

Status and Trends in Distributed Solar

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Behind-the-Meter Solar PV Installations in Texas

Estimated as “minimums” thru Aug 2017

Category	# of Installations	Installed Capacity (MW)	Average Size (kW)
Residential	39,107	237	6.1
Non-residential	1,827	96	52.3
TOTAL	40,934	333	8.1

Prior year-end estimates of # of installations:

2014 10,000+
 2015 17,000+
 2016 30,000+

Primary Data Sources

- **Form EIA-861**
 - Annual Data
 - Net Metered, Non-Net Metered, Sales Utility Customer
 - Release date: August 14, 2017 for “early release” 2016 data
- **Form EIA-861M (formerly EIA-826)**
 - Monthly Data, *small subset of utilities report*
 - Net Metered, Non-Net Metered
 - Monthly Release Date: October 26, 2017 for August 2017 data
- **Municipal websites - Austin Energy, San Antonio CPS**
- **ERCOT Load Profile Counts**
 - Especially for non-net metered reporting



Trends in Energy Generation from Solar PV (in GWh)

Year	EIA Data		ERCOT Data
	Utility-Scale	Small-Scale	Utility-Scale
2015	401	223	(not available)
2016	751	357	836
2017 (thru Aug.)	1,447	464	1,505

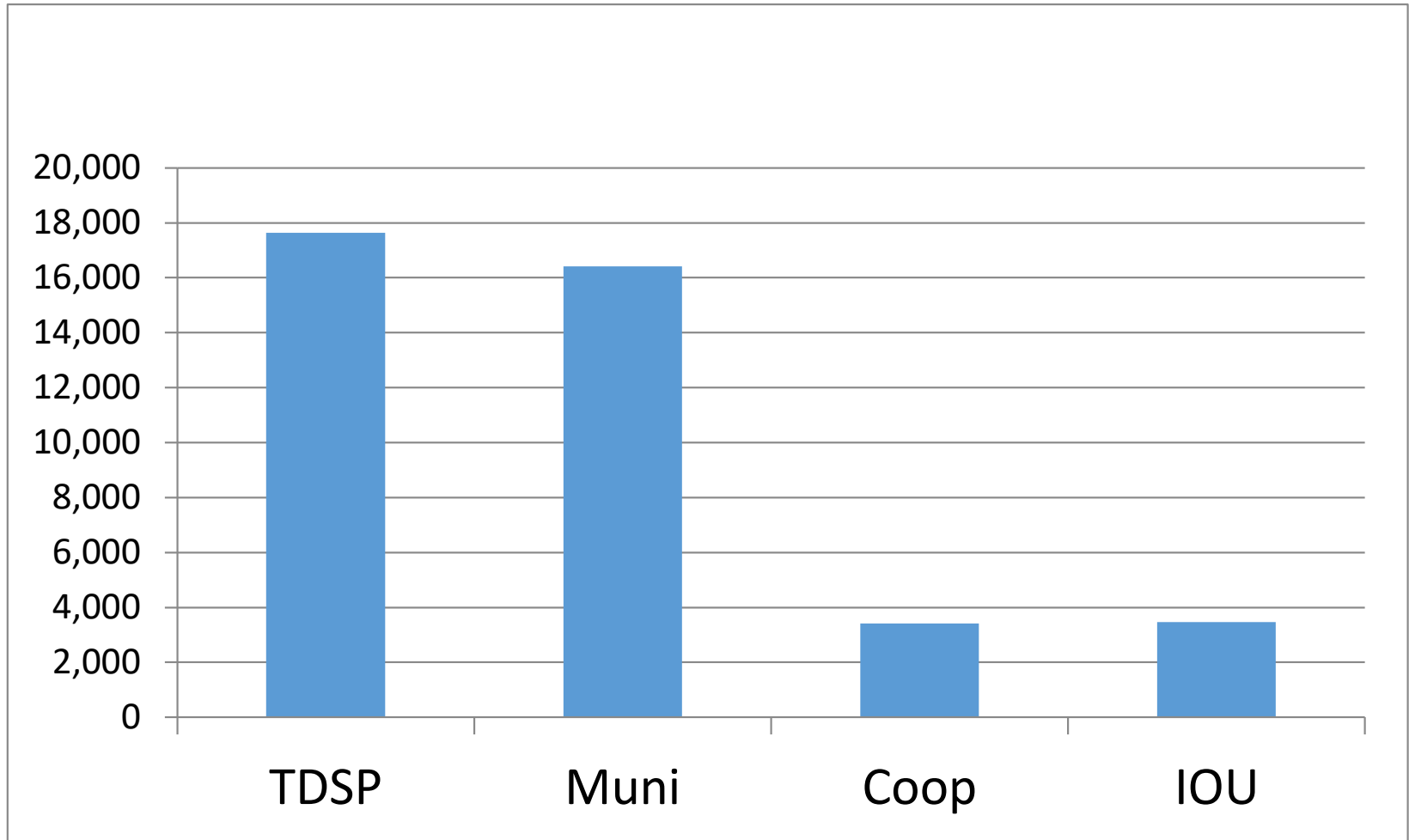
Sources: EIA *Electric Power Monthly* (from Table 1.17B)
ERCOT

Behind-the-Meter PV Installations by Utility Type

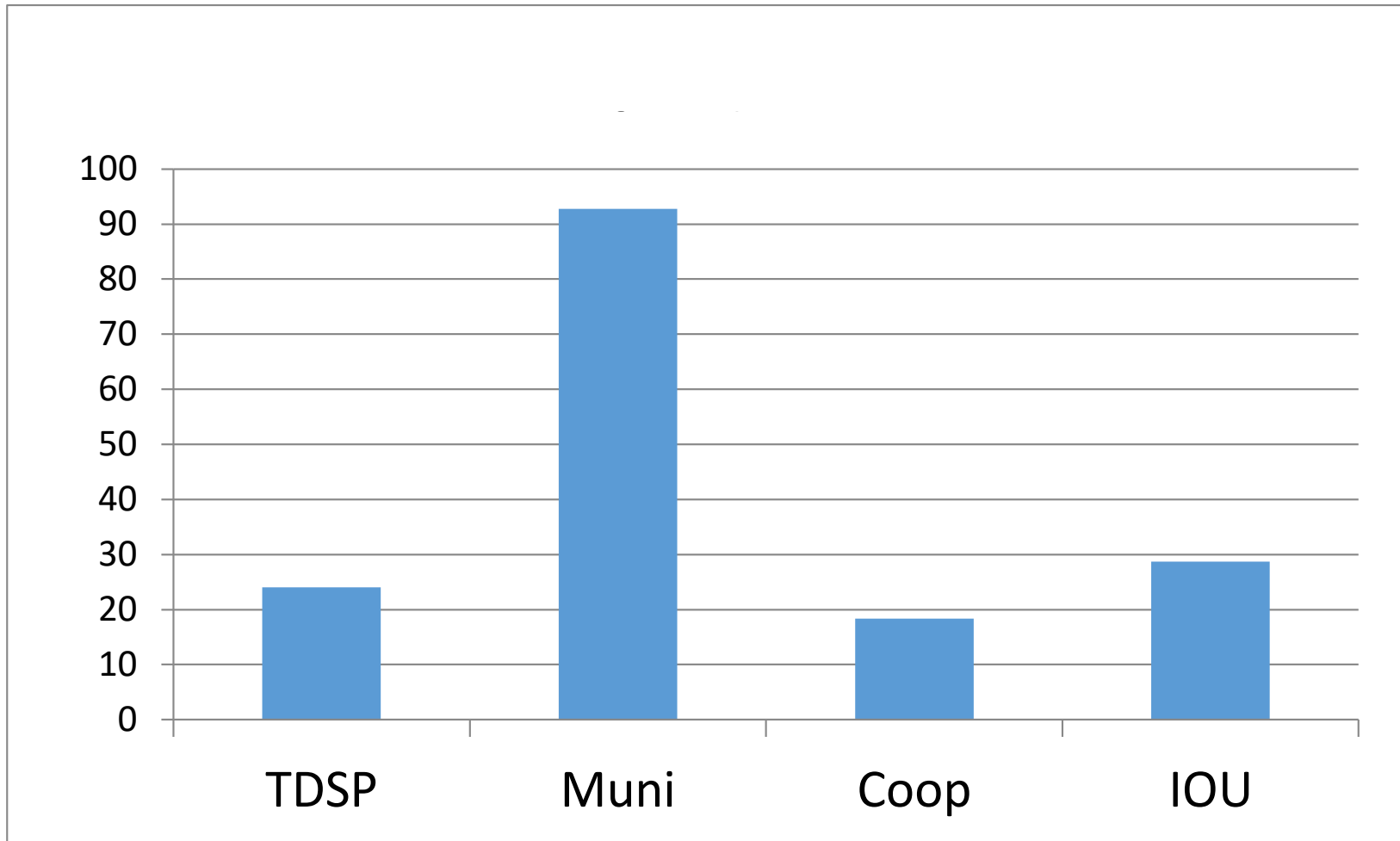
Estimated “minimums” through August 2017

Type	# Reporting	Installed Capacity (MW)	Total Customers	Number of PV Installations	Number of Utilities Reporting “0”	Installations/10,000 Customers
TDSP	6	158.4	7,329,748	17,638	0	24.1
Muni	23	131.5	1,770,105	16,416	12	92.7
Co-op	61	22.8	1,860,172	3,416	11	18.4
IOU/ Retailer	5	20.1	1,206,500	3,464	1	28.7
TOTAL	95	332.8	12,166,525	40,934	24	33.6

Number of Distributed Installations by Category of Utility



Distributed Solar Installations per 10,000 Customers



Top Ten Reporting Utilities ranked by PV Customer Count

Utility	Type	Data Year-Month	Distributed Solar Capacity (MW)	Number of Distributed Installations
Oncor Electric Delivery Co. LLC	TDSP	2017-8	129.6	13,682
CPS (City of San Antonio)	Muni	2017-8	85.9	9,841
Austin Energy	Muni	2017-6	42.6	6,261
El Paso Electric	IOU	2017-8	16.3	3,041
CenterPoint Energy	TDSP	2017-8	15.7	2,733
Pedernales Electric Co-op	Co-op	2016-12	6.9	1,297
Guadalupe Valley Electric Co-op	Co-op	2016-12	4.5	916
AEP Texas Central Co.	TDSP	2017-8	8.4	560
Entergy Texas Inc.	IOU	2017-8	3.2	373
Texas-NM Power Co.	TDSP	2017-8	1.7	258



Top Ten Reporting Utilities

ranked by PV customer count per 10,000 total customers

Utility	Type	Data Year-Month	Total customer count	Number of Distributed Installations / 10,000 customer
Austin Energy	Muni	2017-6	450,479	139
City of San Antonio - (TX)	Muni	2017-8	804,000	122
Guadalupe Valley Elec Coop Inc	Coop	2016-12	79,696	115
El Paso Electric Co	IOU	2017-8	312,066	97
City of Georgetown - (TX)	Muni	2016-12	24,843	54
Bartlett Electric Coop, Inc	Coop	2016-12	11,506	47
Pedernales Electric Coop, Inc	Coop	2016-12	287,422	45
Oncor Electric Delivery Company	TDSP	2017-8	3,485,783	39
Bandera Electric Coop, Inc	Coop	2016-12	34,092	31
Sharyland Utilities LP	TDSP	2017-8	54,800	28

Reporting Issues

- **Reporting periods not aligned**
- **9-month delay in EIA annual report**
- **Not all utilities reporting – yet**
- **Capacity reporting not consistent (DC, AC, ?)**
- **Net metered and non-net metered forms inconsistent**
 - **Utility - which one to use?**
 - **Customer counts not included in non-net metered report**
- **Does the EIA small systems ($\leq 1\text{MW}$) affect commercial reporting?**

Opportunities

- **Fix non-net metering reporting for customer counts**
 - earliest 2020?
- **Utilities becoming more familiar with BTM reporting**
- **Utilities have the data and are now required to report to EIA (eventually)**
- **Find other ways to share aggregated reporting on more timely basis, e.g.**
 - Cities request quarterly aggregated data for electric utilities operating within their city limits?
- **Need reporting mechanisms for community solar**

Thank you!

Questions?