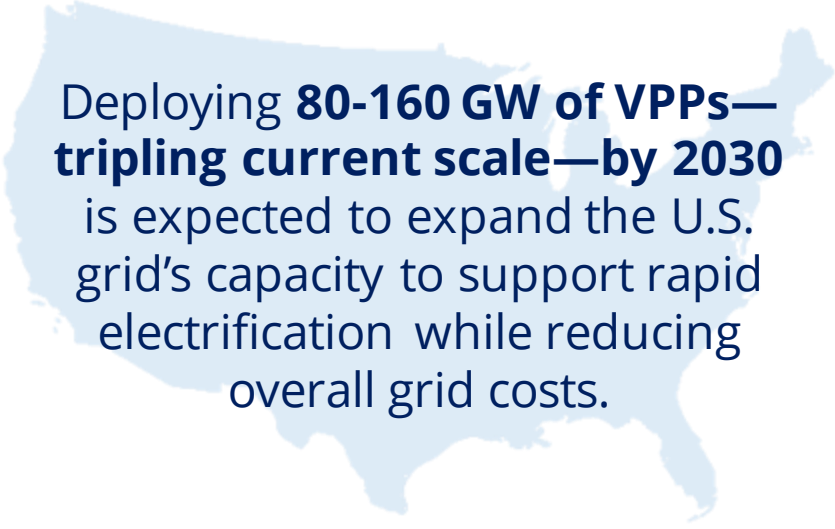


# Liftoff Opportunities Snapshot: Virtual Power Plants

**Virtual Power Plants (VPPs)** are aggregations of distributed energy resources (DERs) that can balance electrical loads and provide utility-scale and utility-grade grid services like a traditional power plant.



Deploying **80-160 GW of VPPs—tripling current scale—by 2030** is expected to expand the U.S. grid's capacity to support rapid electrification while reducing overall grid costs.

Growth in VPPs is at an inflection point, driven by several market factors:

Growth in peak demand increases the need for VPPs.

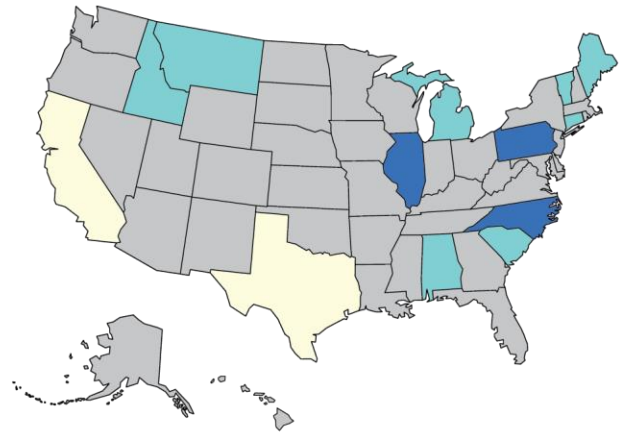
Unprecedented adoption of distributed energy resources increases the potential capacity of VPPs.

Deployments across the country (30-60 GW total) provide models to learn from.

## Specialization in Local Utilities Cluster by State, 2021

- High Employment Specialization and Share
- High Employment Specialization
- High Employment Share

Source: <https://clustermapping.us/>

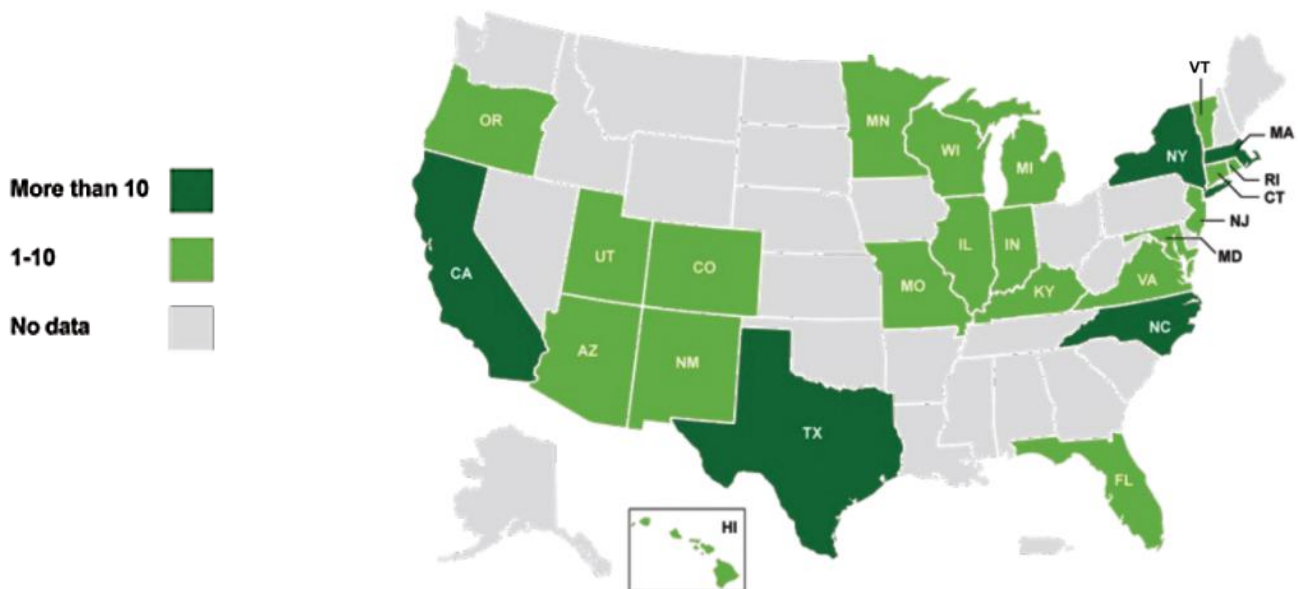


With expected patterns of DER adoption, the national capacity of peak coincident flexible demand that can be cost-effectively managed will grow to 180 GW by 2030.

## VPP deployment by state

Third party VPPs are concentrated in states with favorable policies and regulatory mechanisms that enable VPPs to sell to utilities in retail markets and/or participate in wholesale markets.

Number of third party VPPs procured by utilities in each state (2022)



The information in this flyer is based on the [Pathways to Commercial Liftoff: Virtual Power Plants](#) report.