



Planning and Cost Allocation in the 21st Century: The Black Sheep or the Crown Jewel of the Electric Industry

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**“We’re Mad as Hell
and We’re Not Going
to Take It Anymore!”**



- Electric Rates Far Above National Average
- Price Spikes of the mid-1990's
- Special Contracts: *"What's My Competition Getting and Why Can't I Get it Too?"*
- Risks borne by the customer: *Affiliate mines, stranded costs, nuclear cost overruns, PURPA "must purchase" contracts ...*

- Price Spikes---Lack of Transparency
- Price Squeeze: “Refunds to a corpse”
- Interconnection Costs— “Take it or leave it”
- Demand ratchets, “take or pay” agreements...you name it...

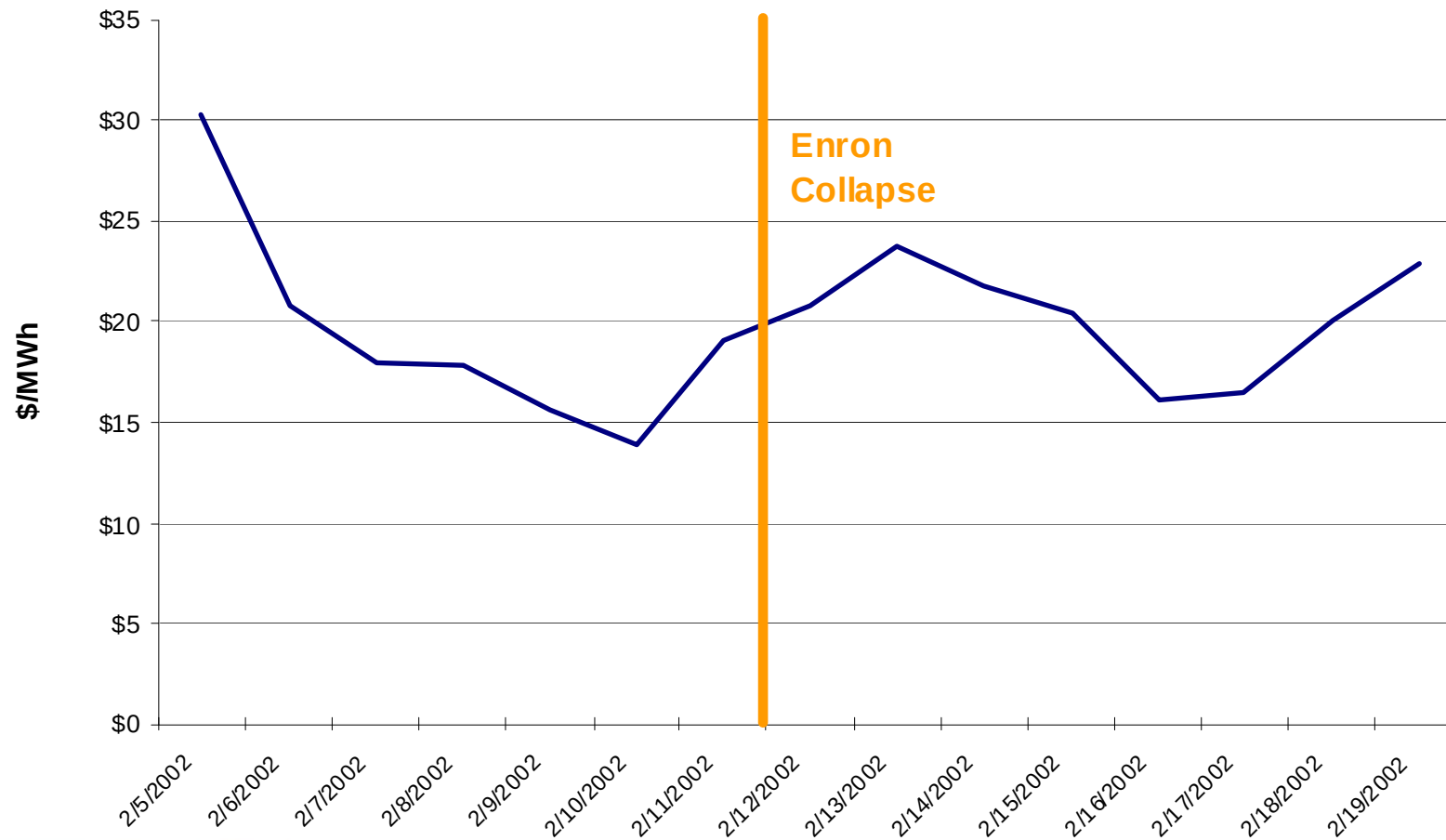
- Reminding the Regulator What We Got Right: *Taking credit for our accomplishments*
- Building on Past Experience: *Learning What Needs Further Work*
- Avoiding the Quagmire of Inaction

Report Card	
_____	A
_____	B
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Accomplishment No. 1:

We moved the Risk Allocation Formula:
aka "There was no Enron rate case!"

Mean PJM RTO LMP



- Consumers are paying for higher commodity costs not “bail-outs”
- If anything, capacity prices too low
- Markets delivering signals: We need to react to them wisely



Accomplishment No. 2:

We got the fundamentals right!



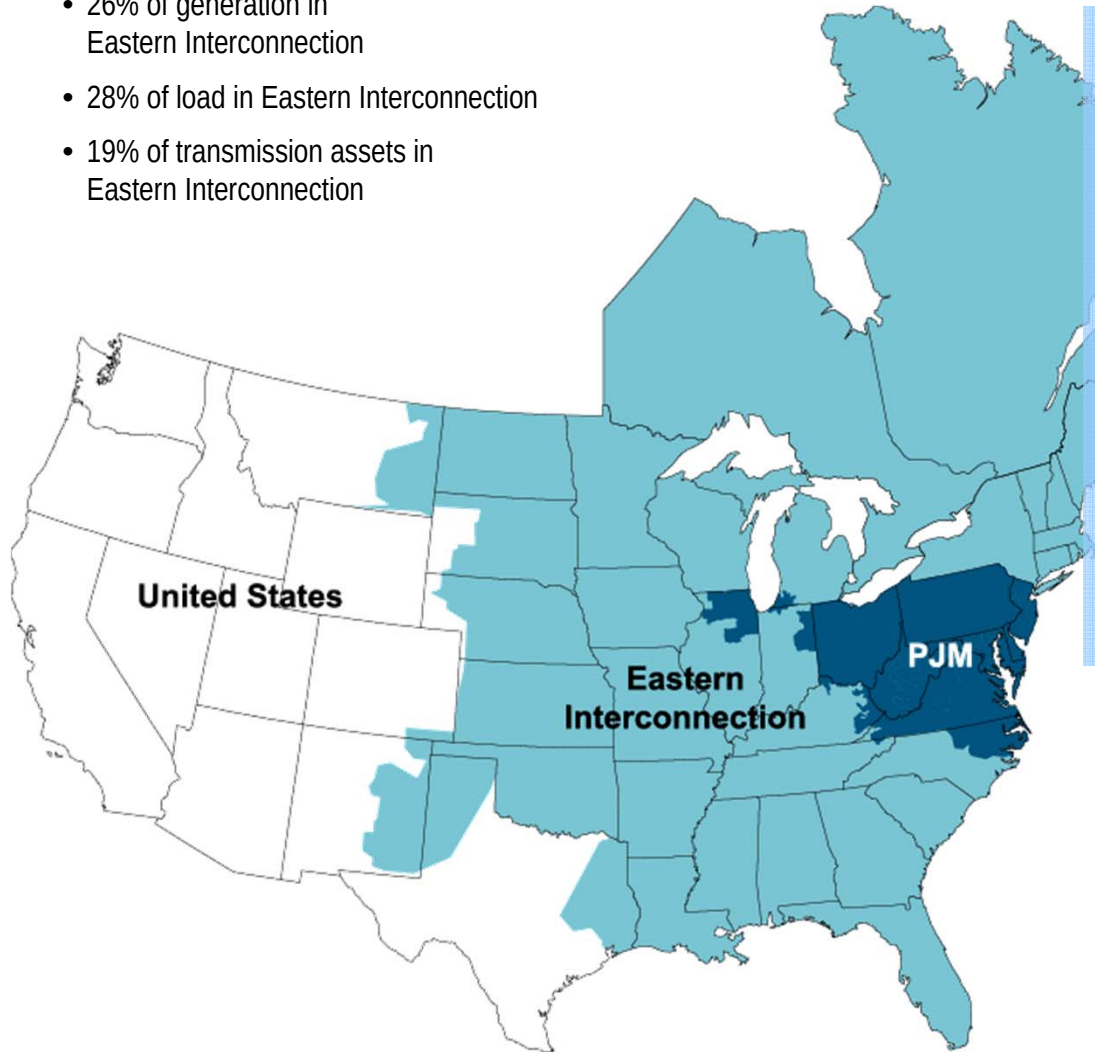


PJM as Part of the Eastern Interconnection

- 26% of generation in Eastern Interconnection
- 28% of load in Eastern Interconnection
- 19% of transmission assets in Eastern Interconnection

KEY STATISTICS

PJM member companies	750+
millions of people served	60
peak load in megawatts	163,848
MW of generating capacity	185,600
miles of transmission lines	65,441
GWh of annual energy	832,331
generation sources	1,365
square miles of territory	214,000
area served	13 states + DC
Internal/external tie lines	142



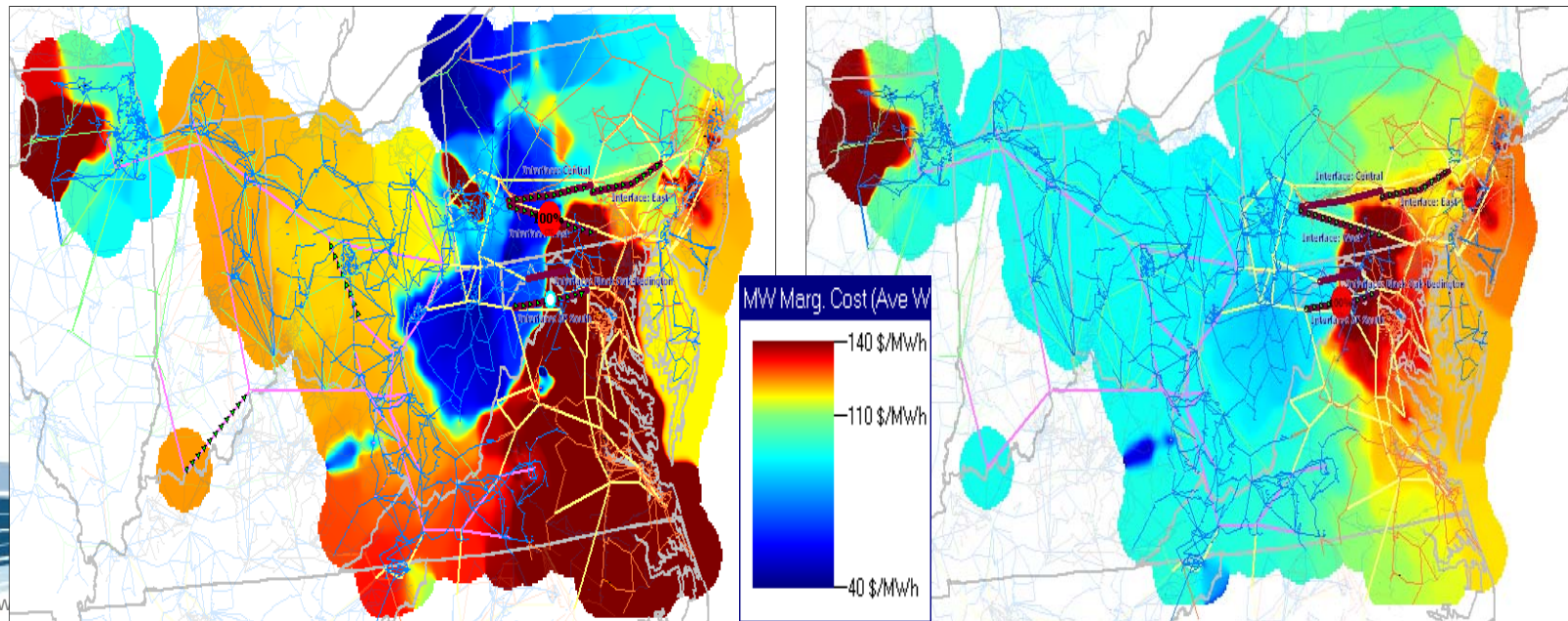
**21% of U.S. GDP
produced in PJM**

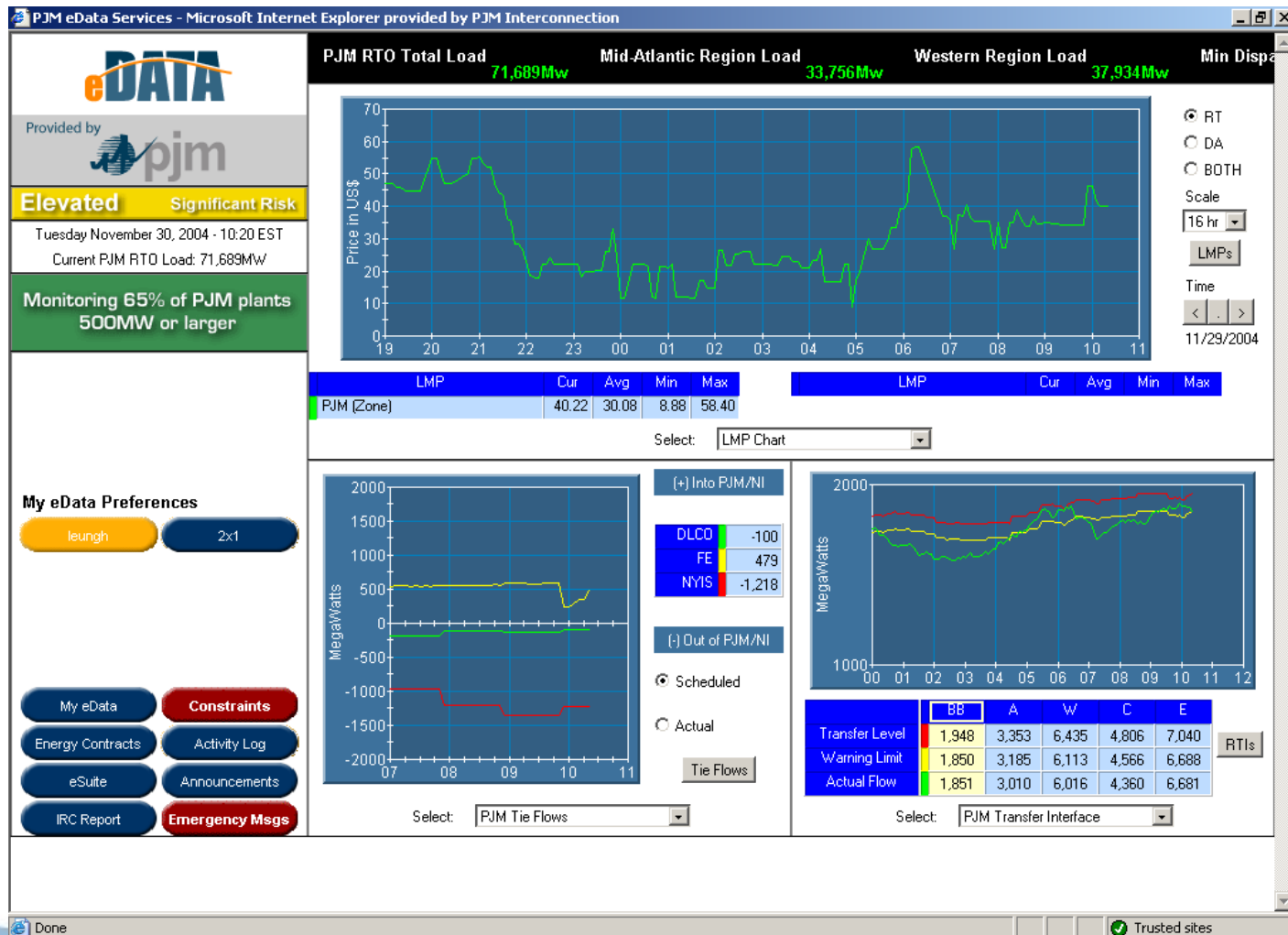
As of 1/4/2012

- **Lower energy prices across the expanded PJM region**
 - ESAI's technical study: region-wide energy price without integration would be \$0.78/MWh higher in 2005 than with integration.
 - Spreading these savings over the total PJM RTO's energy demand of 700 terawatt-hours (TWh) per year yields aggregate savings of over **\$500 million per year.**

Pre-Integration Price Pattern

Post-integration Energy Price Pattern





Accomplishment No. 3

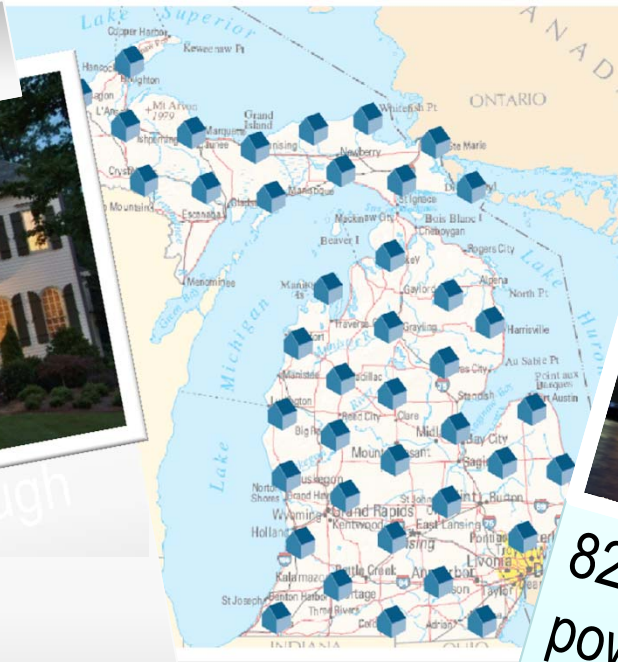
New Players and new tools to meet future demand:

- Demand Side Response
- Energy Efficiency
- Smart Grid

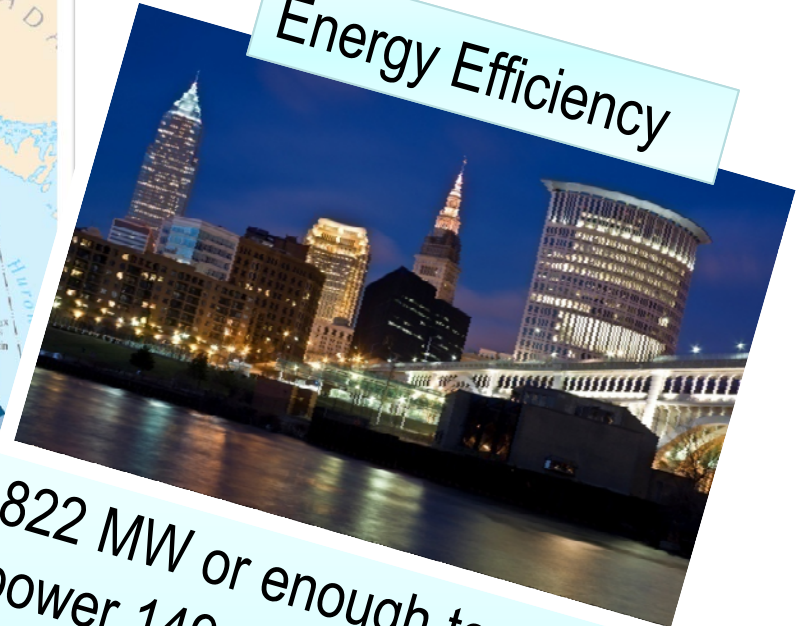
Demand Resources



14,118 MW or enough power for 5 million people or half the number of households in the state of Michigan

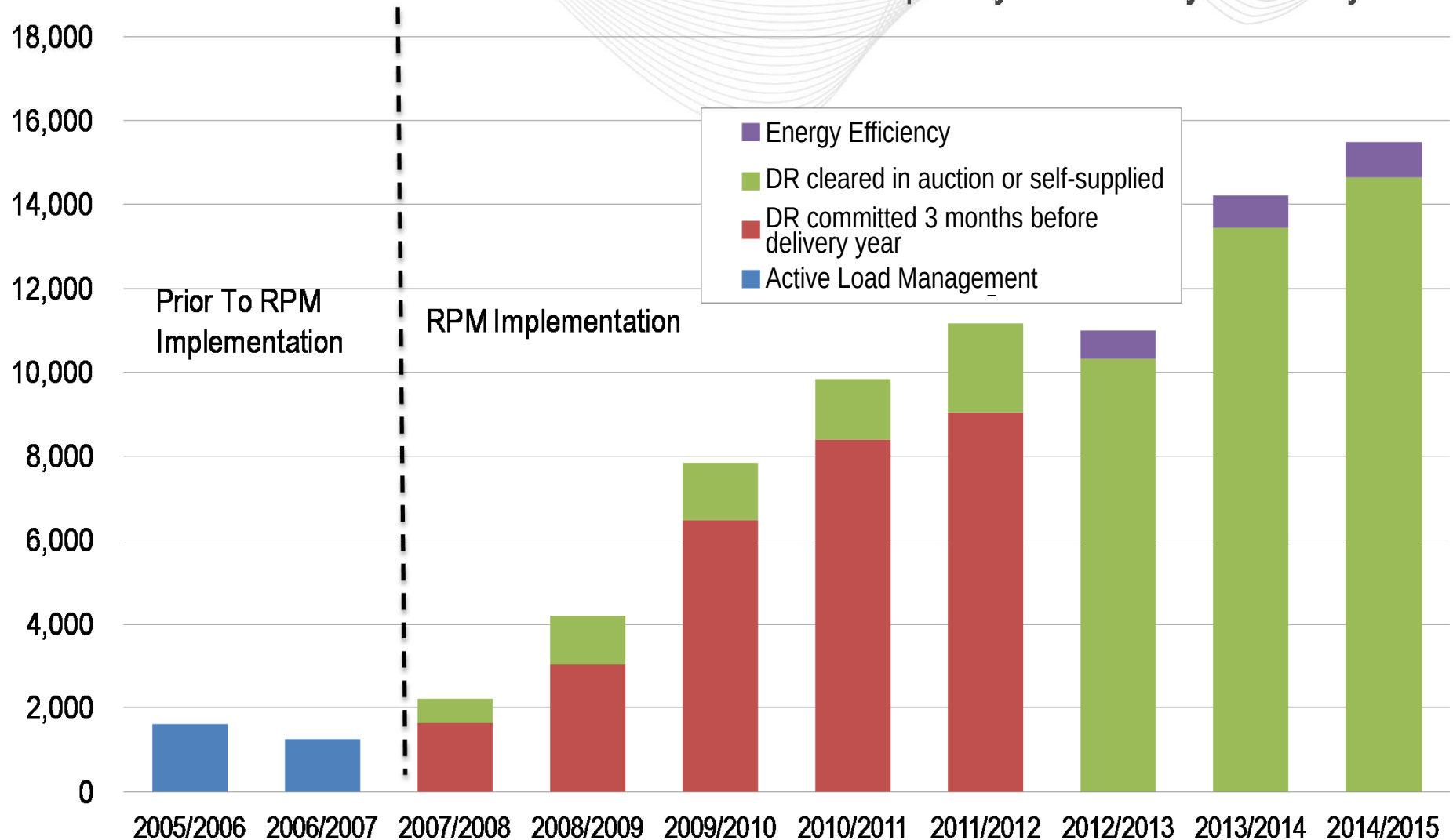


Energy Efficiency

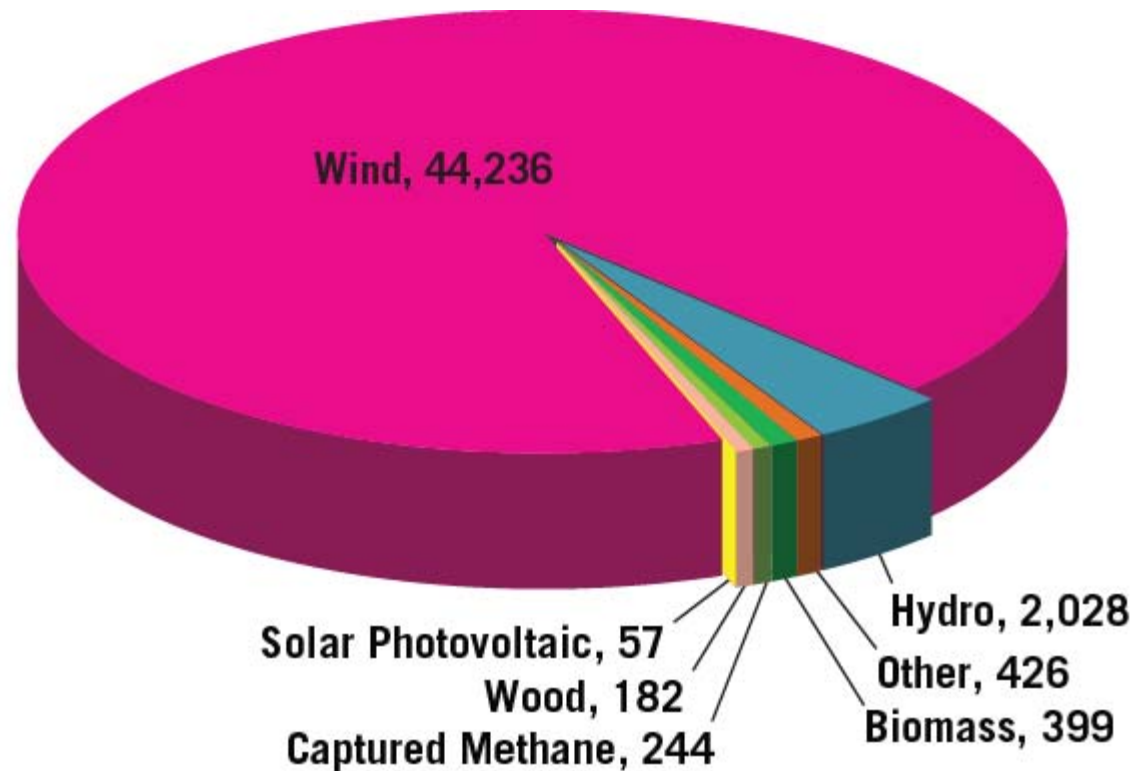


822 MW or enough to power 149,000 households about the number of households in the city of Cleveland Ohio

Offers of Demand-Side Resources as Capacity in PJM by Delivery Year



Proposed Generation (MW) – Renewables 47,572 / 52%



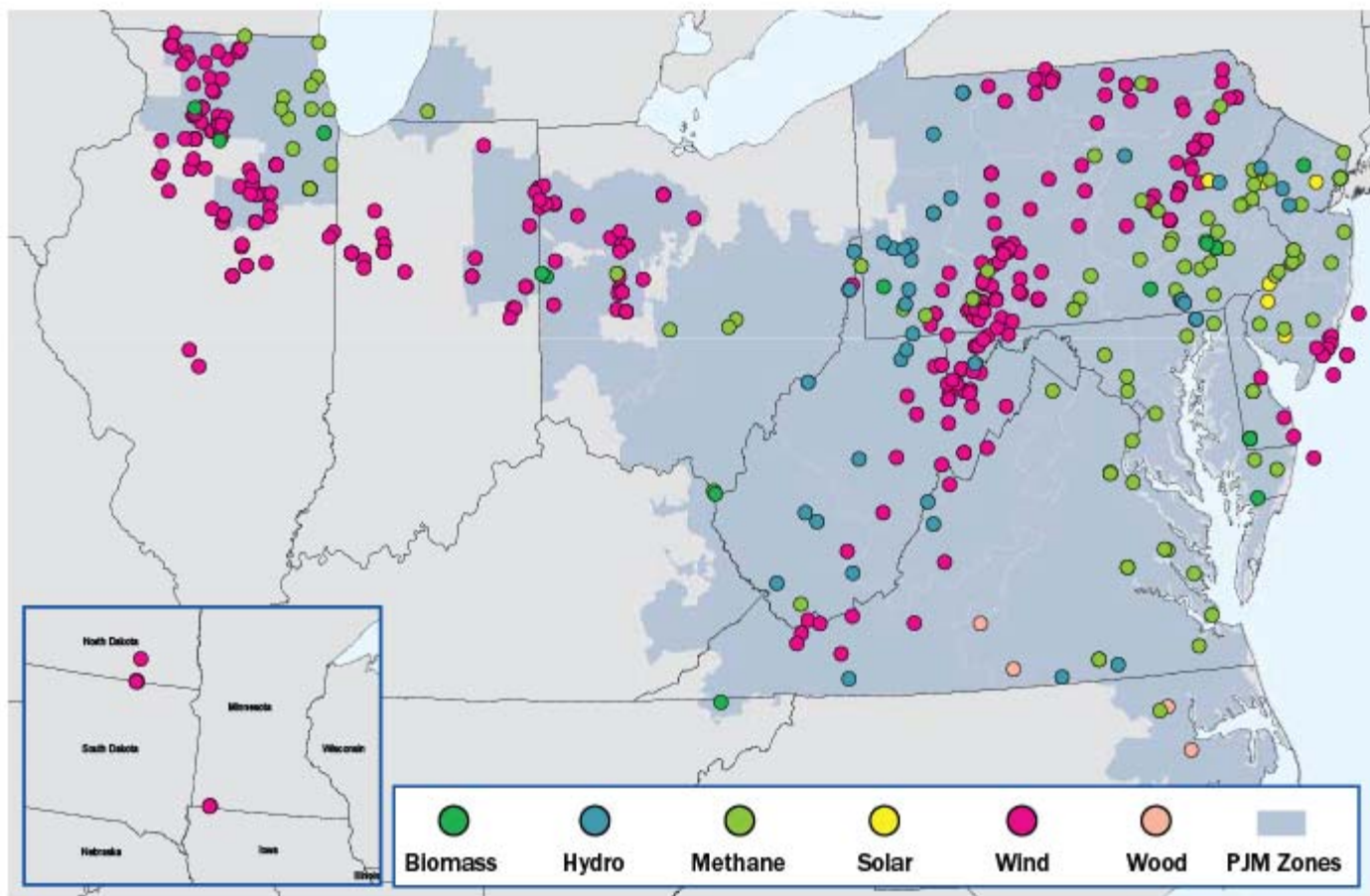
“Other” renewable is a combination of several different unrelated sources considered renewable. This category includes the one-megawatt ion battery array project at PJM.

As of Q1 2009



THE GOOD NEWS: ROBUST ACTIVITY IN THE RTO QUEUE

Proposed Renewable Generation in PJM



This map shows where renewable generation projects are proposed, including generation outside of PJM's footprint, which will trade in PJM's market.

POLICY CHOICES...

The Long and Winding Road...



- Transmission: Built to support major generation projects
- Connect distant generation to load; Distribution: One way delivery of power to the home
- Grid Costs: Rate-based to the home utility's customers
- ROI: Little focus on transmission as a stand alone business element

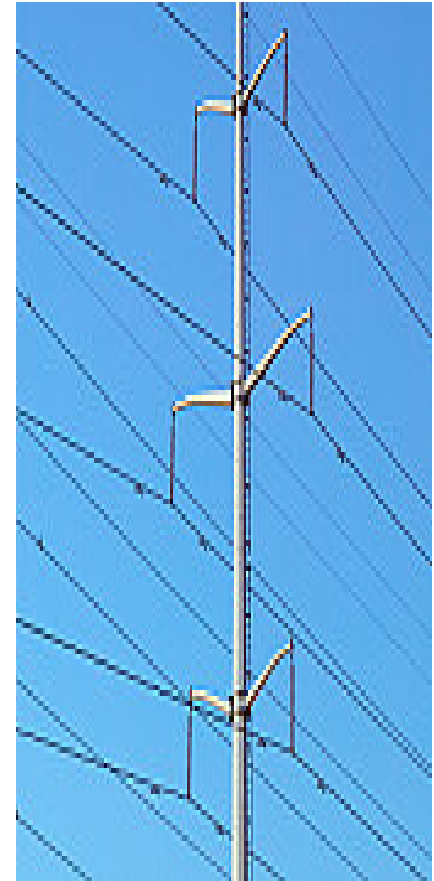


Policy Choice #1

Is the grid an enabler or a competitor?

Grid as an Enabler?

- Accept the grid as a natural monopoly
- Drive solutions through regulation
- Provide incentives for innovation



Policy Choice #1 (cont'd)

Grid as a Competitor?

- Grid development must compete with generation or demand side
- Grid entrepreneurs take risk: no guaranteed ROI
- Grid pricing reflects competitive outcomes: Bid solutions into the marketplace (RPM)

Policy Choice #2: A Strong or Weak Grid?

Characteristics of the “Strong” Grid:

- Generation distance from load
- Meet the needs for future transmission expansion
- Costs socialized to reflect interconnected nature of the grid
- Broad regional approach



Policy Choice #2-The Alternative:

The localized grid...

- Generation closer to load
- Centralized focus on development of DSR, energy efficiency and renewables
- Transmission/distribution grid as an enabler of alternative generation
- Transmission focused on meeting state/local needs



Policy Choice #2: Decision Points

- Siting: Regional vs. Local Needs
- Cost Allocation: Socialization vs. Direct Assignment
- IRP/RPS vs. Competitive Procurement
- Short term procurement vs. long term



- Policy Choice #3*: Determine the Planning Philosophy
- Transmission decisions driven by generation investment or generation investment influenced by the planned transmission grid?
 - Role of the Planning Authority



An Added Complication:

Who Decides?



- States:
 - State Energy Policies: Governors/legislators
 - State PUCs
- FERC
 - FERC Review of Planning
 - Who chooses projects?
- Environmental Agencies
 - Non-attainment areas
 - RGGI et al.



“Hanging in mid-air”: a dangerous place



The Task Ahead: Blocking, Tackling & Teamwork!



LET'S TALK...



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