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A Regulatory Perspective on Realizing DER Value

ESIG Webinar Panel: Thinking about the Value of DER

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It starts with serving the public interest

Photo by Public Utilities Commission of Ohio

Considerations in achieving the public interest

- Electric service should be affordable, reliable and resilient today and tomorrow
- Decisions need to be responsive to changing customer preferences
- Decisions need to acknowledge public policy mandates and directives

Realizing DER Value in the Public Interest

DER Value: Affordable, reliable & resilient for today and tomorrow

- Facilitate fair compensation for DER services on today's grid
- Position the grid to sense and fully utilize DER capabilities in the future
- Support co-optimization of DER use for the grid of today and the grid of tomorrow behind the meter, on the distribution system and on the bulk system

DER Value: Responsive to evolving customer preferences

- Consider what customers want: households, businesses, local governments and more
- Consider where the grid is going, not just where it is today, and anticipate the connectivity needs for tomorrow
- Examples of evolving customer preferences:
  - Resilience
  - Electrification
  - Preference for low-emitting resources

DER Value: Responsive to public policy mandates and directives

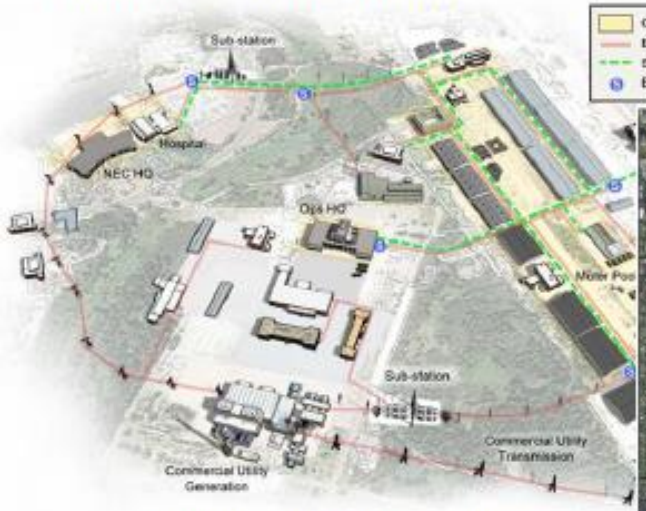
- Renewable energy goals
- Electrification of transport and buildings
- Decentralized decision-making
- Reliability and resiliency goals
- Environmental goals

Regulators are Finding New Sources of Value Today

US Army resilience project

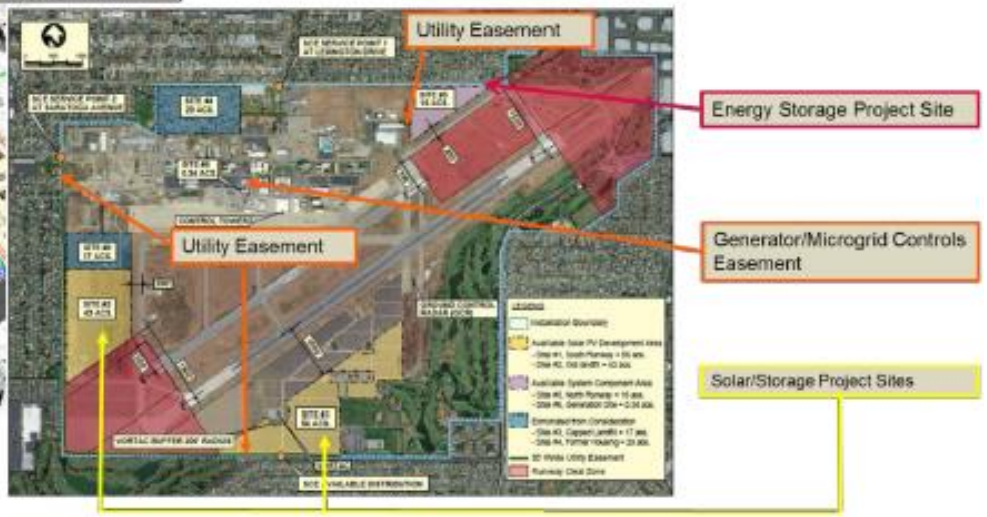
Army proposed outgrant of 115 acres at JFTB Los Alamitos

- Developer would construct, own, operate and maintain 16 MWs of solar power, energy storage, and microgrid components
- During normal ops, the developer sells power to the grid
- During contingency ops, the developer would provide islandable power for critical loads for min 7 – max 30 days



Notional Army Microgrid

Project Development Concept



The Sunna Project

- Steele-Waseca Cooperative Electric
- Owatonna, Minnesota
- Built community solar garden on headquarters, encourages controllable electric water heating

Photo credit of Steele-Waseca Cooperative Electric https://swce.coop/swce-field-services/renewables/

The Sunna Project

- $1,225 for one panel

OR

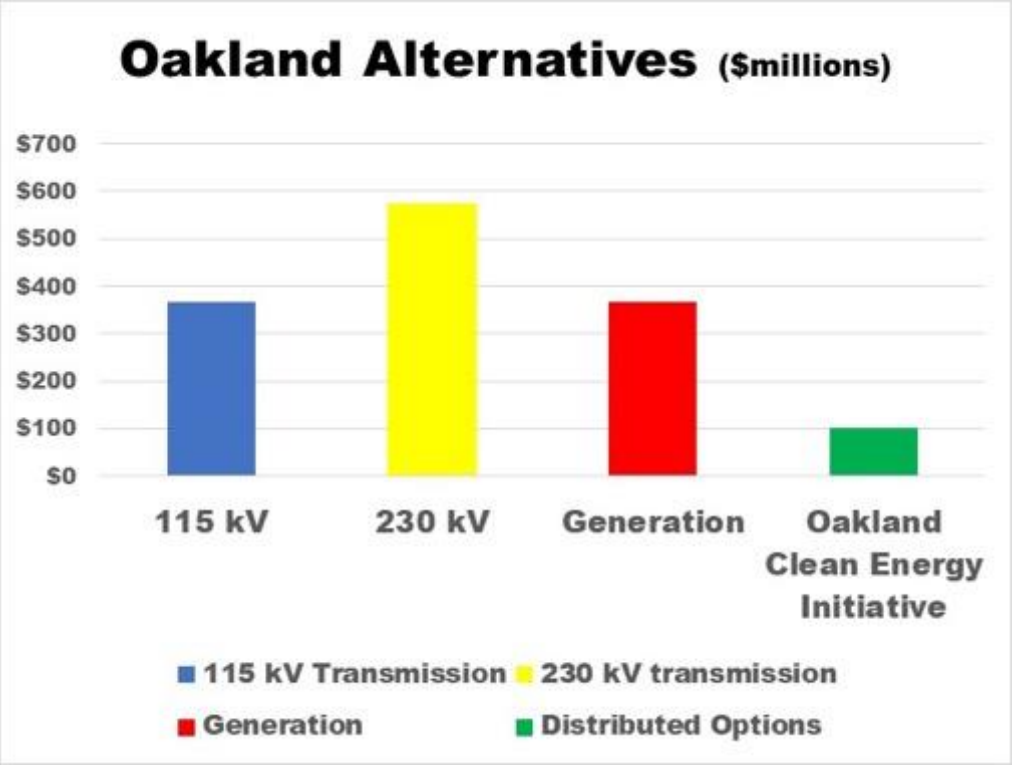
- $170 for one panel + a free electric water heater if the customer subscribes to the grid-integrated water heater program

Program example: NV Energy's mPowered Home Energy Mgmt.

- Direct load control of >50,000 devices
- Significant peak reduction (>100MW)
- Another option for grid optimization
- Customer receives dividend and saves 10-15% on bill

It’s happening in Oakland CA

The Oakland Clean Energy Initiative crafted by East Bay Clean Energy and PG&E combined DR, EE, and DG to obviate the need for a 230 kV transmission project.



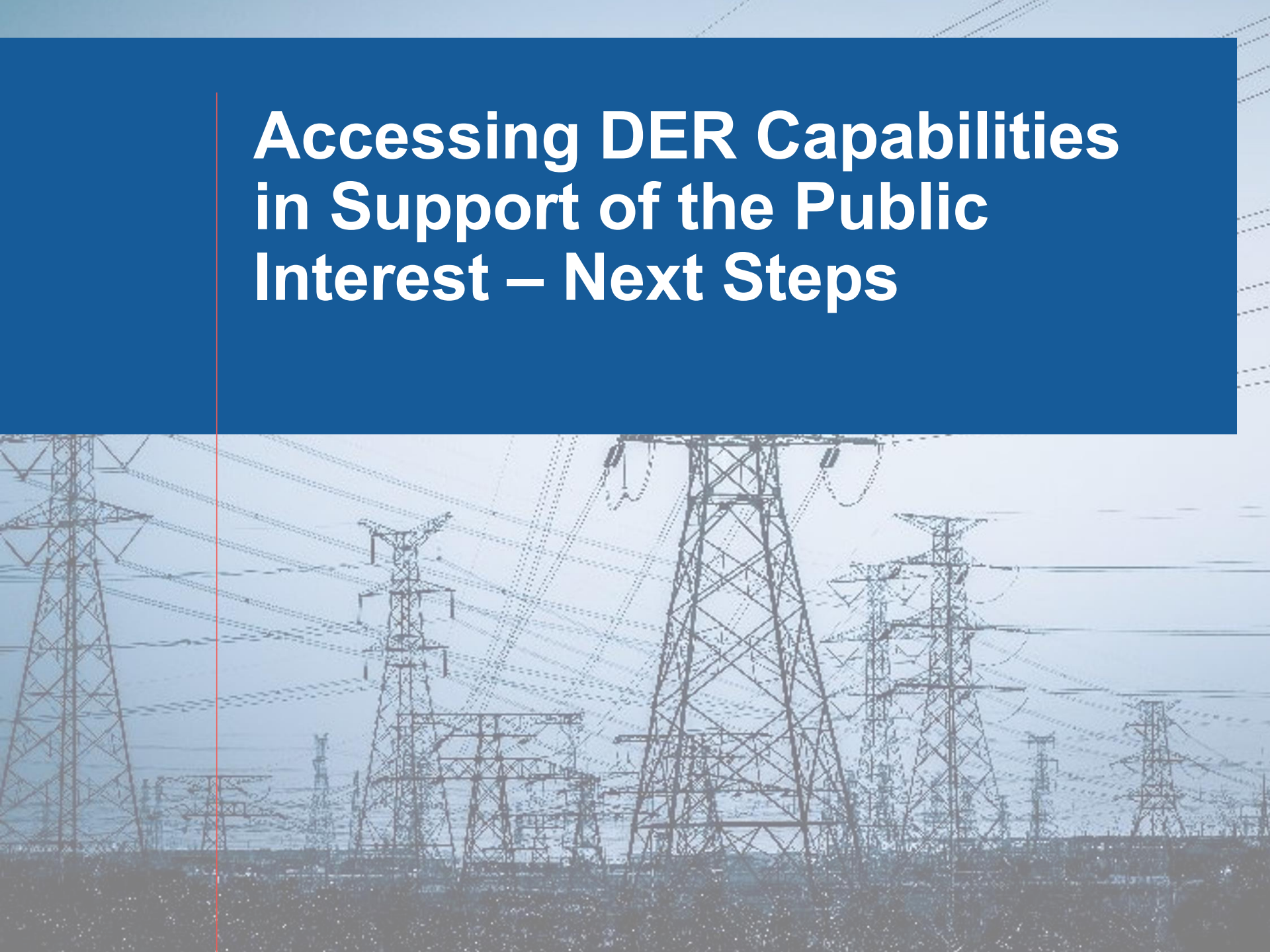
AMI deployment in Texas

- AMI enables a daily flow of 15-minute interval meter data for wholesale settlement and retail pricing for 7.1 million customers
- Benefits include improved reliability, improved accuracy of daily wholesale settlement; daily flow of meter data; retail pricing that better reflects wholesale costs…
- Customer access to meter data enabled at web portal, known as Smart Meter Texas. Also intended as an access point for Competitive Service Providers to use data for new products

IEEE 1547-2018 Interconnection Rule can expand DER value opportunity

- Efforts are underway to implement to simplify and streamline processes in some states (MN)
- Will apply to all DERs injecting energy into the distribution grid (not just PV)
- Addresses key concerns: safety, reliability, exported power is measurable and visible, and frequency, voltage and power quality protected

Accessing DER Capabilities in Support of the Public Interest – Next Steps

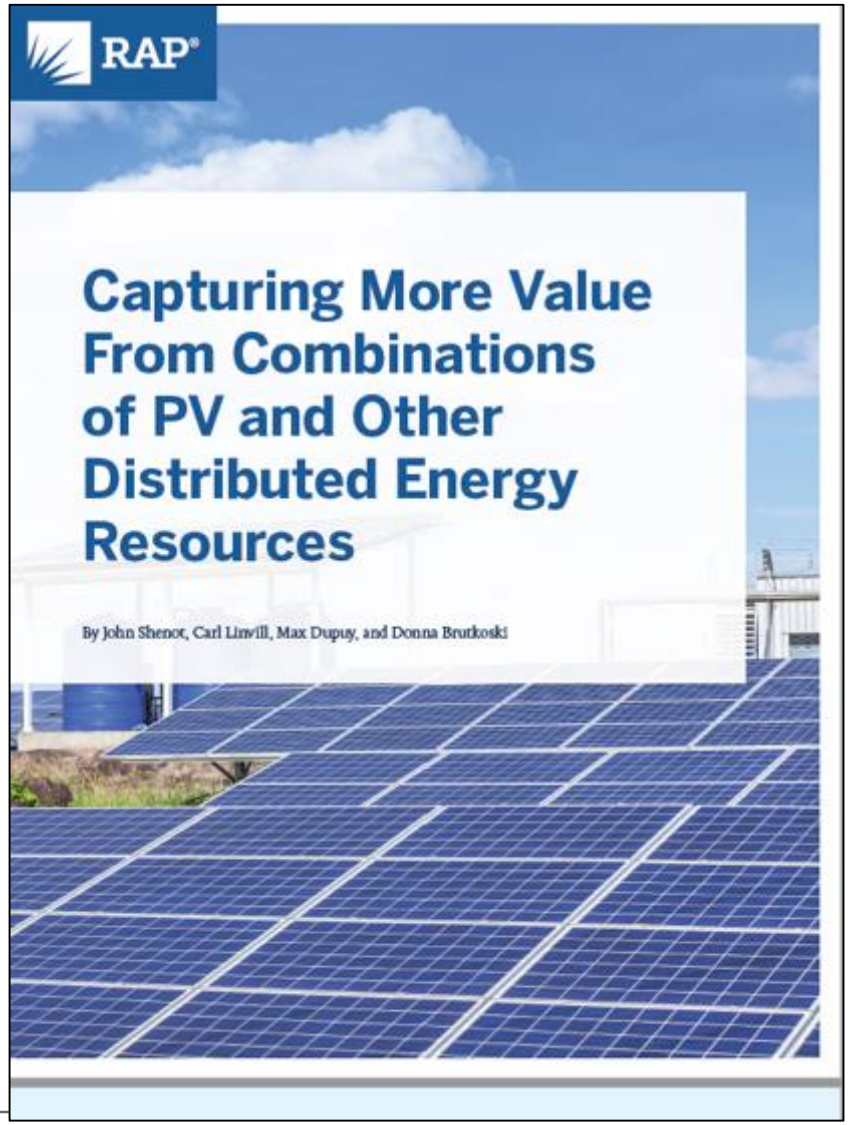


New RAP Publication

This webinar is based on a report RAP produced with support from the National Renewable Energy Laboratory for the U.S. Department of Energy through the DOE Solar Energy Innovation Network.

The opinions expressed are those of the authors.

Full report available at:
https://www.raponline.org/knowledge-center/capturing-more-value-from-combinations-of-pv-and-other-distributed-energy-resources/

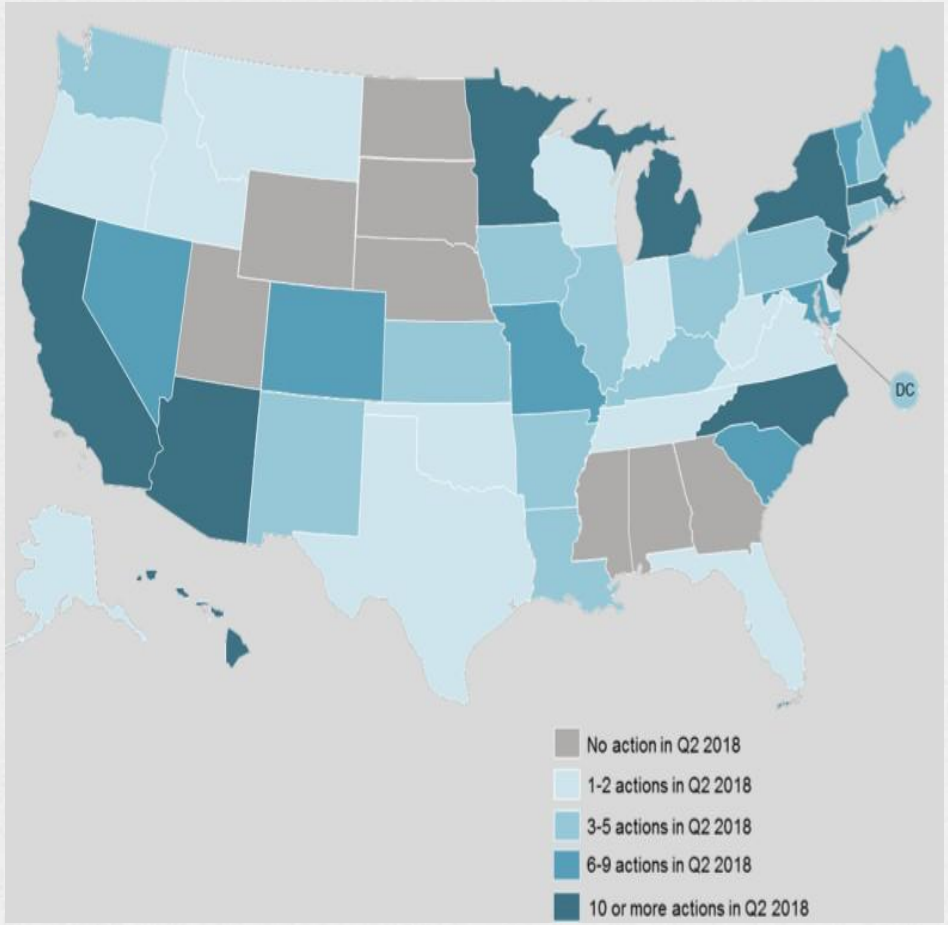


Five categories for action

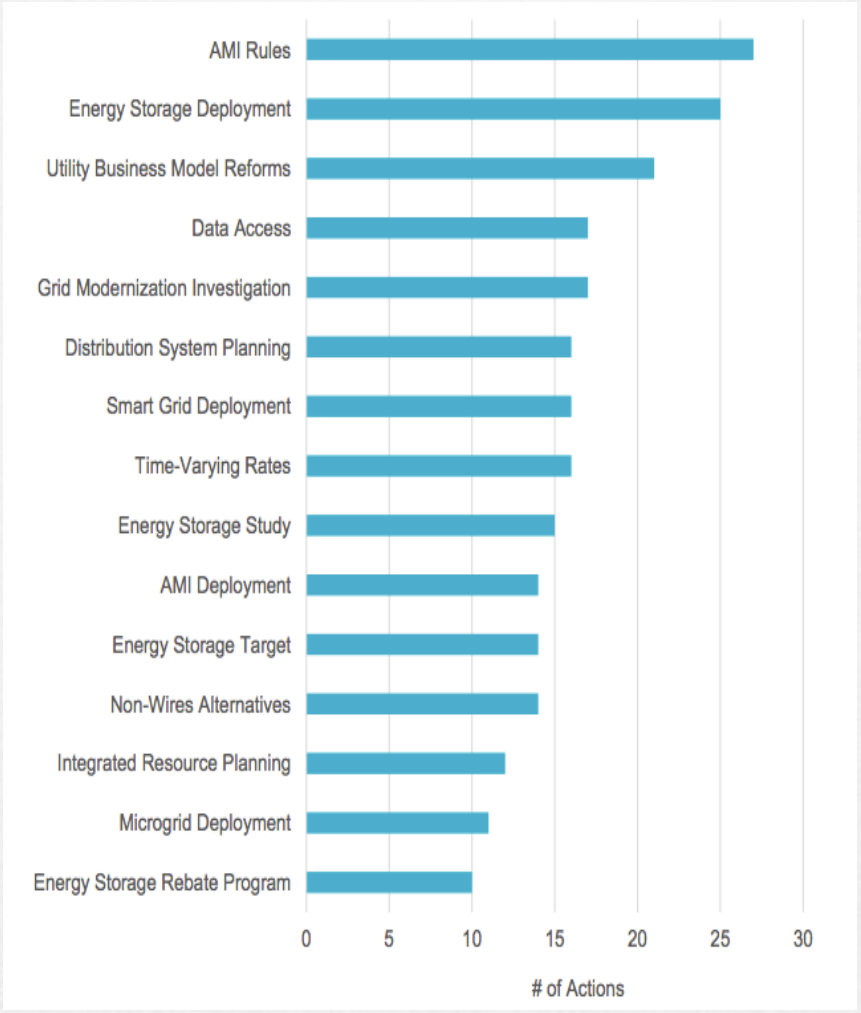
- Technology, Metering, Communications, and Data System Investment and Utilization
- Smart retail rate design and dynamic pricing
- Wholesale and Distribution System Coordination – Visibility, interoperability and co-optimization
- Planning Process Improvements – Integrated Distribution Planning
- Utility programs and procurement

States across the U.S. are taking action to modernize the grid

Q2 2018 Legislative and Regulatory Action on Grid Modernization



Most Common Types of Actions Taken in Q2 2018



Source: NC Clean Energy Technology Center, *50 States of Grid Modernization (Q2 Quarterly Report)*.

About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org

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