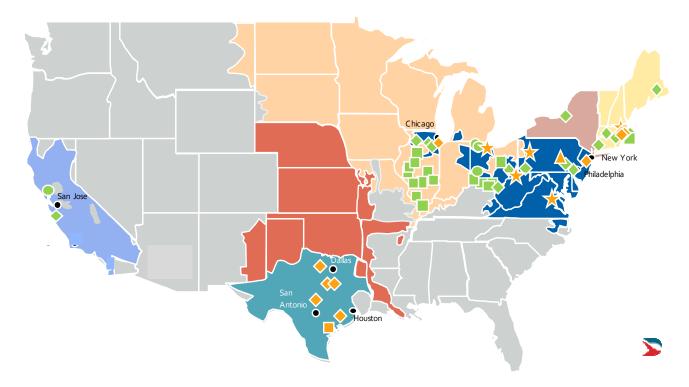
#### Dynegy Overview and the Challenges for Coal

Rob Hardman
Mississippi Valley Coal Trade and Transportation Conference
New Orleans
February 23, 2017



#### **Topics for Discussion**

- I. Dynegy Overview
- II. Trends in US coal consumption
- III. Challenges for Coal



#### The Dynegy Story

**2011** (10,000 MW)

- July Current executive management team installed
- **November** Filed for Chapter 11

**2012** (10,000 MW)

- October Exited Chapter 11
- October Current Dynegy Board of Directors seated

**2013** (13,000 MW) • **December** – Purchase of 3,000 MW of MISO generation and associated retail business from Ameren

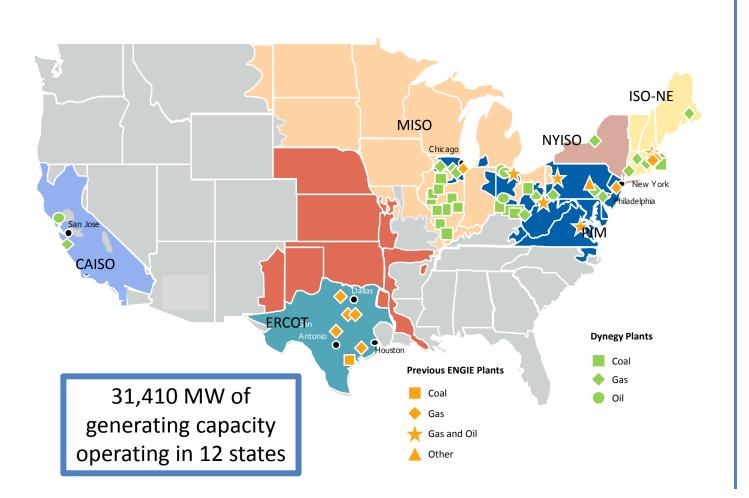
**2015** (26,000 MW)

 April – Duke & ECP acquisition of 13,000 MW of PJM and ISO-NE generation

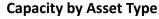
2017 (31,410 MW) • **February** – ENGIE acquisition of 9,000 MW of mostly gas-fueled PJM, ISO-NE, and ERCOT generation

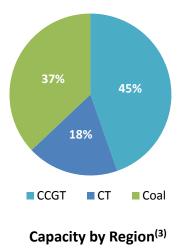
### **Dynegy Today**

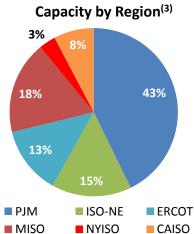
#### **Company Footprint**



#### **Combined Company Capacity Distribution**







Contributions from gas-fired generating plants will increase with the recent addition of the ENGIE portfolio



### The Right Assets in the Right Markets

#### Coal Portfolio - 9 GW

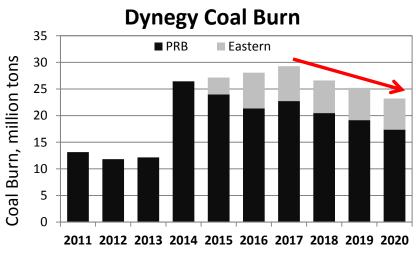
58% PJM 35% MISO 7% ERCOT

- 1,400 MW of MISO generation exported to PJM
- · Unprofitable units retired or mothballed
- Declining fuel costs



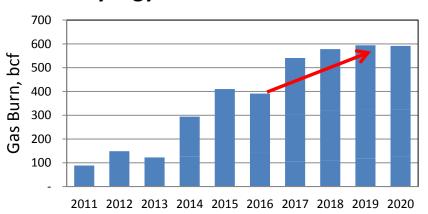
45% PJM / 19% ERCOT 18% ISO-NE / 12% CAISO 6% NYISO

- Largest merchant CCGT fleet in PJM and ISO-NE
- Adding capacity via low-cost uprates
- · CCGT fleet running as baseload
- · Advantaged access to low-cost gas



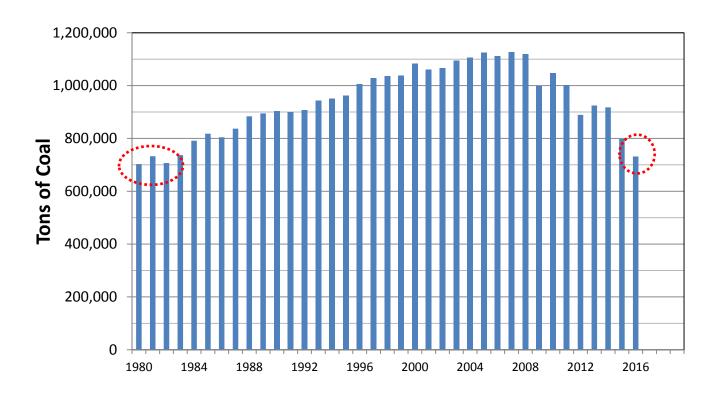
The coal portfolio benefits from rising natgas prices

#### **Dynegy Natural Gas Burn**

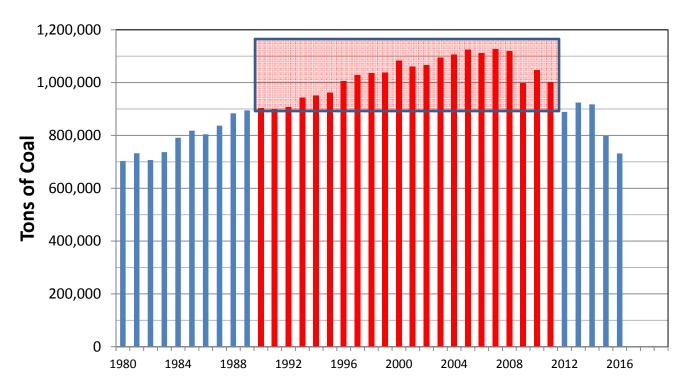


The gas portfolio excels in today's low gas price environment

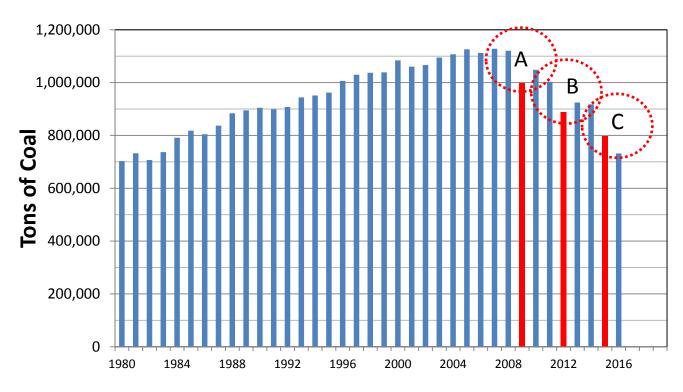






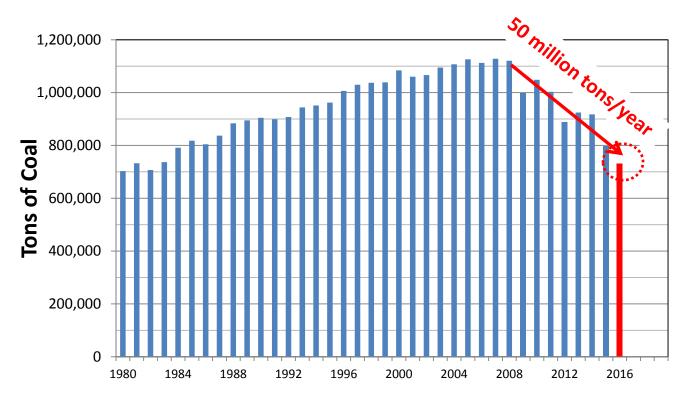


US Coal Consumption – 900 million tons or greater for 21 straight years (1990 – 2011)



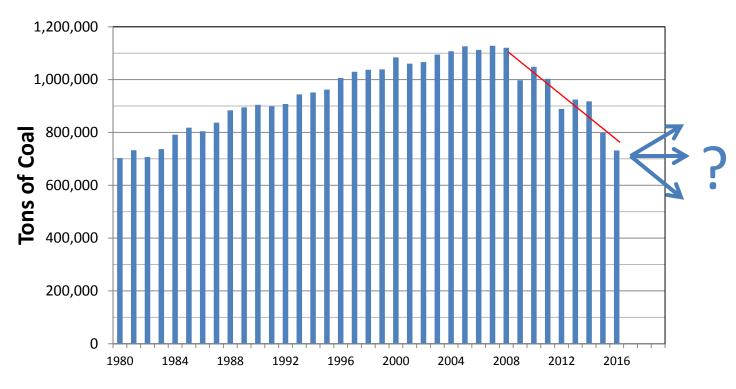
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- Consumption has fallen by more than 100 million tons three times since 2008
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- Only in 2015, did consumption continue to fall
  - A 20% drop in consumption from 2014 to 2016.
  - 50 million tons/year since 2008

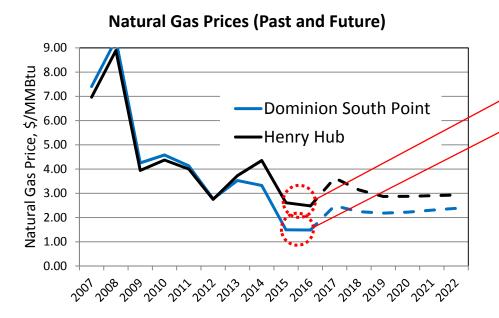




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- What happens in 2017 and beyond?

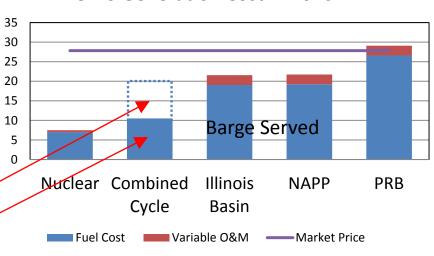


### 1. Natural gas is here to stay



#### **Ohio Generation Cost in 2016**

Gen Cost, \$/MW-hr



### 1. Natural gas is here to stay

#### **Natural Gas Plant**

- Day ahead, liquid market, standard specs
- Hedging is liquid, transparent, exchange traded
- Numerous transportation alternatives
- Subject to fuel delivery constraints (infrequent)
- 1,000 MW plant staff of ~30
- Low environmental VO&M
- Minimal byproduct issues
- Can bring plant off-line when uneconomic for a short period of time
- Cold start-up measured in hours

7,000 HR x \$3.00/MMBtu delivered gas + \$2.00 VOM dispatches at \$23/MWh

Fuel procured real time, as needed, in a transparent, liquid market

**Low Operating Costs** 

High Operational Flexibility

#### **Coal Plant**

10,000 HR x \$2.00/MMBtu delivered coal + \$5.00 VOM dispatches at \$25/MWh

Fuel procured under longterm contracts with limited liquidity and transparency

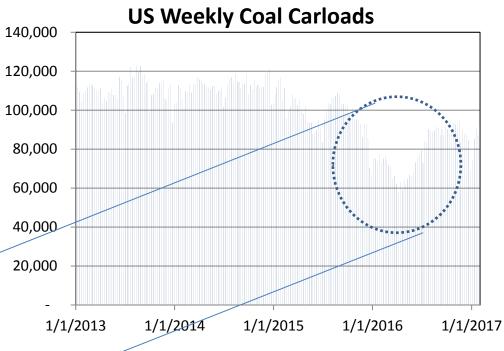
High Operating Costs

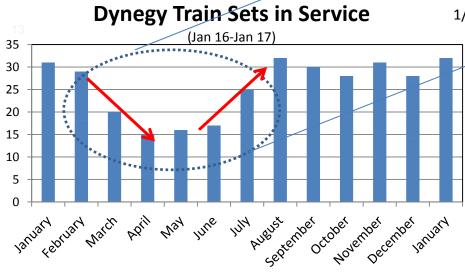
Low Operational Flexibility

- Long-term contracts, non-standard specs
- Hedging, illiquid, limited transparency
- Inflexible transportation alternatives
- Store coal inventory on site
- 1,000 MW plant staff of ~150
- High environmental VO&M
- Substantial byproduct disposal
- Plant runs at minimum load when uneconomic for short periods
- Cold start up measured in days

Coal supply chain requires innovation (pricing, logistics, technology, etc.) to be competitive with natural gas

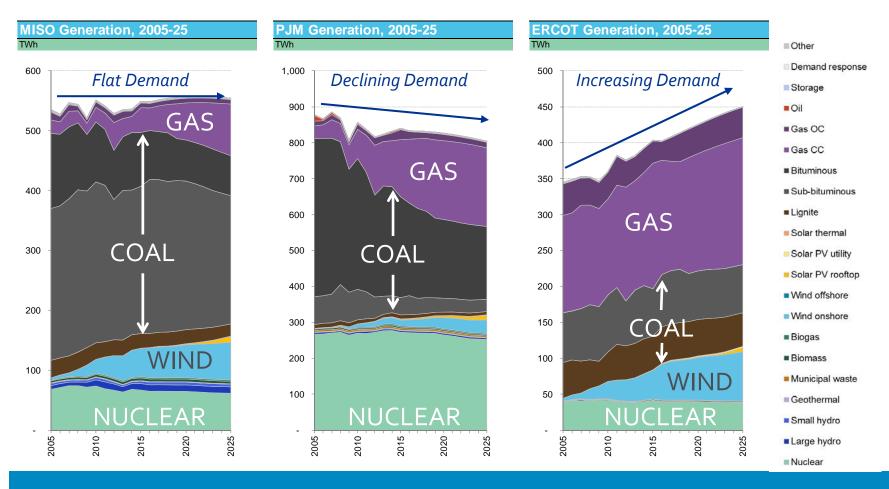
2. Inventory and Traffic Management





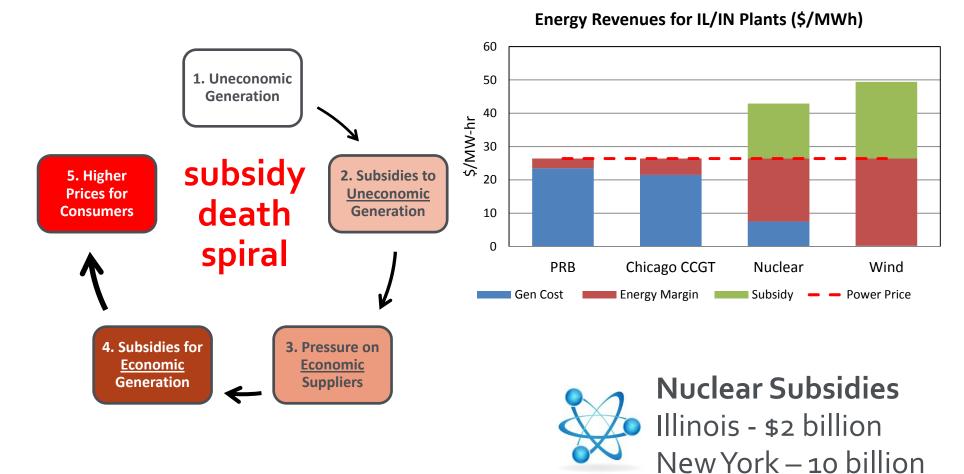
Can the industry successfully and profitably repeat spring 2016 performance?

#### 3. Market Dynamics are Shifting



Renewables, natural gas, and uneconomic nuclear displace coal generation

#### 3. Market Dynamics are Shifting





# Its Not Over... Challenges Facing Coal are Likely to Continue

- The coal supply chain evolution must continue
  - match new competitive market realities
  - no longer base load facilities
- Flexibility a must for coal commodity and transportation providers to win business
- Cost matters. When efficiencies are gained they must be passed down to the end user in order to remain competitive.
- Retirement of coal assets will continue:
  - Dispatchable stack favors gas vs. coal
  - Renewable and nuclear generation supported through subsidies pressure coal economics
  - Environmental rules targeting coal
- Regulatory interference undermines effectiveness of economic markets

Coal can remain part of the generation stack for decades to come, but it cannot be business as usual

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