

Virtual Power Plant Facts

Virtual power plants (VPPs) are networks of hundreds or thousands of households and businesses that agree to share the power of their thermostats, electric vehicles (EVs), appliances, batteries, and solar arrays to support the grid.

When these devices are combined and coordinated, they can provide many of the same energy services as a traditional power plant.

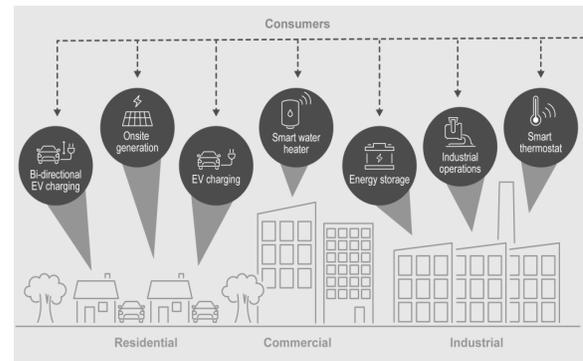
How Does It Work?

VPPs aggregate distributed energy resources (DERs) such as rooftop solar with consumer-side batteries, electric vehicles (EVs) and chargers, electric water heaters, and smart buildings to provide utility-scale grid services like a traditional power plant. VPPs enroll residential, commercial, and industrial electricity consumers in a system that pays them for contributing to efficient grid operations.

A Virtual Power Plant can perform as reliably as conventional resources of electrical power, such as peaking power plants, and can provide energy to the grid at a similar scale, with far less impact on the climate.



Scan for more information on Virtual Power Plants



How Virtual Power Plants Ensure Grid Reliability

VPPs offer a cost-effective way for utilities to integrate accelerating EV and DER growth and use it as additional capacity to increase grid resilience and reduce harmful emissions. Procuring capacity from a VPP can cost utilities 40-60% less than alternatives like natural gas peaker plants. Approximately 33 GW of VPP capacity operates in North America today, comprising about 20% of available DER capacity; accelerating DER deployment increases the potential capacity that can be aggregated.

VPPs present a near-term, low-cost way for grid operators to manage the grid. They're an efficient alternative to managing rising demand while making electricity cleaner and more affordable.

