Addressing Grid Limitations to Support HDV Electrification: Policy Recommendations

Members of the European Clean Trucking Alliance (ECTA)[1] are eager to deploy zero-emission vehicles for their operations. The market for electric heavy-duty vehicles (e-HDVs) is developing across the EU, but fast, and optimised integration of e-HDVs to distribution grids remains one of the main bottlenecks to freight electrification, which is essential to reach EU's climate targets. Currently, Distribution System Operators (DSOs) face a high number of connection requests from sectors electrifying in parallel, such as transport, heating, industry, and battery storage providers while being bound to managing these requests on a first-come-first-served basis in most countries.

We welcome the opportunity to contribute to the implementation of recently announced policies, including the Electrification Action Plan, guidance on network pricing, the European Grids Package, as well as the European Clean Transport Corridor Initiative.

The following measures are key to support the grid-friendly uptake of HDV electrification:

Advance electrification of depots

Whilst the development of public and semi-public charging infrastructure is being supported by AFIR and a related funding mechanism (AFIF), depot charging remains the essential use case to unlock to help fleets electrify – yet, it lacks support mechanisms on EU and national level.

- The Commission should encourage Member States to design smart support schemes to electrify vehicle fleets and upgrade depots;
- Where possible, encourage shared-access concepts for charging infrastructure at freight centres and depots for associated partners (semi-public) e.g. via contractual agreements;
- Member States should implement the crediting system under RED III for renewable electricity as a transport fuel and include private charging - that is more profitable for users of e-HDVs and no additional public expenditure.

Rapid build-out of e-HDV charging infrastructure along core and comprehensive TEN-T network in Europe.

- Focus on TEN-T networks, e.g. via the European Clean Transport Corridor initiative, with specific focus on enabling cross-border traffic in the emerging market for truck charging services;
- Include high, mid- and low-capacity charging at truck parking areas to meet all use cases and optimise grid use and costs;
- Streamline permitting procedures for grid connections of truck charging hubs to reduce connection queues;
- Create flexible connection agreements where possible to more rapidly connect e-HDV charging sites to the grid;
- Develop public tenders mapping projected charging demand on grid/transport infrastructure, such as in Germany, to accelerate the grid- and consumer-friendly planning of e-HDV charging;
- To also develop e-HDV charging infrastructure along the comprehensive network, planning should also include urban nodes as defined in AFIR, ports, airports, and multimodal hubs.

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Smart Planning: Prepare the grid for e-trucks

- Grid operators should prioritise connecting freight electrification projects if these contribute to grid-beneficial and cost-efficient grid integration, e.g. proximity to substations, optimised charging infrastructure operation via load management or smart charging, connection to renewable energy production or other strategic transport locations (logistics hubs, ports, urban areas), availability of on-site storage and other means of on-site energy optimisation;
- To accelerate grid connections for both depots and public e-HDV charging infrastructure, grid operators need to make flexible grid connections accessible via standardised procedures;
- Create public, accessible, updated grid hosting capacity maps to allow third-party providers such as aggregators to offer optimisation services in all EU Member States, bringing down network investment costs. Data should be harmonised to the extent needed for making informed investment decisions across borders;
- Accelerate anticipatory investments and permitting for connecting electrified transport projects (e.g. high-capacity charging infrastructure, depots);
- Joint planning to rightly size grid upgrades: to electrify depots, optimised scenarios for charging fully electric fleet could be considered even in early stages of electrification to avoid costly upgrades.

Smart Pricing to make best use of existing power networks for e-HDV charging

- Smart use of existing power grids to enable electrification of e-HDV charging is key to use the grid efficiently and reduce costs of freight electrification. To achieve this,
- Energy regulators in Member States should implement locational time-varying network tariffs for all network users, which are basic ingredients to drive efficient grid utilisation from grid customers such as e-truck fleets and CPOs.

Additional remarks:

- It's crucial to create updated and accessible public information on grid use, and e-transport sector demand, to rightly size investments into networks;
- Further solutions to reduce peak energy demands must also be pursued such as energy management systems;
- To bring down costs of truck electrification, it is crucial to also keep the ambition of all supply policies promoting e-HDV such as CO2 standards, as well as national purchase subsidies.

ABOUT ECTA

The European Clean Trucking Alliance is a coalition of over 35+ companies and organisations active in logistics, consumer goods, manufacturing, retail and supply chain management from across Europe calling for zero-emission road freight. ECTA members employ over 2.3 million people and use a total road fleet size of over 380,000 vehicles

European Clean Trucking Alliance