Facilitating the integration of EVs into the energy system and data exchanges

Workshop - Friday 18 February, 9.00 am to 12.30

Agenda

Context and objective:

The workshop “Facilitating integration of EVs into the energy system and data exchanges” follows the preparatory work of the European Commission led by DG Energy on the digitalisation of the energy system and the energy system integration strategy, in collaboration with other DGs (MOVE, CONNECT).

The Open Public Consultation on the Digitalisation of the Energy Action Plan (DoEAP) open until 24 January sought to gather feedback of the stakeholders on the challenges of the digitalisation in the following areas: 1) data exchange framework, 2) consumers empowerment, 3) key enabling technologies, 4) cybersecurity and privacy, and 5) data centers and impact of ICT.

The European Green Deal aims to make the EU climate-neutral by 2050 and reduce Greenhouse Gases by 55% by 2030. It introduces the need to accelerate the shift to sustainable and smart mobility in order to reduce transport emissions by 90% by 2050. The Commission proposal for the revision of the Co2 emission performance standards for vans introduces a new 2035 CO2 target set at -100% for new cars and vans, relative to a 2021 baseline.

The growing share of EVs requires the deployment of the necessary infrastructure, including the indispensable coupling with the energy system. Technical innovation on EVs, batteries, smart grids and transport systems will contribute to shape the path towards forms of mobility that are sustainable, environmental-friendly and energy-efficient, in line with the objective of the Smart and Sustainable Mobility Strategy launched in December 2020 and can also contribute to the decarbonisation of the greater energy system.

Digitalisation will be a key enabler in this process, particularly for an efficient integration of EVs into the grid, including renewables and low carbon energy across domains like living, heating, buildings and mobility. A better link between the energy and transport sector also is needed to support the optimisation of the energy system as a whole. The Communication on the “EU strategy on energy system integration” of July 2020 addresses those interdependencies between the sectors, in particular addressing emerging technologies, such as ICT and digitalisation, smart grids and meters and flexibility services.

The electrification of transport offers a clear opportunity for enhancing system integration, with large potential. Both EV and stationary batteries can provide valuable flexibility to the electricity system. At the same time, ensuring an adequate EV-charging infrastructure and an electricity system to enable the increase in demand is key to enable a fast-growing EV market. In order to maximise integration of EVs into the energy system and manage the recharging according to the user and system needs, there will be a need for smart grids, for smart rechargers and common communication protocols between the grid, the rechargers and the vehicles.

The planned Action Plan intends to outline requirements and key actions to develop a performant European data-sharing infrastructure for the energy system, complementing the provisions for data and data sharing of electric vehicle recharging infrastructure. The data framework will build on the proposal of the Renewable Energy Directive providing for smart charging and the availability of
dynamic information on the renewable share and carbon content of the grid, the principles of the Energy Market Design Directive and the Directive on the Energy Performance of Buildings and on requirements for data and data exchange foreseen in the proposal for a new Regulation on Alternative Fuels Infrastructure and its work programme on technical specifications. The latter is elaborated further through a new standardisation mandate for European Standardisation Organisations (ESOs) and though the technical expert work in the Sustainable Transport Forum on data governance and communication standards for recharging infrastructure.

Advanced digitalisation of the electricity network, and data exchange with electric cars, with real-time accessibility to information will facilitate the identification of capacity issues for ev-charging, helping to better identify investment needs, and speed-up permitting procedures (e.g., roll-out of recharging infrastructure) and facilitating features such as smart and bidirectional (V2G) charging.

The aim of the workshop is to exchange on basic principles and best practices for establishing a data exchange framework that can facilitate the integration of EVs into the energy system so that they can help with the further optimisation of the energy system and foster uptake of renewable and low carbon electricity.

Format of the workshop and documents and minutes:

If position papers of the industry are to be shared with EC and other participants, they need to be transmitted together with the 2 slides requirement prior to the meeting with an agreement to share them with other invited stakeholders (or an explicit refusal not to share).

Personal data: DG ENER uses the mailing lists solely for the purpose of establishing and communicating on this workshop with the regulatory authorities and interested stakeholders.
9.00-9.30  Opening – aims of the workshop

9.05-9.15  Axel Volkery, deputy Head of Unit, DG Mobility and Transport, Sustainable and Intelligent Transport

9.15-9.25  Rolf Riemenschneider, European Commission, DG CONNECT, Internet of Things

9.25 - 10.15  Panel 1  EU data framework for energy: key principles and industry views - panel discussion

Panellists:

- Norela Constantinescu, European Network of Transmission System Operators for Electricity (ENTSO-E)
- Natalie Samovich, Alliance for the Internet of Things Innovation (AIOTI)
- Michael Keller, Volkswagen
- Jorg van Heesbeen, Jedlix, aggregator

Moderated by Omar Elloumi, Nokia

Panel questions:

- What data would grid operators (TSOs and DSOs) and energy suppliers/aggregators need from Charging Point Operators (CPOs) and/or car manufacturers (OEMs) to enable smart bidirectional charging and electricity infrastructure investments – and vice versa?
- What are the (new) service and business models for smart (and bidirectional) charging? What are the incentives needed for smart charging?
- What type of real-time data exchange (e.g. (in-) vehicle & battery data, data on the share of renewable electricity from the grid) is needed to enable smart and bidirectional charging?

10.15 - 10.45  Coffee break

10.45 - 11.35  Technical aspects: e-mobility communication standards, data requirements, and data exchange for the integration of EVs into the energy system – panel discussion

Introduction & moderation by Saki Gerassis, DG Mobility and Transport, Sustainable and Intelligent Transport

Panellists:

- Luka DeBruyckere, Environmental Coalition on Standards (ECOS)
• Robert Boehm, Eebus
• Tzeni Varfi, European Distribution System Operators

Panel questions:

• What are the emerging standardisation needs for EV integration into the grid? What is needed to enable real-time communication and forecasting between CPOs and DSOs and third parties (e.g. aggregators)?
• What is the role of existing standard interfaces for grid operators and CPOs communication exchange (e.g., OpenADR, OSCP)? What are the current challenges to converge these existing protocols into a de jure standard that would bring clarity to DSOs, CPOs and other relevant market actors (i.e. energy suppliers, aggregators, OEMs)?
• Do smart and bidirectional (V2G) charging have specific data requirements from a grid integration point of view? If so, what are the required data elements that would need to be standardised to foster smart and bidirectional charging?

11.35 – 12.20

Building the governance framework for the energy data framework and links with a future mobility data space

Panellists:

• Baerte de Brey, Elaad, Dutch organisation for innovation in electromobility and charging
• Szymon Byliński, Director, Department of Electromobility and Hydrogen, Polish Ministry of Climate
• Robin Loos, BEUC

Moderated by Kasia Gryc, Policy Officer, European Commission, DG Energy, Research, Innovation, Competitiveness, Digitalisation

Panel questions:

• What are the key governance issues for data exchange to enable smart and bi-directional charging of EV’s?
• How to make data exchange for e-mobility compatible across the energy and transport sector?
• What and who is needed to build energy and transport data spaces that support each other (and support other data spaces)?

12.20-12.30

Conclusions

Mark van Stiphout, deputy Head of Unit, DG Energy, Research, Innovation, Competitiveness, Digitalisation