

Con Edison

Energy Storage Activities

June 15, 2015

EIA Conference

Con Edison Energy Storage (ES)

Presentation Overview

- Introduction to Con Edison
- Potential benefits of storage on our system
- Unique urban challenges
- Con Edison storage related activities
- Going forward

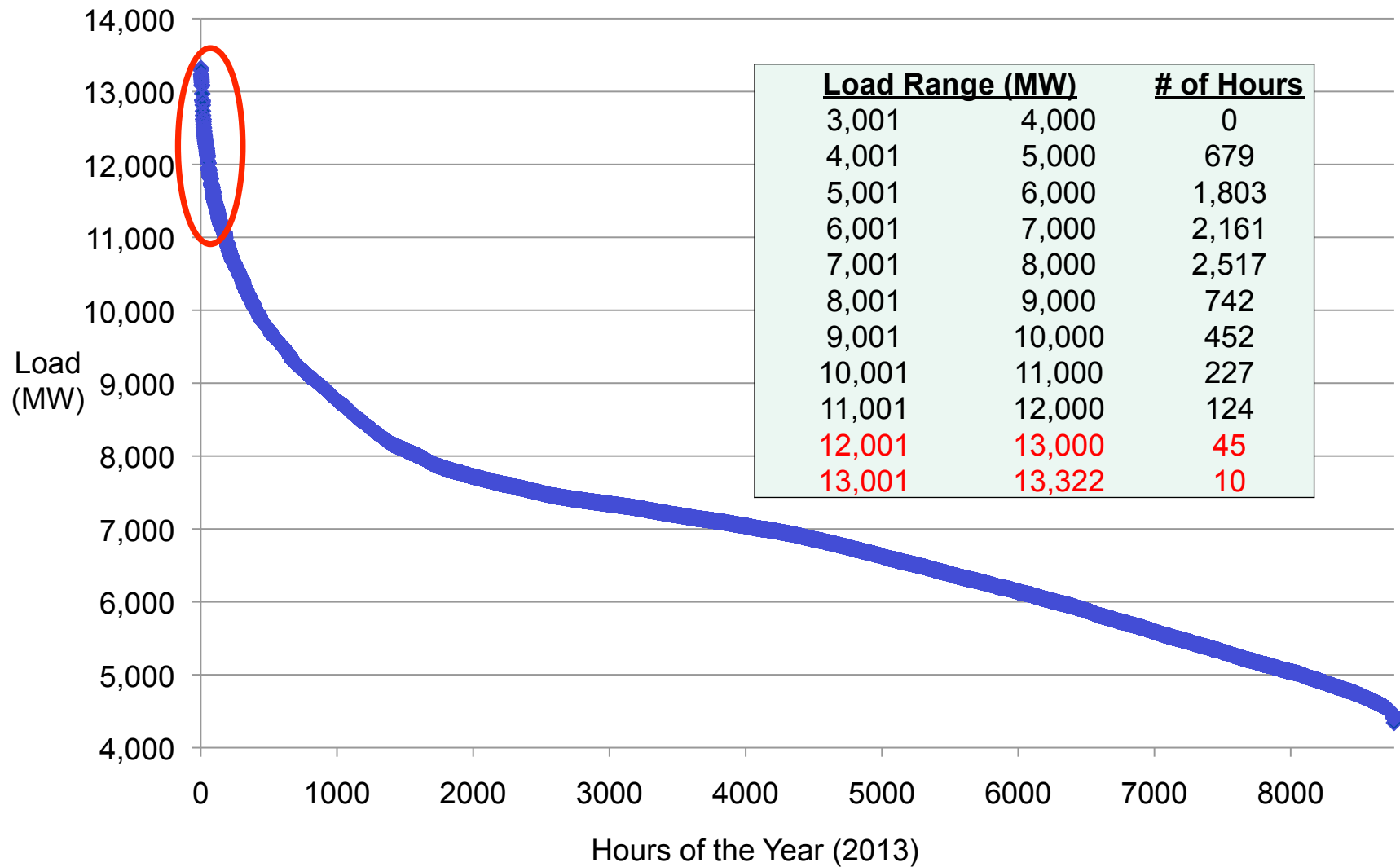
Con Edison: Overview

	Customers	Infrastructure	Service Territory
Electric	3.4 million	One of the worlds largest underground electric systems	All 5 boroughs of NYC and Westchester County
Gas	1.1 million	4,333 miles of gas mains & services	3 out of the 5 NYC boroughs & Westchester County
Steam	1,700	Largest district steam system in the world	Manhattan below 96 th Street

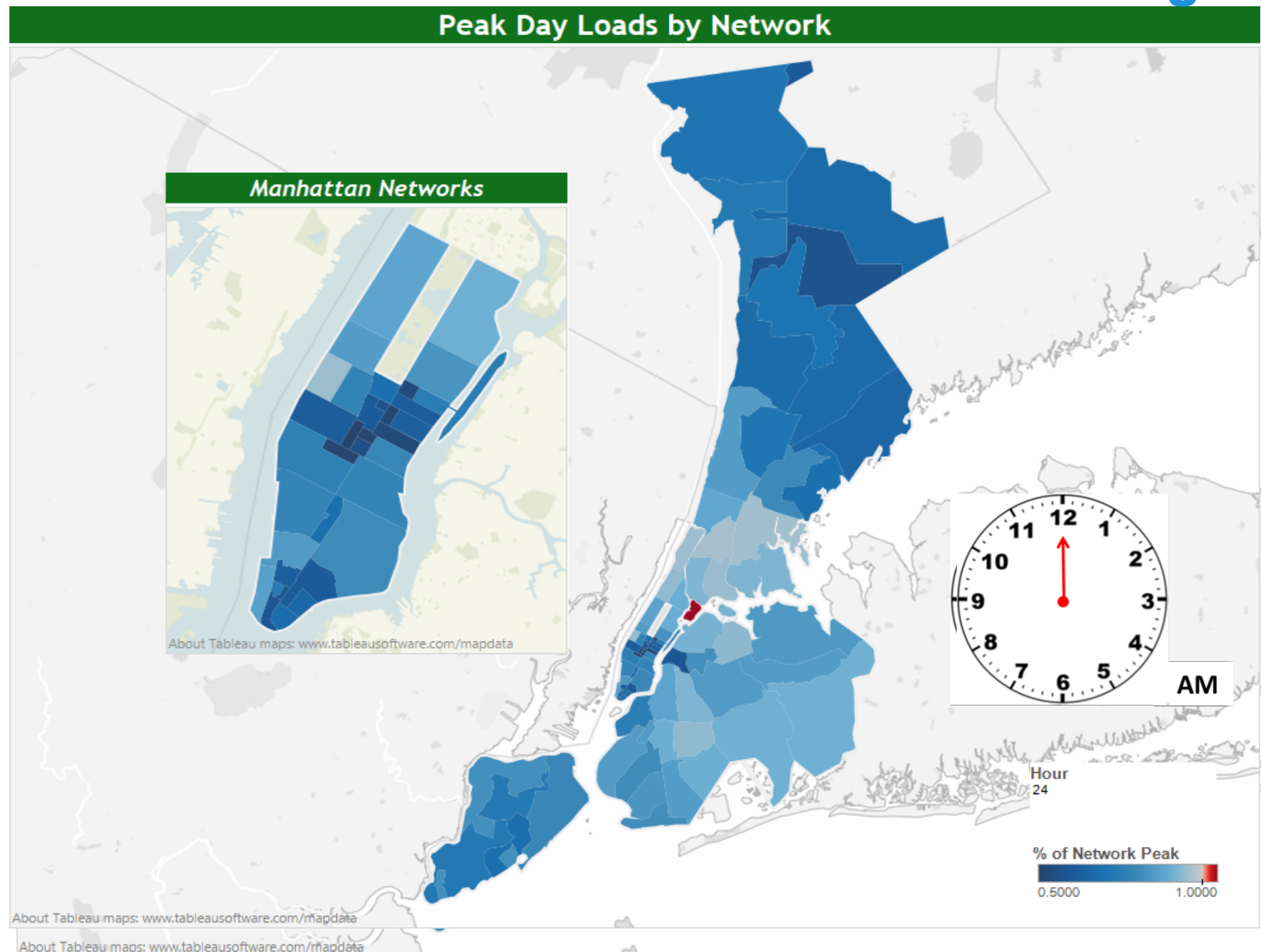
- In Manhattan, up to 70,000 customers/sq mile; 2,000 MW/sq mile
- Our customers create about 4% of U.S. GDP – home to ~10% of Fortune 500 Companies



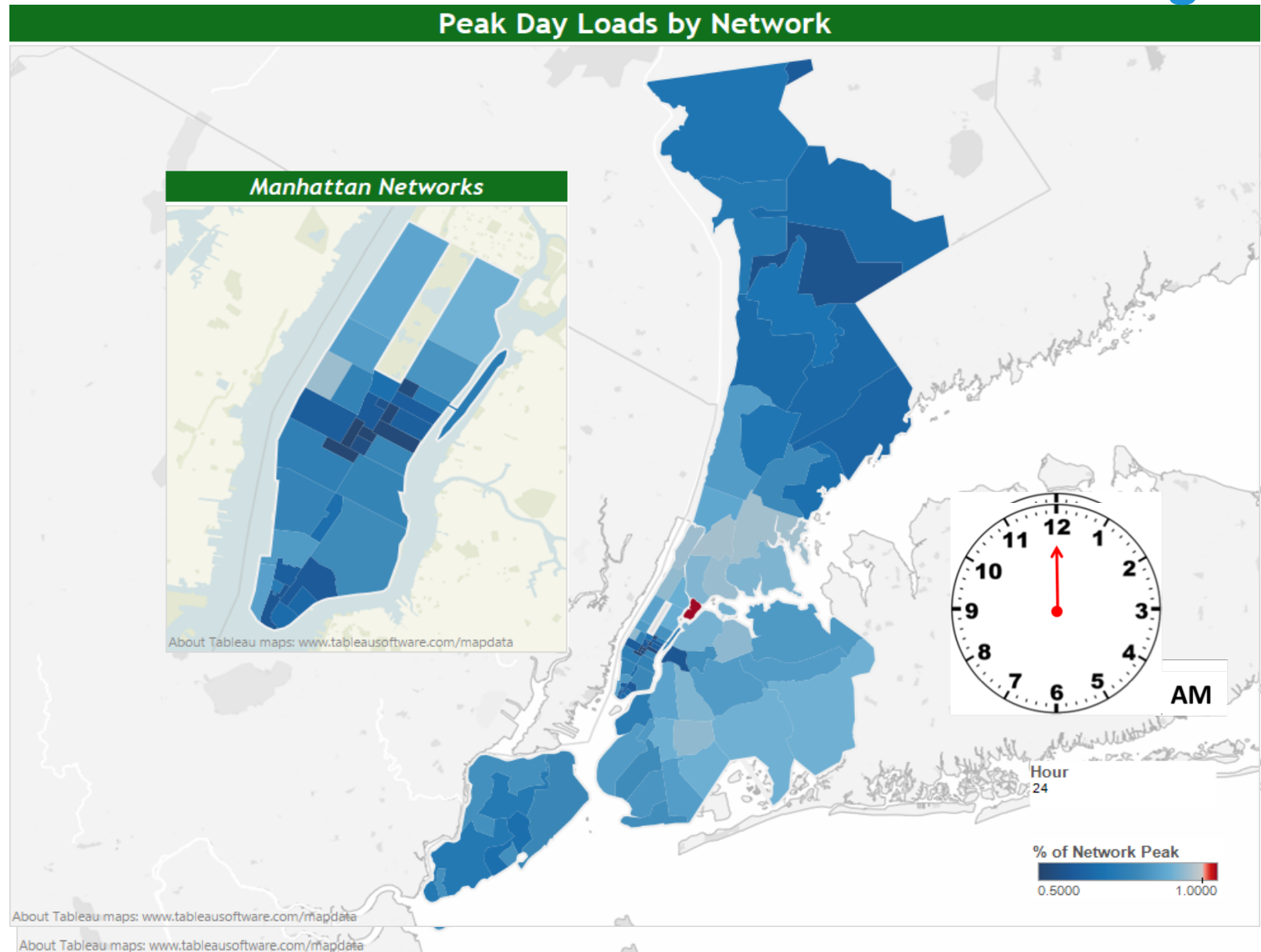
Con Edison System Load Characteristics



Animated Illustration of Network Load Changes



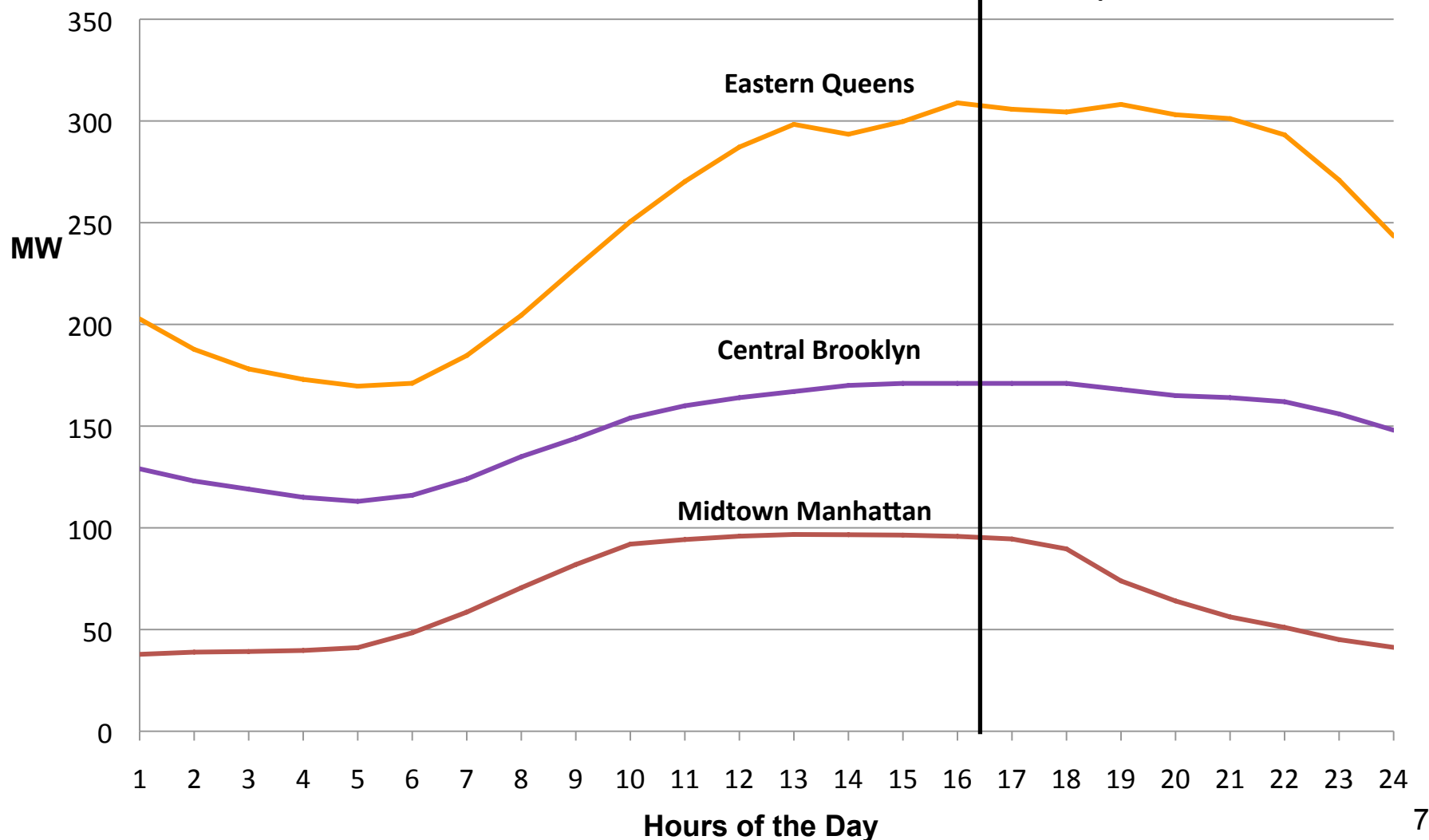
Animated Illustration of Network Load Changes



NYC Neighborhoods Use Electricity Differently

June 24th, 2013

System
Peak: 4-5 pm



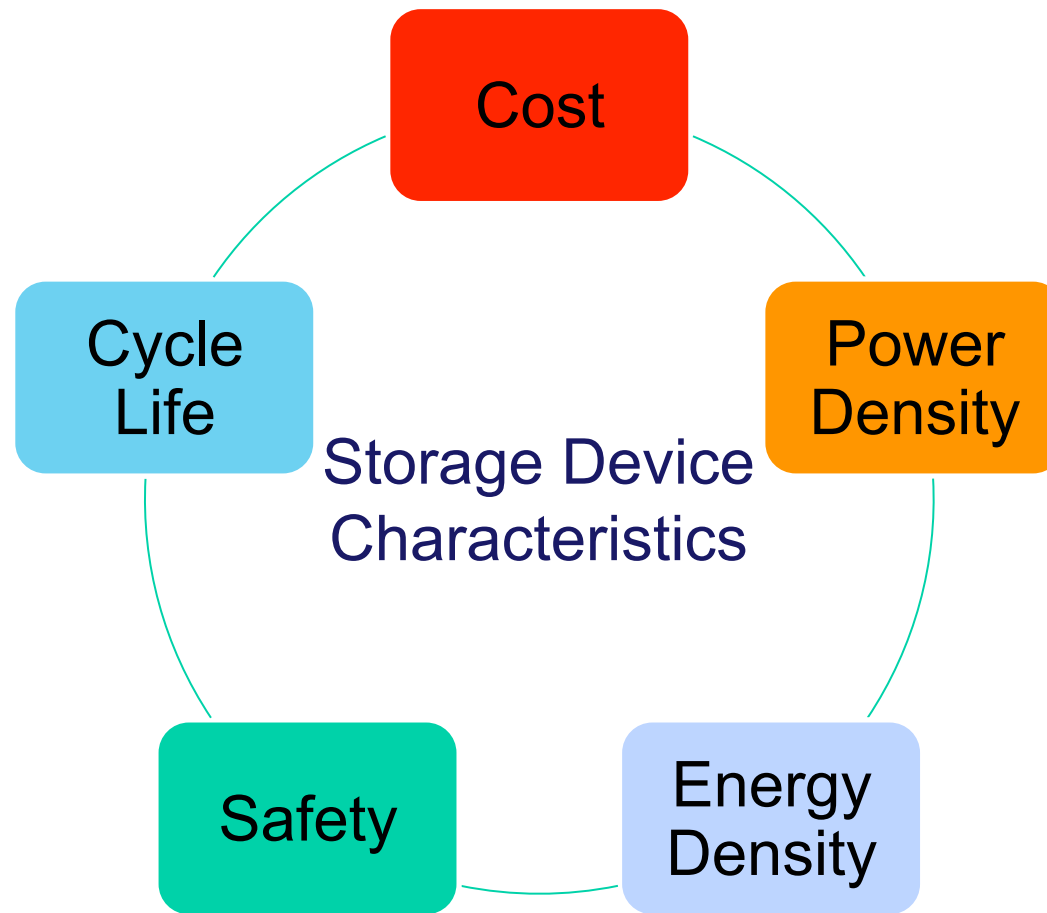
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Why is Con Edison Interested in Energy Storage?

- Improved Asset Utilization
 - Peak Shaving
 - Infrastructure Deferral
- Integration of Solar
- Ancillary Services



Cost is One Consideration



Energy Storage Challenges in New York City

- Limited Space
 - High value real estate
- Installation Challenges
 - Existing infrastructure
 - Complex construction projects
 - Specialized labor force
- Permitting
 - Fire Department of NY
 - NYC Department of Buildings



Innovating Solutions: Brooklyn-Queens Demand Management Program

Deferral of \$1 billion in traditional network upgrades with distributed solutions

- Meets capacity shortfall through a \$200 million program
- Energy Storage is included as part of both utility & customer-sited solutions
 - 1 MW Con Edison owned battery Integrated into our distribution system
 - Additional customer-sited solutions



Additional Con Edison Storage Activities

- Indian Point Contingency Plan
 - Targeted 125 MW of permanent peak demand reduction in the Con Edison service territory by 2016
 - Includes battery & thermal storage incentives for large customers
- Demonstration Projects
 - Transportable Energy Demonstration System (TEDS)
 - CCNY Nickel Zinc Battery
 - EOS Zinc-Air Battery Demonstration
 - Molten salt energy storage feasibility study

Going Forward

- Challenges & Opportunities
 - Grid integration ready
 - Competitively priced options
 - Uniform performance protocols and standards
 - Engaging customer-sited solutions
 - Reforming the Energy Vision Proceeding

Q&A

