

# US DOE Quadrennial Energy Review

## Electricity: Generation to End Use

### Des Moines, IA

May 6, 2016

# Why We Are Here Today

- ***Competitive markets remain the best way to efficiently allocate resources, meet customer's needs and spur innovative products. Millions of people benefit every day from competitive wholesale electric generation and competitive retail electric sales.***
- ***Despite these successes, some point to real or imagined flaws in competitive electric market and question whether competitive wholesale and retail energy markets need the intervention of governmental regulators. Some even question whether a return to the monopolistic, command-and-control regulation of energy might be a better approach to ensure reliable and affordable energy.***
- ***These critics:***
  - ***Often forget the track record of cost overruns, high prices and poor service that precipitated the move away from economic regulation to competitive markets in many of the nation's restructured markets;***
  - ***Are often frustrated that their desired program, product or societal goal is not advancing as fast as they would like in competitive markets and believe government intervention is needed to spur consumers to action. Rather than allow flexibility and choice, some of these critics see out of market government solutions as the fastest and easiest way to comply with programs like the Clean Power Plan.***

# Why We Are Here Today (continued)

- *Some states and regions have either failed to develop a competitive market or are now considering a “hybrid” approach. Under a hybrid market, vertically-integrated utilities are mixed with competitive generation.*
  - *Hybrid models don’t work. Think of two baseball teams playing against one another – one has a designated hitter, the other has to bat the pitcher – the result is a skewed game.*

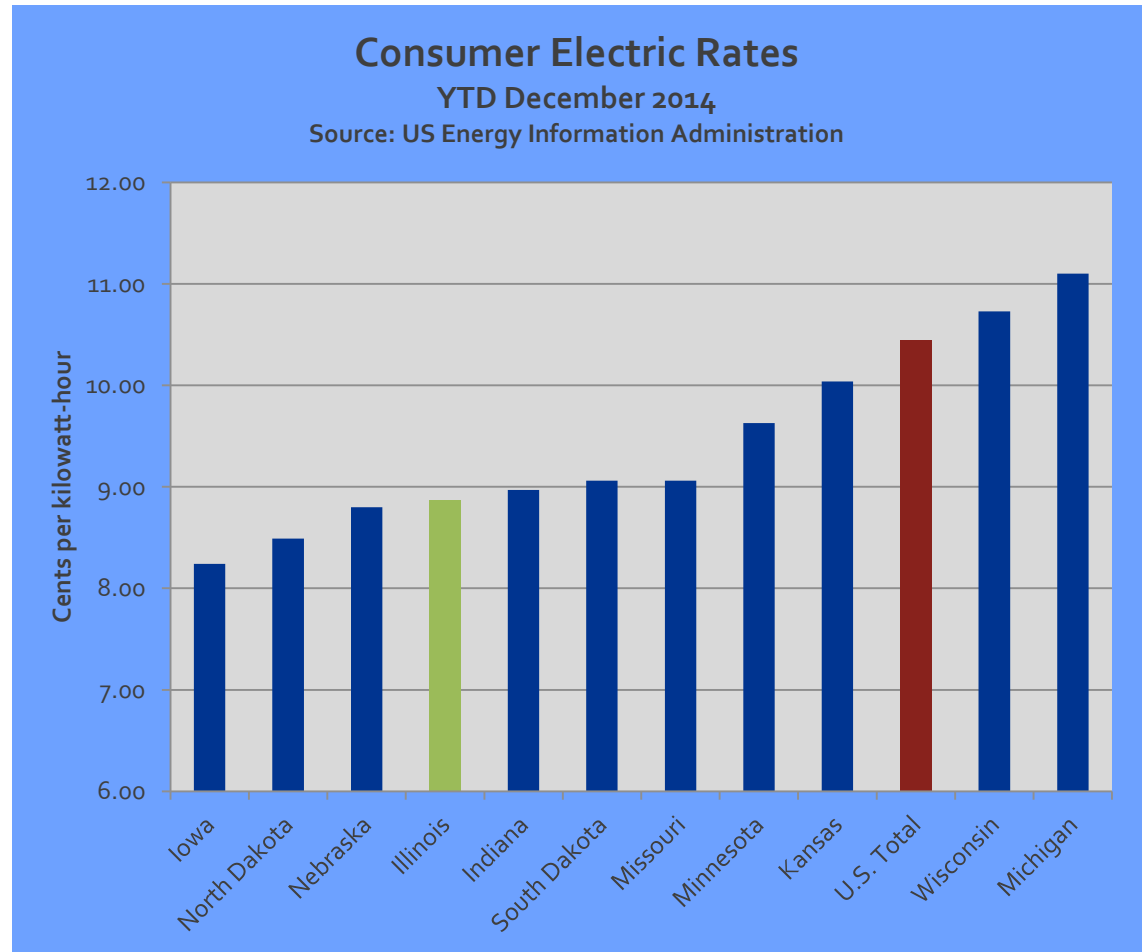
## *In turn:*

1. *While retirement of uneconomic generation is one objective of competition, otherwise competitive generation is disappearing and will continue to disappear from MISO - Dynegy has already announced the retirement and planned shutdown of nearly 30% of the capacity in Southern Illinois, with the reason the hybrid MISO market;*
2. *New, efficient resources won’t respond to the market signals because the signals are artificially distorted or suppressed;*
3. *Out of market band aids will be adopted, raising rates for consumers, and creating a proverbial “death spiral” whereby more band-aids will be applied to stop the bleeding without realizing that they’re contributing to the problem.*

# Benefits of Competition

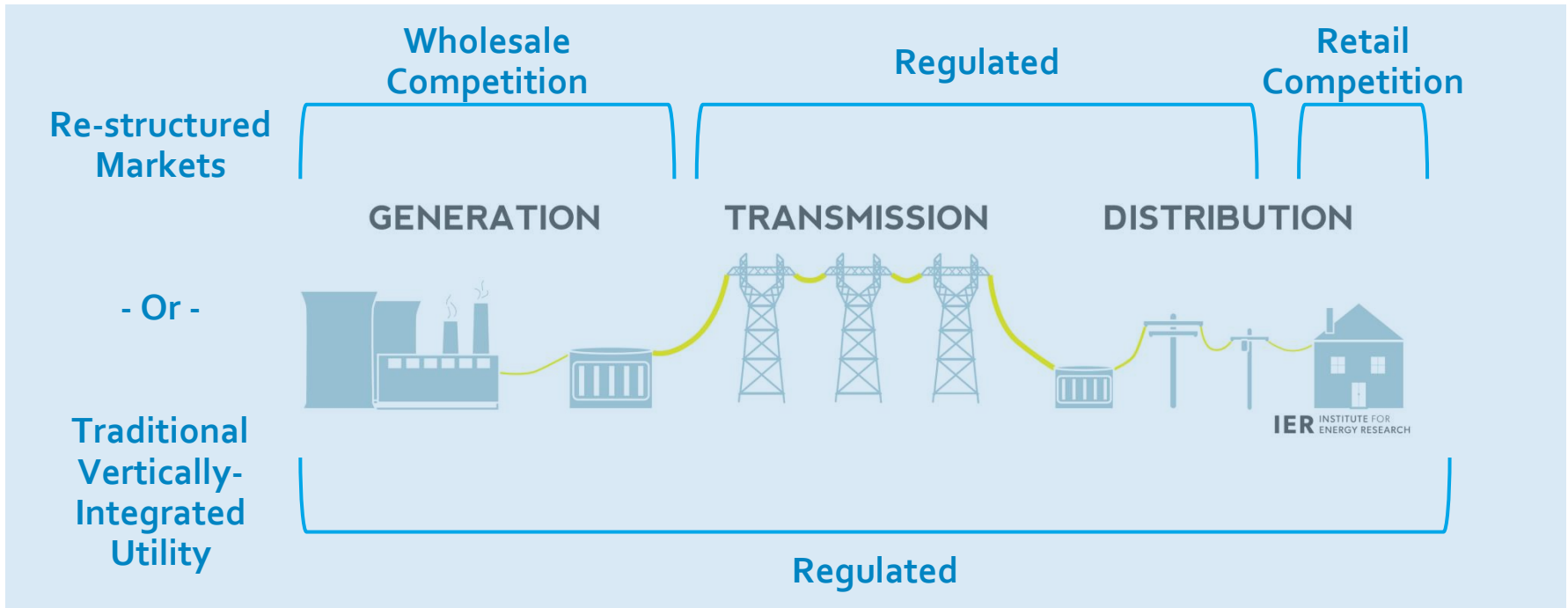
## Power Facts:

- Competition lowers rates for consumers - from 1997-2014, the all-sector electric rates have decreased 1.3% across the restructured states, while rates increased 9.8% across non-restructured states <sup>(1)</sup>
- Competition provides consumers with choices and options
- Competition shifts investment risk from captive utility customers to private investors



**Competition has allowed Illinois to realize some of the lowest electric rates across MISO**

# Background : Markets vs. Traditional Cost-of-Service



- Under a traditional, cost-of-service electric utility model, the utilities demonstrate their costs to the regulatory body, which then approves their rates
- In comparison, under a market-based approach, the utilities retain ownership of the transmission and distribution system, but suppliers compete to generate and sell the electricity
  - Wholesale Competition: Generators, also known as merchant generators or Independent Power Producers (IPPs), compete to sell electricity into the power grid
  - Retail Competition: Retail electric suppliers compete against one another to sell electricity to end-use customers

# How the Wholesale Markets Work to Achieve Reliability

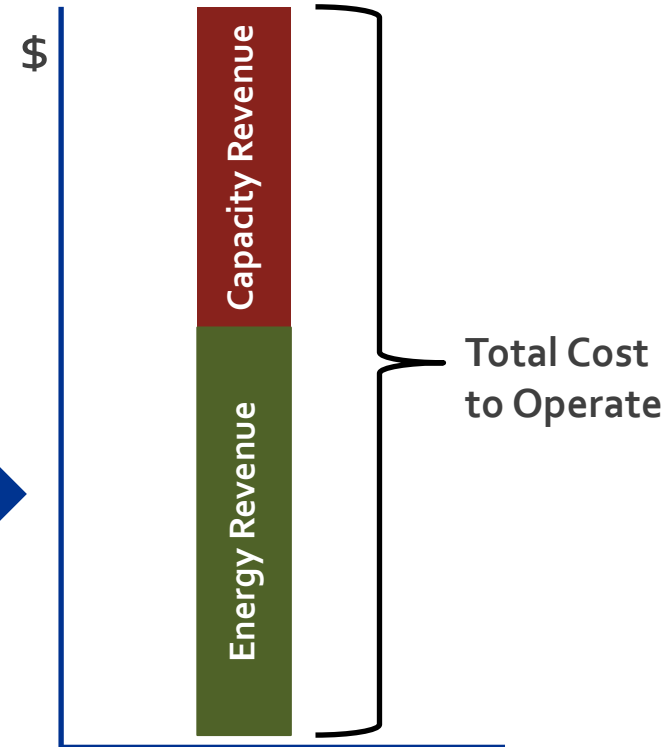
There are two primary metrics for power system reliability:

1. Resource Adequacy – Having enough resources (sometimes called “steel in the ground”) to meet future customer demand
2. Transmission Security – Operating those resources day-in and day-out to meet actual customer demand

<u>Need</u>	<u>Metric</u>	<u>Satisfied Via</u>
Having enough resources to meet future demand	Resource Adequacy	Capacity Market
Operating those resources reliably day-in-and-day-out	Transmission Security	Energy Market



## Generator Compensation



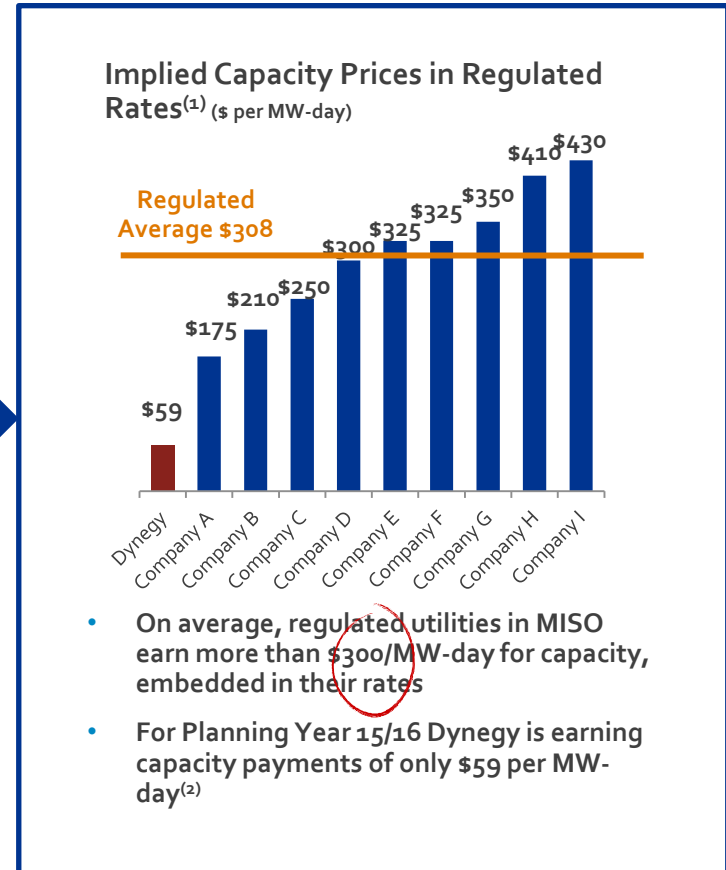
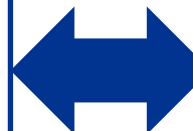
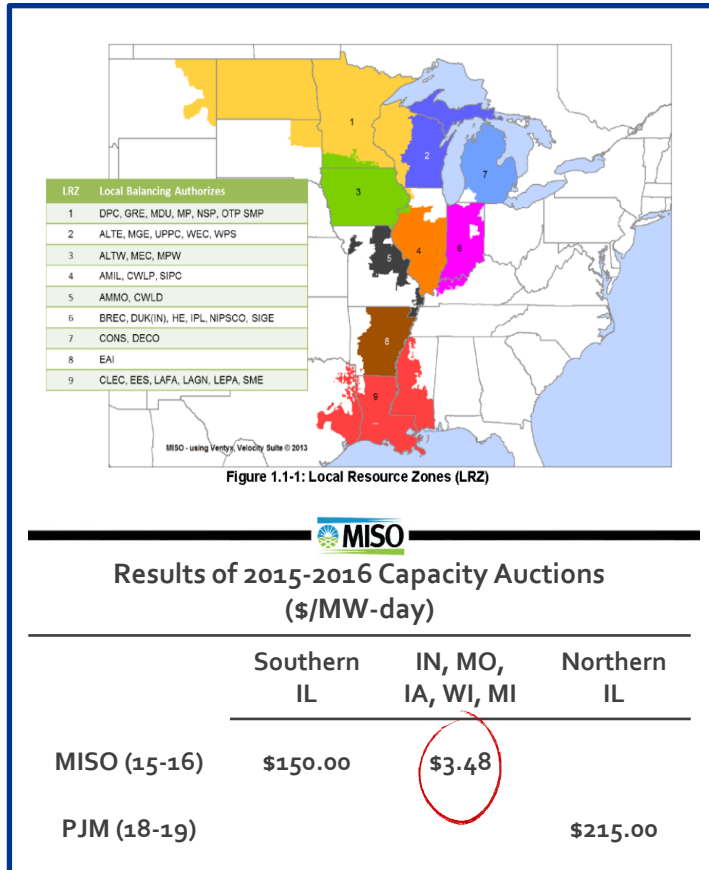
Generators rely on both the capacity and energy market for the revenue required to operate and make investment

# Resource Adequacy and Capacity Market Comparison

## Market Results

vs.

## Regulated Rates



**Unlike IPPs, vertically-integrated utilities do not rely on the MISO market for their capacity revenues.**

<sup>(1)</sup> Calculated through rate base charges for maintenance, depreciation and capital, Source: publicly available filings; <sup>(2)</sup> Weighted average capacity price earned by Dynegy in MISO including auction, bilateral sales and generation that did not clear the auction (auction revenues + bilateral sales/all Dynegy MW in MISO footprint)

# Conclusions and Recommendations

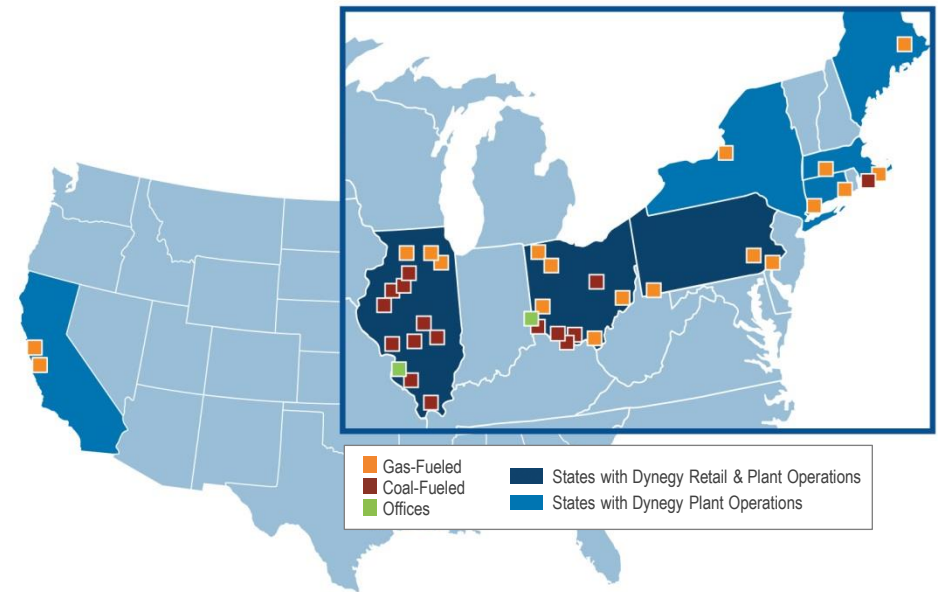
- The competitive markets – which were driven by consumers – are delivering the intended results.
- Hybrid models don't work and are the worst design.
- Out of market solutions are touted as fixes to the problems, but in actuality contribute to the problems.
  
- The FERC price formation efforts have been helpful, and DOE's engagement and leadership would be welcome and valuable input.
- The next iteration of the QER can provide thought leadership on how the wholesale markets should and need to adapt to a changing resource mix.



# Dynegy's Geographic and Fuel Diversity

## Dynegy Quick Facts

- **Business:** Dynegy is an independent power producer, with no captive customers or ratepayers
- **Footprint:** Located in 8 states (California, Connecticut, Illinois, Ohio, Massachusetts, Maine, New York and Pennsylvania)
- **Generating Capacity:** 26 GW, capable of supplying more than 21 million households
- **Power Plants:** 35
- **Retail customers:** 830,000 residential customers and 23,000 commercial, industrial and municipal customers served through our Dynegy Energy Services and Homefield Energy companies
- **Annual Revenues:** \$5.5 billion approx.
- **Employees:** 2,730 professionals, including approximately 1,380 union members
- **NYSE listed:** DYN



### CAISO

- **Moss Landing Energy Facility**  
Moss Landing, CA
- **Oakland Energy Facility**  
Oakland, CA

### MISO (IPH)

- **Coffeen Power Station**  
Montgomery County, IL
- **Duck Creek Power Station**  
Canton, IL
- **Edwards Power Station**  
Bartonville, IL
- **Joppa Power Station**  
Joppa, IL
- **Newton Power Station**  
Jasper County, IL

### MISO (CoalCo)

- **Baldwin Energy Complex**  
Baldwin, IL
- **Hennepin Power Station**  
Hennepin, IL
- **Havana Power Station**  
Havana, IL
- **Wood River Power Station**  
Alton, IL

### PJM

- **Conesville Power Station**  
Conesville, OH
- **Dicks Creek Energy Facility**  
Monroe, OH
- **Elwood Energy Facility**  
Elwood, IL
- **Fayette Energy Facility**  
Masontown, PA
- **Hanging Rock Energy Facility**  
Ironton, OH
- **Kendall Energy Facility**  
Minooka, IL
- **Killen Power Station**  
Manchester, OH
- **Kincaid Power Station**  
Kincaid, IL
- **Lee Energy Facility**  
Dixon, IL
- **Liberty Energy Facility**  
Eddystone, PA
- **Miami Fort (CT) Power Station**  
North Bend, OH
- **Miami Fort Power Station**  
North Bend, OH
- **Ontelaunee Energy Facility**  
Reading, PA
- **Richland Energy Facility**  
Defiance, OH
- **Stryker Energy Facility**  
Stryker, OH

- **Stuart Power Station**  
Aberdeen, OH
- **Washington Energy Facility**  
Beverly, OH
- **Zimmer Power Station**  
Moscow, OH

### ISO-NE/NYISO

- **Brayton Point Power Station**  
Somerset, MA
- **Casco Bay Energy Facility**  
Veazie, ME
- **Dighton Energy Facility**  
Dighton, MA
- **Independence Energy Facility**  
Oswego, NY
- **Lake Road Energy Facility**  
Dayville, CT
- **Masspower Energy Facility**  
Indian Orchard, MA
- **Milford Energy Facility**  
Milford, CT

### Offices

- Houston, TX
- Collinsville, IL
- Cincinnati, OH

# Contact

Dean Ellis

VP Regulatory Affairs

[dean.ellis@dynegy.com](mailto:dean.ellis@dynegy.com)

713-767-0328