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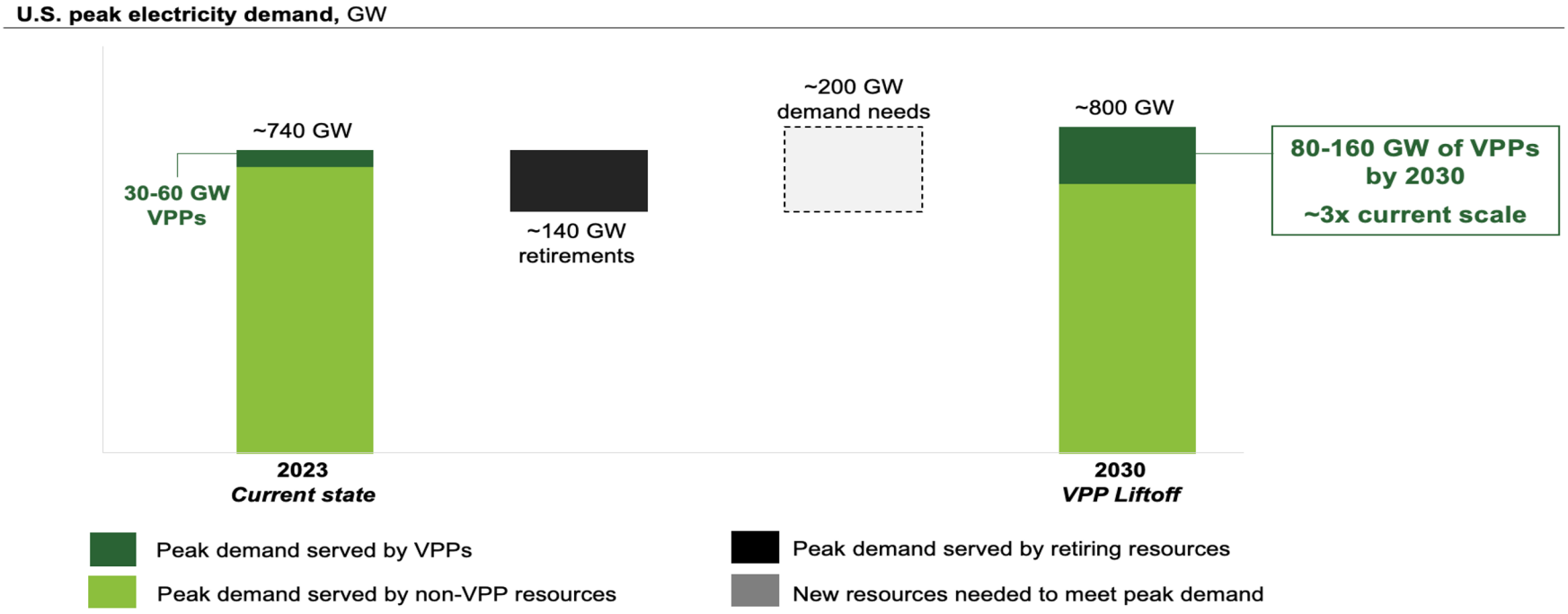
Distributed Power Plant Model Tariff

The DPP Value Proposition

DPPs provide multiple grid, customer and social benefits: e.g., resource adequacy, system peak reduction, locational benefits, T&D congestion relief, emission reductions, and empower households and communities to lower their energy bills, build resiliency and contribute to clean energy goals and grid reliability.

Peak reduction is low hanging fruit: DOE estimates that 3X the current scale of DPPs could address 10-20% of peak demand nationally, saving ~$10B in grid costs annually



*Source: [US Dept. of Energy, Pathways to Commercial Liftoff: Virtual Power Plants]

SUN's DPP Initiative

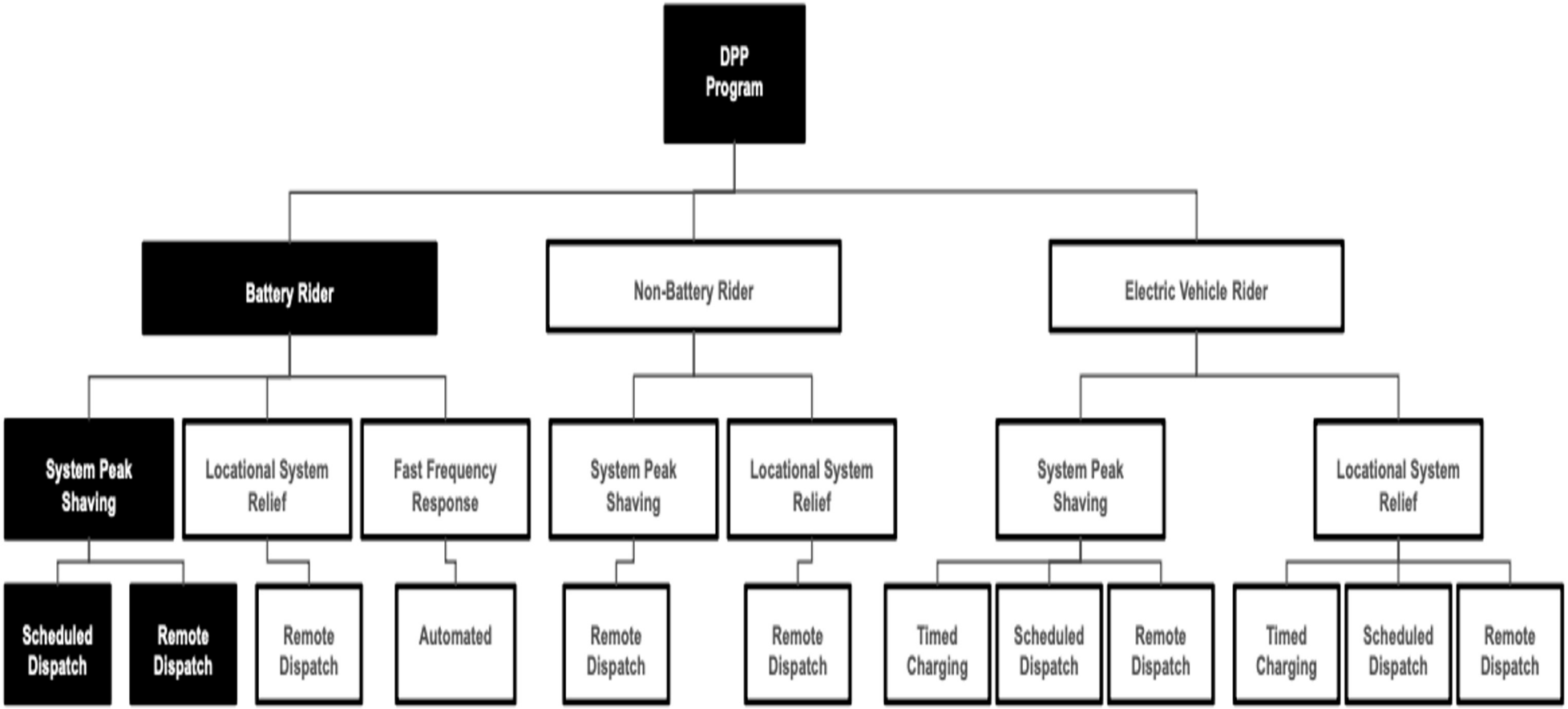
1. Develop Model DPP Tariff, and other tools to help regulators and stakeholders develop, implement, and accelerate VPP / DPP program adoption at scale for customer sited DERs

1. Draw on best practices from currently operating programs

1. Target DOE's VPP Liftoff Report recommendations with primary focus on #3

*Source: US Dept. of Energy, Pathways to Commercial Liftoff: Virtual Power Plants

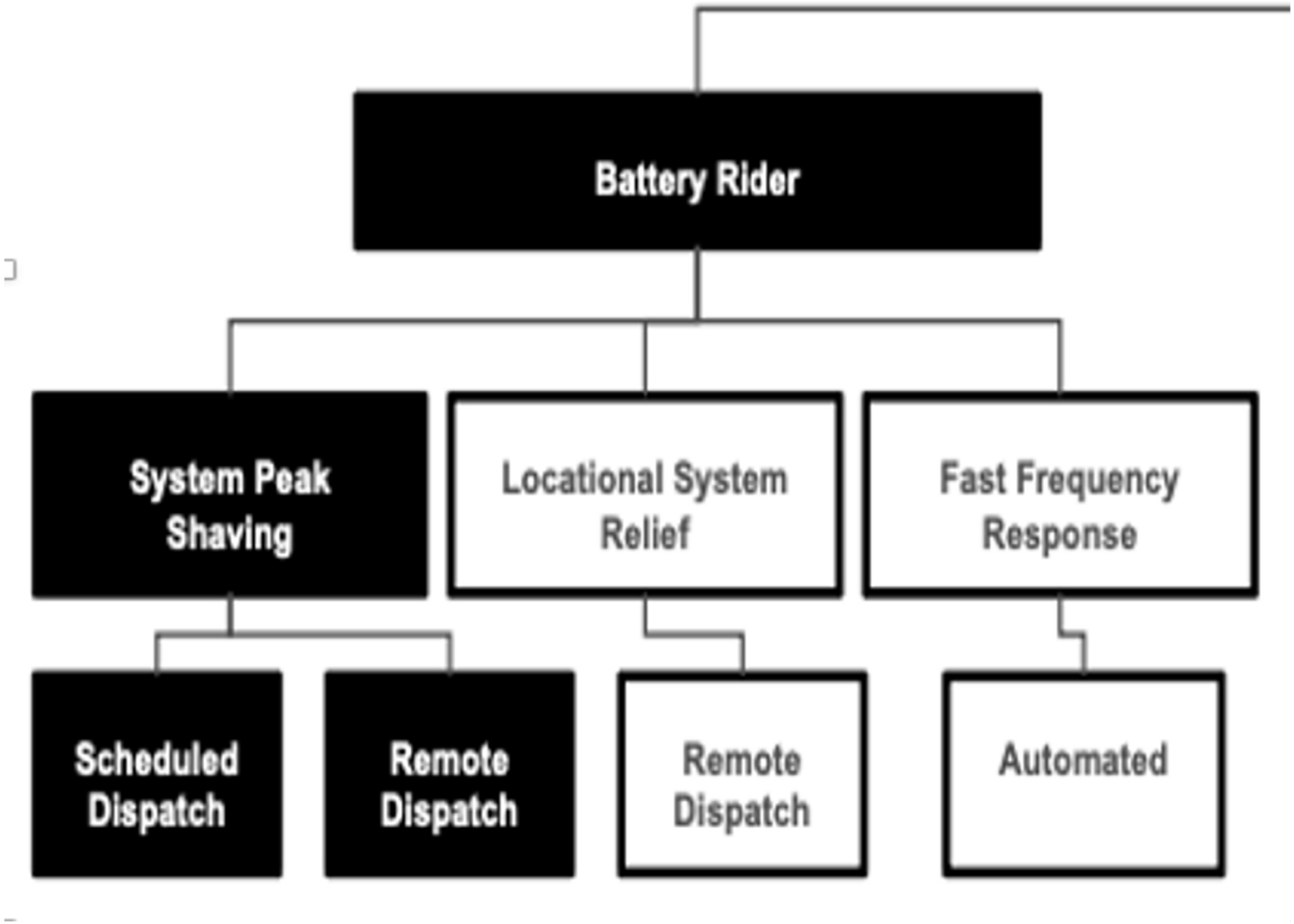
Program Architecture: Riders for Specific Technologies Delivering Specific Services



Model Tariff: Key Program Design Elements

Program Framework	Open access, standard offer
Market Focus	Retail, utility administered
Eligible Customers	Residential and light commercial (initially)
Eligible Technologies	Initial focus on batteries, can readily add EV and non-battery/load control device riders for operation within same program ecosystem
Enrollment/ Participation	Through aggregator or directly with utility, implemented via scheduled or remote dispatch protocol
Services Included	Initial focus on capacity service for system peak load reduction, ability to readily incorporate additional services
Communication	Aggregator portal, API, OpenADR 2.0b, IEEE 2030.5, email, push notifications, etc. (for remote dispatch)
Performance Measurement	At the device for battery storage
Compensation	For batteries, nominal $/kW upfront payment (higher for income-qualified and other designated customers) + ongoing $/kW (month/season) performance payment with performance payment rate locked for 5 years
Energy Exports	Credited on customer bill at retail to ensure participation

Program Architecture: Battery Rider



Model Tariff: Battery Storage System Peak Reduction Service

System peak reduction: initial service offering that expands eligibility across utility service territory, pathway to add services as program enrollment increases.

Capability period: defined by utility, depending on system needs (*e.g.*, summer peaking utility targets capability period of June – September).

Dispatch window: 2 hours during the peak (*e.g.*, utility with evening peak targets 5 – 9 pm window, schedules or remotely dispatches batteries within that peak window).

Dispatch via Scheduled or Remote approach: (design around one for program launch)

- Scheduled: e.g., HECO Battery Bonus (Hawaii), PG&E Energy Efficiency Summer Reliability (California)
- Remote: e.g., Connected Solutions (Massachusetts, Rhode Island), Energy Storage Solutions (Connecticut)

Number of events: Dependent on system/market needs & dispatch protocols.

DPP Model Legislation

Model legislation to establish DPP program deployment requirements

Key elements include:

- Establish program framework requirements based on the Model Tariff
- Provide utility earning opportunities tied to DPP program deployment
- Directs regulators to enhance program opportunities for low- and moderate income customers and customers in disadvantaged communities
- Provide mechanism to establish capacity procurement targets for DPP program services, focused on system peak demand

Next Steps

Advocate for adoption of model tariff and model legislation

Work with utilities, regulators, DER industry, and other stakeholders to leverage benefits of DPP programs through the Model Tariff approach

Continue refining Model Tariff battery program and build out the EV and Non-Battery riders of the Model Tariff

Additional Next Steps

- Coordinate with us. Email us at advocacy@solarunitedneighbors.org
- Full page coming at www.solarunitedneighbors.org/vpp
- Public webinar to launch these models this fall stay tuned

Thank You

CONTACTS

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