

Spotlight: Vehicle-to-Everything

Electric Vehicles for Resilience and Flexibility

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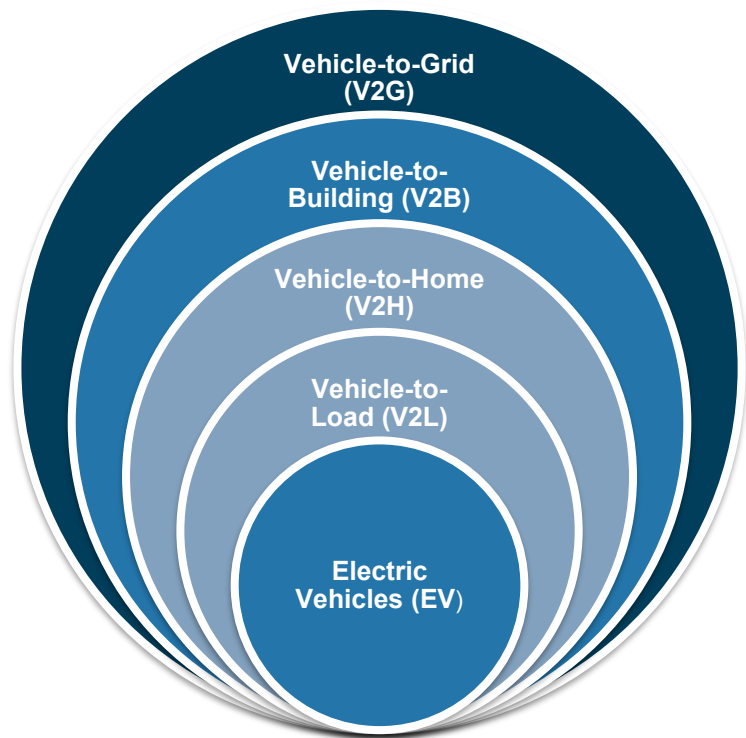
Energy Storage



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



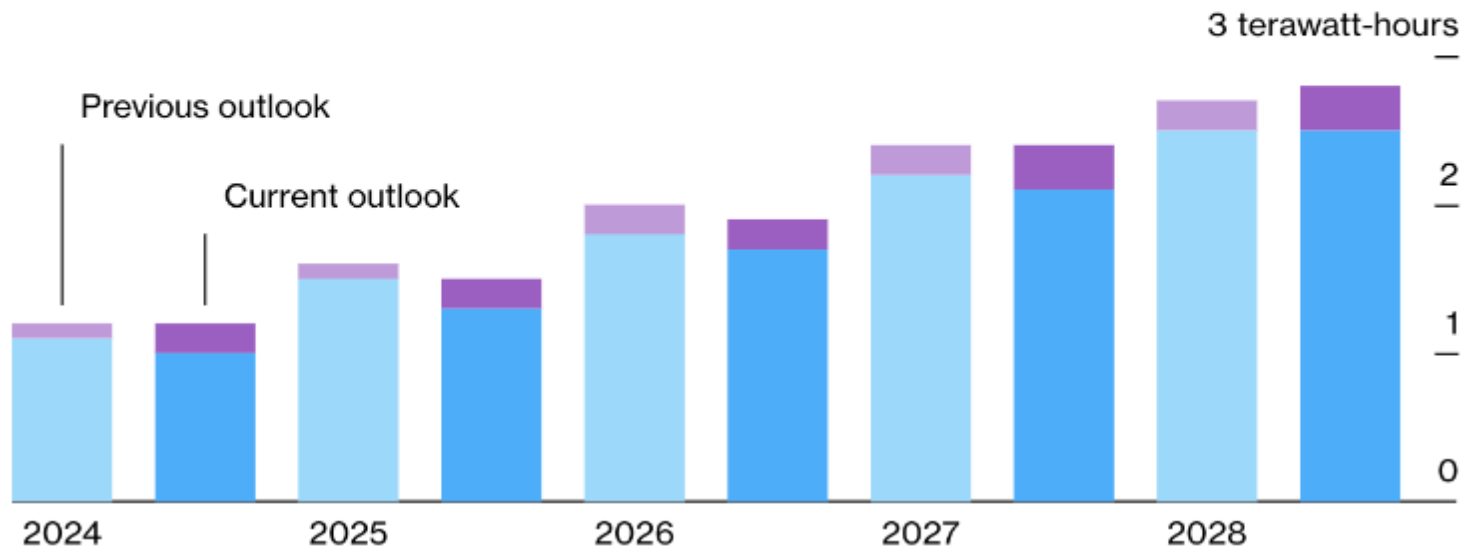
Planned outage support: Power for businesses during facility upgrades

Vehicle-to-Grid (V2G) Excitement

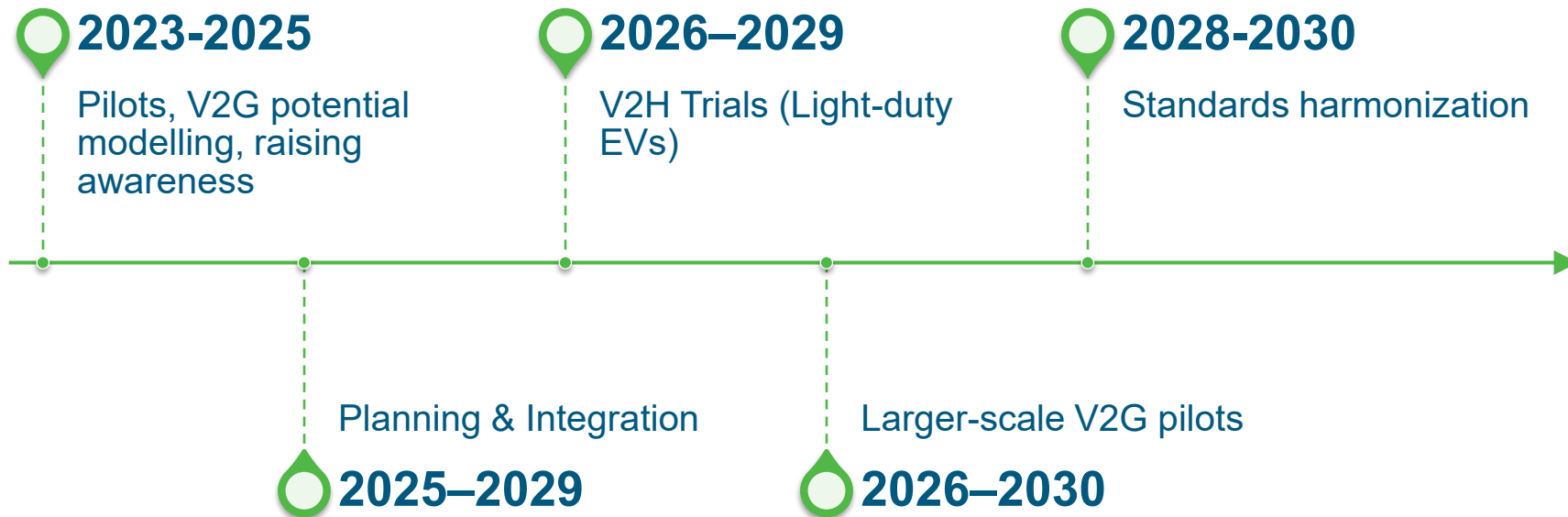
More Batteries for Stationary Storage as EV Sales Growth Slows

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

 EV GATEWAY

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



