ISO/RTO Council Proposal for a Reliability Safety Valve and Regional Compliance

Regulation of CO_2 Emissions from Power Plants: Flexibility and the Path Forward for Coal Dependent States

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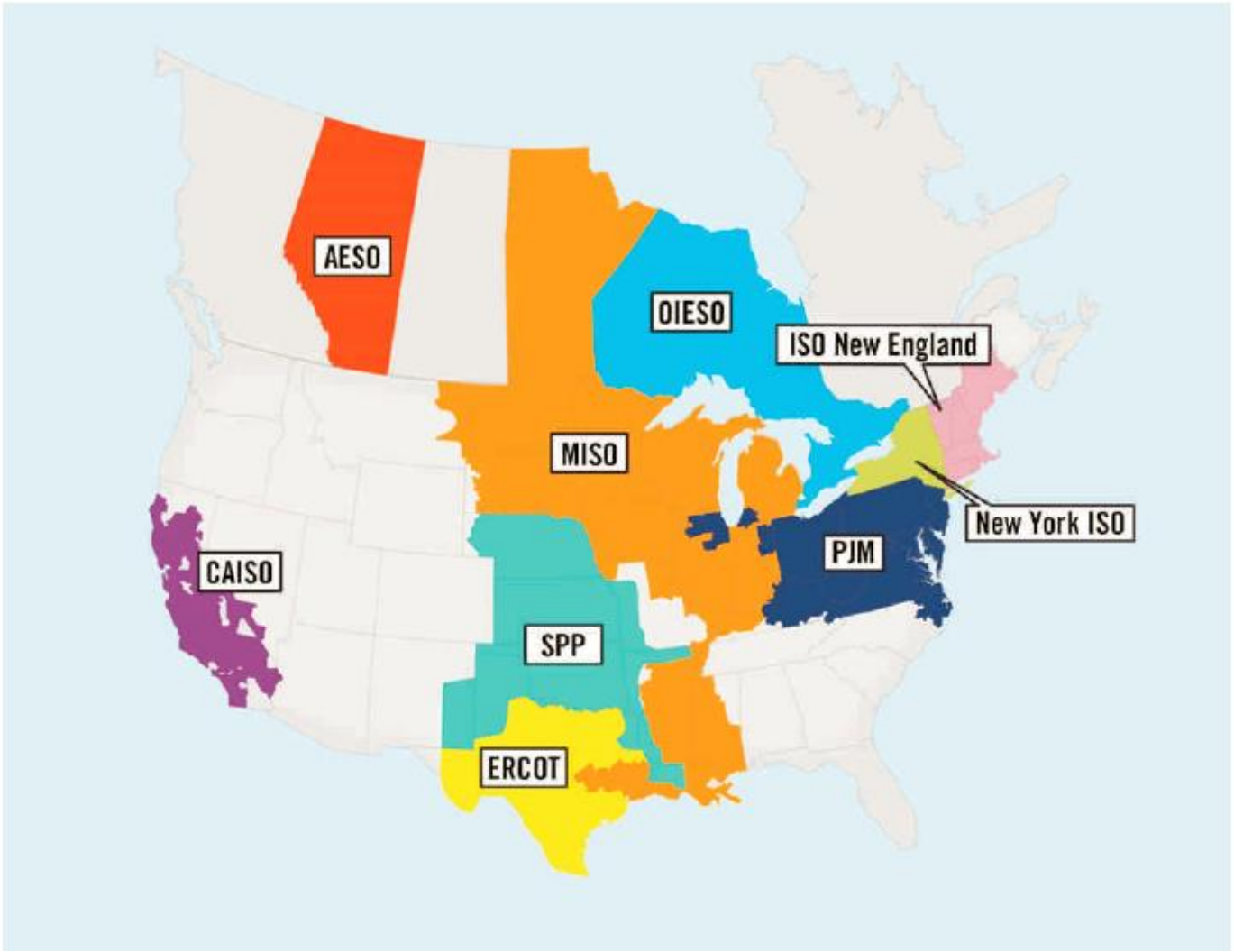
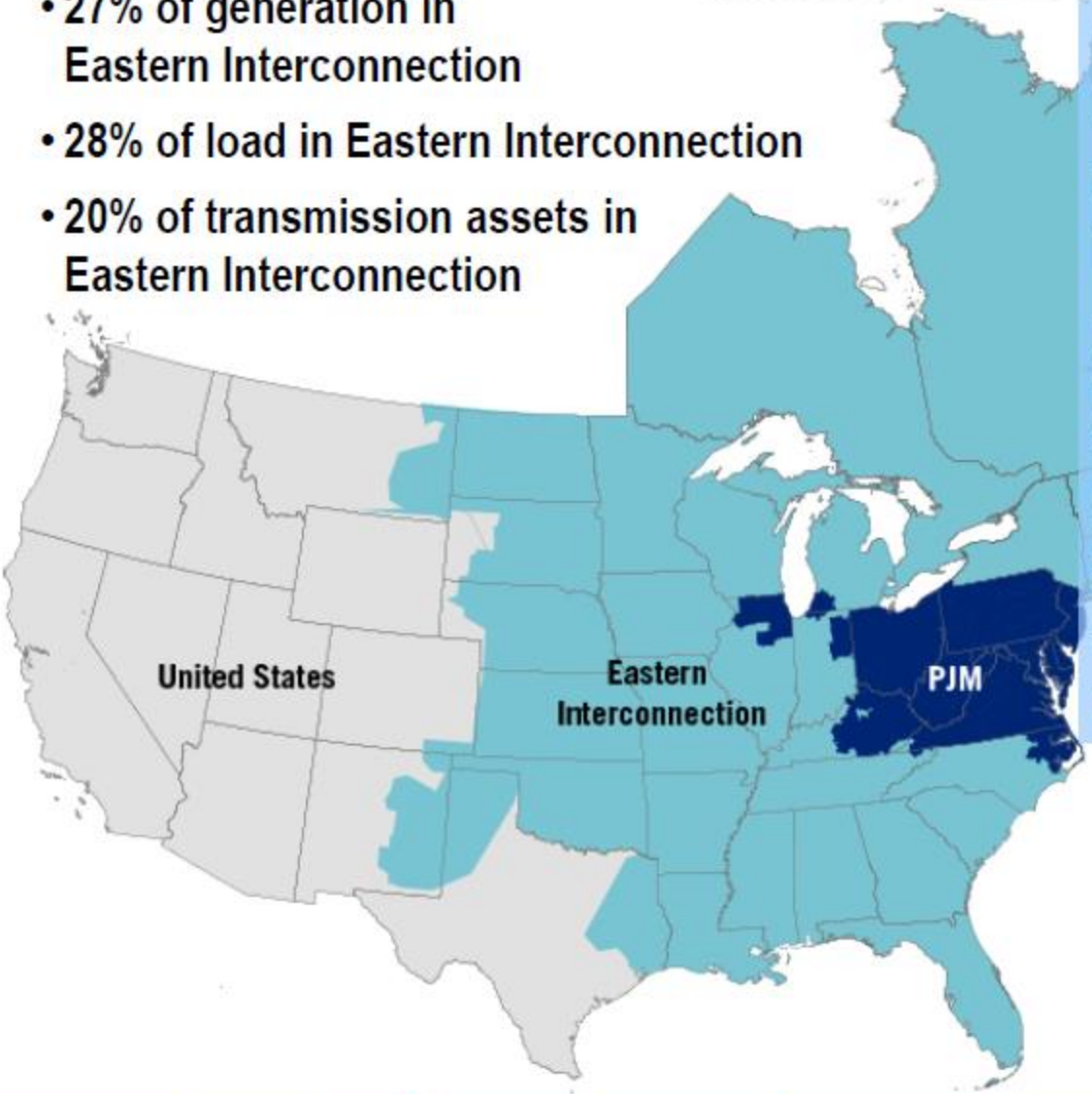

AESO
OIESO
ISO New England
MISO
New York ISO
PJM
CAISO
SPP
ERCOT

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	850+
millions of people served	61
peak load in megawatts	165,492
MWs of generating capacity	185,600
miles of transmission lines	62,556
2013 GWh of annual energy	832,331
generation sources	1,365
square miles of territory	243,417
area served	13 states+DC
externally facing tie lines	191

21% of U.S. GDP produced in PJM

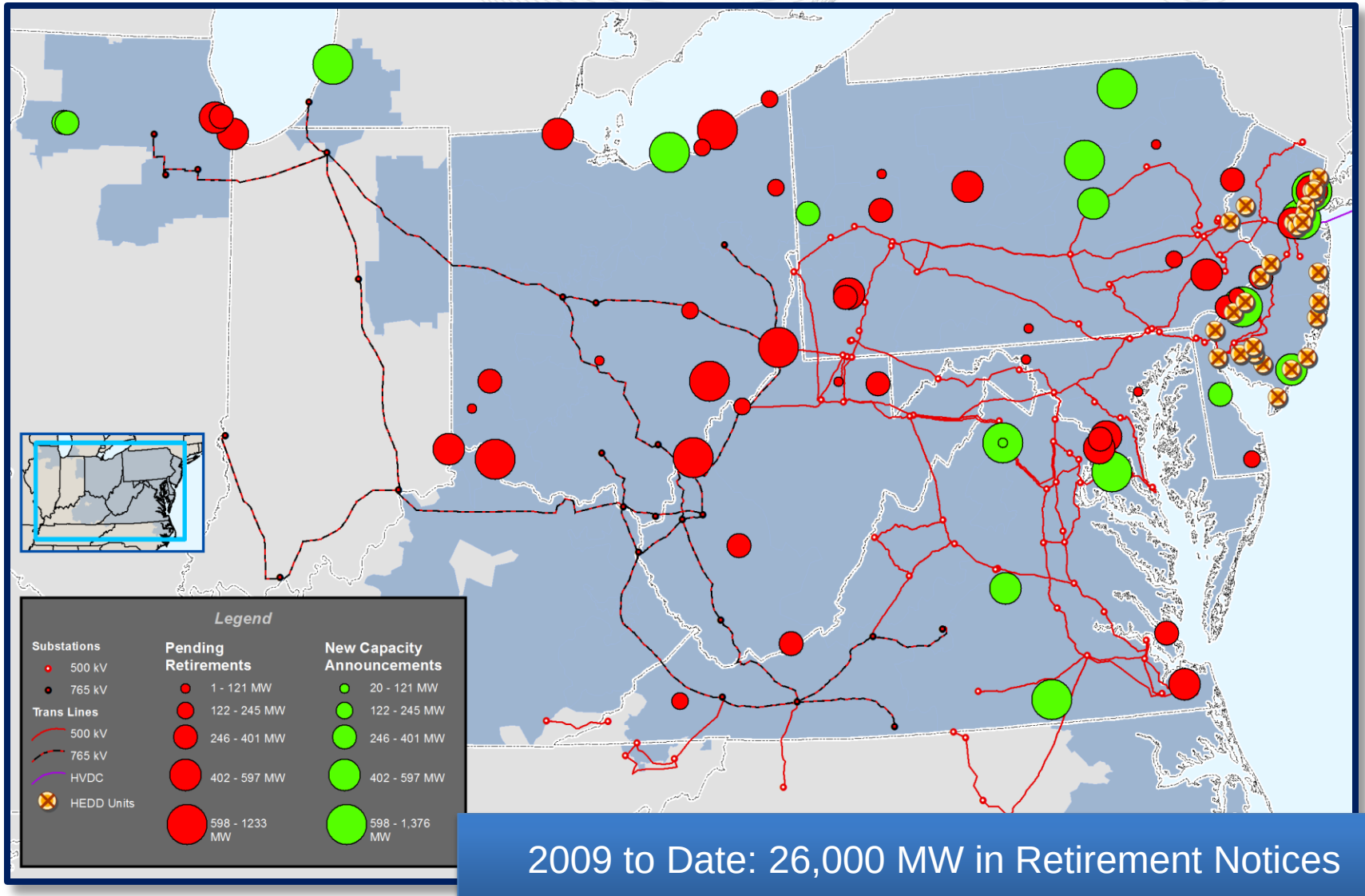
As of 1/1/2014

- Similar to the Reliability Safety Valve for MATS
  - Keeps generation resources on-line to maintain reliability until a transmission solution can be implemented to ensure retirements do not jeopardize reliability
- Proposed Reliability Safety Valve for 111(d) has additional features
  - Up front analysis of SIPs to check for possible reliability issues intra-state and inter-state
  - On going analysis after implementation as generation resources may retire well after compliance obligations begin depending on flexibility of SIPs…in contrast MATS has a hard deadline for emissions rate compliance
  - Ongoing analysis of retirements same as MATS retirement analysis…standard deactivation analysis

Measuring Compliance on a Regional/RTO Basis

- Rather than states “going it alone”, allow the option for SIPs to measure compliance on a regional/RTO basis
  - Opt-in approach as the default is state-by-state compliance
- Leverages the economies of scope and scale and cost-effectiveness of RTO-wide markets and institutions
  - Cost-effective security constrained economic dispatch across an RTO is already taking place and would make compliance more cost-effective
  - Resource adequacy constructs allow for the cost-effective sharing and transfer of resources across the region
  - Region-wide transmission planning process
  - Market rules already exist in RTO markets to account for the cost of environmental compliance in general

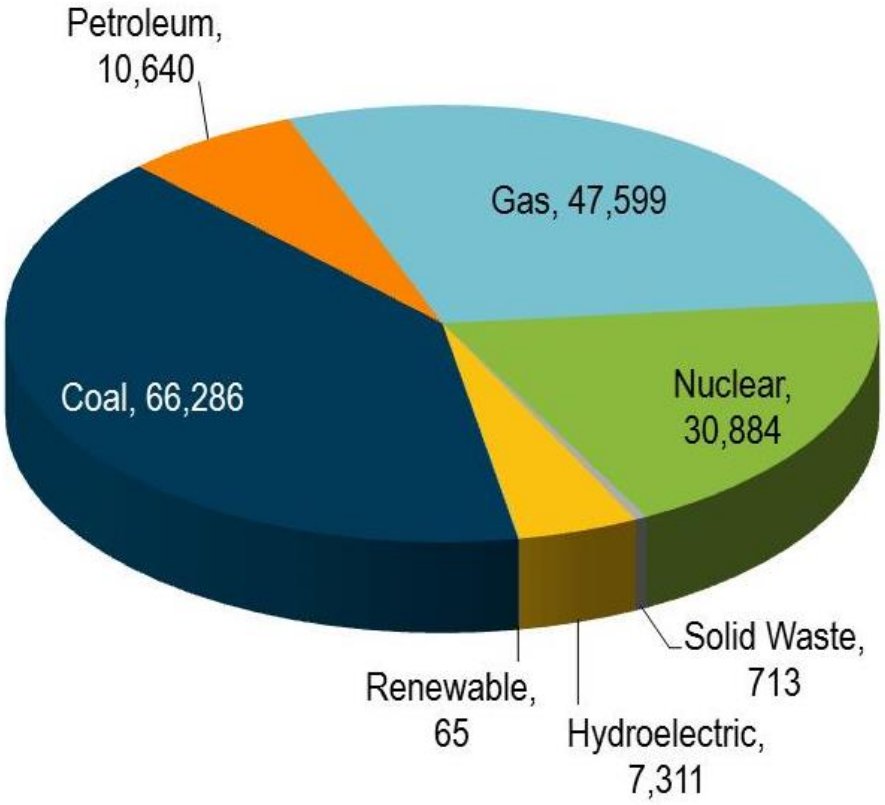
Transitioning from Coal to Gas



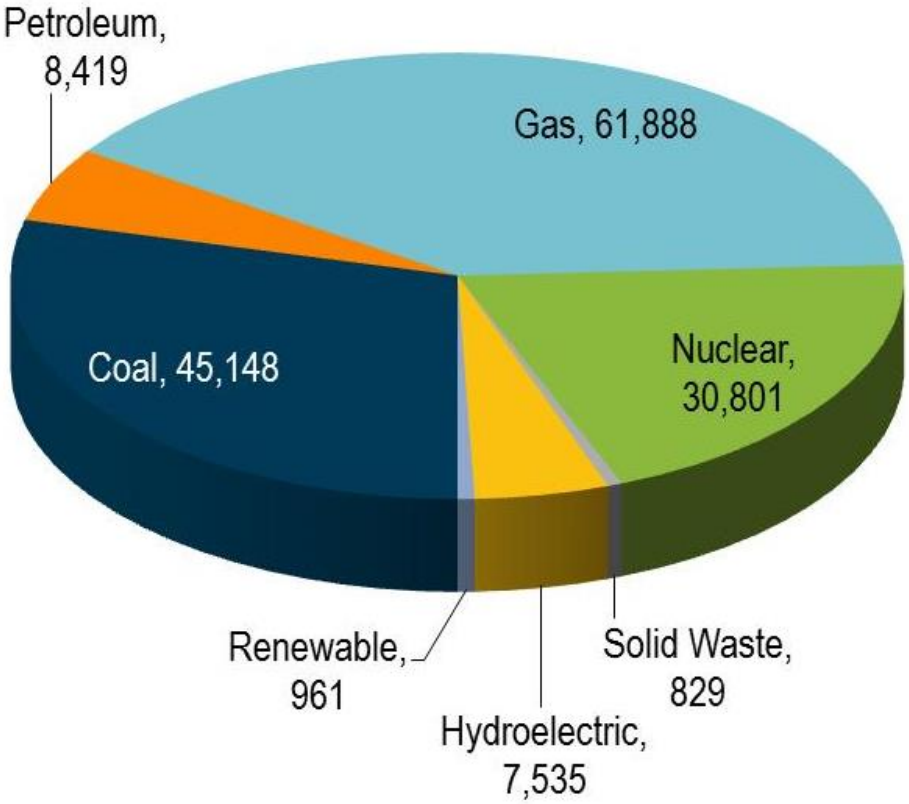
2009 to Date: 26,000 MW in Retirement Notices

PJM's Changing Fuel Mix

2007 PJM installed capacity



Capacity cleared market for 2016/2017 delivery year



PJM Market – Average Power Generation Emissions
Pounds Per MWh of Electricity Produced