



# AUSTIN SHINES

**Austin Energy Utility  
Oversight Committee**

Dan Smith  
March 28, 2016





55% renewable energy



900 MW of savings from energy efficiency and demand response



200 MW local solar, 100 MW customer-sited, 10 MW local storage



All City of Austin facilities, operations and fleet carbon neutral

**Subject to Affordability Goals**



# What is SHINES?



Sustainable and Holistic IntegratioN of  
Energy Storage and Solar PV

A DOE funding opportunity



# DOE SunShot & SHINES Vision



SunShot: Enabling solar  
**energy storage solutions**  
to build a more reliable grid



[energy.gov/sunshot](http://energy.gov/sunshot)



The projects will work to dramatically **increase solar-generated electricity** that can be dispatched at any time – day or night – to meet **consumer electricity needs** while ensuring the **reliability** of the nation's electricity grid



# SHINES Award Recipients

**Austin Energy receives largest, of six nationwide SHINES awards, from the U.S. Department of Energy**  
**\$4.3 million**

- Commonwealth Edison Company (Chicago, IL) \$4 million
- Fraunhofer USA Center for Sustainable Energy Systems (Boston, MA) \$3.5 million
- The Electric Power Research Institute (Knoxville, TN) \$3.1 million
- The Hawaiian Electric Company (Honolulu, HI) \$2.4 million
- Carnegie Mellon University (Pittsburgh, PA) \$1 million



# Austin SHINES Partnerships



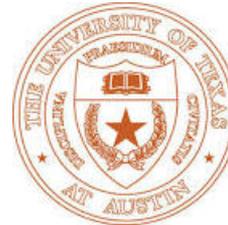
U.S. DEPARTMENT OF  
**ENERGY**



TEXAS COMMISSION  
ON ENVIRONMENTAL QUALITY



PECAN STREET



Clean Power Research®

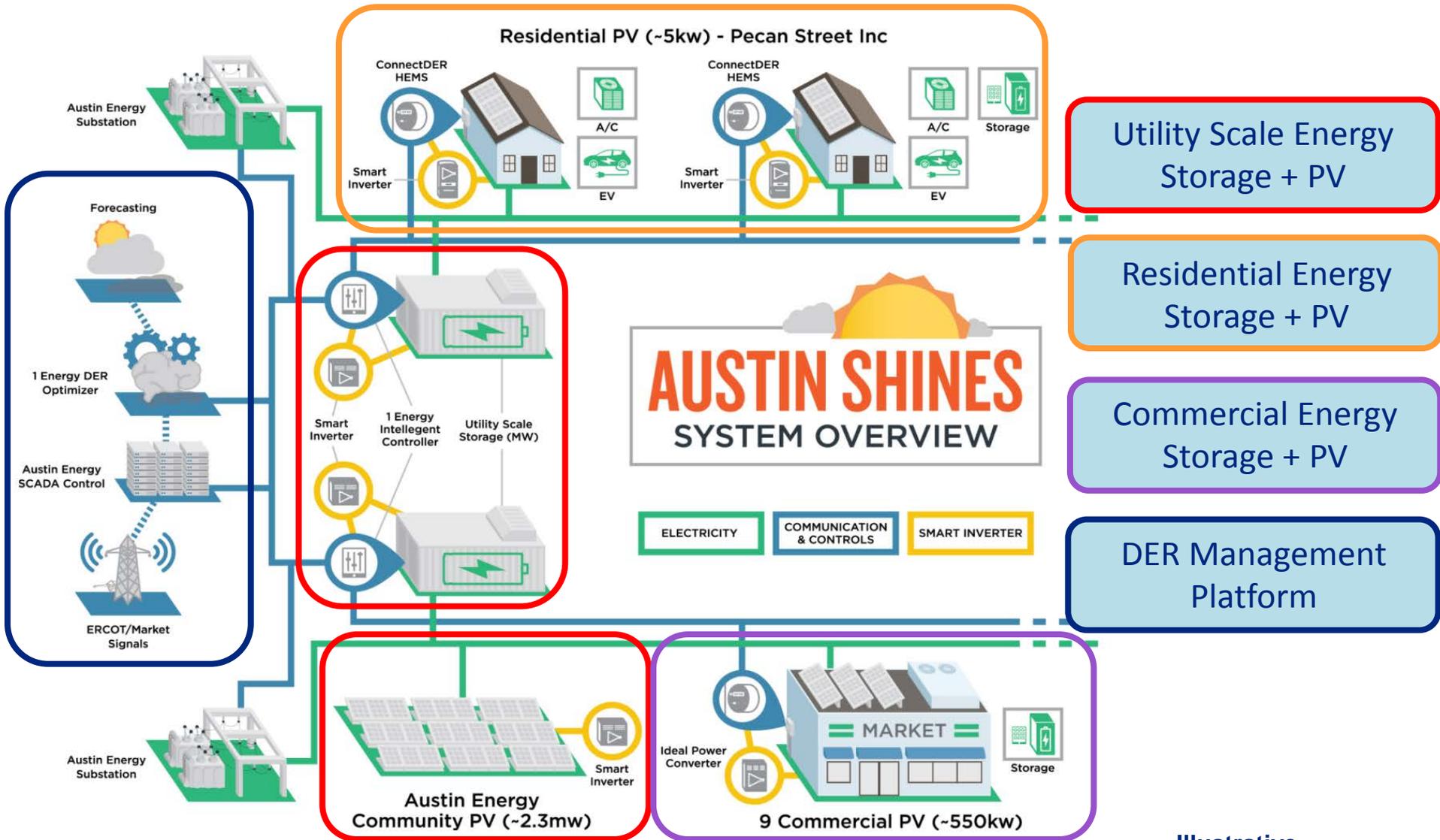


SAMSUNG SDI





# SHINES Overview



Illustrative

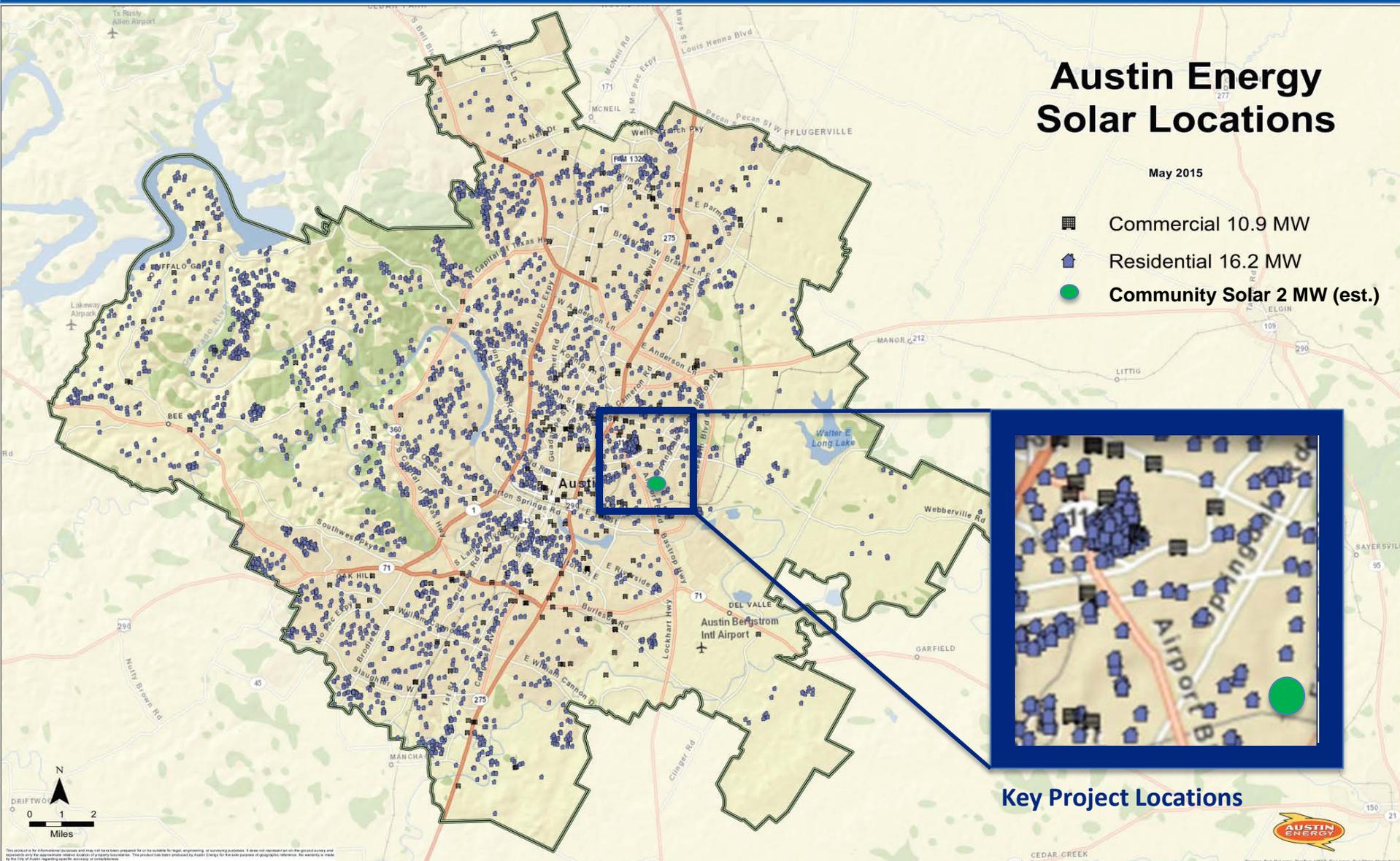


# Customer-Sited & Community Solar

## Austin Energy Solar Locations

May 2015

-  Commercial 10.9 MW
-  Residential 16.2 MW
-  Community Solar 2 MW (est.)



Key Project Locations





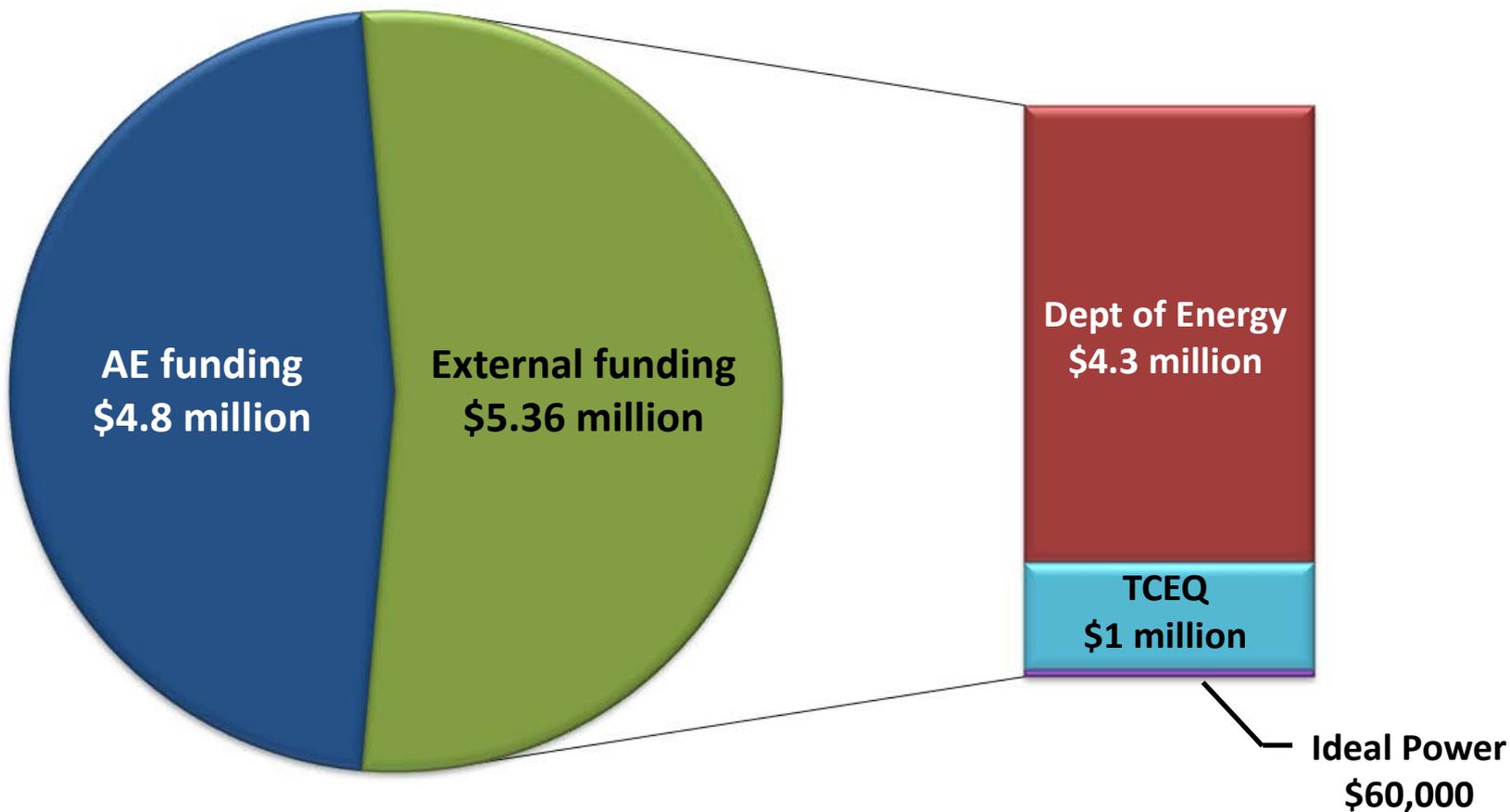
# Key Benefits

- Advance utility's **local storage and solar goals**
- **Strategic approach** leverages existing and planned work to obtain external funding
  - Ultimately reducing the overall cost for the customer
- Discover best way to **maximize Distributed Energy Resource (DER) value** for AE and the customer
- **Modular approach** allows utilities across the country to adopt the scale and use-cases right for them
- Project designed to **engage customers** to develop new programs and consumer options



# SHINES Funding

**AE is leveraging over \$5.3 million in external funding to accomplish an innovative and complex project**





# Projected SHINES Budget by Fiscal Year



Funding Source	TOTAL	FY16	FY17	FY18	FY19
Federal Funding (DOE)	\$ 4,300,000	\$ 780,000	\$ 1,810,000	\$ 1,540,000	\$ 170,000
State Funding (TCEQ)	\$ 1,000,000	\$ 350,000	\$ 550,000	\$ 100,000	\$ -
Corporate Funding (Ideal Power)	\$ 60,000	\$ 20,000	\$ 30,000	\$ 10,000	\$ -
<b>EXTERNAL FUNDING SUBTOTAL</b>	<b>\$ 5,360,000</b>	<b>\$ 1,150,000</b>	<b>\$ 2,390,000</b>	<b>\$ 1,650,000</b>	<b>\$ 170,000</b>
Austin Energy Funding	\$ 4,800,000	\$ 1,360,000	\$ 1,930,000	\$ 1,510,000	\$ -
<b>PROJECT BUDGET TOTAL</b>	<b>\$ 10,160,000</b>	<b>\$ 2,510,000</b>	<b>\$ 4,320,000</b>	<b>\$ 3,160,000</b>	<b>\$ 170,000</b>

- AE spending will occur by contractual milestones throughout the project term
- AE will receive reimbursement from DOE or TCEQ after proof of spending in accordance with the approved budget
- For grant purposes, AE must maintain a cost match percentage of 50.3%



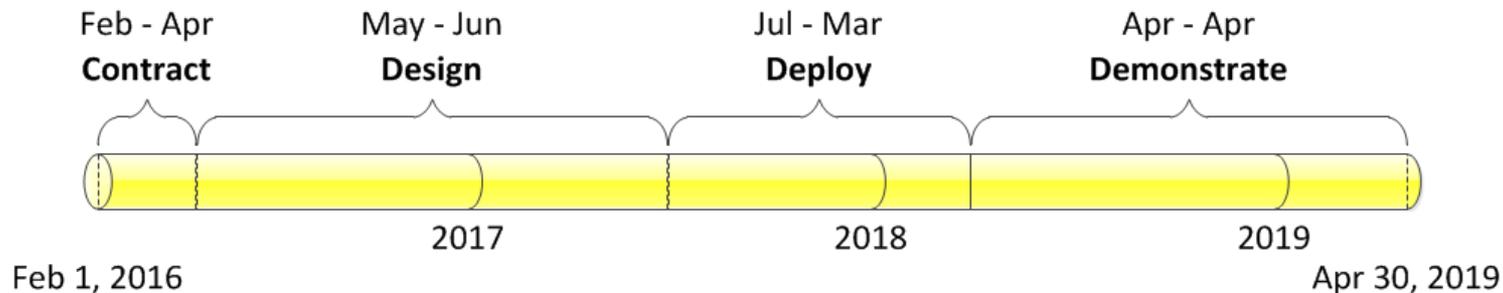
# SHINES Procurement

Project Partner	SHINES Responsibility	Expected Contract Authorization	Anticipated Council Date
Pecan Street Inc.	<ul style="list-style-type: none"><li>Design, deploy, and demonstrate the residential aspects of SHINES</li></ul>	\$900,000	May
1Energy Systems	<ul style="list-style-type: none"><li>Develop DER management platform</li><li>Perform economic analysis and reporting</li><li>Design and deploy an ~1.5 MW energy storage system</li></ul>	\$4,540,000	May
Ideal Power Inc.	<ul style="list-style-type: none"><li>Provide smart inverters for the commercial aspect of SHINES</li></ul>	\$60,000	May
Clean Power Research	<ul style="list-style-type: none"><li>Provide solar forecast services</li></ul>	\$100,000	May
TBD based on RFP results	<ul style="list-style-type: none"><li>Provide system integration services</li><li>Provide aggregation services for the commercial aspect of SHINES</li></ul>	TBD based on proposals	August 4



# Next Steps

## 39-month project with distinct phases



### Procurement Work Underway

- Critical Business Need (CBN) memo (4 grant partners)
- Scope of work requirements
- Request for Council Authorization (RCA)
- Request for Proposal (RFP) development – Commercial aggregate use-case

### Next Steps

- Present to Electric Utility Commission (EUC)
- Seek City Council authorization



# Questions?

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