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Call from the economy to the grid: the new highways of Europe

The EU economy is moving towards electrification across systems and sectors, from energy to industry, transport, heating and cooling or the built environment. Markets for electric vehicles (cars, vans, trucks and buses), as well as heat pumps (residential and industrial) and the renewables that will power them are growing at an unprecedented pace. Clean tech is becoming the bedrock of Europe's economy.

What's their point in common? They're all connected to the power grid. Transmission and distribution-level grids are the glue of these new energy systems and the backbone of the EU's global economic and technological competitiveness. Without appropriate grid infrastructure, grid optimization, or harmonised rules on grid access fit for the new energy landscape, there is no functioning market or investment attractiveness for the EV charging infrastructure industry, the heat pump industry or the solar and wind energy industry – technologies which are all represented under the Net-Zero Industry Act.

This makes the electricity grid the backbone of the Single Market and pillar of the EU industrial policy – as important as highways or digital infrastructure.

Despite some progress in the last years, more needs to be done to improve the European electricity grid infrastructure. Currently, access to grid connection can require long procedures or denial for connection entirely, where grid capacity is scarce. Approval processes are burdensome and opaque, often not digitalised, and vary radically from country to country. Forward-looking infrastructure planning is not well-coordinated with national energy and climate targets, projected industrial needs or clean technology uptake. Moreover, planning at different electrical voltage levels (transmission and distribution) is often not aligned. Local infrastructure operators – distribution system operators (DSOs) – remain fragmented between and within countries, such as in Germany or Sweden which host several hundred of operators each.

Smart electrification brings opportunities for the grid – but they are not unlocked fast enough. The power capacity in a smart EV charging point can be shifted in case of over- or under-supply of electricity. A heat pump can heat when renewable energy is abundant and when prices are low, and store energy over several hours. Numerous services exist that not only enhance the economic value of smart electrification, but also improve its economics. But despite a good EU toolbox in the Clean Energy Package, the regulatory framework is not yet properly implemented and remuneration streams are non-existent or not at the scale needed.

There has to be a more coordinated response to the radical and rapid change in the power infrastructure needs. Stronger monitoring is needed, at the level of the European Semester, on investment levels and performance of grid infrastructure. Such performance indicators/measures/metrics should not be limited to loss of load, but also be measured against average lead times to grid connection, permitting processes, digitalization and active grid management. **A high-level political venue is needed to ensure transversal political coordination of grid modernisation and investment efforts**, for instance by setting up a High Representative for Smart Electrification and Grid Modernisation in the new European Commission.

Based on that renewed governance, the following actions should be considered:

- There are important funding needs for grid development and modernisation, including into smart grids. EU financing, the Connecting Europe Facility for Energy (CEF Energy), should be reinforced, for instance with regional development funds, or the Modernisation Fund, in order to support such investments.

- Governments should incentivise regulators to modernise grid connection and grid planning exercises, including by allowing regulatory innovations. The EU should strongly encourage regulators to facilitate anticipatory investments for both capital and operational expenditures (grid assets and flexibility resources), in line with industry needs and technology roadmaps including the NECPs.

- In the spirit of the High-Level Forum on Standardisation, a real common block of grid connection rules and grid certification processes should be established in the European Union, building on a further harmonisation of existing electricity network codes, and leveraging the strength of standards.

- Investments into the grid, including active grid management, should be politically supported and sped up significantly. This means accelerating the permitting of necessary grid components, and developing the appropriate price signals for flexible resources such as smart inverters, battery or heat storage, smart buildings, smart heat pumps or smart charging stations.

Such actions will contribute to the wider EU economy and are critical to Europe's transition to a net-zero industry. We are committed to working with the European Commission in defining the High Representative's focus areas to enable the EU electricity grid to deliver an electrified, green economy.

Yours sincerely,

ACEA – The European Automobile Manufacturers Association

AVERE – The European Association for Electromobility

ChargeUp Europe

EHPA – The European Heat Pump Association

EUBAC – The European Building Automation Controls Association

smarten

SolarPower Europe