# AVERE's Position on the Revision of the Alternative Fuels Infrastructure Directive (AFID)

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The upcoming revision of the Alternative Fuels Infrastructure Directive (AFID) will be instrumental to support the rapidly growing number of zero emission vehicles expected on EU roads in coming years. It will therefore be a key piece of legislation for decarbonising the transport sector and improving air quality, whilst ensuring seamless charging infrastructure coverage and improved user confidence and experience across Europe.

While the current Directive still covers in its definitions some fossil fuels infrastructure, we believe that the revision should clearly focus on zero emission technologies and their related infrastructure, with an emphasis on the electrification of transport as the most effective and efficient pathway to deliver the EU's Green Deal objectives. We cannot decarbonise the transport sector, nor reduce our dependence on fossil fuels, while still using LNG, CNG, LPG or other fossil fuels that are included in the current directive.

In order for the revision to be effective, markets and rules for charging hardware and operations need to be opened and harmonised in a Regulation rather than a Directive: despite delivering improvements, the current Directive is not leading to the opening of integrated EU markets for EV products and services, which hampers the roll out of a high-quality infrastructure adapted to growing EV demand, and it has therefore failed to achieve its objective of a sufficient and EU wide EV-charging network.

Besides setting binding minimum rollout targets, regulatory action should focus on opening charging markets to competition, which will help ensuring lower costs, ensuring high quality infrastructure and user experience. By doing so, the revised regulation will provide clarity for the mass market, ensuring that EU consumers will be able to recharge easily across the continent.

If effective policy action is taken, AVERE strongly believes that the revised AFID will be key to meet the objectives of the Green Deal, including both the EU's intermediate (2030 $CO_2$ emission reduction targets) and its long term (2050 carbon neutrality target) goals.

## AVERE's Recommendations

### Set EU-wide standards with a regulation

The current alternative Infrastructure Directive is not in line with the EU's Climate neutrality aim for 2050. To improve coherence with long-term EU climate and energy policy, the revised AFID should be brought in line with the National Energy and Climate Plans (NECPs) and the EU's long- term strategies, notably the Green Deal and the Sustainable and Smart Mobility Strategy.

Through the revised AFID, the charging environment must be developed in a more open and widespread manner across Europe, and it must be made more consumer-friendly, seamless, interoperable, and easy-to-understand. Minimum targets for the rollout of charging infrastructure should be set for every

member state. Besides passenger vehicles, particular attention must also be paid to heavy duty vehicles (HDV), light commercial vehicles (LCV) and their related "ecosystem".

Despite delivering improvements, the current Directive has not delivered an opened and integrated EU market for EV products and services. The revised legislation should therefore be transformed into a regulation in order to ensure consistent implementation across the European member states. The European Commission should also put a stronger focus on enforcement, ensuring the continual monitoring of the application of the revised legislation and scheduling a review of its effectiveness, taking into account the market growth of electric vehicles and the latest developments in e-mobility technologies.

Lastly, in order to maximise the contribution of the revised AFID/AFIR to the EU's decarbonisation goals, the proposal must be part of a coherent broader policy environment. Notably, the revised Renewable Energy Directive, accompanied by clear incentives for member states, should ensure European EVs are powered by renewable electricity, while stricter CO2 emissions standards for cars and vans should continue to be a driver for EV uptake across Europe, further improving the business case for a continued infrastructure rollout.

**Differentiate between different types of EV Infrastructure**

Electric vehicles differ significantly from Internal Combustion vehicles as to where and how they are refuelled, notably in the fact that they can be recharged at home and at destinations like workplaces or commercial sites. Legislation needs to take this fact into account (e.g when setting rollout targets), putting in place a holistic legislative framework adapted to local needs and suitable for a variety of different use cases. In order to ensure the effective deployment of charging infrastructure across Europe, the Commission should differentiate between three different types of electric charging infrastructure:

1. Home charging, including public and private parking areas for residents

Home charging is the backbone of the charging infrastructure for electric vehicles and should be encouraged in areas where car owners have a private parking space for their car. To avoid additional strain on the electricity grid, consumers should be encouraged to avoid generating peak demand through price mechanisms.

In private parking areas for residential parking, where the charging points are not connected to the individual household's electricity grid, residents should be encouraged to install smart charging systems that reduce the simultaneous load on the electricity system and prepare for a full transition to zero emission cars.

The location of charge points, other than the number and type, is also important. As of now, public charging infrastructure has clustered in wealthy areas of cities in particular.

But to accelerate the mass rollout of e-mobility, it is key to consider all drivers, without leaving those without access to private charging behind. People in rented houses or apartment buildings are less likely to have a private parking space where a charger *could be* installed; and even if they do, they still may not be *allowed* to install one. Not being able to charge reliably and cheaply at or near their home is a significant barrier for these drivers when considering a switch from their current ICE to EVs.

In areas where car owners do not have their own designated parking space, notably lower-income areas, Member States should have the responsibility to develop public charging points that can be used for charging when the car is not in use. Governments and cities could adopt a "right to charge" approach like Amsterdam. The city ensured a *de facto* right to request installation of a charging point within an adequate distance from their residence for all EV owners that cannot charge privately, thereby ensuring that no-one would be left behind.

Besides the AFID, the upcoming revision of the Energy Performance of Buildings Directive (EPBD) will also be key in enabling home charging. It should set more ambitious targets for charging points, smart charging and pre-cabling requirements in new or renovated commercial and apartment buildings, and establish a "right to plug" for parking spaces within multi-apartment buildings.

2. Destination charging, including office charging

Destination charging can be convenient in the tertiary sector (e.g. offices, stores and hotels), where a portion of employees and/or customers arrive with a car parking facilities are provided. In such places, accessible and high-quality charging facilities should be encouraged by Member States.

3. High-power public recharging

High-power recharging infrastructure gives EV drivers freedom to quickly charge anywhere, any time. With continual improvement of charging speeds, high-power recharging is revolutionizing EV driver behaviour. Long trips are now possible, as are quick recharging sessions in urban areas.

The business model for high power-recharging is very different from the business model for normal-power charging. Capital expenditures (upfront costs) are much higher for fast charging and vary from location to location due to wide-ranging divergences in grid connection costs, charging hardware (e.g., 150kW vs. 350kW chargers) and utilization rates. Moreover, market uptake for fast charging is low in early years and thus prices must amortize high upfront costs in a low-demand environment. Lastly, as a nascent, emerging and high-risk market, capital must be spent to ensure reliability, quality of service, maintenance and sustainable business operations.

Public authorities are not fully aware of all factors and often mistakenly compare fast charging to other charging services when considering price caps. This is the wrong approach; the starting point for any pricing policy is competition. The AFID should therefore limit the ability to introduce price caps and ensure that prices remain reasonable for the EV driver by requiring fast charging rights to be allocated through open and transparent procedures. In a well-functioning market with a level playing field, competition leads to fair pricing and to affordable, high-quality offers for consumers.

On the member state level, national governments should develop land-allocation strategies (i.e. within their National Policy Frameworks) for dedicated public high-power recharging where finding locations is challenging (due to larger space requirements and sparse greenfield sites). At a minimum, these sites should be every 60 km along highways (where they should provide at least 150kW for PVs), as well as in city centres. Land allocation strategies should take into account grid readiness at the chosen location, as well as the needs of high kilometre use cases and of heavy-duty vehicles, which will require dedicated infrastructure of 350 kW - 1.5 MW. Sites should be made available through open and transparent public processes, in line with the principles of EU competition law.

Permitting procedures should be streamlined and, along with grid connection times, be subject to binding legal limits. The standard administrative processes for the connection of public charging stations in many European member states are currently primarily designed for private household connections. However, the connection process for public charging stations differs greatly, with the desired lead time for connecting a charging station being 3 to 6 weeks.

The connection process of a charging station therefore requires adapted process steps and a shorter lead time. Notably, improved transparency on maximum grid capacities should be ensured to allow for better planning of recharging point deployment in advance. The process can be further facilitated by pro-active and demand-driven location determination between (local) governments, grid operators and CPOs in regards to where exactly charging stations will be needed and what the technical and administrative requirements are.

Member states should prepare 'grid-ready' sites at the identified locations because it saves time and can be done in parallel with tenders, decreases operators' CAPEX costs as costs can be amortized over the concession period, encourages investing in a larger grid capacity, and allows current and future concession holders to share grid connection costs.

Further to this, the Commission should issue recommendations on how Member States can support the business case for high-power recharging stations along highways and high-traffic corridors. This guidance should recommend concession durations of at least 15 years and space allocations of over 1000 m2 to allow for upgrades in the number of chargers as the market develops. By the time a large proportion of the fleet becomes electric, busy service areas will need to cater for a capacity of 20-30 chargers; it is therefore important to already consider the long-term requirements of physical space and proactively upgrade grid capacities to meet the future demand.

**Support and monitor the uptake of charging infrastructure across Europe**

EV charging is an independent, stand-alone market that requires expertise in design, technology, customer service and operations and maintenance in order to provide high-quality value and reliability to EV drivers. On public lands, construction and operation of recharging infrastructure should be separated from other services in tenders in order to ensure the selection of the best recharging option and participation of all market players.

Charging infrastructure should be developed and operated on a commercial basis. Member States should ensure favourable conditions for the rollout of sufficient public charging infrastructure. AFID should help Member States:

- Put policies in place to guide the organization of open, non-discriminatory, transparent, public and competitive procurement processes, such as tender procedures for recharging concessions.
- Ensure that tenders value first and foremost the quality of the overall charging service proposed (instead of focusing only on costs)

It may be necessary to support infrastructure development where profitability is low. Subsidies should be organized to gently encourage development of white spots (e.g. less economically attractive sites). This could happen by bundling more and less attractive sites in lots. Subsidies should not, however, seek to make a bad business model viable. A smart way to do this would be to support grid connection costs (CAPEX), as future continued operation will not need to incur the same upfront investment. If

operators are able to run a solid business case on a subsidized grid connection without further subsidies now, it is likely that they will be able to do so in the future as well. Support schemes should further only apply to recharging stations developed through open and transparent processes where all market players can compete to construct and operate stations.

The EU should monitor and make public the number of public chargers to stakeholders and Member States, differentiating between an updated set of charging categories based on power output. The existing system of fragmented data collection and outdated terminology makes monitoring of progress across the EU impossible.

In addition to differentiating between normal-power and high-power recharging, the revised AFID should establish clear and harmonised definitions of "public", "semi-public", "publicly accessible" and "private" recharging infrastructure for monitoring purposes. Definitions of these different types of infrastructure currently vary considerably between member states, being based on entirely different factors at times (e.g. whether a station is located on public or private ground, or if a station is accessible 24/7 or only during certain business hours).

On the basis of these definitions, the Commission should aim to establish a harmonised and fair EU-wide regulatory framework, allowing for the parallel development of all types of infrastructure across the continent. They should also form the basis of a comprehensive and systematic gap analysis to be conducted by the Commission, identifying where charging points are lacking throughout Europe, how many will be needed and of what type. This gap analysis should guide the deployment of support schemes across Europe.

**Ensure transparency, interoperability and quality**

To facilitate the use of charging infrastructure for all consumers, it will be key to ensure the development of seamless and interoperable charging services for charging infrastructure defined as public under the definitions to be developed. Requirements for charging infrastructure should be harmonised throughout Europe over the coming years.

In particular, data that is necessary to enable interoperability, such as information on the geolocation (within 5 decimal degrees), availability of charging stations, connectors installed, on tariffs (including roaming tariffs), and on charging capacities should be more accurate, transparent, easily understandable and readily available to consumers. Crucially, charging fees should have to be communicated at the time of charging. Billing data (energy amount, the cost, and all other data relevant for the cost calculation) should be available after a charging session has been completed.

However, in the absence of clear, fully developed and implementable standards and in order to not interfere with existing industry-based solutions, the revised AFID should not mandate the use of specific charging protocols at this point. Subsidy programmes and tenders, and their eligibility criteria, should also avoid setting mandatory protocol solutions for all publicly financed networks.

Nonetheless, the regulation should ensure that a European framework for EV related charging standards is in place when the relevant standards are finalized. We therefore recommend setting clear high-level objectives:

- Public chargers should be easily accessible to all EV drivers (via RFID and encouraged roaming or adhoc payment methods) based on fair market rules that do not benefit certain market players over others.
- Ad hoc payment (e.g. QR Code, debit/credit card) should always be possible for users, without prescribing a specific payment method.
- Roaming-capable plug and charge should be encouraged.
- The establishment of a plug and charge ecosystem should be based on fair market rules that guarantee a neutral PKI (public key infrastructure) governance.
- Utmost transparency and information provision (e.g. in regards to pricing, payment methods and charger availability) to the customer should be mandated, making use of fully digital solutions in particular.

The attractiveness of electromobility can be increased with customer-friendly payment systems. RFID cards and mobile apps are already well established. Interconnected payment and authorization such as Plug&Charge have the potential to provide consumers with additional convenience and comfort. Consumers need to be able to freely decide on their preferred way to charge and pay without mandating specific methods or standards. It should remain the consumer's free choice to enter a contract with one or more MSPs or to use ad-hoc charging.

The possibility to charge ad-hoc should be mandated at every charging station in Europe. However, there should be no obligation to install credit and debit card terminals. Consumers already have the possibility to pay with credit or debit card with digital solutions. Additional regulation for card readers on every charging point would lead to an increase in the costs of Charging infrastructure, hampering rollout and leading to higher charging costs for customers. Furthermore, any new requirements for harmonised payment options should apply only to new installations and avoid retrofitting requirements. Higher requirements in terms of payment options may be necessary for recharging stations along long-distance routes due to their crucial role in enabling distance travel.

More broadly and going beyond interoperability concerns, the revised Alternative Fuels Infrastructure Regulation should strive to ensure a high quality of EU charging infrastructure and users' experience. In a first step, a set of clear and harmonised measurement indicators should be established (e.g. uptime, transparency, accessibility – for example in terms of payment methods and for disabled drivers, customer support, safety, cybersecurity), and EU funding and tender selection should be conditional on compliance with quality criteria in order to ensure an accessible recharging infrastructure network.

In the medium term, the development of these criteria should culminate in a set of minimum technical quality and reliability criteria on the part of member states, complemented by quality criteria on the side of electric vehicles to ensure compatibility. The EU and member states should support the regular independent testing and certification of the fulfillment of these priorly set quality, interoperability and reliability criteria. It should also be ensured that faulty and offline charging infrastructure can be flagged more quickly by users and that faults are remedied in due time. Customer support should be provided to all users, including ad-hoc payment and roaming users, and should not be restricted to registered customers of the CPO.

**Address heavy duty and light commercial vehicles**

Dedicated infrastructure for heavy duty vehicles will be necessary to decarbonize road freight and road passenger transport. The revised Directive should therefore set dedicated binding targets and standards for the deployment of static charging infrastructure for heavy-duty vehicles (HDVs), and focus solely on zero emission transport technologies to reach the 2050 climate neutrality goal.

Besides binding targets for HDV infrastructure in the future AFID/AFIR, Member States should present national roll-out plans for a dedicated HDV infrastructure. These plans should not only include sufficient locations for CPOs to roll out this infrastructure along Core Networks, but also a strategy towards proactive grid upgrades needed to support this rollout.

With the exponential growth of e-commerce, attention should also be given to Light Commercial Vehicles in order to make goods transport more sustainable, especially in cities. Electric light commercial vehicles and their related ecosystem could play a very important role in this regard.

**Ensure readiness for the future through smart charging and emerging technologies**

The revised AFID/AFIR should leave scope for the development of future technologies (e.g. wireless charging) and support innovation. Overly prescriptive standardisation should be avoided at this stage to allow for a technology-neutral competition of charging solutions, leaving the development of the charging ecosystem up to markets and consumer choice. Electric road systems should be included in the AFID and the development of national strategies in this regard should be encouraged.

The revised Directive should also incentivize Member States to support charging infrastructure that will allow for smart charging capabilities, through which the flow of electricity to the vehicle can be remotely measured and controlled. This would reduce grid loads by charging EVs primarily in off-peak hours, leading to significant savings in grid investments across the energy system and allowing for a quicker rollout of electromobility across Europe. V1G smart charging is market ready, affordable, and all EVs currently on the market support it.

In coming years, vehicle-to-grid (V2G) technologies could allow EV's integration in the power system as decentralised energy resources providing flexibility. This will not only allow EVs to further support the share of renewables in the energy system by storing renewable energy in period of excess supply, but also allow EV drivers as "prosumers" to financially profit from their EV ownership. As batteries in EVs are already paid for when purchasing a vehicle, V2G would provide storage capabilities at zero cost. Regulators should work towards a mature legislative framework allowing for the quick deployment of V2G technologies once uptake takes place on a broader scale.

The revised AFID should ensure that the data necessary for smart charging is made available by the relevant parties (car manufacturers, energy suppliers, charge point operators, etc.) in order to make use of the technology. By using price signals and smart systems, EU legislation should also encourage smart use of electricity in other areas than transportation. Charging of vehicles should be addressed within a comprehensive policy framework encouraging the uptake of sources of flexibility to the grid.

**Conclusion**

AVERE is convinced that the revision of the Alternative Fuels Infrastructure Directive offers a unique opportunity to vastly improve the existing policy framework, and to better reflect current market conditions while further encouraging consumer adoption. We look forward to engage with European

policymakers on the recommendations made in this paper, and stand ready to provide our input and expertise where needed to ensure a cleaner future for European road transport.