

# Outline



- I. Drivers of Change
- II. Creating a Modern Grid
- III. GMI and GMLC
- IV. Portfolio of work

YK(7)

# Drivers of Change

Why do we need grid modernization?



Increasing Extreme Events



Increasing Security Threats



Growing Number of Prosumers



Changing Supply Mix

U.S. DEPARTMENT OF  
**ENERGY**

11/7/2016 | 2

## Slide 2

---

**YK(7**

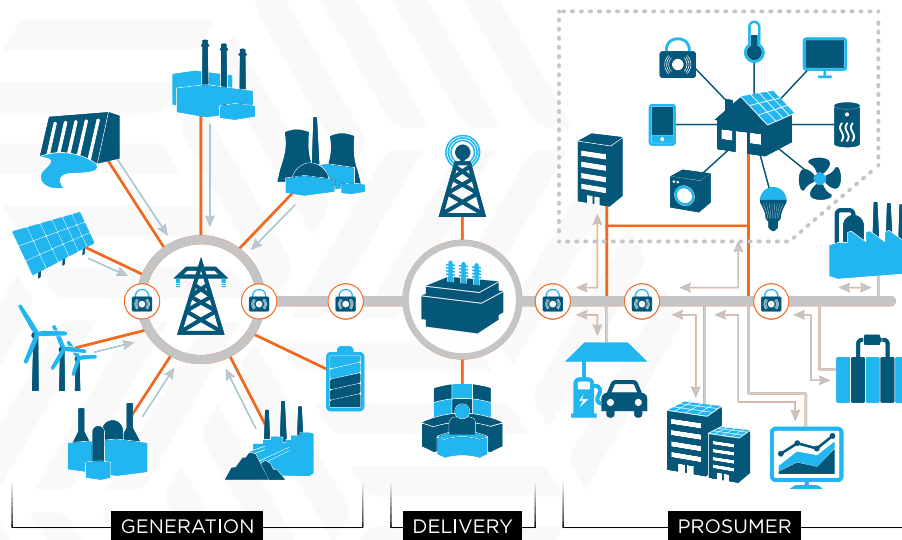
Redo this slide, is there a picture for grid services?

Yee, Kelly (CONTR), 2/19/2020

YK(6)

# Creating a 21<sup>st</sup> Century Grid

*Responding to the drivers of change*



U.S. DEPARTMENT OF  
**ENERGY**

### Slide 3

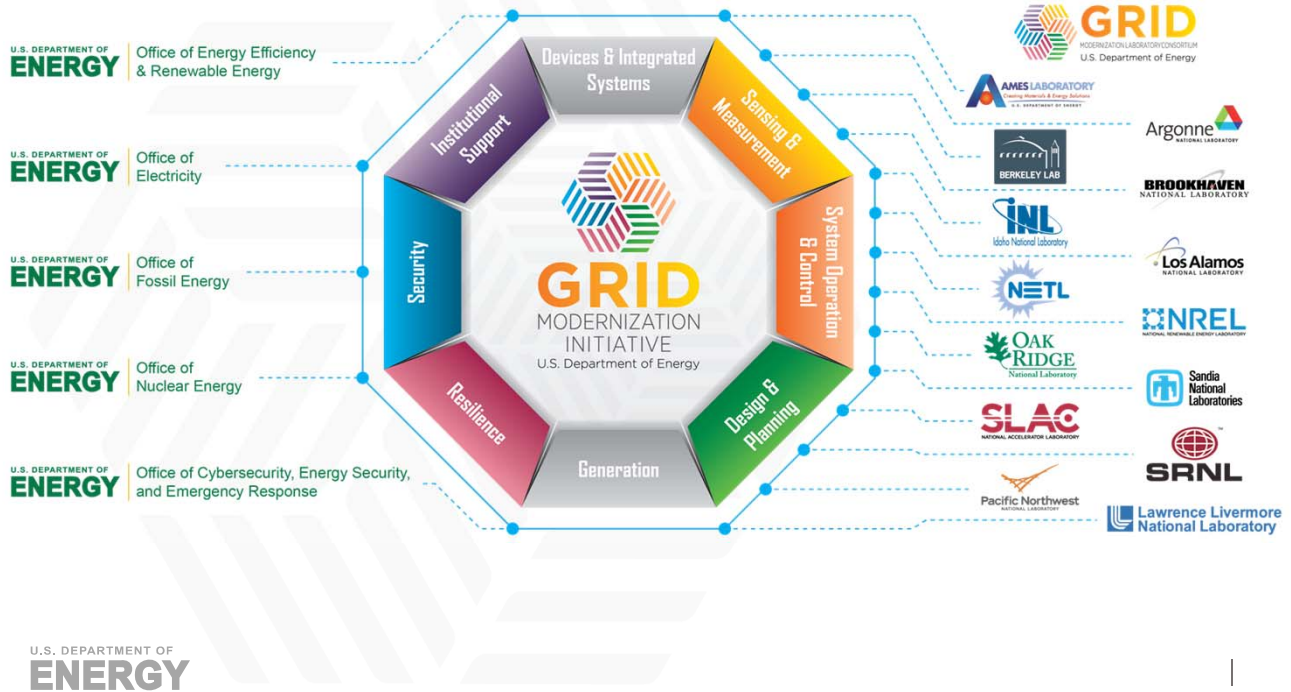
---

**YK(6**

**Include nuclear plant, more energy storage**

Yee, Kelly (CONTR), 2/19/2020

# GMI and GMLC: Efficiency. Synergy. Collaboration. Acceleration.



## Portfolio of GMI Work



### **2016 Grid Modernization Lab Call (\$220M)**

Foundational topics  
including Grid  
Architecture,  
Interoperability,  
Frameworks, and  
Metrics

### **Resilient Distribution Systems Lab Call (\$32M)**

Enhancing the  
resilience of  
distribution systems,  
including microgrids  
and cybersecurity.

### **2019 Grid Modernization Lab Call (\$80M)**

Resilience Modeling,  
Energy Storage and  
System Flexibility,  
Advanced Sensors  
and Data Analytics,  
Institutional Support,  
Cybersecurity, and  
Generation

Other Grid Modernization Work: Program-Specific R&D Projects