

#### **Building healthy demand response markets**

Presentation to OFGEM DSWG

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## **EnerNOC** Overview







### **Demand Response Footprint**

### **Demand**SMART

EnerNOC is the largest C&I demand response provider in the world



#### **RESTRUCTURED MARKETS**

ISO-New England (ISO-NE) PJM Interconnection (PJM) New York ISO (NYISO) Ontario Power Authority (OPA) Electric Reliability Council of Texas (ERCOT) California (CAISO) National Grid UK

#### **BILATERAL UTILITY CONTRACTS**

Western North America

**Idaho Power** 

Pacific Gas & Electric

**Public Service Company of New Mexico** 

**Puget Sound Energy** 

Salt River Project

San Diego Gas & Electric

Southern California Edison

Xcel Energy (Colorado)

Eastern North America

Burlington Electric Dept (VT)

**Allegheny Power** 

**Baltimore Gas & Electric** 

Delmarva Power

Рерсо

**Tennessee Valley Authority** 

**Tampa Electric Company** 



# Bridging the gap: building successful DR markets

Successful DR Bridges system operators' needs and end-user realities.



#### **System Operators' Needs**

- Resources that meet expectations amount, location, duration, frequency, ramp
- Resources that relieve emerging constrained pockets quickly – deployment and reaction time
- Resources that are monitored in real time

#### **End-User Realities**

- Energy is only occasionally interesting
- Not staffed to take on peripheral activities
- Uncertain ability to reduce load
- Unfamiliar internal decision making
- Best DR: infrequent, clear economic and societal benefits, handled by others entirely and effortlessly



# Attributes of a healthy demand response market

Transparency	<ul> <li>Customers need to have a clear line of sight into:</li> <li>Drivers for DR event dispatch</li> <li>How the market functions</li> <li>How their actions will impact their performance</li> </ul>
Baseline calculation	<ul> <li>No baseline calculation is perfect, but early DR markets often have baselines tailored to generator participants</li> <li>Baseline should ideally reflect the "typical" load shape of each participating customer</li> </ul>
Payment level	<ul> <li>Payments are not the sole driver for customer participation – but they are important nonetheless</li> <li>Program payments should reflect additional value that demand side resources bring, such as reduced line losses, geographic distribution, and capital efficiency</li> </ul>
Flexibility	<ul> <li>Demand response is not generation; a customer's ability to respond will vary over time</li> <li>Aggregators can help to "firm up" this resource, but flexibility is still required</li> </ul>



## **Consolidated Edison**



Con Ed's DLRP provides localized distribution system relief through the use of 400 MW of aggregated commercial and industrial demand response resources. "DLRP helps maintain reliable service on the Con Edison powerdelivery system through temporary demand reduction."

Consolidated Edison of New York

Program Name Distribution Load Relief Program (DLRP)

Program Period May – October

Program Hours 24 hours/day, 7 days/week

Event Notification 2 hours

Event Duration 4 hours minimum

Demand Response Strategies Curtailment and permitted generation

Response Method Automatic and manual









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