DOCKETED	
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CEC REDWDS PROJECT
UPDATE

EVs deliver value beyond driving



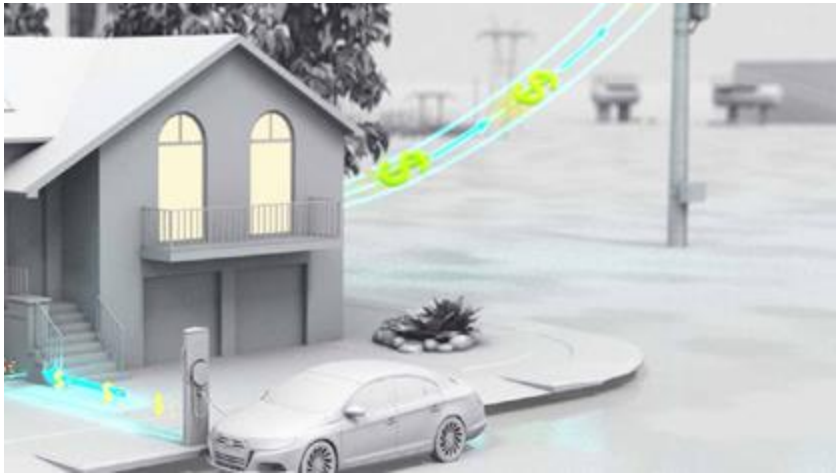


FRANCES BELL
NOVEMBER
2026

We are the bridge between EV consumers and the grid

WE COORDINATE CHARGER DEPLOYMENT AND OPERATE RESIDENTIAL EV FLEXIBILITY





FOR EV DRIVERS

- We make it **simple** to turn your car into power.
- Earn money, save on your bill, and keep your home running during outages.

FOR UTILITIES

- Access **fast**, **flexible** power when it's needed most.
- Reduce peak strain and boost grid resilience without building new plants.

BIDIRECTIONAL ENERGY

REDWDS puts residential V2G to work

01

DEVELOP V2X CHARGING

Develop interoperable bidirectional charging products to help customers manage charging events in response to customer needs and dynamic grid signals.

02

DEPLOY V2X CHARGING

- Install with real customers statewide
- Include dynamic rates + priority communities

03

MANAGE V2X (DIS)CHARGING

Help customers manage charging in response to grid signals to achieve

- utility bill savings
- earnings from grid events
- resiliency through backup power
- driving needs are satisfied,

Who Makes the Program Real

BIDIRECTIONAL ENERGY ORCHESTRATES HARDWARE + INSTALLERS TO DELIVER LIVE V2X SITES

Bidirectional Energy	Wallbox	COIL	Treehouse
Operator + Aggregator	Charger OEM	Installer	Installer

Hardware: Charger and EV development status

1. Quasar 2 hardware approved for Rule 21

Listed on the CEC V2G Equipment List

2. Quasar 2 API deployed

BE integration complete with live V2G operations

3. EV unlocked V2G in Kia EV9 and EV6 models

More makes to be announced soon

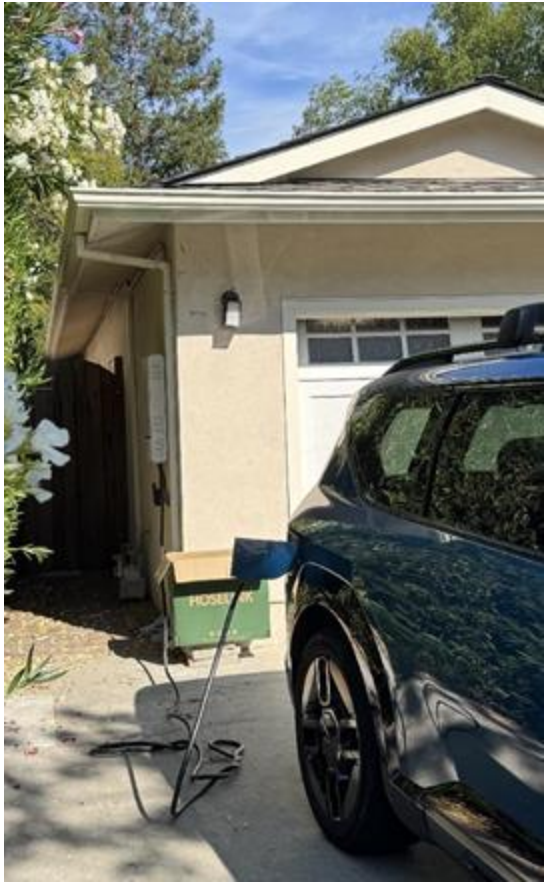
4. First installations completed

Demonstrating end-to-end feasibility



BIDIRECTIONAL ENERGY

First Residential V2G + NEM Live







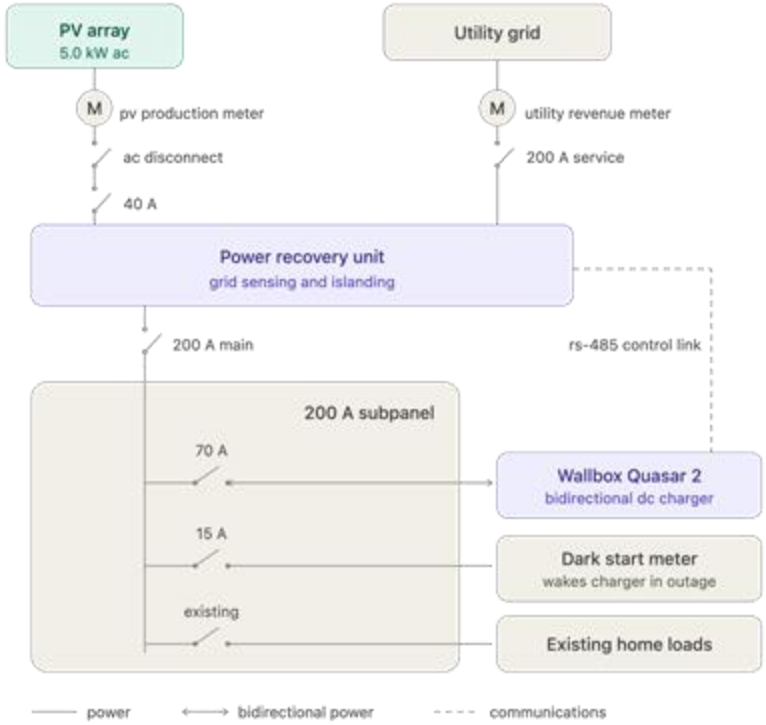
171 days from application to PTO.

Fieldwork prerequisites shaped the schedule. PTO followed within 10 days of NGOM installation.

BIDIRECTIONAL ENERGY

One integrated system for solar, V2G and backup

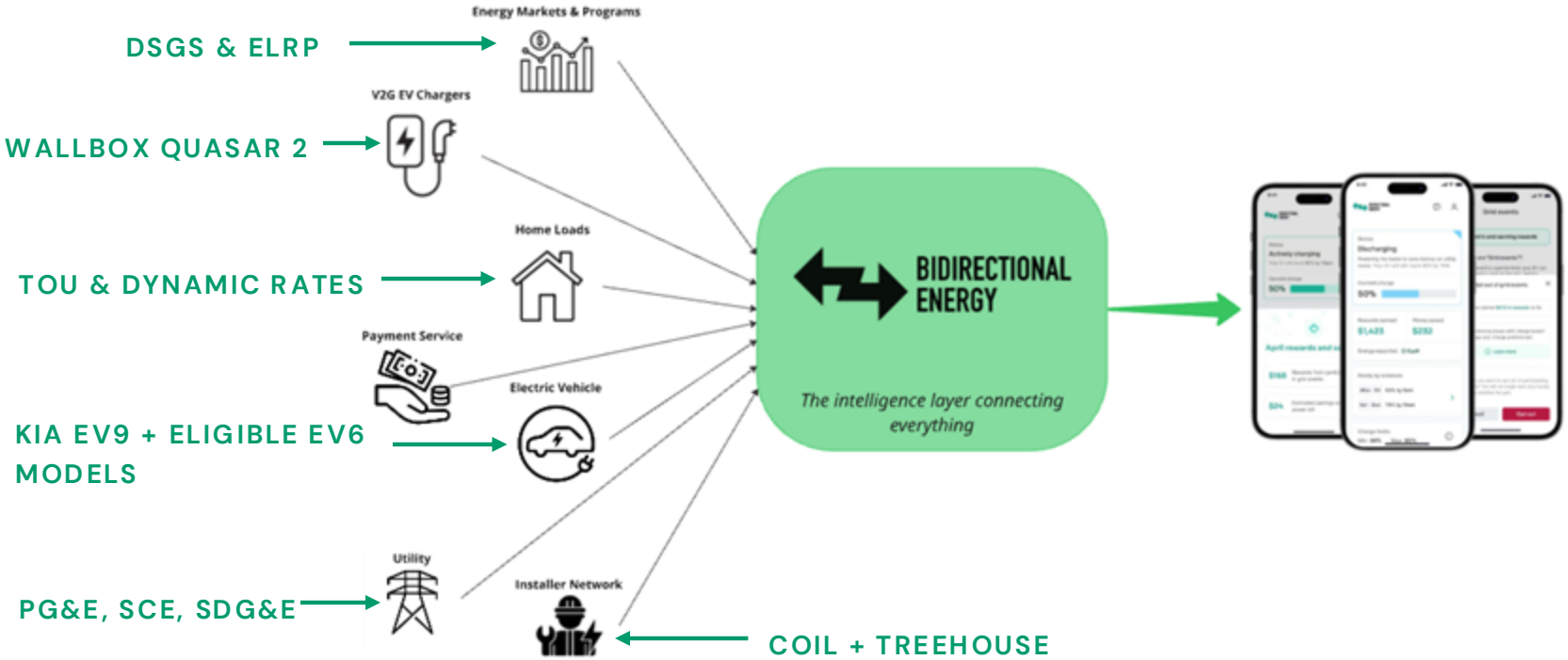
- **Hardware:** Wallbox Quasar 2 + Kia EV9.
- **Size:** 5.1 kW NEM2 solar + 12.5 kW V2G, with export capped at 17.6 kW.
- **Controls and metering:** support multiple tariffs and power critical loads during outages.
- **BE platform:** Connects driver preferences and V2G data to deliver savings and earnings.
- **Interconnection:** The UL 1741 SB charger uses existing solar and battery pathways.



BIDIRECTIONAL ENERGY

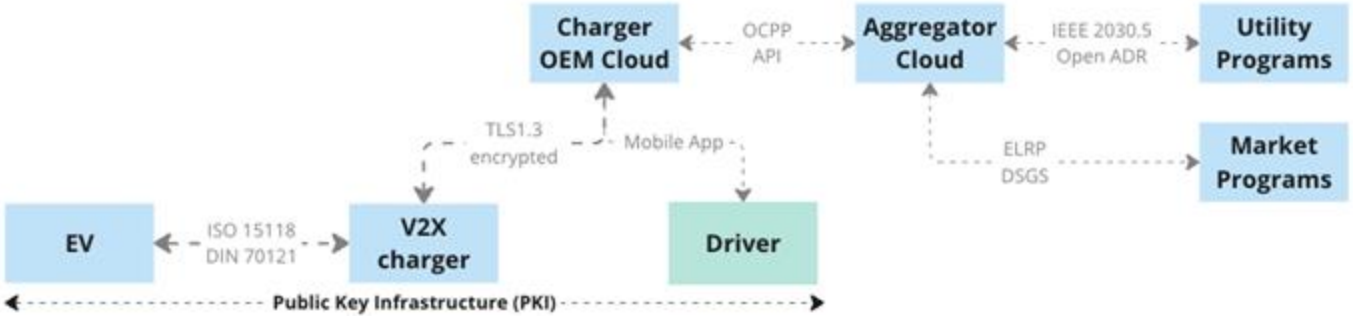
We take the chaos of energy management and make it approachable

THE END-TO-END ENGINE POWERING V2G



BIDIRECTIONAL ENERGY

Interoperability spans multiple connections



- ISO 15118 bidirectional communication validated at hardware level
- BE–Wallbox integration supports live residential V2G operations
- Bidirectional Energy platform is actively integrated with live utility grid support programs including ELRP (Emergency Load Reduction Program) and DSGS (Demand Side Grid Support)

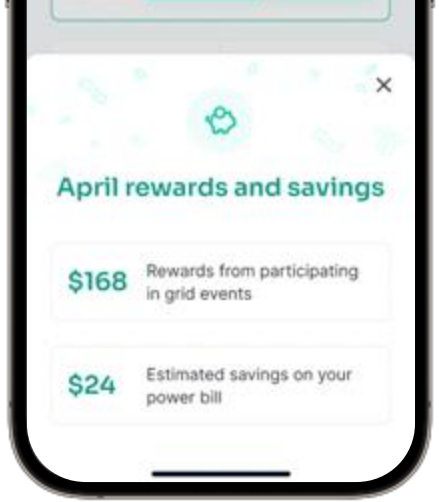
BIDIRECTIONAL ENERGY

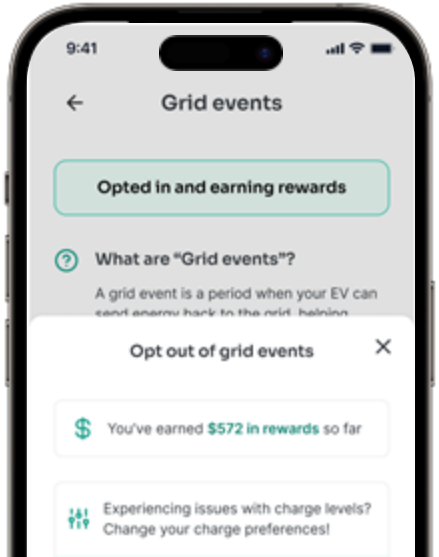
CUSTOMER-FACING CONTROLS + TRANSPARENCY

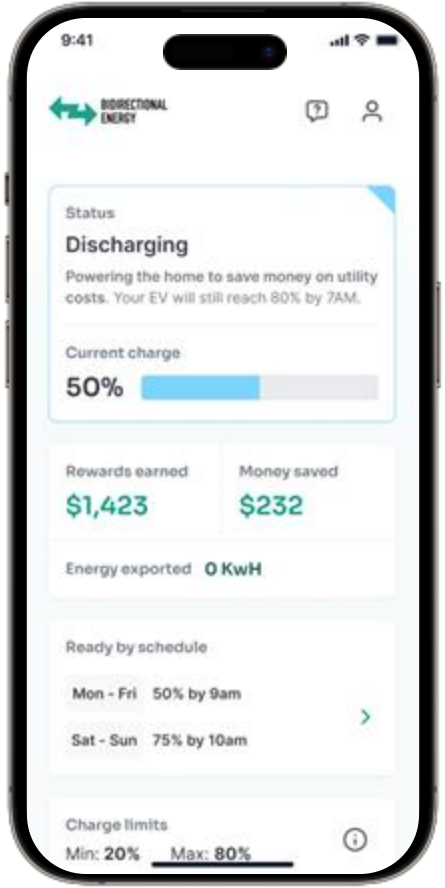
Drivers can see and control participation

Status show charging, waiting to charge, discharging, waiting for grid events, and unplugged states.

Summarizes money saved and earnings + energy exported, with periodic “recent rewards” summaries.







BIDIRECTIONAL ENERGY



AUGUST 26: ELRP EVENT DISPATCH

Four hours of discharge reduced battery charge from 90% to 37%, slightly below the expected ~41%.

BIDIRECTIONAL ENERGY



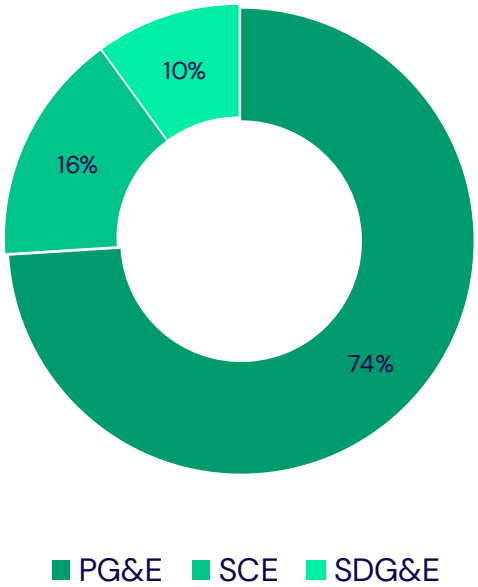
SEPTEMBER 8: ELRP EVENT DISPATCH

Three hours of discharge reduced battery charge from 90% to 51%, matching expectations.

BIDIRECTIONAL ENERGY

Demand by CA IOU

WHERE DEMAND IS HIGH, BY UTILITY



IMPLICATIONS FOR DEPLOYMENT

Recruitment is faster for non-LIDAC

LIDAC is 28% of total funnel

However, because of the large volume of interest, we are on track to recruit for all important segments

Demand spans all three CA IOUs

Enables statewide rollout planning and can standardize and replicate the playbook

BIDIRECTIONAL ENERGY

Customers value savings and clear support

EARLY DEPLOYMENTS REVEAL BOTH THE APPEAL AND THE FRICTION

WHAT CUSTOMERS VALUE

- Bill savings and grid-event rewards
- Backup capability where installed
- Visibility into charging and participation

WHAT CREATES FRUSTRATION

- Uncertain installation and approval timelines
- Compatibility restrictions
- Equipment issues and troubleshooting

CLEAR EXPECTATIONS AND RESPONSIVE SUPPORT MATTER THROUGHOUT THE JOURNEY

Deployment needs a guided customer journey

A TYPICAL CUSTOMER IS INTERESTED IN V2G FOR HOME BACKUP + EARNINGS + BILL SAVINGS

	DEPLOYMENT CHALLENGES	BE'S APPROACH
Discovery	Confusing V2G options and capabilities	Clear V2G use cases across EVs & chargers
Assessment *1-2 weeks*	Limited access to installers with V2G experience	V2G-trained installer network
Installation *8-12 weeks*	Utility & permitting complexity	Built-in utility coordination
Earn and Save *1 week*	V2G value is stranded	Direct access to grid programs
Payout	Sustain customer participation	Performance-based incentives

BIDIRECTIONAL ENERGY

CASE STUDY PG&E

Lessons from an early V2G application

MAR 2025

Submitted Interconnection Application

Initial application prioritized to clarify the pathway for subsequent sites

SUMMER 2025

Application proactively monitored

- Installer worked issues with PG&E
- Export addendum provided
- Wallbox test package submitted

FALL 2025

Quasar 2 installed

Permit inspection was a prerequisite for utility meter testing

DEC 2025

Quasar 2 passes site test

- Site test passed
- BE request permission to operate

JAN 2026	**Export not included in approval**	Review identified a non-export application route. An export interconnection application was required
FEB 2026	**Export approved**	Expedited re-review of application

BIDIRECTIONAL ENERGY

CASE STUDY SCE

SCE: Clarifying V2G export treatment for NEM customers

MOST CUSTOMERS HAVE SOLAR

Rooftop solar + NEM enrollment is common in early V2X demand

SEPARATE TREATMENT OF SOLAR AND EV EXPORTS

- Advice letter to CPUC to establish separate metering and tariff treatment for PV and EV exports.
- Result: export approval was approved in late summer 2026.

Interconnection: Align on Three Things Early

01

TARIFF

Preserve solar's NEM2 status; classify V2G exports separately, with compensation through qualifying programs.

02

METERING

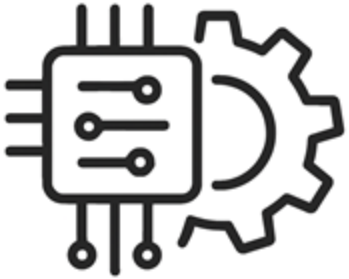
Confirm NGOM requirements, billing treatment and installer responsibilities upfront.

03

PROCESS

Complete wiring, permits and inspection prerequisites before utility fieldwork.

A repeatable V2G approval pathway



- Clear tariff guidance reduces repeated reviews.
- Aligned application and inspection requirements reduce resubmittals.
- Application portals with explicit V2G options improve routing.
- Shared checklists support utility and installer teams as deployments grow.