

First customer experiences of a V2H system and outlook on the swift implementation of V2G

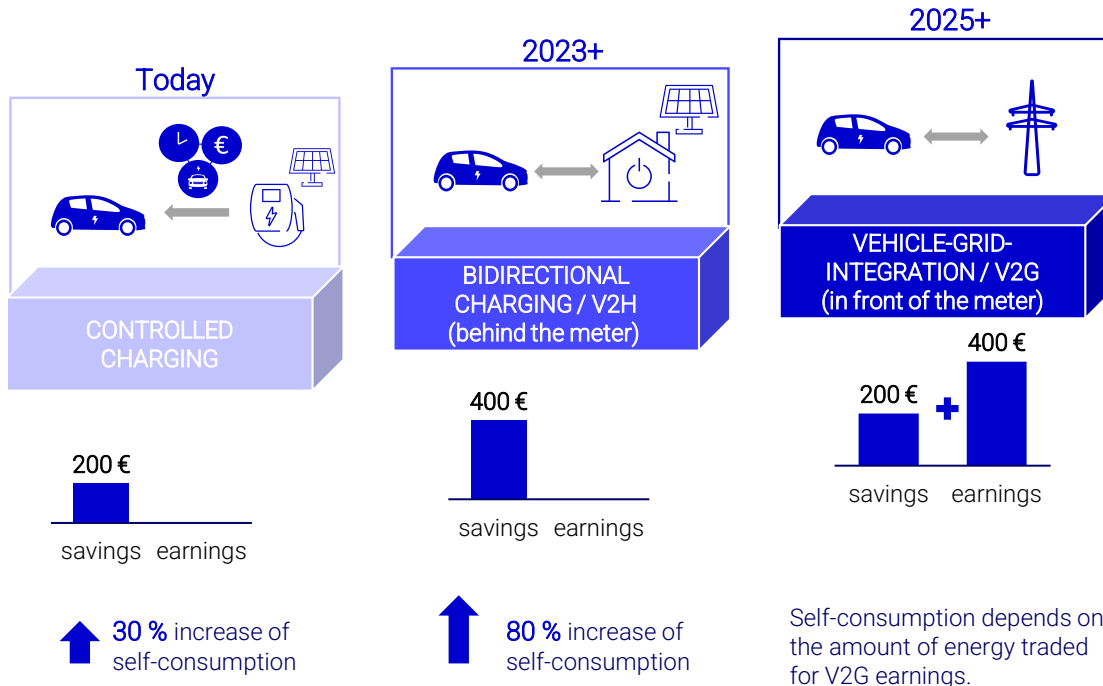
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With local bidirectional charging, higher self-consumption and savings can be achieved. Vehicle-grid-integration can generate additional earnings for customers.

THE CURRENT PATH TO BIDIRECTIONAL CHARGING



KEY FINDINGS

Controlled Charging:

- Controlled PV surplus charging can increase PV self-consumption by up to 30%.
- By using self-produced energy or using tariff optimized controlled charging, savings of 200 €/year can be made.

Bidirectional charging:

- By using the EV as a home storage (V2H) the self-consumption can reach up to 80%, depending on the availability of the EV.
- With V2H savings of 400 €/year can be made.

Vehicle-grid-integration:



















- By transferring energy from the EV back to the grid additional earnings of around 400 €/EV/year can be generated.


The combination of V2H and V2G can bring the highest benefits, with up to 600€+.

First OEM have already announced their rollout of BEV platforms enabled for bidirectional charging, while others have not communicated yet.

OEM BIDIRECTIONAL STRATEGY AND READINESS (V2H/V2G)

EXTRACT

OEM	Readiness	Entry Date
 Volkswagen		2023 ¹
 Stellantis		2025
 Ford		2023
 Mercedes-Benz		2025+
 Renault-Nissan-Mitsubishi		2024
 Hyundai, Kia		2023
 Tesla		2025
 BMW		2025+
 Volvo		2024

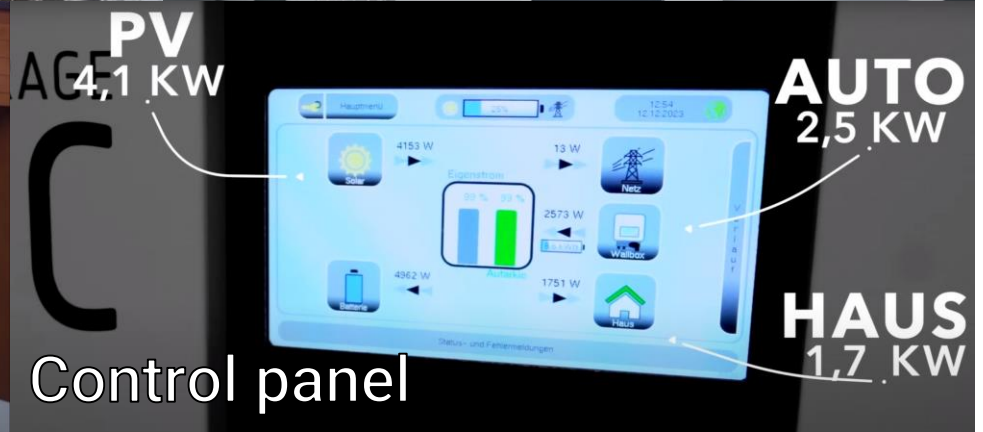
 Rollout started  Strategy with an entry date announced

KEY FINDINGS

- Many **manufacturers announced their strategy** for **bidirectional** BEV platforms with a clear entry date.
- Currently, only **a few OEMs** have entered the market for **bidirectional** charging.
- It can be assumed that by **2025** a **significant** proportion of the vehicle fleet will **support a bidirectional** charging functionality.
- Still, the **challenge** is to **integrate bidirectional BEV** into a complete **ecosystem** to **enable V2G services**. Currently, only proprietary solutions or prototypes are available.

¹: Bidirectional charging is limited to a max. of 4,000 hours of operation and 10,000 kWh of energy. Source: P3 market model; extract from study „Potenzialanalyse bidirektionales Laden“

My first personal experiences with V2H.



On Car Level: Configuration in the ID. vehicle software

Limiting discharging behavior

- Protect warranty of all charging components



4000 h of bidirectional charging usage

10000 kWh of bidirectional charging energy transfer

Set (Dis-)Charging mode

- VW enables bidirectional charging within 20% - 80 %
- Min. SOC can be set higher in the E3DC App



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