

AFIR analysis and draft priorities

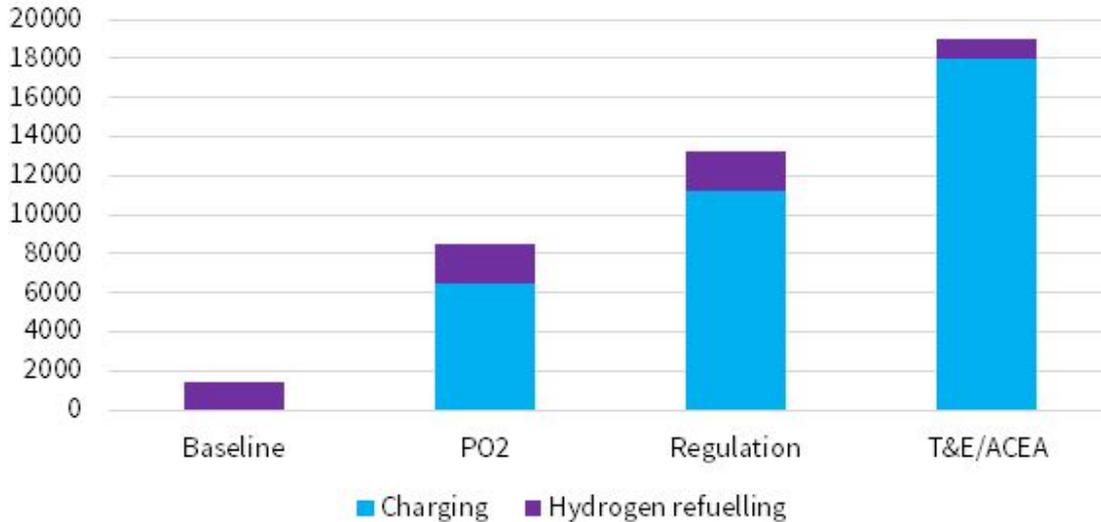
T&E, 23/09

T&E welcomes

- **Regulation vs. directive:** By turning the European charging infrastructure law into a regulation instead of a directive, the European Commission shows that it has heard the multiple and unanimous [calls](#) for the creation of a harmonised and future-proof EU-wide single charging market.
- **New fleet-based methodology for country target:** Big step in the right direction for cars as to ensures that the number of public chargers increases hand in hand with the number of EVs on the road. This also brings the necessary flexibility for MS to implement the targets.
- **Trucks:** For the first time, the EU is targeting charging infrastructure deployment for electric trucks. With targets kicking in 2025 for truck chargers along the highways and at the main urban areas, the EU finally recognises that electric trucks are not a thing for the distant future but rather that roll out of chargers needs to start now.
- **All targets are binding (not voluntary),** and cover a broad range of levels (highways, urban nodes, country fleet-based targets).
- **Timeframe:** targets start as early as 2025 for both electric cars and trucks. This is only possible thanks to the first point above (ie regulation) and very important to guarantee the timely roll out of chargers.
- **User-friendliness:** requirements on payment card readers, price transparency, comparability, and non-discrimination between end users and eMSPs. The sharing of static and dynamic data is also a good. Easy to compare information in €/100km at “all relevant stations”

Number of public chargers (HDVs)

HDV charging and hydrogen refuelling targets in 2030



Regulation is based on in-house calculations following the methodology of the IA and the case 3 sensitivity but with 100 km distance between each site on the comprehensive rather than 60 km.
Only public chargers are counted (no destination charging)

Electric truck projects: T&E estimates 500-600k units in 2030 vs. 110k units from the Commission.

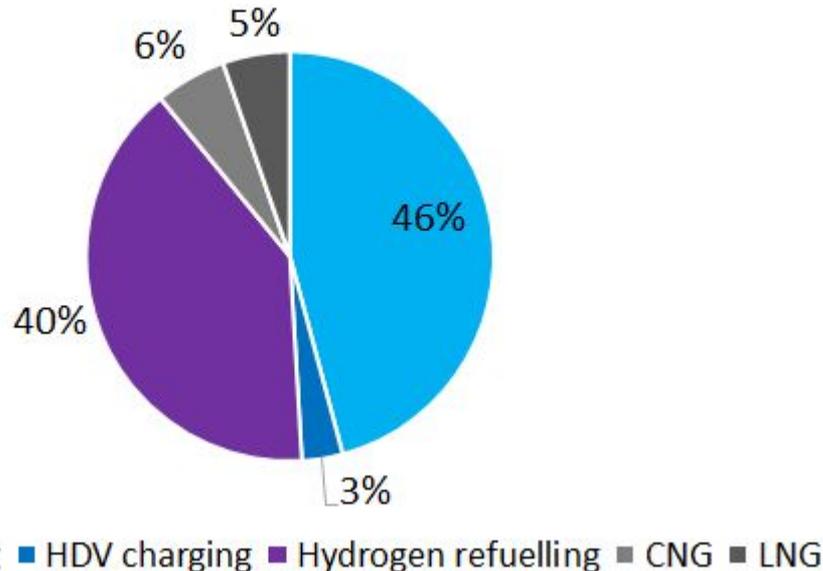
- ⇒ The EC underestimates the number of battery electric trucks in 2030 by a factor of ~5.
- ⇒ Coverage would be insufficient as soon as electric trucks reach high volumes

H2 refuelling stations in 2030: 2000 for the EC vs. 1500 from Hydrogen Europe and 1000 T&E/ACEA letter.
⇒ EC is *more ambitious* than the hydrogen industry

Infrastructure investment

2020-2050 Investment (capex + opex). Total = 96 B€

Source: AFIR IA



The EC is planning to spend **12 times more on hydrogen refuelling infrastructure over 2020-2050 than on truck charging infrastructure** (38B€ vs. 3B€). Over 2021-2030 investment the ratio is 5.

All €10-11B of investments in gas should be phase out

AFIR priorities for HDVs (draft)

1. Increase charging power of hubs

Rationale: In the absence of other requirements, the available charging power at truck charging hubs directly sets the ambition for the number of truck chargers available. Given the EC underestimates the number of electric trucks expected by 2030 by a factor of 4-5, the ambition should be increased to ensure that demand in 2030 would be matched.

Main measure: (in line with power requirements from Case1 and Case2 in the sensitivity analysis)

- TEN-T Core: 2 MW from 2025; 5 MW from 2030 (every 60 km)
 - TEN-T Comprehensive: 2 MW from 2030; 5 MW from 2030 (every 100 km)
 - Urban nodes: 1,400 kW from 2025; 3,500 kW from 2030;
- } at least 16k chargers

Additional measures on min power levels:

- Urban nodes: at least one 350 kW in 2025 and at least two with 700kW (all min 150kW);
- TEN-T networks: all at least 350 kW, and at least two 700 kW in 2030 per hub
- Overnight chargers: at least one charger should have a min power of 100 kW from 2025 (instead of 2030), and at least five chargers with a min power of 100 kW from 2030

!/ \ Securing targets from 2025 are key for the electric truck market uptake.

2. Cut the ambition of the hydrogen requirement

Rationale: EC proposal is more ambitious than what the hydrogen industry is asking for (2,000 sites versus 1,500 sites). According to the IA, the current proposal would spend five times more on hydrogen refuelling infrastructure than on truck charging infrastructure over 2021-30 (12 times over 2021-50) while the number of hydrogen trucks assumed on the road in 2030 is around half compared to the number of battery electric trucks. At the maximum the number of sites should not be above the compromise sought in the T&E + ACEA letter (1,000 sites).

Measure:

- Limit the deployment to no regret options like seaports and industrial clusters

Note: The initial stakeholder consultation aimed at a distance of 300 km between sites but the range of hydrogen trucks was deemed not sufficient - which seriously questions the argument that hydrogen trucks are for long range trips.

3. Chargers at freight logistic centers/hubs

Rationale: A significant share of the electric truck charging will happen at the distribution/logistic center while the truck is (un)loading cargo (typically for 1-3h). This was not included in the AFIR proposal although the change of legal instrument (from directive to a regulation) would allow to address market players like big transport operators or depot owners. The definition of public charging -designed to cover cars- fails to address these charging requirements which often happen in shared (private) areas where several companies operate jointly or nearby.

Measure:

- In the light of the (last minute) change of legal instrument, the European Commission should reassess the potential for extending the scope of the AFIR to cover charging at freight terminals.
- Target of at least one 350 kW charger available at every large logistic hub by 2030. This charger should preferably be shared between more than one transport operator and could also be placed on the fringes of the property in order to allow the station to be used publicly (thus improving the business case).

4. Remove gas requirements

Rationale: The proposal includes a weak requirement on LNG (article 8) although it is now widely accepted that LNG will not decarbonise the transport sector and would only create a distraction, divert investment from the future proof zero emission solutions and lead to stranded assets. The impact assessment calculates that €10-11B would be spend on gas refuelling infrastructure, or 3-4 times more than on electric truck charging. It is crucial that the regulation aligns with the Green Deal and only covers zero emission solutions.

Measure:

- Remove Article 8

AFIR priorities for LDVs (draft)

1. Deploying sufficient & rightly-located public chargers across Europe

1.1 Guarantee EV drivers can drive anywhere from 2025

Rationale: The current proposal only requires MS to deploy charging infrastructure on the comprehensive network from 2030 - which means that before that there is no guarantees that secondary highways would be covered with fast chargers to enable long distance trips to less dense areas.

Measure: Coverage of the TEN-T Comprehensive network by 2025 (instead of 2030)

1.2 Addressing the charging needs in urban & sub urban areas

Rationale: The proposal doesn't set any requirements for EV charging in the cities (while it does for electric truck charging). Most public charging in cities will take place at 'commercial properties'.

Measure: Equip 15% of the parking spots of medium & large commercial properties with public chargers by 2030. These are the actual parking areas where people go and park their EV.

1. Deploying sufficient & rightly-located public chargers across Europe

1.3 Fleet-based power target (1kW/BEV), key takeaways:

- The fleet based power target of 1 kW/BEV is likely sufficient in the long term (from 2030). From this point market dynamics are expected to take over.
- Target falls short of where the charging network needs to be in the short term (in the 2020s) to facilitate mass adoption of EVs.
- ⇒ In reality the charging ratio should decrease over time to account for optimisation of the network

Modelling of the target (2030): *Assumptions:* 15k km per year, 0.17 kWh/km, average fast charger 130 kW, 80% DC charging efficiency, 3h/day, normal charger 7.7 kW, 1.8 h/day. Total energy split: 15% fast public, 15% normal public. ⇒ 1kW/BEV

Modelling of the target (2025): *Assumptions:* same but 11% fast charging and 17% normal charging, utilisation rates are reduced (from halved to divided by 1.3-1.8 for normal/fast) ⇒ between 1.5 and 2 kW per BEV

1.4 Absolute minimum share targets (to ensure sufficient charging in CEE)

Rationale: The AFIR IA, suggests to use an absolute minimum share target of 10% EVs in the fleet in 2030 as “a safeguard mechanism” which would “only come into effect if real world fleet deployment is really behind market expectations”. This was not included in the final proposal.

Measure: Min (absolute) targets for public charging in MS: For 2030, this amounts to infrastructure that is sufficient for 10% of electric vehicles in the total projected vehicle fleet. In 2025 and 2027, 2-3% and 5% could be used.

1.5 Adjust the definition of public charger with stricter requirements (see 2.2 in Annex)

Annexes



2. Make the chargers work for consumers

2.1 Expand the requirement to card readers

Rationale: The proposal only requires fast chargers (above 50 kW) to have a card payment solution (chargers under 50 kW be used with a QR code). The requirements start in 2027. This comes too late and excludes from the scope the vast majority of the public charge points. Three phase AC chargers (typically 11-22kW) can be widely used (eg supermarket) while single phase AC chargers are more likely to be overnight on-street chargers.

Measure: The date and the power threshold should be change and the requirement should apply to *all public chargers over 10 kW from 2025*.

2.2 Set stricter requirements on public chargers

Rationale: The current definition of 'public' charging is too weak as it doesn't include any accessibility requirements (no min time and can be limited only to a certain type of users). This creates a loophole where a charger could be public although it is only accessible for a limited duration (e.g. one hour per week) and/or only available for customers.

Measure: To be counted as public, public chargers should be available at least 8 hours per day (7 days a week), with an uptime of 98-99%, and at least half of the chargers should be available to the broad public without any restrictions (i.e. not limited to customers/clients).

3. Create the right market conditions

3.1 Create harmonised requirements on planning, permitting and procuring

Rationale: There are no harmonised requirements with regards to planning, permitting and procuring for chargers although this is largely considered today as the main barrier and the STF has worked extensively on this as it came forward with a [report/handbook](#) on best practices in 2020. As part of the NPFs, MS have to include “measures to remove possible obstacles with regards to planning, permitting and procuring of alternative fuels infrastructure” which is too weak given this context - harmonised requirements are needed to simplify and accelerate procedures.

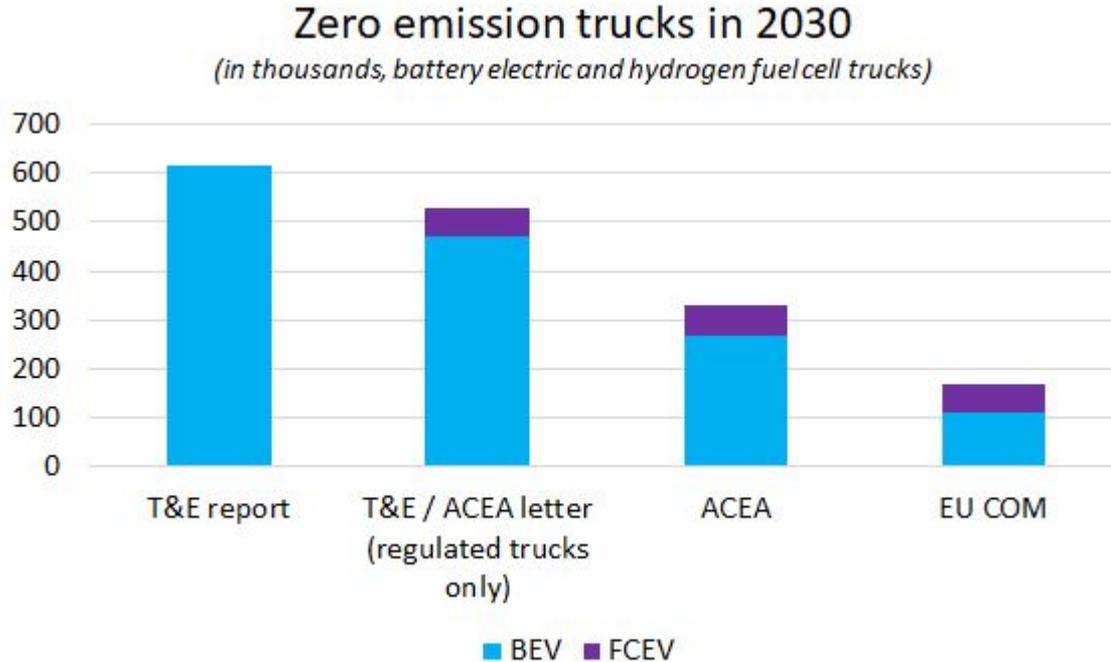
Measure: Without prejudice to national permitting and planning processes, member states shall ensure that obtaining the final permit/building authorisation for a publicly accessible charger being installed pursuant to the requirements of this Regulation takes no longer than 6 months from the date of the initial application submission. Alternative options: DSO providing a mapping of the grid to facilitate planning for CPOs and PA

3.2 Make Alternative Fuels Facility (AFF) fit for the needs

Rationale: The AFF will be created in September in order to “reinforce and better target funding at EU level, attract private investment and increase capacity” as part of CEF II. It needs to be aligned with charging requirements to help MS reach their targets.

Measure: Streamline the contribution for the deployment of public chargers (simplification), expand the scope to charging in buildings, logistic centers and depots, scale the contribution based on a gap analysis to focus resources where the market alone would not deliver.

Zero emission trucks in 2030

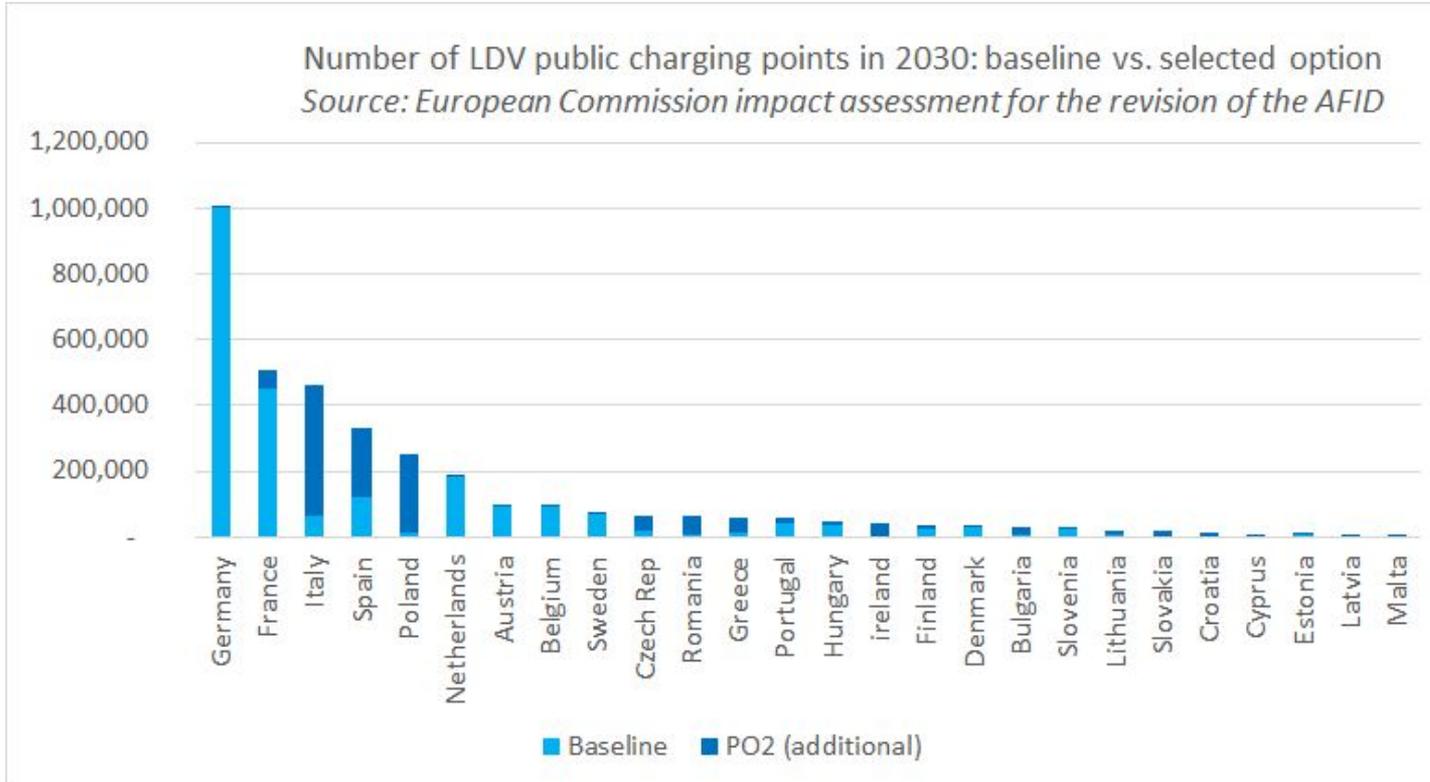


T&E estimates are between 3 and 4 times more than the EU COM

ACEA estimates are the double

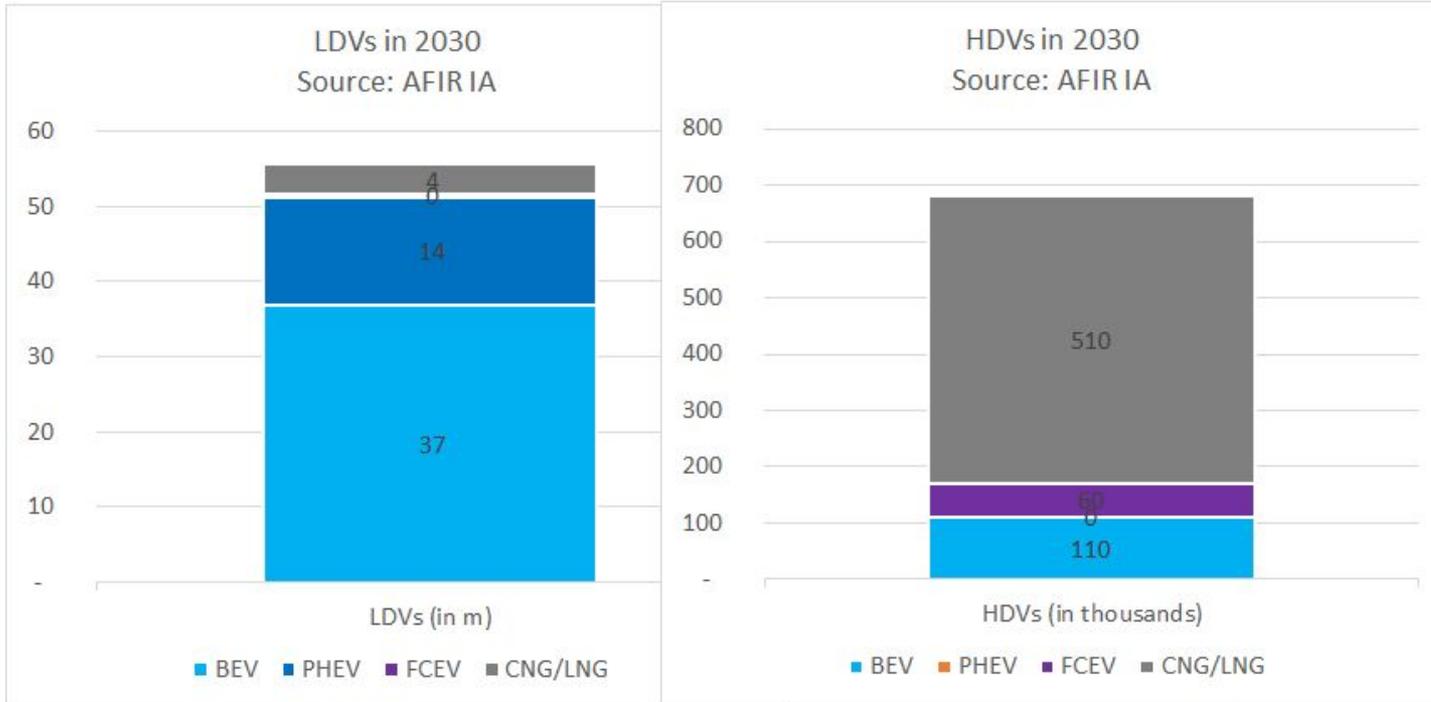


Number of public chargers (LDVs)



Baseline: 2.3m
 Vs.
 PO2: 3.5m

Key data points - vehicles in 2030



Too small to read:
400k FCEVs,
(or 90 times less
than BEVs)

Trucks: 170k ZETs
in 2030 (vs. 80k
previously)

Same uptake of vehicles assumed in all 3 policy options (POs)
In line with TL_Med scenario of LDV standards (50% cars and 40% vans in 2030)