

The importance of including EV roaming in AFIR

The Alternative Fuels Infrastructure Regulation (AFIR) will shape public electric vehicle charging in Europe for the next decade. It offers the opportunity to create a driver centric EV charging framework that ensures widespread charging availability across the EU and promotes innovation and energy system integration. It can empower drivers to control their charging behaviour and optimise their energy consumption in a way that costs the least and is the most environmentally and energy efficient. This also contributes to some of the key efficiency goals of the Renewable Energy Directive (RED) recast.

To deliver on this opportunity it is critical that the legislation enables solutions that maximise the potential of EV charging in terms of consumer and environmental benefits, and broad energy system integration. **In this regard, one of the key solutions is the EV charging subscription and roaming model, which is today a popular solution for payment for charging sessions all over Europe.**

AFIR - lack of emphasis on subscription and roaming

Currently, the AFIR proposal overlooks the value of this approach and focuses primarily on ad-hoc charging. Yet this key piece of legislation should also recognise the important role that the subscription-based payment model plays in EV charging and the significance of it moving forward, as more and more EVs take to the road across the EU.

We call on policymakers to include provisions in AFIR to ensure the availability of roaming and subscription-based services at publicly accessible charging stations. This will help deliver comprehensive coverage of charging infrastructure and allow consumers the ability to choose for the conveniences and benefits offered by subscription services. It will help create a driver-focused EV charging ecosystem, provide the basis for additional value-adding services and be a key enabler of smart charging and energy system integration.

Why the charging subscription model

In the publicly accessible EV charging landscape today, there are two primary models for charging payments – the subscription/contract-based approach and ad-hoc charging.

In the former approach, a driver has a contract with a mobility service provider (MSP). This contract allows them to pick a pricing plan offered by that MSP which suits their charging needs. They receive their invoice from the MSP, have a charge card (RFID) and/or mobile charge app provided by that MSP, and benefit from the services and promotions offered by that MSP.

In the latter, drivers charge their car and pay for their session directly with the Charge Point Operator (CPO) which operates that station, without identifying themselves or their vehicle. Payment could be by bank card (credit or debit), mobile wallet (e.g. Apple Pay), via a QR code or at a kiosk.

The subscription model provides drivers convenience

The subscription/contract-based model can make charging more convenient for drivers and fleet managers as it is a service-oriented approach.

Many EV drivers find it convenient to use their subscription service and charge card for a wide range of reasons, whether they like the speed of starting their session with just one tap of the charge card, because they appreciate managing their charging needs in one place, or because it allows multiple users, like a family or group of work colleagues, to share and pay for all their charging sessions from one account.

A subscription is also required to enable the Plug & Charge functionality, which allows the charger to automatically recognise and authorise the vehicle and begin charging without additional authentication by the driver, which can make starting a charging session very fast and straightforward.

Many drivers appreciate the convenience of accessing and paying for both their private and public charging sessions in a single comprehensive bill that they receive directly from their MSP that contains detailed information on their charging session. Drivers also appreciate building a relationship with their local MSP, who knows their charging habits and preferences and from whom they can even receive tailored promotions and information based on their individualised needs.

For fleet managers, and for the charging of commercial vehicles and buses, the subscription model is particularly beneficial because it allows different individuals to charge the same vehicle, as long as they have access to the subscription charge card or charge app provided by the MSP. It also allows multiple vehicles to charge under the same account and have that billing take place automatically.

The subscription model and smart charging

Notably, the subscription and contract-based model enables smart charging, which has important benefits for both the driver and the grid. This is not yet possible during an anonymous, ad-hoc charging session as a driver must give certain approvals and instructions to their MSP.

Smart charging will be an important feature in balancing the impact on the grid at peak times, integrating renewables, and reducing grid development costs. Smart charging will contribute to system integration benefits which will play a key role in decarbonising transport and in energy system optimisation.

Smart charging can also optimise charging in ways which benefit the driver as it allows the vehicle, the charger, the home and broader energy system to communicate. This is particularly valuable to the driver, as it means the car can be programmed to charge when demand for power is low, and electricity is cheap - for example overnight.

The critical role of roaming

The subscription/contract-based model functions similarly to the subscription a user has with a mobile phone services provider. The driver subscribes to an MSP to gain access to a range of different charging point networks. Through the subscription, the driver can charge on publicly

In France...

In France¹, decree n° 2017-26, mandates that:

- it is the public charging infrastructure owner's responsibility to make it open to eRoaming - with an MSP (via direct links or via roaming platforms).
- any public charge point must be made accessible by direct payment or MSP contract, at the EV driver's choice.

Thanks to these roaming agreements, MSPs offer drivers the ability to charge their EV at any station of the contracted CPOs with a single account.

Ensuring that drivers can roam and use their subscription at different charge points of different CPOs is vital to provide charging access and availability for drivers.

¹available stations that are in those networks wherever and whenever simply by using their charge card or app, Plug & Charge, or Autocharge, without needing multiple contracts.

²This is made possible because MSPs sign roaming agreements directly with CPOs or with a roaming platform which gives access to a number of different CPOs with a single agreement.

In the UK...

- In the UK², the Government is currently undertaking consultations to deliver more consumer friendly and driver-centric services. One of the key aims identified is *'Implementing roaming across networks means consumers can access all public chargepoints with one membership card or smartphone app'*.

Therefore, the AFIR legislation should include (an) amendment(s) stating that:

- **Operators of publicly accessible recharging points offer the possibility to pay for a recharging session via a mobility service provider subscription.**
- **Operators of recharging points ensure that e-roaming is available at their publicly accessible recharging points with a minimum of one functioning connection with an external roaming service platform or mobility service provider.**

By requiring publicly accessible charging stations to be roaming-capable and with a functioning roaming connection, AFIR will ensure that consumers have access to, and options at, publicly accessible charging stations. Beyond those requirements, the regulation should leave roaming agreements and activities to the marketplace.

¹ <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000033860620/>

² <https://www.gov.uk/government/consultations/the-consumer-experience-at-public-electric-vehicle-chargepoints/the-consumer-experience-at-public-chargepoints>

Features of the subscription and ad-hoc models

Service	Feature	Subscription model	Ad hoc payment
ACCESS	Use any publicly accessible charger – access to charge on publicly accessible stations	X	X
	Charging without registration and subscription – ‘anonymous charging’		X
	Subscription required – necessary to subscribe to MSP before being able to charge	X	
PAYMENT	Secure payment – security mechanism in payment (e.g., PIN entry)	X <small>With multi-factor authentication (MFA)</small>	X
	Payment via invoice – pay for all charging sessions through monthly (or other) invoices	X	
	Payment per session – full price transparency for EV drivers	X <small>Most sessions are invoiced after the charging session.</small>	X
	Pricing Optimisation – pricing can be tailored to the drivers needs and charging patterns to provide the offers, promotions, and special rates	X	
CHARGING	Offline charging – charge cards also work offline and so charging can be done even in in case of signal difficulties	X	
	Plug & Charge – allows drivers to make use of automatic authentication, whereby the charging station receives all the information necessary to initiate the charging session as soon as the vehicle is plugged in, via payment information registered in car	X	
	Autocharge – allows drivers to make use of automatic authentication, whereby the charging station receives all the information necessary to initiate the charging session as soon as the vehicle is plugged in using payment information registered in an App	X	X
SERVICES	Smart Charging – allows management of the charging service to optimize energy consumption, such as to start a session when demand is lowest or electricity is cheapest - benefitting the driver and grid.	X	
	Advance notifications – provides drivers information about a charger before they arrive, for example, if stations are under maintenance	X	
	Booking/Reservation – makes it possible to reserve charging stations in advance of your arrival	X	
	Multiple Users under the same account – This allows for simpler billing and single invoice for multiple users (families, fleets)	X	