

# Virginia Electric Infrastructure and PJM Regional Grid

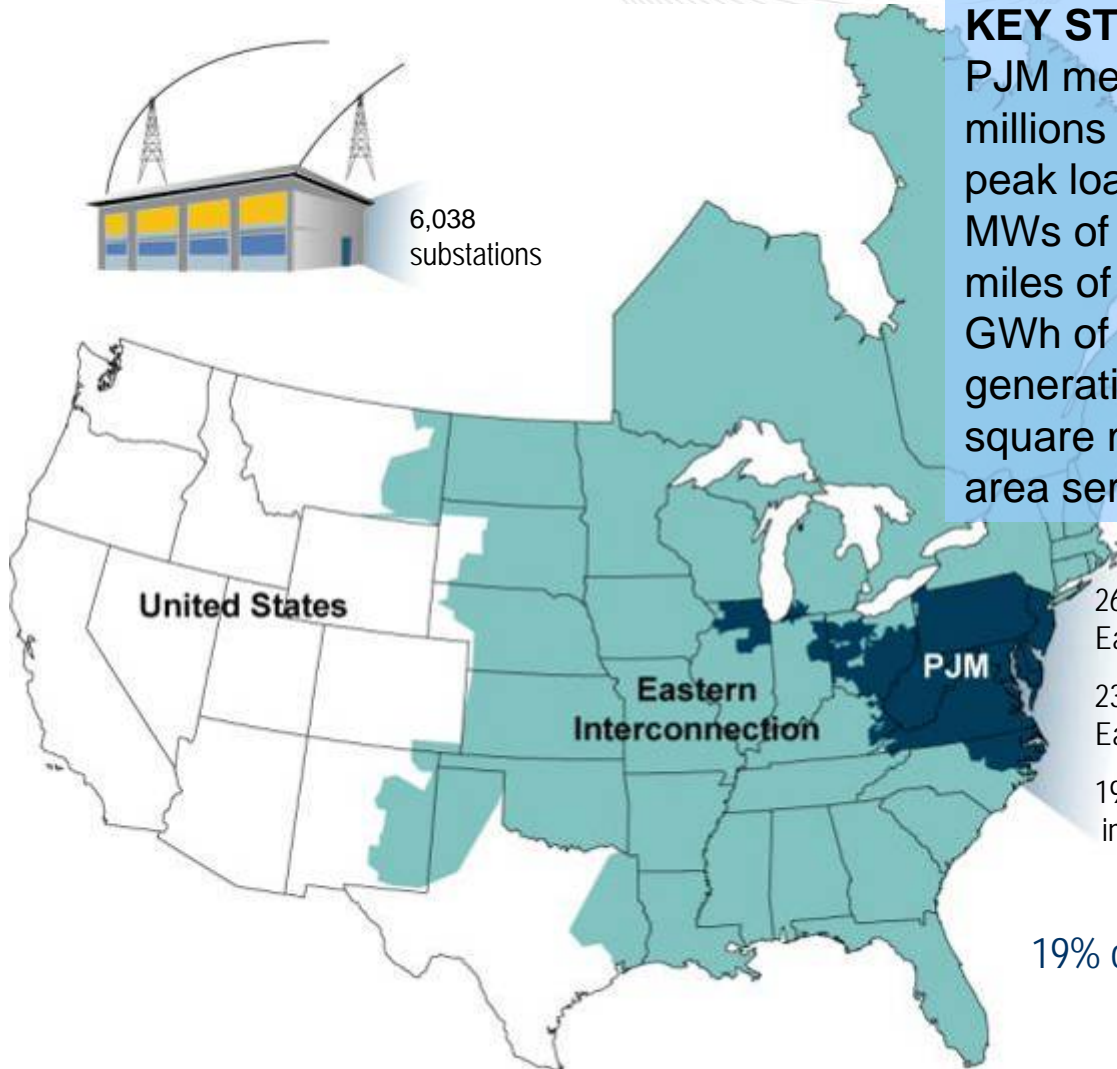
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VA Energy Conference  
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6,038  
substations

## KEY STATISTICS

PJM member companies	550+
millions of people served	51
peak load in megawatts	144,644
MW of generating capacity	164,895
miles of transmission lines	56,499
GWh of annual energy generation sources	729,000
square miles of territory	168,500
area served	13 states + DC



26% of generation in Eastern Interconnection

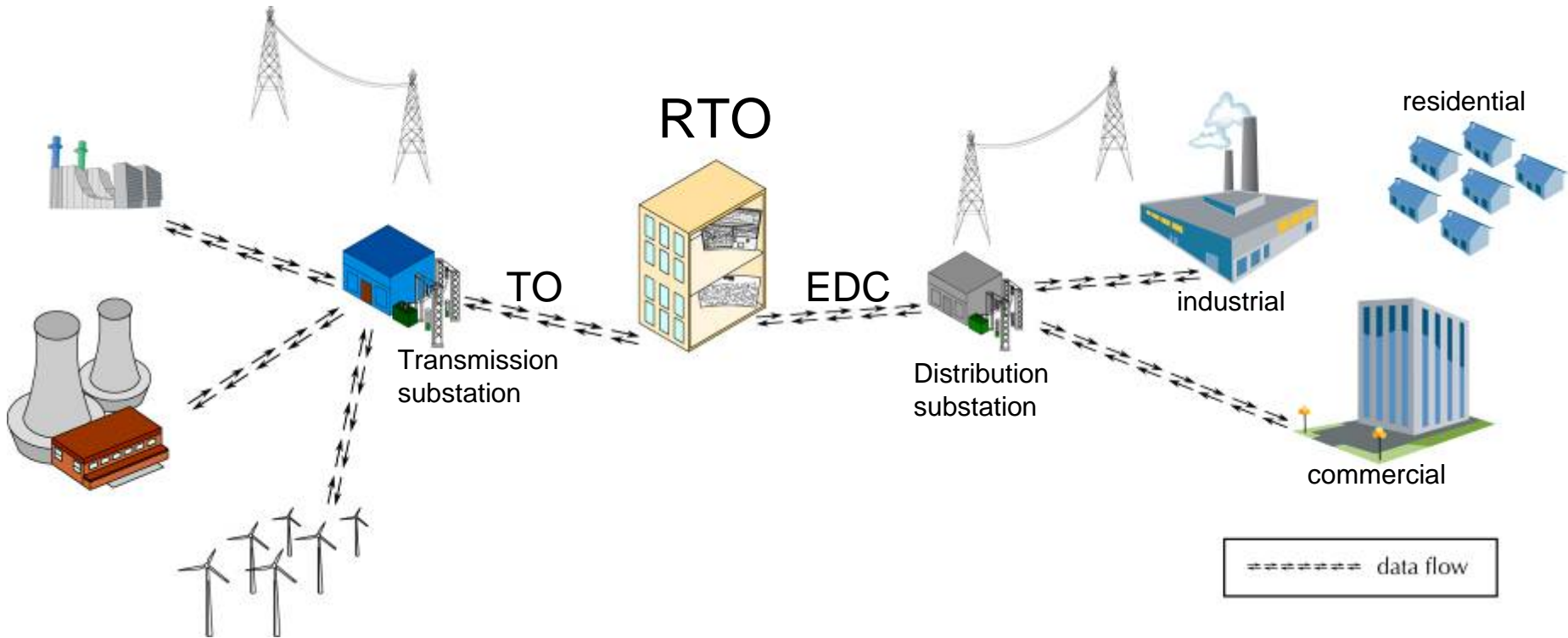
23% of load in Eastern Interconnection

19% of transmission assets in Eastern Interconnection

19% of U.S. GDP produced in PJM

# Generation

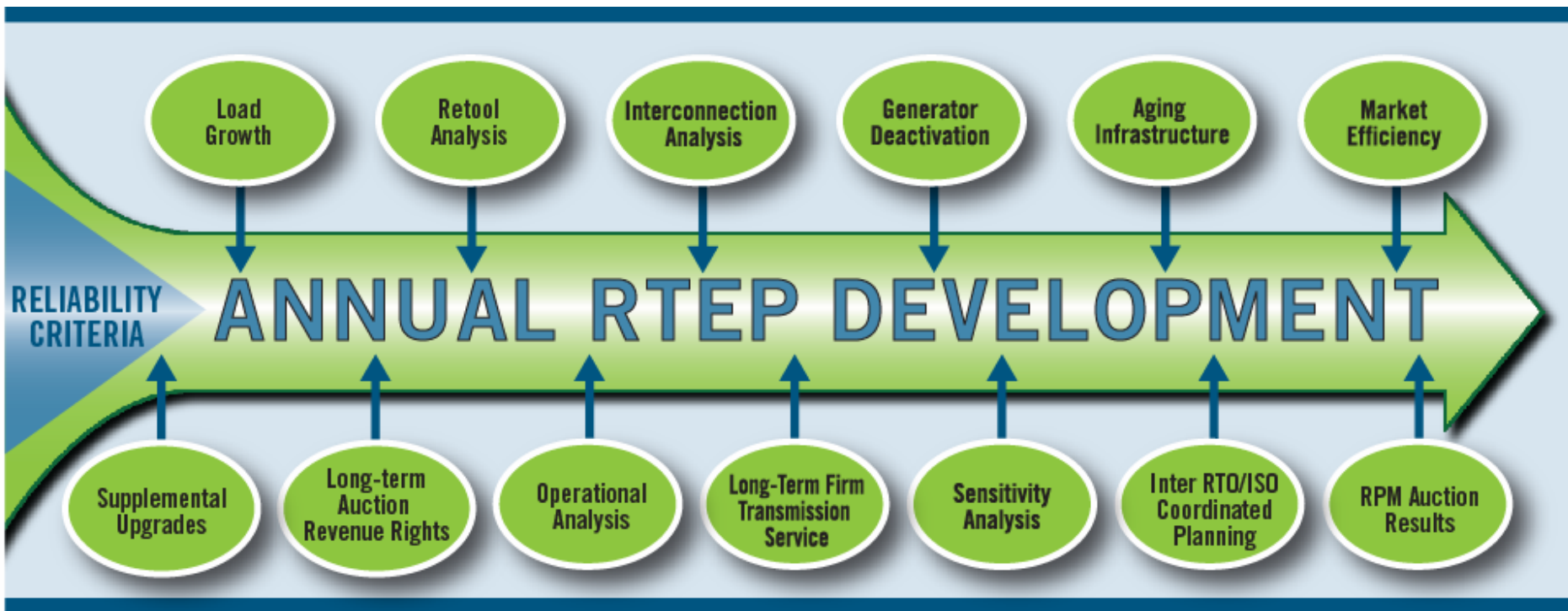
# Load



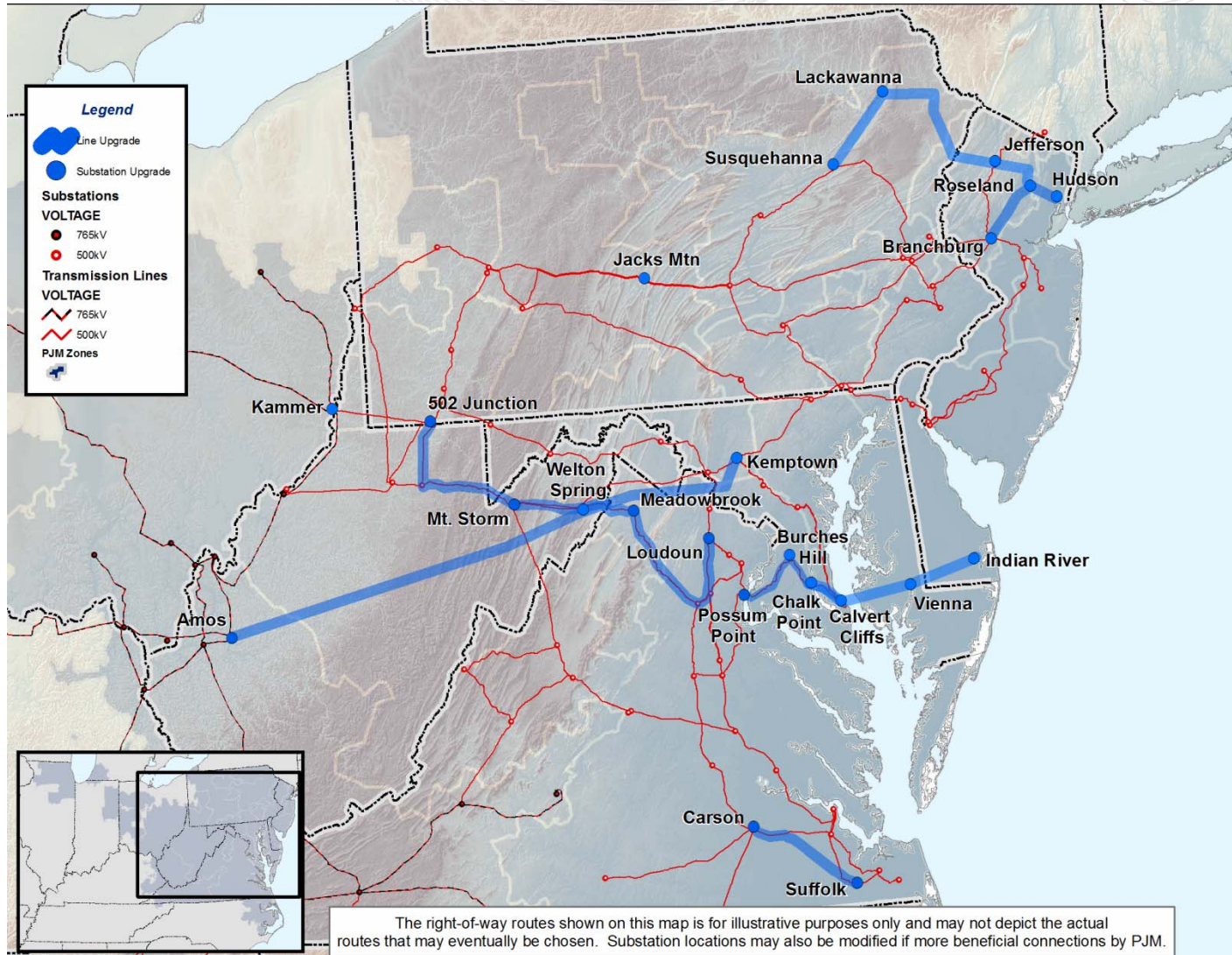
- There are two significant aspects of reliability – adequacy and security.
- Adequacy: Sufficient electricity to meet customer demand
  - Load-serving entities required to have resources to meet demand plus reserve margin
  - RPM—how we get capacity and incent generation
- Security: Preparing and protecting the system

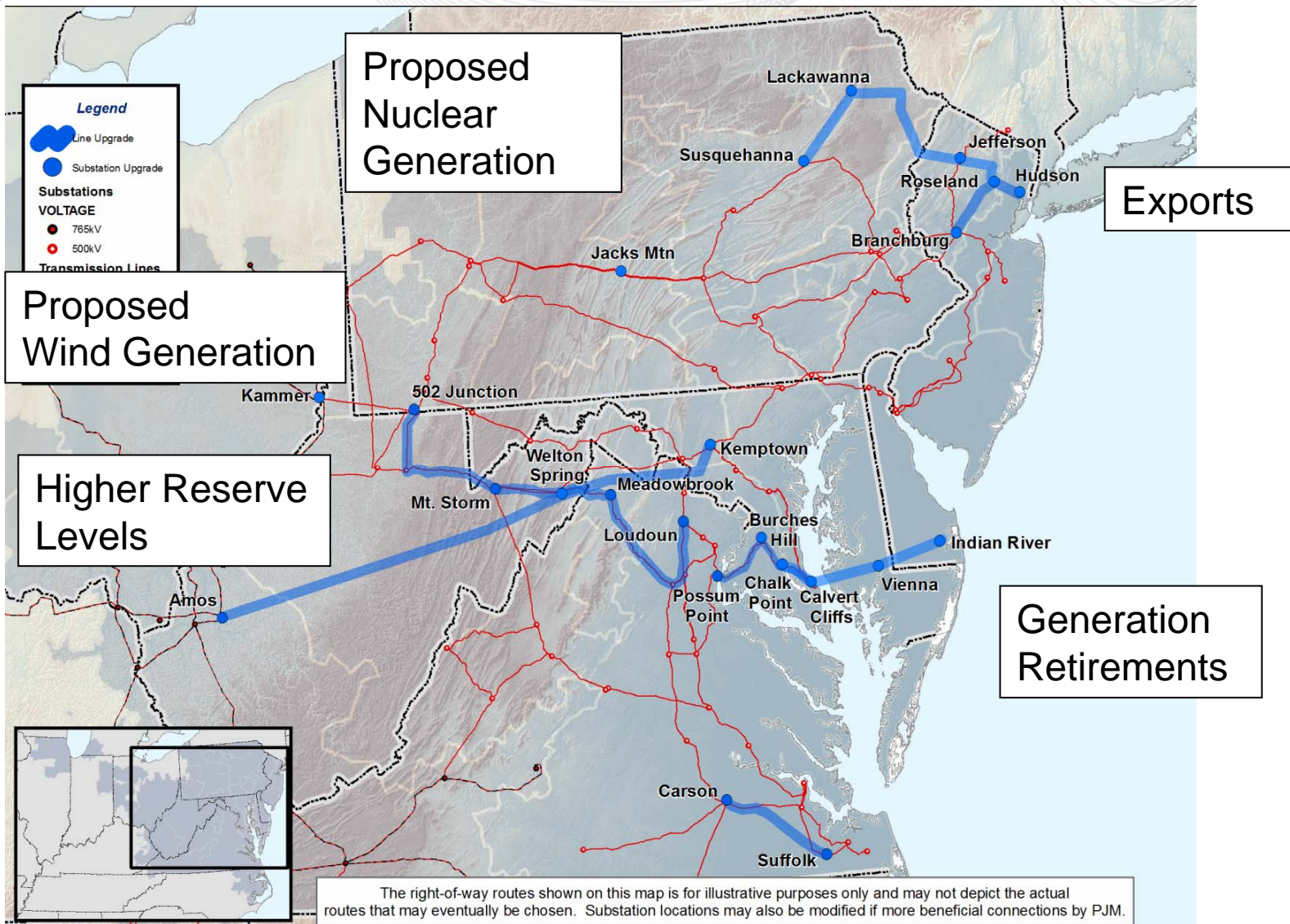
- Investment in generation and backbone transmission
- Increase customer choice and market participation
- Environmental regulation certainty
- Maintaining reliability

PJM's RTEP Process is a federally approved, region-wide process that provides an open, independent, non-discriminatory, collaborative framework to identify system enhancements needed to ensure reliability

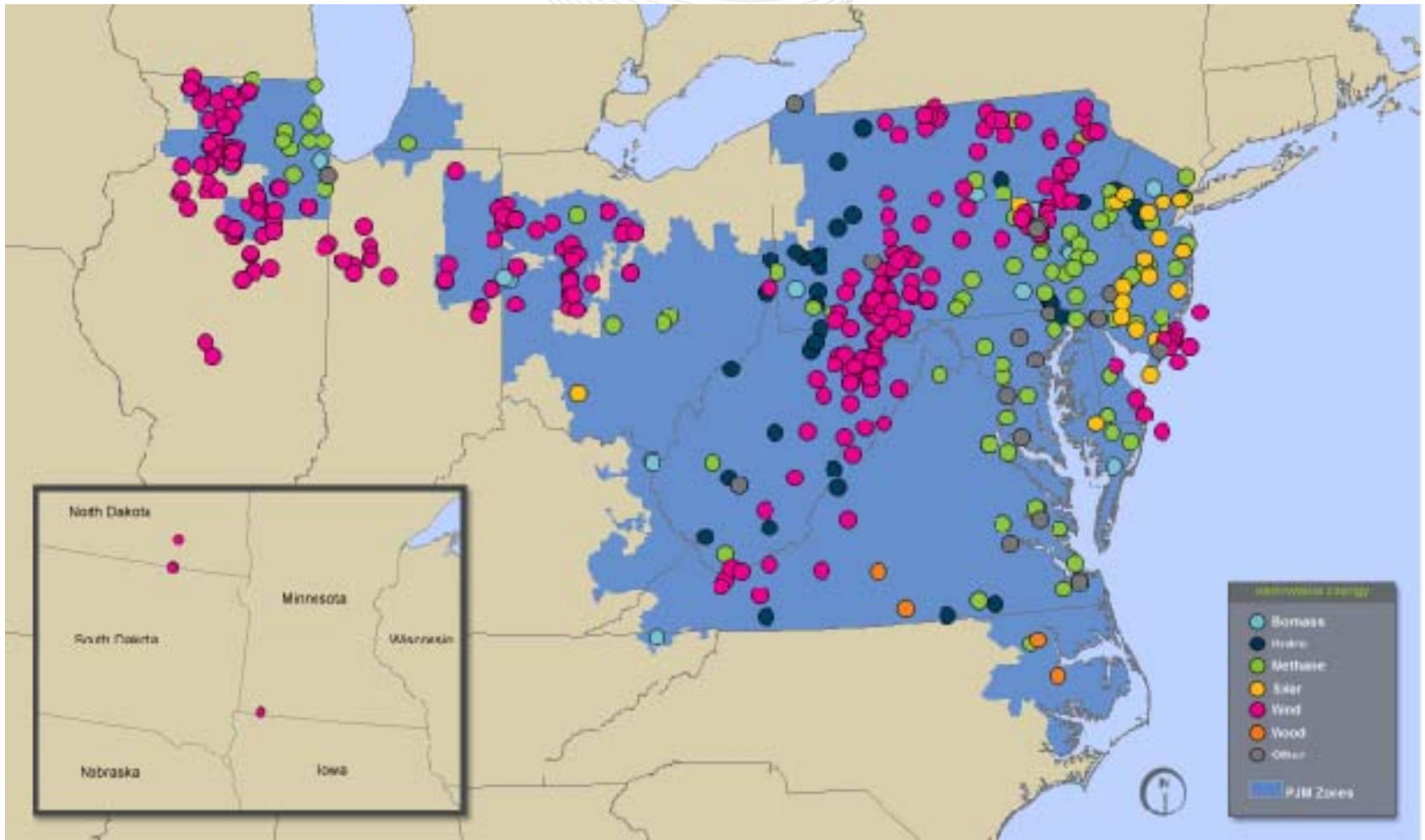




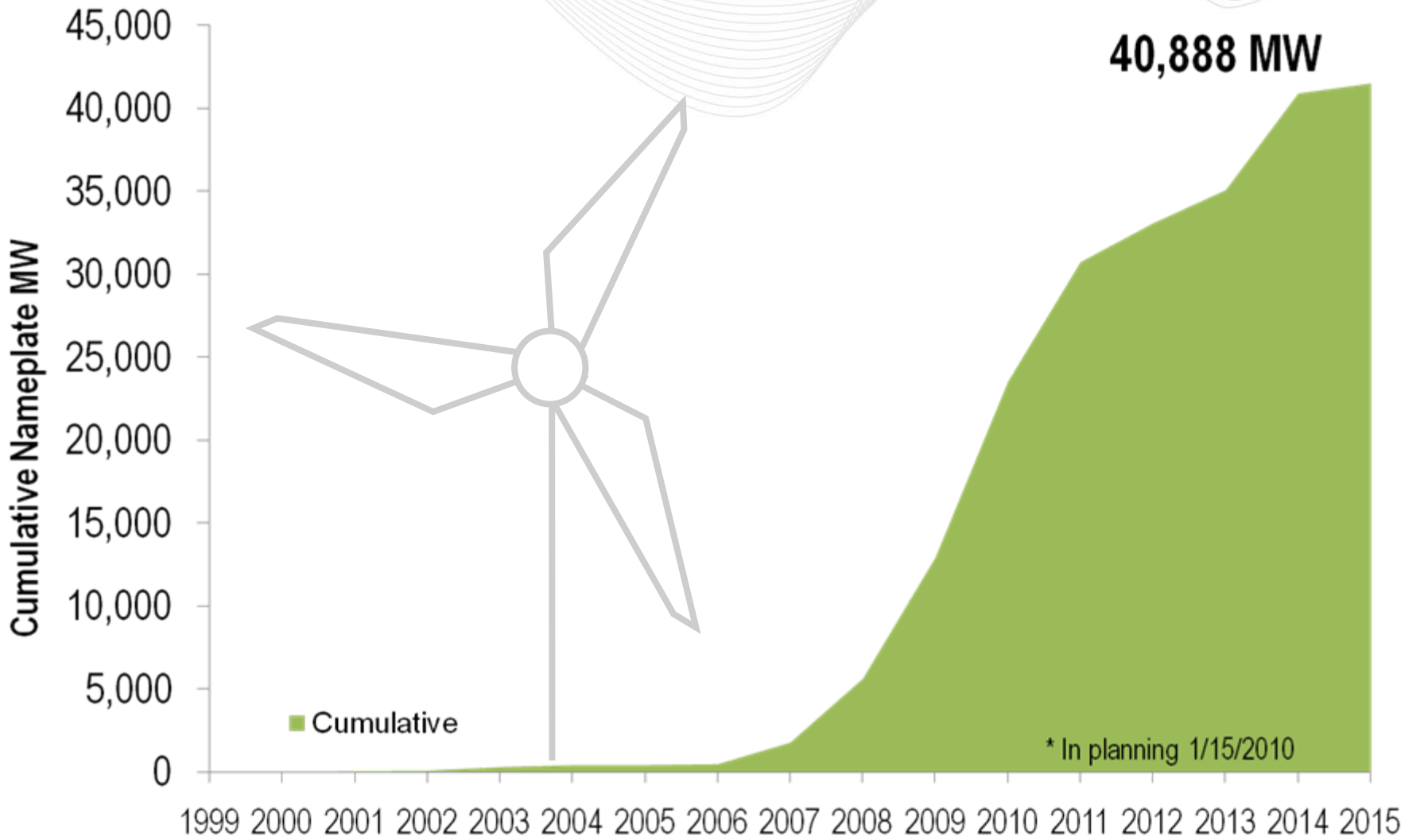








# Wind Generation in PJM - Operational and Proposed



A world map with a blue color scheme, where landmasses are highlighted with a glowing, grid-like pattern of white and light blue lines, suggesting a global network or infrastructure.

**PJM**

Integrating  
Reliability &  
Markets

1. Reliability--Keeping the Lights On
2. Fair and efficient markets
3. Infrastructure for the future

**Focus on  
3 things**

- Proactively order spare 500/230 kV transformers based on probabilistic risk assessment
- Number older 500 kV transmission lines will need to be re-built over the next 10-20 years
- Timing of these projects can introduce significant reliability/congestion risk
- Delays to approved backbone facilities has complicated re-build scheduling
- PJM is looking to implement an aging infrastructure program for older backbone transmission