

Microgrids: Key Market and Regulatory Issues



Samuel A. Wolfe
Managing Director
Legal & Regulatory Affairs
Viridity Energy, Inc.

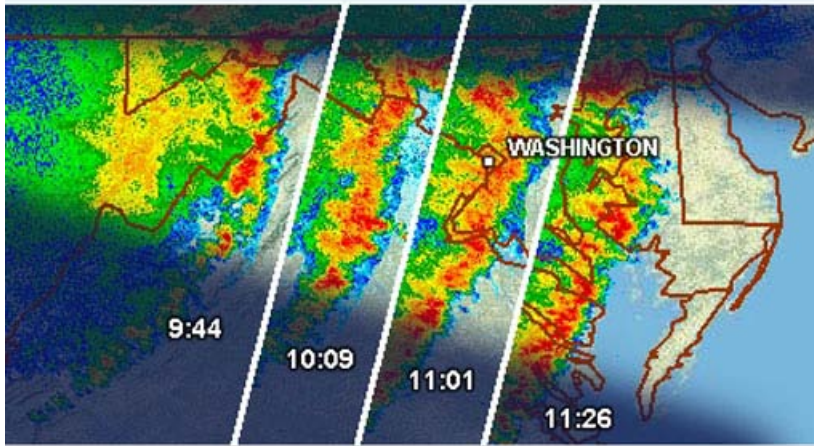
- Why a microgrid?
- Assets
- \$
- Regulatory & market issues

Why a microgrid?



Why a microgrid?

Radar Composite - June 29, 2012 Derecho



- **On-Site Generation**
 - CHP
 - Intermittent renewables
 - Geothermal
- **Smart Buildings**
 - Grid-aware
 - Manage consumption vs. price, comfort
- **Storage**
 - Firm up intermittent renewables
 - Ride through disruptions
 - Sell services to the grid
 - Electric vehicles
- **Operations**
 - Communications/Information
 - Command and Control Infrastructure
 - Power Flow Management

- Make the best use of what you have
- Maximize use of non-customer \$
- Minimize risks of large bets on particular technology
- Phase in - with real progress toward goals
- Scale up with increasing speed and confidence

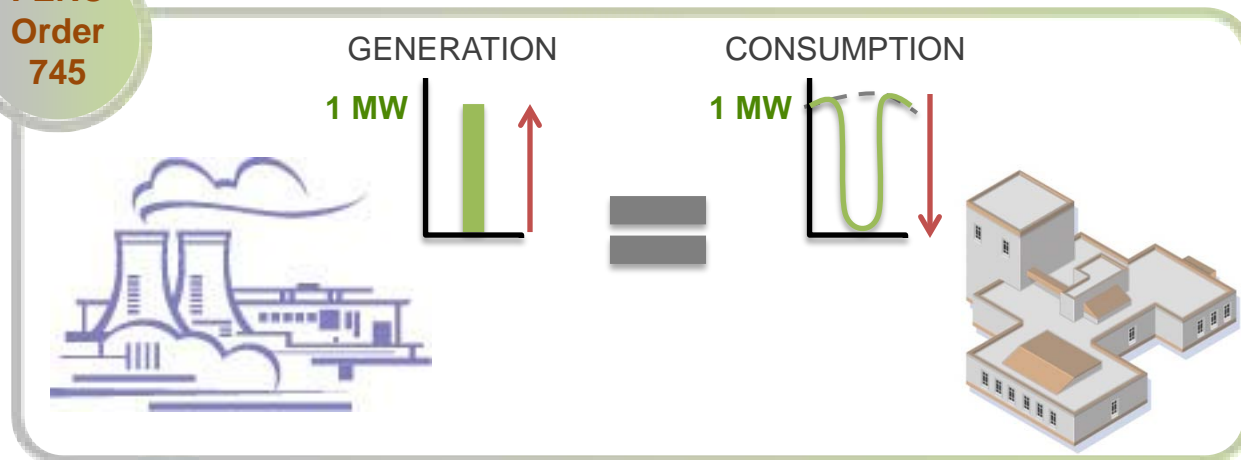
Financial support: Sources



- Customer \$
- Cost reductions/hedges/stabilizers
- Improve retail procurement
- Financial assistance
- Wholesale electricity market revenues

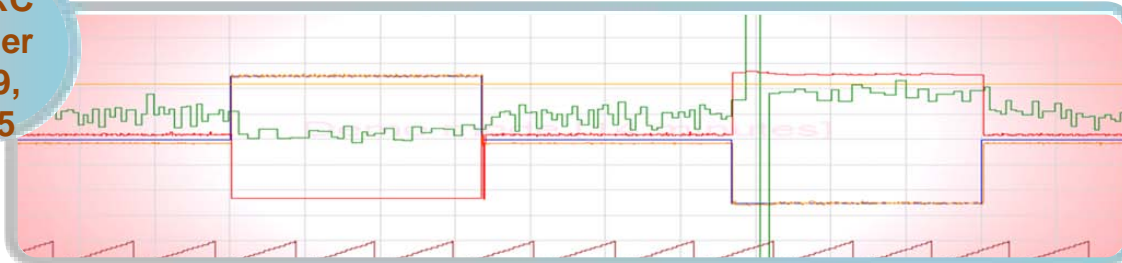
Financial support: Recent regulatory developments help!

FERC
Order
745

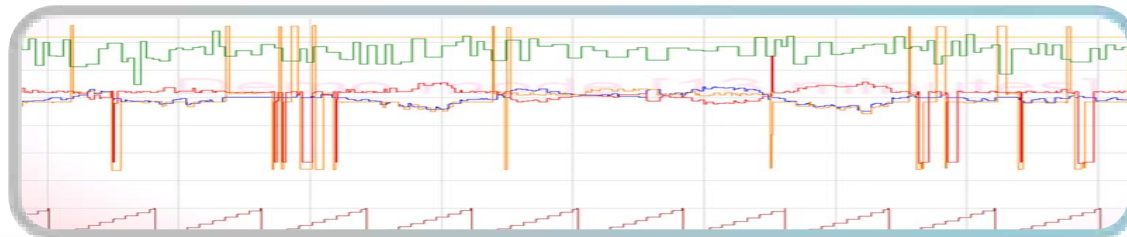


- Increased supply, decreased demand paid on the same terms

FERC
Order
719,
755



- Demand resources can provide reserves, regulation; fast-responding regulation is paid for performance



Wholesale

- Energy Market - Real-Time, Day-Ahead
- Baselines
- Ancillary Services Markets

Retail

- Regulation as “public utility”
- Utility costs w/microgrids
- Net metering

ConEd Smart Grid Demonstration Grant



Currently - 22 Buildings

Viridity Energy Inc.,
Network Operations Center
Philadelphia, PA



VPower™

Midtown and
Downtown Manhattan
20 Buildings




New York ISO
Control Center

NYCEDC 2 Locations

Brooklyn Cruise Terminal
Brooklyn Army Terminal

THANK YOU!

A decorative graphic consisting of two curved lines. One is a light green line that starts from the left and curves upwards towards the right. The other is a darker green line that starts from the left and curves downwards towards the right, crossing the light green line.

Samuel A. Wolfe
Viridity Energy, Inc.
swolfe@viridityenergy.com
609-785-1005