

ET Summit 2024

Presented by



The Future of Flexibility: An Interactive Discussion



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Current Strategies for Implementing Demand Flexibility

Load Modifying DR

Offer different rates (e.g. TOUs) based on the time of day. Consumers adjust their usage to take advantage of lower prices during off-peak hours.

Electric Vehicle Integration (EVI)

Optimize energy supply and demand by aggregating and orchestrating EV charging and discharging as needed.

Virtual Power Plants (VPPs)

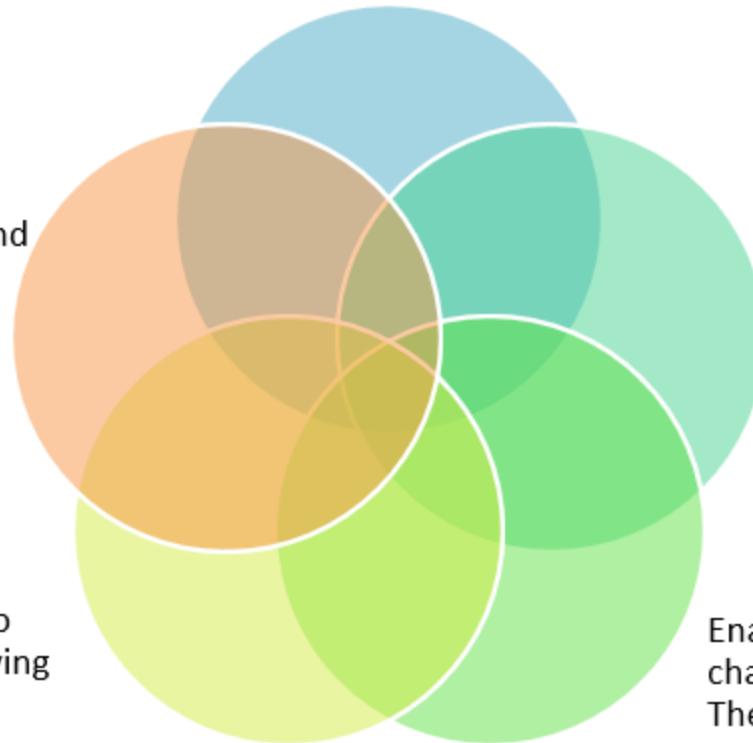
Integrate solar panels and batteries to provide flexibility by storing or supplying energy as needed.

Supply-Side DR

Incentivize customers to shed or shift load during peak periods. Incentives can include bill credits or rebates.

Time Variant Pricing

Enable smart thermostats, water heaters, and EV chargers that respond to grid pricing signals. These devices automatically adjust consumption.



The increasing the number of devices at the grid-edge is driving exponential growth in the amount of data that needs to be exchanged and integrated creating an urgent need to improve interoperability between devices and systems, particularly between 3rd-party service providers, DER owners, and utilities.

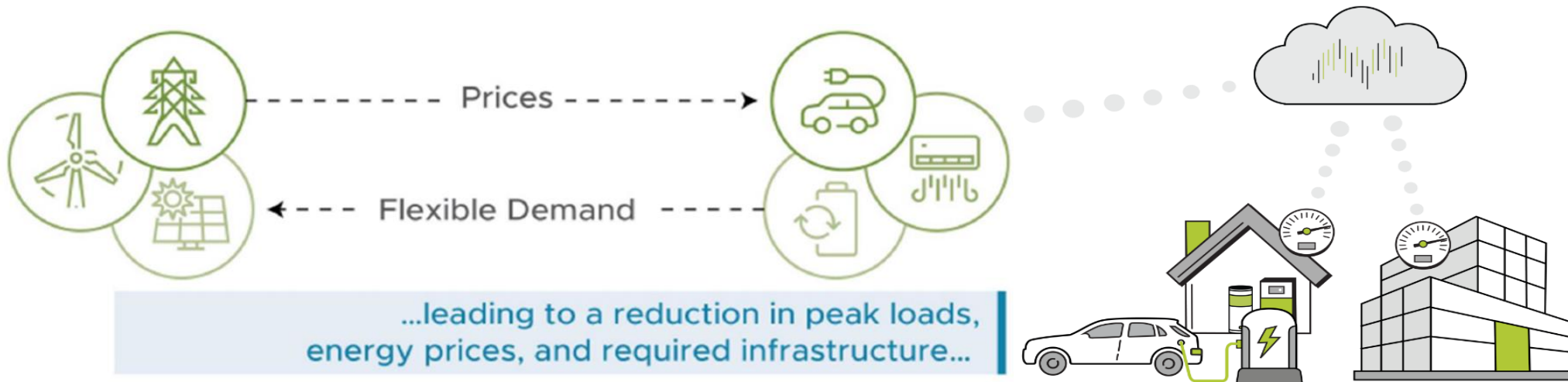
DOE Office of Electricity

https://www.energy.gov/sites/default/files/2024-02/2024%20Smart%20Grid%20System%20Report_untagged.pdf

“In a lot of ways, all of your power grids today, which are really just distribution networks, are going to become smart networks like the internet. There’s going to be a layer on top of it that’s kind of like Uber, kind of like an app store.”

Jensen Huang, founder, NVIDIA

The Future Vision for Flexible Demand – customers integrated into the smart grid



Lower peak load means less infrastructure cost..

...and customers buy more electricity when it is cheaper



➔ Reduced peak loads, energy prices, infrastructure needs

➔ Reduced cost of service

The AI Enabled Transactive Framework – 2045?

