

# Update on Market Factors Influencing Nuclear Power Economics



*The author's views do not necessarily represent the views of  
the Federal Energy Regulatory Commission.*

# Nuclear Power Plants Operate under Varied Market Regimes

Plants under Cost of Service Regulation in Non-restructured regions

- Receive guaranteed cost recovery including a regulated return
- Costs are recovered primarily from retail customers, but can also be recovered through wholesale power contracts
- Cost recovery not substantially affected by market rates

Plants under Market-based Regulation in Restructured Regions

- Receive market rates through the markets administered by system operators or arms-length bilateral contracts
- Costs are recovered through the market or bilateral contract
- Cost Recovery affected by market rates

Plants with cost of service equivalence in a Restructured Region

# Wholesale Organized Electricity Markets

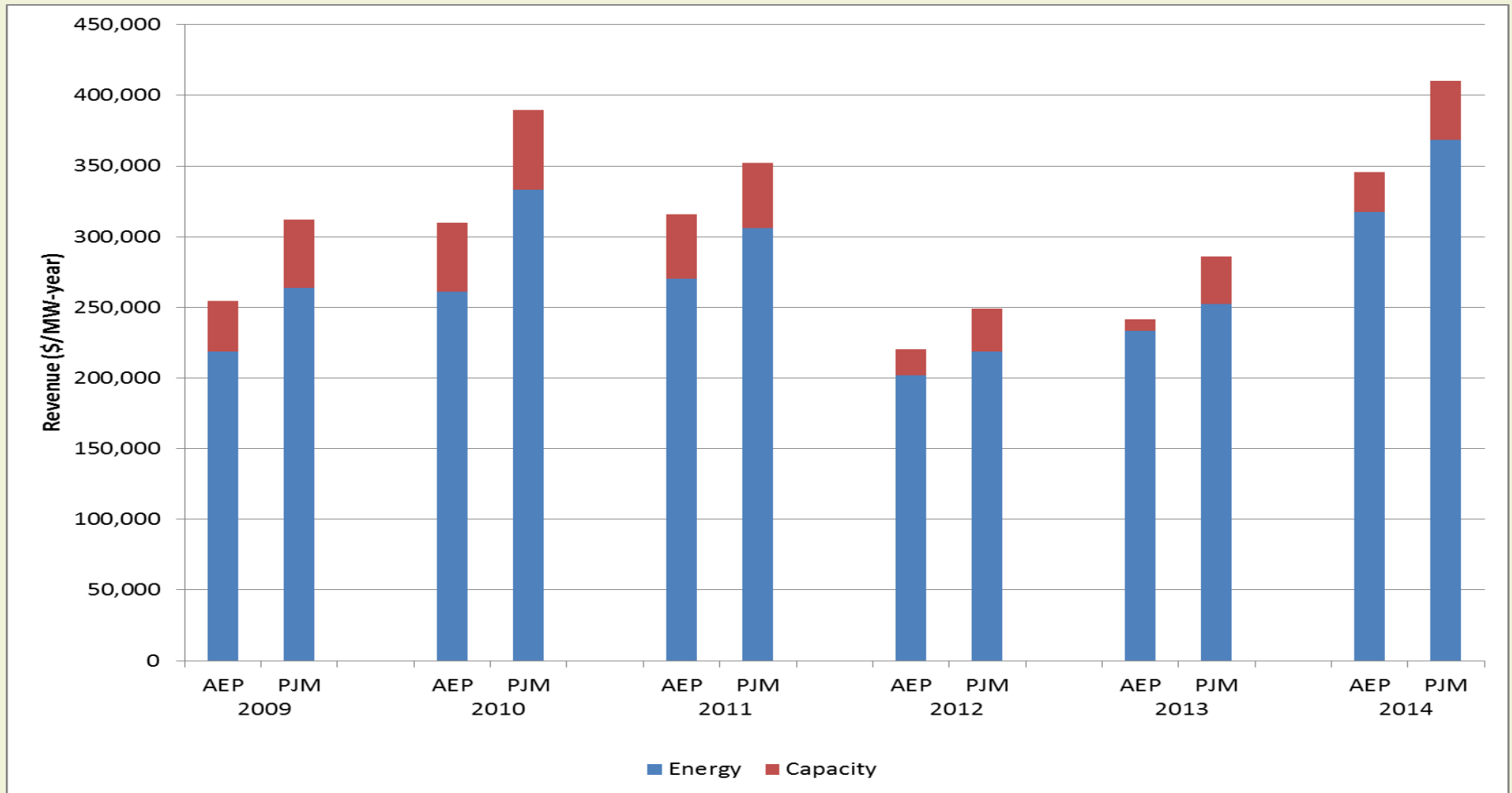
## Energy Markets

- Select the lowest cost set of resources needed to serve load
- Market price for all resources in an area is based on the highest cost resource needed to serve load
- Any difference between the market price and a resource specific cost is considered a contribution to recover fixed costs

## Capacity Markets

- Designed to ensure adequate resources
- Price is:
  - highest going forward cost of an existing resource when no new resources are needed
  - cost of new entry when new resources are needed

# Nuclear Power Plant Net Revenues in PJM 2009 - 2014



Source: 2014 State of the Market Report for PJM, Figure 7-18

# Recent Market Reforms

Price formation proceeding is exploring energy market reforms to

- Maximize market surplus
- Provide incentives to follow ISO instructions, make efficient investments and maintain reliability
- Provide transparency so market participants understand how prices reflect the actual marginal cost of serving load and the constraints of reliably operating the system
- Ensure that resources have an opportunity to recover cost

PJM and ISO-NE have introduced capacity market reforms that place more emphasis on resource performance