Microgrids: Key Market and Regulatory Issues

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Planning a Microgrid

• Why a microgrid?
• Assets
• $
• Regulatory & market issues
Why a microgrid?
Why a microgrid?
Key Assets

• **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
Financial support: Principles

• 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!

• Increased supply, decreased demand paid on the same terms

• Demand resources can provide reserves, regulation; fast-responding regulation is paid for performance
Regulatory issues: Challenges and obstacles

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

Midtown and Downtown Manhattan
20 Buildings

New York ISO
Control Center

NYCEDC 2 Locations
Brooklyn Cruise Terminal
Brooklyn Army Terminal

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THANK YOU!

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