Wind -- An Emerging Technology in Indiana

Sean R. Brady, Regional Policy Manager
Installed Wind Capacity: 1745 MW

State Ranking: 13th

# of Wind Projects: 14

Wind as a Percentage of In-State Energy Production: 3%
NATIONALLY . . .

• Nationally – 20% by 2030
• Reduce cost of wind by 33% by 2030
• Increase transmission
• Increase Coordination and Supply of Flexible Resources
• Advanced Controls for Grid Integration of Wind

and in INDIANA

• Indiana -- ??% by 2030
• Indiana’s wind capacity will grow through external-Indiana policies:
  – Improvements in RTO policies
  – Demand for wind from states in PJM and MISO
  – Compliance with EPAs Clean Power Plan
Future Trends to Reach 2030 Targets

• Turbine improvements

• Reduce maintenance and minimize costs
  – Improving components and sub-systems
  – Increase service life

• Operate wind turbines at higher penetration levels
  – Increase transmission
  – Increase Coordination and Supply of Flexible Resources
  – Advanced Controls for Grid Integration of Wind
Increase Transmission

• To reach 20%/2030 or 35%/2050 Analysis by US Dept of Energy shows a need for supportive transmission policy such as
  – ERCOT has Comp Renewable Energy Zone (CREZ)
  – MISO has Multi Value Projects
  – PJM has State Agreements and Multi Driver Projects

• Improved transmission *between* RTOs
  – MISO and neighbors need to agree on economic and public policy standards
  – Increase use of HVDC lines: Grain Belt transmission line and Rock Island transmission line
Improving Flexible Resources

• Assess and Optimize existing conventional generation and purpose-built storage
• Increase amount of generation that has fast-start capability
• Increase amount of demand response and storage
• Expand ancillary services markets to include demand response and wind resources, or use performance-based rates
• Coordinate/forecasting wind with solar and hydro to complement natural gas ramping
Exter-Indiana Policies Driving Indiana Wind Growth

• PJM, MISO and states making previously discussed improvements
• State policies using competitive procurement or direct contracting with renewable generator
• RPS policies in PJM and MISO states
  – 7 of 14 states in MISO have RPS and 3 states have goals
  – 8 of 13 states in PJM have RPS + DC and 2 states have goals
• Compliance with EPA’s Clean Power Plan
  – Purpose: between 2020 and 2030 states are to reduce CO2 emissions from electric generating plants to approximately 30% of 2005 CO2 levels
  – States can use wind energy to offset energy from Existing Generating Units that emit CO2
Thank you

Sean R. Brady
Regional Policy Manager
Wind on the Wires
sbrady@windonthewires.org