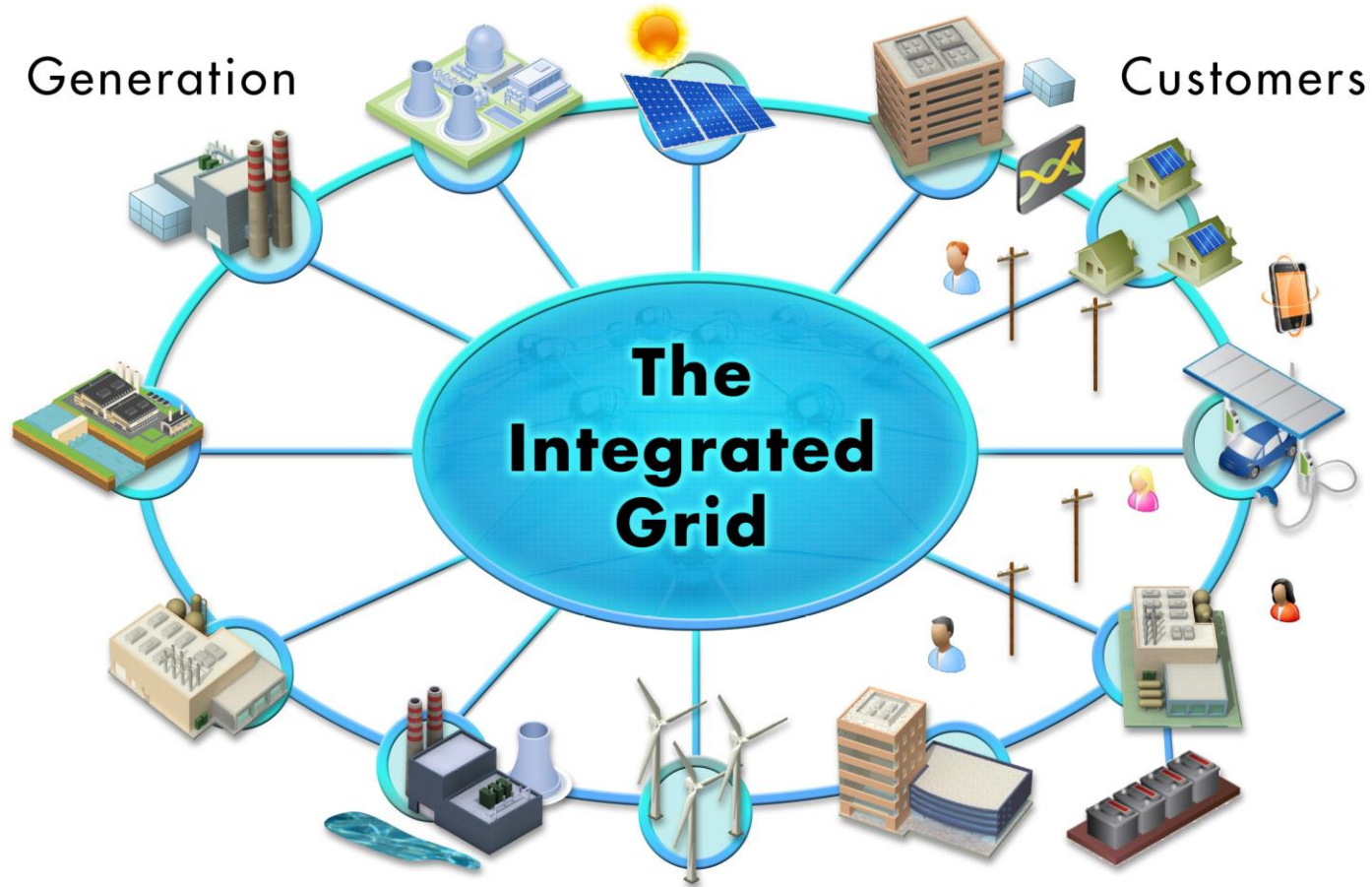


New York's Reforming the Energy Vision (REV) Proceeding

The Impact on EM&V

**Steven Mysholowsky
December 8, 2015
ACEEE**

REV: The Future Electricity Business Structure



Drivers Behind REV

- Infrastructure Problems / Needs
- Intensive Electric Grid System Upgrades 2000-2010
- Hurricane Irene – 2011
- Hurricane Sandy – 2012
 - Ensuing Consequences
- Big Picture Reviewed by State
- Storm Hardening Initiatives Followed
- REV Initiative Instituted

REV Core Objectives

- Enhance Customer Knowledge
 - Active Engaged Customers
 - Passive Disinterested Customer
- Market Animation
- System Efficiency
 - Address Peak Reduction Utilizing a Targeted Approach
- Fuel & Resource Diversity
- System Reliability and Resiliency
- Reduction of Carbon Emissions

REV's Impact on EM&V

Evaluation

- Impact Evaluation – Measure & Technology Driven; Not Program Based
- Process Evaluation - Assess Program Processes to improve the Customer's experiences

Measurement & Verification

- Measure savings impacts at the Customer's Meter
- Gather intelligence on usage patterns (Load Curves) at Businesses and Residences
- Monitor new and emerging technologies to assess Savings Potential & Effectiveness
- Inform Annual Demand & Energy Forecasting
- Update NYS Technical Resource Manual (NYC Operating Conditions)

EM&V: Demand Management Program Measurement and Verification Life Cycle

Desk Review & M&V Plan

- Proper assessment of Project Scope
- M&V Plan provides the customer a more realistic Expectation of Savings
 - Check & Balance on Vendor Promises

Pre-Install Analysis & Interim Report

- Understanding Customer Electricity Usage
- How much Demand / Energy is used & when its used?
- Catalog Type of Customer: *Small Office, Auto Body, Restaurant*
- Provide a **Better Expectation** of Proposed Savings/Incentives–Site Conditions

Post-Install Inspection

- Finalize Differences from Initial Project Scope
- Finalize Demand/Energy Savings Acquired
- Assess Post-Install Usage

EM&V

Brooklyn Queens Demand Management (BQDM) Enhanced Metering Effort (2015-2016)

Why

- Existing Load Curves Used for System Planning are based on theoretical trends.....Opportunity for a Refresh
- More precise Energy/Demand Forecasting is imperative for Annual Network Planning
 - Customer End-Use Equipment is Changing & Evolving
 - Families Live Differently
 - Neighborhoods are Re-Emerging
 - (Re-Zoning ; Re-Gentrification)
 - Intelligence gathered today will inform Network Assessment in the future

EM&V

Brooklyn Queens Demand Management (BQDM) Enhanced Metering Effort – 2015-2016

Objective/Benefit

- Create Load Savings Profiles for EE / DM measures in both the BQDM Territory and Beyond
- Understand and Identify the most effective targets for investment in load reduction
- Assess which Electric devices / equipment are factors in our Multifamily and Small Business segments

Deliverables

- Initial set of updated load curves for Lighting – **ERS Delivered 11.23.15**
- Second set of load curves planned for Multifamily and Small Businesses (**< 110 kW**) - **March 2016**
- Third set of load curves for small business (**110 kW-500 kW**) - **Anticipated Summer 2016**

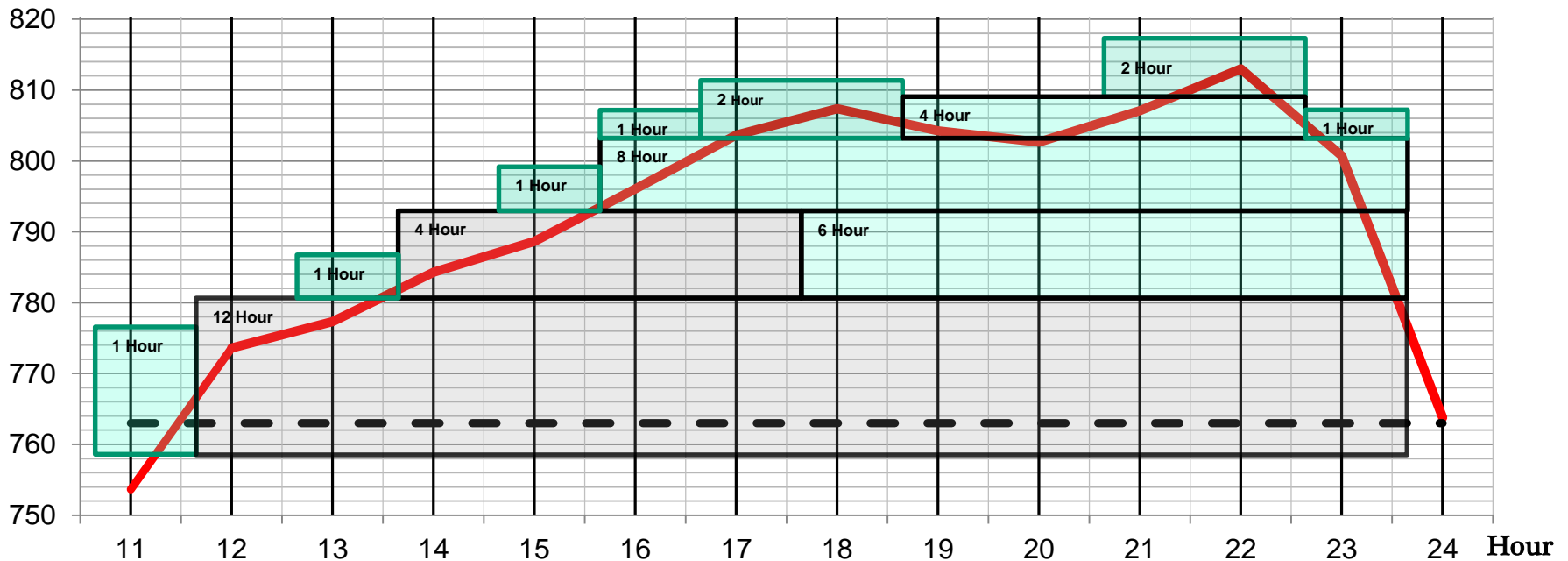
Brooklyn-Queens Demand Management

Description

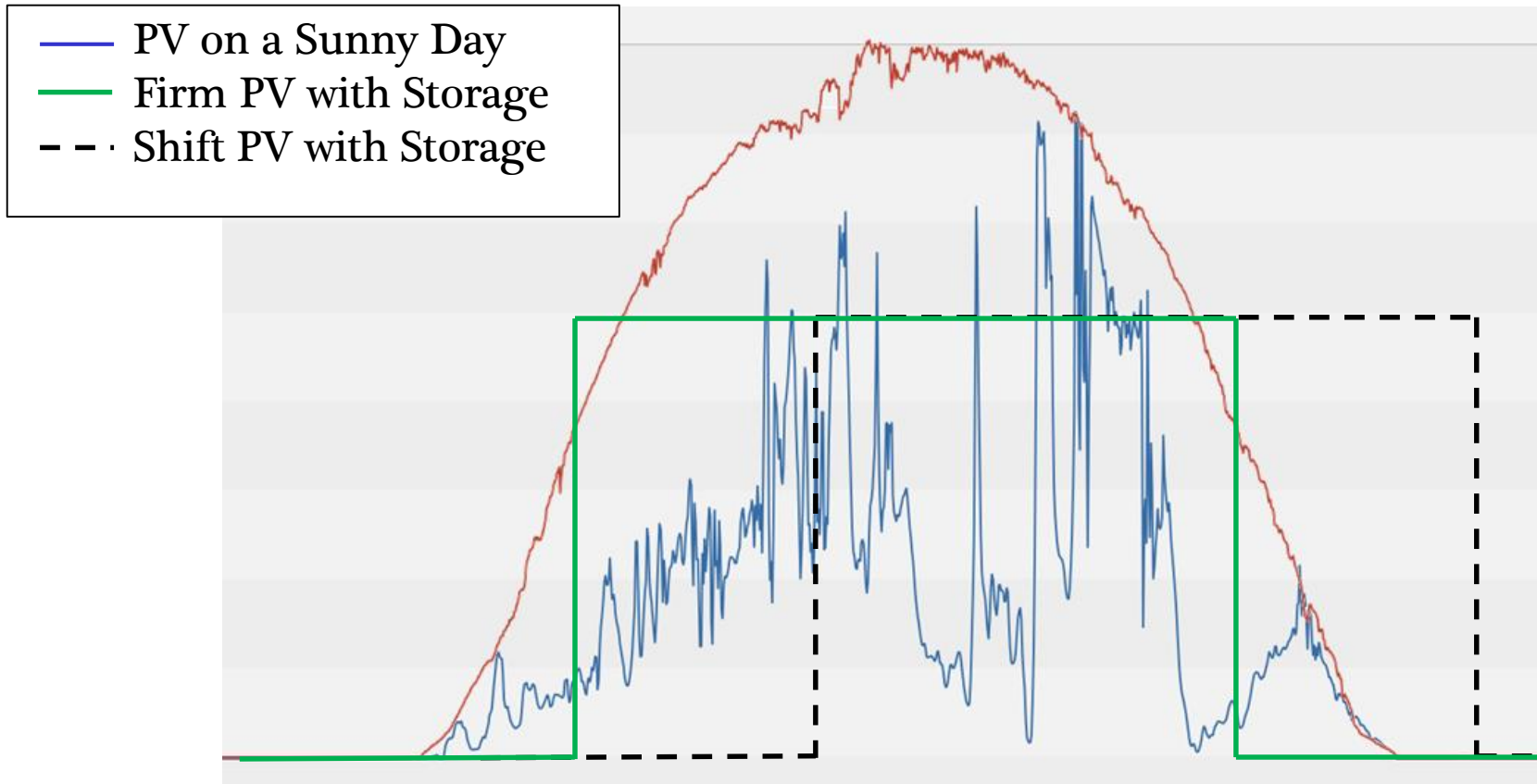


- \$1.2 billion substation deferral using portfolio of alternative investments in Brownsville load area (3 Networks)
- Earn rate-of-return plus incentive based on implementation

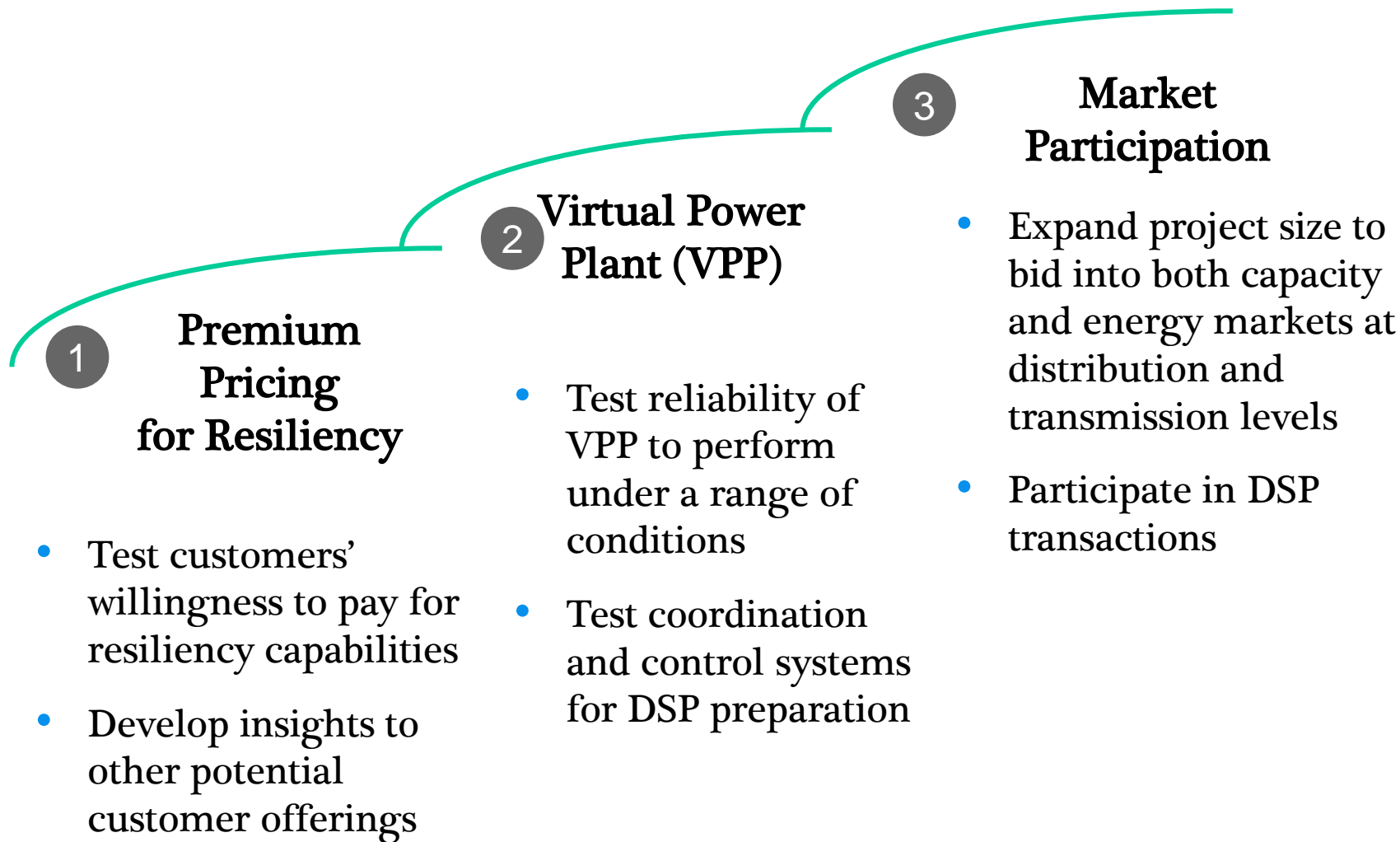
Sample Network Peak Day Load Curve



Demonstration Project: Virtual Power Plant



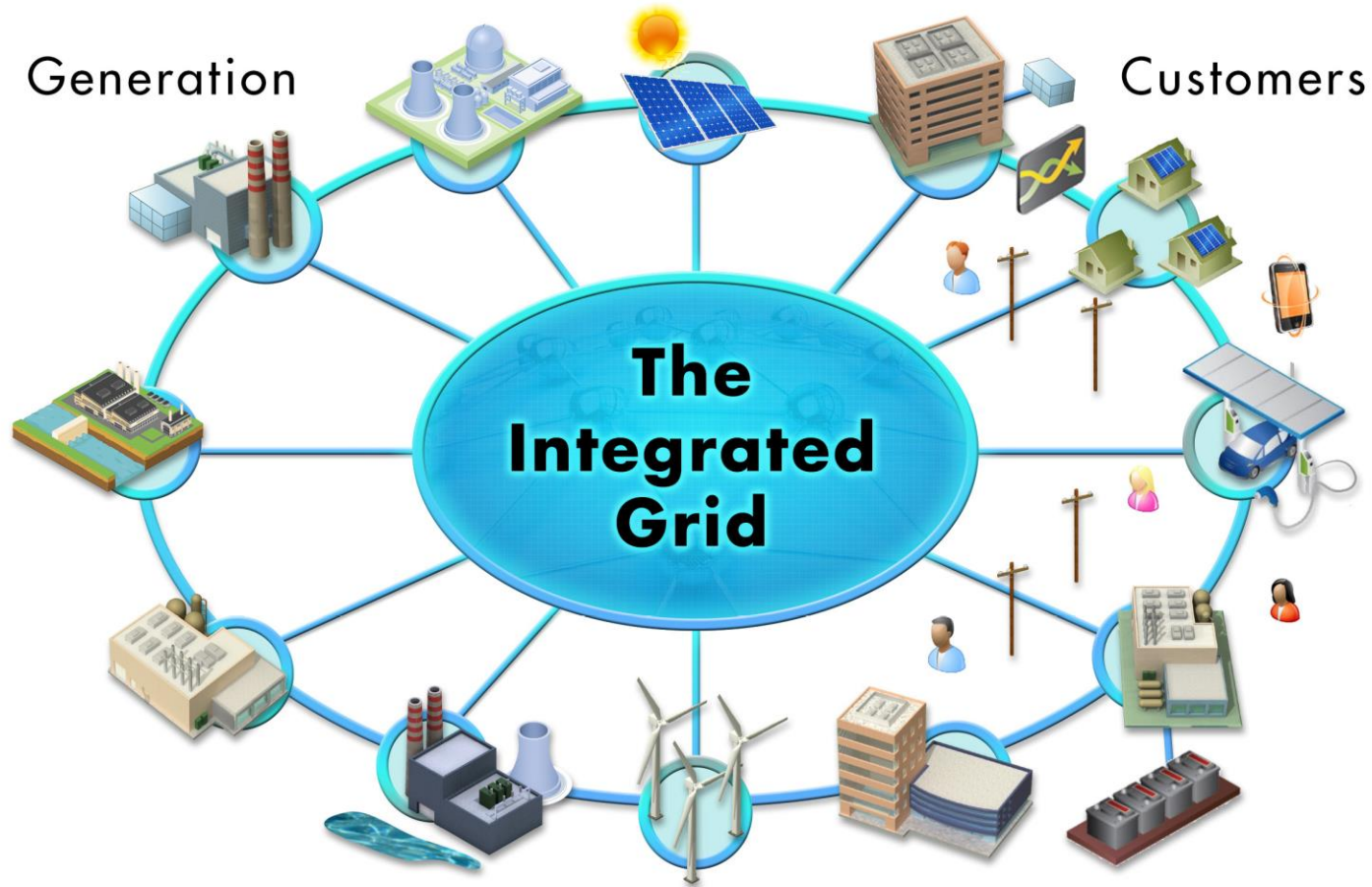
Demonstration Project: Virtual Power Plant



Summary

- Manage the Grid Efficiently / Understand Usage Patterns
- Engage the Customer with Choices
- Work Collaboratively with Manufacturers / Market Partners towards Market Animation
- **But at the end of the day.....**
 - **It's about Managing the Grid for the Customer and the reductions we see at the meter that count !!**

REV: The Future Electricity Business Structure



“The Future Ain’t What It Used To Be”



Questions / Info

Steven Mysholowsky

Section Manager – EM&V

Con Edison

212.460.2120

mysholowskys@coned.com