

Energy Storage: Opportunity at Norton



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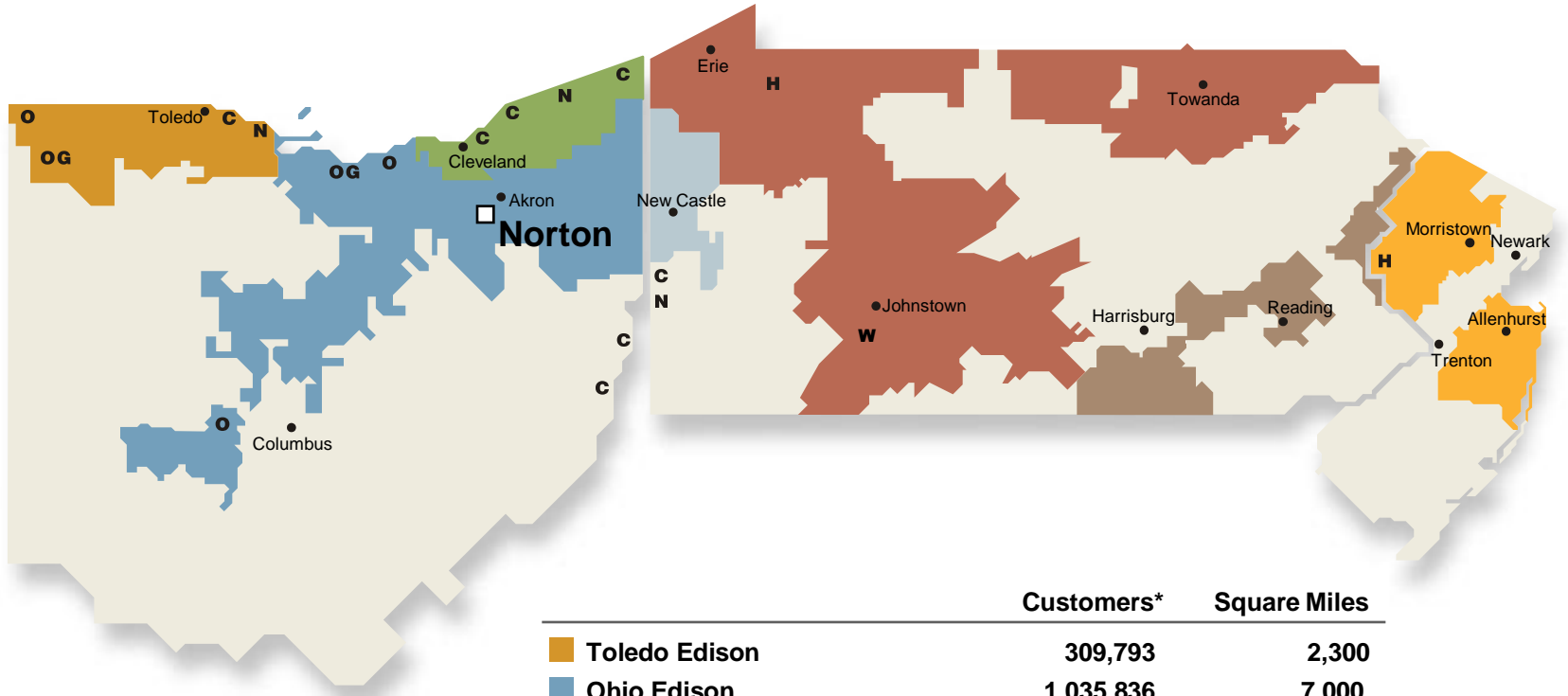
Executive Vice President and President,
FirstEnergy Generation

PJM/EPRI Energy Storage Summit

King of Prussia, Pennsylvania

April 20, 2010

FirstEnergy Service Area and Power Plants



FirstEnergy Power Sources

- C** Coal
- G** Gas
- H** Hydro
- N** Nuclear
- O** Oil
- W** Contracted Wind (277 MW in PA, 99 MW in IL)

	Customers*	Square Miles
Toledo Edison	309,793	2,300
Ohio Edison	1,035,836	7,000
The Illuminating Company	752,173	1,600
Penelec	588,798	17,600
Penn Power	159,552	1,100
Met-Ed	549,574	3,300
Jersey Central Power & Light	1,094,195	3,200
Total	4,489,921	36,100

* As of 08/31/09

Norton Compressed-Air Energy Storage Project

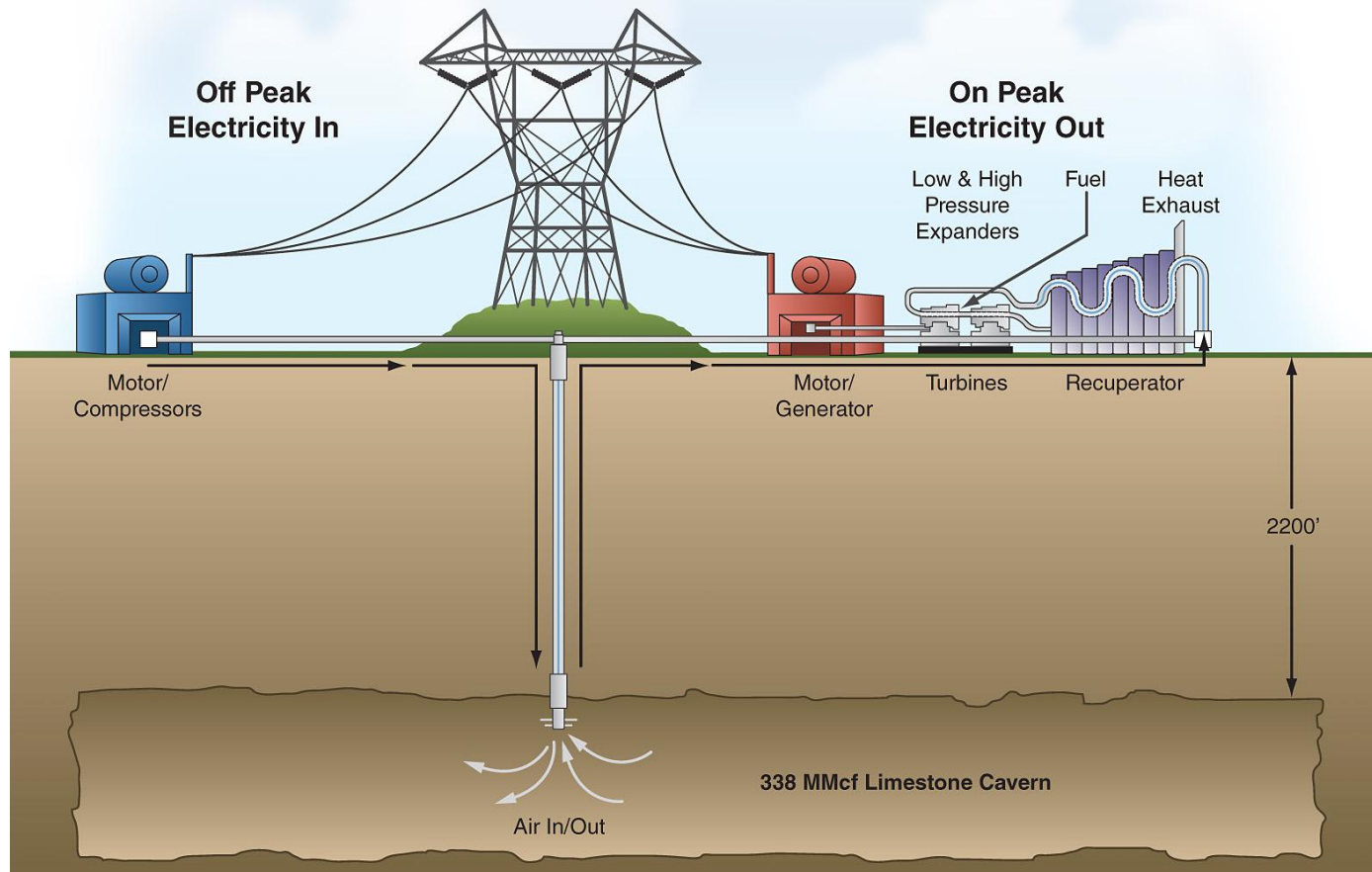
- **Located just south of Akron and 33 miles southeast of Cleveland**
 - Up to 2,700 MW capability
 - On 138-kV right-of-way
 - 345-kV lines within 3 miles



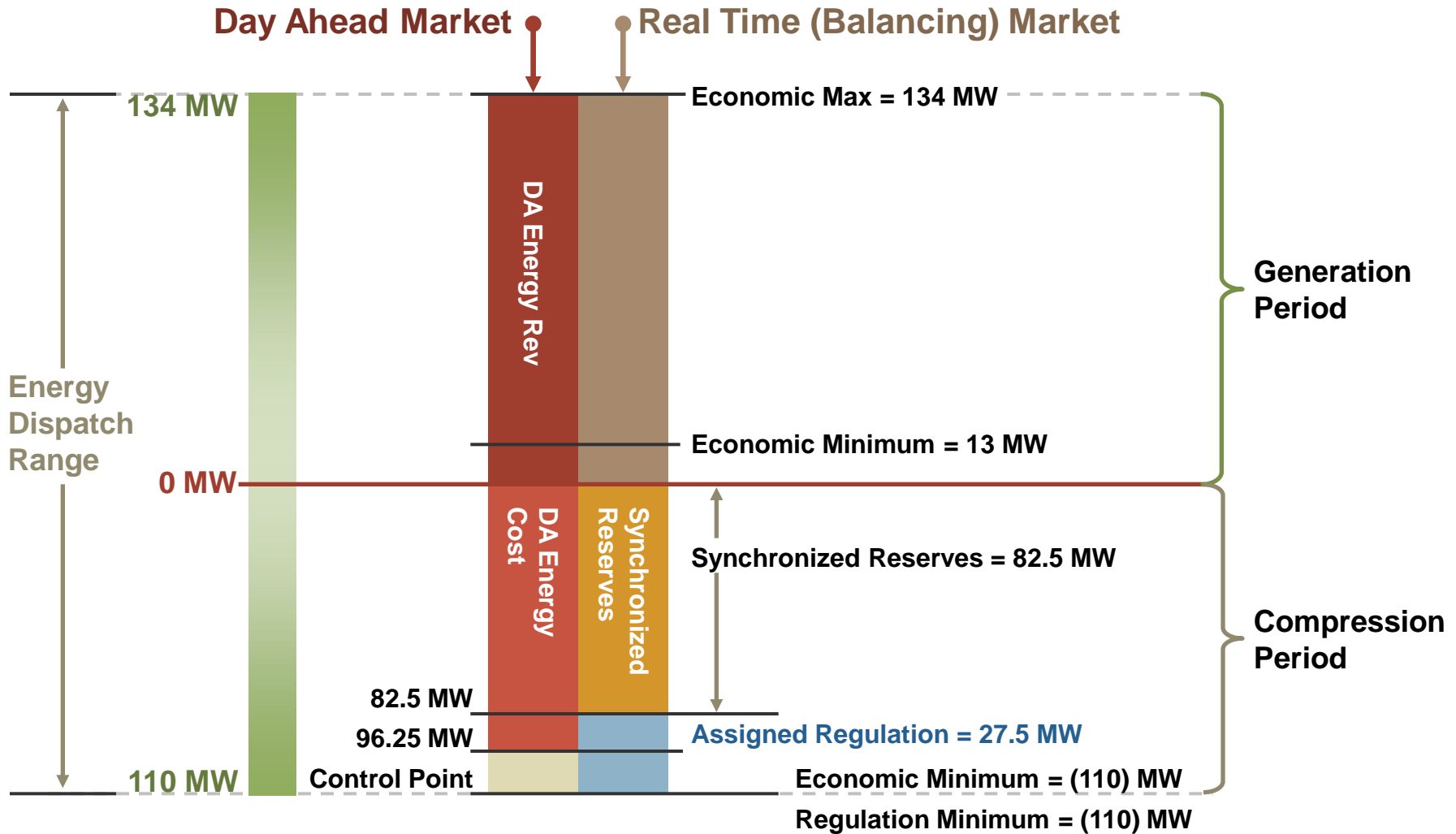
Norton CAES: Key Benefits

- **Increases system's overall efficiency**
- **Promotes renewable energy**
- **Lowers overall emissions**
- **Offers greater flexibility in meeting customer demand**
- **Supports transmission reliability**
- **Builds on a proven track record**
- **Reduces generation-related byproducts**
- **Provides much-needed jobs**

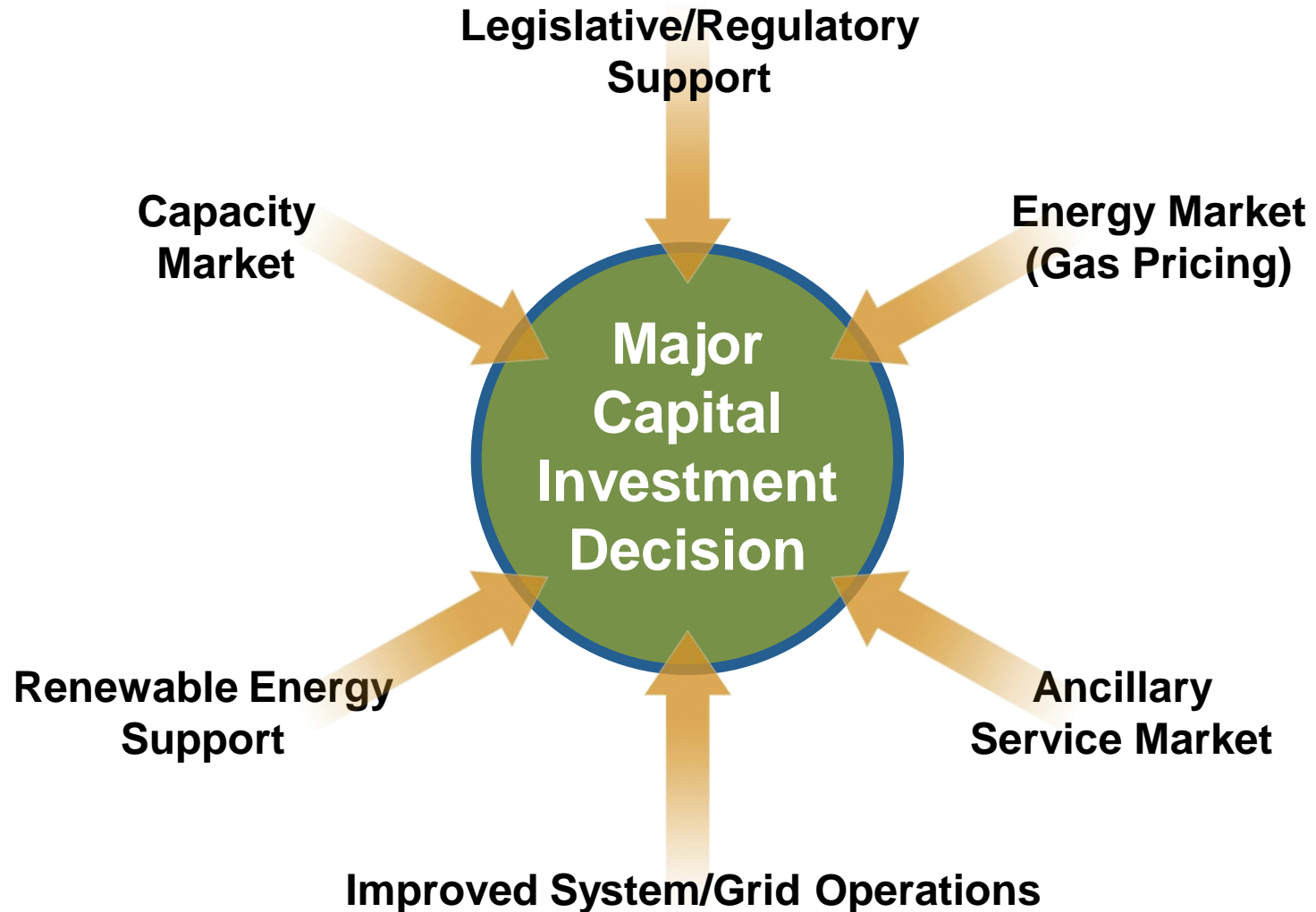
Norton Enables Variable Renewables



CAES Operation: Maximize Generation



CAES Economics: Investment Decision



Norton CAES: Next Steps

- **Critical path to success is economic value and project justification**
- **Further site assessment and geological validation**
- **Preliminary equipment cost estimates to determine initial sizing**
- **PJM partnership for extracting appropriate value from Norton as a system asset**
- **DOE funding potential**
- **Coordination with renewable portfolio build out within FirstEnergy and external to FirstEnergy**

Thank You



Questions & Answers



FirstEnergy Generation

- Unregulated generation subsidiary with more than 14,300 MW of capacity with diverse fuel blend
- Nearly 37% of generation capacity from carbon-free nuclear, wind and hydro sources
- With Burger Plant biomass conversion, FirstEnergy will control more than 1,100 MW of renewable energy

