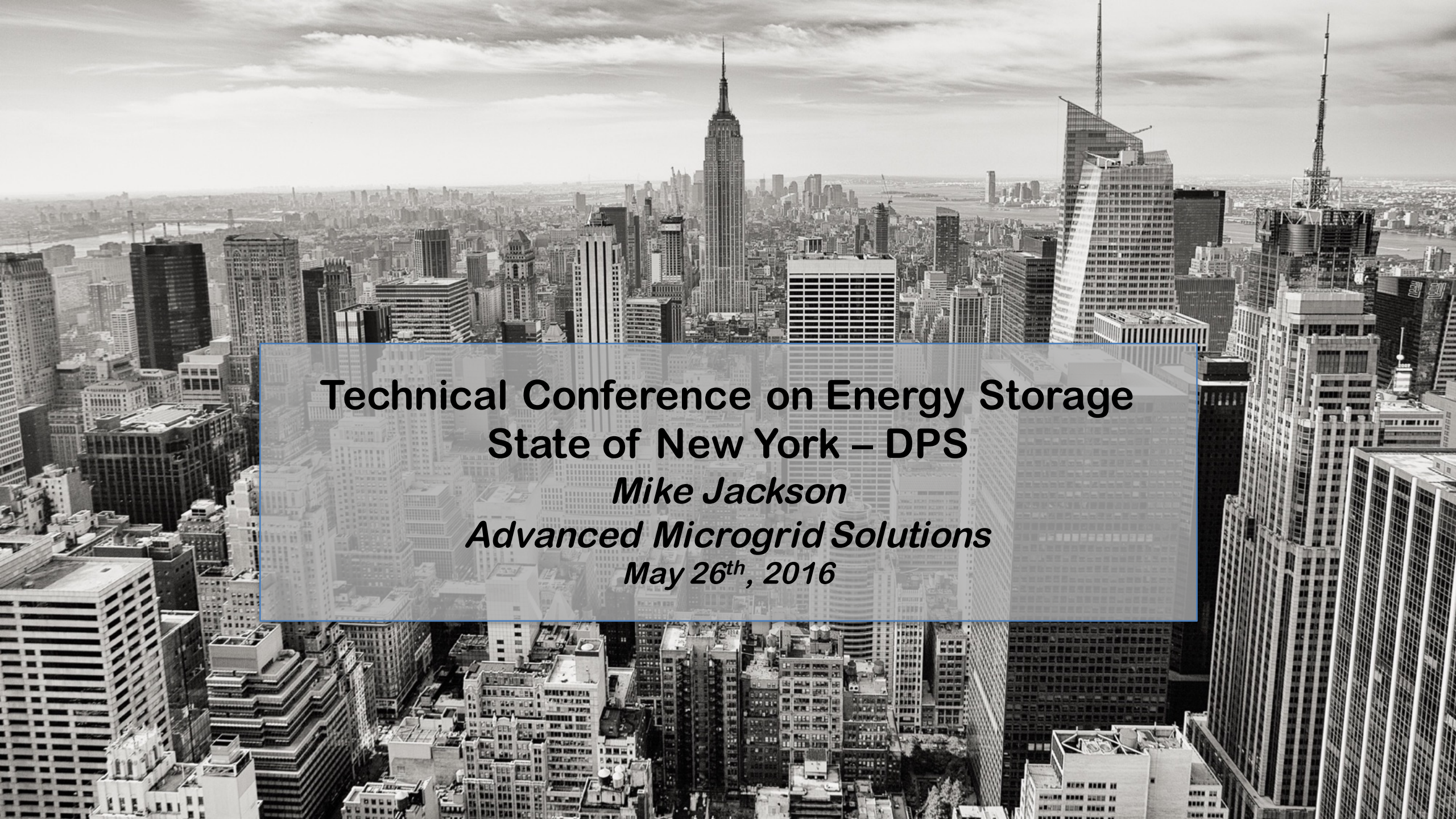


Technical Conference on Energy Storage
State of New York – DPS

Mike Jackson

Advanced Microgrid Solutions

May 26th, 2016

BUSINESS MODEL INNOVATION:

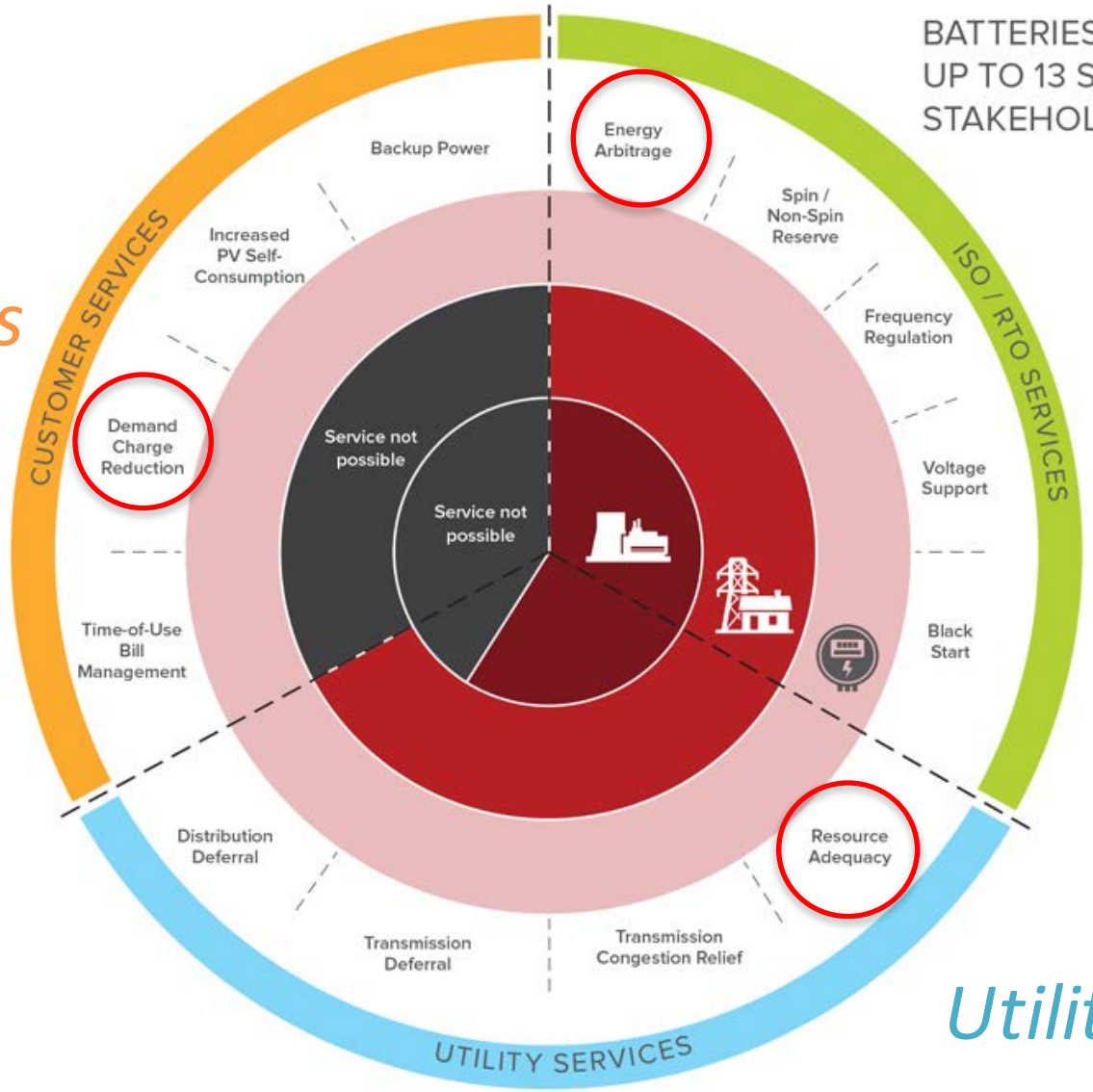
BTM Storage-as-a-Service

BATTERIES CAN PROVIDE UP TO 13 SERVICES TO THREE STAKEHOLDER GROUPS

C&I Customers

ISO/RTO

Utility/DSP



Source: Rocky Mountain Institute

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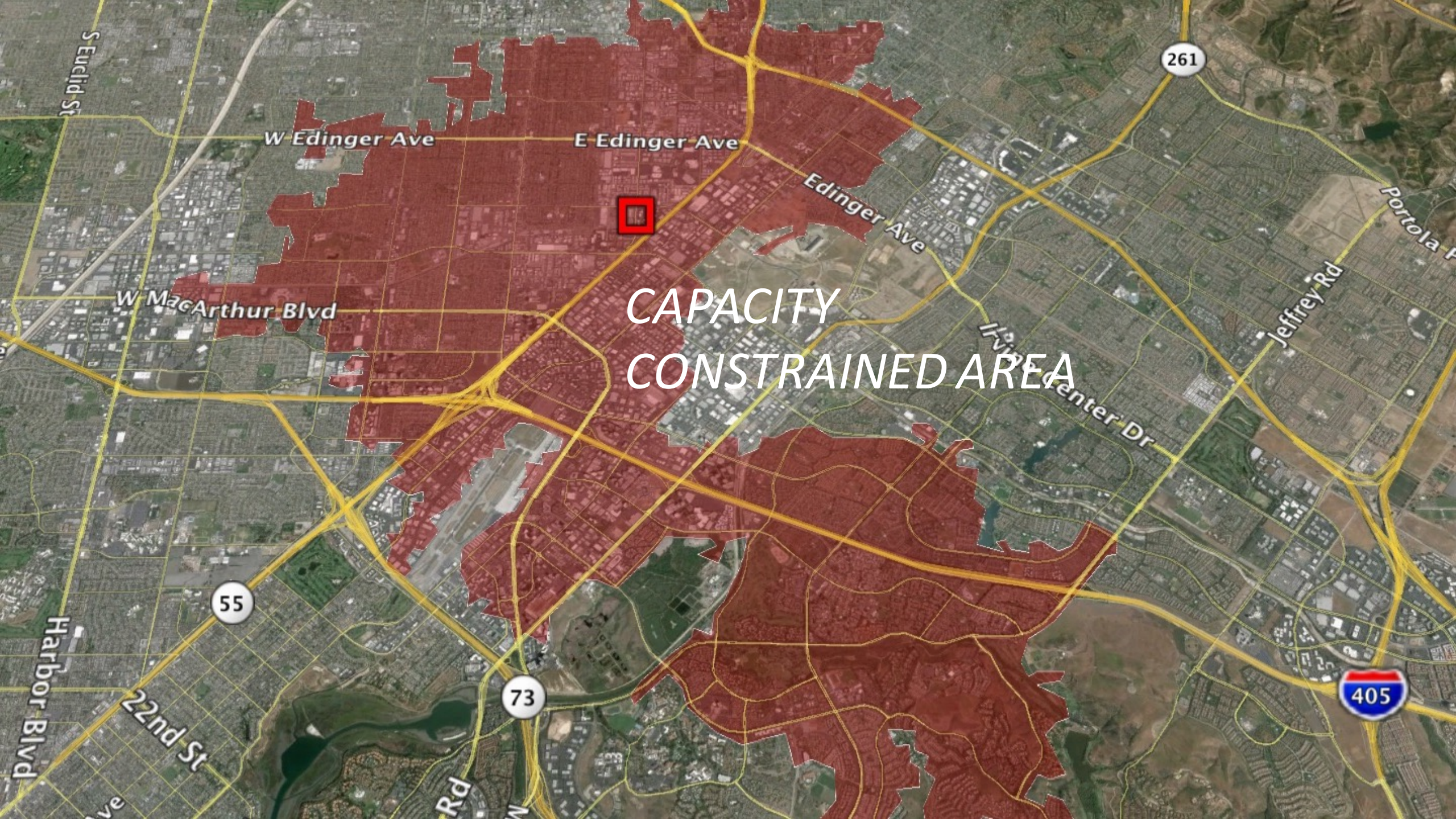
CAPACITY
CONSTRAINED AREA
W Edinger Ave
E Edinger Ave
Edinger Ave
W MacArthur Blvd
S Euclid St
Harbor Blvd
22nd St
Jeffrey Rd
Portola P
Irvine Center Dr
261
55
73
405

TARGETED
SUBSTATIONS
BTM Storage as a
Non-Wires Alternative
in a Financeable Contract
Google earth
1000 ft

Multiple Dispatchable Clusters

Aggregated Resource for Utility & Grid Services:

- *Flexible*
- *Configurable*

① DEMAND CHARGE REDUCTION

Forecasting software predicts demand spikes and seamlessly switches buildings from grid to battery power, thereby avoiding large peak charges

UP TO

40%

REDUCTION IN DEMAND COSTS

ENERGY COST SAVINGS

② TIME OF USE RATE ARBITRAGE

Battery storage systems charge overnight when the cost of grid power is low and discharge during peak hours when it's more expensive, displacing costly on-peak electricity

UP TO

15%

REDUCTION IN ENERGY COSTS

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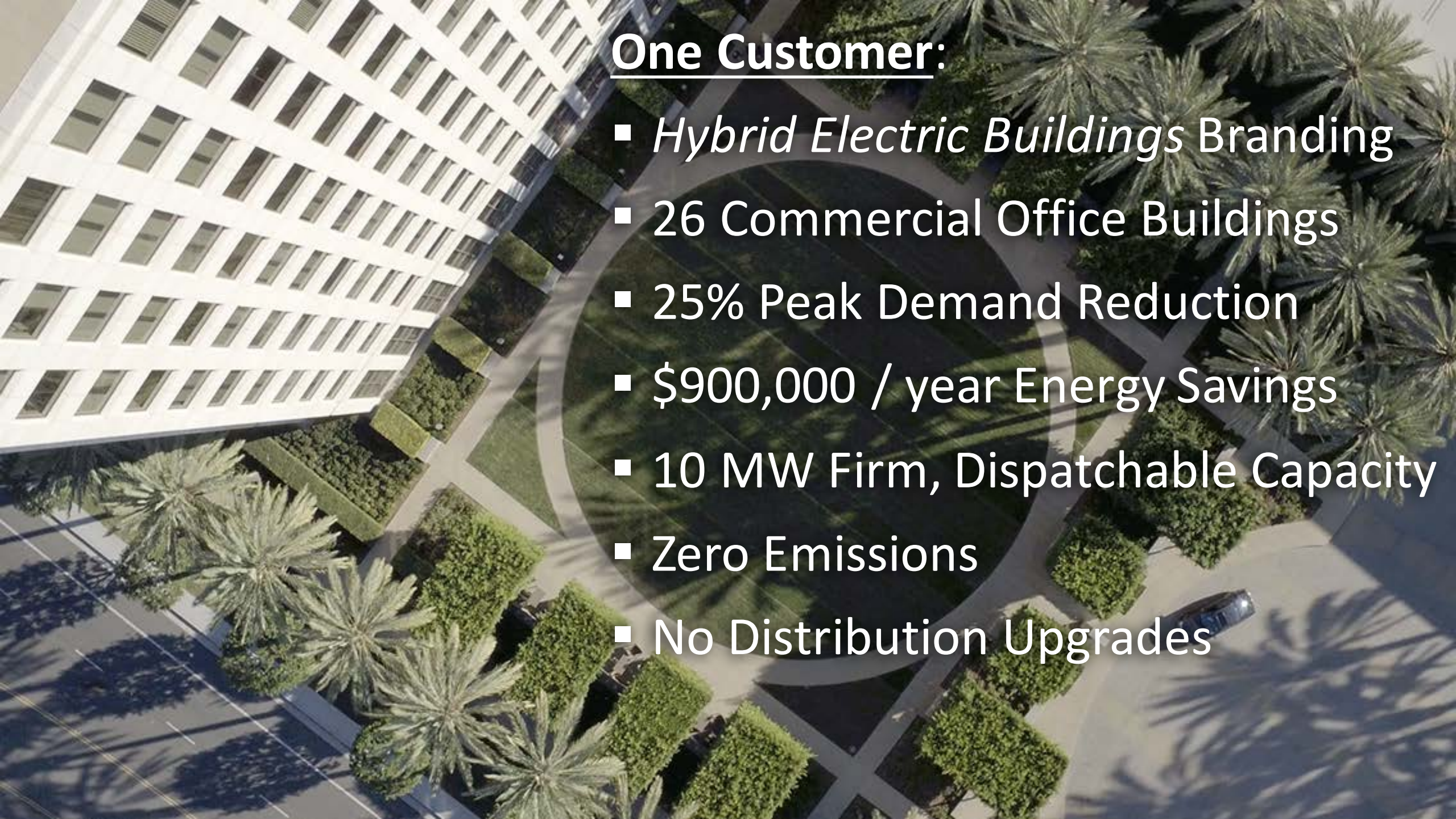


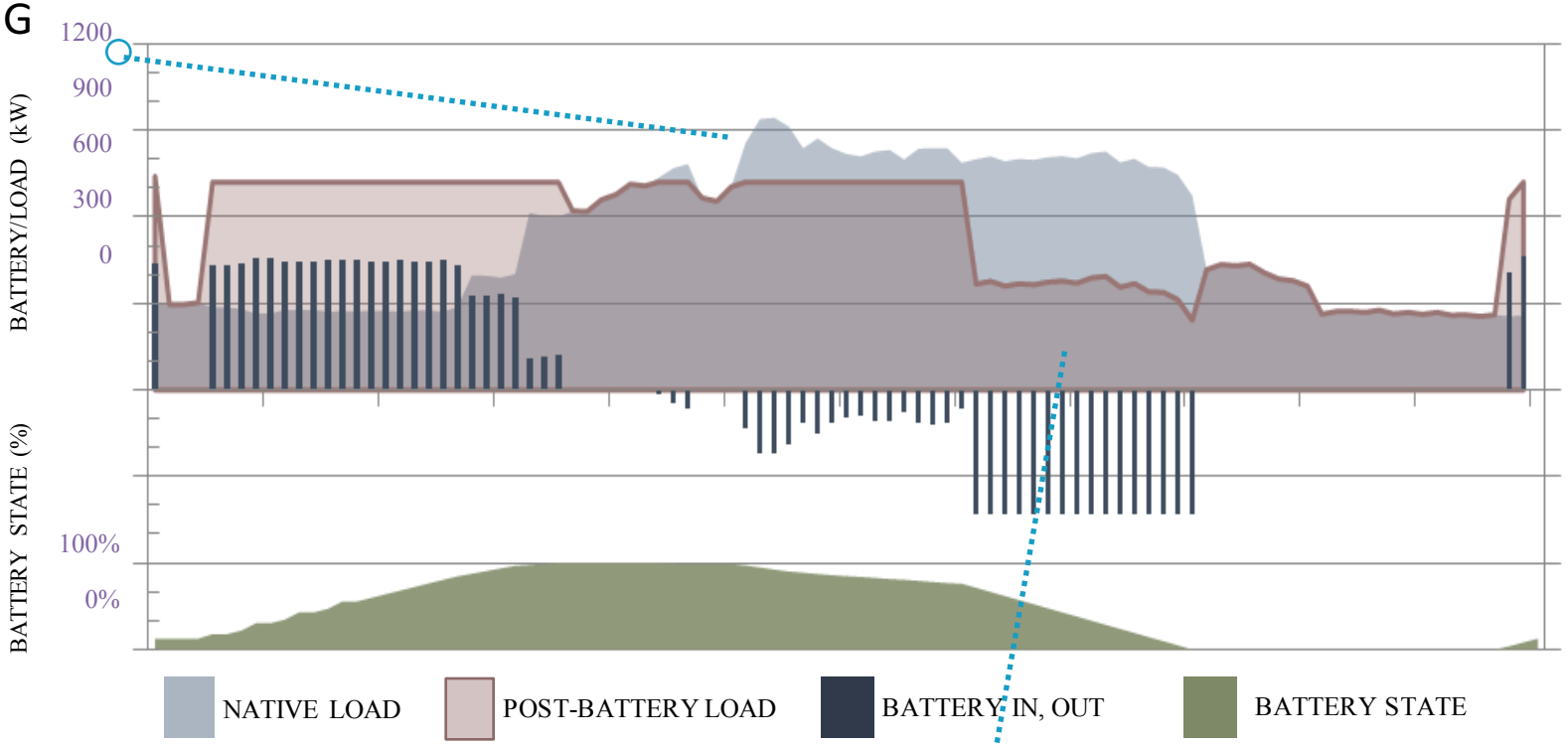
One Customer:

- *Hybrid Electric Buildings* Branding
- 26 Commercial Office Buildings
- 25% Peak Demand Reduction
- $900,000 / year Energy Savings
- 10 MW Firm, Dispatchable Capacity
- Zero Emissions
- No Distribution Upgrades

CO-OPTIMIZATION: MULTI-BENEFIT & CONFIGURABLE

600 kW/2,400 kWh System – RA Capacity 433 kW / 1733 kWh – Peak Shaving: 23% savings

PEAK SHAVING



REAL-TIME OPTIMIZATION SOFTWARE
- FLEXIBLE, CONFIGURABLE, ADAPTABLE

SCHEDULED BATTERY DISPATCH FOR UTILITY RESOURCE ADEQUACY (RA)

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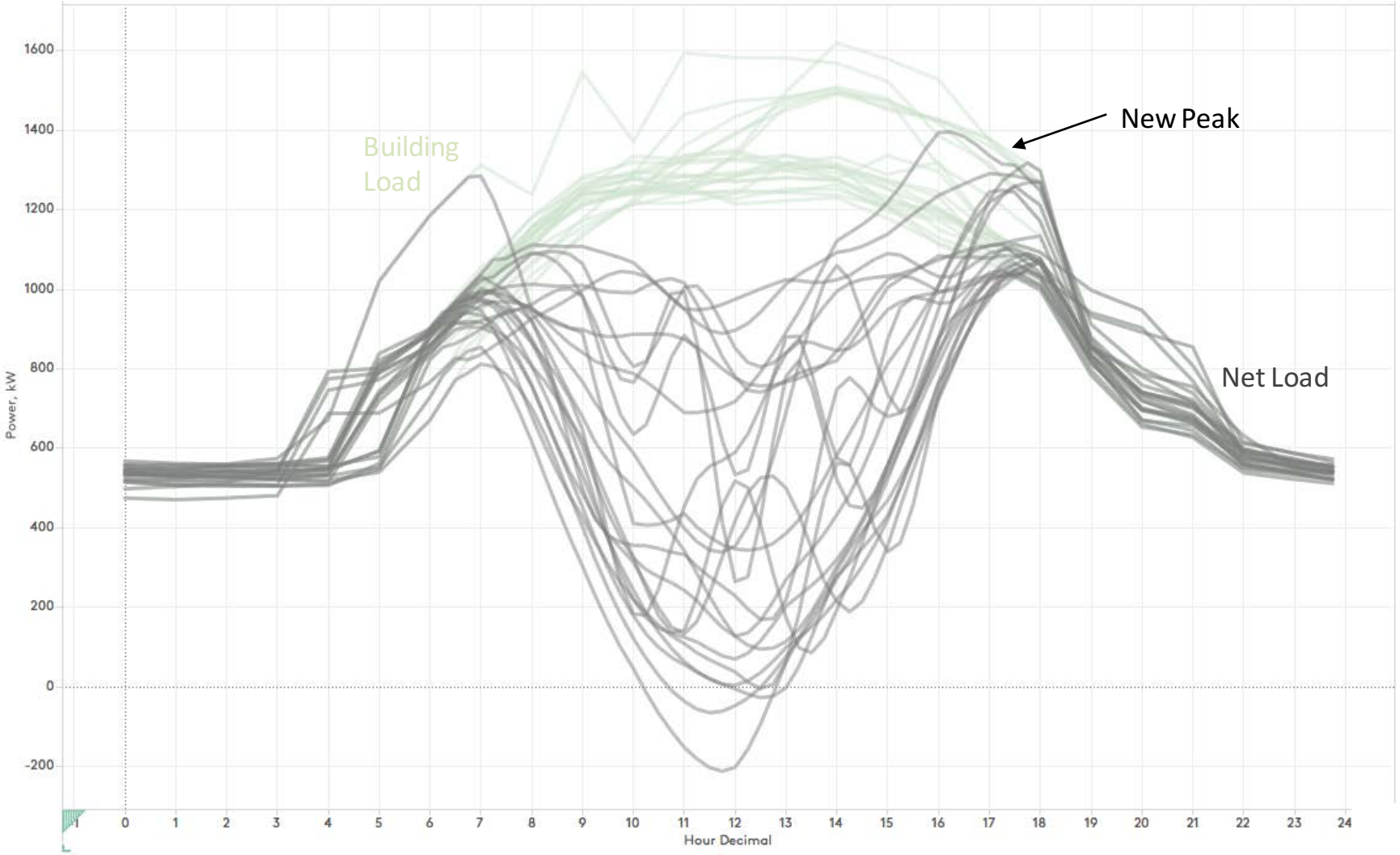
OCT. 2015 WEEKDAYS – SOLAR SIMULATION



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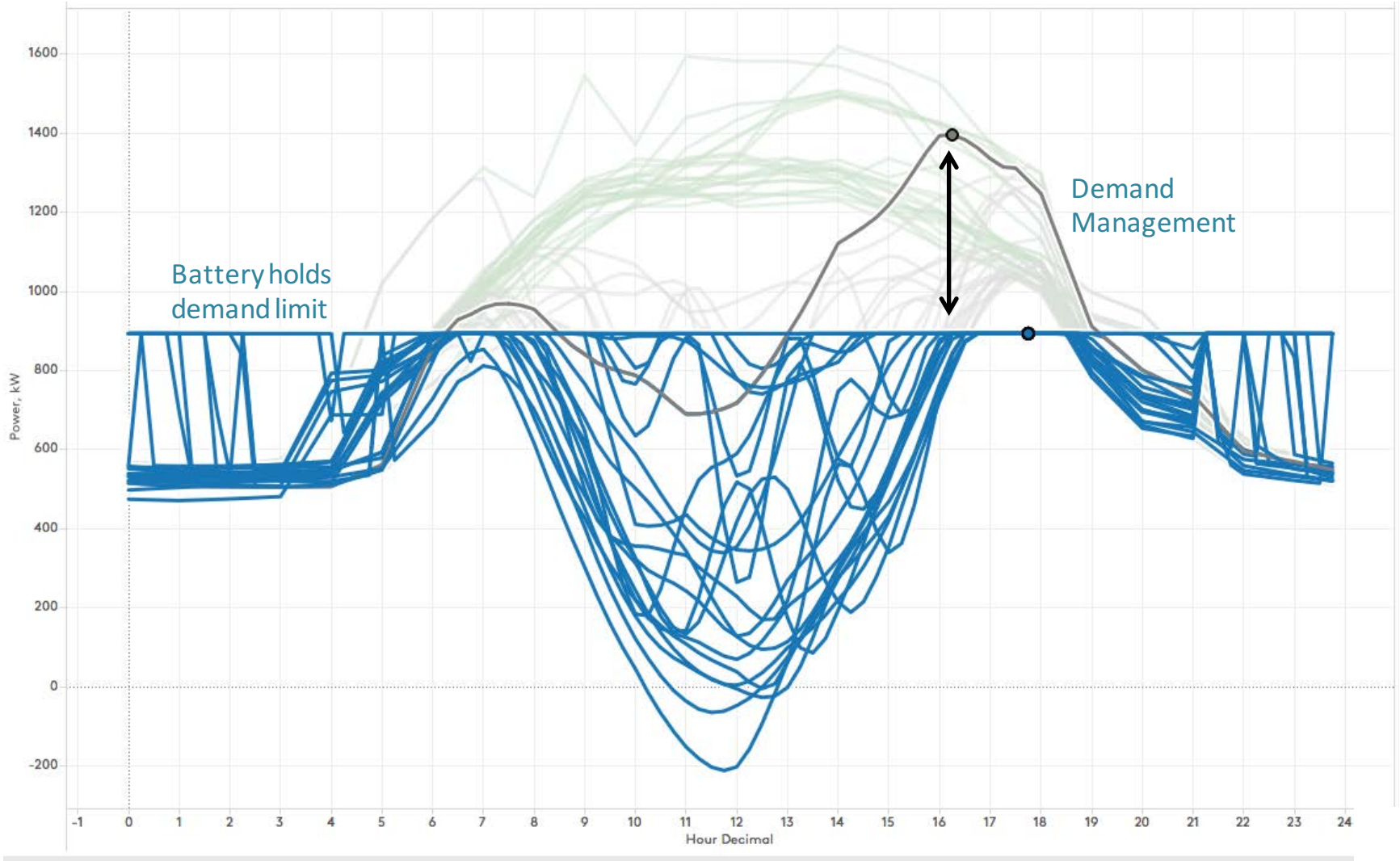
OCT. 2015 WEEKDAYS – SOLAR + STORAGE SIMULATION



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Animating the NYS Storage Market:

- Identification of Full Locational Value
- Financeable Revenue Stream(s) for Development
  - ✓ *Long Term & Predictable*
- Deploy Storage for Max. Renewable Hosting Capacity
- Leverage BTM Storage for Customer Engagement
- Value the Flexibility of Storage DERs
- Open NYISO to Aggregated, BTM Resources <1MW/site