



2020 OMS DER Survey Results

OMS Board of Directors
August 13, 2020



Executive Summary

- This was the third iteration of the OMS DER Survey
 - only comprehensive look at DER within MISO
- *Over 4.4 GW of DER reported*
 - 2020 survey uses end of year 2019 data
 - 2019 survey results revised down
- Robust participation throughout entire footprint
 - 83% of load

Majority of MISO Load Responded

43 LSEs
responded to the
survey

Respondents
represent 83 % of
MISO load

Similar
participation rate
to 2019 Survey

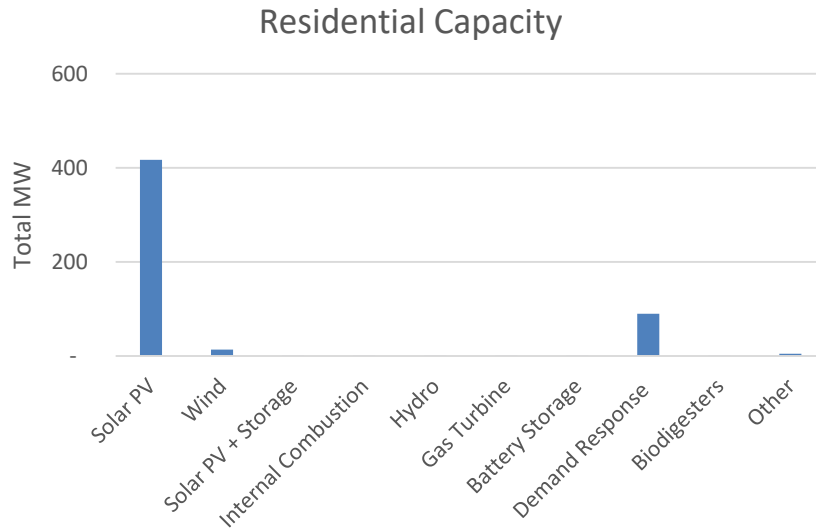
2020 SURVEY RESULTS



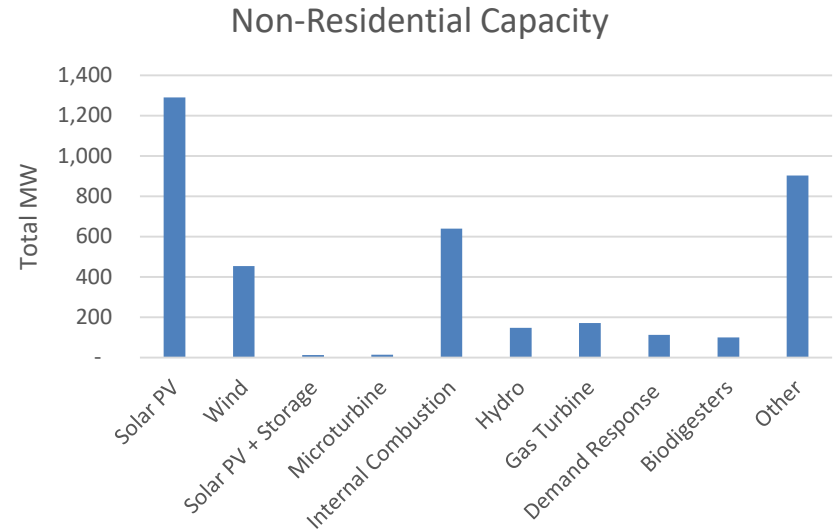
Organization of MISO States

Approximately 4.4 GW of DER in Footprint

~530 MW of Residential

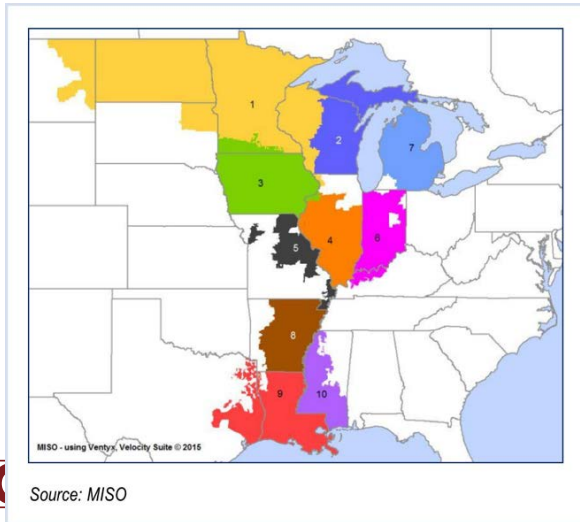


~3.85 GW of Non-Residential

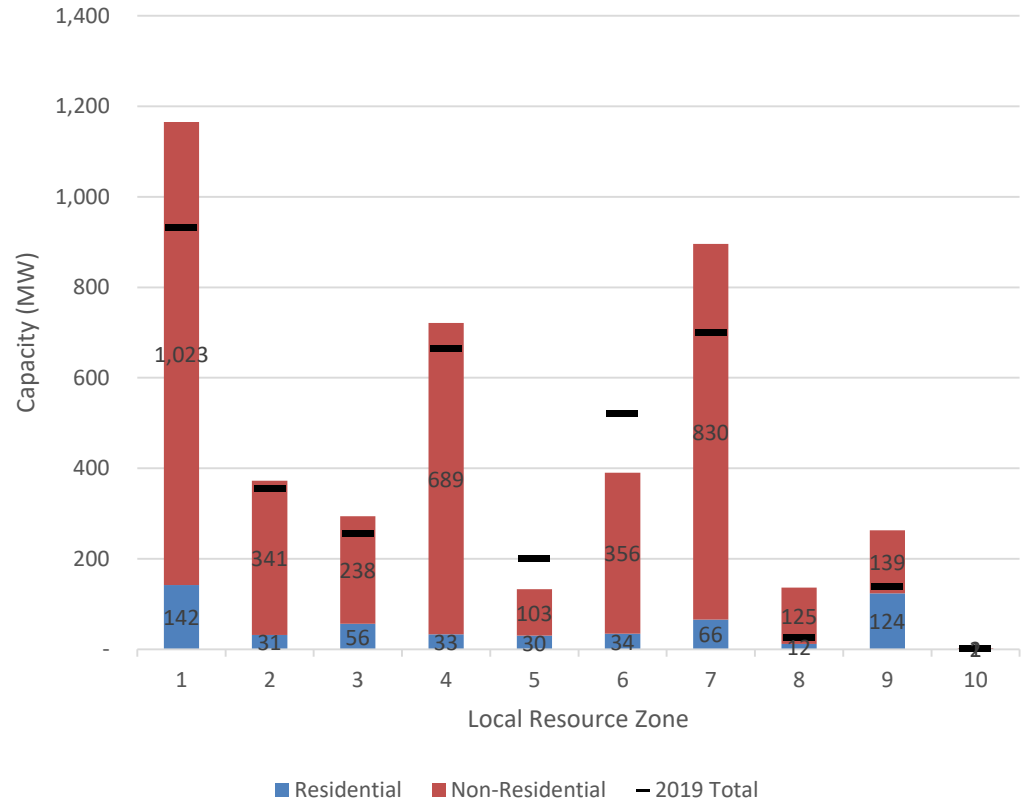


Reported DER grew in almost every zone

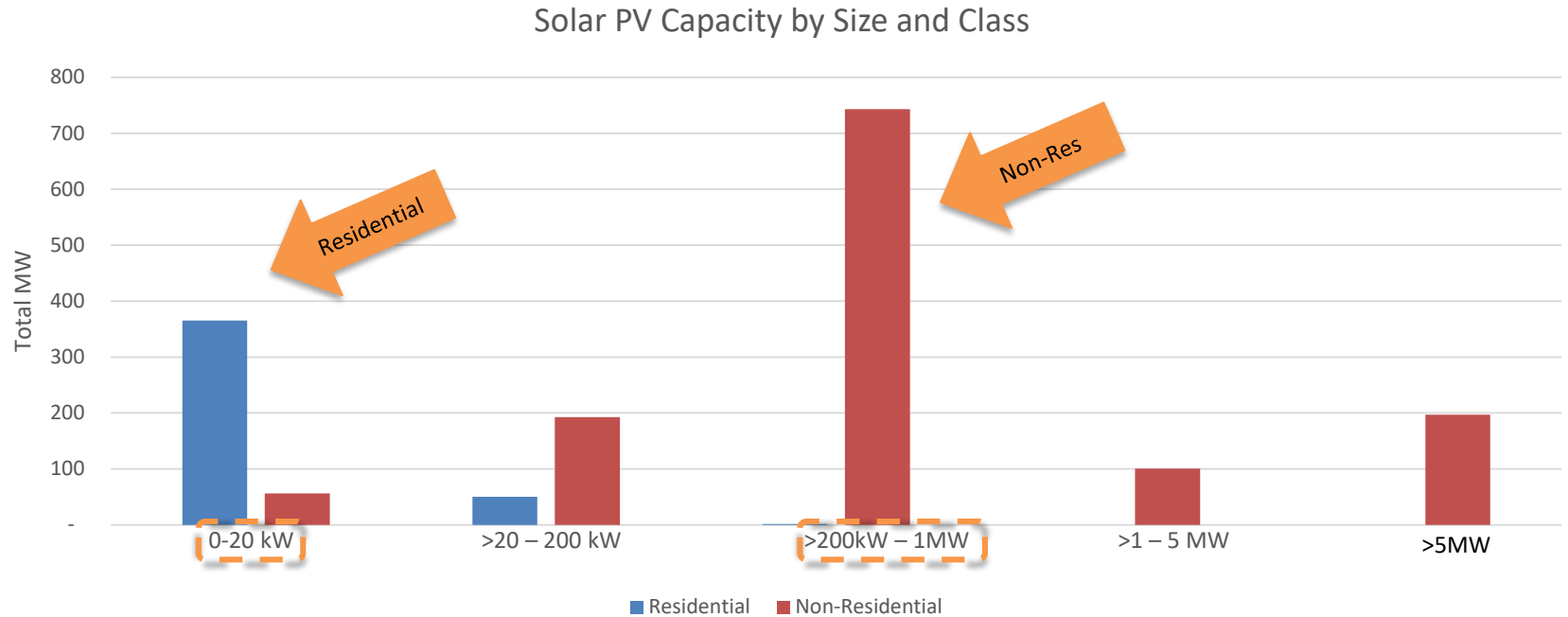
- Zones 1, 7, 8, and 9 showed largest increases
- Two zones showed a decrease
 - **LRZ 5:** Less respondents
 - **LRZ 6:** Removed resources that are registered with MISO



DER Capacity by Zone

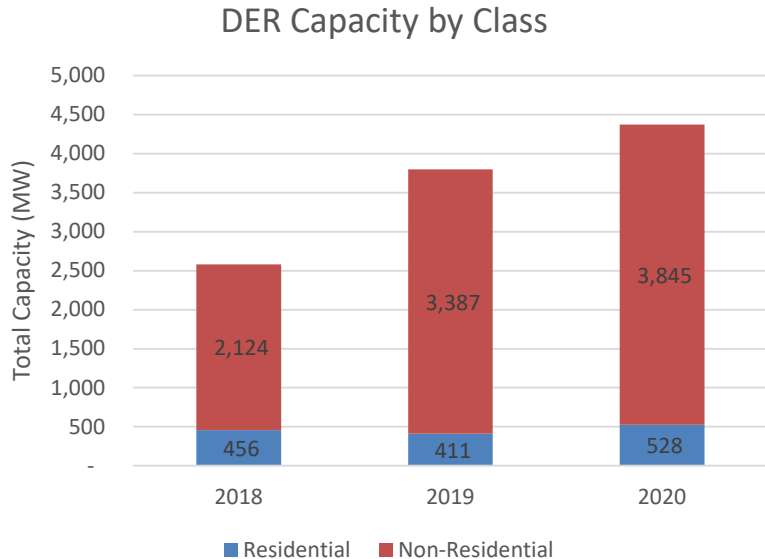


Two installation sizes are most common



4.4 GW of DER Reported

(2019 Data Corrected)



Customer Class	2018	2019	2020
Residential MW	456	411	528
Non-Res MW	2,124	3,387	3,845
Total MW	2,581	3,797	4,373

- This year marks the first opportunity for meaningful year-over-year comparisons
- Growth from '18-'19 dominated by increased participation
- 2020 results show a 15% increase in total capacity
- This year's responses helped reveal errors in 2019 data
 - o 1 GW *decrease* from original results
 - o 500 MW already registered with MISO
 - o 500 MW reported incorrectly

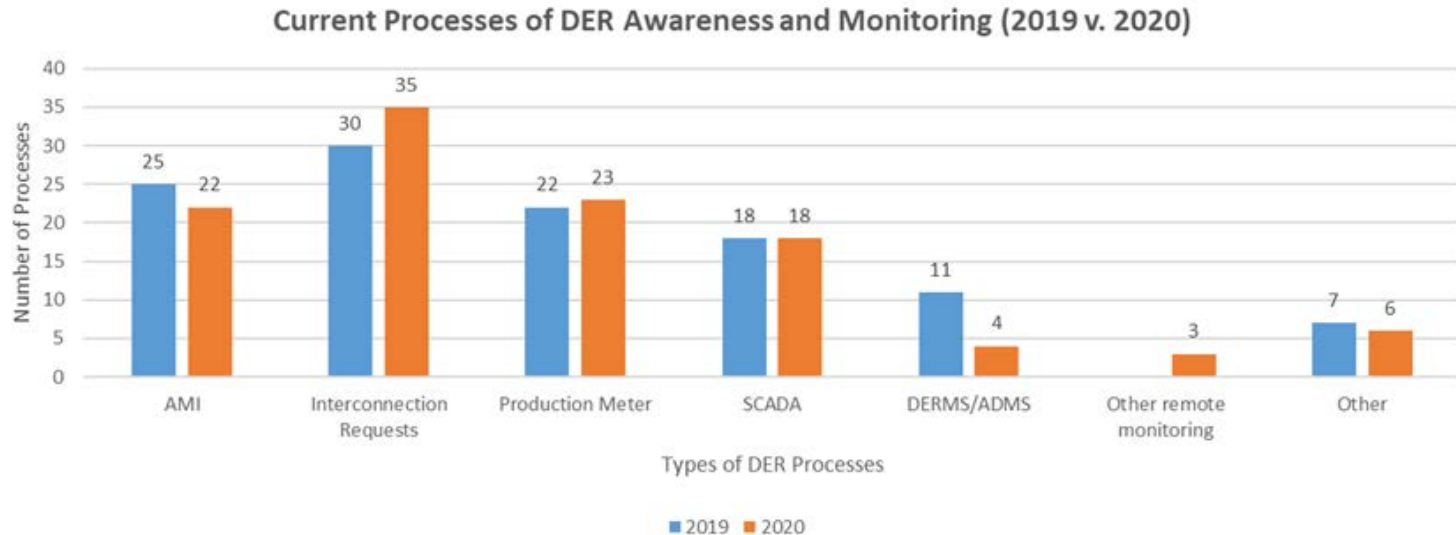
WRITTEN RESPONSE ANALYSIS



Organization of MISO States

Visibility into DER operations

- 22 Respondents are considering *future* investments to increase visibility into DER operations (compared with 25 in 2019 survey)
- Most respondents noted there was no active or real-time DER interoperability or management by the utility (or didn't answer)



DER Growth Drivers and Barriers

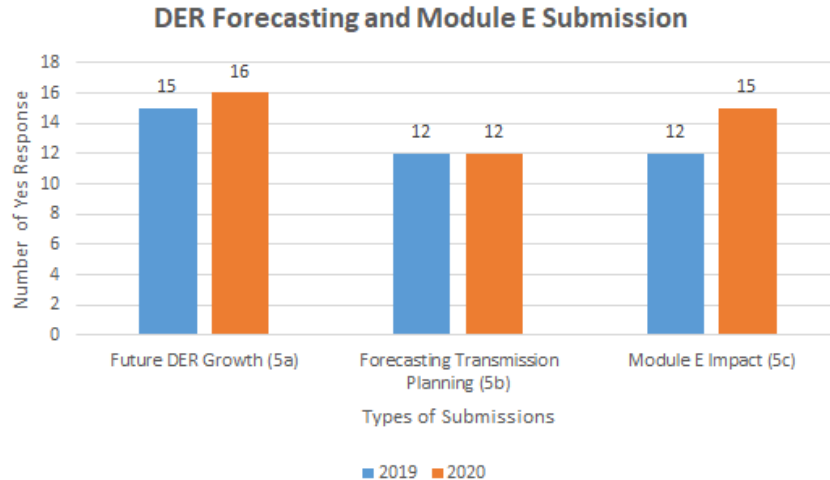
2020 Drivers

Driver	# of Respondents
Rate Design	14
Tax Incentives	11
Declining Costs	8
Customer Preference	8
Net Metering	7
State Policy	5
Demand Response	4
Rebates	3
Financing	3
Economics	3
Interconnection Process	2
Resource Availability	2
RECs	2
Corporate Goals	2

2020 Barriers

Barrier	# of Respondents
Cost	6
Infrastructure (EV)	4
None	4
Oversaturation of Infrastructure	3
Program Caps/Market Saturation	3
Infrastructure Upgrade Costs	2
Resource Availability	2

DER and the Transmission System



Has DER impacted transmission system?

- 4 have seen DER “impacts”
- 3 have observed backflows, not problematic for the transmission system
- 20 respondents do not foresee near-term issues from DER