



Competition analysis of the electric vehicle recharging market across the EU27 + the UK

Extended executive summary

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*Market for the provision of publicly accessible
recharging infrastructure and related services*

Extended executive summary

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1. Executive summary

The report provides an assessment of potential competition issues in the provision of publicly accessible recharging infrastructure and related services for electric vehicles (EVs)¹ in the EU27 + the UK, including a more in-depth investigation of four EU Member States (Ireland, Italy, Croatia and Belgium). The overarching goal of this report is to provide:

- a factual background on industry dynamics, regulatory initiatives, public support and competitive outcomes across the EU27 + the UK and a more in-depth assessment of a subset of Member States selected as being broadly representative of the experience across the region;
- an overview of the value chain, including prevalent and emerging business models in the industry adopted by key ecosystem participants;
- a taxonomy of potential competition concerns around unilateral and coordinated conducts and distortive effects of public funding; and
- an assessment of whether there is prima facie evidence of existing anticompetitive effects.

The analysis is based on a range of sources including public information, granular recharging data, and interviews with industry stakeholders.

Industry background, the acceleration of transport electrification, and variation in industry maturity across countries

Rapid growth of EV penetration and usage is essential if Net Zero targets are to be achieved. This requires consumers to have confidence that there will be enough recharging infrastructure to meet their needs. Thus, EV recharging, and the eMobility sector more generally, has been identified as a priority for many countries in the region.

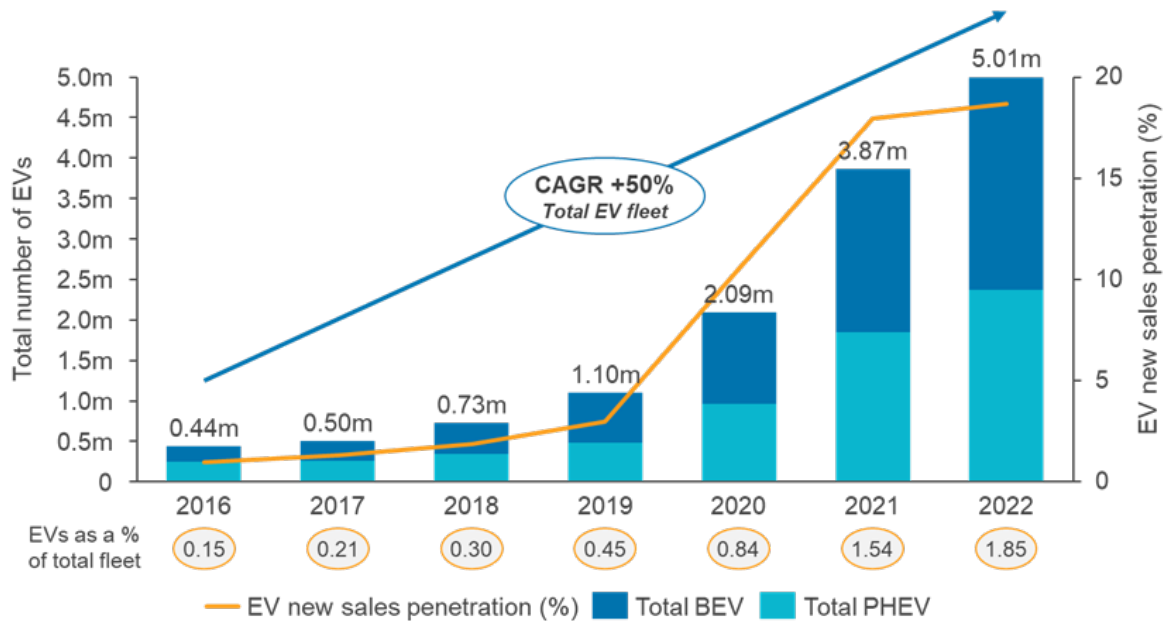
As can be seen in the Figure below, passenger EV adoption in the EU27 + UK has increased by a factor of 11 since 2016. Furthermore, despite the negative trend in overall vehicle sales due to the Covid-19 pandemic and its economic effects, EV penetration among new sales has risen from 1% in 2016 to almost 20% in 2022.

Part of this EV growth can be attributed to the advancement of technologies. For instance, the average range of BEVs has increased from approximately 200 km in 2015 to approximately 350 km in 2020. Similarly, automotive manufacturers have been answering consumer concerns for model diversity by expanding their vehicle offerings, with positive externalities due to improved manufacturing processes and economies of scale.

In particular, the number of EV models more than doubled between 2018 and 2021 globally, increasing in Europe by 26% from 2020 to 2021. Nevertheless, EV penetration is still in its early stages with approximately 95% of the total fleet still consisting of internal combustion engine (ICE) vehicles.

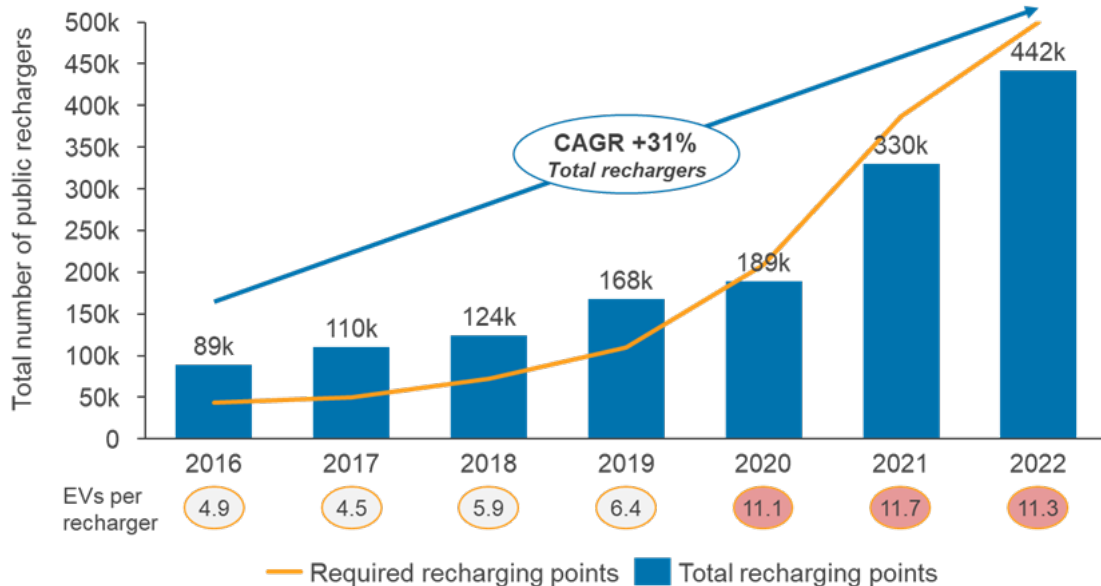
¹ Throughout this report, the term EVs covers passenger BEVs and PHEVs unless otherwise explicitly stated.

Figure 1: EU27 + the UK passenger EV growth (total EVs and share of vehicle sales)



Over the same period, the number of public recharging points has been rising steadily, from approximately 90k in 2016 to over 450k in 2022. Nevertheless, from 2016 to 2022, EV recharging deployment growth (31% CAGR²) has been unable to keep up with EV adoption growth (50% CAGR), highlighting the need for a faster recharging point rollout – evidenced by the EVs per recharger ratio exceeding the recommended 10 to 1 ratio as of 2020.³

Figure 2: EU27 + the UK public recharging points vs. required recharging points (based on the EU recommended ratio of 10 EVs per recharger)

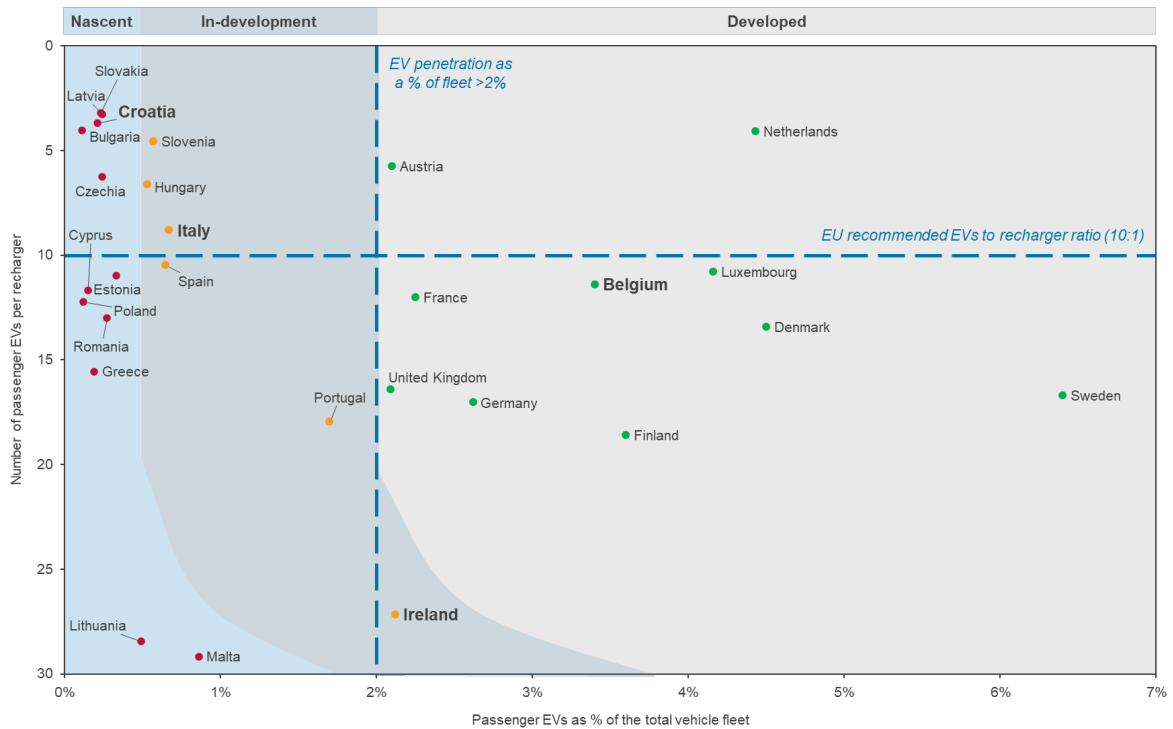


² Compound annual growth rate

³ European Commission guidance of 10 EVs per recharger to ensure adequate service levels: 2014 Alternative Fuels Infrastructure Directive

While the overall growth across the EU is encouraging, there is substantial variation in performance across Member States. As can be seen in the Figure below, countries exhibit varying levels of EV penetration and numbers of EVs per public recharging point (a measure of the adequacy of the recharging infrastructure). Based on these two metrics we classify countries as either “nascent”, “in-development”, or “developed”.⁴

Figure 3: Countries classified by EVs per recharger vs. EV share of total fleet (2022)



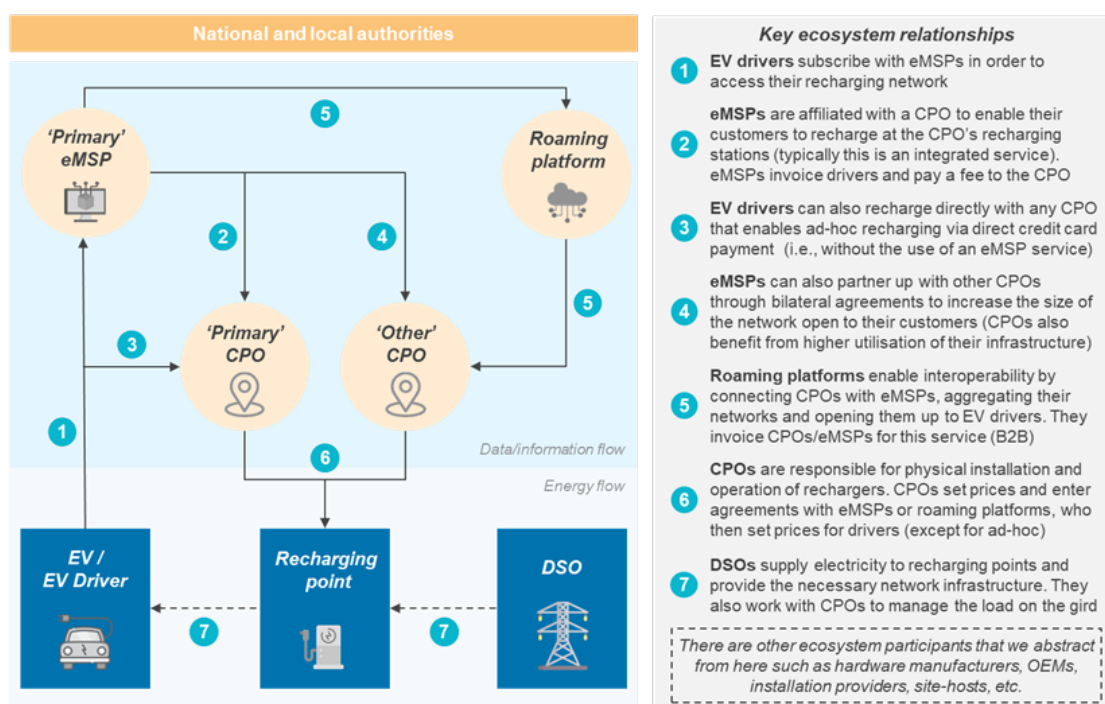
Industry value chain and key stakeholders

The most direct participants in the public EV recharging ecosystem are Charge Point Operators (CPOs) and eMobility Service Providers (eMSPs). CPOs manage the physical recharging infrastructure and eMSPs manage the digital end-customer services (e.g., access, payments, etc.). The recharging infrastructure they provide varies depending on the use case (e.g., on-route, on-street, or destination recharging points) and the technology used (e.g., slow, fast, or ultra-fast rechargers). Whilst this study focuses on the public recharging segment, there would also be additional considerations when assessing the fleet and private segments, which are out of scope in this report.

In addition to these direct participants, there is also a broader ecosystem of players such as EV manufacturers (OEMs), energy providers (including DSOs), and regulatory bodies including local authorities, who are relevant either because they provide complementary products or because they are in a position of control over where and how recharging points can be installed. These high-level relationships are depicted in Figure 3 below.

⁴ This categorisation is useful to facilitate our analysis but is inevitably subjective and these labels will change over time as the industry matures (e.g., none of these Member States is truly “developed” as even the most developed Member State is far off the long-term goal of near 100% penetration of EVs).

Figure 4: EV recharging ecosystem – Communication flows, key roles, and responsibilities of market participants

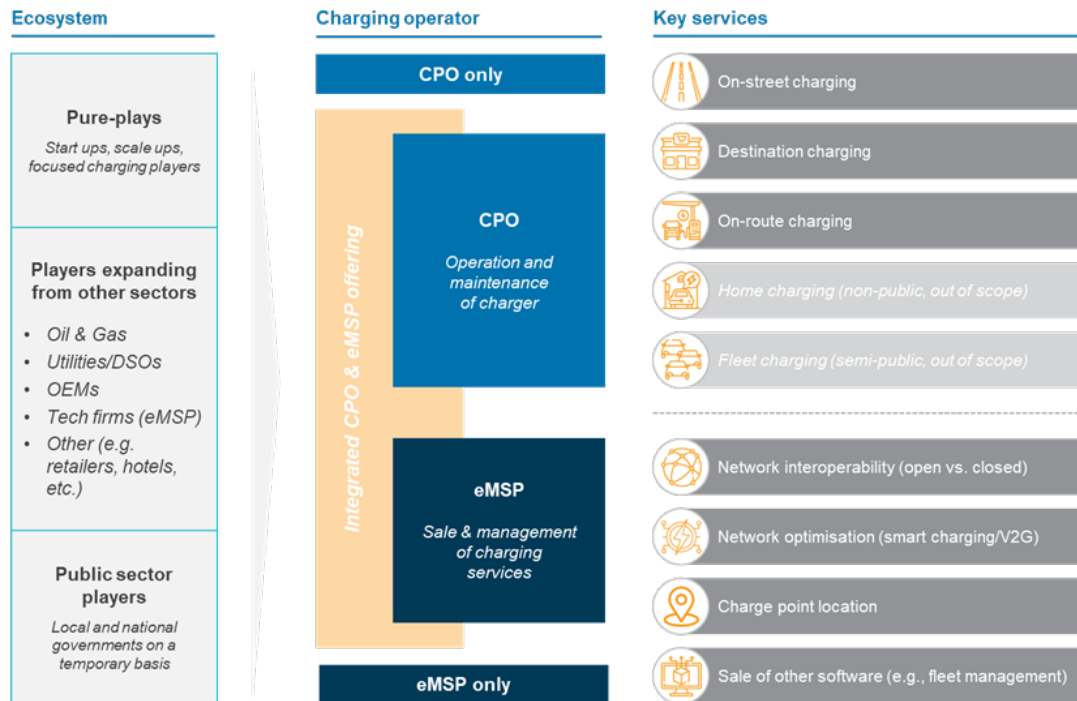


NB: Whilst arrows are depicted in one direction, data and information flows back and forth from all ecosystem participants. In the case of V2G (bi-directional rechargers), electricity can also flow in both directions

Recharging business models continue to evolve as the industry matures

The EV recharging ecosystem is evolving rapidly, and our research identified a range of different business models with different levels of vertical integration. Operators can be broadly classified as pure-plays (i.e., companies founded specifically for EV recharging), expanding incumbents (i.e., larger players entering from other sectors including oil and gas, technology, equipment manufacturing, utilities, and automotive OEMs), and state-owned suppliers.

Unlike traditional ICE refuelling, EVs can be recharged in several ways (e.g., at home, at work, at the gym/shops) each requiring a slightly different business model. As a result, two types of companies have emerged: full offer vs. specialised players. A full offer player operates in multiple segments, offering both CPO and eMSP services. In contrast, a specialised player focuses on one recharging segment, developing the necessary technical capabilities and relationships to cater for niche consumers. The following Figure, depicts these dynamics, highlighting how the ecosystem players on the left can expand across the vertical chain and supply several (or one) of the services depicted on the right. Moreover, our research indicates that the CPO and eMSP models have been converging (i.e., almost all CPOs act as their own eMSP), enabling players to improve the consumer experience while building a direct relationship with EV drivers. Nevertheless, both integrated and non-integrated players typically expand their geographic footprint through CPO-eMSP bilateral agreements and roaming agreements.

Figure 5: EV recharging ecosystem – participant business model framework


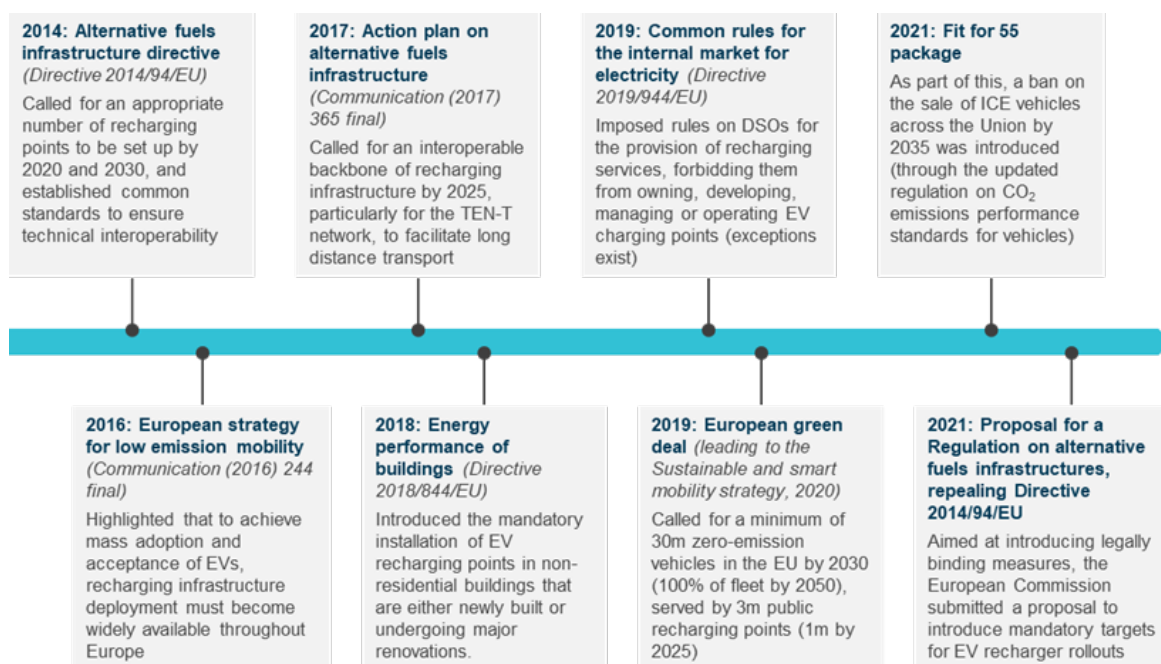
Our research also identified variations in the role of the public and private sector in the EV recharging ecosystem. Moreover, it also highlighted variations in the degree of sector concentration. In nascent EV sectors, a tendency for a public sector entity, or one (or few) private players to be a clear leader in terms of number of recharging points has been noted. As geographic markets develop, new players tend to enter the recharging space, which generally leads to an acceleration in recharging infrastructure investments and an overall increasing level of ecosystem complexity and innovation.

Regulatory and public support overview

This report explores the different types of regulation and public support across the EU27 + the UK to assess how differences can impact competition within the industry. To do so, the report starts by providing an assessment of EU level regulation and public support to establish a baseline for the alignment of all geographic markets and to highlight how they conform to EU level regulation and support. Next, a summary was developed for each country, outlining major policies and regulations relevant to the sector, describing available public support, and highlighting competitive dynamics among CPOs and eMSPs. While common trends emerged from this review, such as the presence of national public support to the industry in most cases, regulation is more heterogeneous, presenting noticeable difference between developed and nascent countries. Nevertheless, EU rules provide a regulatory backbone to the sector across the EU.

The 2014 EU Alternative Fuels Infrastructure Directive (AFID) served as a basis for the EV sector regulations and standards, together with subsequent key regulatory packages including the European Green Deal and individual country level regulations and plans – which continues to evolve as the industry matures across the region. Aside from the AFID, public EV recharging has been subject to different rules at the EU level. The key European policies are depicted in the Figure below, showing how regulation in the sector has been progressively developed throughout the years.

Figure 6: Major EU policy regulation on alternative fuels infrastructure (non-exhaustive timeline)



Furthermore, the European Council adopted its Common Position in an update to the AFID on 2 June 2022, which when accepted will repeal the 2014 directive and be known as the Alternative Fuels Infrastructure Regulation (AFIR).

These efforts have been geared towards creating an interoperable recharging network, both from a technical hardware and billing perspective, while also fostering growth of the EV industry across the EU.

As EV sectors mature, the driving force behind regulation often shifts from EU rules to national and then local strategies. Typically, the varying approaches are driven by the country's objective for the eMobility sector, such as whether they are trying to develop an industry that caters to the needs of consumers such as interoperability, dynamic pricing, and user experience, or whether regulation is geared more towards target achievement (i.e., number of EVs on the roads, and rechargers available).

When considering the totality of EU support for the sector from various sources, significant funding has been allocated across jurisdictions. Approximately €650 million has been spent or allocated for spending across the EU27 + the UK.⁵ However, these sums are relatively modest compared to the investments deployed by ecosystem participants (i.e., public recharging points, grid upgrades, site leases, digital platforms, etc.). We estimate these to be in the order of €15 billion to date such that the aggregated sum of EU funding is less than 5% of total sector investments to date.⁶

Generally, across countries, a few trends can be deduced. Firstly, there has been an evolution of regulation becoming more favourable to increased competition. Second, the recharging point rollout is following EV adoption which is accelerating only after a critical

⁵ Based on total EU funds allocated to the deployment of public recharging infrastructure in all Member States and the UK during the period 2014-2022 amount to €0.65bn (€358m for EIB, €272m for CEF and €15.5m for Interreg), see Section 4 for more detail

⁶ Based on CRA analysis, detail in Section 6.6

mass has been reached. Finally, CPO concentration is transitioning from monopolistic/oligopolistic structures to more competitive ones over time.

Assessment of potential competition concerns across the EU27 + the UK

There is a strong economic rationale to prioritise the promotion of effective competition in public EV recharging. Weak competition is likely to be doubly harmful in markets which exhibit positive social externalities because a lack of competition does not just cause the normal concern about reduced output and consumer welfare, but also makes these social objectives harder to achieve. Based on our review we consider the following main categories of competition concerns:

Exploitative conduct due to local market power. We document how, even in densely populated cities, it is common to find narrow geographies with just a single CPO operating. We see some evidence of eMSPs price discriminating by geography and it is likely that CPOs will be able to charge higher access fees for recharging points situated in less competitive locations.

This issue of “local market power” is analogous to the existing situation in ICE fuel stations (albeit EV recharging points may be less constrained by the option to charge at home) and we conclude that this issue is most likely to be a cause for concern when positions of local market power are protected by local entry barriers. We identify regulatory barriers due to exclusive concessions by local authorities as a potential source of such barriers as well as potential exclusive contracts with landowners in strategic locations.

Unilateral conduct concerns around market “tipping”. EV recharging may exhibit density and/or network effects (e.g., because a larger operation can benefit from economies of density whereby having more users generates more utilisation of recharging points and lower unit costs).

We conclude that, while density effects are clearly present, there are other factors which may mediate against tipping including regulation that is likely to preserve interoperability across networks and the scope for entry to occur on a local level. We also estimate the level of concentration at the CPO level across Europe and note that many markets which appear concentrated are relatively nascent.

This provides some comfort that “first mover advantages” may erode over time as the sector matures. On the other hand, we discuss potential conducts (e.g., exclusive contracts) that might allow a first mover to secure its position and the key analyses in assessing such concerns.

Unilateral exclusionary conduct. We discuss potential non-horizontal theories of harm that might arise due to the vertical integration of CPOs and eMSPs and, moreover, if CPOs/eMSPs integrate with other actors through the value chain (e.g., DSOs, OEMs, fuel retailers, local authorities). As with all non-horizontal theories we note that it is necessary to trade-off the potential benefits of vertical integration against potential foreclosure risks.

Our assessment is that integration with energy suppliers and local authorities are the areas which might most plausibly raise concerns, although rules/regulations often exist that prevent such conduct. Our assessment is that integration with OEMs is, as things stand, unlikely to raise concerns in Europe because no OEM has achieved either a strong lead in EV sales or built an EV recharging network that is comparable to those provided by third-party operators.

Coordinated conduct and effects due to horizontal agreements between market participants. Turning to coordinated effects of horizontal agreements one can consider three main categories of agreement: joint ventures between CPOs (which present similarities but also key differences to network sharing agreements in other industries

such as telecoms and ATM networks); bilateral arrangements between CPOs and eMSPs (which are often integrated CPO/eMSPs) where CPOs grant other eMSPs access to their network; and agreements between CPO/eMSPs and roaming platforms.

The former are the most likely to raise concerns as they involve potential agreements between direct competitors. We consider whether a similar approach should be taken as in other industries with a consideration of the potential benefits of pooled investment vs. the potential costs of reduced competition and reduced incentives for firms to enter each other's territory.

More leeway should be given to agreements between CPOs with more complementary networks (e.g., because they lack overlapping footprints) and to ones which will increase access in rural or other underserved areas where it may not be sustainable to operate multiple competing networks at the desired level of density. When it comes to the other two categories, we discuss potential concerns around information sharing and coordination as well as the key competition themes in assessing such concerns.

Considerations around public funding and potential distortions or crowding out of private investment. We conduct a comparative analysis of the extent of public support for the EU27 + the UK, distinguishing between national support and EU support via the Connecting Europe Facility (CEF), the European Investment Bank (EIB) and Interreg Europe, and overlaying the level of EV sector maturity, the level of CPO concentration, and the existence or not of a state-owned CPO.

We conclude that there is substantial heterogeneity of outcomes and policy approaches, with no clear correlation emerging between the level or type of public funding and sector outcomes. We highlight some relative "success stories" (i.e., countries with high EV sector maturity and relatively low CPO concentration). Although there is some correlation consistent with public support being necessary for a rapid roll out of EV recharging infrastructure, we show that examples exist of countries that achieved high levels of sector maturity with more limited national or EU public support. We find also that the presence of a state-sponsored CPO can be associated with both good and bad outcomes across countries.

We conclude that given the small scale of cumulative levels of EU public support even in cases where this support benefited a first-mover CPO in a nascent sector, there would not necessarily be a distortive effect in the long-run as the sector reached a state of maturity.

A common theme that follows from the conclusions summarised above is that optimal competition policy is likely to differ according to the state of maturity of the EV industry in each Member State. In the early stages, the focus should be on promoting investment incentives but, as the industry develops, there is a stronger case for facilitating contestability and interoperability.

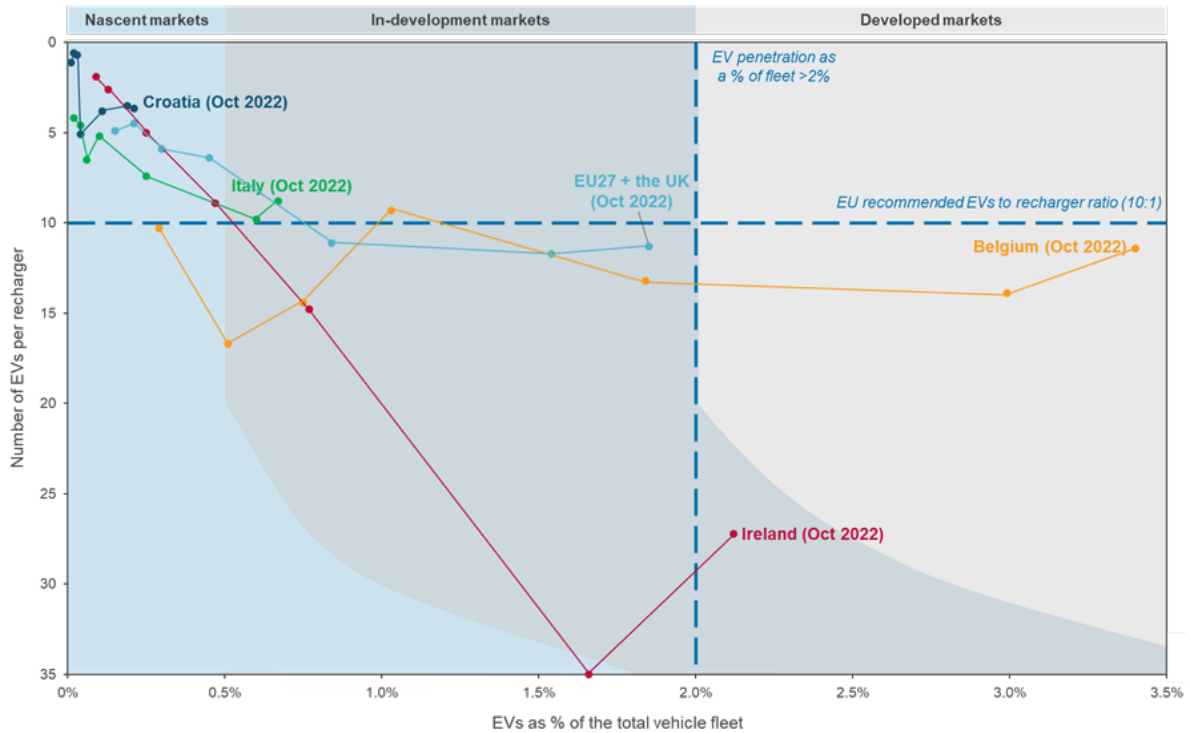
In-depth market review of the four selected Member States

To complement the EU-wide assessment above, we conducted a more in-depth assessment of four Member States which were selected as they present high heterogeneity in their public EV recharging sector. With different levels of market maturity, Belgium (developed) Ireland (in-development), Italy (in-development) and Croatia (nascent), differ under several aspects, including regulatory framework structure, business model presence, level of public support and degree of market competition.

While the four countries present diverse levels of EV adoption as well as public EV recharging infrastructure rollout, some shared macro trends can be observed when looking at their sectors' development. As can be seen in the Figure below, the deployment of public EV recharging infrastructure has not generally kept up with rising

levels of EV adoption. However, this trend was reversed in 2022, with the rollout of infrastructure increasing in all four countries (as well as across the EU27 + the UK more broadly). This indicates investment in recharging infrastructure follows EV adoption, increasing when stronger demand emerges, to limit financial risk. This trend is especially marked in Ireland, where a steady increase in EV adoption has been recently outpaced by a surge in EV recharging deployment (27% vs. 54% year-on-year growth).

Figure 7: Market maturity evolution from 2016 to October 2022, based on EVs per recharger ratio and EV penetration (% of total vehicle fleet) for selected countries



Besides market maturity levels, as of October 2022, the four countries present considerable differences in terms of market dynamics and public support.

For what concerns market dynamics, the four countries present diverse degrees of CPO concentration, ranging from a 58% share for the leading player in Ireland to a 32% share in Croatia and Belgium. In both Italy and Ireland, the market is led by subsidiaries of fully integrated utilities, with the two leading players controlling together a share above 75%. As a nascent market, the two main CPOs in Croatia benefitted from first mover advantage. Belgium presents lower levels of CPO concentration, as no player has a share above 35%; however, the level of market maturity differs considerably among regions, with Flanders being the most developed one.

While all four countries provide some degree of national public support to EV recharging, there are considerable differences in terms of the scope of the aid provided. Grant schemes for EV recharging are present both in Croatia, since 2016, and in Ireland, since 2019. In Italy, a single round of public support financing via grants was conducted in 2018. In Belgium instead, aid to the sector is a regional competence, with Flanders being the only region currently providing it. Differences emerge also when considering EU public support measures; while Belgium received more than €40m in CEF grants, and both Italy and Ireland more than €30m each, Croatia was awarded €9m from the CEF. Italy was instead the only country to receive EIB loans for public EV recharging, for a total amount of €95m.

Summary from detailed competition analysis of the four Member States selected for an in-depth market assessment.

The in-depth market assessment of the four selected Member States underpinned a detailed competition analysis. The data collected was used to assess the key competition concerns outlined above. Our key takeaways here are as follows, also summarised in greater detail in Table 1:

- the in-depth assessments underline that competition analyses will differ at the Member State level. As well as differences in industry development, concentration and entry barriers, there are other factors which mean the theories of harm relevant in one Member State will be irrelevant in another. For example, both Ireland and Italy exhibit an integrated DSO and leading CPO but, in Belgium, the DSO is not active in the CPO layer of the value chain;
- the assessments confirm high levels of regional variation in concentration levels with competitive conditions in urban centres and motorways being less robust in Ireland, and competitive conditions in Northern Italy being very different from Central and Southern Italy. Perhaps surprisingly, however, we see that many suppliers adopt national pricing despite very substantial variation in CPO shares at the regional level. Such national pricing makes leveraging positions of local market power less straightforward;
- we see a mixed picture when it comes to evidence of erosion of first mover advantages. Both Croatia and Belgium exhibit low levels of concentration. In Italy and Ireland, we see the leading supplier (respectively ESB eCars in Ireland, Enel X in Italy) having their market position eroded, but at varying speeds. Enel X's share appears to be falling quickly thanks to entry by new players such as Be Charge. Similarly, ESB eCars' share has eroded through the entry of rivals such as EasyGo. However, in both cases, regional concentration or control of strategic and lucrative locations such as urban centres and motorway recharging points could persist which could in turn raise concerns over local barriers to entry;
- concerning coordinated conduct between players, there is no evidence of CPO joint ventures in all countries but Italy. Bilateral agreements between integrated CPO/eMSPs are common across the selected Member States, potentially representing a bigger concern when stipulated between leading firms in more concentrated markets. Roaming agreements are also common raising potential concerns over information exchange;
- consistent with our EU27 + the UK analysis, some theories of harm do not meet with much support at this stage of sector development. For example, none of these four countries exhibits an OEM that has achieved an overwhelmingly strong lead in EV sales or built an EV recharging network that is comparable to those provided by third-party operators. As such, foreclosure concerns around leveraging conducts by vehicle OEMs do not receive even prima facie support; and
- concerning public support, although there has been significant public support to state-owned CPOs in Ireland and in Italy, this has been consistent with the need to kick off the EV recharging sector. Privately owned entrants have used a combination of private investment and national and EU funding. Country heterogeneity prevails here, too, with Croatia using low amounts of EU support, although its market is at a nascent state of EV car adoption, which is targeted at fast recharging infrastructure and benefiting all CPOs. Belgium country data, on the other hand, are consistent with a developed sector in Flanders which has made use of both EU funding and State aid in a manner conducive to competition.

Table 1: Overview of main Theories of Harm of relevance for the selected Member States

Member State	Ireland (in-development)	Italy (in-development)	Croatia (nascent)	Belgium (developed)
Unilateral conduct about abuse of local market power	Although entry has been eroding first-mover shares, there is still significant concentration at the national and regional level. No evidence of local price differentiation consistent with exercise of local market power.	Although first-mover shares have been eroding, there is still significant national concentration and shares at the local level can reach 90% of recharging points. No evidence of local price differentiation consistent with exercise of local market power.	Dynamic market with relatively low concentration both as the national and regional level, and recent new entry.	Dynamic market with relatively low concentration both at the national and regional level, and continuous new entry.
National concentration and "tipping" concerns	No evidence or complaints of abuse of dominance type of conducts by market leader. Bilateral and roaming platform agreements prevalent but no information on terms allowing for detailed assessment.	Enel has received formal complaints of exclusionary conduct to limit competition in the retail electricity market – but not on EV recharging. No evidence of abuse of dominance type of conducts by market leader. Bilateral and roaming platform agreements prevalent but no information on terms allowing for detailed assessment.	Competitive market hence no concerns over "tipping" or dynamic leveraging.	Competitive market hence no concerns over "tipping" or dynamic leveraging.
Unilateral exclusionary conduct	ESB eCars is vertically integrated with the monopoly DSO but rules/regulations governing DSO conduct apply High share of recharging points raises concerns over ability of ESB eCars to partially foreclose rival eMSPs through price/terms discrimination. Local authorities present as CPOs in some counties but not currently monetizing.	Enel X is vertically integrated with the DSO e-distribuzione which has 80% of connections, but rules/regulations governing DSO conduct apply. High share of recharging points raises concerns over ability of Enel X to partially foreclose rival eMSPs through price/terms discrimination. No local authorities involvement as CPOs at a scale that	Elen, the second largest CPO based on share of public recharging points, is owned by the state controlled Hrvatska Elektroprivreda (HEP Group) group, which accounts for about 75% of electricity generation and 80% of electricity transmission and distribution. Low shares make CPO/eMSP foreclosure unlikely. No local authorities involvement as	No vertically integrated CPO with a DSO. Low shares make CPO/eMSP foreclosure unlikely. No local authorities involvement as CPOs at a scale that could give rise to foreclosure concerns. No integrated OEM/CPO with high enough share in either market to raise foreclosure concerns.

Member State	Ireland (in-development)	Italy (in-development)	Croatia (nascent)	Belgium (developed)
	<p>No integrated OEM/CPO with high enough share in either market to raise foreclosure concerns.</p> <p>No vertical integration with ICE fuel stations or evidence of exclusive agreements.</p>	<p>could give rise to foreclosure concerns.</p> <p>No integrated OEM/CPO with high enough share in either market to raise foreclosure concerns.</p>	<p>CPOs at a scale that could give rise to foreclosure concerns.</p> <p>No integrated OEM/CPO with high enough share in either market to raise foreclosure concerns.</p> <p>CPO Petrol owns a large and expanding network of ICE fuel stations hence foreclosure concerns can arise.</p>	<p>CPO TotalEnergies is also the leading network of ICE fuel stations hence ability to foreclose competitors may exist.</p>
Agreements and coordinated conduct	<p>No evidence of CPO joint ventures.</p> <p>Bilateral agreements between integrated CPO/eMSPs are prevalent including between market leading firms in a concentrated market.</p> <p>Roaming platform agreements prevalent.</p>	<p>CPO joint ventures, some of which have been scrutinized by authorities.</p> <p>Bilateral agreements between integrated CPO/eMSPs are prevalent including between market leading firms in a concentrated market.</p> <p>Roaming platform agreements prevalent.</p>	<p>No evidence of CPO joint ventures.</p> <p>Bilateral agreements between integrated CPO/eMSPs prevalent but less concerning due to low market concentration.</p> <p>Roaming platform agreements prevalent.</p>	<p>No evidence of CPO joint ventures.</p> <p>Bilateral agreements between integrated CPO/eMSPs prevalent but less concerning due to low market concentration.</p> <p>Roaming platform agreements prevalent.</p>
Public Support	<p>Significant public support to the state-owned CPO but consistent with need to kick off the sector in 2014.</p> <p>Privately owned competitor with funding through a consortium of private investment and national funding, and new entrants using 2017 CEF grants.</p>	<p>Majority of both CEF and EIB to the first-mover in which the Italian state is the largest shareholder.</p> <p>State aid to local authorities who allocate the funds to CPOs for regional projects. Limited visibility on share allocated through competitive tendering or share won by first mover.</p>	<p>Low amounts of EU support, benefiting all CPOs at the current nascent state of EV car adoption.</p> <p>State aid has been targeted at fast recharging infrastructure.</p>	<p>State aid mostly in the most developed region of Flanders, which has an advanced public tendering regime.</p> <p>CEF grants have not flown to the sector leader.</p> <p>Lacking visibility at regional level, but country data consistent with a developed sector in Flanders which has made use of both EU funding and State aid in a manner conducive to competition.</p>

Conclusion

For countries to achieve Net Zero goals, a smooth and quick transition to EVs is essential. A sufficiently dense, widespread, and publicly accessible recharging network which people can trust and easily use will therefore be critical – and healthy competitive conditions are instrumental in supporting this. Various ecosystem players (e.g., CPOs, eMSPs, public authorities, utilities, etc.) have an important role to play and some joint effort will also be needed to enable the recharging infrastructure rollout to keep pace with EV adoption.

This report evaluated the EV recharging market across the EU27 + the UK, providing a broad review of regulatory frameworks, public support, and business models to ultimately assess the competitive landscape. Although the future evolution of the sector still entails some uncertainty, it is clear competition will be central to stimulate innovation, lower prices, increase private investment, and improve the quality of the service.

Overall, the EV sector seems to be developing well, although the analysis highlights a significant level of heterogeneity across the region both in the evolution and current state of development of the sector. Although a range of competition concerns are relevant as the sector evolves, no evidence was uncovered of major competitive concerns in the current state of the sector. The evidence instead supports that countries exhibiting higher levels of concentration are generally markets in early phase and in expansion.

Abstract

This report evaluates potential competition issues in the provision of publicly accessible recharging infrastructure and related services for electric vehicles (EVs) across the EU27 + UK. It develops a taxonomy of possible competition concerns and collates evidence on whether there are existing or potential future anticompetitive effects.

It begins with a background on the EV public recharging sector evolution, industry dynamics, regulatory initiatives, and public support. It provides an overview of the sector value chain, participants, business models, and pricing structures. A taxonomy of possible competition concerns around unilateral and coordinated conducts, and potentially public funding distortive effects is then developed. Lastly, an in-depth assessment is conducted for a broadly representative subset of countries (Ireland, Italy, Croatia and Belgium) to assess whether there is prima facie evidence of anticompetitive effects.

Overall, the analysis highlights a significant level of heterogeneity across the region both in the evolution and current state of development of the sector. Although a range of competition concerns are relevant as the sector evolves, no evidence was uncovered of major competitive concerns in the current state of the sector. Evidence instead supports that countries exhibiting higher levels of concentration are generally markets in early phase and in expansion.



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