PJM Update: PJM's Economic and Reliability Analysis of the EPA's Clean Power Plan (CPP)

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August 2015
PJM as Part of the Eastern Interconnection

- 27% of generation in Eastern Interconnection
- 28% of load in Eastern Interconnection
- 20% of transmission assets in Eastern Interconnection

KEY STATISTICS

- PJM member companies: 940+
- Millions of people served: 61
- Peak load in megawatts: 165,492
- MW of generating capacity: 183,604
- Miles of transmission lines: 62,556
- 2014 GWh of annual energy: 797,461
- Generation sources: 1,376
- Square miles of territory: 243,417
- Area served: 13 states + DC
- Externally facing tie lines: 191

21% of U.S. GDP produced in PJM

As of 06/2015
IRC Map

- Alberta Electric System Operator
- Ontario Independent Electricity System Operator
- Midcontinent ISO
- California ISO
- Southwest Power Pool
- Electric Reliability Council of Texas
- ISO New England
- New York ISO
- PJM Interconnection
PJM – Focus on Just 3 Things

1. **Regional Planning**
   - 15-Year Outlook

2. **Reliability**
   - Grid Operations
   - Supply/Demand Balance
   - Transmission monitoring

3. **Market Operation**
   - Energy
   - Capacity
   - Ancillary Services
PJM Installed Capacity and Queued Capacity (MW)

**Existing PJM Installed Capacity**
- **Natural Gas, 56,811**
- **Nuclear, 33,708**
- **Coal, 67,749**
- **Oil, 11,130**
- **Solar*, 98**
- **Hydro, 8,166**
- **Wind*, 828**
- **Waste, 968**

* Dependable

**PJM Queued Interconnection Request Capacity**
- **Natural Gas, 41,792**
- **Nuclear, 2,007**
- **Oil, 401**
- **Other, 267**
- **Solar*, 1,517**
- **Storage, 32**
- **Wind*, 2,307**
- **Wood, 66**
- **Biomass, 86**
- **Coal, 1,873**
- **Hydro, 249**
- **Methane, 101**

- **Solar Nameplate Capacity, 2,908 MW**
- **Wind Nameplate Capacity, 15,647 MW**

Dec. 31, 2014
Renewable Energy in PJM

MWh (millions)


- Biomass
- Solar
- Wood
- Methane
- Solid Waste
- Water
- Wind
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EPA Clean Power Plan
PJM has been tasked with assessing potential impacts of the EPA Clean Power Plan Proposal on PJM states; however, as an RTO, PJM:

- Maintains neutrality on CO$_2$ policy
- Acts as an independent source of information on CO$_2$ policy implications
- Does not forecast market outcomes but rather models outcomes based on a specific set of assumptions
Needed Issues to Address in the Final Rule: PJM List

- Up-front reliability review of submitted State plans
- Reliability Safety Valve if implementation affects reliability
- Better incentives for cross-border coordination Among States
- Avoid State compliance traps: e.g. The “No Backsliding” provision
Economic Analysis: The Bottom Line
The “It Depends” Answer

... how key questions are answered in the final rule
... future gas prices
... individual state vs. regional compliance
... state of the economy
... public acceptance and enforceability of energy efficiency programs
... the Courts
... success of allowance trading programs
... future gas prices
... public acceptance and enforceability of energy efficiency programs
An Added Complication:

Who Decides?
Who Decides?

States
- State Energy Policies: Governors/legislators
- State PUCs

FERC

Environmental Agencies
- Federal/State
- RGGI et al.
“Hanging in mid-air”: a dangerous place
A restructured industry or “Golden memories of yesteryear…”

• The choice is ours
LET'S TALK…

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