



Distributed Use of Solar Energy: Multiple Perspectives

COMMUNITY SOLAR

CATEE 2016 Conference, San Antonio TX

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North Central Texas Council of Governments

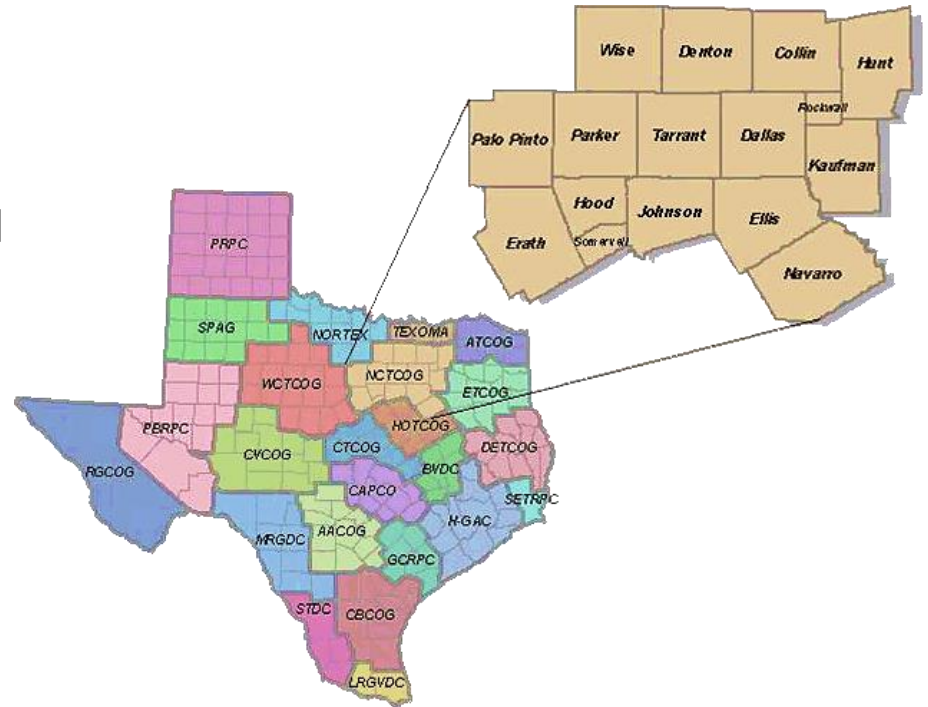


NCTCOG: WHO WE ARE AND WHY WE CARE ABOUT SOLAR

Solar is a low emission energy source. Increased deployment of solar has the potential to help reduce harmful emissions that contribute to ozone formation and health concerns.

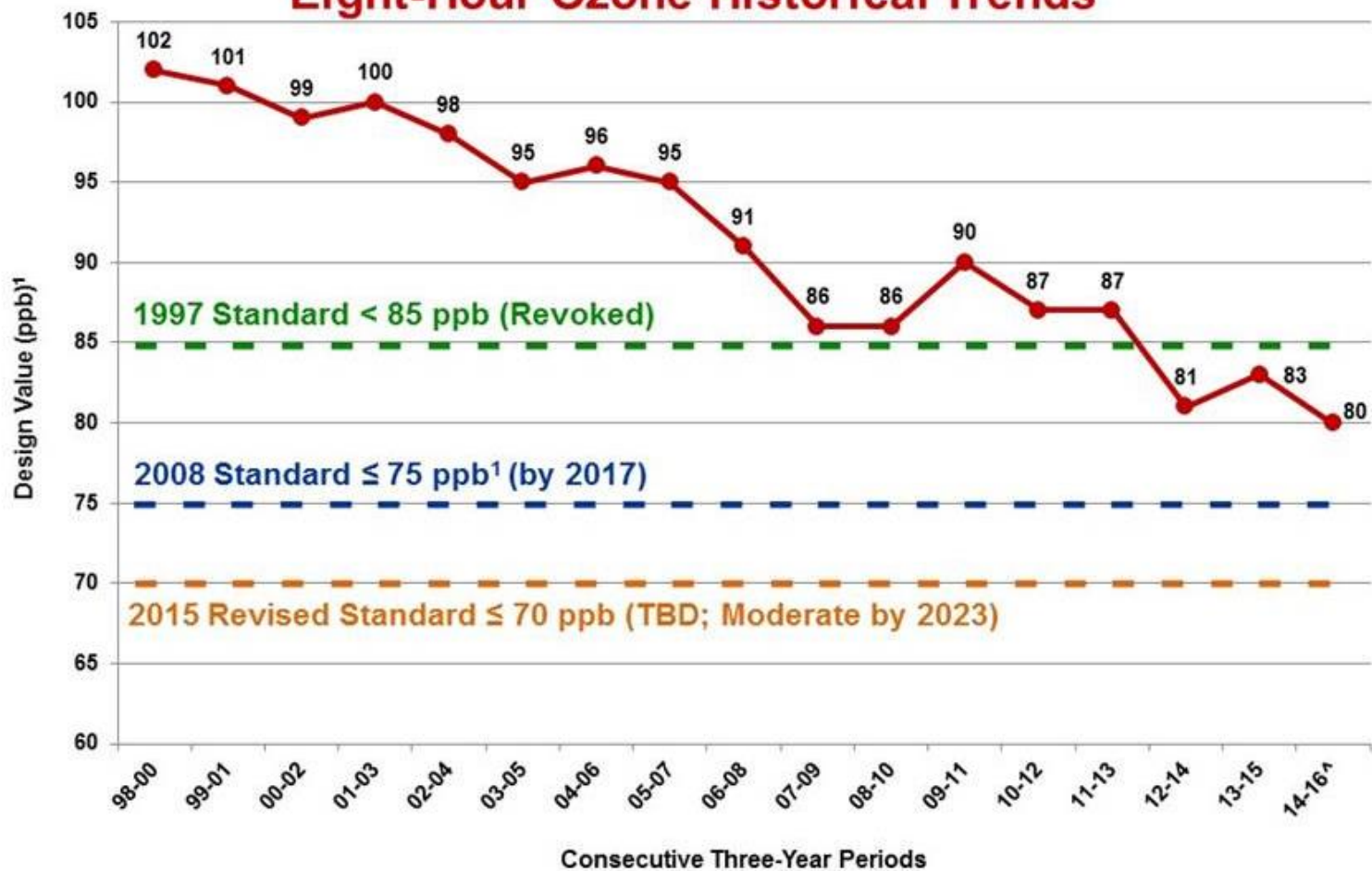
About NCTCOG

The North Central Texas Council of Governments (NCTCOG) is one of 24 Council of Governments across Texas whose main function is to transcend jurisdictional boundaries to promote sound development and facilitate cooperation among member governments. NCTCOG works on many quality of life issues such as transportation planning, air quality, environmental management, emergency preparedness, workforce development, and more. For information on all Texas regional agencies, visit the [Texas Association of Regional Councils](#).



Ozone Nonattainment & Air Quality

2016 OZONE SEASON Eight-Hour Ozone Historical Trends

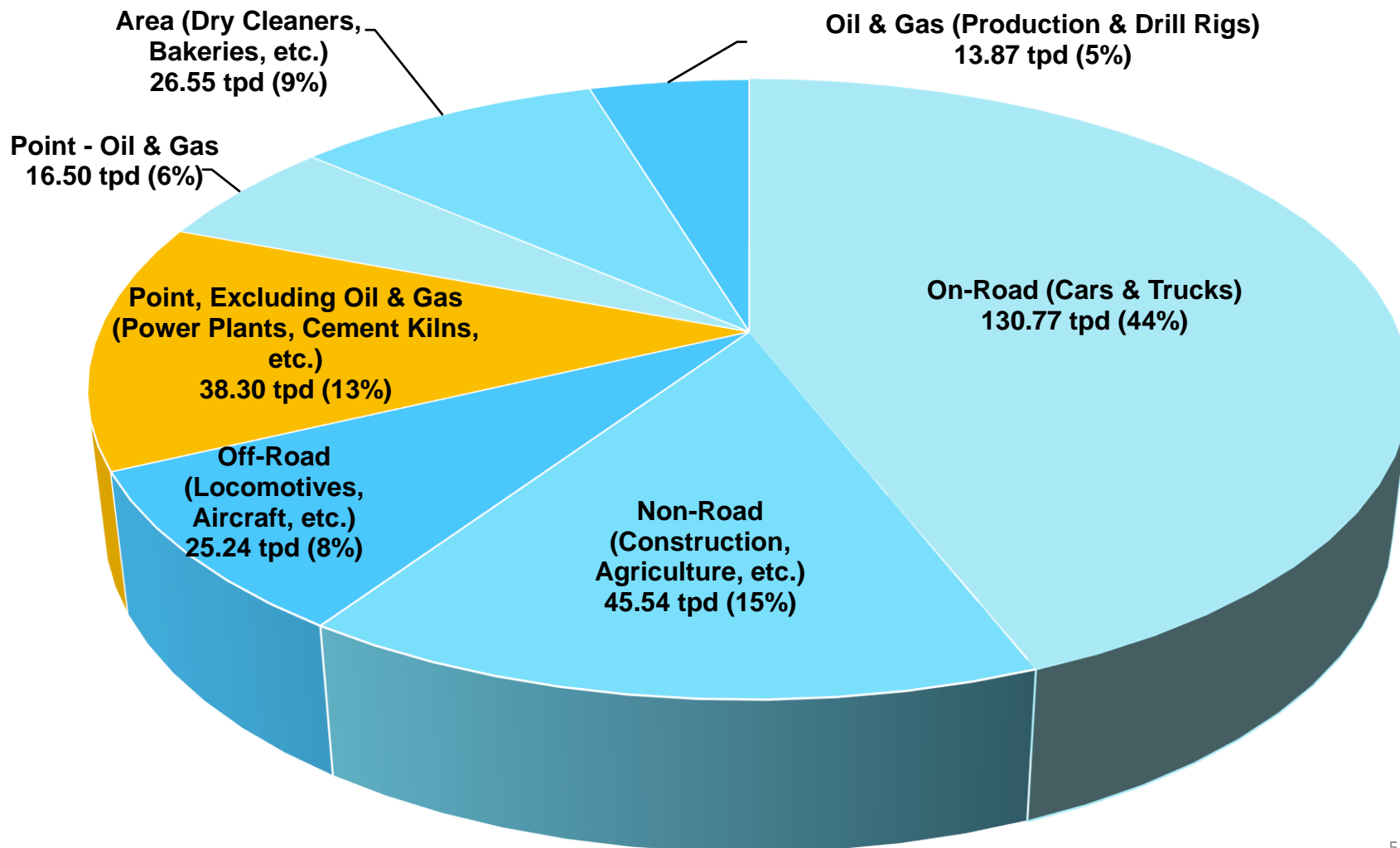


¹Attainment Goal - According to the US EPA National Ambient Air Quality Standards, attainment is reached when, at each monitor, the *Design Value* (three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentration) is equal to or less than 70 parts per billion (ppb).

[^]Data not certified by the Texas Commission on Environmental Quality, current as of 11/06/2016.

Nitrogen Oxides Emissions Sources

Estimated 2017 Nitrogen Oxides (NO_x) Emissions Inventory Source Category Estimates = 296.77 tons per day (tpd)



Air Quality Control Strategies & Local Programs



Rideshare. Record. Reward.



northcentral.texas.clean.schoolbus.program

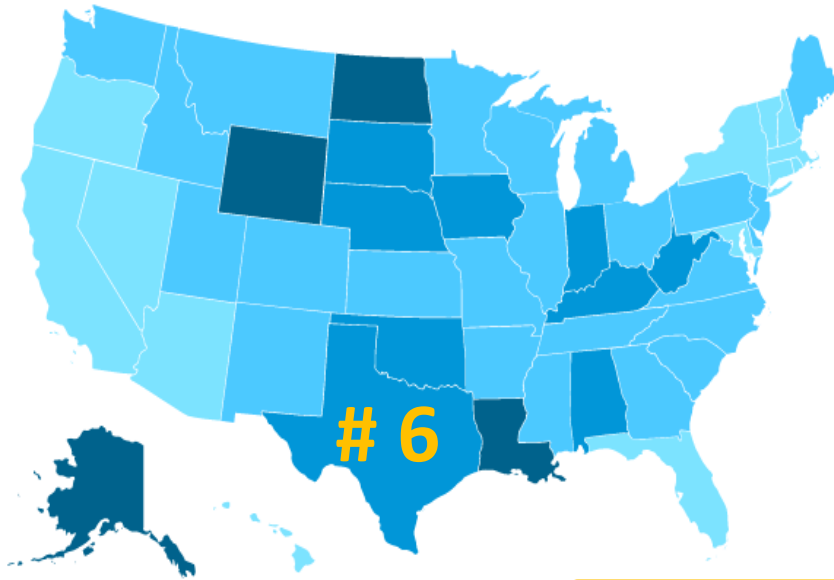


Air Quality Control Strategies & Local Programs



Growing Energy Demand

Energy use per capita, Texas ranks 6th in the Nation



Peak Demand Records
are being set each year:

2015: 69,877 MW

2016: 71,093 MW

Population, and
corresponding energy
needs, are growing
across North Central
Texas

Population Trends

- One of the fastest growing states
- NCTCOG population forecasted to grow by 47% between 2017 and 2040, to over 10.5 million
- Per capita Income expected to increase
- Thousands of housing units being developed
- Business relocation to North Central Texas

Solar Abundance

Texas has more solar energy potential than any other US state. Currently, Texas ranks 7th in the country in installed solar capacity.

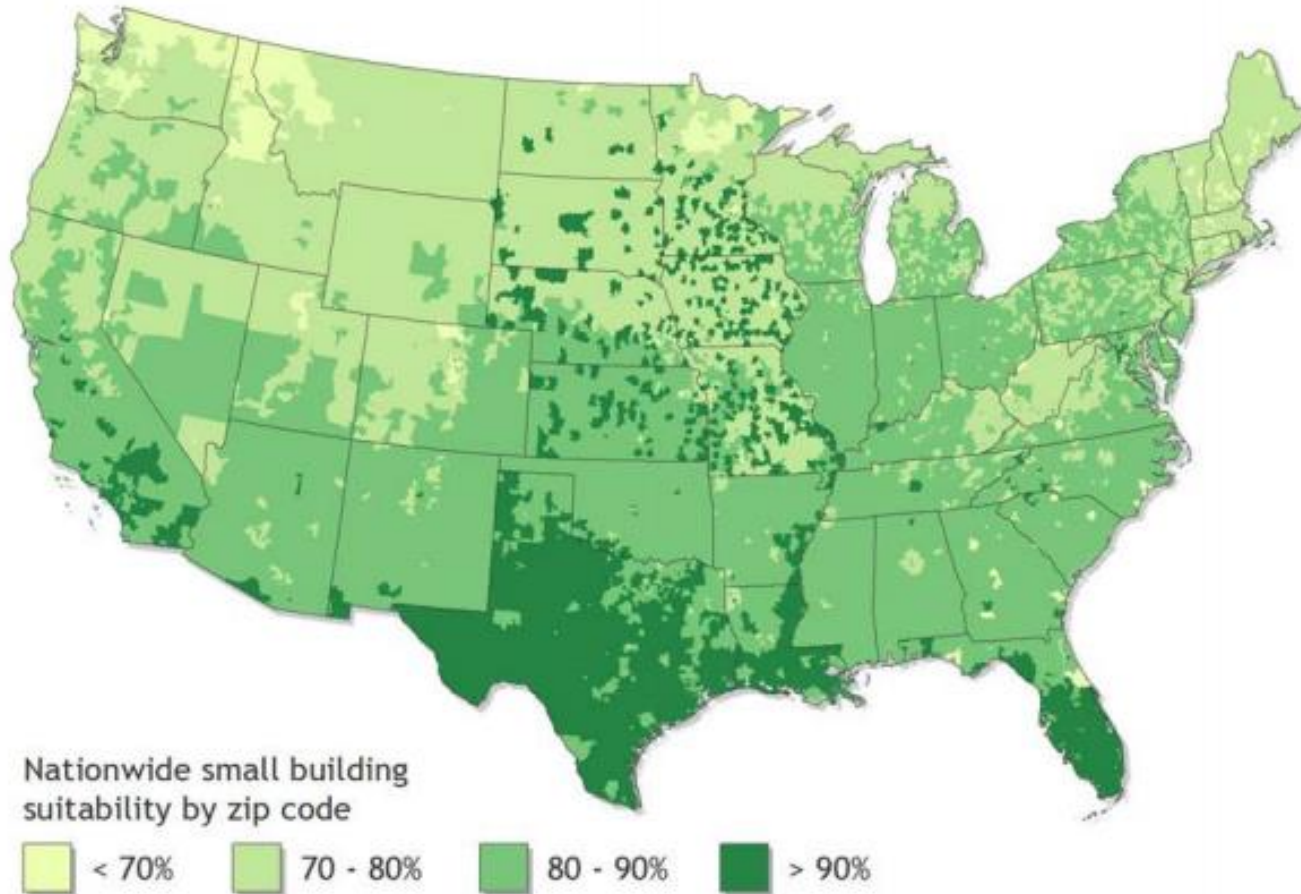


Figure ES-1. Percentage of small buildings suitable for PV in each ZIP code

Local Government Benefits From Solar



COMMUNITY SOLAR

On average, solar energy from a community solar or commercial installation will cost less than a residential rooftop system. A recent NREL study found that the average watt DC price of a 5.6 kW system is \$2.93 while the average watt DC price of a 200 kW system is \$2.13.

Community Solar: What is it?

“Community solar is a cooperative approach to solar. It enables... utilities to do what they do best: engage with their members, provide affordable power, and maintain a safe and reliable grid”

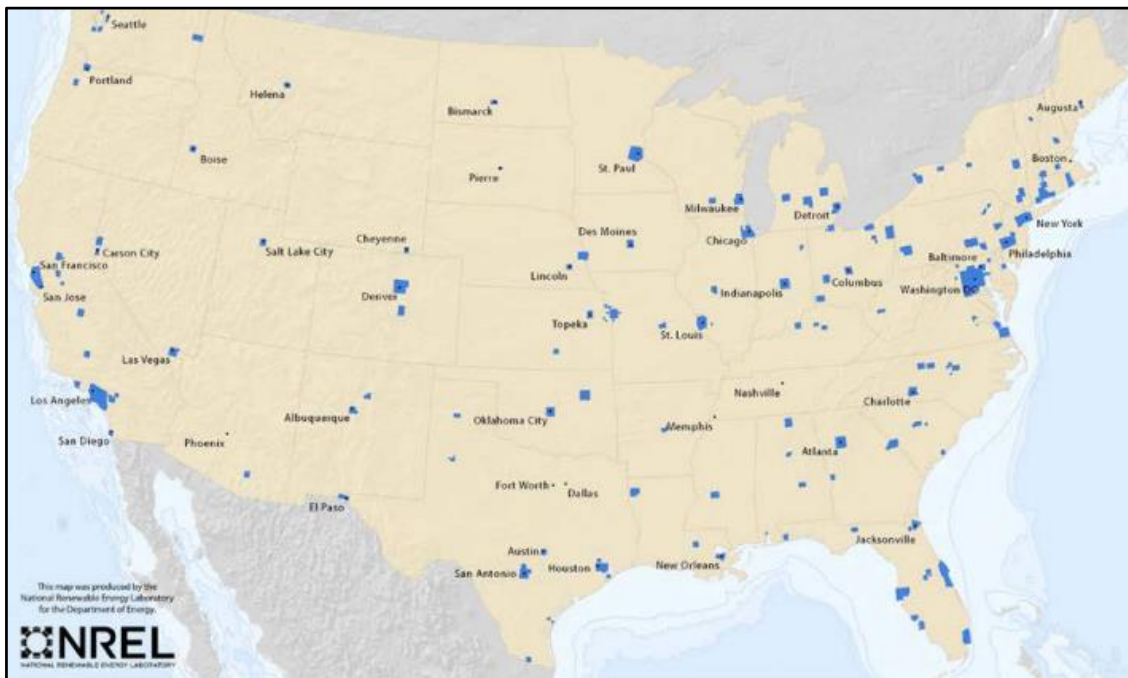
-- The National Rural Electric Cooperative, The Community Solar Playbook (2016)

- The sharing of solar power from a centralized source
- Uses economies of scale
- Flexible structure
- Can include expanded accessibility or battery storage

To date, The Lone Star State has installed 779 megawatts (MW) of solar capacity

Barriers to Rooftop Solar

Limited U.S. Roofs Are Suitable For Solar



60%

Of DFW-area households earn less than \$75k annually

35%

Of DFW-area residents live in multifamily residences

- Roof Ownership
- Roof Condition, Orientation, Height & Size
- Financing Limitations— Up Front Costs and Credit

Community Solar Benefits



Access and Scale

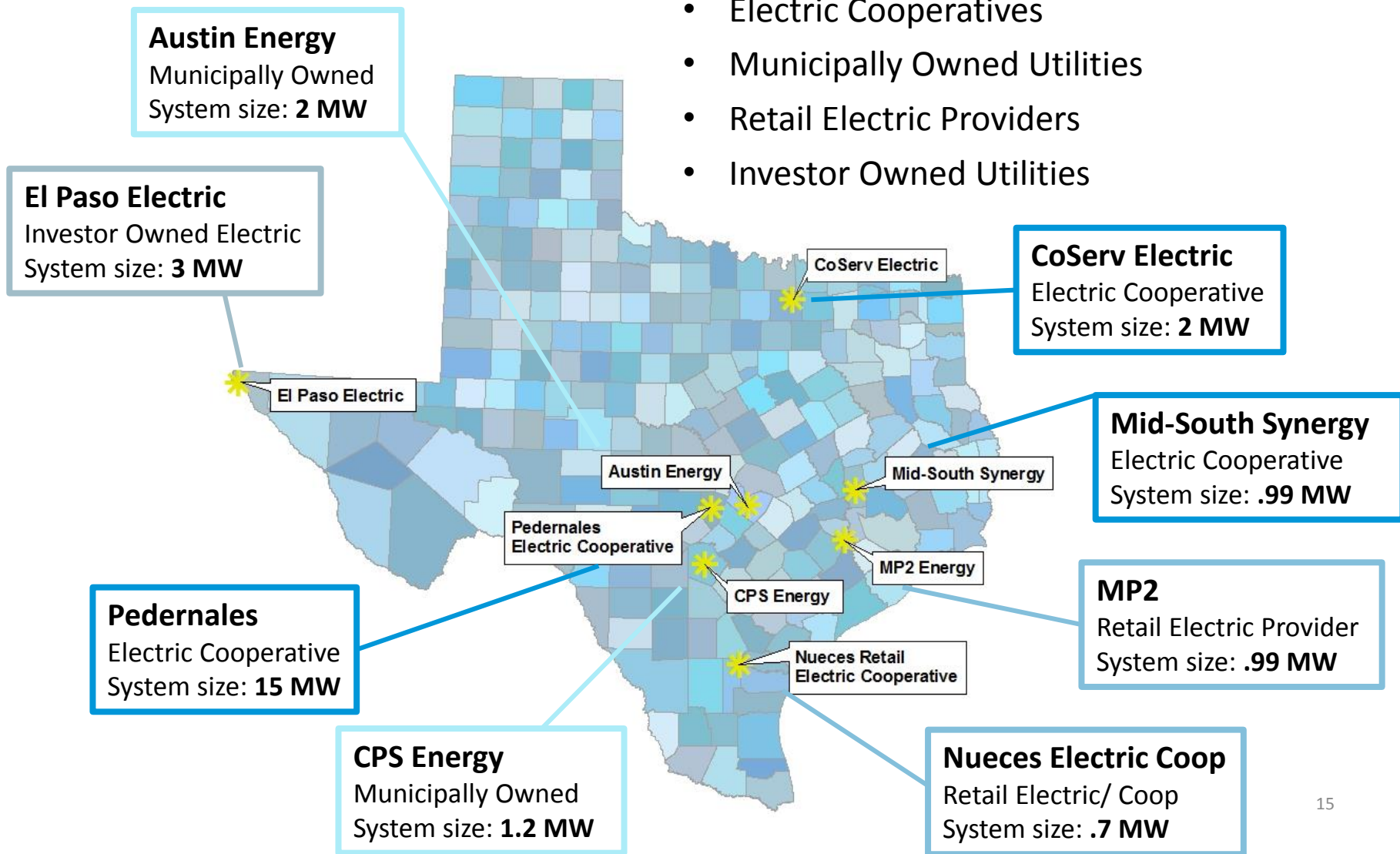
Simple for Subscriber

Less Expensive than Rooftop Solar

Community Solar in Texas

Community Solar is possible from all electricity providers

- Electric Cooperatives
- Municipally Owned Utilities
- Retail Electric Providers
- Investor Owned Utilities



Community Solar Resources



- **Solar Market Pathways** resources, funded by the Department of Energy
- **The Solar Electric Power Association (SEPA)** has done considerable research on community solar programs and provides resources on program design, [Accelerating Adoption of Community Solar](#)
- Materials developed by the **National Rural Electric Cooperative Association (NRECA)**, [Cooperative Utility PV Field Manual, Volume 1, Business Models and Financing Options for Utility-Scale Solar PV Installations](#)

Questions and Contact

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