

# Preparing for Transformation in the Power Industry – A WAPA Perspective

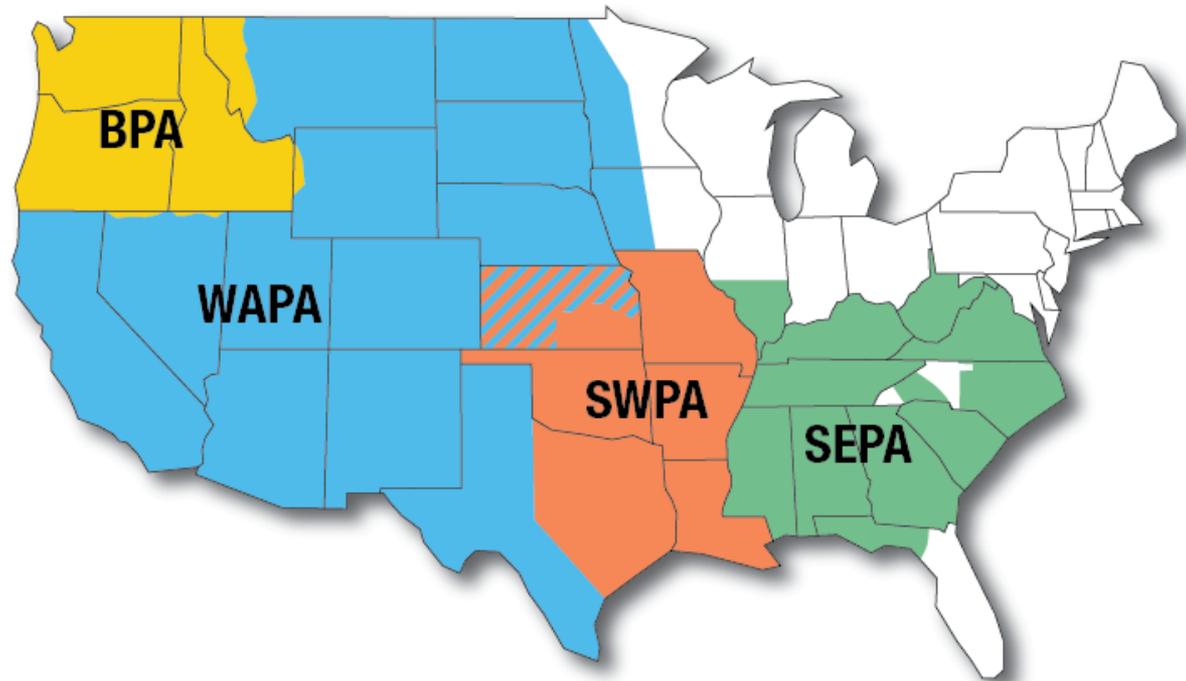
WIRES Summer Meeting 2018

July 31, 2018 | Colorado Springs, CO

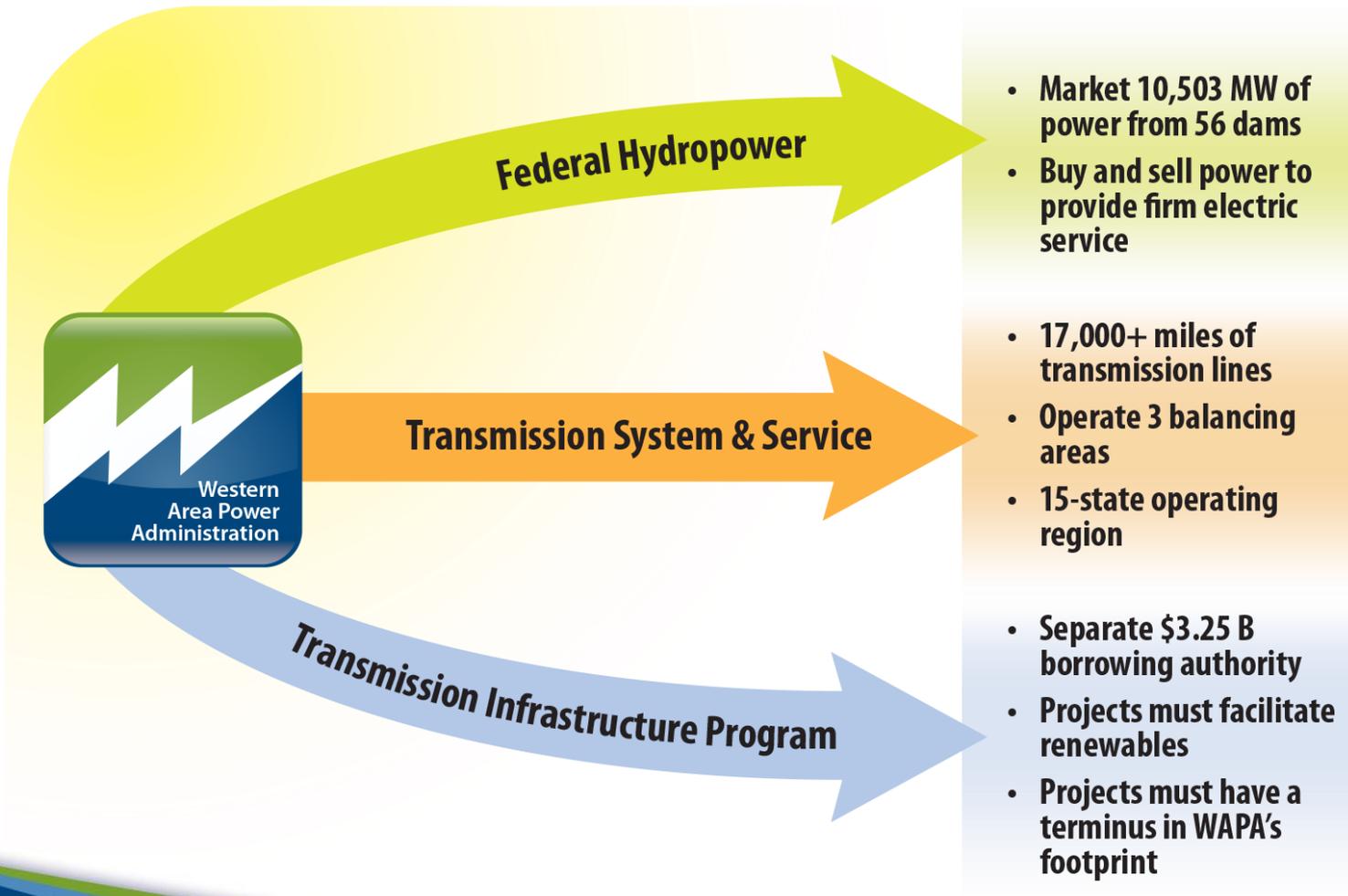
Mark A. Gabriel  
Administrator and CEO

# WAPA: Who we are

- Part of DOE
- One of four PMAs
- \$4.3 billion in assets
- 177,000 structures
- 17,231 miles of transmission line



# WAPA: What we do



# Carr fire



# Carr fire (7/30, 12 pm MST update)

- N-15
- 98,724 acres
- 20% contained
- 10 transmission lines out of service



# Carr fire



# Trinity Power Station



# Microgrids

A **microgrid** is a local energy grid with control capability, which means it can disconnect from the traditional grid and operate autonomously.

U.S. Department of Energy

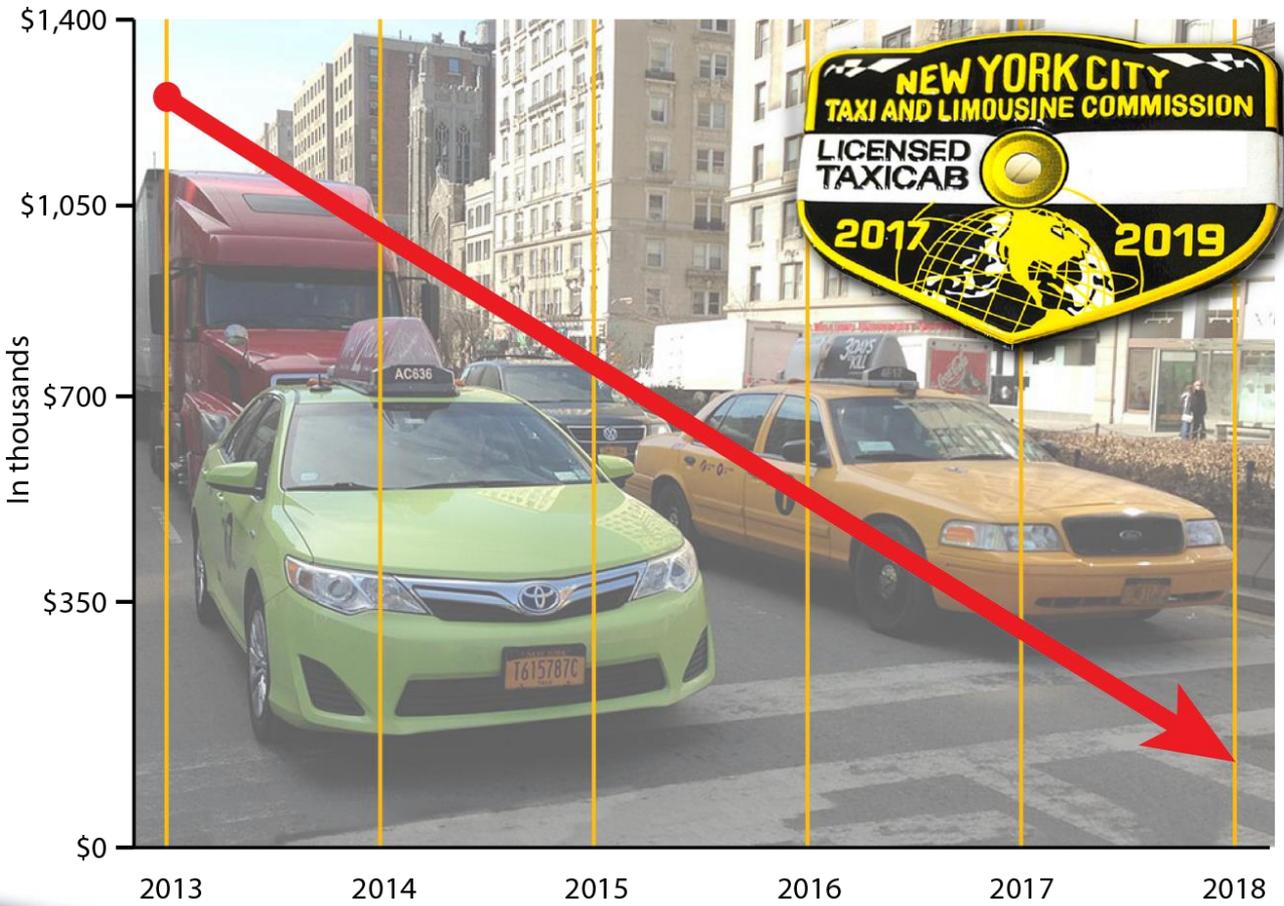
# USVI solar farm (before)



# USVI solar farm (after)



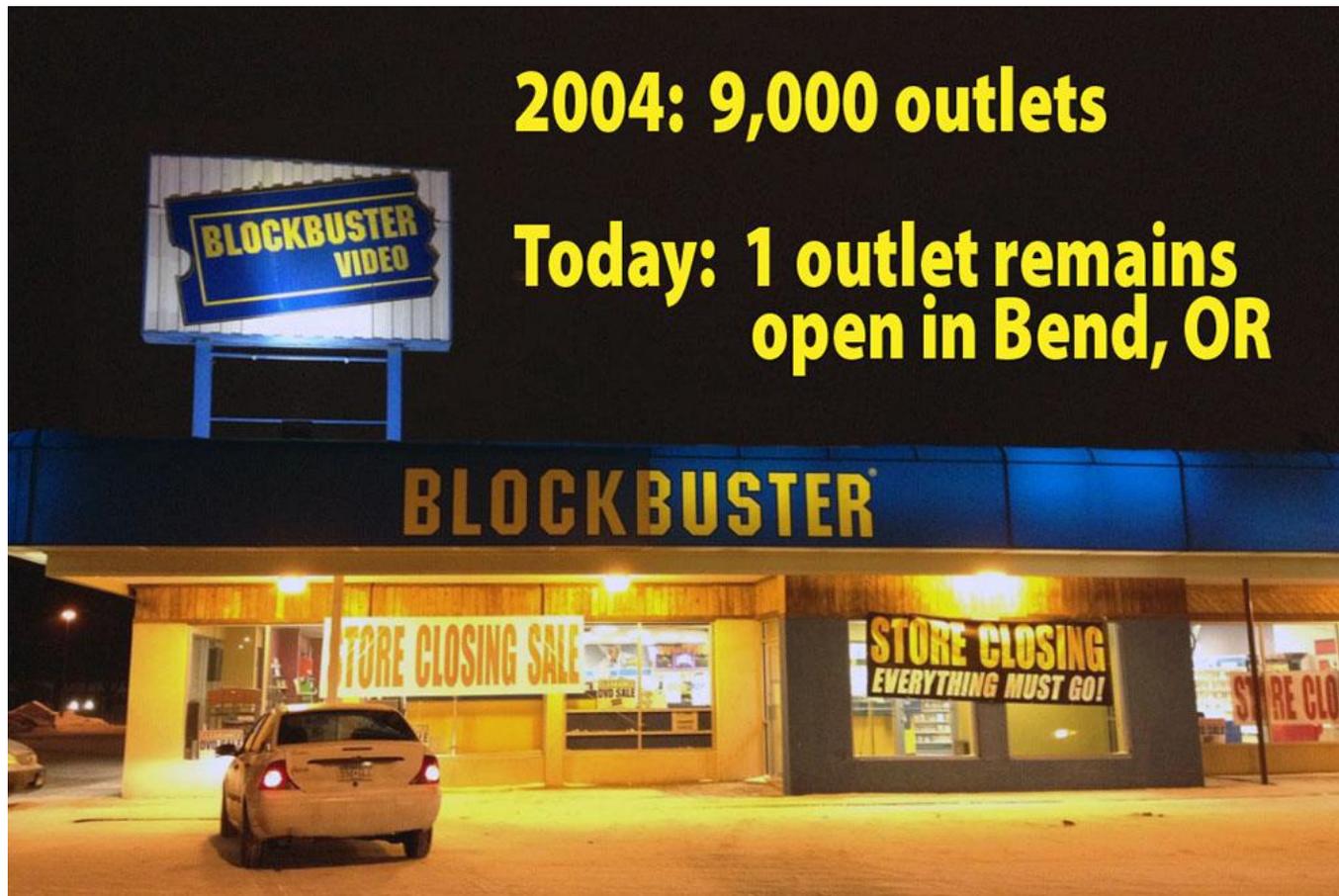
# Medallion value has dropped more than 85% since 2013



# Changes in the Top 10 (revenues)

1990	2000	2010	2017
General Motors	General Motors	Wal-Mart	Wal-Mart
Ford	Wal-Mart	Exxon Mobil	Exxon Mobil
Exxon	Exxon Mobil	Chevron	Berkshire Hathaway
IBM	Ford	General Electric	Apple
General Electric	General Electric	Bank of America	UnitedHealth Group
Mobil	IBM	ConocoPhillips	McKesson
Philip Morris	Citigroup	AT&T	CVS Health
Chrysler	AT&T	Ford	Amazon.com
DuPont	Philip Morris	J.P. Morgan Chase	AT&T
Texaco	Boeing	Hewlett Packard	General Motors

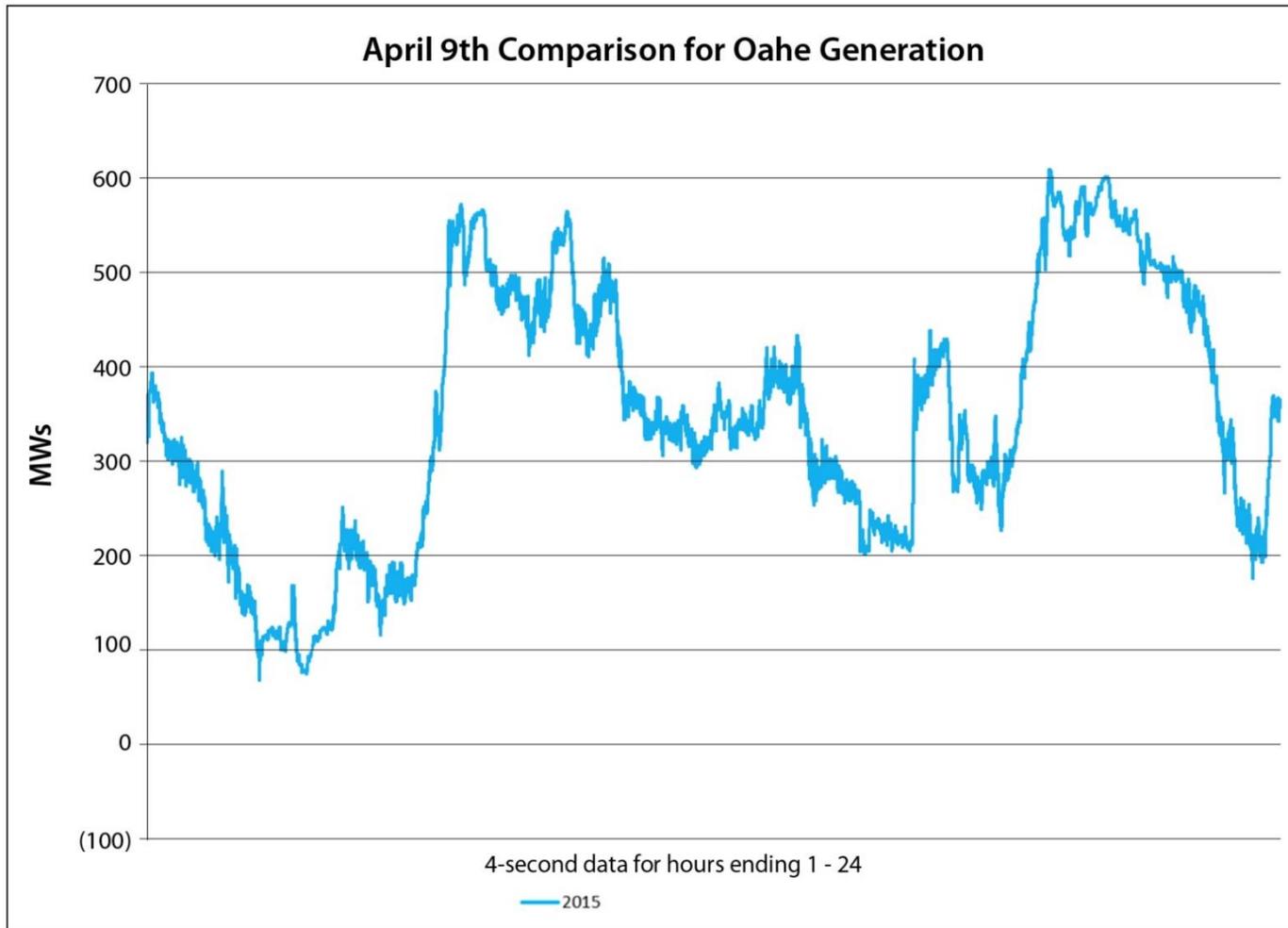
# Blockbuster



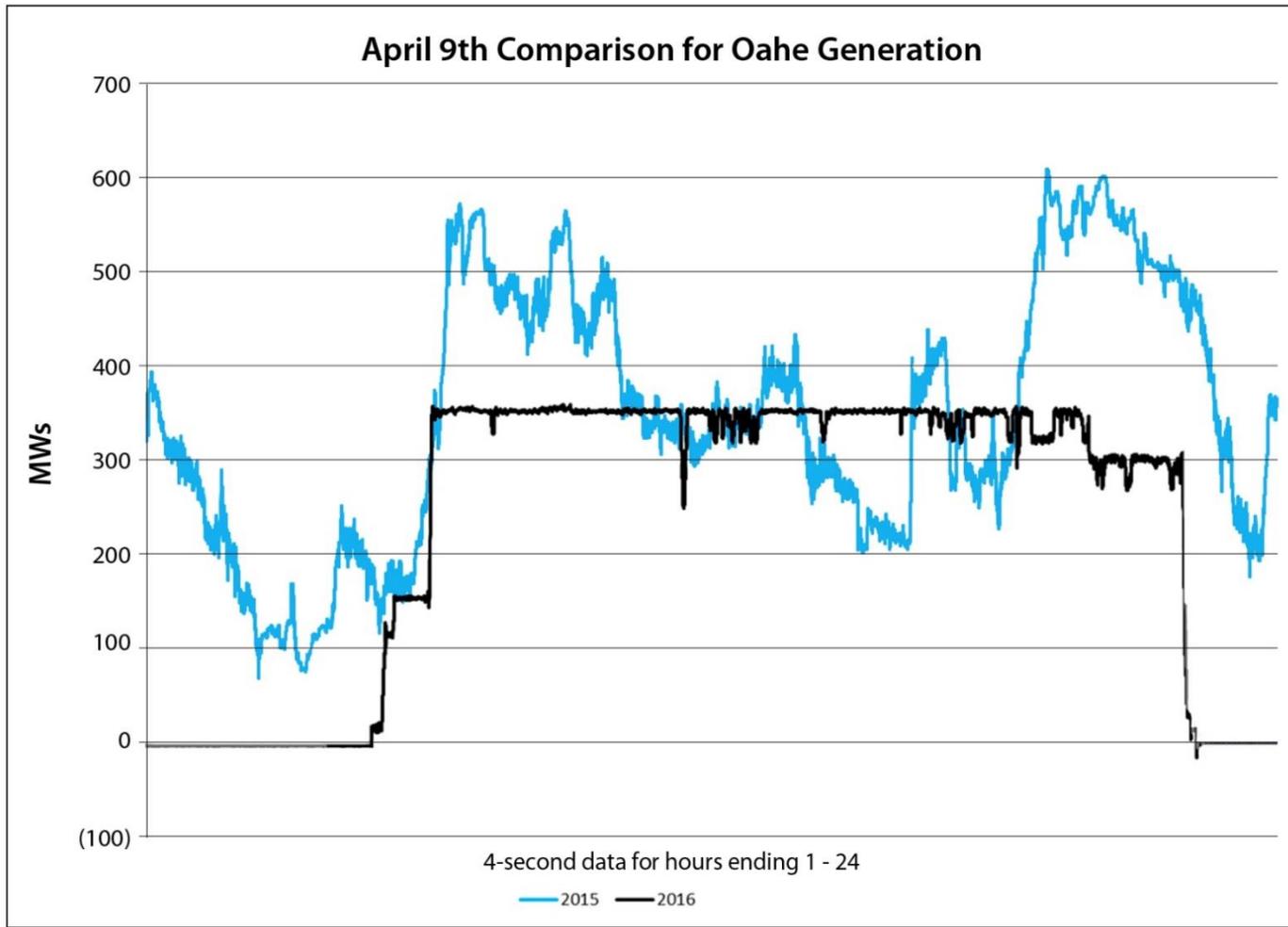
# Change is upon us



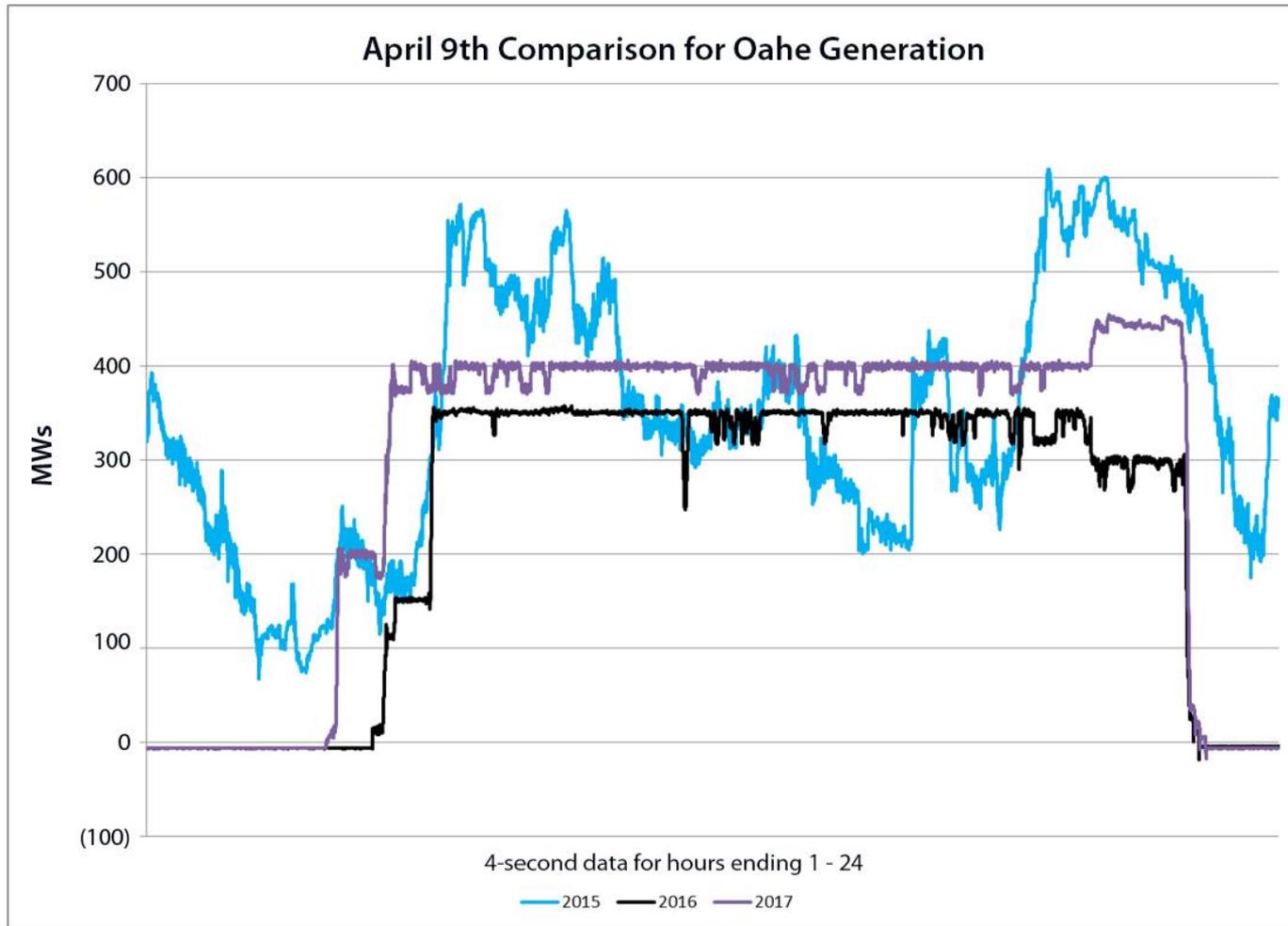
# Oahe generation



# Oahe generation

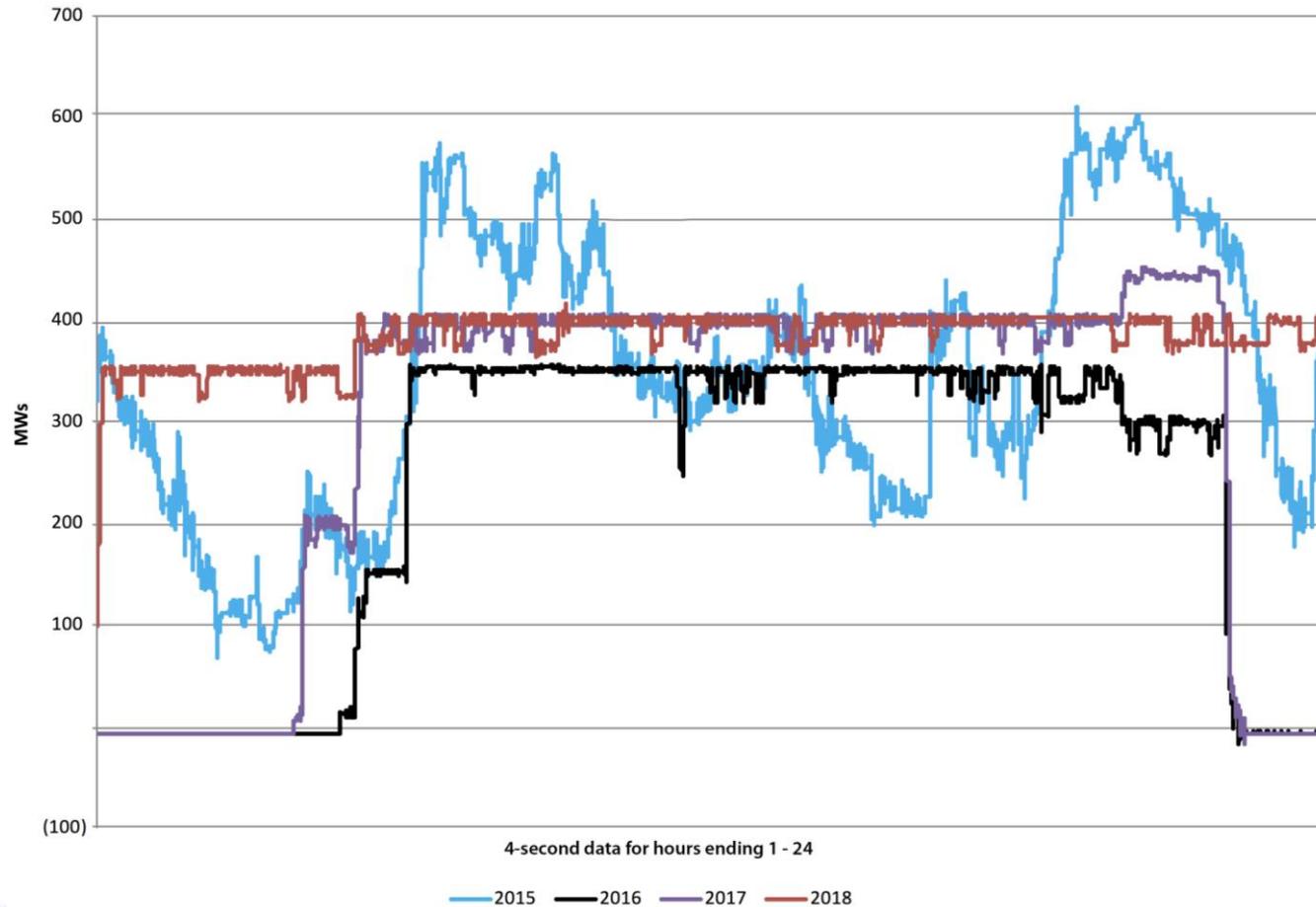


# Oahe generation

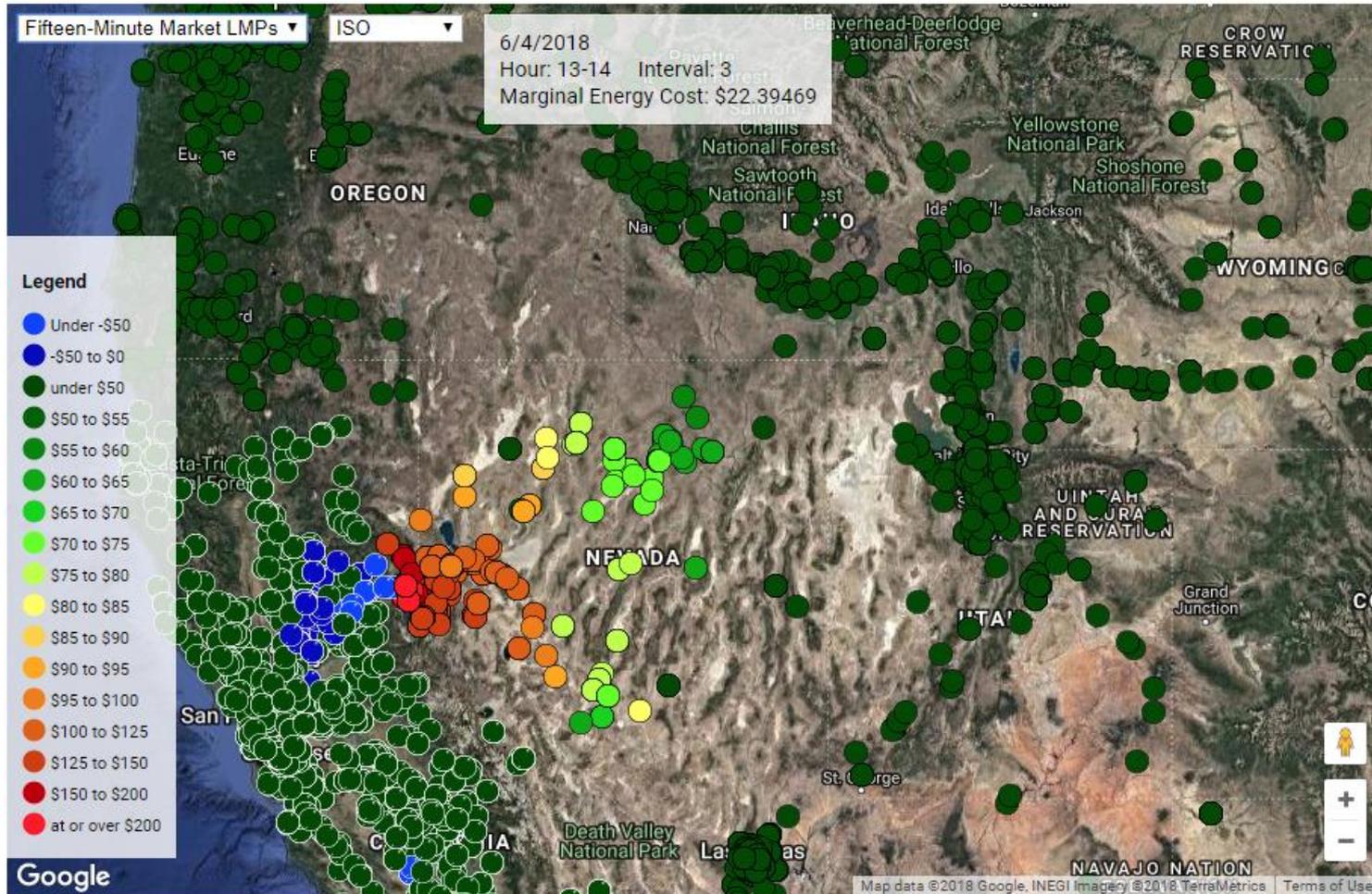


# Oahe generation

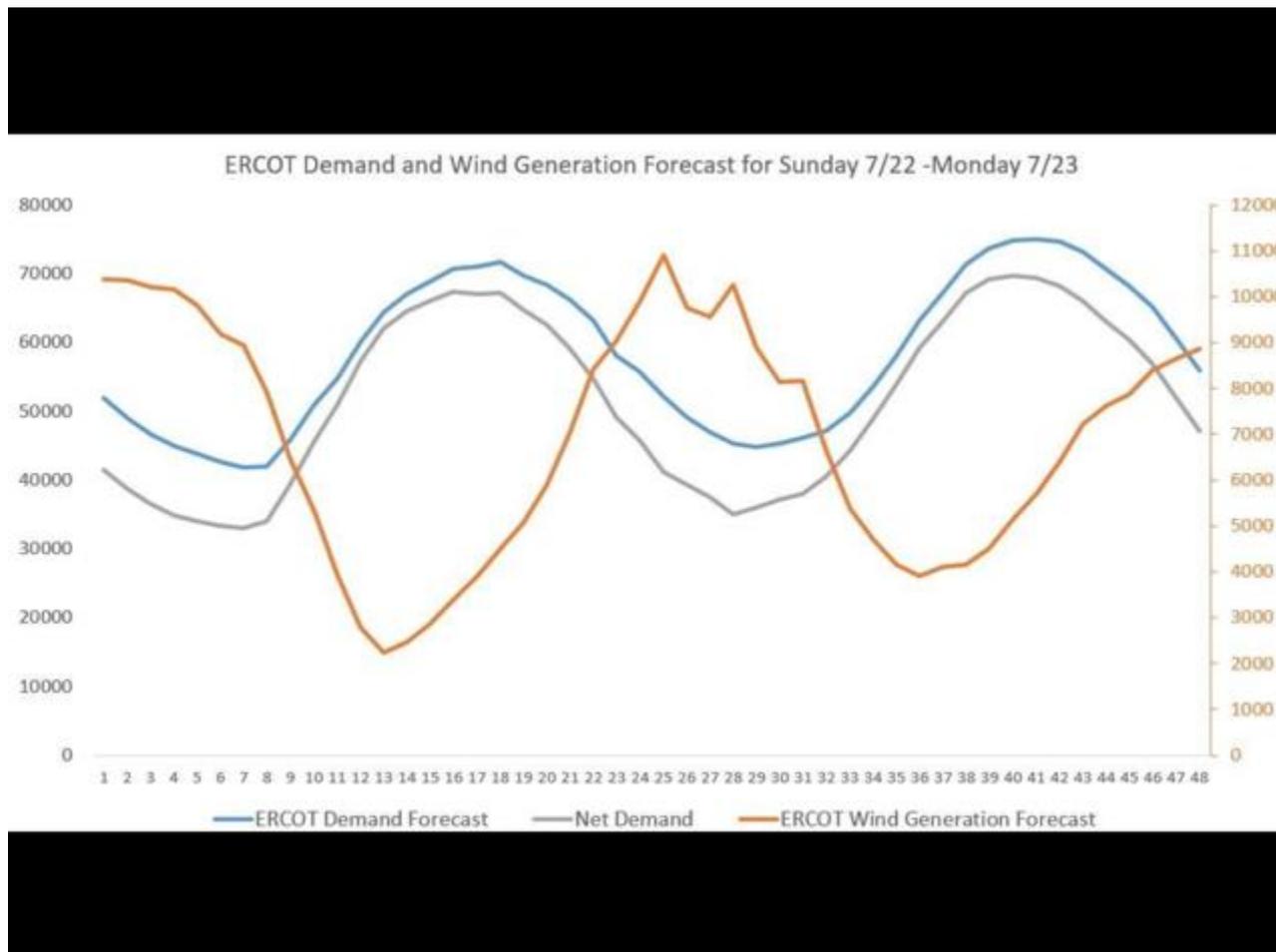
## April 9th Comparison for Oahe Generation



# CAISO



# ERCOT demand



# Economic challenge

How can we manage in a  
Twitter–centric world?



# Change brings challenges

- Intermittent resources
- Decreased hydro production
- More customer-side resources
- Changing markets



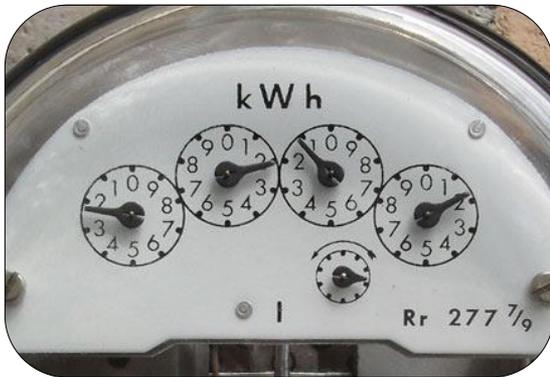
# Societal changes



# The future nexus



# Radical thoughts



The kilowatt-hour  
is dead

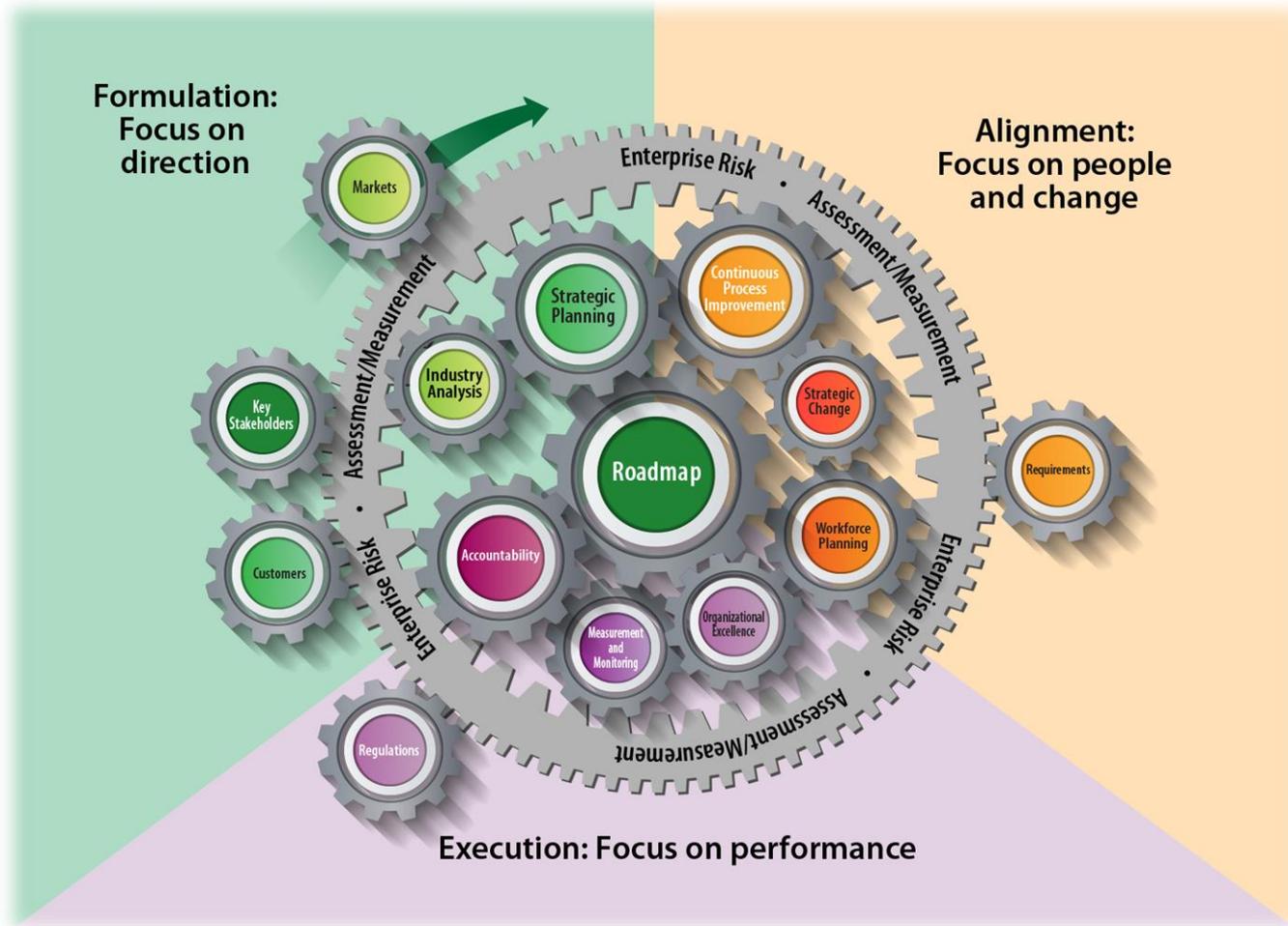


Time-of-purchase  
vs. time-of-use

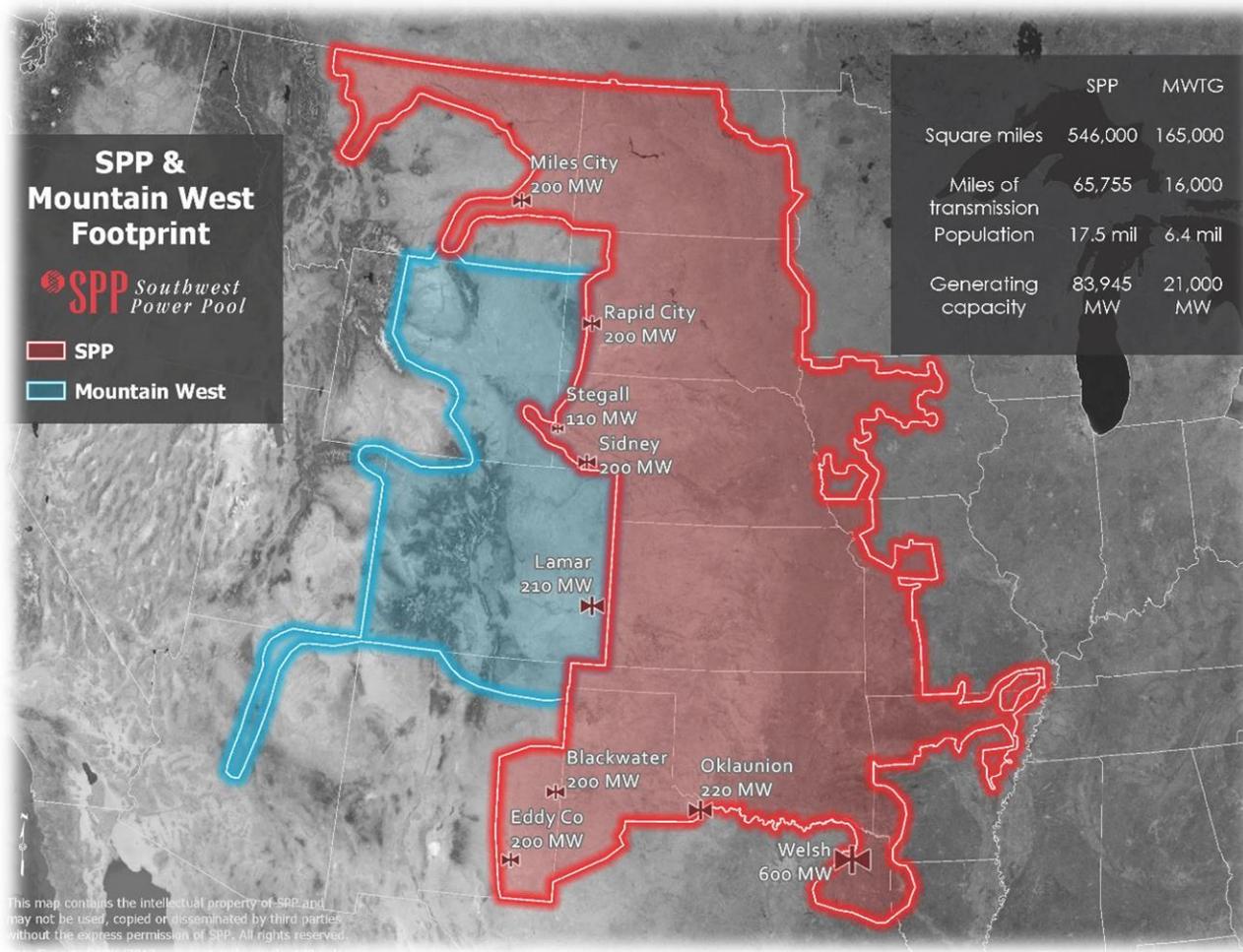


All-you-can-eat  
energy

# What are we doing about it?



# Mountain West / SPP



# Transmission buildouts in the west

## Public-Private Partnerships in action



- Duke American
- 85-mile, 230-kV line
- Northern CA
- Will power Reclamation's San Luis Pumping Plant
- 600 MW

- Hunt Power
- 360-mile line
  - New 345-kV line
  - Upgrade 115 to 230
- Interconnects with 14 existing substations
- Between NM and AZ
- 1,000 MW

- SunZia
- 500-mile, 500-kV line
- Enables delivery of primarily wind energy
- From NM to AZ
- 3,000 MW

“Historically, utilities have evolved at the speed of regulation bounded by strict laws of physics. Think new rates, new methodologies and new streams of revenue. Think about how the kilowatt-hour measure will be replaced.”

Mark Gabriel

“The Kilowatt-hour is Dead”

Public Utilities Fortnightly, April 2018

# Key takeaways

The pace of change is fast and furious.

Be prepared to respond to needs and opportunities.

Tomorrow's energy landscape will look vastly different.



# Contact/follow me

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