

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.



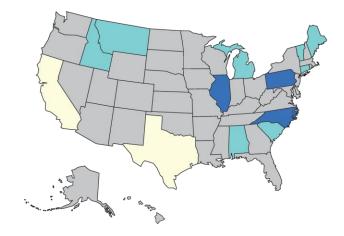
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Specialization in Local Utilities Cluster by State, 2021

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

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



With expected pattens 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.

