

The State of Demand Response

Session: Insight from Leading-Edge Demand Response Research

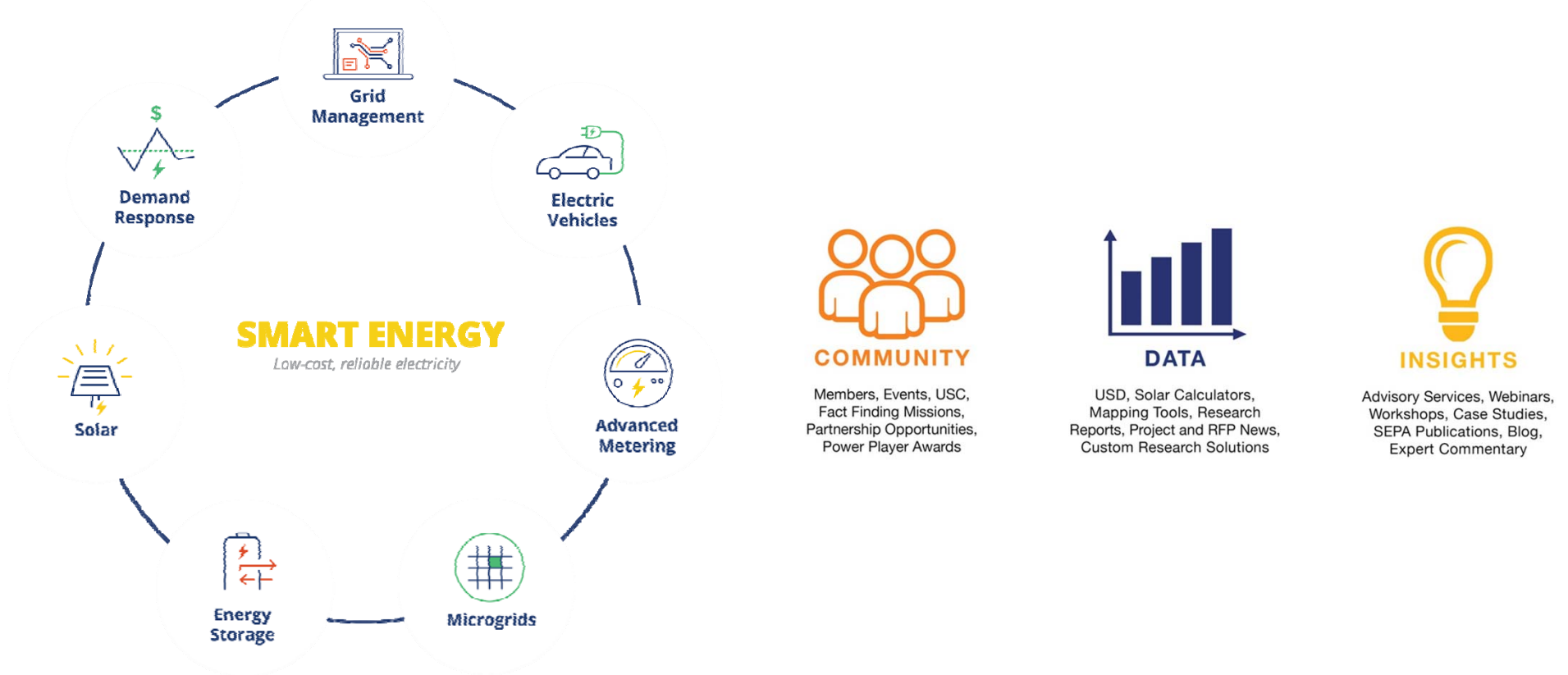
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Brenda Chew, Research Analyst



**Smart Electric
Power Alliance**

SEPA's mission is to facilitate the electric power sector's smart transition to a clean energy future through education, research, collaboration and standards.



SEPA's Annual Utility Survey



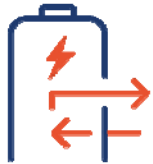
Solar

10th Annual Utility Survey

2017: ~370 Utilities responses

8216* MW installed in 2016 , ~95% coverage of US grid connected solar

Coming soon: 2017 Top 10 Awards & Solar Market Snapshot Report



Energy Storage

First Annual Utility Survey

2017: ~81 Utility Responses

Coming soon: 2017 Top 10 Awards & Storage Market Snapshot Report



Advanced Metering Infrastructure

First Annual Utility Survey

2017: ~80 Utility Responses

Coming soon: AMI Market Snapshot Report



Demand Response

First Annual Utility Survey

2017: ~108 Utility Responses

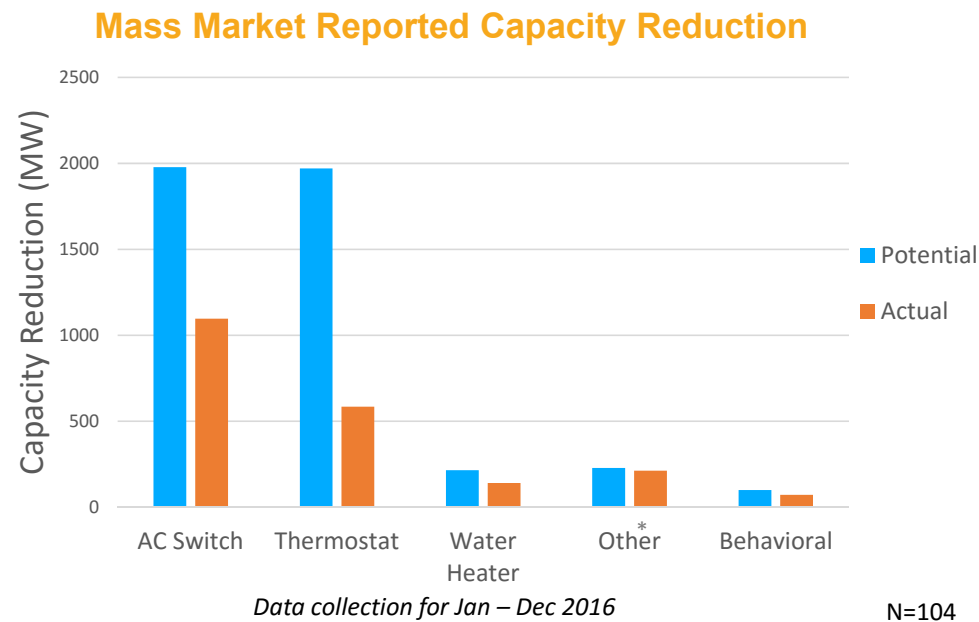
Coming soon: DR Market Snapshot Report

**8216 MW is a preliminary estimate with responses still coming in and undergoing validation*



**Utility Solar
Database**

2017 Preliminary Survey results



Mass Market Demand Response: DR programs offered to both residential and small business customers.

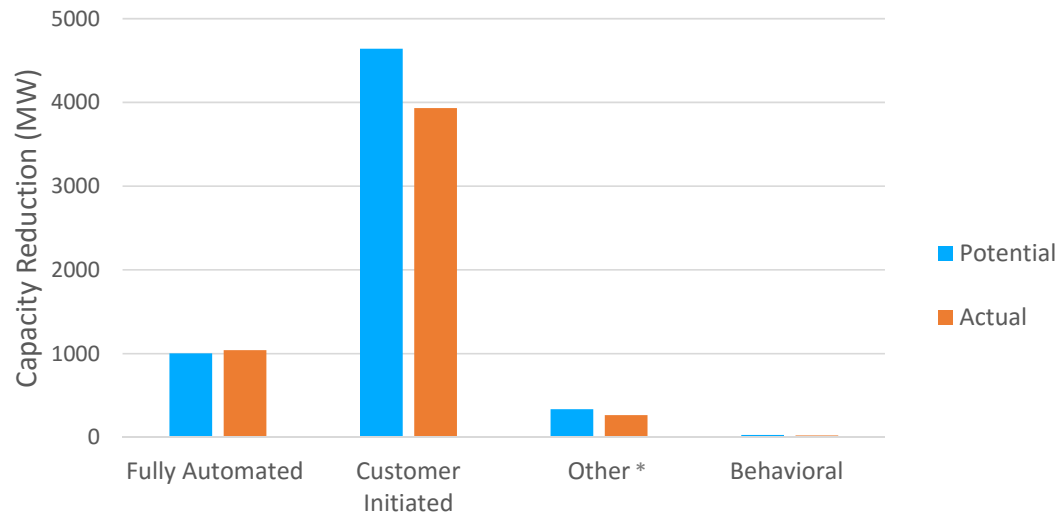
Behavioral Demand Response Program: DR programs with no financial incentives for participation. (e.g., asking customers to reduce consumption through email, text, social media, or other lines of communication during a system peak event)

*Other DR programs reported include pool pumps, dual fuel, heat storage, irrigation pumps, etc.

Note: Reported capacity is stated by a number of utilities to be an estimate. Findings are preliminary and still under the process of data validation.

2017 Preliminary Survey results

Medium to Large Customer Reported Capacity



Data collection for Jan – Dec 2016

N=104

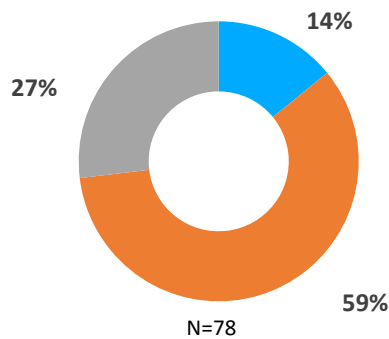
Medium to Large Customer Demand Response: DR programs or agreements offered to large energy consumers (large commercial and industrial) or bundled smaller energy consumers acting as a single entity, such as a Community Choice Aggregator.

**Other reported DR programs include irrigation load control, CVR at buss and feeder levels, other pilot programs for C&I customers, etc.*

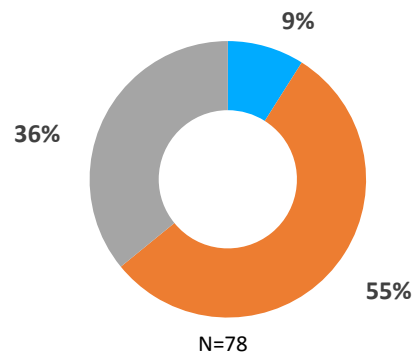
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Survey Results – What DR efforts are utilities interested in implementing?

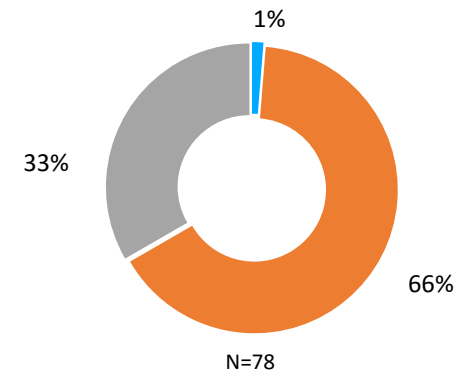
Calling on DR resources locationally to manage real time grid conditions (DR as a short-term solution)?



Are utilities interested in locational deployment of DR for non-wires grid upgrade deferrals (DR as a long-term solution)?



Targeting DR specifically to manage fluctuations or grid impacts in a location with a high penetration of renewable energy?



■ Currently implemented

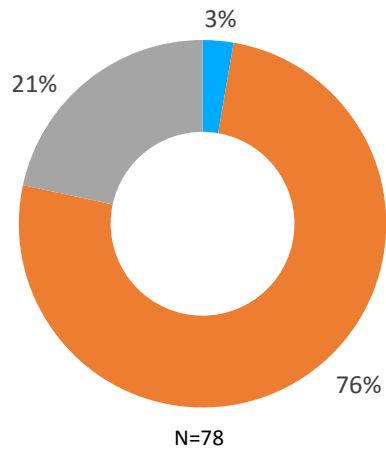
■ Planning/researching/considering

■ No interest

Findings are preliminary and still under the process of data validation.

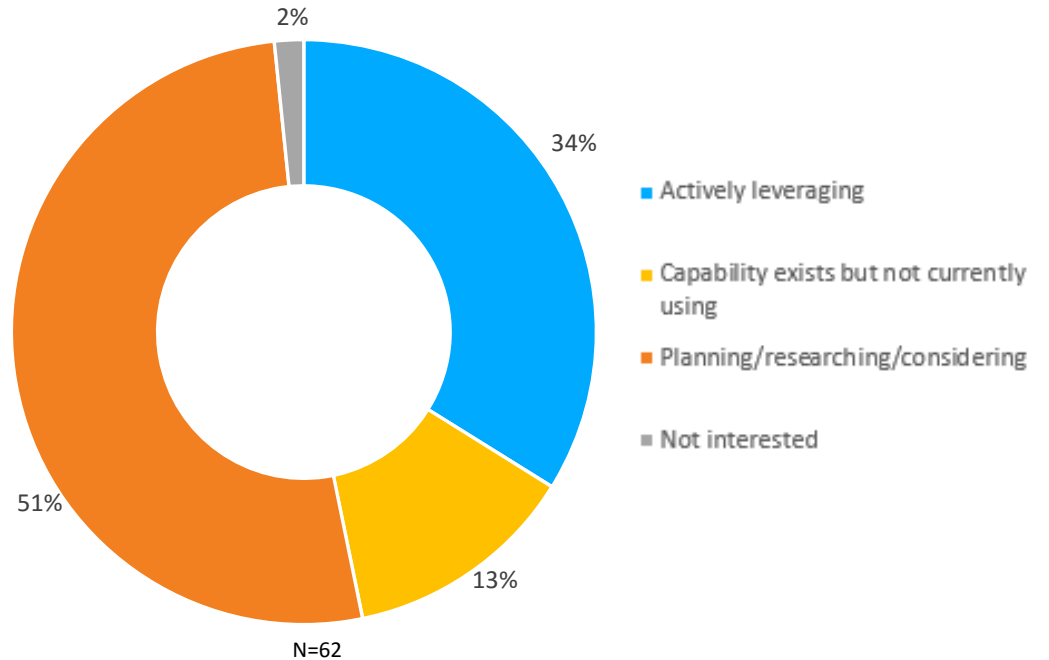
Survey Results – What DR efforts are utilities interested in implementing?

Are utilities interested in offering an EV managed charging demand response program?



- Currently implemented
- Planning/researching/considering
- No interest

Are utilities using AMI data for DR programs?

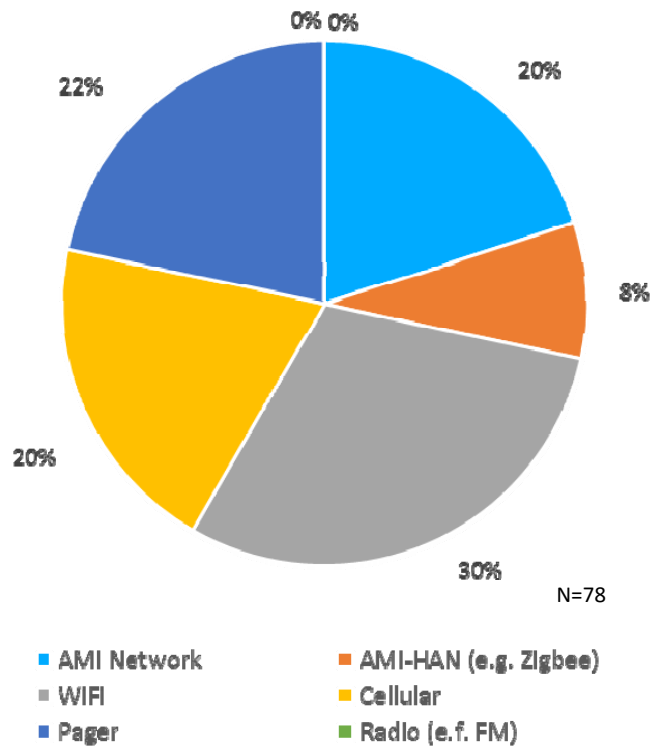


- Actively leveraging
- Capability exists but not currently using
- Planning/researching/considering
- Not interested

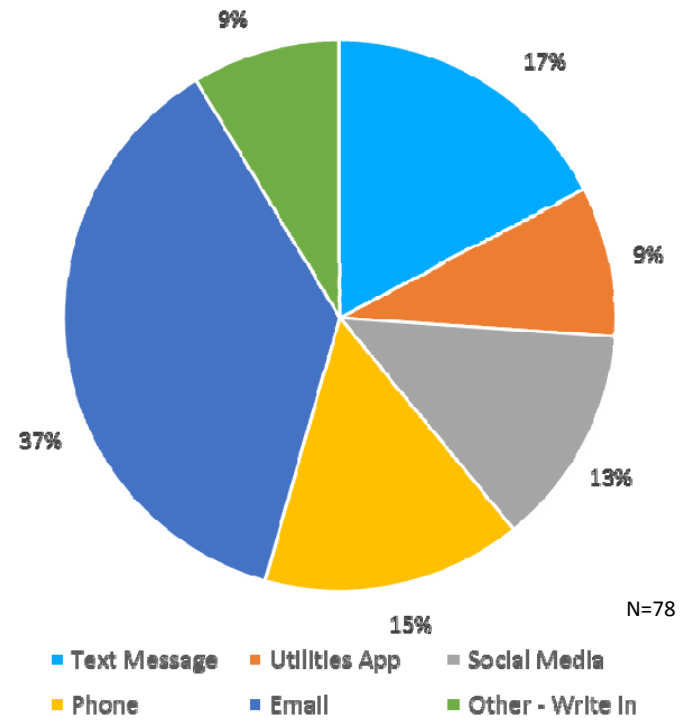
Findings are preliminary and still under the process of data validation.

Survey Results – How are utilities communicating with DR participants?

Direct Load Control Device Dispatch



Behavioral Demand Response Customer Contact



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