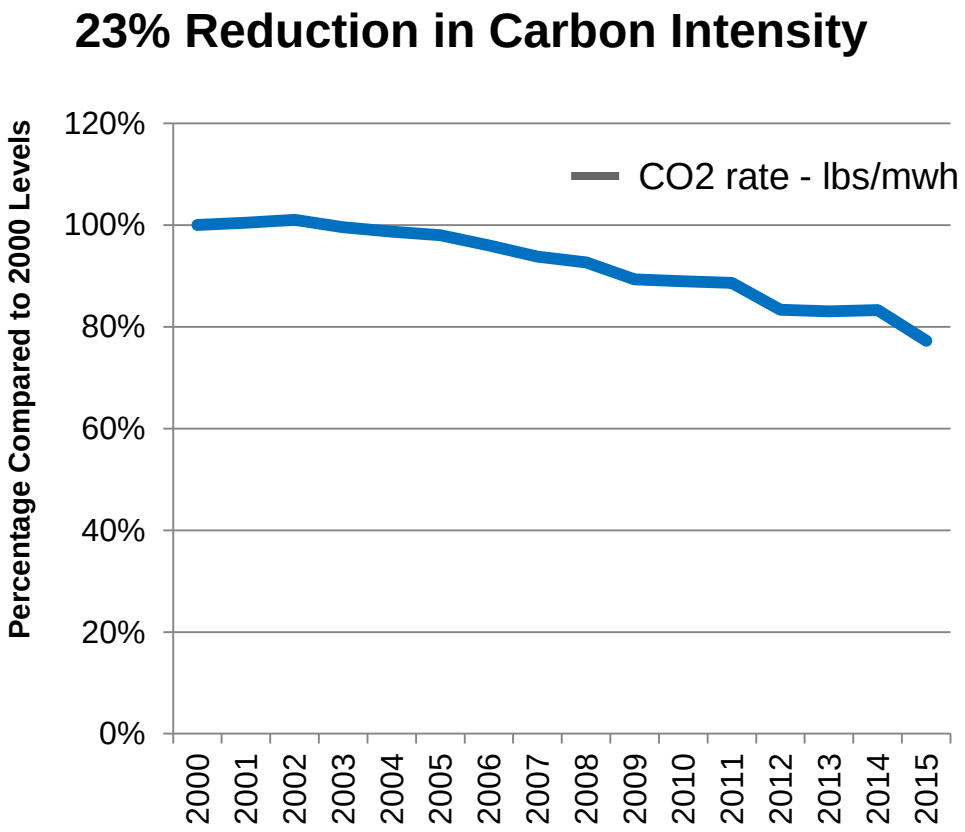
WEC Energy Group has implemented a multi-emission strategy to achieve greater environmental benefit for lower cost

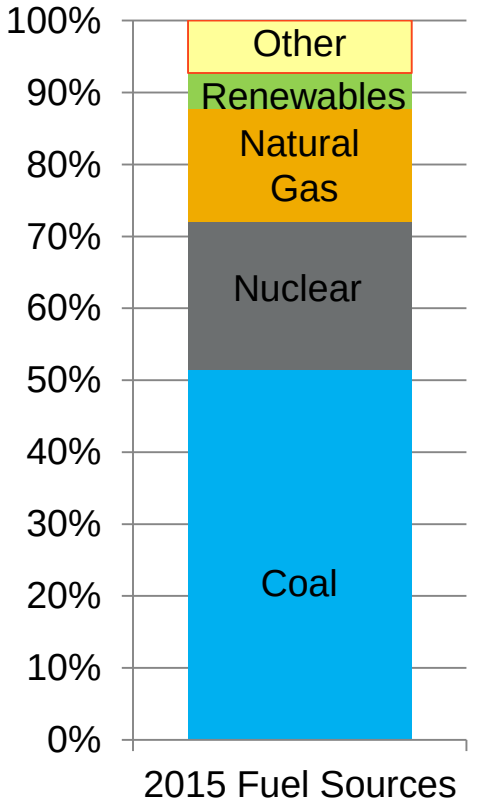
- Retired older, less-efficient coal-fired generation
- Added combined cycle natural gas units
- Added state-of-the-art, coal-fired generation with performance that ranks among the most thermally efficient coal-fired units in the nation
- Invested more than $1 billion in renewable energy – including the state's two largest wind energy sites
- Invested more than $1.5 billion in air quality systems

Environmental Performance



Planning for Carbon Regulations





The Future

- Retirements
- Co-firing
- Conversions e.g. Valley Power Plant
- Renewables
- Combined cycle gas turbines, existing and new
- Reciprocating Internal Combustion Engines (RICE)
- Energy efficiency
- Trading

Questions