

Kick-off meeting

V2G labels

October 13th, 2026



1. Meeting will be recorded and made available afterwards
2. Comments and feedback during the presentation via questions box

Contents



- Introduction
- Rationale of V2G label
- Scope questions and first proposal – open for feedback!
- Organisational stuff
- Next steps

Introduction - about ElaadNL

- Founded (2009) and funded by Dutch Grid Operators
- Non-profit research and innovation centre
- Accelerate technology to unleash flexibility
- Started with eMobility and since 2024 in-home flex devices
- Open and free European Testlab (opened on 8 June 2022)
- 15-year track record with V2G, most recent :
 - Joint Working Group: SEEG D4E, CoW & STF
 - Collaborations CharIN, Task53 & OEMs
 - V2G implementation guide
 - SCALE project (incl Utrecht demonstration)
 - Study: Institutional bottlenecks V2G (2017 & 2024)



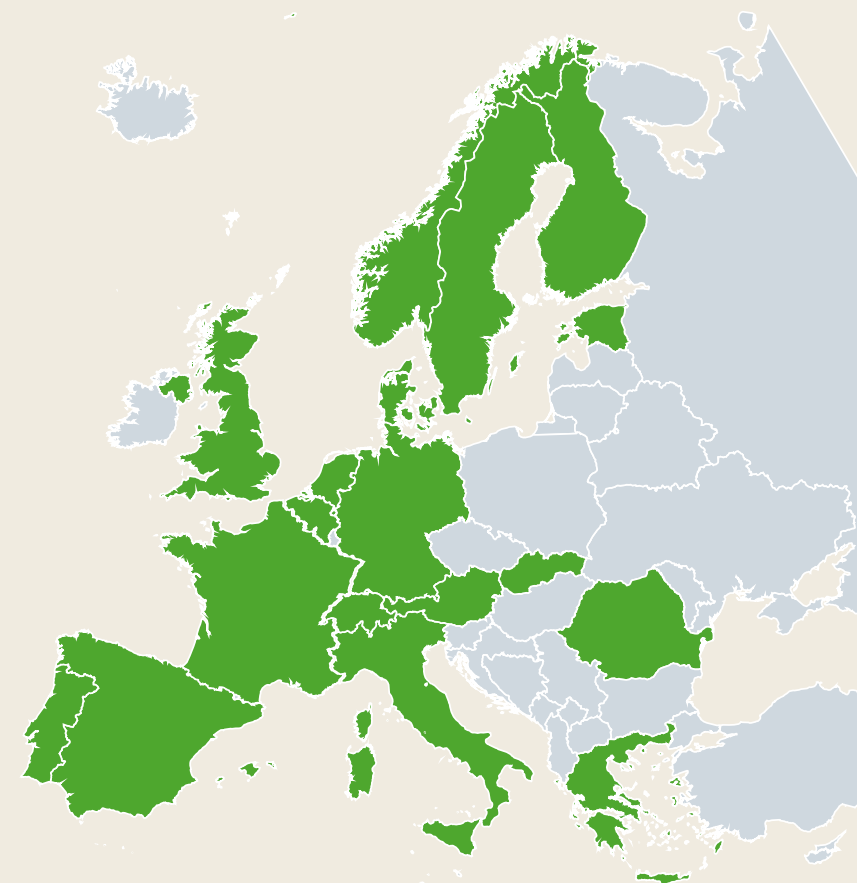
Frank Geerts



Sander Langenhuizen

Introduction

- Broad market interest
 - 140 Registrations / 105 Organizations
 - OEMs: 16 EV & 18 EVSE
 - 7 CPO & 10 Utility
 - 17 Industry association
 - 11 Research institute
 - 26 Other
- Goal of kick-off session
 - Assess level of stakeholder interest / support
 - Propose our perspective on V2G labels
 - Request for feedback



Rationale for V2G label

- 2026 has seen the first V2G propositions in European countries such as Germany, France & the Netherlands and is commercially emerging.
- Risk of consumer confusion and dissatisfaction due to a lack of unclear claims on EV or charging station being 'V2G-ready'
- Main interest for grid operators, is the “**G**” (ElaadNL):
 - Grid congestion is becoming a growing challenge across Europe
 - V2G is a promising instrument to provide needed grid flexibility and requires consumer trust
 - To make flexibility widely available and foster competition/fair prices, interoperability is a prerequisite
 - Interoperability and flexibility will also support other use cases beyond alleviating grid congestion
 - Supply of flexibility (V2G) is a market activity while Demand of flexibility is required from DSO/TSOs (amongst others)

Clarification - bidirectional charging



Within scope:

V2G



V2G refers to all applications where a bidirectional vehicle can discharge power directly to the grid.

V2H

(Interconnected)



Interconnected V2H is a variant of V2G where the consumer's home is treated as the primary load.

Outside of scope:

V2L



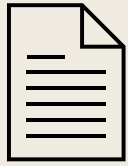
With V2L, the vehicle is equipped with an AC outlet that can power a single device.

V2H

(Islanded)



With islanded V2H, the vehicle and charging station act as a grid forming module. The vehicle can power the household without a connection to the grid.



Scope questions



The definitive scope of a V2G label is yet to be defined. We welcome input on the following aspects:

- **Assumptions and base principles:** customer trust and protection || interoperability / no vendor lock-ins || scalability || competition
- **Target audience:** end consumers || others?
- **Participation basis:** voluntary || mandatory
- **Time horizon:** temporary || permanent
- **Geographical horizon:** country || European Union || European continent +
- **Vehicle type:** passenger cars || buses || trucks || miscellaneous
- **Applicable charging technology:** AC || DC || Wireless
- **Domain:** device hardware/software || customer services || miscellaneous
- **Validation of label:** self-declaration || PCAP file || independent certification
- **Bidirectional charging type:** grid interconnected || off-grid
- **V2G application limitations :** activation or enabling fees || reduced power output || battery warranties / cycles / virtual distance || limited number of supported electricity suppliers || other?



Example of V2G-ready definition (Task53)





Multiparty Interoperability of Bidirectional Charging (INBD)
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Communication Policy for the Use of "Readiness" Claims in Bidirectional Devices re. Bidi. Vehicles, Chargers and Wallboxes.

Some wallbox manufacturers claim that their devices are "V2G-ready." Terms like "supported," "compliant," "fit for," "endorsed", "compatible", "authorized", "adherent", "empowered", "aligned", "approved", "consistent", "prepared", "enabled" and more can be used interchangeably with "ready." To avoid false promises, customer misunderstandings and ensure fair competition, Task53 and its partners require the adoption of the following communication policy for bidirectional (Bidi) devices, including both vehicles and chargers/wallboxes.

The objective of this proposal is to create clear and consistent rules regarding the usage of terms like "V2G-ready," "V2X-ready," and "Bidi-ready" for bidirectional charging systems. By adhering to these rules, manufacturers can ensure that their claims are accurate, helping to avoid customer confusion and fostering fair competition within the industry.

Suggested Guidelines for "V2G-Ready" Claims:

- 1. Limitation**
The following indication are to be applied to any Bidi device with a power of more than 800 Watts, since under this level Bidi devices have not to comply with GridCode rules (since they are below the minimum Type A. generators)
- 2. Certification Requirements:**
Before RfG 2.0 enter into force, to claim a device is "V2G-ready" in a specific country (*), the device must:
 - o Be certified by an accredited laboratory (e.g., DEKRA) to ensure it meets the relevant national GridCodes of this country,
 - o Support ISO 15118-20 (**),
 - o Provide a publicly available video (YouTube?) that demonstrates the device successfully feeding back energy to the grid.

After RfG2.0 inter into force, "V2G Ready" requirements will be RfG 2.0 EV and EVSE compliance rules including updated GridCode and ISO 15 118-20 requirements.

(*) Today as GridCode are "National" only, V2G-Ready can only be at national scale
(**) Today there is no ISO 15118-20 "certification" yet as AMD1 is not released yet, so ISO 15118-20 support is a self-declaration only" (not "third party certified").

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Multiparty Interoperability of Bidirectional Charging (INBD)
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- 3. For "V2X-Ready" and "Bidi-Ready" Claims:**
 - o The same certification requirements apply to devices labeled V2X-ready, with one exception:
 - If the device operates in islanding mode (e.g., V2L, V2V, V2H in islanding mode only), where no grid connection is possible, the GridCode certification can be omitted. However, this limitation must be explicitly stated in the communication.
- 4. Proprietary Solutions:**
 - o If the device or solution is proprietary (e.g., a solution relying on a specific partner), this must be clearly mentioned.
 - o The partner's name(s) must be included, and any limitations related to the proprietary solution must be declared transparently.
- 5. Multiparty-Interoperable Devices:**
 - o Once a Bidi-device is certified as multiparty interoperable according to the Golden Guidelines of Task53 (by EV-TCP / IEA), it may be labeled as "V2G-interoperable" or "V2G Ready 2.0" (or more specifically: "V2G-ready according to Task53") if the device has demonstrated to be multiparty interoperable and has been certified accordingly. Same if the multiparty interoperability is achieved otherwise (e.g. CHAdeMO).
 - o After RfG 2.0 enter into force, "V2G Ready" requirements will be RfG 2.0 EV and EVSE compliance rules including updated GridCode and ISO 15 118-20 requirements.
 - o The limitations, also in terms of guarantee, (if any) related to the bidi-use must be declared transparently.

Draft V5, revised following EC feedback, 27.5.2026

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Example of V2G-ready definition (T&E)



3. What it means for an EV to be 'V2G-ready'

In the context of the European Union's type-approval standards, **T&E supports the introduction of a voluntary 'V2G-ready' label on the Certificate of Conformity (CoC)** for new EVs. This should be introduced as soon as possible. The legal basis for this, in the above-mentioned

5 | Briefing



Automotive Package, enables the Commission to start work on this once the legislative changes are adopted.

The V2G certification of the EV is a first step to identify the hardware and software requirements, which should be mandated later as part of the type approval process. Such a 'V2G ready' label is conditional on the EV meeting the following requirements:

1. Compliance with the same interoperability standards (e.g. ISO 15118-20) as those required for EVSE under the Alternative Fuels Infrastructure Regulation;
2. Compatibility with European grid codes on Requirements for Generators and Demand Response, soon to be adopted by the European Commission;
3. Integration of an onboard charger capable of DC-AC inversion;
4. Sharing of EV battery data, mandated under article 20a of the Renewable Energy Directive with third parties, including state of health, state of charge, power set point, battery capacity, and, where appropriate, the location of EVs;
5. Manufacturers should not restrict access to V2G capability required under type approval through paywalls or activation fees.

By 2032, the requirements underpinning the voluntary 'V2G-ready' label should be incorporated into mandatory EU vehicle type approval for all new EVs sold.

Source: <https://www.transportenvironment.org/articles/unlocking-vehicle-to-grid-at-scale>

ElaadNL view on V2G labels

- We aim for solutions that are not only 'ready', but actually work for the end user in practice
- RfG 2.0 V2G EV/EVSE Classes EV1 & EV2 only (0.8 kW – 50kW)
- The V2G labels will be temporary until entry into force of RfG 2.0 and formal conformance with ISO 15118-20 (+AMD1)
- Distinction to be made between AC and DC V2G
- Take into account different levels of maturity / V2G support based on the following aspects
 - Support of ISO 15118-20, including type of conformance
 - Grid code compliance
 - Level of interoperability
- Due to the current lack of harmonized grid code requirements, differences between countries need to be considered

Scope questions – ElaadNLs view



The definitive scope of a V2G label is yet to be defined. We welcome participants to provide input on the following aspects:

- **Assumptions and basic principles:** customer trust and protection || interoperability / no vendor lock-ins || scalability || competition
- **Target audience:** end consumers || others?
- **Participation basis:** voluntary || mandatory
- **Time horizon:** temporary || permanent
- **Geographical horizon:** country || European Union || European continent +
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- **Validation of label:** self-declaration || PCAP file || independent certification (see next slides)
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Possible V2G maturity levels - AC



Maturity level	EV – EVSE communication	EV – EVSE communication conformance	EU Grid code compliance	National Grid code conformance	Interoperable
Generation 1 - start	DIN / ISO 15118-2 with proprietary V2G extension	Self-declaration	National grid codes, partly based on Requirements for Generators (RfG) 1.0	Independent certification by accredited certification body based on e.g. EN 50549-1, VDE 4105, CEI 0-21	Only for selected brands in selected countries
Generation 2	ISO 15118-20 with relevant V2G subsets	T.B.D.			Only for selected brands in selected countries
Generation 3 - final	ISO 15118-20 with relevant V2G subsets, including Amendment 1	T.B.D.	RfG 2.0 and Technical Annex	T.B.D.	All brands in European Union

Possible V2G maturity levels - DC



Maturity level	EV – EVSE communication	EV – EVSE communication conformance	EU Grid code compliance	National Grid code conformance	Interoperable
Generation 1 - start	DIN 70121 or ISO 15118-2 with proprietary V2G extension	Self-declaration	National grid codes, partly based on Requirements for Generators (RfG) 1.0	Independent certification by accredited certification body based on e.g. EN 50549-1, VDE 4105, CEI 0-21	Only for selected brands in selected countries
Generation 2 - final	ISO 15118-20 with relevant V2G subsets	T.B.D.	RfG 2.0 and Technical Annex	T.B.D.	All brands in European Union

View on self-declaration vs. certification

- Purposefully avoid general terms like 'V2G-ready' or 'V2G-compliant'
- V2G label should at minimum be based on independent verification of a set of technical requirements. Without this, an official label can only add more confusion to the end user
- The specific set of technical requirements and means of testing and verification is yet to be defined
- We still acknowledge and recognize early implementations (i.e. Gen 1) as viable V2G solutions, but rather as an intermediate instead of an official V2G label

Types and number of labels, devices for illustration purpose only



Device	Generation	Current type	Supported brands / models		Supported countries
			EV	EVSE	
EV / EVSE	GEN 1 / GEN 2 / GEN 3	AC / DC	Brand ABC / model 123	Brand ZYX / model 987	AT, BE, BG, HR, CY, CZ, DK, EE, FI, FR, DE, GR, HU, IE, IT, LV, LT, LU, MT, NL, PL, PT, RO, SK, SI, ES, SE
EV / EVSE	GEN 1 / GEN 2 / GEN 3	AC / DC	Brand ABC / model 123	Brand ZYX / model 987	AT, BE, BG, HR, CY, CZ, DK, EE, FI, FR, DE, GR, HU, IE, IT, LV, LT, LU, MT, NL, PL, PT, RO, SK, SI, ES, SE
EV / EVSE	GEN 1 / GEN 2 / GEN 3	AC / DC	Brand ABC / model 123	Brand ZYX / model 987	AT, BE, BG, HR, CY, CZ, DK, EE, FI, FR, DE, GR, HU, IE, IT, LV, LT, LU, MT, NL, PL, PT, RO, SK, SI, ES, SE
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EV / EVSE	GEN 1 / GEN 2 / GEN 3	AC / DC	Supports all		AT, BE, BG, HR, CY, CZ, DK, EE, FI, FR, DE, GR, HU, IE, IT, LV, LT, LU, MT, NL, PL, PT, RO, SK, SI, ES, SE
EV / EVSE	GEN 1 / GEN 2 / GEN 3	AC / DC	Generation 3 brands/models		AT, BE, BG, HR, CY, CZ, DK, EE, FI, FR, DE, GR, HU, IE, IT, LV, LT, LU, MT, NL, PL, PT, RO, SK, SI, ES, SE

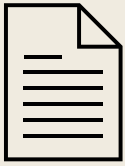
Limitations (if any) related to the bidi-use must be declared transparently!

Organisational / administration stuff

- Broad market support (without this no V2G label)
- Initial set-up of V2G label
 - Requirements
 - Visuals, naming and legal ownership of V2G label
- Ongoing administration
 - Governance, financials & secretariat
 - Promotion, Communication & Market adoption
 - Maintenance, application, assessment and use of V2G label
 - Misuse, Complaints, Appeals & Disputes
 - ...
- ...

Next steps

- Presentation will be distributed after this meeting with request for feedback. We kindly ask you to give feedback via mail to V2G@elaad.nl latest October 25th
- Initial set-up (assuming market support):
 - Core team
 - Market support group (review & feedback)
 - Agree on activities & timelines / date to launch V2G label
- Include this initiative in the JWG D4E/CoW/STF Implementation Roadmap under Testing & Verification
- Next meeting Placeholder Wednesday November 4th 13:30 – 15:00hours



Request for feedback!

Please send your feedback to **V2G@elaad.nl**

1. Does your organisation support the establishment of V2G label? If not, why not?
2. Please reflect on the scope questions stated in this presentation and add any elements that are missing in your opinion. Any other recommendations for the scope of a V2G label?
3. Which requirements should minimum be included in a V2G label? How do you appreciate the idea to define different maturity levels of a V2G label? Do you have proposals for different levels?
4. Do you agree a V2G label should at minimum be based on an independent verification of a set of technical requirements?
5. What would be a desired and/or realistic date to launch a V2G label?
6. Do you have suggestions for the organizational /administrative aspects of the V2G label?
7. Is your organisation interested in joining the core team or market support group?
8. Do you have any further remarks?

Clarification questions

Elaadnl

The logo for Elaadnl is centered within a large white circle. The text 'Elaadnl' is in a blue, sans-serif font. Below the text is a stylized yellow lightning bolt graphic. The background of the slide is a composite image with a green tint, featuring a wind turbine on the right, a white car at the bottom, and flowering plants on the left. A small white circle is located at the bottom left of the central white circle.