Position paper on the Revision of Directive 2014/94/EU on the Deployment of Alternative Fuels Infrastructure

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ChargeUp
EUROPE

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Introduction

ChargeUp Europe is the voice of the electric vehicle (EV) charging infrastructure industry. ChargeUp Europe has been formed to accelerate the switch to zero emission mobility and ensure a seamless driver experience with access to high quality, readily available charging infrastructure across Europe. As of today, our member companies – Allego, ChargePoint, EVBox, evway, Fastned, GreenWay and has.to.be – represent over 160.000 charging points in all 27 EU Member States.

The revision of the Alternative Fuels Infrastructure Directive (AFID) comes at a critical time in Europe's shift to a green and sustainable economy. To enable the development and deployment of clean, electric mobility, a wide revision of this legislation is needed. This is necessary to ensure that charging infrastructure can handle the scale of electric vehicles expected to come onto market in the coming years and help the EU achieve its goal of climate neutrality by 2050.

This paper outlines ChargeUp Europe's main recommendations for the revision of AFID.

ChargeUp Europe – 12 key recommendations

1. **Replace the Directive with a Regulation** to ensure an accelerated, harmonised rollout of EV charging infrastructure across the EU.
2. **Focus the legislation only on zero emission fuels** and prioritise only those options with the greatest potential to decarbonise the road transport sector.
3. **Widen the scope** to ensure an ambitious and coherent increase for public charging (fast and normal charging), privately owned charging which is accessible to the public and privately owned charging which is not accessible to the public.
4. **Introduce ambitious binding weighted targets** for charging infrastructure at Member State level to allow for smart and targeted minimum coverage across the EU.
5. **Improve transparency & market governance** to speed up grid connection and enable efficient market access for charging infrastructure companies.
6. **Urge Member States to develop site-allocation strategies for fast charging** stations along highways and main traffic corridors and ensure open and transparent tender procedures.
7. **Prioritise interoperability and open networks** to facilitate the adoption of open, non-discriminatory and uniform communication protocols (such as OCPP and OCPI) and related standards.
8. **Ensure the necessary conditions for roaming** so EV drivers can travel seamlessly across the EU.
9. **Take a consumer-centric approach** to make sure the EV driver has quality data on networks and charging locations, price transparency and choice regarding payment systems.
10. **Introduce a "Right to Plug"** so that all EU citizens can request the installation of charging points in or near their building of residence or workplace.
11. **Increase focus on electric heavy-duty vehicles** to allow HDVs to charge across the EU road network and in urban areas.
12. **Ensure charging infrastructure is future proof** and provide a clear definition of smart charging.

1 - Replace the Directive with a Regulation

The EU's Alternative Fuels Infrastructure legislation should aim to accelerate the rollout of harmonised EV infrastructure, stimulate investor confidence in a well-functioning internal market and ensure that the highest level of customer service and choice is delivered at the most competitive prices for EV drivers.

To date, the existing Directive has been poorly implemented in parts of the EU and its legal basis has led to inadequate enforcement. This has resulted diverging and inadequate EV charging coverage, fragmented national market approaches, different technology specifications and local technical requirements which create fragmented and closed ecosystems and act as a barrier to investment.

Reporting tools such as the National Policy Frameworks have not focused on locations where the majority of charging happens (e.g. work, home). They also lack an emphasis on interoperability. This is hindering the development of the EU's internal EV infrastructure market.

Driving and charging an EV does not stop at a Member State's border. Consistency of deployment in terms of addressing the actual charging needs of EV drivers and setting minimum requirements for all types of EV charging use cases is essential. It will support investments, offer a seamless driver experience across the EU and deliver substantial benefits to the energy system.

To address this challenge, ChargeUp Europe recommends replacing the current Directive with a Regulation which can deliver a faster, more effective and harmonised approach across the EU. This is a vital step to setting a clear direction for the market and for reducing barriers to the roll-out of charging infrastructure.

Market fragmentation examples

Access, Transparent and non-discriminatory pricing

- There is a lack of clarity on the definition of 'non-discriminatory' pricing under the current legislation. The revised legislation should make clear what constitutes discriminatory pricing and ensure that it does not occur at publicly funded infrastructure.
- The obligation on Member States to ensure that prices charged by the operators of recharging points accessible to the public are reasonable, easily and clearly comparable, transparent and non-discriminatory has not been transposed properly into national law – if at all.
- Clear information should be provided by the Charge Point Operator (CPO) and e-mobility service provider (EMSP) to consumers so that they know what they

are paying for at publicly accessible charging stations before charging. Both CPOs and EMSPs have important responsibilities regarding pricing of EV recharging. CPOs generate the original price charged at the station, but customers usually only see the price that their EMSP charges for the charging services. The exception here is in the case of ad hoc pricing when the driver pays the price that the CPO charges.

- The revised legislation should set out guiding principles as to what information needs to be displayed without prescribing the manner in which this should be done.
- The legislation should also make sure ad hoc charging is possible at all public charging stations.

Product technical specifications - sockets and shutters

- Market fragmentation on local technical hardware should be addressed. It is currently possible for a Member State to mandate a mechanical shutter on AC stations. This has created a market exception in one Member state, which led to increased local cost for EV infrastructure market deployment and limits the choice for consumers who cannot opt for a station with a cable attached.
- Such a requirement hinders the mass deployment of e-mobility, without bringing any additional safety guarantees.
- We recommend removing this provision (the option for Member States to make the shutter a mandatory requirement) from Annex II (Point 1.1.1.) of the current Directive.

Metering requirements

- Metering requirements for charging per kWh are in the consumer interest and guarantee transparency. However, currently a range of differing approaches exist across the EU.
- We stress the importance of harmonised requirements and device specifications across the EU. This will facilitate product penetration on all EU markets, ensure consumer access to charging stations, and also allow comparability of charging stations across EU Member States.

Fast charging

- Currently, there is a fragmented approach across Member States on the allocation of locations for fast charging stations and open tender processes for public locations (e.g. highways).
- To create an open market and level playing field it is important that suitable sites are selected on prime locations and that tenders are drawn up for these sites through a public and transparent process. Such tenders for EV charging infrastructure should be separated from tenders for petrol, so that new players without a petrol footprint can also access this new market.

2 – Focus only on zero emission fuels

If the EU is serious about achieving climate neutrality by 2050, the Directive needs to be revised to prioritise only those options with the greatest potential to decarbonise the road transport sector, especially as we look into the near term future e.g. the coming 5 years. **This means that fossil fuels should be excluded from the scope and CNG, LNG, LPG should not be part of the new legislation going forward.**

For zero-emission fuels, there is a need to analyse the use-cases of specific alternative fuels for different sectors. In this regard, electrification is already proven to be the most sustainable and efficient option for reducing CO_2 and other particle emissions across the road transport sector and delivering against European Green Deal objectives.

3 - Expand scope and clarify public *and* private charging

The current legislation only deals with 'recharging or refuelling points accessible to the public'. This definition does not capture the variety of types of charging infrastructure and differing needs both across and within EU Member States and regions. The majority of charging takes place at home or in the workplace and charging is increasingly available in locations such as supermarkets, hotels and restaurants.

The legislation should reflect this heterogeneity. It should define and align on what "publicly accessible" means and include further categories in the legislation for privately owned charging which is accessible to the public and privately owned charging which is not accessible to the public. Distinctive (minimum) requirements for different use cases should be established. It is also necessary to distinguish between the different charging speeds available.

In terms of defining the different segments, the key elements to consider relate to access to the charging station and ownership of the charging station (not the land itself). These points may not be clear when referring simply to a "public" charger. Therefore, **we propose the following definitions to be included in the revised legislation:**

DEFINITIONS:

- **FULL PUBLIC ACCESS:** A recharging point with full public access means that access is not limited to any person or group, and use of the charger is not conditional on purchase or use of any other service;
- **LIMITED PUBLIC ACCESS:** A recharging point with limited public access means that access or use of the charger is limited to a defined group of users or time of day or is conditioned on the use or purchase of a good or service (e.g. conditional use in locations such as paid public parking, hotels, restaurants)

- **PRIVATE:** A private recharging point is one where the owner of the charger and owner of the vehicle are typically the same (person or company) and access is often reserved for people on the property.

In addition, given the important role that home, workplace or depot charging play in the overall EV charging ecosystem, charging points with limited public access should also be eligible for public funding.

4 – Introduce binding weighted targets

The legislation needs to move away from a one size fits all approach and enable smart and targeted minimum coverage across the EU. Ambitious binding targets should be introduced to ensure less fragmentation among Member States and lead to more consistent development of the EV market in Europe.

These targets should be developed according to a common methodology which reflects the fact that charging needs will differ from Member State to Member State. (e.g. needs in Northern Finland will be very different to those in the Ruhr area in Germany).

Methodology

To ensure a coherent and harmonised rollout of infrastructure, measuring and counting charging stations will be of critical importance. To assess the number of stations each Member State needs to install to keep pace with, and facilitate the growth of e-mobility, it is vital to know how many – and what types of – stations there currently are on the market.

In this regard, the unique nature of EV charging needs to be recognised, whereby some chargers can charge more vehicles and at higher power than others. The methodology should ensure that it does not simply count the number of chargers, but instead tracks the number of chargers which are able to charge simultaneously and capable of providing different amounts of power, accessibility among other factors.

To achieve this, a weighted measuring system, which accounts for these factors, is the best method of counting charging stations in Member States.

A very thorough weighted methodology has been presented by Transport & Environment in its January 2020 Recharge EU report[1]. While we do not formally endorse the exact parameters outlined in the T&E paper, we do support the view that a weighted methodology is appropriate to ensure that there is adequate overall coverage. This should take into account, amongst others, the below aspects:

- Classification of charging points (e.g. different charging speeds)

[1] Transport & Environment - Recharge EU – January 2020

- Socket types
- Accessibility
- DSO electricity grid capacity
- Geographic coverage
- Specificities of the charging infrastructure – full public access charging; limited public access; private
- Regional traffic and housing characteristics
- Existing national needs (e.g. home charging may be more common in one Member State and public charging in another).

When developing its methodology, the Commission should also pay attention to: the quality of the input data. For example:

- The secondhand market for EVs must also be looked at to ascertain the entire number of vehicles.
- Kilometres travelled must be reviewed to determine charging infrastructure needs accurately

Quality data is vital as incorrect input data would result in skewed findings leading to improper infrastructure targets and investments.

5 – Improve transparency and market governance

There are currently several challenges that hinder the proper functioning of the EV infrastructure charging market. Most notably there are barriers for charging infrastructure players entering the market. The role of Distribution System Operators (DSOs) in the marketplace should be clarified and limited to addressing specific market gaps (e.g. similar to the procedures outlined in the Electricity Market Design Directive (EU) 2019/944).

To accelerate the rollout of infrastructure, the legislation should tackle existing transparency and governance issues. Currently, the time for connection to the grid differs vastly from Member State to Member State and the process for granting approval can be lengthy and opaque.

This is a major bottleneck which impacts businesses and consumers alike and slows market growth. In order to ensure the speedy and efficient rollout of EV charging infrastructure and growth of the EV market, DSO processes need to be adapted.

A maximum amount of time should be defined and mandated between a request for a permit and realisation of the connection to the grid. In this regard, we would recommend an 8-12 week period for AC charging infrastructure and 4 -6 month period for DC infrastructure as the industry standard. To ensure compliance, penalties for failure to meet these deadlines could be introduced.

It is currently common practice amongst DSOs to treat all grid connection requests equally. However, given the urgency to address climate change and relatively simple nature of most EV charging infrastructure requests thanks to the use of standard hardware profiles, EV charging infrastructure requests should be prioritised particularly if other pending requests will not lead to tangible sectorial carbon savings.

To further enable the sector to scale and speed up the roll out EV charging infrastructure, improving information sharing will aid the transparency and proper functioning of the EV infrastructure market. For example, if DSOs share information regarding the dates when a connection request is made, when replies are due, and outlines the process clearly online, then this could reduce delays, reduce uncertainty for market parties, and improve the investment potential of the sector as a whole.

This process would be helped greatly if DSOs were obliged to provide a heatmap showing the grid hook up cost in the geographical area they preside over. This would enable market parties and governments alike to identify those areas where the market could lead investments and where government assistance might be needed to enable a viable grid connection for EV infrastructure charging equipment.

Finally, the issue of grid connection fees and capacity charges should also be reviewed for the e-mobility charging infrastructure sector. As a sector, we would greatly welcome predictable and proportionate fees and costs in the preparation of the business case for a charging location.

The link between AFID and the Electricity Market Design Directive should be looked at with all of these points in mind.

6 - Ensure site-allocation strategies and open tenders for fast charging

Thus far the legislation has failed to ensure adequate availability of fast charging stations on locations where consumers need it most: highways and high-traffic corridors, including in dense cities. A major barrier is the access to suitable locations, since land on prime locations is sparse, and there is a lack of transparent and open permit allocation procedures. This can be accelerated if the revision of AFID urges Member States to come up with a site-allocation strategy for fast charging stations along highways and main traffic corridors.

In this regard, it is important that the procedure for permit allocations for these sites is transparent and open to new players, and a level-playing field is ensured. A number of Members States are currently mandating petrol stations to build fast charging stations, while other Member States organize an open tender process for fast charging infrastructure on highway service areas where any market player can participate. The former is detrimental to the market, excluding new players and reducing competition. It also creates a risk that the quality of the charging

infrastructure offered is not of a high standard. This may lead to a poor experience for the consumer and can be a barrier for a switch to electric driving.

Instead, mandating a transparent and open tender procedure for public sites where charging infrastructure is separated from petrol (and other fuels) can bring about an open market and fair competition. The revision of AFID will be of major importance to harmonize this approach and ensure a level playing field.

7 - Ensure Interoperability of communication protocols & standards

The development of e-mobility across the single market will depend on open interoperable technology and communication protocols. ChargeUp Europe welcomes the various standardisation initiatives that are underway in our industry today, provided they facilitate the ease of doing business among the various actors in our value chain, are non-discriminatory in nature, ensure open and equal access and do not create technology lock ins or closed ecosystems.

The adoption of open, non-discriminatory and uniform communication protocols *(such as OCPP and OCPI)* and related standards in EV charging infrastructure are fundamental to facilitating a seamless charging experience for the driver across charging networks and across Member States.

A key interoperability aspect concerns the communication between the EV charging station and charging management system operated by the charging point operator (CPO). Publicly accessible charging infrastructure should never be locked into an equipment or network provider, either commercially or technically. Interoperability should therefore be at the core of any hardware or software requirement for any station accessible to the public. The Open Charge Point Protocol (OCPP) is the widely supported industry open protocol which ensures interoperability between charging stations and charging network software used by CPOs.

OCPP certification of hardware and software, guarantees charging station customers choice and flexibility to use any network on any charge station. It encourages charging station manufacturers and network providers to compete on price, service, product features, and innovation through market forces – all of which encourage demand by charge station owners. The end result brings significant benefits to EV drivers as charging infrastructure expands in Europe.

To make this a reality, the legislation should ensure interoperability between all actors of the EV ecosystem and ensure that publicly accessible EV charging infrastructure is not built as a closed ecosystem. In this regard, any tenders for publicly accessible stations should require open protocols.

The importance of Standardisation - ISO15118 - 20[2]

- Standardisation initiatives should create minimum technical standards to ensure successful communication between technologies. They should be non-discriminatory, open and create equal access. A standardisation initiative worth mentioning is ISO 15118-20 – Vehicle-to-grid communication interface.
- Given that this standard is still under development, ChargeUp Europe feels it would not make sense to enshrine it in EU legislation at this point in time. Any future legislation should only focus on the capability expected from the different components rather than prescribing a specific technology or standard to avoid any lock-in.
- ChargeUp Europe looks forward to the finalization of ISO 15118-20 and to assess its value and impact on the sector. It is important that the final standard does not add additional burdens or high implementation costs and is compatible with open protocols that are commonplace in our industry.

Lastly, we call on the EU and the automotive industry to develop a mandatory checklist with our industry regarding the compatibility of both existing and new type of Electric Vehicles with the existing infrastructure. To date, unfortunately we encounter frequent problems with software updates from vehicle manufacturers hampering the smooth interaction with charging infrastructure leading to a suboptimal EV driver and consumer experience.

8 – Enable Roaming

A major interoperability use case concerns roaming. If the EU is serious about developing e-mobility in Europe, then e-roaming is absolutely necessary. The EV driver needs to be safe in the knowledge that they can travel, and get connected to any open network and charge anywhere. Of course, charge point operators (CPOs) and e-mobility Services Providers (EMSPs) have a big role to play in working together to ensure interoperability and the use of open protocols that make roaming possible. Currently, there exist issues with some CPOs not allowing certain EMSPs on their network. This should be addressed, as market rules need to be respected and EMSPs should have fair and adequate access to CPO networks on the basis of commercial criteria. Whether it is through roaming agreements, roaming platforms, or subscription models like “roam like at home”, we need to ensure that companies make roaming seamless for the EV driver who should not have to worry about the underlying technology.

[2] **ISO15118-20 is focused on**: 1. Plug and Charge functionality (finished); 2. Cybersecurity of data flow on the network (not yet finished) and; 3. smart charging functionality allowing bi-directional energy and data flows (not yet finished).

The legislation should contribute to a further expansion of networks and allow networks (of CPOs and EMSPs) to exchange public infrastructure data and reduce technical barriers for new entrants.

We recommend embedding as a minimum technical requirement for publicly accessible infrastructure the Open Charge Point Interface (OCPI) protocol which is free to use, independent and works both peer to peer as well as with roaming hubs. Compared to other existing roaming protocols it can be considered as truly open since its open to any party and its future developments are community-consensus based without any closed commercial interests involved[3]. The protocol also ensures payment for charging is straight forward, reliable, and accessible for all users. The user perspective is essential in this regard. Real time data, easy billing, price transparency, and accessibility are the most important aspects that need to be provided to consumers.

9 – Put the Consumer at the heart of the legislation

The legislation needs to have the consumer at its core and should ensure that the conditions are in place that allow EV drivers to have access to charging stations, price transparency, choice of payment and seamless charging across the EU. There are a number of issues that are important in this regard:

Transparent and non-discriminatory pricing

The current legislation states that Member States shall ensure that prices charged by the operators of recharging points accessible to the public are reasonable, comparable, transparent and non-discriminatory. This obligation has not been properly implemented and consumers do not always understand the full price they are paying.

Clear information should be provided to consumers by CPOs and EMSPs so that they know what they are paying for at publicly accessible charging stations before starting a charging session. Both CPOs and EMSPs have important responsibilities regarding pricing of EV recharging. CPOs generate the original price charged at the station, but customers usually only see the price that their EMSP charges for the charging services. The exception here is in the case of ad hoc pricing when the driver pays the price that the CPO charges.

The revised legislation should set out guiding principles as to what needs to be displayed without prescribing the manner in which this should be done.

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[3] Mart van der Kam, Roland Ferwerda, Rudi Bekkers - ***Developing roaming protocols for EV charging: Insights from the field*** - 2020

It is also not clear when pricing is deemed non-discriminatory. The revised legislation should make clear what constitutes discriminatory pricing and ensure that publicly funded infrastructure does not engage in such practices.

Providing Quality information to the consumer

The EV driver must have easy access to reliable and up to date information on charging locations and other critical information. The responsibility should be on the market to provide the consumer with this information (e.g. through an app or physical means). It is in the competitive interest of a company to make sure that sufficient and high-quality information is available to customers, as it is an important aspect of the consumer experience. This is already a strong focus of ChargeUp Europe's work. Regulating this will not bring any added benefit and will create additional administrative processes, for both public institutions and the industry, creating inefficiencies.

Ease of Payment

EV drivers should be able to freely choose the way in which they pay at the charging station. **Ad-hoc payment should remain a minimum requirement,** however there should be an open approach towards payment technologies on public charging stations. This will avoid excessive costs for operators and promote innovative solutions. Payment technologies are rapidly evolving and prescribing payment technologies for EV charging can lead to costly, outdated and underutilized solutions which will not increase access to EV drivers.

Quality of service (consumer assistance)

The revised legislation should ensure that publicly tendered infrastructure is operated, maintained and serviced with the highest possible uptime. Public tenders should allow for different types of service level agreements with partners that can deliver a wide variety of services including preventive maintenance, troubleshooting and on-site corrective maintenance, providing 24/7 assistance to consumers.

10 – Introduce Right to plug

To further accelerate the rollout of infrastructure and the growth of the EV market it is vital that citizens have access to charging points and can also request installation for key locations such as apartment buildings, in their neighbourhoods and at work. This is where the majority of charging takes place.

Currently, regulatory barriers in national housing laws discourage EV adoption and the revised legislation should examine how to build on existing best practices on EV charging and the 'right to plug' (installation of charging infrastructure).

The right to plug

The installation procedures for EV chargers in multi-residential buildings are currently too complex, too long and discourage drivers from purchasing EVs. In many countries, drivers have to wait for the general assembly of the tenants to have formal approval and start installation work or pay for the whole building to be rewired if they are the first to get an EV.

Any tenant or co-owner should be enabled to install a recharging point for an EV. Several Member States, including France, Portugal and Spain, have already realised this necessity and implemented favourable rules. With more than 40% of EU citizens living in apartment buildings, addressing the struggles of this market segment will be key.

Improved and faster infrastructure planning and permitting is essential to meeting their needs. **The revised legislation should therefore install national building frameworks that give all Europeans the "Right to Plug" which ensures:**

- **Speedy connection:** The time from the initial connection request from an EV user/representative to the DSO for installation of the connection should take no longer than 8 – 12 weeks for AC and 4 - 6 months for DC.
- **Administrative peace-of-mind:** Make it as easy as subscribing to an electricity provider. Member States or regions should set-up an easily accessible web portal combining services of various building, parking, installer organisations with streamlined permit and installation procedures.

For citizens living in locations without a suitable location to install such infrastructure they should have the right to request the installation of EV charging infrastructure in their neighbourhood.

The legislation should encourage local authorities to put in place policies that allow citizens to request charging infrastructure installation and provide transparent and accountable processes for decisions on whether or not to approve such requests. The burden of proof should be on the local authority to justify decisions.

Additionally, the existing EV charger infrastructure provisions in the Energy Efficiency Directive and Energy Performance of Buildings Directive need to be revised upwards to further enable citizens access to EV charging.

11 – Increase focus on heavy duty vehicles

The heavy-duty vehicle sector (incl. trucks, coaches and buses) has a huge potential to decarbonise and electrification will play a key role. **The legislation needs to address the specific requirements of electric HDVs** as their recharging requirements will differ from those of light passenger vehicles.

On the specific case of trucks, their unique recharging needs can be classified in three categories:

- Depot charging
- Destination charging
- Public charging (along highways or at charging hubs in urban areas).

Almost half of road freight kilometres are trips of less than 300km and represent 90% of the transport operations[4]. Furthermore, since for 'return-to-base' trucks it is estimated that about 80% of the electricity charged will be done at depots, a clear focus should be placed on developing charging facilities at depots, as this is where the majority of charging is carried out.

In general, the revised regulatory framework should recognize the different types of use-cases for trucks, coaches and buses. The legislation should look at introducing targets for charging facilities at depots, logistics hubs and delivery centres as part of the broader binding target requirements. A phased approach should be considered - starting with the highest ambition for the most obvious use cases and interim targets in 2025, 2030 and 2035.

For the long-haul segment, we recommend to align the regulatory framework with the existing resting and parking regulations. It is essential to upgrade certified truck parking spaces with minimum recharging facilities and to capture the opportunity of the mandatory resting breaks for truck drivers.

Appropriate coverage for HDVs across the EU road network and in urban areas is also key. Synergies between the transport and energy sectors need to be promoted. **The revision of TEN-T should be linked to TEN-E in order to smartly map out and plan charging infrastructure locations (e.g. rest areas with charging facilities for long haul, multiple uses for different types of charging stations).** Priority should be given to grid upgrade projects that realise sufficient amount of capacity available alongside the TEN-T network and the urban hubs.

Finally, the current Directive has been successful in harmonising the plug standard for cars and a revision should deliver the same uniform development for HDVs.

12 – Ensure charging infrastructure is future proof and provide a clear definition for smart charging

Most of the time that a private car is parked, it is at home or at work. There is great potential for smart charging in these settings provided that the charging station allows communication between grid and car, the tariff is attractive for drivers to become a supplier of flexibility, and the battery state of charge data is accessible.

[4] Transport & Environment - Recharge EU trucks: time to act! - February 2020

These issues cut across different EU policy initiatives such as the smart sector integration strategy and the data strategy. The potential of e-mobility to decarbonize the energy system can only be realized through an integrated policy approach. In this respect, it will be important to ensure coherence across electricity market design, smart charging networks and digital/data strategies to integrate e-mobility among the other sources of demand side management.

The legislation should recognise the importance of smart charging for a future renewables-based power system. It should ensure that new charging infrastructure is future-proof and directed to smart, connected charging technology and provide a clear definition of smart charging, setting out what this means in terms of functionality (e.g. V2G, V1G, V2X).

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About ChargeUp Europe

ChargeUp Europe, based in Brussels, is an alliance representing the Electric Vehicle (EV) charging infrastructure sector. We pursue an expeditious and effortless roll out of EV charging infrastructure in Europe. We advocate for policies that support investment, remove market barriers and facilitate the smooth uptake of electric vehicles and a seamless driver experience for European citizens. We act as a centre of expertise for the sector with the aim to educate and inform policy makers, stakeholders and the general public about the important role of EVs and the related infrastructure for achieving zero-emission transportation.

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