# How Utilities are Navigating the New Distributed Energy Landscape

## Utilities Must be More Proactive as Distributed Resources Approach Tipping Point

### Industry Insight

Because of the **rapid expansion of distributed energy resources** (DER) **states and utilities have begun reconsidering their strategies and planning processes**. Technology advancement, attractive costs, customer interest in energy management, and policy changes are driving the transformation to a dynamic electric system composed of multiple energy sources and two-way power flows. To date, **most utilities have viewed DERs as a threat to their revenue and reliability**. Recently, however, **some utilities have started accommodating peak demand and offsetting traditional infrastructure expenditures through DERs**.

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## #1: Recent State and Federal Actions on DER

State utility regulators have tried diverse approaches to integrate DERs. These include **studying the impact of DERs, changing DER compensation methods, laying out DER integration plans, modernizing the grid, and managing the demand**.

**CA** R1407002

On February 20, the CA PUC proposed multiple programs to spur **the installation of renewables in low-income housing**

**CA** R1503011

On January 17, the CA PUC approved 11 regulations that enable **energy storage operators to receive compensation** for the multiple services they provide to the electric grid

**CA** R1407002

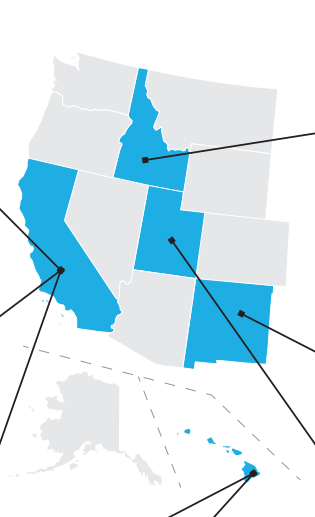
On December 14, the CA PUC created an incentive program for **solar on existing multifamily affordable housing**

**HI** 2017-0226

On February 7, the HI PUC signed off on **HECO's proposal to modernize its electric system** to prepare for more renewables

**NY** 15-E-0751

On February 22, the NY PSC announced it would accept renewable projects with up to **5 MW of capacity in its VDER** compensation program, up from 2 MW



**ID** IPC-E-17-13

On February, 7, the ID PUC announced hearings to consider Idaho Power Company's proposal to create **a separate compensation scheme for NEM customers**

**NM** SB 79

On February 14, the NM State Legislature approved a bill that would **restore income tax credits** for homeowners, businesses, and farmers on the costs of **installing solar**

**HI** 2015-0412

On January 25, the HI PUC approved **four residential DR programs proposed by HECO** to help Hawaii source all of its electricity from renewables by 2045

**UT** SB 141

On March 22, Utah Gov. Gary Herbert, a Republican, signed legislation **extending the $1,600 tax credit for residential solar installations** in the state for two years

**NY**

On December 4, the NYISO unveiled a plan to develop a **"full market participation model" for energy storage** which can be eligible to offer all potential services and set market clearing prices

**NY** 17-E-0458

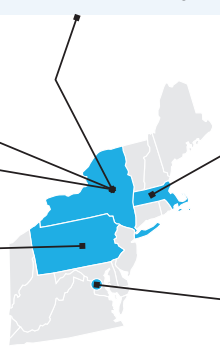
On February 22, the NY PSC approved a plan to significantly increase the ability of **energy storage systems to export power to ConEd's** distribution grid

**MA** 17-05

On January 5, the MA DPU approved a plan by Eversource Energy to impose a **demand charge based on maximum monthly usage for residential NEM** customers who install solar panels on or after 12/31/2018

**PA** M-2017-2604382

On March 15, the Pennsylvania Public Utility Commission clarified that **third-party EV charging is not considered resale** or redistribution of power



**FERC** RM16-23-000

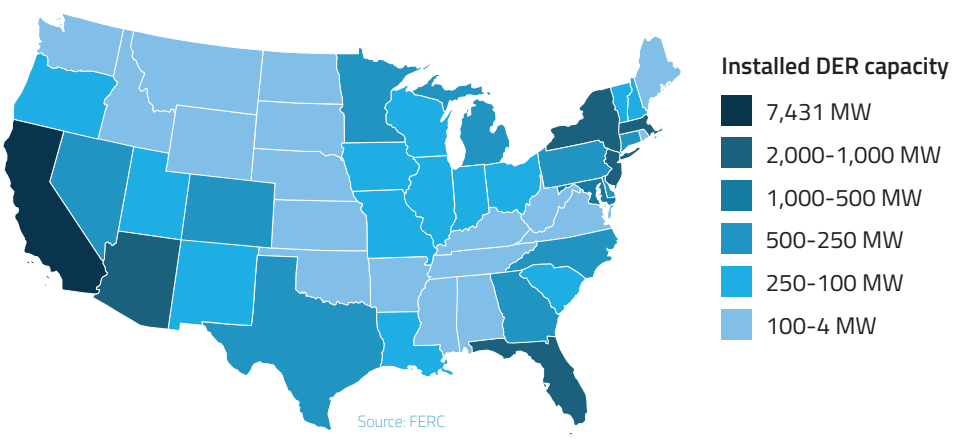
On February 15, FERC finalized reforms to **remove barriers that prevent electric storage from selling into wholesale power markets**

## #2: Select Open Dockets on DER

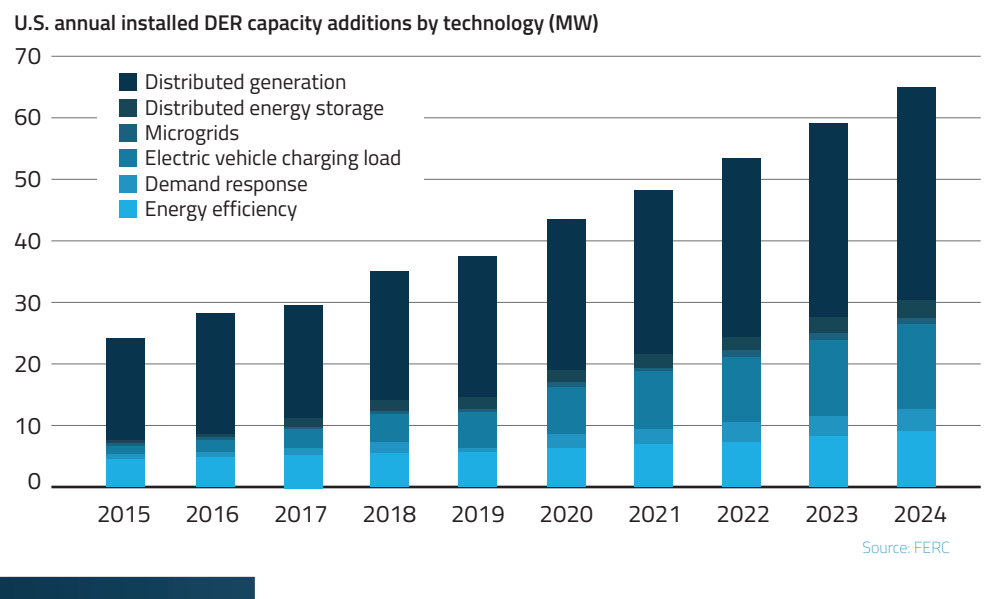
| | | |
|---|---|---|
| AR | 16-028-U 4/2016 | In the matter of an investigation of policies related to renewable distributed electric generation |
| AZ | E-00000J-14-0023 1/2014 | In the matter of the Commission's Investigation of Value and Cost of Distributed Generation |
| CA | R1410003 10/2016 | Order instituting rulemaking to create a consistent regulatory framework for the guidance, planning, and evaluation of integrated distributed energy resources |
| CA | R1503011 4/2015 | Order instituting rulemaking to consider policy and implementation refinements to the Energy Storage Procurement Framework and Design Program and related Action Plan of the California Energy Storage Roadmap |
| CA | R1408013 8/2014 | Order instituting rulemaking regarding policies, procedures and rules for development of distribution resources plan |
| CA | R1309011 9/2013 | Order instituting rulemaking to enhance the role of DER in meeting the state's resource planning needs and operational requirements |
| DC | FC1130 6/2015 | In the matter of the investigation into modernizing the energy delivery system for increased sustainability |
| HI | 2014-0192 8/2014 | Proceeding to investigate distributed energy resource policies |
| HI | 2014-0183 8/2014 | Proceeding to review the power supply improvement plans for Hawaiian electric companies |
| HI | 2015-0412 12/2015 | Proceeding regarding Hawaiian electric companies' application for approval of DR program portfolio tariff structure, reporting schedule, and cost recovery of program costs through the demand-side management surcharge |
| HI | 2015-0389 10/2015 | Proceeding regarding Hawaiian electric companies' application for approval to establish a rule to implement a community-based renewable energy program, and other related matters |
| LA | R-33929 10/2015 | Review of policies related to customer-owned solar generation and possible modification of the current net metering rules |
| MD | PC44 9/2016 | In the matter of transforming Maryland's electric distribution systems to ensure that electric service is customer-centered, affordable, reliable and environmentally sustainable in Maryland |
| MN | 16-521 6/2016 | In the matter of updating the generic standards for the interconnection and operation of distributed generation facilities |
| NH | DE 16-576 5/2016 | Development of new alternative net metering tariffs and/or other regulatory mechanisms and tariffs for customer-generators |
| NY | 15-E-0751 12/2015 | In the matter of the value of distributed energy resources and an interim successor to net energy metering |
| NY | 15-E-0082 2/2015 | Proceeding on motion of the commission as to the policies, requirements and conditions for implementing a community net metering program |
| NY | 14-M-0101 4/2014 | Proceeding to implement the REV Initiative which seeks to increase DR and promote the deployment of DERs through modifications of existing programs or rule changes |
| NY | 16-M-0411 7/2016 | In the matter of distributed system implementation plans submitted by the state's investor-owned utilities pursuant to REV |
| WA | UE-151069 5/2015 | In the matter of the WA UTC's investigation into energy storage technologies |

## #3: DER Capacity Nationwide

In February, FERC found (**AD18-10-000**) that **DER growth would continue even without supportive policies**, due to other factors such as customer appeal for self-supply, environmental values, and falling costs of DER technologies. **In 2016, DERs made up about two percent of the installed generation capacity in the U.S.**, with distributed solar photovoltaic (PV) installations comprising more than 12 percent of new capacity. **California currently leads the nation with over 7,000 MW of DER capacity**.




U.S. annual installed DER capacity additions by technology (MW)




High renewable procurement targets set by states are expected to spur **rapid growth in installed capacity**. The analysis suggests that the DER growth, if not properly accounted for, could raise grid reliability concerns. The Solar Energy Industry Association found that residential **solar declined by 16 percent from 2016 to 2017, the first downturn since the industry began reporting in 2010**, due to "weakness in established markets" and customer acquisition issues. However, the overall trend is projected to pick up in the early 2020s as emerging markets start taking off.

## Bottom Line

**Follow the Leader**

As the grid will experience more multi-directional flows and greater variability in the future, system operators will have to change the planning and operation of the distribution system to accommodate new uses and capture the full value of DERs. For this reason, system operators closely follow states such as California and New York for their solutions on balancing the growth in renewables with the safety and reliability of the electric grid.

**Keep Pace**

Whether utilities embrace DERs as a resource for planning consumption, explore new revenue opportunities in grid modernization or energy service businesses, the rapid influx of DERs calls for a proactive commitment. Utilities need to keep pace with the rate at which customers adopt new technologies so that they do not end up grappling with declining revenues or operational issues.

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