

# Lessons from Wholesale Markets

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NASEO Annual Meeting

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# Synapse Energy Economics

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- Founded in 1996 by CEO Bruce Biewald
- Leader for public interest and government clients in providing rigorous analysis of the electric power sector
- Staff of 30 includes experts in energy and environmental economics and environmental compliance
- Smaller team providing wholesale market design and participation since 2004

# Doug Hurley bio

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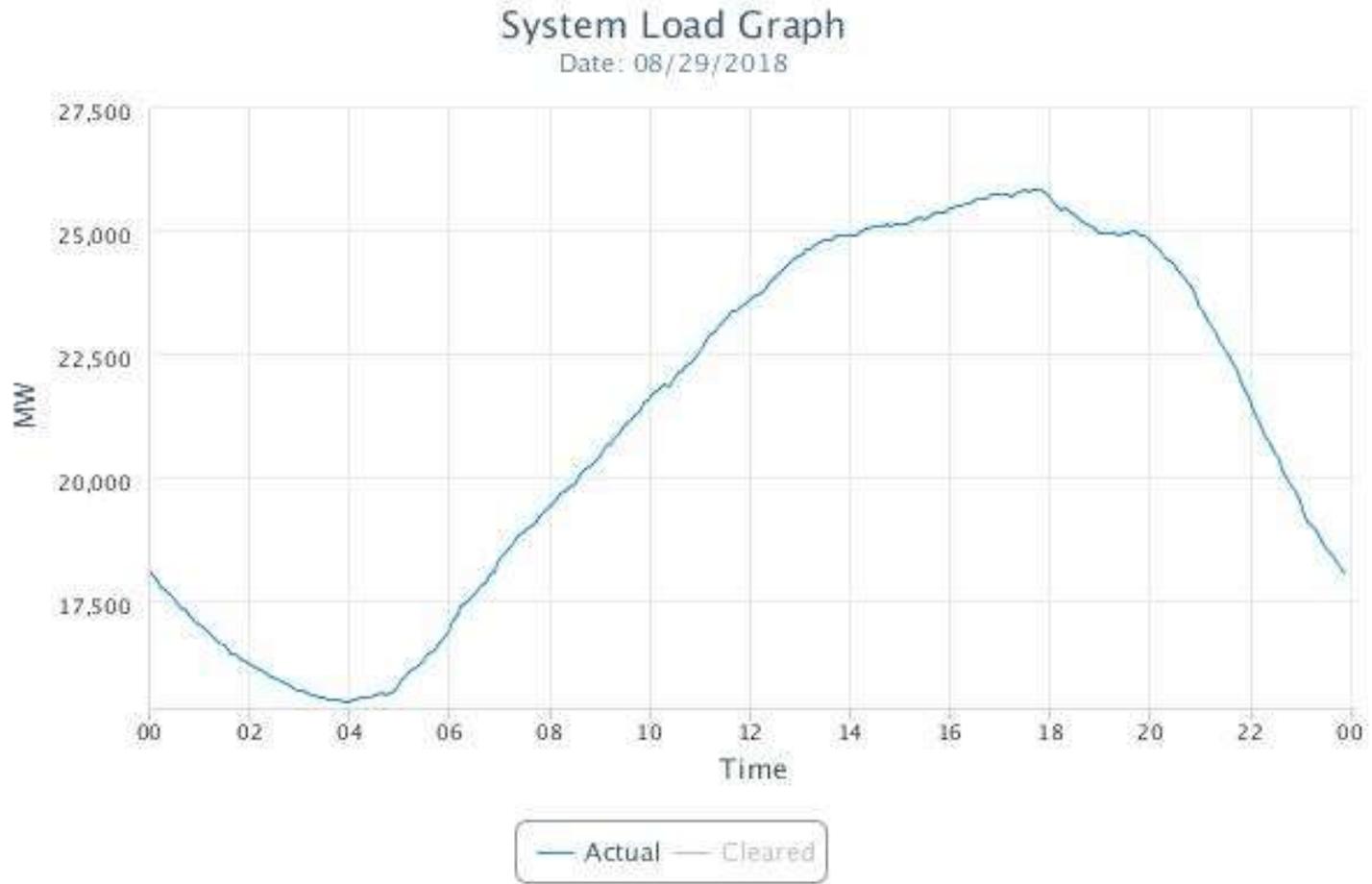
- Participating in stakeholder discussions around wholesale market design since 2004 in New England, PJM and MISO
- Led NEPOOL's Alternative Resources sector from 2010 – 2015 and again since 2017
- Provides ongoing advice on daily participation of more than 300 MW of EE, CHP, and solar PV resources in the New England capacity market since 2006. Key clients include:
  - *The Cape Light Compact (Cape Cod)*
  - *Efficiency Maine*
  - *Efficiency Vermont*
  - *Independent providers of distributed and demand resources*

# Caveats

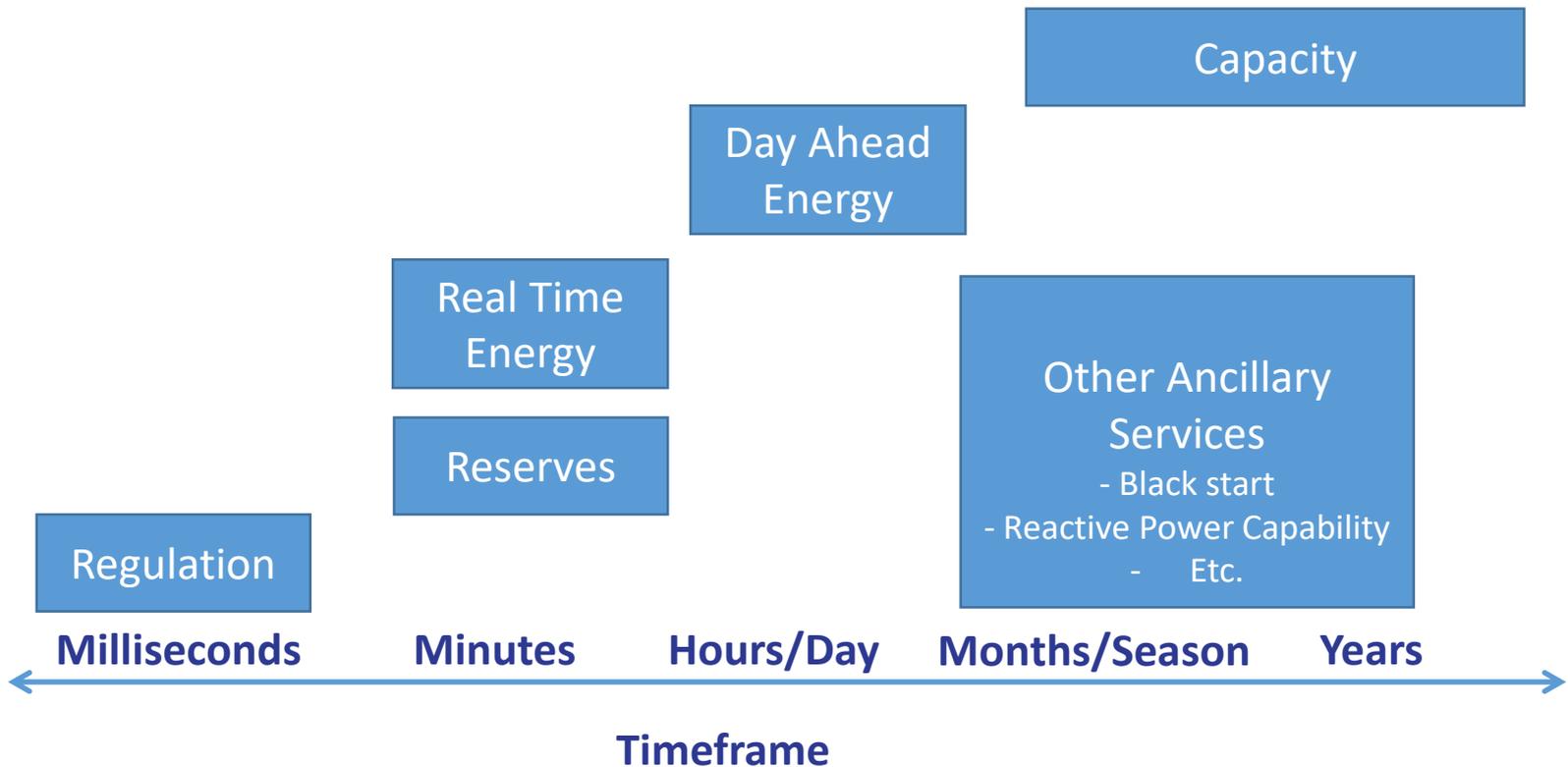
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- These comments are my own, and do not necessarily represent the views of any of our clients (past, present, or future)
- *This represents my experience. It is not meant as either praise or condemnation of the markets, specific designs, or any of the stakeholders and their positions.*

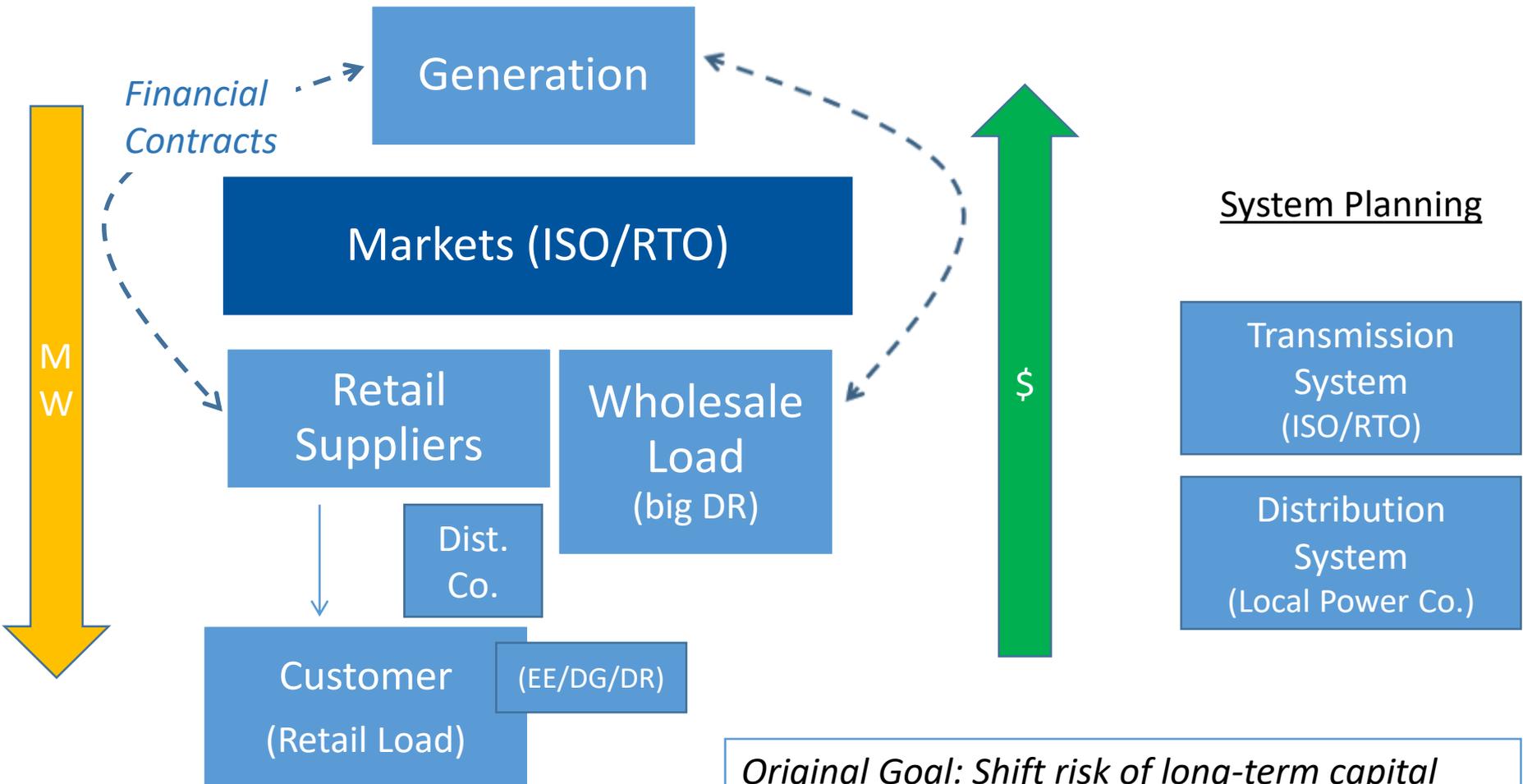
# Mandate – Balance Supply with Load



# Timing of Markets to Operate Grid



# Flow of Power and Money



*Original Goal: Shift risk of long-term capital investment from customers to investors.*

# RTO Mission Statement

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## Operate the Grid

**Reliable** operation of the grid in real time. Balance supply and demand.

## Administer the Markets

Run efficient wholesale markets in accordance with the FERC-approved tariff (caveat: ERCOT not under FERC) for a **reliable** system.

## System Planning

Plan for a **reliable** transmission system in the 10-15 year timeframe. Uses forecasts for load and supply resources that are mostly procured in the markets.

***All of your priorities are NOT in their mission statement.  
(But they could be)***

# Some Lessons

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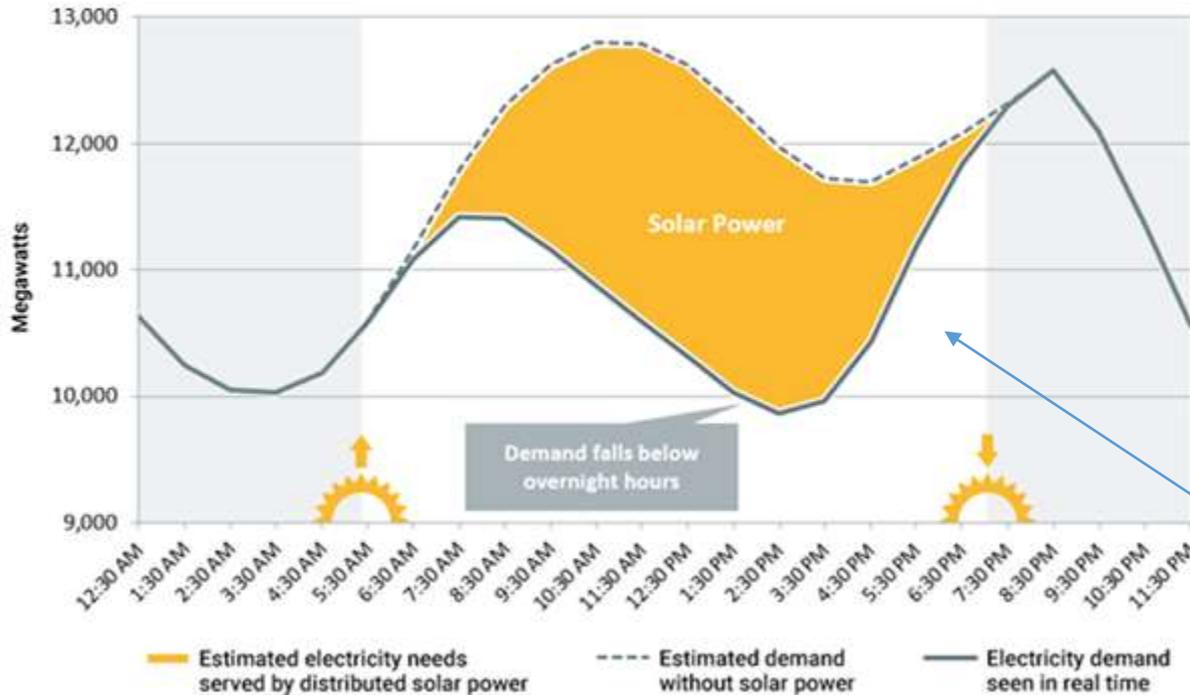
- There is no “invisible hand” of the markets! Dispel this myth.
  - Markets are designed by *people*, to achieve a particular outcome. If you are one of these people, you can influence the design, and the outcome.
  - Power plant owners are a small group with very large revenues who will show up for the marathon.
  - Electricity is NOT oranges. It is not, nor should it ever be, a free market. Some amount of regulation is imperative for such an important public service.
- The markets will change. Every year. Forever.
  - You are joining *a* market, not *this* market.
  - Market participants (load and supply) are *very* savvy financial entities
- Summary: Markets are not bad or good. They achieve the end for which they were designed (and constantly re-designed). Be involved in that design.

# Anecdotes

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- 3-year forward capacity market is not “technology neutral”. Serious impediment to clean energy and causes of a multitude of timing problems.
- Summer-focused market with seasonal-only audits for energy efficiency and renewable energy
- Energy and reserves for storage resources
- Renewable capacity based upon “fuel”, but not so for gas units
- Demand-side resources and load forecasts that use 20-year data
- Ramping issue to manage the “problem” of solar

# Anecdote – Myth of the Scary Duck

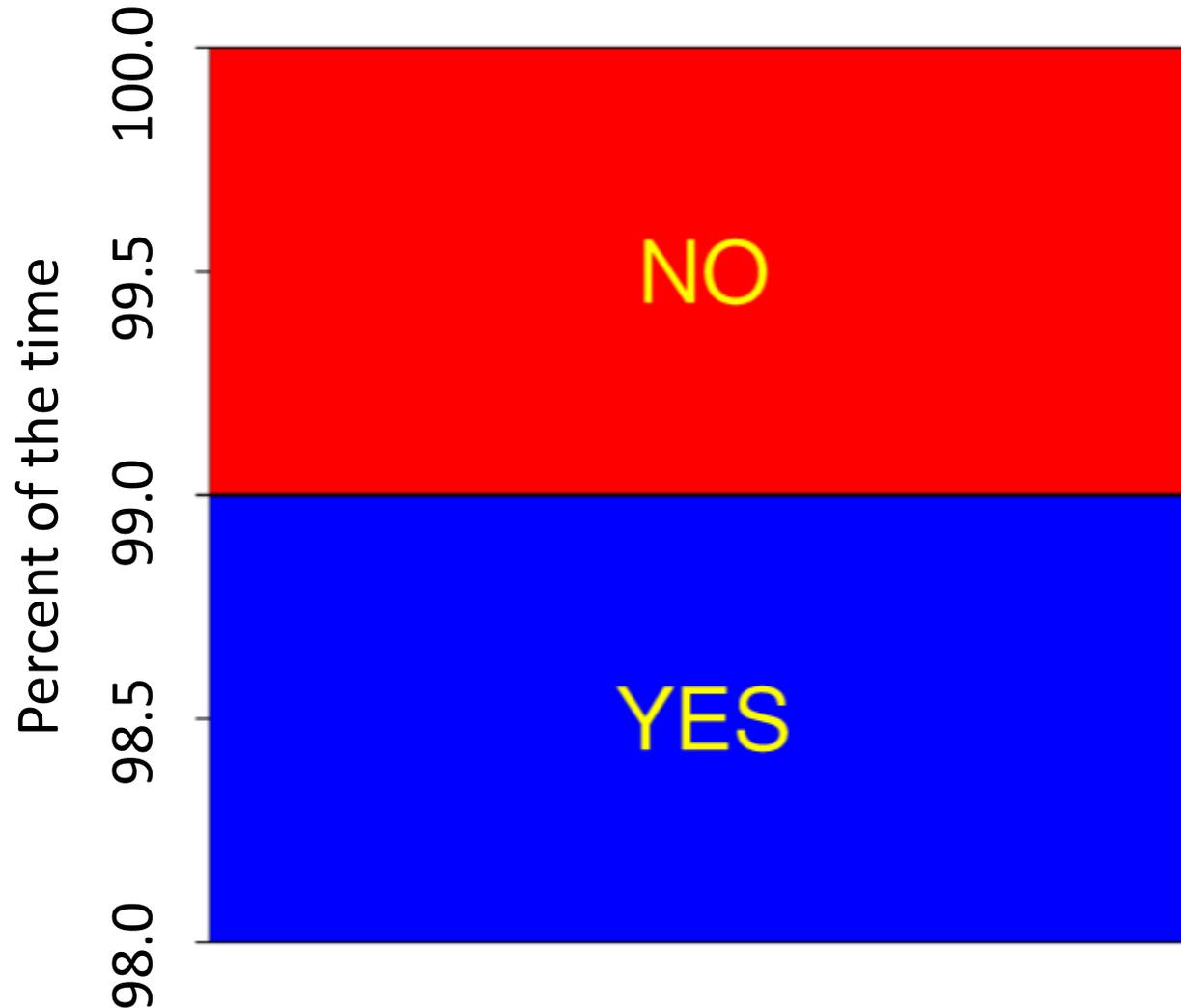


**Demand for electricity, Saturday, April 21, 2018**

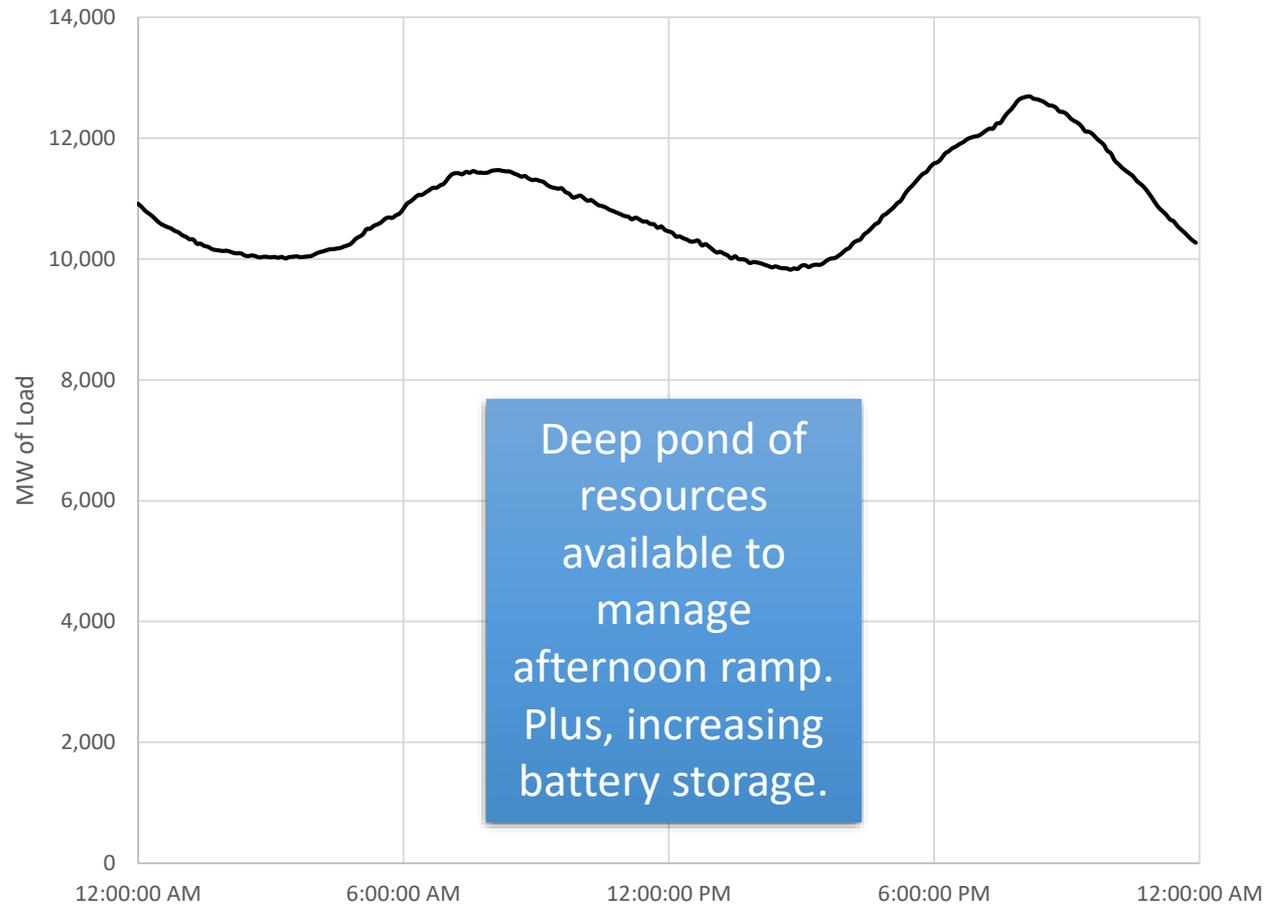
Is the afternoon ramp a concern?

# Anecdote - Lesson

Is truncating the Y-axis misleading?



# Anecdote – Reality



ISO-NE System-wide demand for electricity.  
Saturday, April 21, 2018

**Thank you!**

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**Questions?**