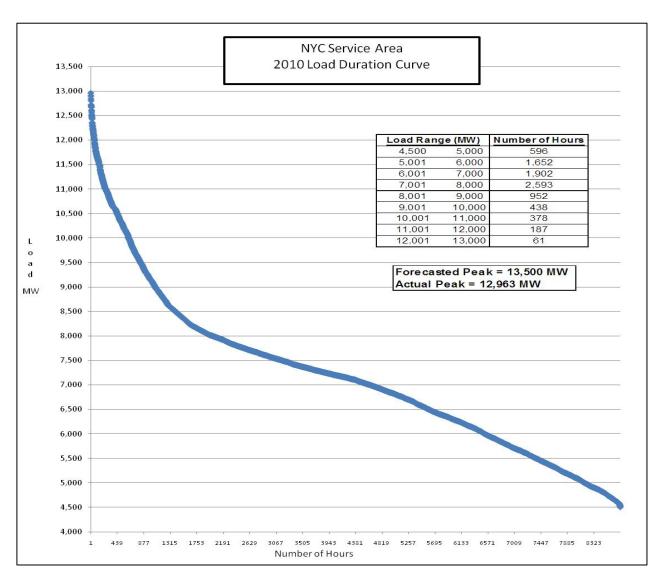
# **Electric System Economics**

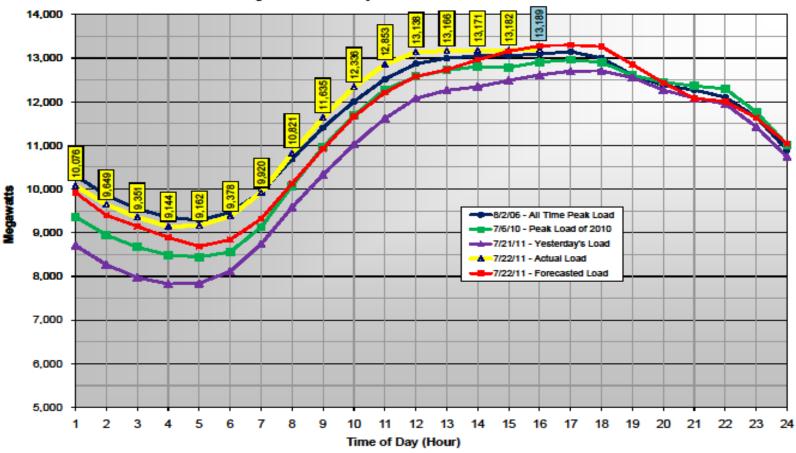
"Turning Triangles into Rectangles"

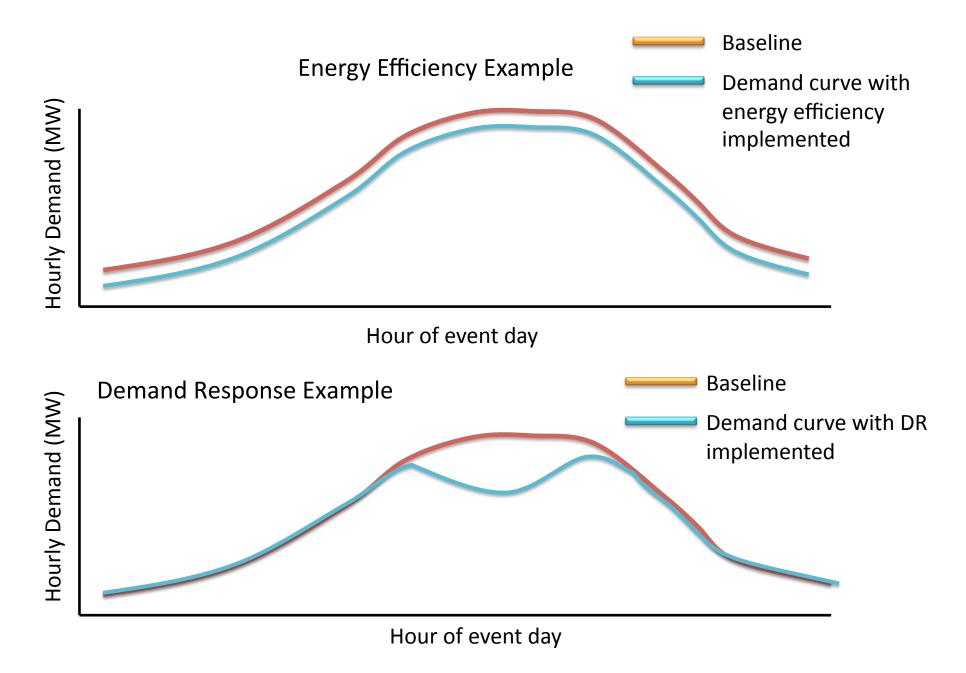
### Con Edison Load Duration Curve



#### The Electric System **Transmission** Distribution **Generating Station Transmission** Transformers Transformers Area Substation (voltage stepped down to (electricity generated at (voltage stepped up Substation (voltage stepped 13.8 to 22.0 kV) down to 480, 208, to transmission distribution voltage) or 120 V) voltage) Feeders **Network Customers** (residential, commercial, industrial, hospitals, schools, and street and traffic lights) Connection To Others Radial Customers

#### Hourly Load Comparison as of 16:00 7/22/11

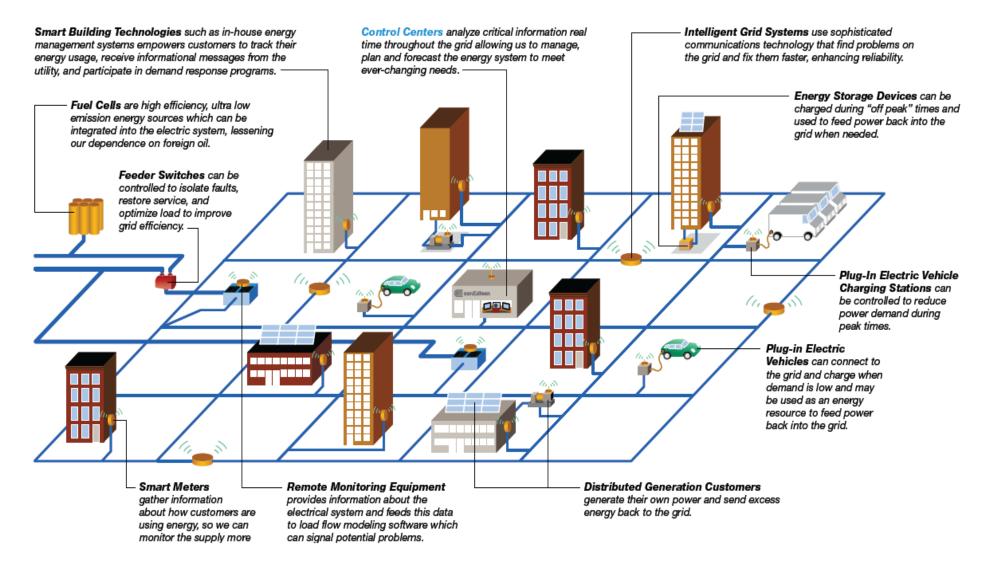


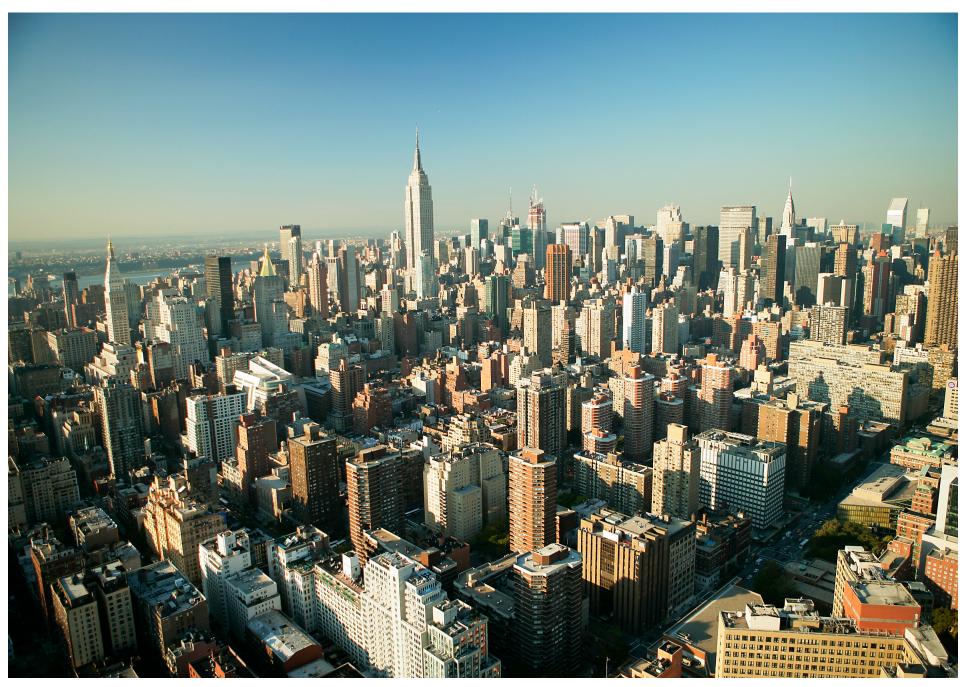


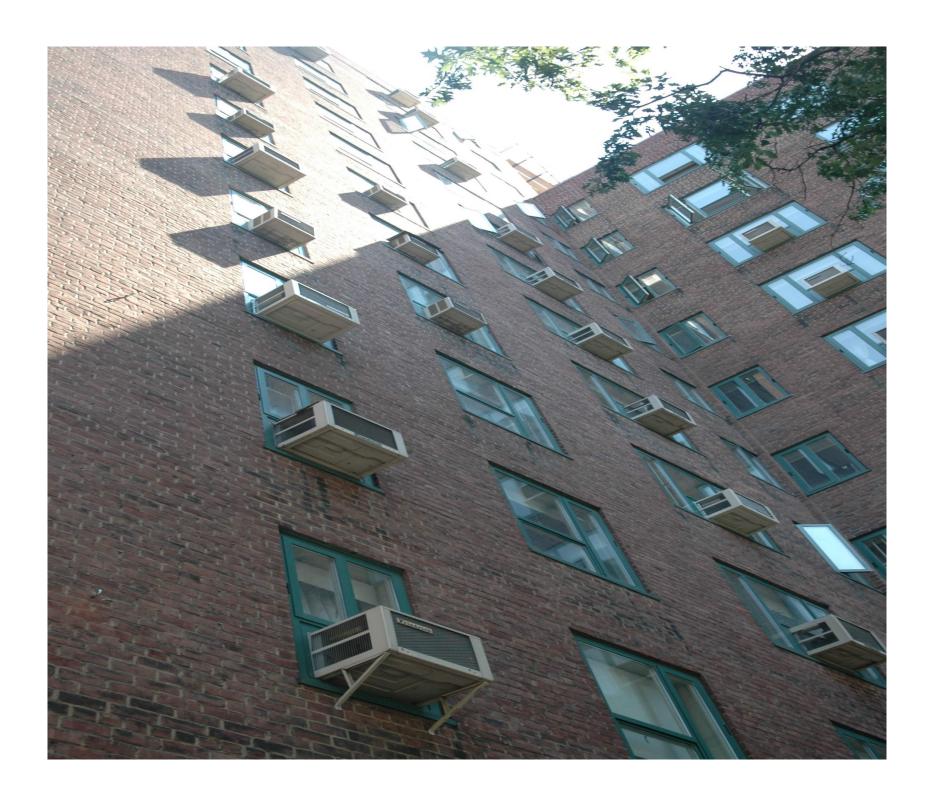
## Targeted Curtailment



Cyber Security enables secure communications for controlling and distributing energy across the electrical system, and maintaining consumer privacy. Cyber security must be implemented on all smart-grid assets and communications to provide reliable operation, and prevent cyber attacks.











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