

Spotlight: Vehicle-to-Everything

Electric Vehicles for Resilience and Flexibility

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December 2025

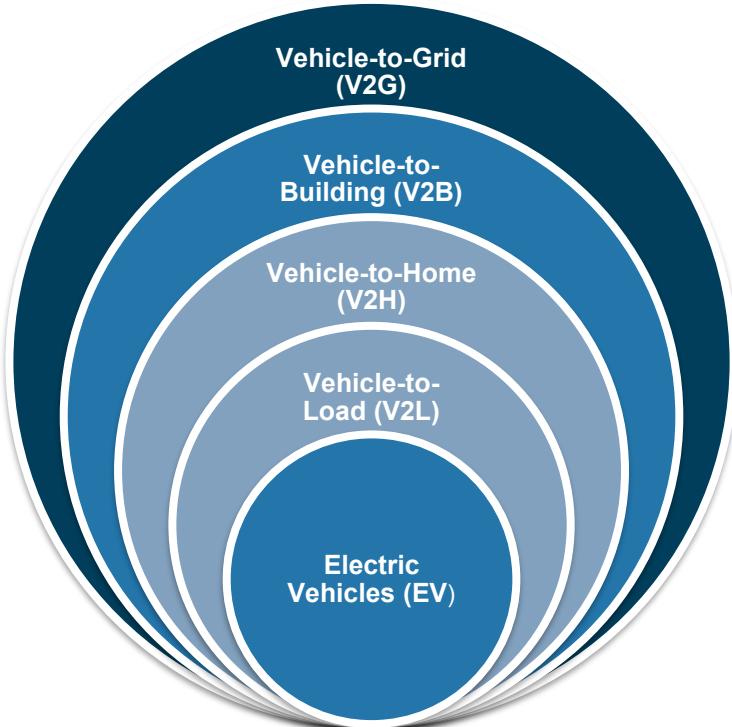
Energy Storage



Bi-Directional Charging



Vehicle-to-__? (X = Everything)



V2G: Grid support services like providing capacity for constrained feeders and substations



V2B: Peak load management in commercial facilities



V2H: Backup power during outages, especially in rural areas



Emergency Power: Power for hospital and community centers during disasters



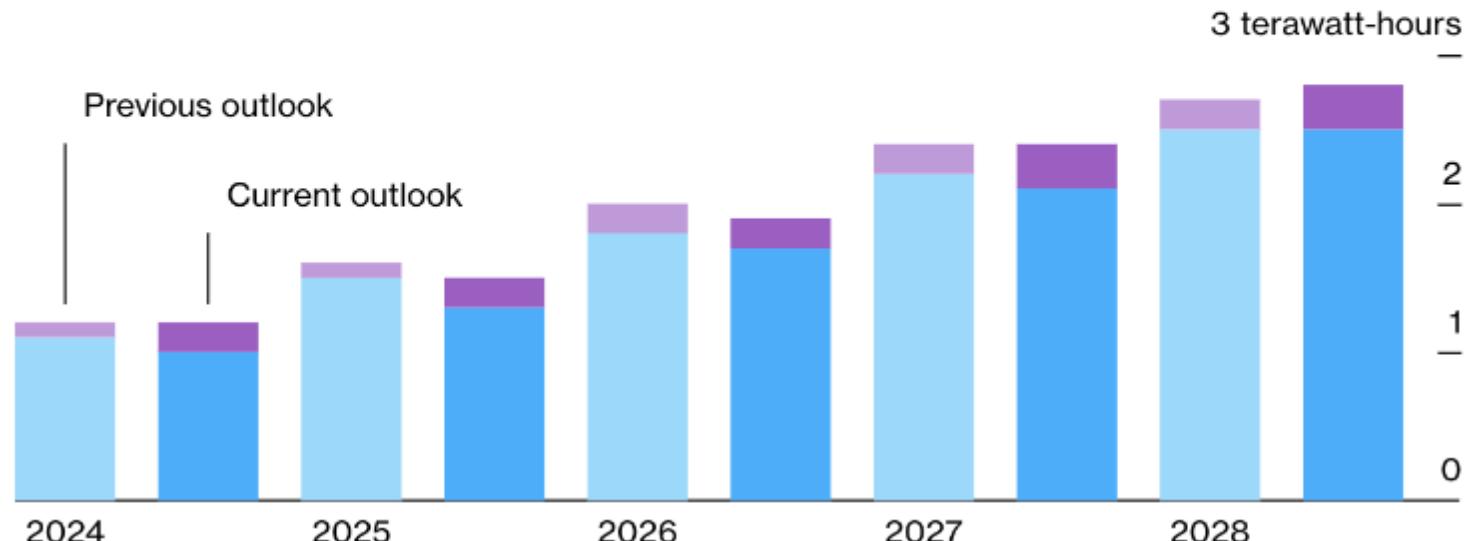
Planned outage support: Power for businesses during facility upgrades

Vehicle-to-Grid (V2G) Excitement

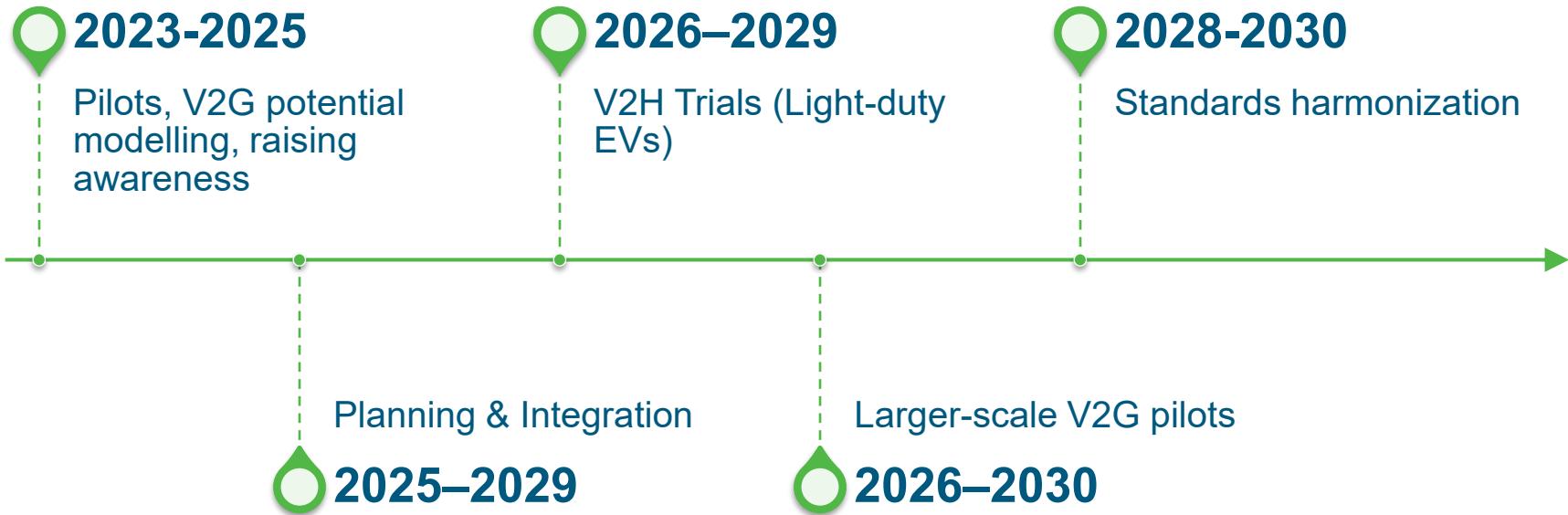
More Batteries for Stationary Storage as EV Sales Growth Slows

Annual lithium-ion battery demand forecast, by application

■ EVs ■ Stationary storage



Phased Implementation Timeline (2023-2030)



Test at Powertech Labs



BORGWARNER

LION ELECTRIC

Fermata Energy

V2G at Lynch Bus Lines

V2G + V2B



Tellus Power Green

TECIUM
IOT

BYD

RIDE

EVGATEWAY

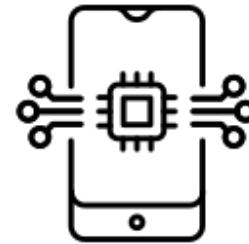
Future Pilots

V2G Hubs: Movable assets with MD and HD EVs

V2H Pilots: Outage resilience with LD EVs

V2B Pilots: Light commercial & seasonal fleet use

Interoperability: Partnering with standards agencies



Partners of Task 53

by October 23, 2025



EU

Switzerland



USA



China



United Kingdom



Canada



South Korea



Norway



Denmark



Spain



Germany



Luxembourg



Sweden



Finland



Belgium



Ireland



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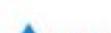
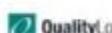
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