

# Bronzeville Community Microgrid

## Our Customers:

- 4 million customers
- Northern third of Illinois
- City of Chicago

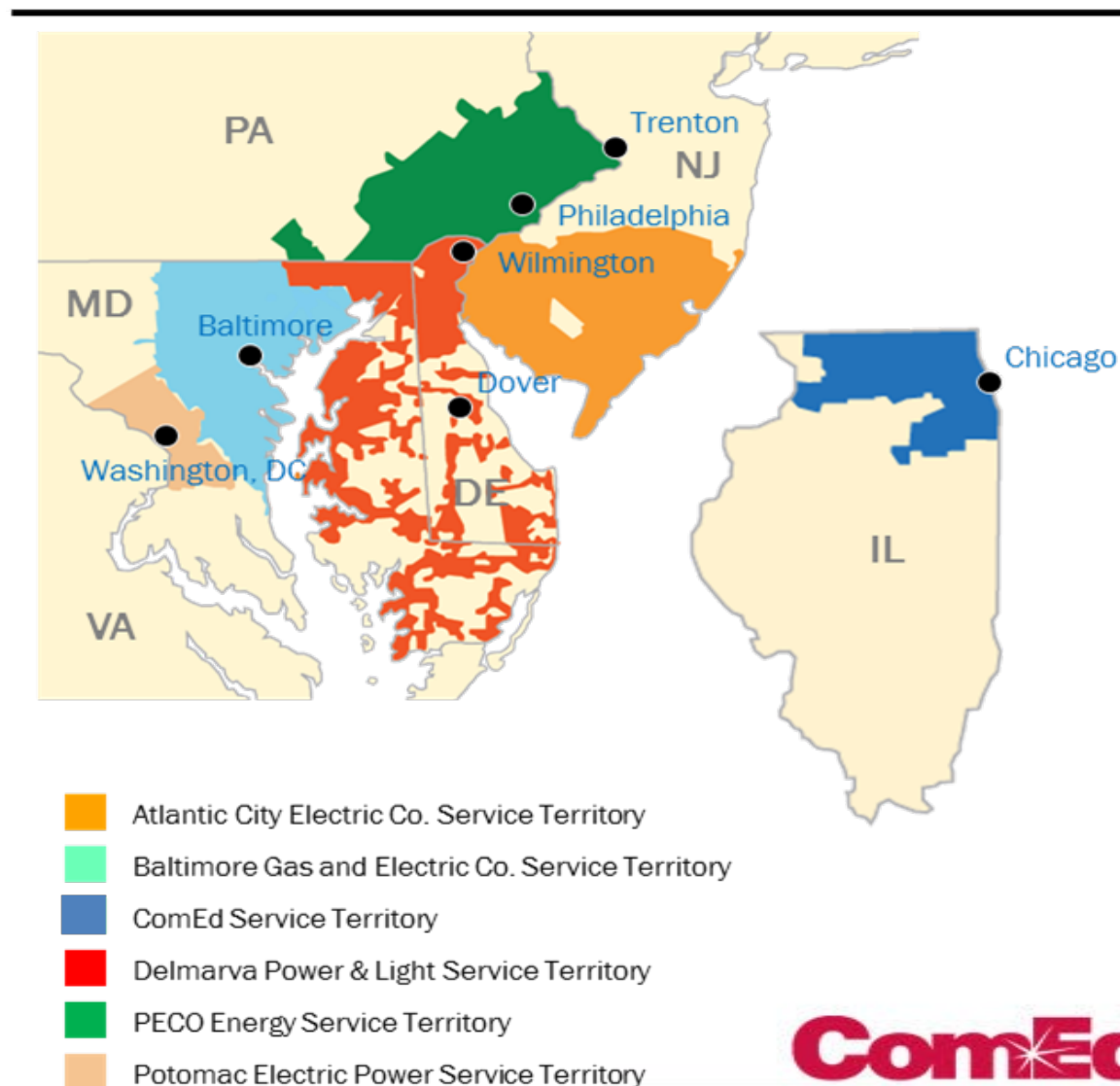
## Our Company:

- One of six Exelon Utilities
- ~6,400 Employees
- Service Territory: 11,428 square miles

## Our Grid:

- Peak Load: 23,753 MW (7/20/2011)
- 553,800 distribution transformers
- 66,200 circuit miles of primary distribution
  - 53% overhead, 47% underground
- 5,800 circuit miles of transmission
  - 93% overhead, 7% underground

## Combined Service Territory





# Bronzeville the Community of the Future



## BRONZEVILLE

*A Community of the Future*

**FUTURE**

POSSIBILITIES

**IMMEDIATE**



SNOW REMOVAL MONITORING



AIR QUALITY MONITORING



DUMPSTER LEVEL DETECTION



WIFI ACCESS



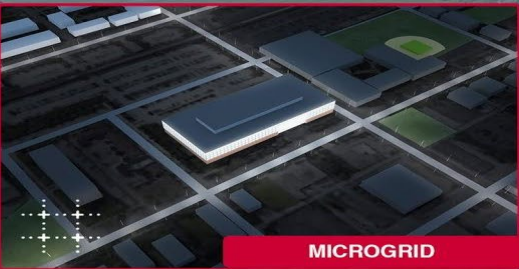
TRAFFIC MONITORING



DISASTER MANAGEMENT /  
EMERGENCY RESPONSE  
TRAFFIC REROUTING



CITIZEN ENGAGEMENT



MICROGRID

Inset:  
Headquarters of the  
Chicago Police Department,  
3510 S. Michigan Ave.



ENERGY EFFICIENCY /  
DEMAND RESPONSE



SOLAR PV



SMART STREET LIGHTS

Aerial overview of Bronzeville community, Chicago, Illinois



# Partnerships and Engagement

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Engage with communities to understand their priorities...



Climate,  
Energy,  
Resilience



Mobility



Economic  
Development,  
Training & Jobs



Public Safety &  
Health



Public Services &  
Administration



Culture &  
Education



Food and  
Agriculture

Leverage partnerships to identify solutions ...



Government



Academic



Business

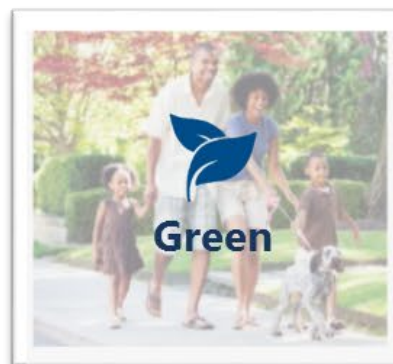


Tech



Civic  
Organizations

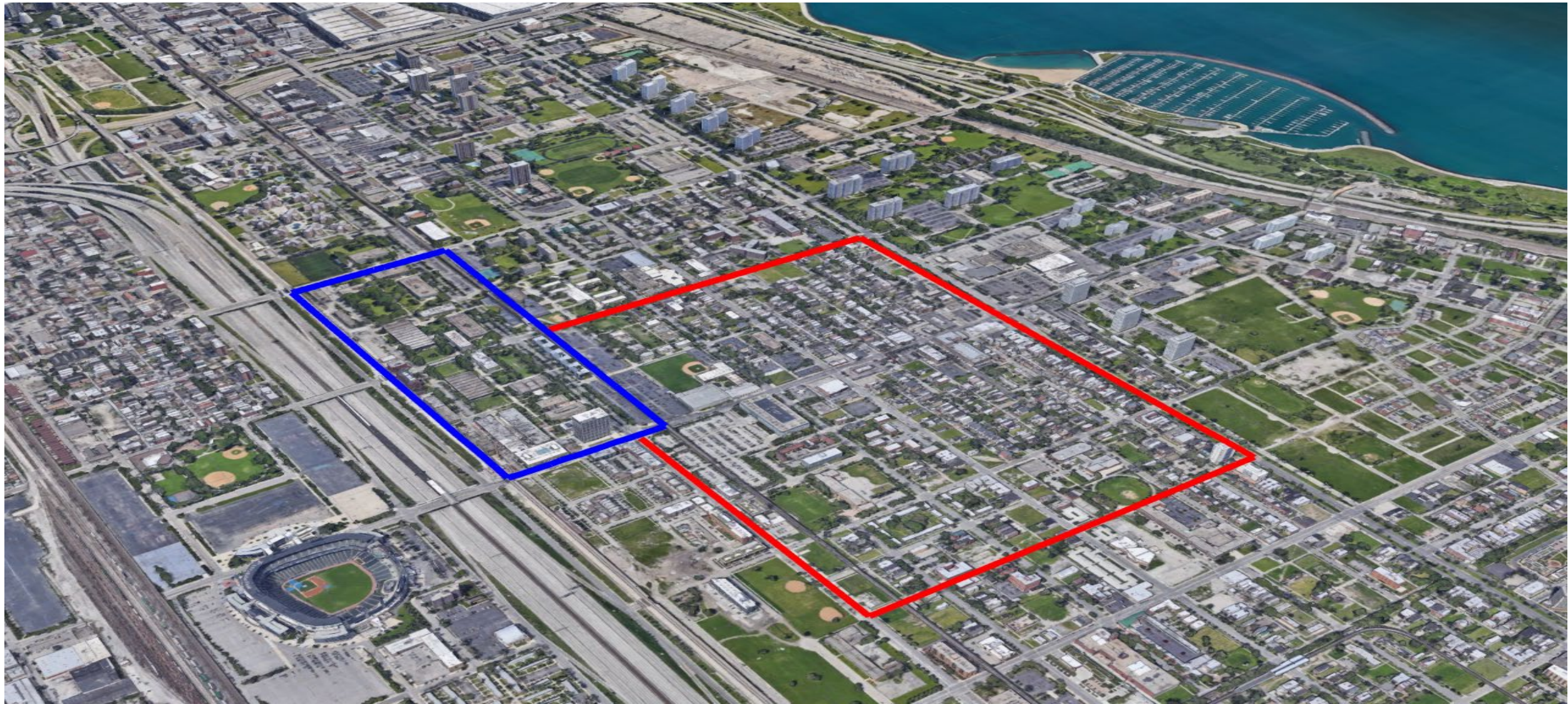
Deliver on the vision of a smart community that's...





# Bronzeville Community Microgrid Footprint

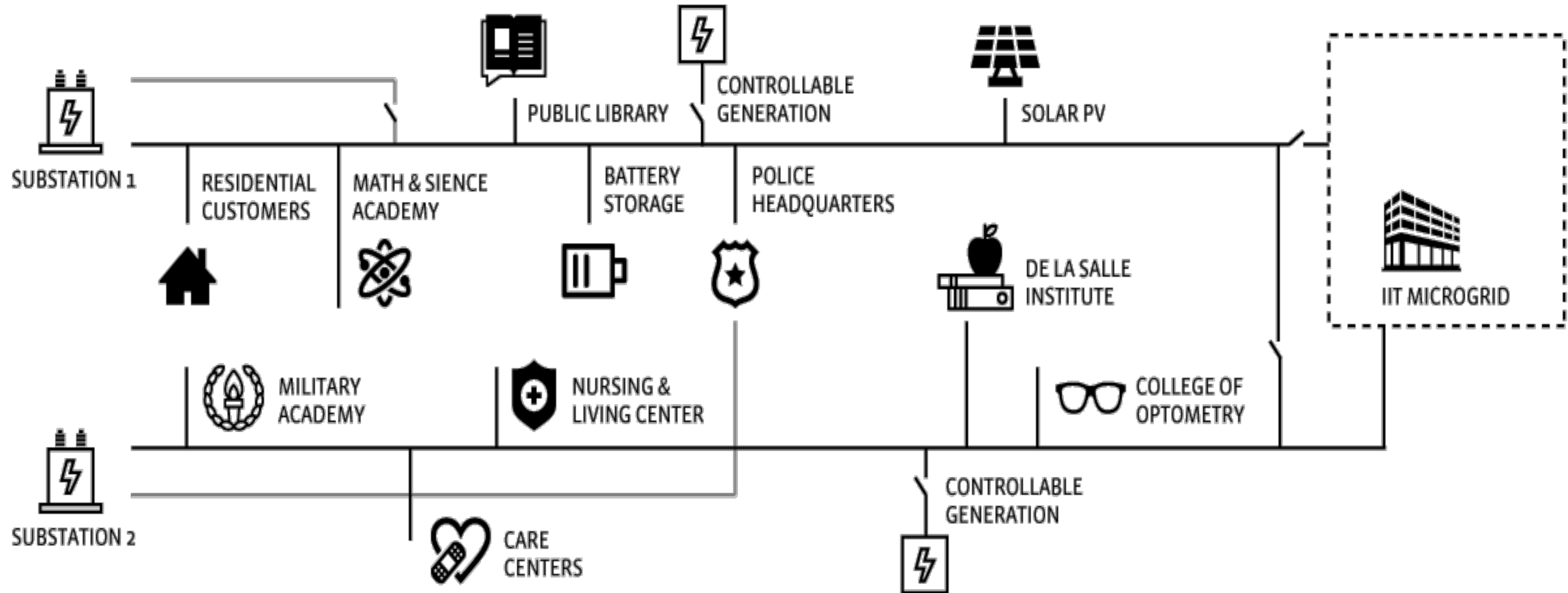
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# Bronzeville Community Microgrid (BCM)

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# Why the BCM Matters

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## Grid Operations

- ✓ New ways of operating the grid
- ✓ Learn about 2-way flows
- ✓ Customer/Utility Collaboration



## Resilience

- ✓ Protect critical infrastructure
- ✓ Value of Resilience
- ✓ Resilience Metrics

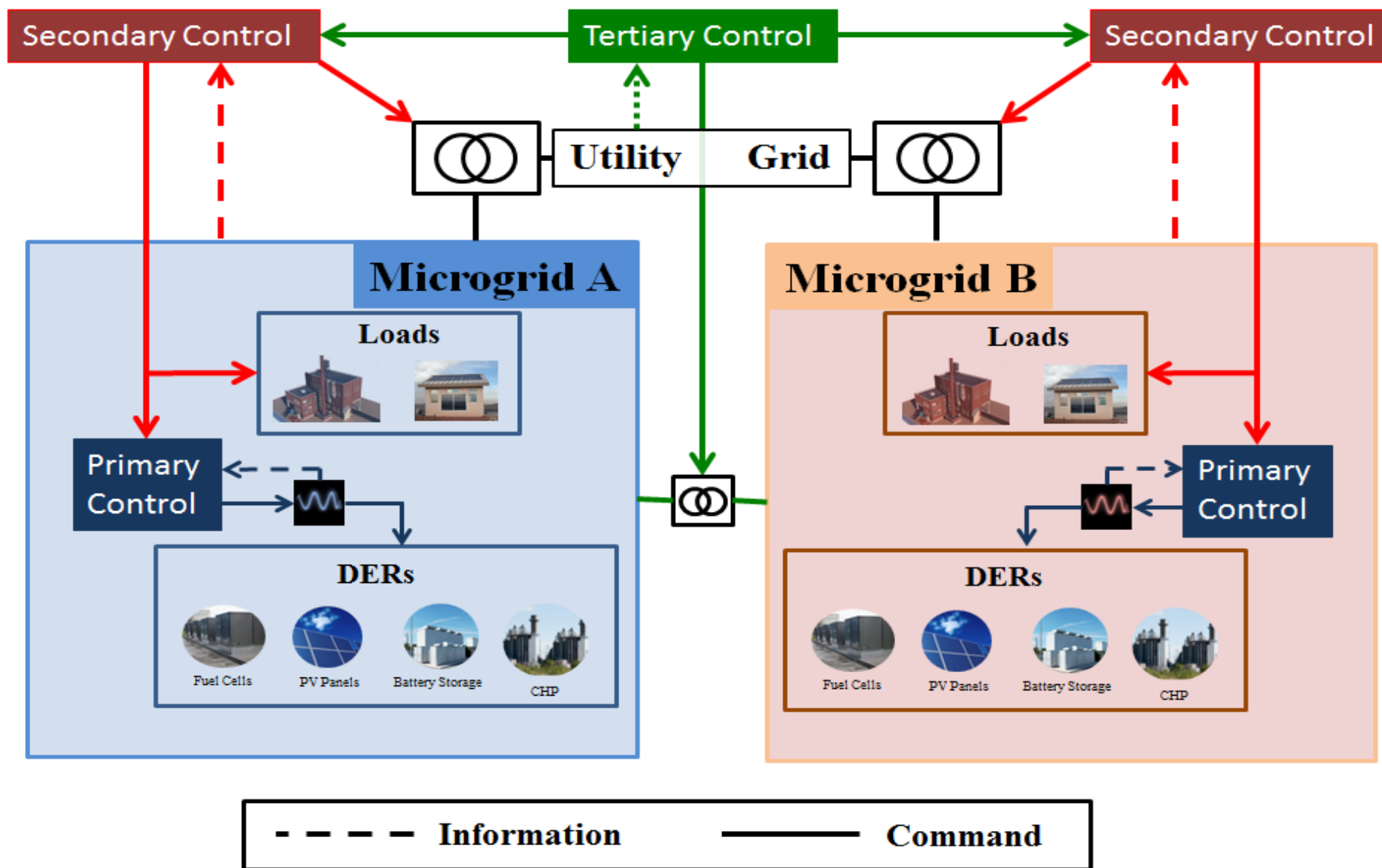


## Innovation

- ✓ First utility-operated microgrid cluster
- ✓ \$5.2 Million in DOE Grants
- ✓ Test bed for new and innovative technologies

# Microgrid Master Controller

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# Microgrid Integrated Solar Storage Technology

Integrated, Scalable, and Cost-Effective technologies for solar PV that incorporate energy storage in a microgrid

- \$4 Million DOE grant (SHINES)
- 750 kW Solar
- 500 kW/ 2 MWh Battery Energy Storage
- Address availability and variability issues inherent in photovoltaic (PV) technology





# Solar Installation



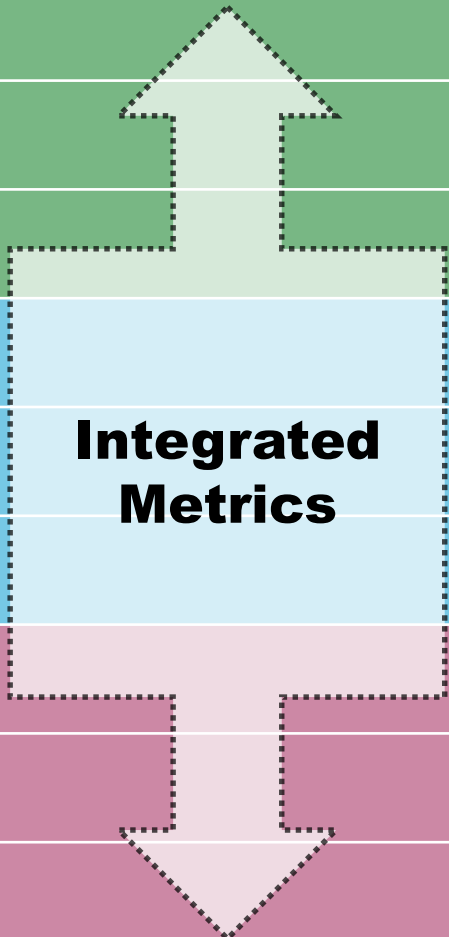


# Solar Installation

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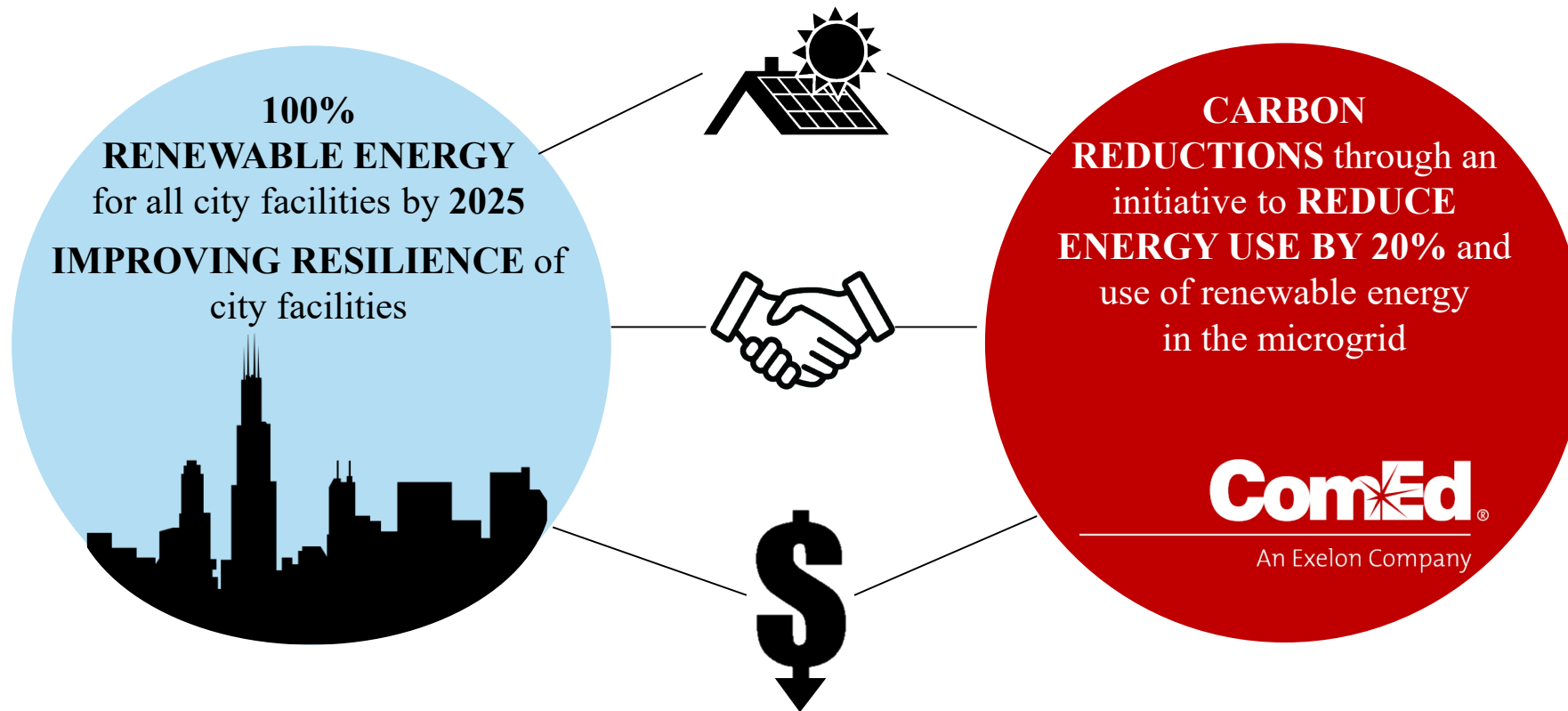


Areas	Indicators	Metrics
Energy System Resilience	Power Delivery Resilience & Performance	 Integrated Metrics
	Energy Efficiency Performance	
	Emissions Performance	
Critical Infrastructure Resilience	Reliable Communication & Mobility	
	Continuity of Critical Services	
	Critical Infrastructure Security	
Community Resilience	Community Economic Resilience	
	Community Health	
	Community Livability and Safety	



# Resilience Collaborations

The City of Chicago and ComEd are collaborating around three themes to meet each organization's goals while adding additional resilience value for communities and the city overall



# Shovels in the Ground

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