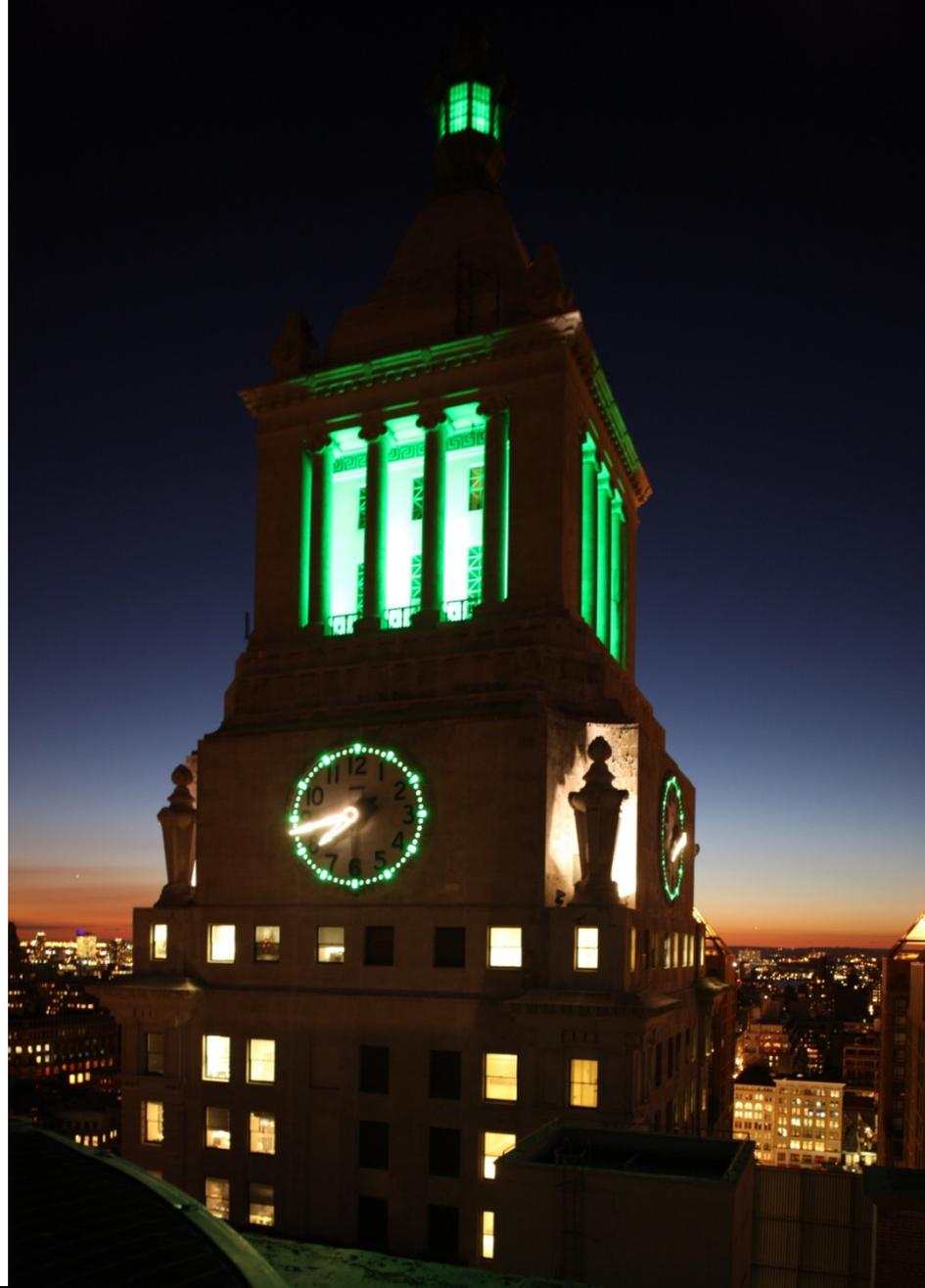


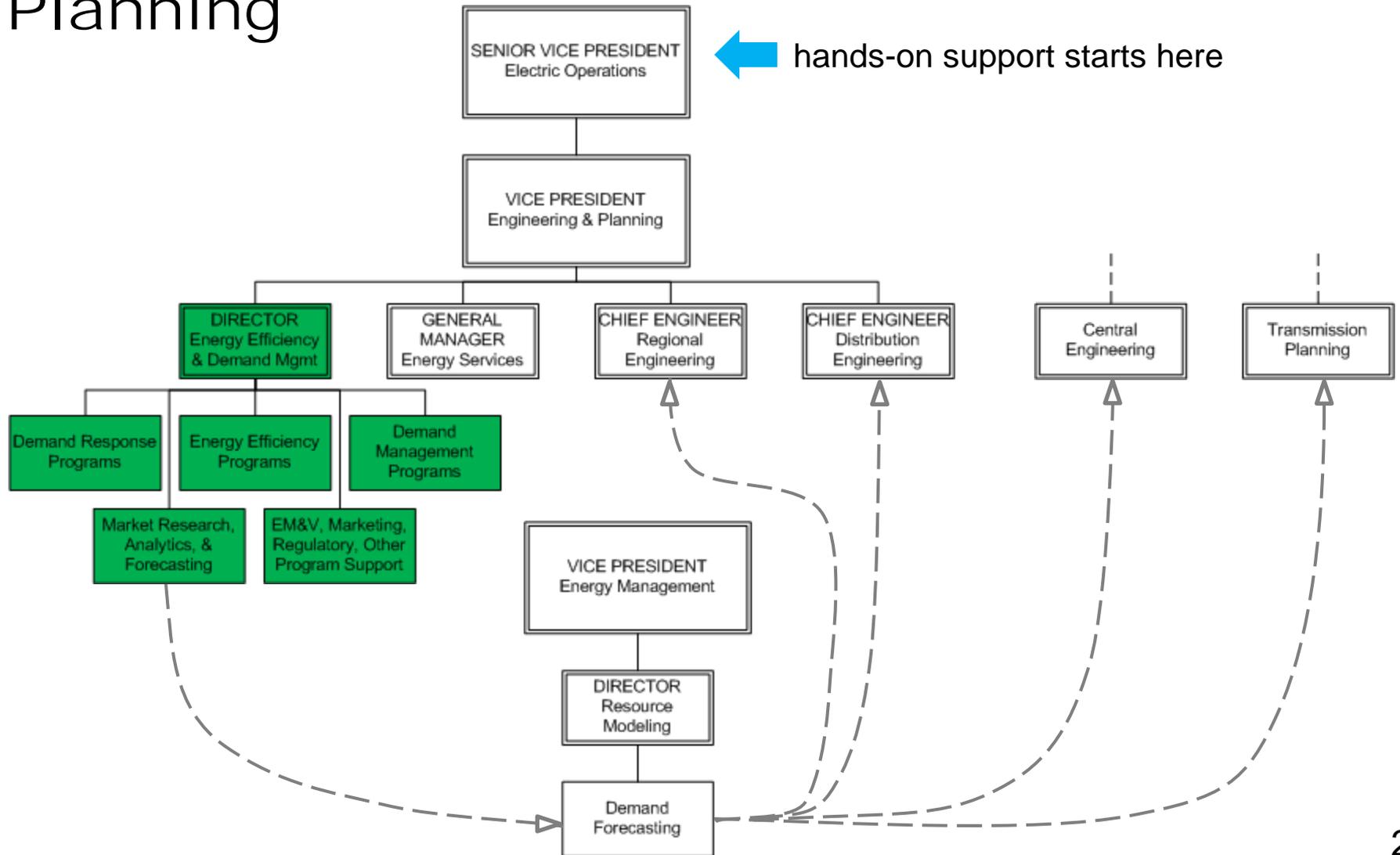
PANEL:  
The Growing Role of EE  
in Deferring T&D and  
Relieving Energy  
Supply Distribution  
Constraints

January 14,  
2015

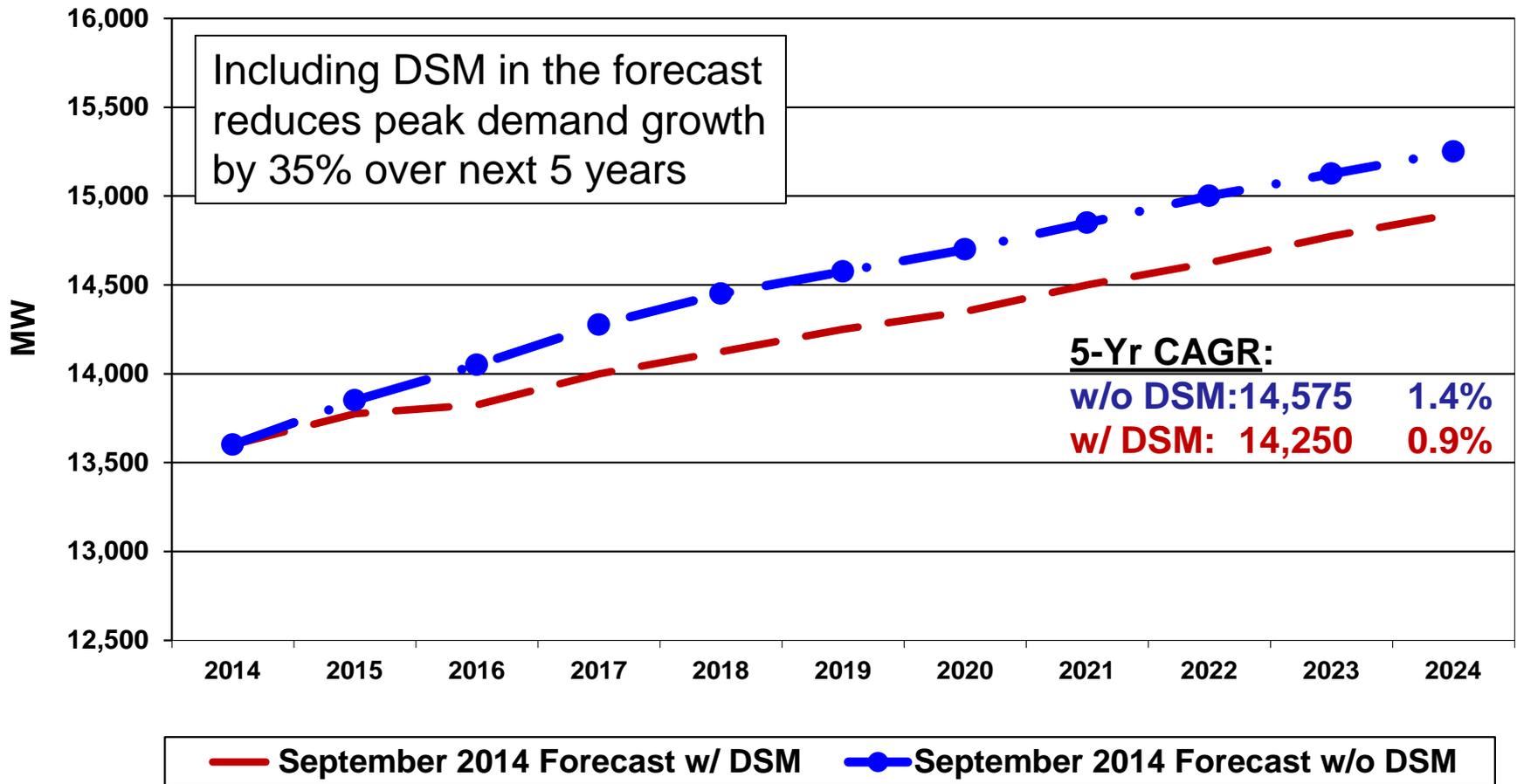
Rebecca Craft  
Director,  
Energy Efficiency and  
Demand Management  
Con Edison



# DSM is integrated into Engineering & Planning

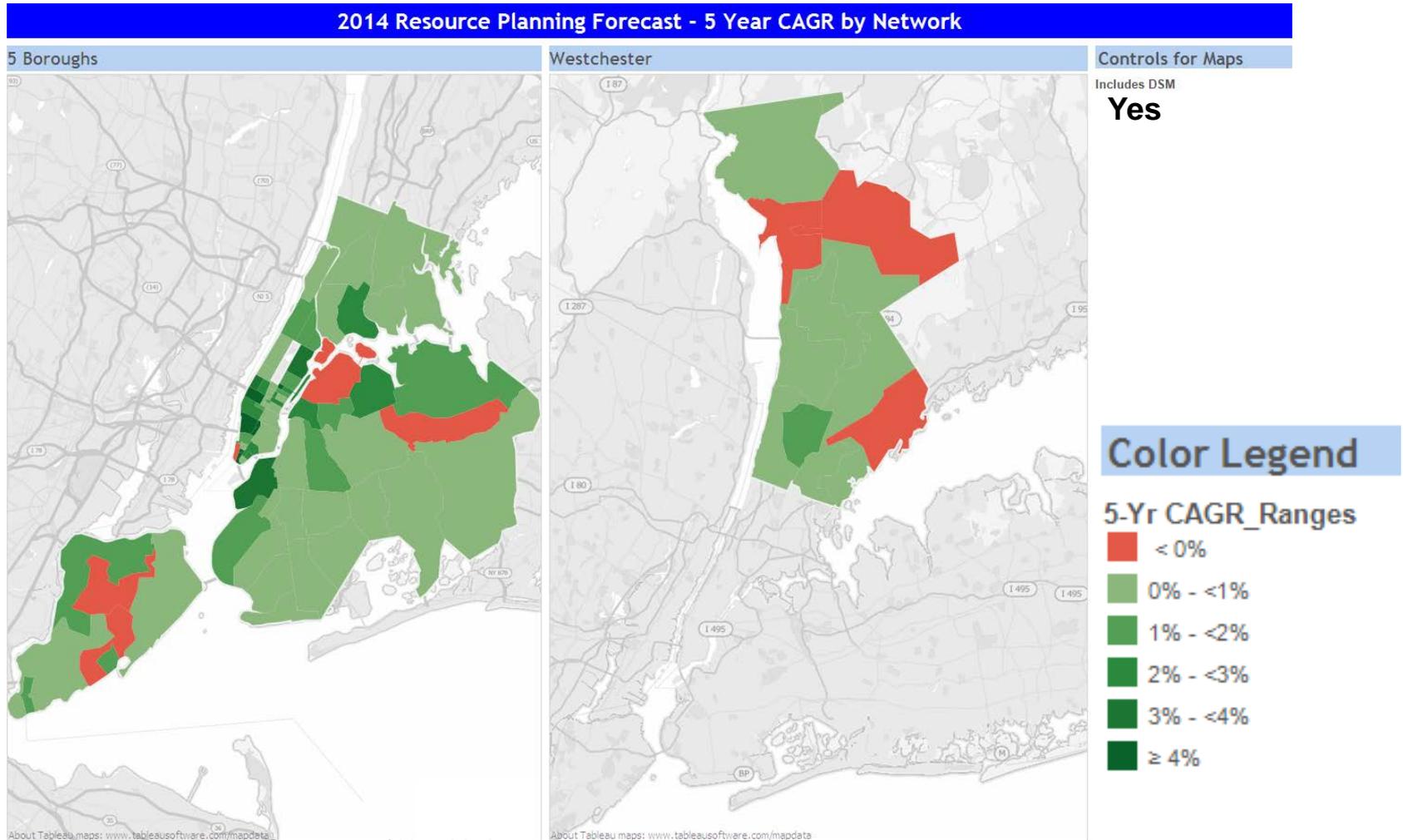


# DSM has a measurable impact on demand per CECONY Ten-Year Electric Peak Demand Forecast



# DSM impacts varies by electric load area

## Bottom-up Forecast with DSM included

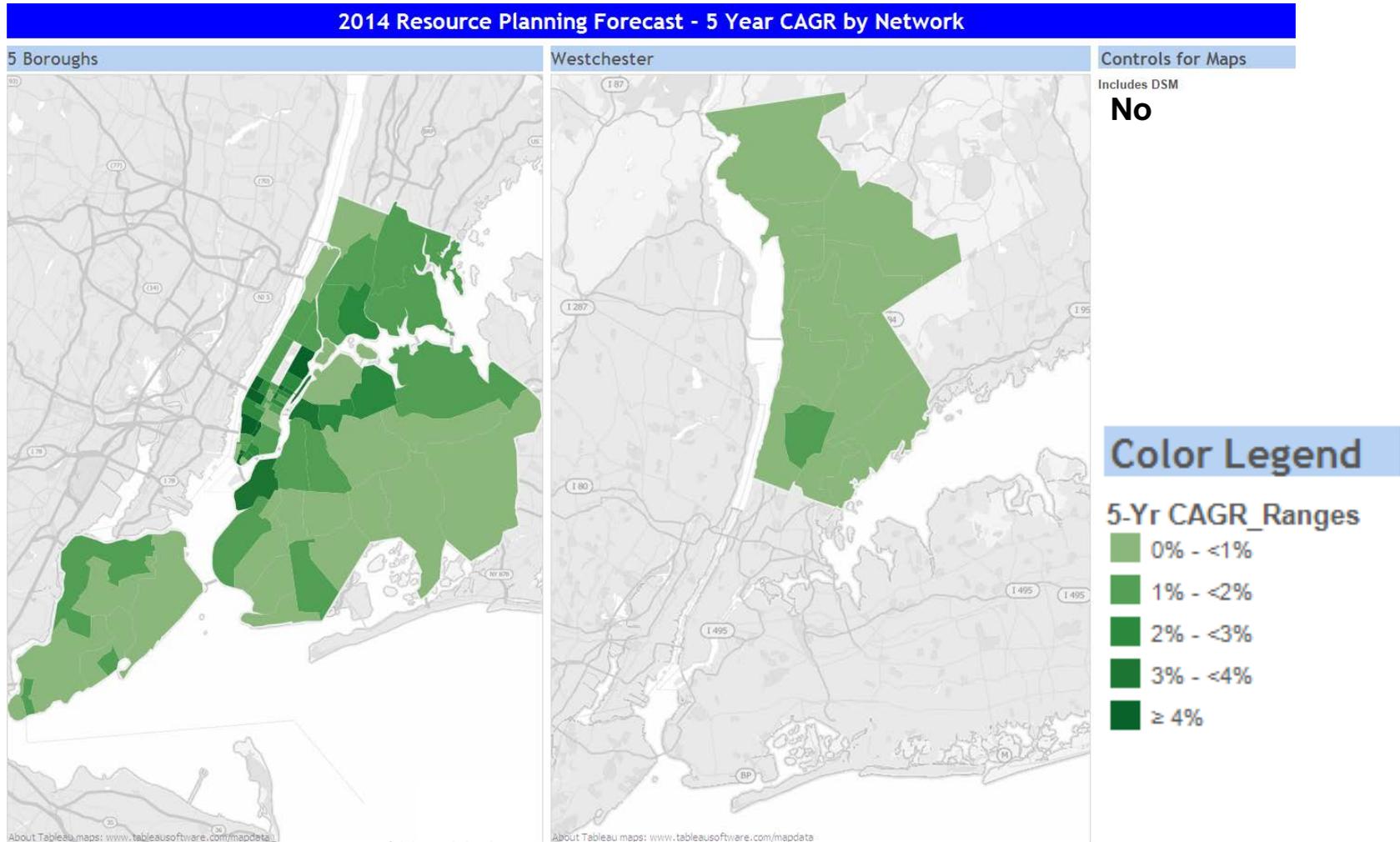


Source: Consolidated Edison Company of New York

Notes:  
 - Richmond Hill is split out between Brooklyn and Queens for illustration only. Data reflect total Richmond Hill values and are not additive.  
 - Westchester network Shrub Oak is new and not included in map above.

# DSM impacts varies by electric load area

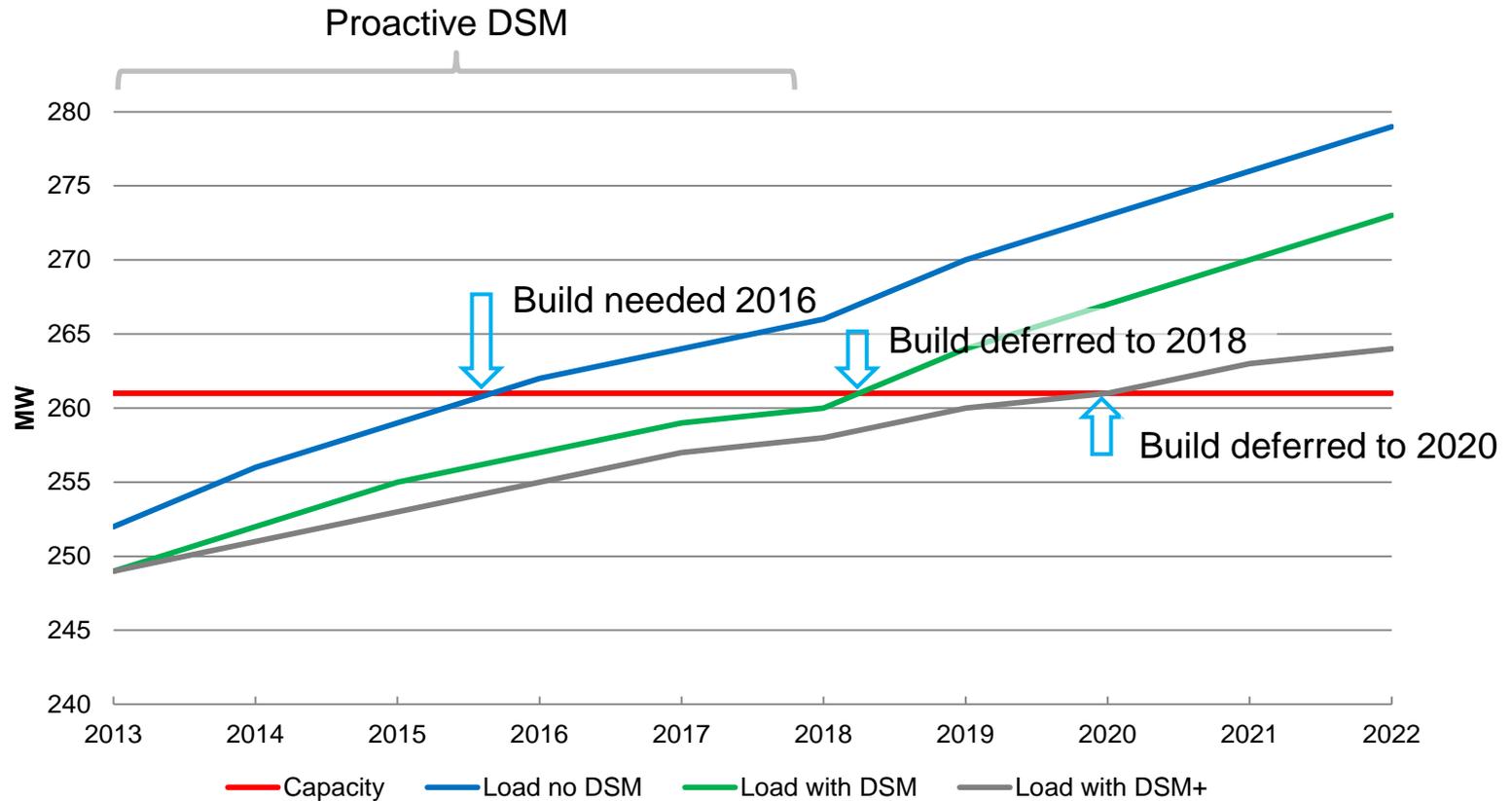
## Bottom-up Forecast without DSM included



Source: Consolidated Edison Company of New York

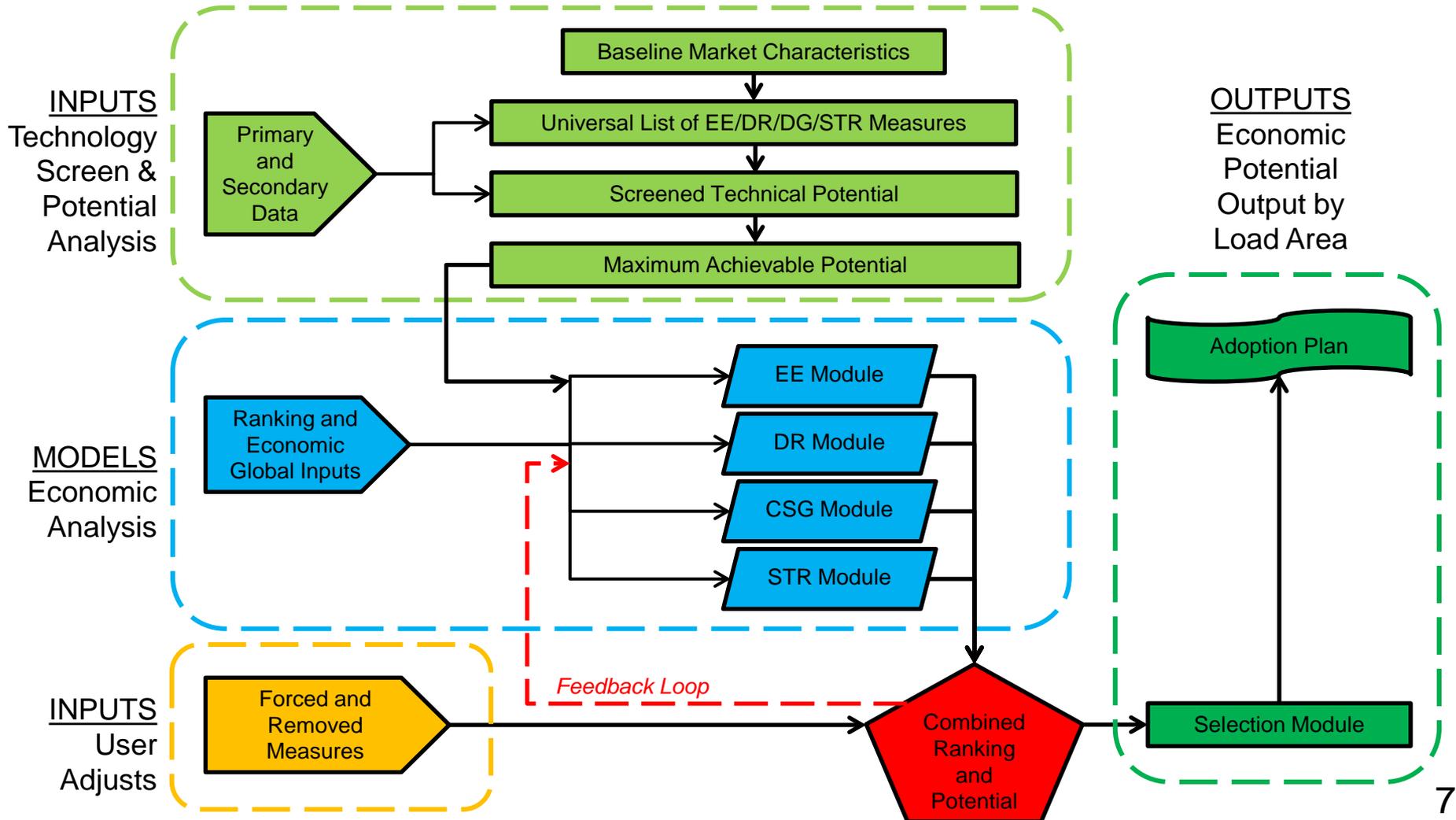
Notes:  
 - Richmond Hill is split out between Brooklyn and Queens for illustration only. Data reflect total Richmond Hill values and are not additive.  
 - Westchester network Shrub Oak is new and not included in map above.

# Infrastructure build deferrals via system-wide programs and targeted DSM

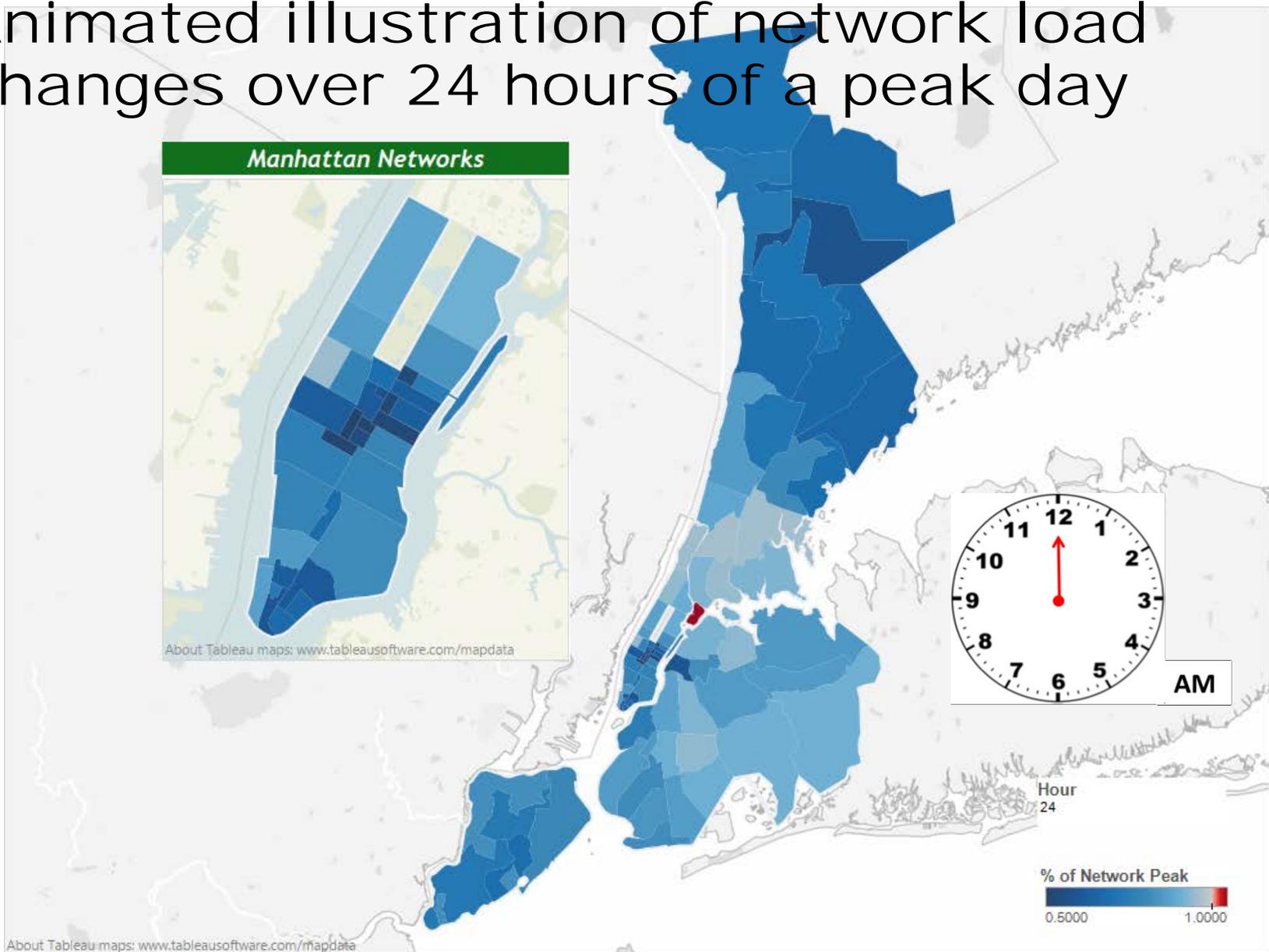


In this illustrative example, accounting for DSM in the forecast defers build two years. Add'l targeted DSM pushes build two more years.

# Integrated Demand Side Management model evaluates potential and economics

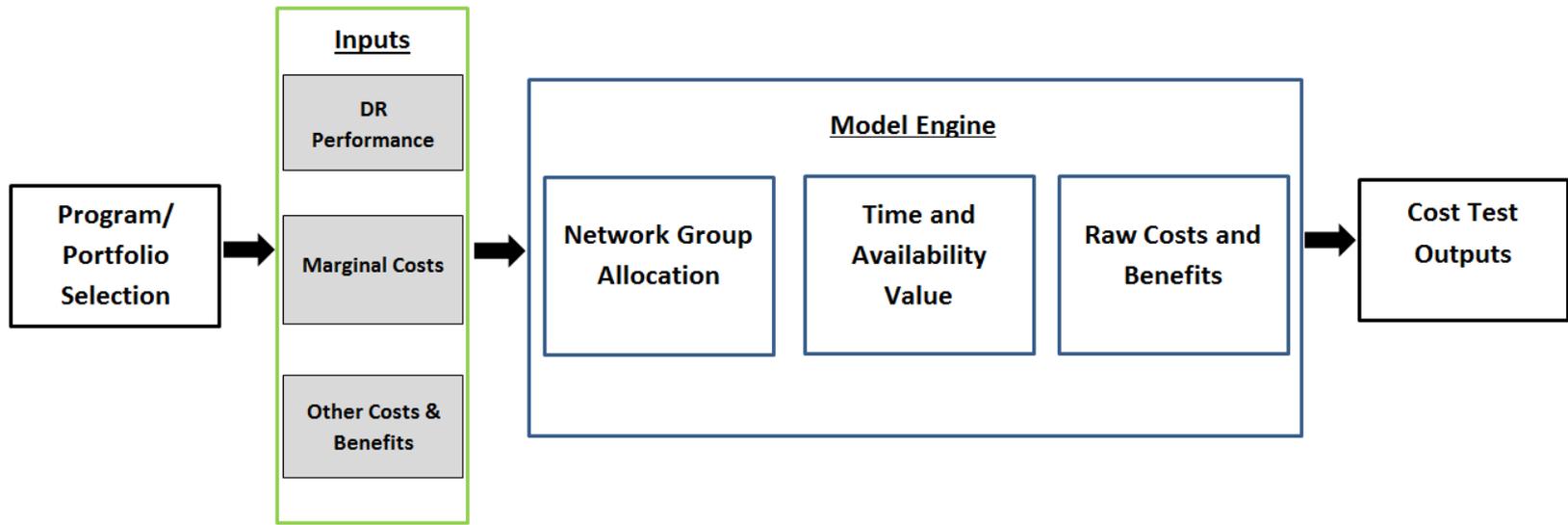


# Animated illustration of network load changes over 24 hours of a peak day

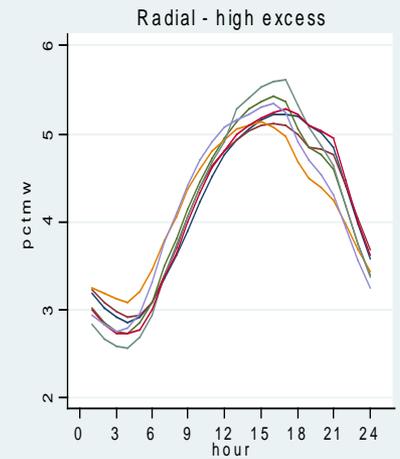
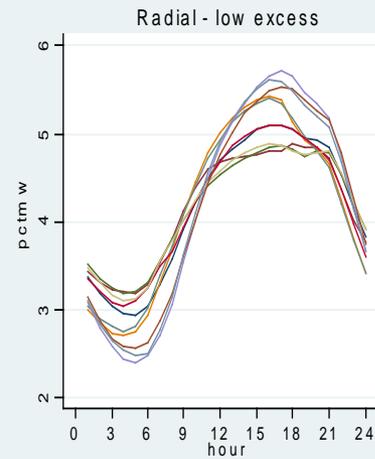
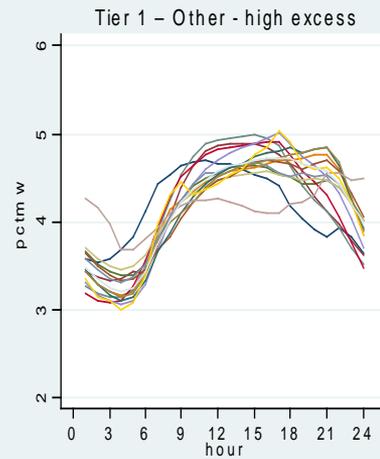
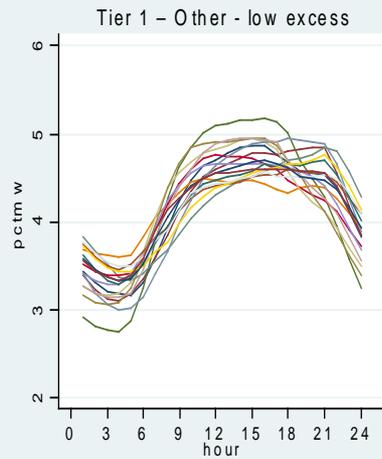
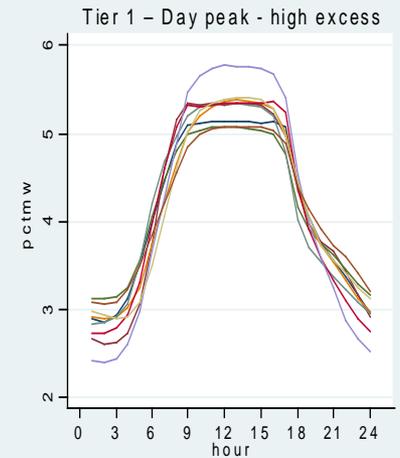
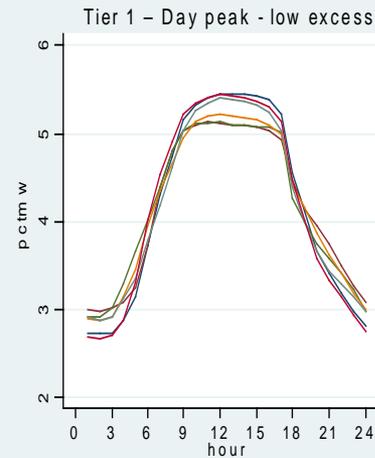
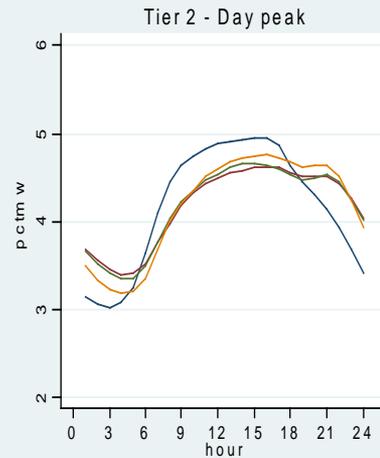
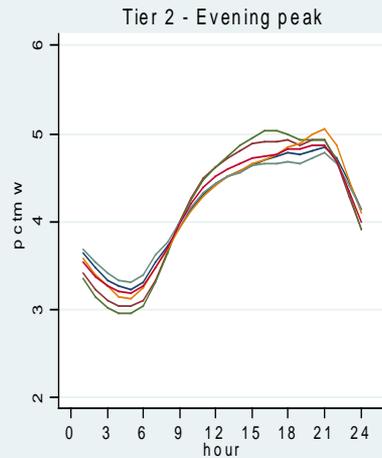


# Demand response valuation tool accounts for location and timing of resources

- Considers:
  - Location of needs and at risk areas (i.e. high/low capacity networks)
  - Characteristics of needs and programs (e.g. load shapes, timing)
- Informs cost effectiveness and incentive amounts



# DR value model groups networks by timing, load shape, and high/low excess



# Brooklyn Queens Demand Management (BQDM) Program Overview

- Subtransmission feeders serving two networks in Brooklyn and one network in Queens overloaded (>800MW)
- Company developed multi-faceted solution to address forecasted overloads including:
  - Traditional utility solutions (e.g. load transfers)
  - Non-traditional customer and utility solutions (BQDM)
- BQDM filing on July 15, Order received on December 12
  - Commission approved \$200m
    - Customer Sided 41 MW (\$150m) and Utility Sided 11 MW (\$50m)
    - Expenditures treated as 10 year capital assets with regulated return
    - Includes a 100 basis points bonus incentive per 3 performance metrics

# BQDM Networks



# BQDM Solutions

## RFI Evaluation and Purchasing



Duration  
Analysis

+



EPRI Evaluation

+



RFI Detailed Review

Inputs



RFI Evaluator(Nexant)

Outputs



Portfolio with top options

→



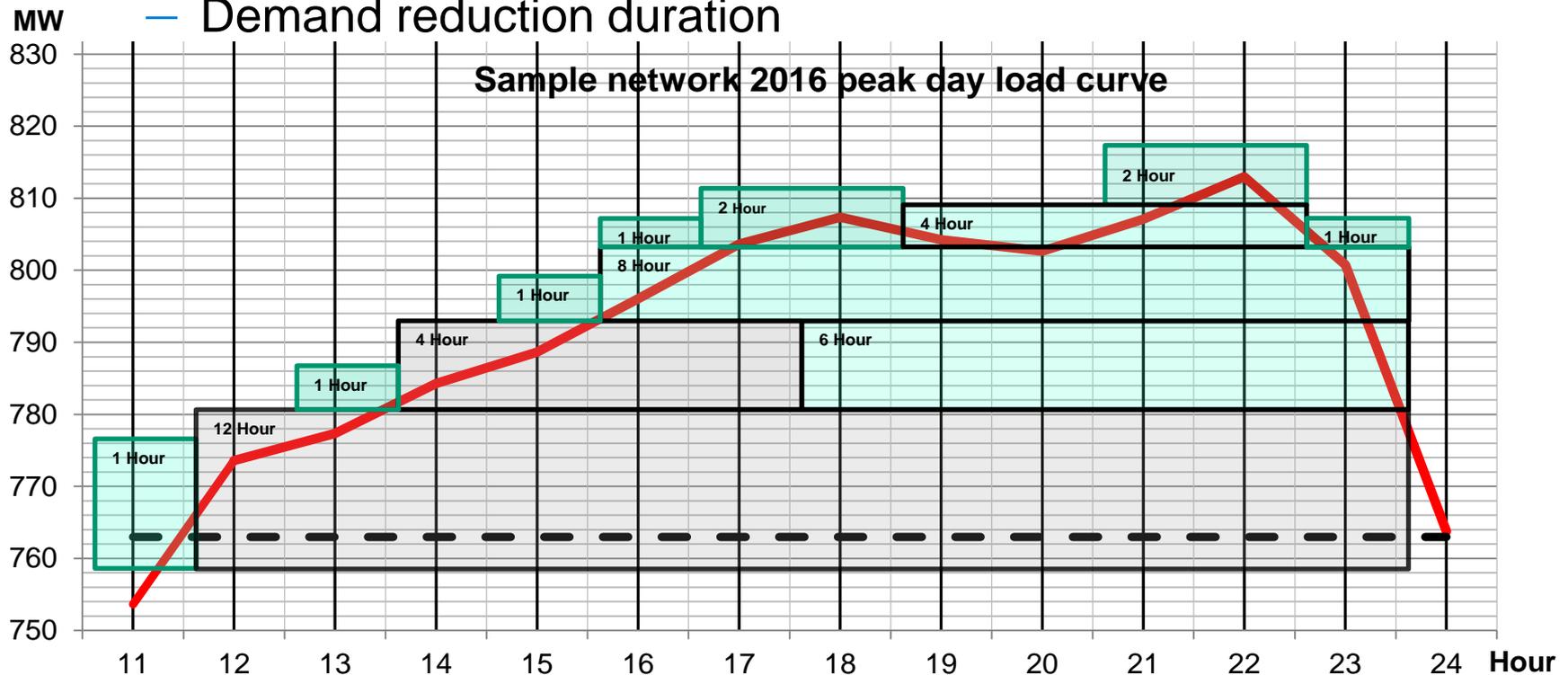
Purchasing timeline and  
strategy

# DSM Resource Portfolio Selection

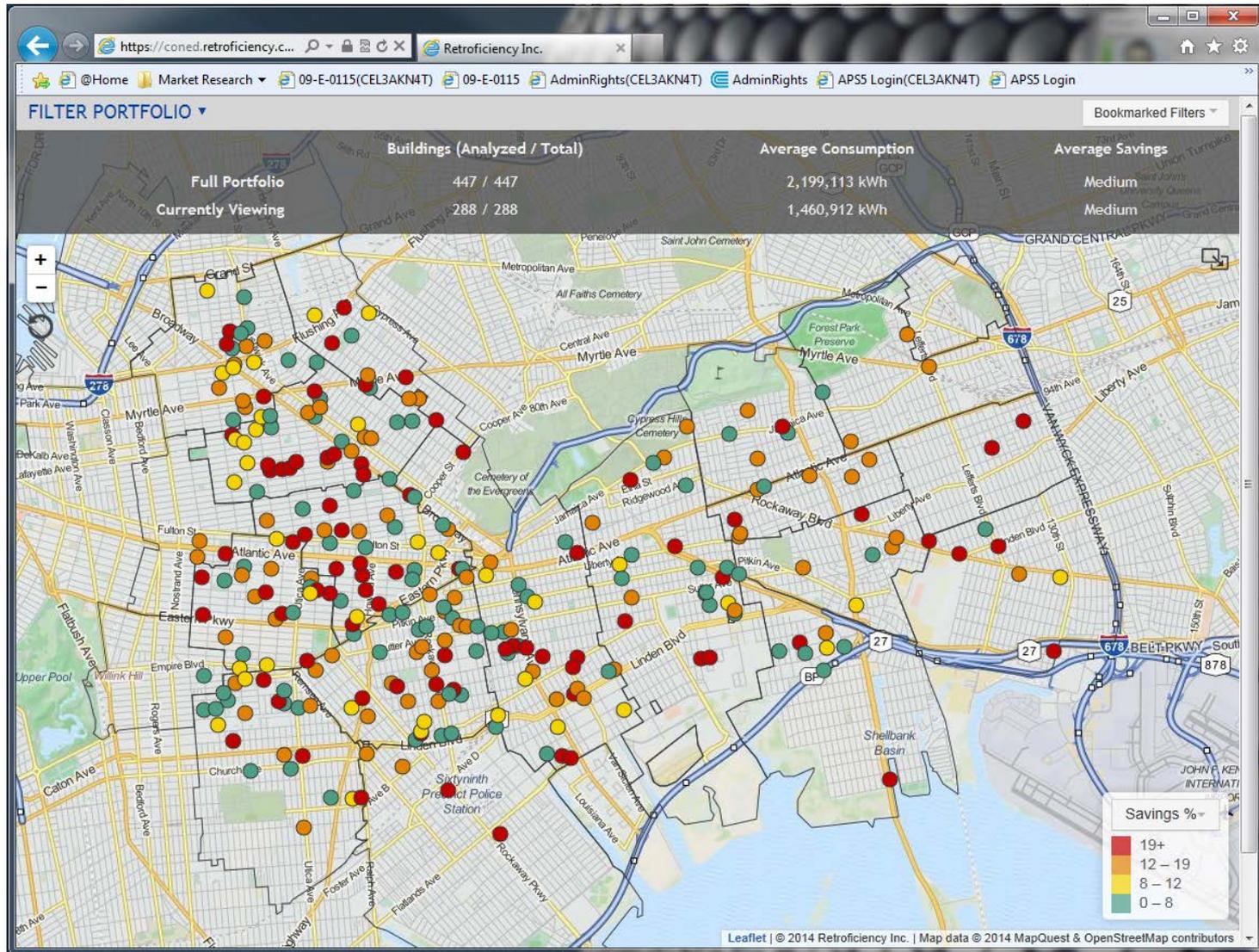
(for illustration only)

Effective MW of resources calculated based on:

- Technology characteristics
- Customer segment type
- Demand reduction duration

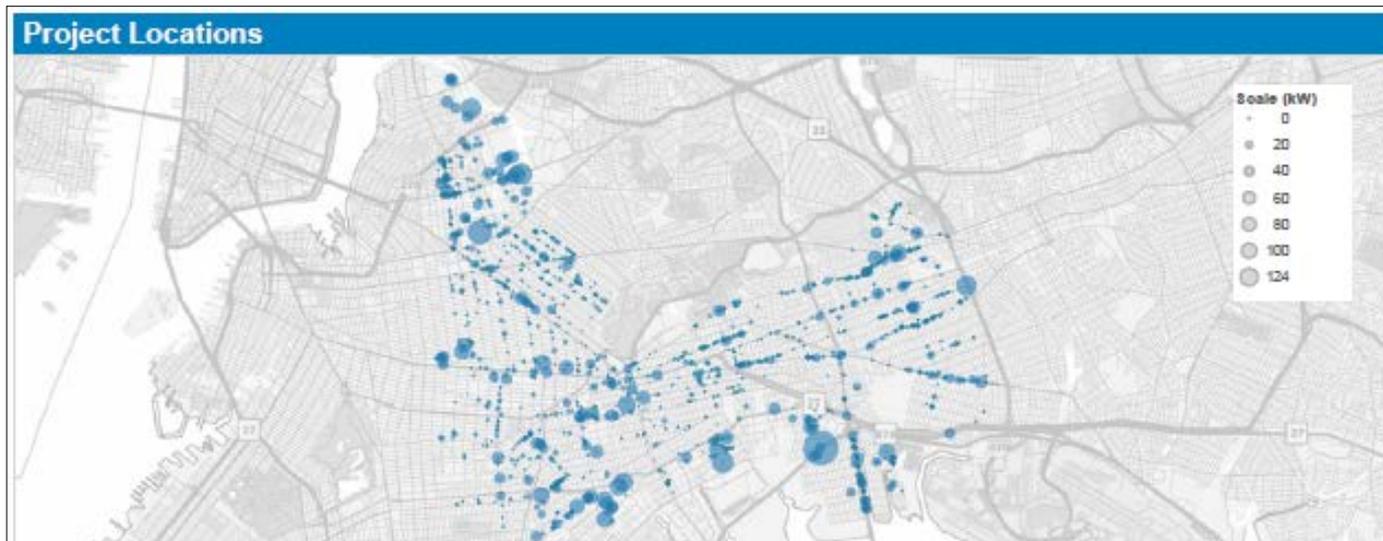


# Retroficiency Screen Shots (Brownsville customers)



# Small Business Program targeted to constrained Brooklyn & Queens networks

- Targeted existing small business program
  - Adjusted existing 70% incentive to 100% incentive
  - Considered measure impacts outside TRM (e.g. outdoor lighting)
  - Sold 1,750 customers, > 5.6 MW; installed 1,000 customers, >3.6 MW
  - Exploring expansion of MW goals and incentivized measures (LEDs)



# BQDM next steps include RFI selections, EE targeting, and Order clarifications

- RFI selections and purchasing
- Evaluate progress against checkpoints (on-going)
- Stakeholder engagement (on-going)
- Expand Small Business EE program targeting
- Implement Multi-family EE program targeting
- Dispatch strategy for dynamic resources
- Await clarification on several aspects of the Dec 12 Order