

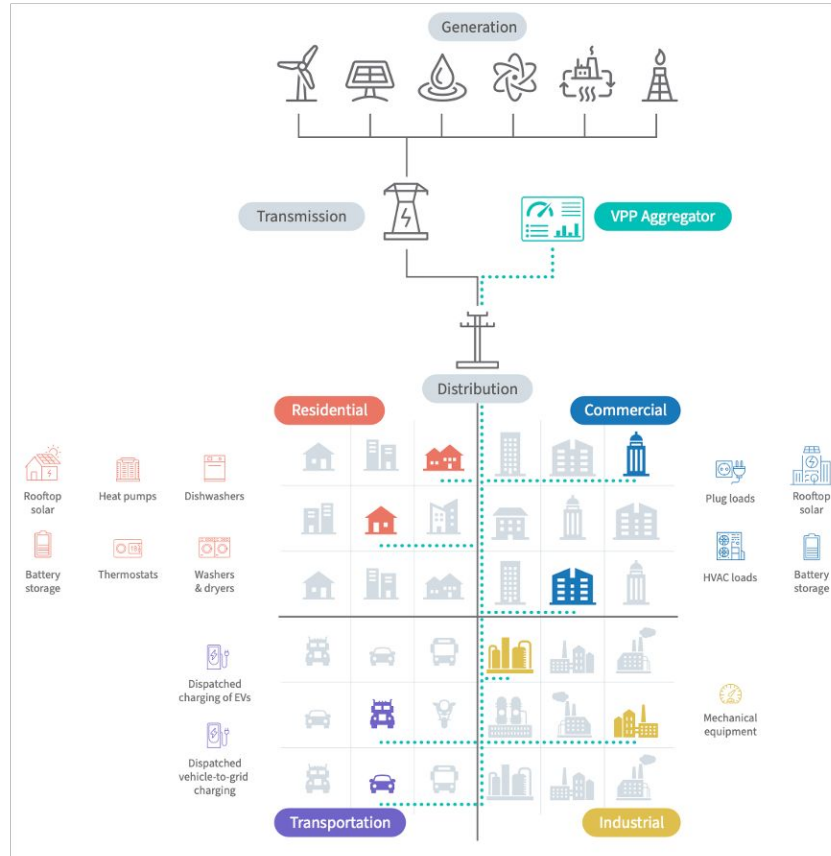
Avery McEvoy
RMI

What is a Virtual Power Plant?

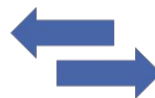
A virtual power plant (VPP) is an aggregation of grid-integrated, distributed energy resources* (DERs) that can balance electrical loads & provide utility-scale & utility-grade grid services.

* **Distributed energy resources (DERs)** include equipment located on or near the site of end-use that can provide electricity demand flexibility, electricity generation, storage, or other energy services at a small scale (sub-utility scale) and are typically connected to the lower-voltage distribution grid.

Sources: Definitions: Adapted from the DOE *Pathways to Commercial Liftoff: Virtual Power Plants*, 2023
Infographic: RMI *Virtual Power Plants, Real Benefits*, 2023



VPPs can play a critical role in future power systems: providing benefits to households, businesses, and society



Resource Adequacy

Integrate distributed generation and storage capacity

Shift demand to follow supply

Affordability

Defer grid capex (generation, T&D)

Avoid fuel costs

Compensate consumers and businesses

Reliability & Resilience

Integrate back-up power

Eliminate single-point-of-failure

Decarbonization & Air Pollution Reduction

Add distributed renewable generation

Reduce curtailment of renewables

Reduce reliance on fossil fuels

T&D Infrastructure Relief

Increase efficiency by smoothing peaks

Alleviate congestion with local dispatch

Community Empowerment

Enable consumers to optimize energy costs, use, and source

Retain and create good jobs

Versatility & Flexibility

Customize design to fit grid needs

Reconfigure as needs evolve

In 2023, RMI launched VP3 to address key barriers and drive VPP market growth



ABOUT	MISSION	RESOURCES
<p>An initiative housed within RMI and funded by industry leaders spanning the automotive, building, energy service, and software sectors</p>	<p>To catalyze industry and change the necessary policies, regulations, and market rules for VPPs to scale in ways that benefit communities and society</p>	<p>WEBSITE — VP3.io</p> <p>INSIGHT BRIEF — Download Here</p>

MEMBERS



*Initial funding of the VP3 effort was made possible by General Motors and Google Nest.

