

Role of Renewable Energy in Ohio Affecting Losses and Providing Supply

Day 1 – Session 2 Network Design & Configuration

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Ohio Electric Regulation

- Senate Bill 3 passed in 1999 and allowed customers to have a choice for a generation company
 - PUCO regulates transmission and distribution companies
 - Generation providers are competitive, certified by the PUCO, but not fully regulated



Ohio Electric Regulation

- Electric Choice Facts:
 - Customers can choose supplier (generator of electric)
 - Electricity would still be delivered by the electric company
 - Communities can aggregate to buy electricity
 - The PUCO does not regulate how the aggregator negotiates, their rates, or their billing process



Ohio Electric Regulation

- Electric Choice Facts:
 - Quality, safety, and reliability still regulated by the PUCO
 - Choice exists due to state and federal laws
 - PUCO encourages competition



Ohio Electric Regulation

- Federal Energy Regulatory Commission (FERC) regulates interstate transmission and wholesale sales of electric
- Energy Policy Act of 2005
 - Improve electric reliability
 - Promote investment in electric facilities
 - Streamline electric regulation
 - Improve wholesale competition
 - Promote fuel diversity and cleaner fuel sources
 - Promote greater efficiency



Ohio Electric Regulation

- PUCO's response to the Energy Policy Act
 - Explored opportunities to increase Ohio's use of alternative energy
 - Conducted conference to determine barriers to establishing alternative energy
 - June 2006: PUCO issued recommendations that addresses net metering, smart metering, demand response, co-generation, interconnection, and small power production



Ohio Electric Regulation

- PUCO's response to the Energy Policy Act
 - Develop energy portfolio
 - Eliminate rules that limit net metering
 - Streamline the interconnection rules
 - Require company lists for advanced metering technologies and related costs
 - Identify customer and their load types
 - Analyze systems to identify areas for improvement



Net Metering

- A standard contract will be developed for consumers who wish take advantage of net metering; hospitals will have separate standard contract

Governmental Aggregation

- PUCO will adopt rules to encourage large-scale governmental aggregation
- Aggregators may elect not to receive standby service



Ohio Power Siting Board (OPSB)

- PUCO department that reviews and approves plans for construction of new energy facilities in Ohio
- Before major utility facility is built, OPSB assures that it:
 - Benefits Ohio citizens
 - Promotes the state's economic interests
 - Protects the environment and land use



Alternative Energy Resource Standard

- 25% or more of total electricity supplied must come from alternative energy by 2025
- At least 12.5% must come from renewable energy:
 - Wind, solar, solar thermal, geothermal, biomass
 - 0.5% reserved for solar energy
 - Half of renewable energy must come from Ohio



Renewable Energy Resources

- Must meet annual benchmarks or make compliance payments
- May use renewable energy certificates to meet benchmarks
- Institutes a 3% cost cap for renewable energy



Renewable Energy Benchmarks



| <u>Year</u> | <u>Total req.</u> | <u>Solar req.</u> |
|--------------------|--------------------------|--------------------------|
| 2009 | 0.25% | 0.004% |
| 2010 | 0.50% | 0.010% |
| 2011 | 1.00% | 0.030% |
| 2012 | 1.50% | 0.060% |
| 2013 | 2.00% | 0.090% |
| 2014 | 2.50% | 0.120% |
| 2015 | 3.50% | 0.150% |
| 2016 | 4.50% | 0.180% |

A photograph of a building's roof covered with solar panels, with the title "Renewable Energy Benchmarks" overlaid in large black text.

Renewable Energy Benchmarks

| Year | Total req. | Solar req. |
|-------------|-------------------|-------------------|
| 2017 | 5.50% | 0.220% |
| 2018 | 6.50% | 0.260% |
| 2019 | 7.50% | 0.300% |
| 2020 | 8.50% | 0.340% |
| 2021 | 9.50% | 0.380% |
| 2022 | 10.50% | 0.420% |
| 2023 | 11.50% | 0.460% |
| 2024 | 12.50% | 0.500% |

Energy Efficiency Standard

- 22% of electricity demand will be saved through energy efficiency by 2025
- Utilities must meet annual benchmarks which brings them in line with the standard
- Penalties will be assessed for not meeting benchmarks; penalties contributed to state's advanced energy fund



Energy Efficiency Standard

- A utility can use energy efficiency measures industrial companies have already implemented to meet standard
- Utilities may seek rate recovery of revenues lost as a result of any energy efficiency program



Energy Efficiency Benchmarks

| <u>Year</u> | <u>EE req.</u> |
|-------------|----------------|
| 2009 | 0.3% |
| 2010 | 0.8% |
| 2011 | 1.5% |
| 2012 | 2.3% |
| 2013 | 3.2% |
| 2014 | 4.2% |
| 2015 | 5.2% |
| 2016 | 6.2% |



Energy Efficiency Benchmarks

| <u>Year</u> | <u>EE req.</u> |
|-------------|----------------|
| 2017 | 7.2% |
| 2018 | 9.2% |
| 2019 | 11.2% |
| 2020 | 13.2% |
| 2021 | 15.2% |
| 2022 | 17.2% |
| 2023 | 19.2% |
| 2024 | 22.2% |



Special Provision in Ohio Energy Law

- Allows utilities to meet energy efficiency and demand reduction benchmarks with projects that project power system losses
- Both transmission and distribution system projects qualify



Questions

