



ELECTRIC POWER  
RESEARCH INSTITUTE

# Creating the Roadmap for a Sustainable Energy Future

*Visions, Solutions and Technologies  
for a Zero Carbon Future*

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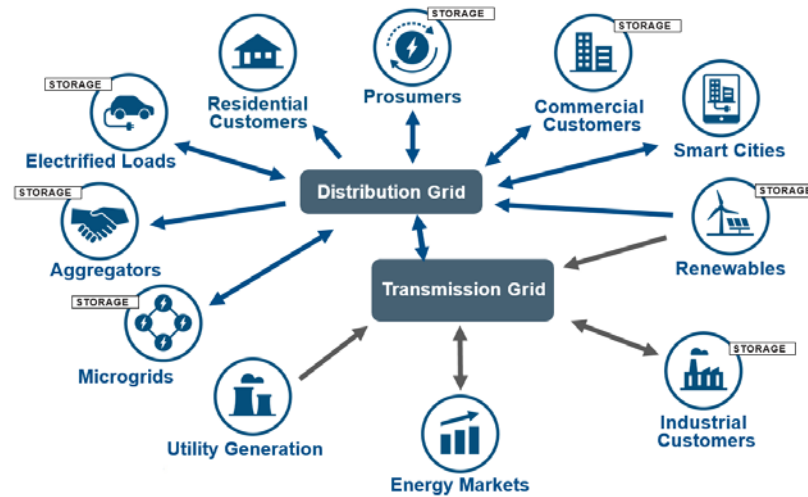


# Worldwide trends for sustainable energy systems

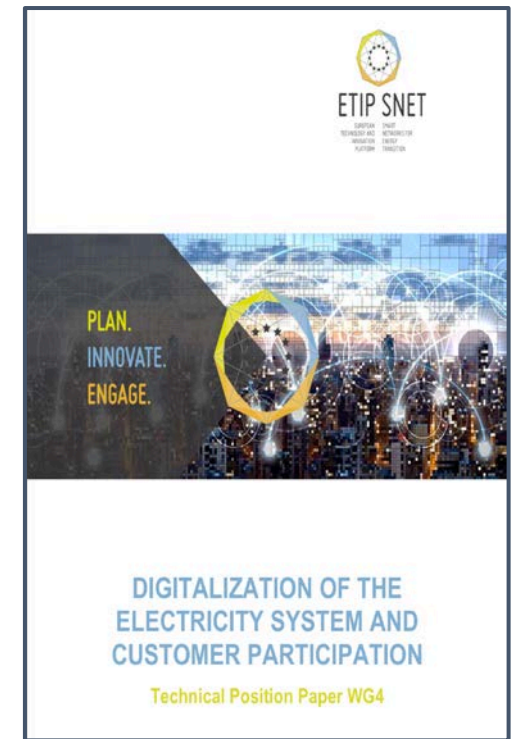
## Decarbonization



## Decentralization



## Digitalization



# These trends come together at the community level

**Alabama Power  
Smart  
Neighborhood  
(Birmingham)**



**ESB Networks –  
The Dingle Transition  
Initiative**



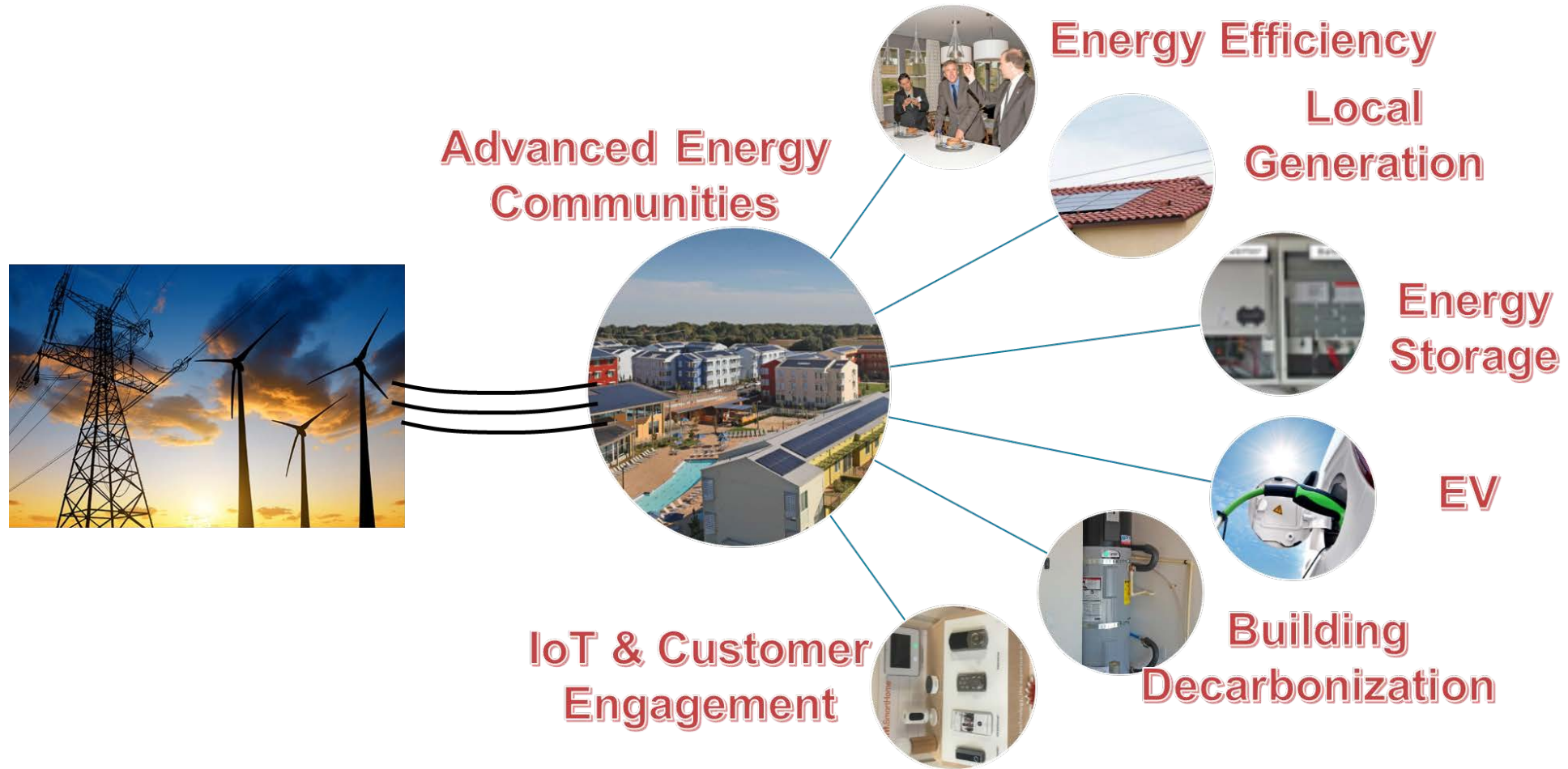
**Australian Smart Tech  
Home of the Future**

**Exelon Com Ed –  
Bronzeville Smart  
Community**





# Advanced Energy Community concept

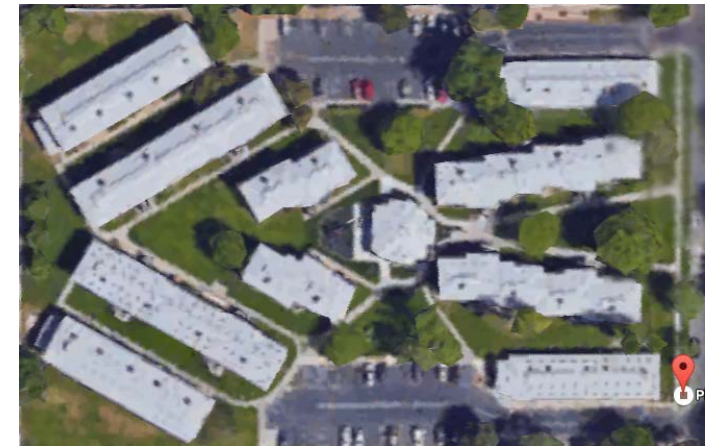


Portfolio of decarbonization solutions at community scale for customer resilience, cost and grid optimization

# Many examples in California



Battery purchased for resiliency, not economics





# Customer and community resources provide FLEXIBILITY (and potentially RESILIENCE)

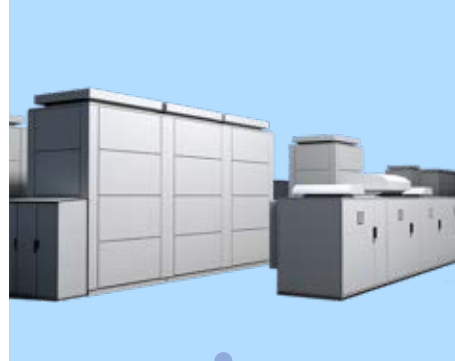
Smart and Fast  
Charging of EV



Enabling Higher  
Penetration of  
EV/Solar/DER



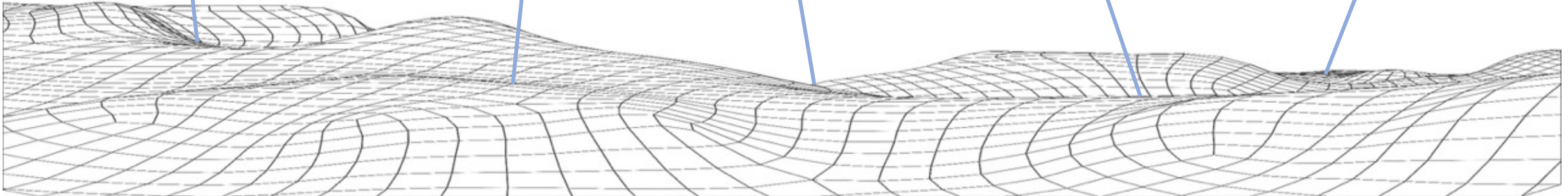
Grid-Integrated  
Energy Storage



Vehicle-to-Grid  
System Resource

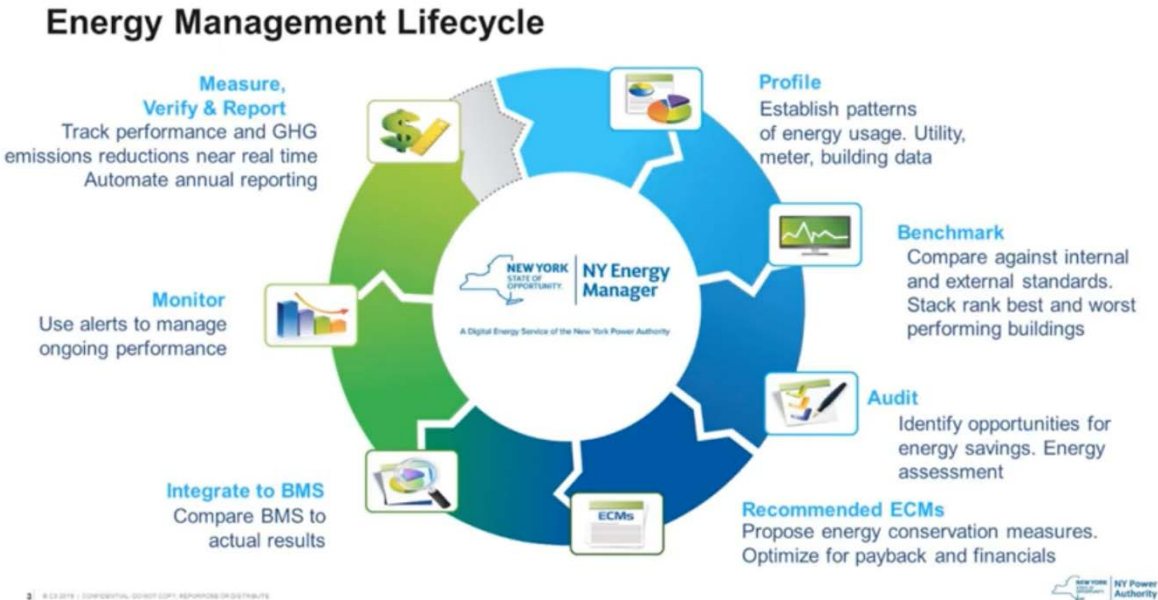


Connected, Smart,  
Demand-Responsive  
Load

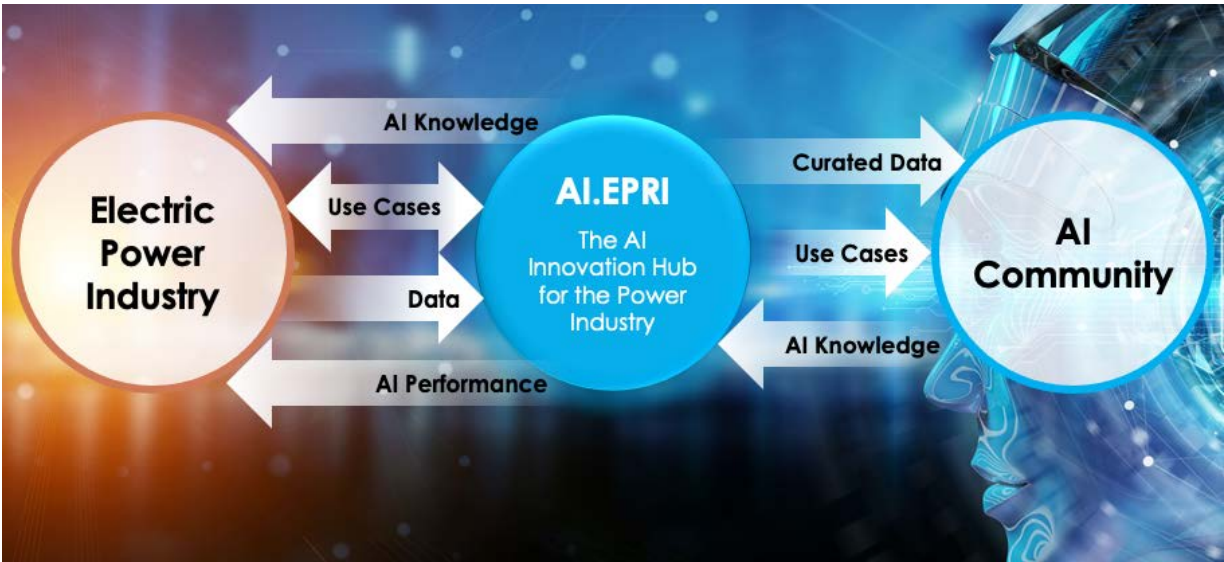


# DATA is key to the value proposition

Example – New York Energy Manager (NYPA)



Collaboration to develop advanced applications



# Creating the roadmap for sustainable energy system

