Austin SHINES

Update to RMMA Plan Implementation Advisory Commission

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Austin Energy's Vision

To drive customer value in energy services with innovative technology and environmental leadership

Austin Energy 2027 Goals

Offset 65% of customer load with renewable resources

1000 MW of savings from energy efficiency and demand response

750 MW utility-scale solar + 200 MW local solar, including 100 MW customer-sited PV

10 MW battery storage and 20 MW thermal energy storage by 2025

Net zero community-wide GHG emissions by 2050

All subject to meeting **Affordability Goals**:
<2% rate increase per year; Austin Energy rates in lower 50th percentile of statewide utilities

What is SHINES?

Sustainable and **H**olistic **IN**tegration of **E**nergy Storage and **S**olar PV

AUSTIN SHINES

A DOE funding opportunity

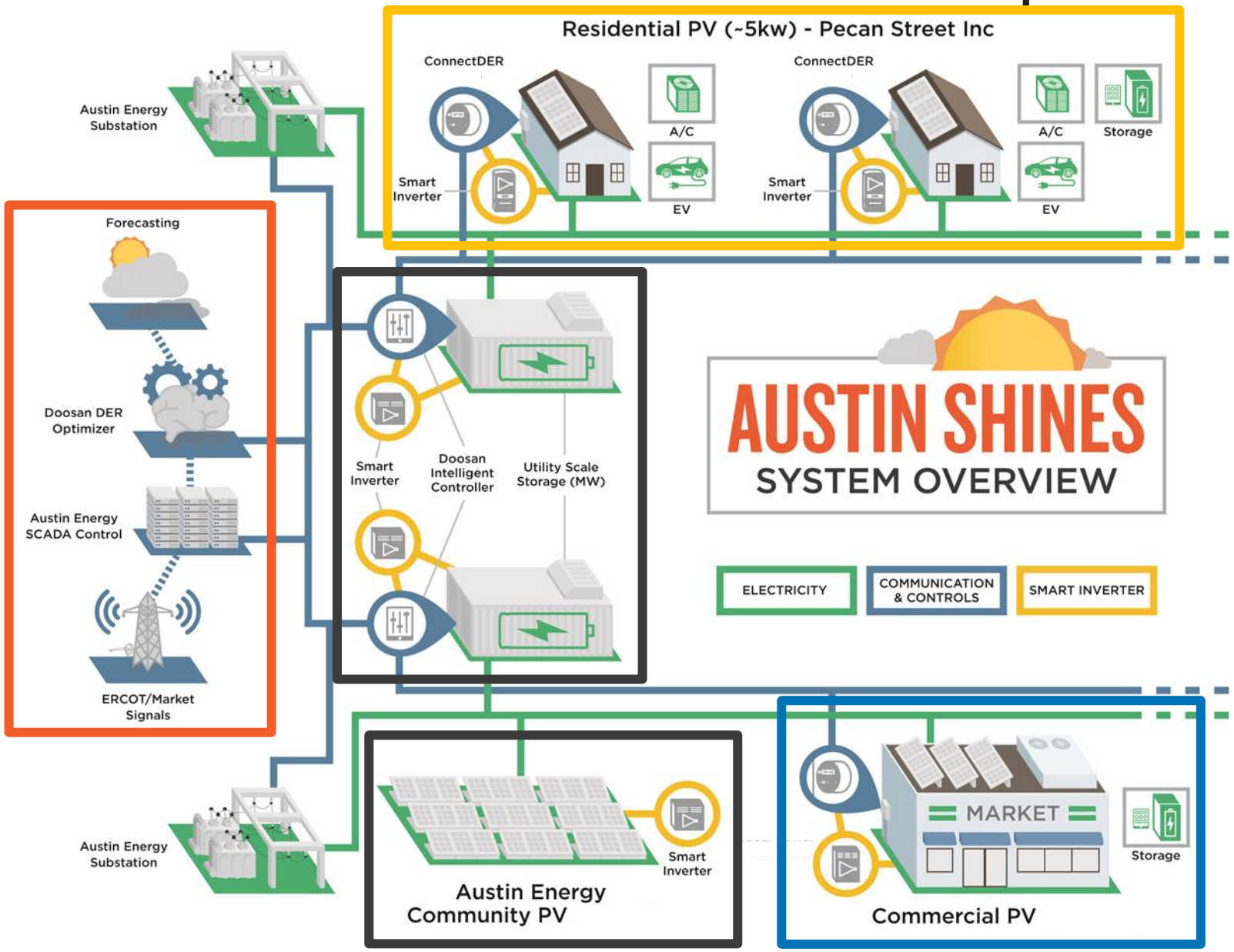
SOLAR ENERGY TECHNOLOGIES OFFICE
U.S. Department Of Energy

U.S. DEPARTMENT OF ENERGY

Recipient of $4.3 million in federal funding

AUSTIN ENERGY

Austin SHINES Concept



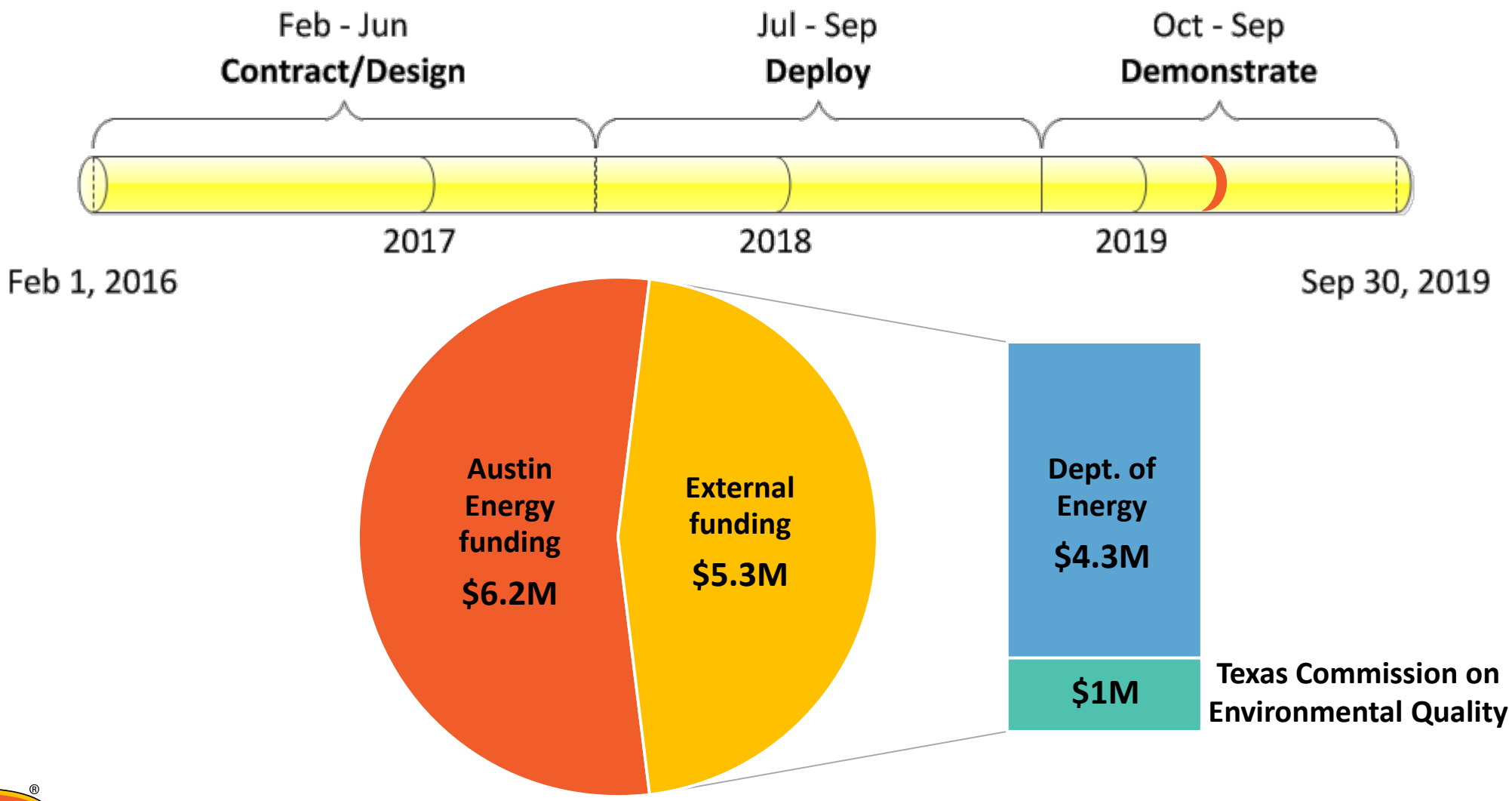
Utility Scale Energy Storage + PV

Commercial Energy Storage + PV

Residential Energy Storage + PV

DER Management Platform

Project Timeline & Funding

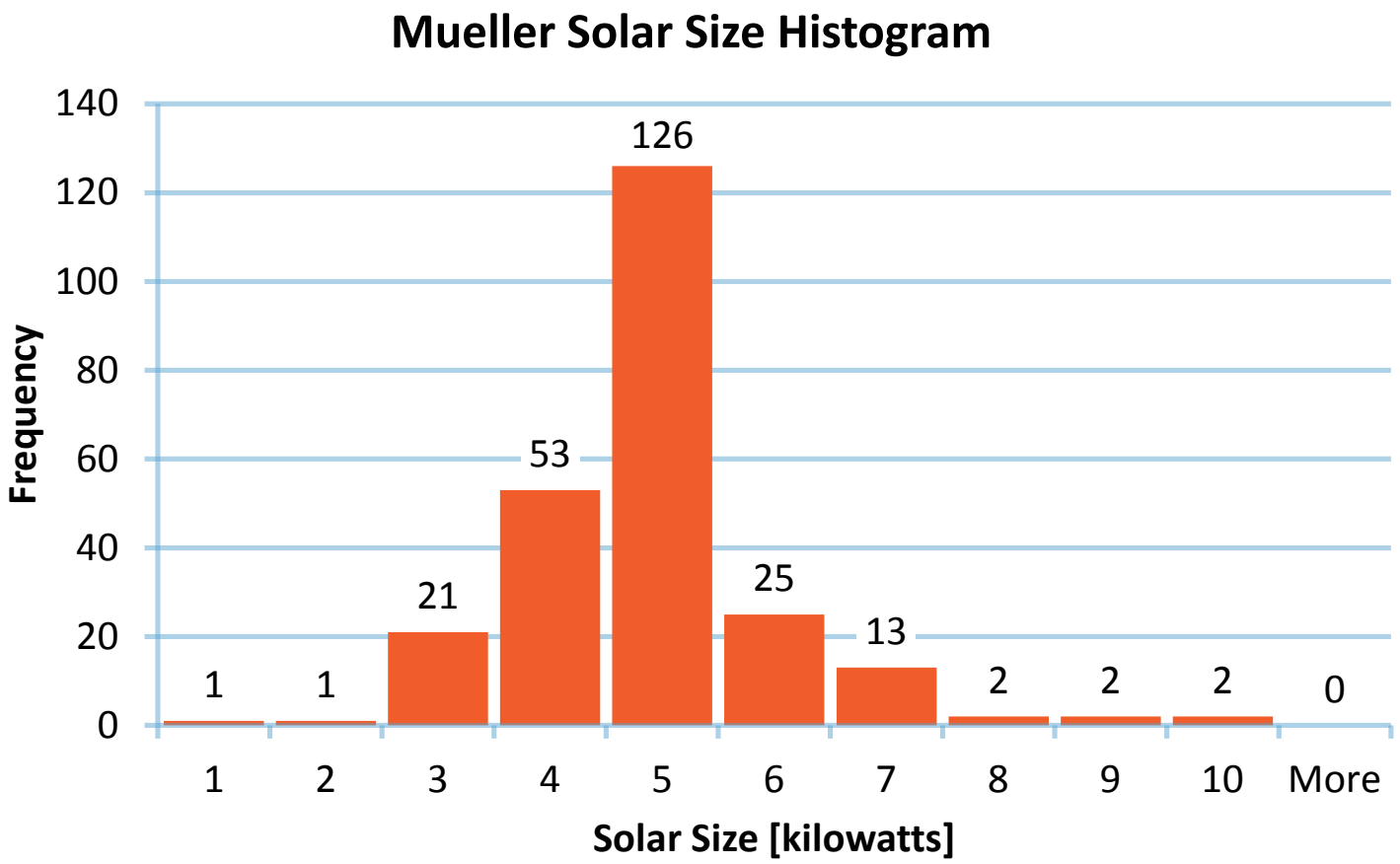


DOE Video

www.austinenergy.com/go/shines

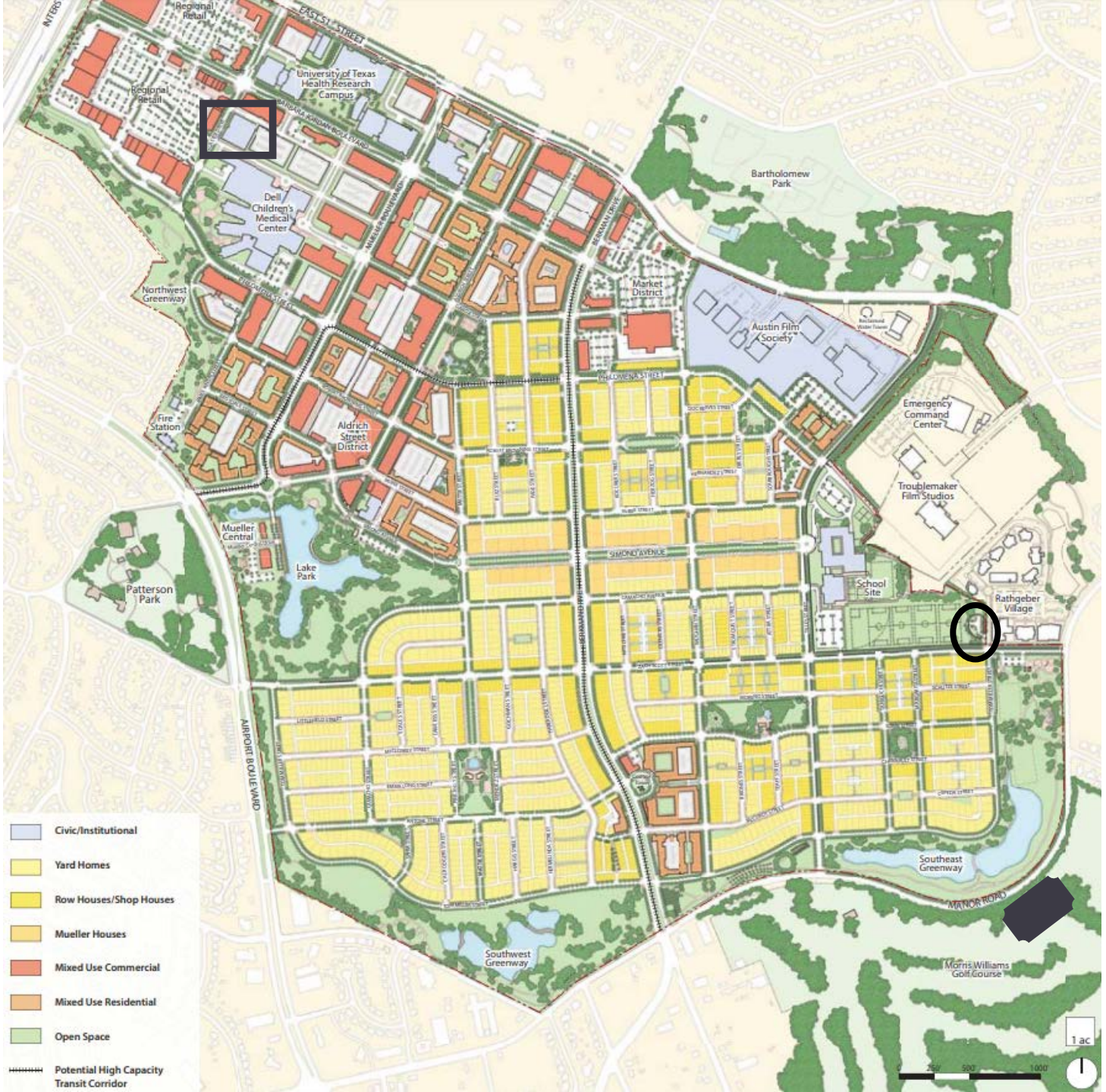
Solar on Mueller Circuit

246 Rooftop Solar Installations, ~1.1 MW total



Mueller Master Plan

http://www.muelleraustin.com/uploads/plan/mueller-illustrative-plan.pdf



Points of Interest

- MU ESS
- MU substation
- RMEC Distributed Generation

Mueller Energy Storage System
1.5 MW / 2.5 MWh
0.5 acre site

Mueller Energy Storage Site

Educational Signage & Viewing Area
Meets Mueller Design Guidelines

Austin SHINES Assets

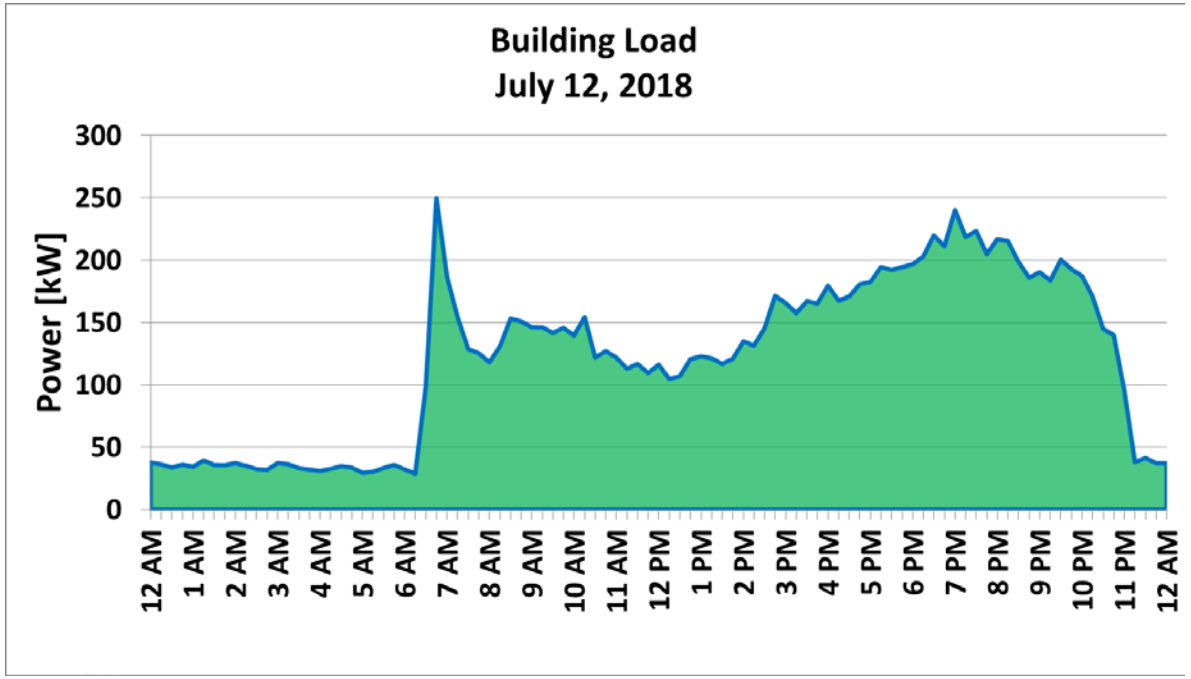
Commercial Scale

Aggregated Storage Installations at 3 sites, with existing solar (300+ kW)

- One 18 kW / 36 kWh Li-Ion battery storage
- Two 72 kW / 144 kWh Li-Ion battery storage

Value for Commercial Customers

Demand Charge Reduction



Customer Bill Savings	Site A (18 kW)	Site B (72 kW)	Site C (72 kW)
Billing Period Ending Sept 2018	1.1%	3.5%	7.6%
Billing Period Ending Oct 2018	13.1%	2.3%	6.6%
Billing Period Ending Nov 2018	9.3%	5.4%	6.2%
Average Bill Savings per Site	7.8%	3.7%	6.8%
Total Average $ Savings	**6.1%**		

Austin SHINES Assets

Residential Scale

Utility-Controlled Solar Smart Inverters at 12 homes

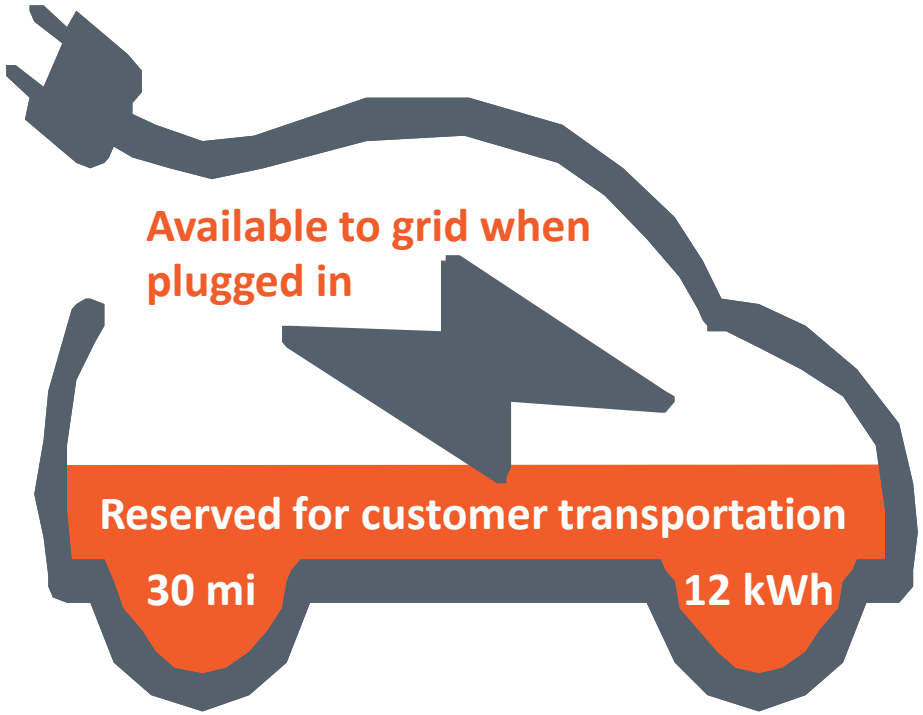
Autonomously-Controlled Smart Inverters at 6 homes

Aggregated Storage Installations

- Six stationary battery storage systems (10 kWh each) at homes with existing solar
- One Electric Vehicle installed as Vehicle-to-Grid (V2G)

Shared Value

Mobile Battery Storage: Customer and Utility Value



What are we *Learning* from Austin SHINES?

Autonomous Control

Codes/ Permitting

Sizing Techniques

Use Cases

Customer Value

Open Standards

Aggregated Control

Ownership Models

Utility Control

Data Needs

Control Location

Economic Value

Performance Capability

Reliability Value

Communication Paths

Austin SHINES Partnerships

2018 Public Power Utility of the Year

Customer Driven.
Community Focused.SM

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