Steps to establish a common European energy data space

Energy data-X kick-off meeting
18 October 2023

George Paunescu

Policy Officer – Research, Innovation, Digitalisation

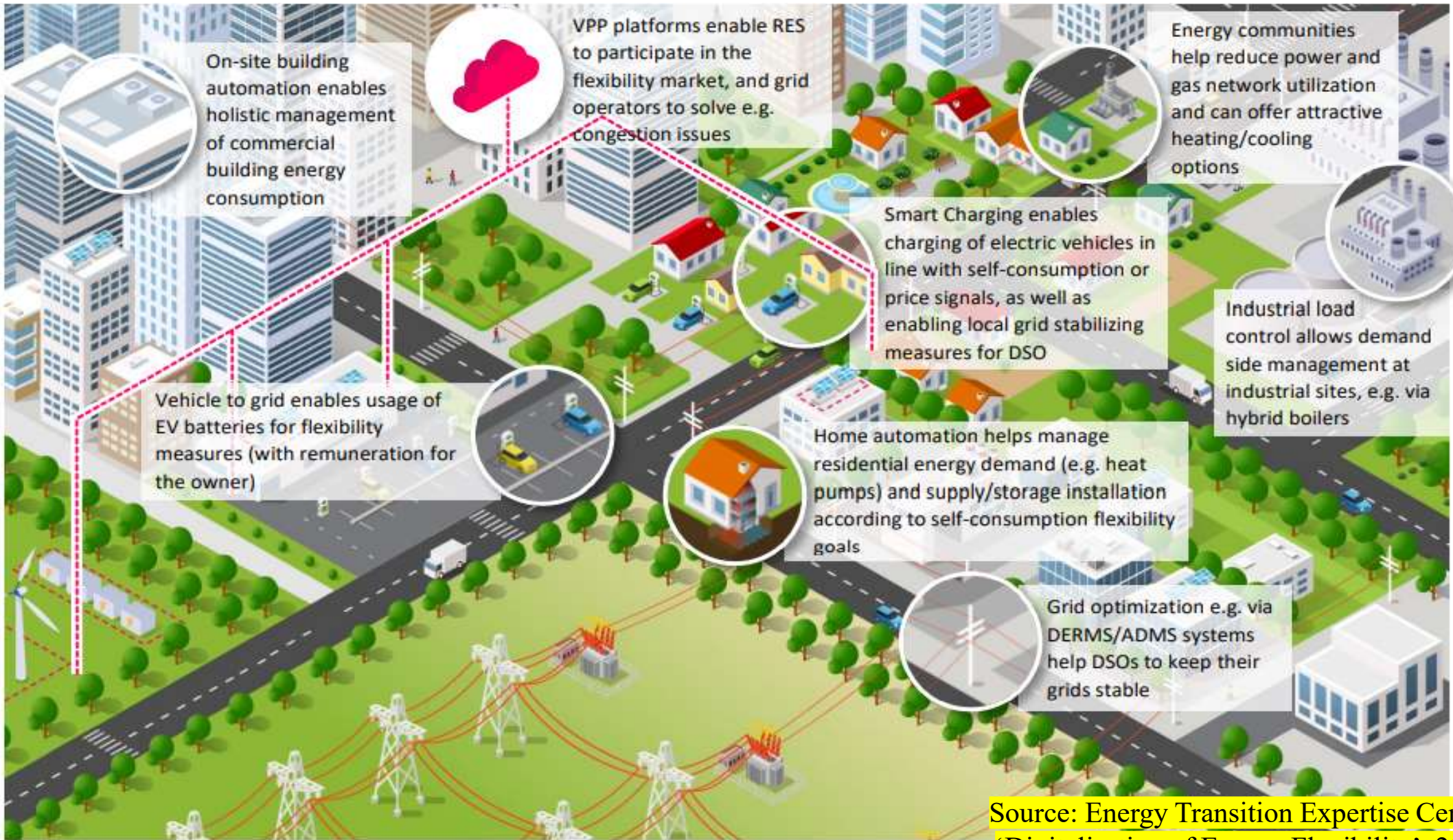European Commission, Directorate-General for Energy

Twin Green and Digital Transitions

The European Green Deal

REPowerEU Plan

'Fit for 55' package

Path to the Digital Decade (2030 policy programme)

3 Ds of energy transition:
Decarbonisation, Decentralisation and Digitalisation

European Commission

On-site building automation enables holistic management of commercial building energy consumption

VPP platforms enable RES to participate in the flexibility market, and grid operators to solve e.g. congestion issues

Energy communities help reduce power and gas network utilization and can offer attractive heating/cooling options

Smart Charging enables charging of electric vehicles in line with self-consumption or price signals, as well as enabling local grid stabilizing measures for DSO

Industrial load control allows demand side management at industrial sites, e.g. via hybrid boilers

Vehicle to grid enables usage of EV batteries for flexibility measures (with remuneration for the owner)

Home automation helps manage residential energy demand (e.g. heat pumps) and supply/storage installation according to self-consumption flexibility goals

Grid optimization e.g. via DERMS/ADMS systems help DSOs to keep their grids stable

Source: Energy Transition Expertise Centre 'Digitalisation of Energy Flexibility', 2021

Digitalising the energy system - EU action plan

- **COM(2022) 552**

- **SWD(2022) 341**

https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6228

European framework for sharing energy data

Cybersecurity

An EU-wide coordinated approach

Promoting investments in digital electricity infrastructure

Benefits for consumers

Energy consumption of the ICT sector

#DigitalEU

An EU action plan to digitalise the energy system

European Commission

A European framework for sharing data to support innovative energy services (1/2)

Opportunity / issue: The key enabler for a digitalised energy system is the availability of, access to, and sharing of energy-related data.

Aim: To facilitate the development of innovative energy solutions and novel and inclusive services that will support grid developments, engage consumers/prosumers and lower bills, and further the integration of the energy market.

Means: Develop a European framework for sharing energy data. Establish a common European data space for energy.

Approach: Coordinate EU action and work in partnership, use-case driven, capitalize on building blocks, ensure interoperability (intra- and cross-sectoral).

European Commission

A European framework for sharing data to support innovative energy services (2/2)

- Establish the **Smart Energy Expert Group**

- Regulatory measures - **Implementing acts** on interoperability requirements and procedures for access to: (i) metering and consumption data; (ii) data required for demand response

- Non-regulatory - Promote a **Code of conduct** for energy-smart appliances to enable interoperability and boost their participation in demand response schemes

- Build a **Common European Energy Data Space**
  (Data sharing tools and services, governance structure, improving the availability, quality and interoperability of data).

European Commission

Horizon Europe – preparing the ground

HORIZON-CL5-2021-D3-01-01: Establish the grounds for a common European energy dataspace
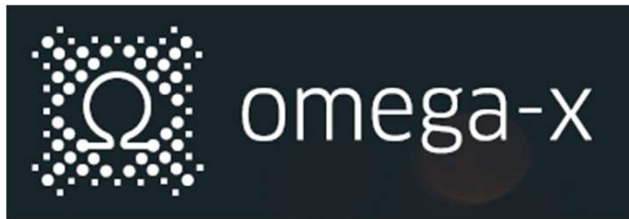
HORIZON-CL5-2021-D3-01-03: Interoperability community

Timeline: 2022 - 2025

(Current) steps towards a common EU data space for energy (1/3) – HE CL5-2021-D3-01-01

- Pilot **innovative solutions**. Define priority use cases, including roles, scope of data sharing;

- Broaden the **access to energy data**: Identify target data sets (i.e. what data should be made available in the common energy data space) and define common metadata that would allow discoverability across various data platforms; Define/identify key data hubs/platforms that need to be federated.

- Define **common building blocks** for a future data space (e.g. standardized market roles, identification and authentication arrangements, data traceability, data sharing and reuse arrangements);

- Define **interoperability requirements** (e.g. data models and formats, open APIs, communication protocols). *To note that this is also a key building block*;

- Drive consensus across key stakeholders on **governance** models and investment arrangements.

European Commission

- **Smart Grids Task Force => Smart Energy Expert Group**

  (Informal, No MS)   =>   (Formal, MS and additional stakeholders)

  - Commission Decision adopted on 18 September

  - Call for expressions of interest ongoing

  https://ec.europa.eu/transparency/expert-groups-register/screen/calls-application?lang=en

- **Establish Data for Energy (D4E) working group**

(Current) steps towards a common EU data space for energy (3/3) – Call for deployment

- **Digital Europe Programme - WP 2024**

"The selected project(s) will **put in commercial service the Common European energy data space through the deployment use cases and corresponding data sets in at least half of the member states**. This action will contribute to decreasing greenhouse gas emissions by maximising the utilisation of renewable energy, minimising the use of fossil fuel electricity generation capacities, electrification of sectors traditionally relying on fossil fuels, improving energy efficiency and local generation and use of renewable energy."

European Commission

Thank you

Backup slides

High level use cases

- 'Flexibility in energy systems' – aims to further develop and roll out flexibility products for the energy markets, including demand response services for the integration of renewable energy sources and to limit grid congestion;

- 'Smart and bidirectional EV charging' – refers to integrating smart EV charging into power grids and promoting bidirectional vehicle-to-grid (V2G) services;

- 'Smart and energy-efficient buildings' – develops mechanisms for capitalising on data from smart buildings for promoting and financing energy-efficient building renovations.

=> Grid edge data, multitude of stakeholders from various business areas

=> Decarbonisation (RES), Decentralisation (DER), Electrification

European Commission