

AFIR – Heavy Duty Vehicles (Alternative Fuels Infrastructure Regulation)

The EU prepares the ground for zero-emission road freight transport

Context

Road freight transport is responsible for more than 16% of all transport emissions within the EU 27. Its significant impact has long been neglected and emissions from new heavy-duty vehicles have only been [regulated since 2019](#). Today the market ramp-up of zero-emission trucks is imminent. [Numbers from the industry and T&E's own calculations](#) are surpassing the European Commission's estimates for 2030 by 2 – 5 times.

A [T&E study](#) from earlier this year has shown the huge potential of Battery-electric-trucks (BETs) is commonly underestimated. BETs represent the most rational and efficient way to get to zero emissions in road freight transport. The main precondition: a comprehensive and effective charging infrastructure network.

What has the European Commission proposed?

The Commission proposed to replace the existing alternative fuels infrastructure directive with a regulation and set out minimum targets for public HDV charging infrastructure for the first time ever. For the EU's TEN-T core network (main EU highways) this means at least 1,400 kW of charging power every 60 km in 2025, with

each charger having a minimum of 350 kW charging power. The total minimum power is required to rise to 3,500 kW in 2030. For the TEN-T comprehensive network (EU secondary highways) the proposal requires the same targets albeit only for every 100 km and by a delay of 5 years: 2030 and 2035 respectively.

For urban nodes the Commission suggests an installed charging power of at least 600 kW in 2025 and at least 1,200 kW in 2030. All chargers should at least provide 150 kW. In total, (depending on the power output of each individual charger) this would amount to around 11,000 public HDV chargers in 2030.

Furthermore, the proposal introduces targets for hydrogen refueling stations (HRS) with a capacity of at least 2 t/day each by 2030. These refueling stations should be located along the TEN-T core and comprehensive networks every 150 km (for compressed hydrogen) and every 450 km (for liquefied hydrogen).

Summary:

- BET charging
- TEN-T core network: at least 1,400 kW of charging power every 60 km by 2025, 3,500 kW by 2030

- TEN-T comprehensive network: at least 1,400kW of charging power every 100 km by 2030, 3,500 kW by 2035
- Urban nodes: 600 kW by 2025 and 1,200 kW by 2030
- HRS: capacity of 2 t/day every 150 km (for compressed) and 450 km (for liquefied) for the whole TEN-T network

What's good? What's not?

Proposing a regulation with binding targets shows the Commission's resolve in finally tackling emissions from road freight transport. Targeting the TEN-T core network is the most sensible way to do so since [80%](#) of all road-freight transport activity (tkm) is happening on these roads.

Acknowledging the importance of BETs will help European manufacturers to pull ahead globally. It is also better aligned with manufacturers commitments and goes hand in hand with the uptake of electric cars and the expected growth of Europe's battery cell industry.

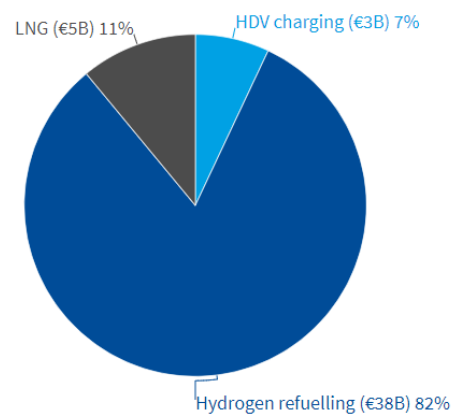
However, the Commission is severely underestimating the total number of BETs in 2030 by a factor of 4-5. This means the envisaged installed power could run significantly short of the actual demand.

Inexplicably, the shortage in supply of charging power is adjacent to a disproportionately sized HRS-infrastructure. Following this proposal **12**

times more would be spent on HRS than on truck charging infrastructure.

Finally the Commission is still including the possibility to expand the LNG network although [studies show](#) that LNG-trucks are hardly contributing to emission reduction at all.

Total 2021-2050 investment in HDV recharging and refuelling infrastructure



Source: European Commission (2021), Impact Assessment of the Alternative Fuels Infrastructure Regulation proposal

How should it be improved?

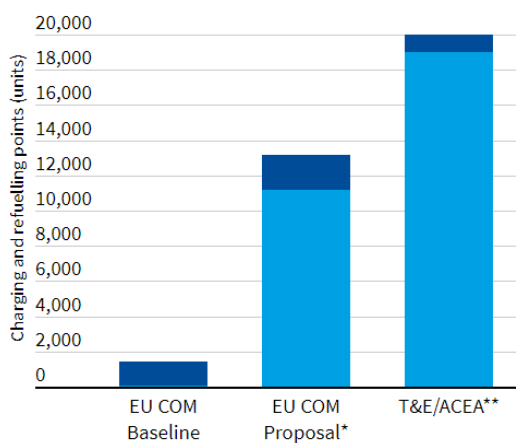
Charging hubs

In order to have the expected number of BETs on EU roads, the targets for the TEN-T core network should be **significantly increased to 2,000 kW in 2025 and 5,000 kW in 2030**. The same goes for the comprehensive network: 2,000 kW in 2030 and 5,000 kW in 2035. This would also be in line with the higher ambition case studies assessed by the EC.

Likewise, the ambition for urban nodes should be increased too: To achieve a minimum charging power of at least 1,400 kW in 2025 and 3,500 kW in 2030. Together (TEN-T + Urban Nodes) this would amount to more than 19,000 HDV-chargers by 2030.

It is not yet clear whether Fuel-Cell-Electric-Trucks (FCET) will ever be a mass phenomenon. Serial production of FCETs is not predicted before the second half of the 2020s. BETs on the other hand are market-ready. Hence, Council and Parliament should cut back on the hydrogen refueling infrastructure ambition and focus public funding on the mature technology, BETs.

Public charging and hydrogen refuelling stations in 2030



*EU COM proposal is derived from the Case 3 sensitivity analysis of policy option 2 (PO2) - which is the closest to the targets from the proposal.

**T&E/ACEA derived from calculations from the T&E and ACEA joint letter 'Making AFID fit for zero-emission heavy-duty vehicles' and excluding semi-public charging.

Source: European Commission (2021), Impact Assessment of the Alternative Fuels Infrastructure Regulation proposal

Destination charging / logistics centers

BET's charging will quite often take place at logistics centers, mainly while loading and unloading cargo (typically 1-3h). Hence, Member States and MEPs should amend the AFIR-proposal with binding requirements for destination charging.

No gas requirements

The impact assessment accompanying the AFIR-proposal is estimating 5 billion Euros for additional LNG-infrastructure. Council and Parliament should delete any provision that could lead to more gas infrastructure.

Don't forget...

The lack of an ambitious Alternative Fuel Infrastructure Directive in 2014 has often been used by manufacturers and other stakeholders to defer the massive ramp up of electric vehicles.

The market uptake of zero emission heavy duty vehicles however, is only just beginning. Europe has the opportunity to learn from its previous mistakes and use the Alternative Fuel Infrastructure Regulation as a means to prepare the ground for a future zero-emission road freight transport

Further information

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