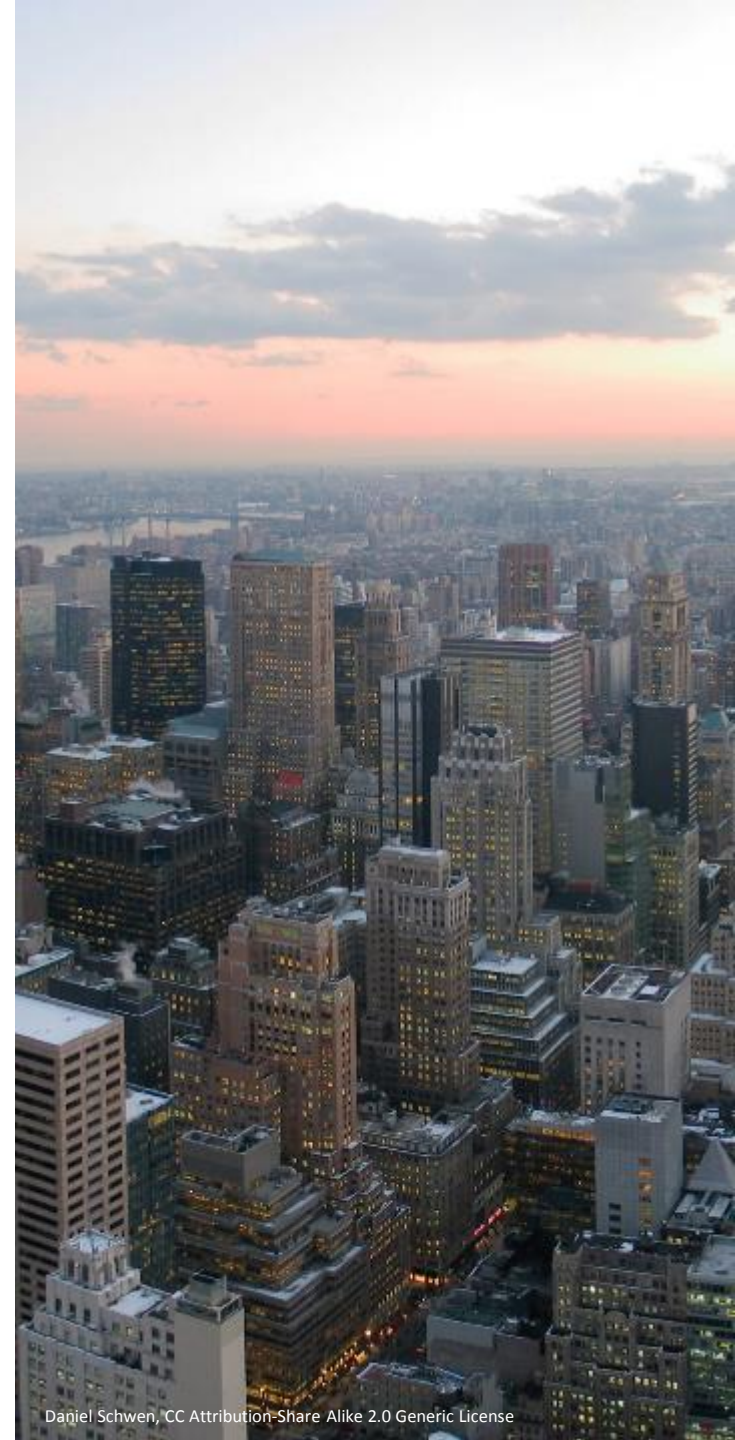




New York State Smart Grid Consortium Overview

NYAEE
January 14, 2016

James T. Gallagher, Executive Director
New York State Smart Grid Consortium



Agenda

Consortium Overview

Consortium Activities

Potential Initiatives

Representative Member Activities

Consortium Overview

Unique Public-Private Partnership

- Promotes broad statewide implementation of a safe, secure, and reliable smart grid
- Members include world's leading utilities, technology providers, policy makers and research institutions
- Established in 2009 as a not-for-profit corporation
- Only organization of its kind in the US

Consortium Members



ADVANCED ENERGY
RESEARCH AND TECHNOLOGY CENTER



Stony Brook University



Generating more than electricity



POLYTECHNIC INSTITUTE OF NEW YORK UNIVERSITY



Consortium Mission

Forum for Advancing Grid Modernization in NY State

- Advocate benefits for producers, suppliers, and consumers
- Support initiatives that demonstrate capabilities of advanced grid technologies
- Provide technical resources for industry and policy makers

Consortium Activities

REV Support - MDPT Working Groups

Encourage Microgrid Development

DSO/DSP Simulation Studio

Grid4EU Advisory Board

Consortium Activities

REV Support: Co-Lead MDPT Working Groups

- Two Working Groups, 20 members in each group:
 - ◆ Market Design
 - ◆ Platform Technology
- Purpose: Provide guidance to PSC on near and mid-term market design and platform technology issues
- Kick-off January 2015 - Final Report August 17, 2015

Consortium Activities

MDPT Working Groups: Members

- AES
- Alstom Grid
- Association for Energy Affordability Inc.
- Brattle
- Brookhaven National Lab
- Buffalo Niagara Medical Campus
- CAISO
- Central Hudson
- City of New York
- Con ED
- Direct Energy
- DOE
- Energy Spectrum
- EPRI
- Georgia Tech
- Google
- Green Charge Networks
- Iberdrola
- IBM
- Innovation and Technology Inc.
- IPPNY
- Landis & Gyr
- LBNL
- National Grid
- Newport Group
- NRDC
- NREL
- NRG
- NY BEST
- NYISO
- NYPA
- NYSEG / RGE
- NYSERDA
- Pace University
- Pacific Northwest National Laboratory
- PSEG LI
- RAP
- Related Co.
- RESA (Con Ed Solutions)
- Siemens
- Silver Spring
- Smarter Grid Solutions
- Solar City
- Spirae
- Stoel Rives LLC
- SunPower



Reforming the
Energy Vision

Consortium Activities

MDPT Final Report: Key Functions and Capabilities of DSP

- Enhance Distribution Planning
- Expand Distribution Grid Operations
- Develop and Implement Market Operations
- Ensure Data Availability
- Necessary Platform Technologies

Consortium Activities

Microgrid Support



- NY Rising
 - ◆ Microgrid 101 Webinar
 - ◆ *Community Microgrid Guidebook*



- NY Prize Planning and Advisory Committee
- NYC and NYS Microgrid Working Group



Community
Microgrid Guidebook

Consortium Activities

Microgrid Analysis and Reports

- Two Microgrid Studies – Published August 2015
 - ◆ New York State Inventory
 - ◆ Global Case Studies
- Analyzed success and failures of projects
- Developed recommendations focusing on business model optimization and project development

Consortium Activities





DSO/DSP Simulation Studio: Overview

- \$3 million award from Advanced Research Projects Agency-Energy (ARPA-E) - 2.5 years
- Develop software tool to simulate DSO and microgrid physical and market operations
- Team: Prosumer Grid, the New York State Smart Grid Consortium, Southern California Edison, NRECA, and Georgia Tech Research Corporation

Consortium Activities

DSO/DSP Simulation Studio: Modules

Market	System	Device Controllers	Power Grid	DER
DSO Performance and Analytics	Security Analysis	Switches	Wires	Flexible Load
DSO Rules and Service Definitions	Time Series Solver	V-Regulators	Transformers	PV
Locational-Temporal Pricing Module	Prosumer Subsystem Model	Protections	PE Power Stage	Storage
Decentralized Energy Scheduling	Forecasting	PE Control Stage		CHP
		Intelligent Controllers		Wind
				EV

USERS			
			
Regulators	Market Participants	Engineers	Developers

Consortium Activities

DSO/DSP Simulation Studio: Role of Consortium

- Establish and facilitate working group of NY stakeholders
- Identify existing distribution grid modeling tools, approaches and capabilities / DSP objectives under REV
- Provide NY input regarding simulator needs, features and capabilities – workshop and working group
- Coordinate simulator beta testing using NY case studies

Consortium Activities

Grid4EU Advisory Board

- 6 large-scale projects
- Annual project presentations
- NY collaboration opportunities



Potential Initiatives

Linking Technology / Ideas to Opportunities

- Conduct needs assessment of NY power industry
- Identify and prioritize technology interests, needs, and ideas for innovative projects
- Categorize and map technology and demonstration project ideas by anticipated DSP functional areas
- Identify gaps and develop action plan
- Establish advanced web portal and physical venue to introduce technological solutions
- Serve as matchmaker between the best projects and available financing

Representative Member Activities

Clarkson University Resilient Underground Microgrid

- NYSERDA, DOE, and NSF funding
- Partners: Clarkson, SUNY Potsdam, Village of Potsdam, Canton-Potsdam Hospital, National Grid and GE
- Hands-on learning experience for students



Representative Member Activities

Smarter Grid Solutions DOE INTEGRATE Project

- Active Network Management (ANM) technology for DER
- ANM used in DOE National Renewable Energy Laboratory (NREL) Integrated National Testbed for Energy Grid Research and Technology Experimentation (INTEGRATE) project
- Project advisory board: Consortium and members (SolarCity, Con Edison, and National Grid)

Getting Involved



New York State Smart Grid Consortium
387 Park Avenue South
3rd Floor
New York, NY 10016

James T. Gallagher, Executive Director
jgallagher@nyssmartgrid.com

www.nyssmartgrid.com

www.newyorkREVworkinggroups.com