STUDY

COMPETITION AND ELECTRIC VEHICLE RECHARGING IN PORTUGAL

FINAL VERSION

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Autoridade da Concorrência

EXECUTIVE SUMMARY

The transition to a sustainable energy economy largely involves decarbonising the transport sector, since it is the sector that contributes the most to greenhouse gas emissions in the European Union (EU). In 2022, the transport sector was responsible for approximately 31% of greenhouse gas emissions, in the EU. Of those emissions, approximately 73% come from road transport and around 59% of road transport emissions come from cars.

Electric vehicles have been identified as one of the key technologies for decarbonising the transport sector. In Portugal, the number of electric vehicles has grown rapidly in recent years, rising by approximately 39% between 2021 and 2022. In July 2024, approximately 58% of new passenger cars that have been sold were electric. Similarly, in August 2022, Portugal was leading, after Cyprus, on the intention to buy electric vehicles in the EU.

Competition can positively contribute to the transition to a sustainable energy economy by promoting innovation and efficiency. **A dense and competitive network of recharging infrastructure is essential for the adoption of electric vehicles**. The number of recharging stations integrated into the electric vehicle recharging network in Portugal has been increasing, especially since 2020, the year from which the network has started to keep pace with the number of electric vehicles in circulation. In addition, there is a geographical asymmetry as regards the network coverage, with the inland regions recording a lower density. Although there are many users who regularly charge their vehicles at home or at work, it is crucial to have a wide competitive supply of publicly accessible recharging points to encourage the adoption of electric vehicles.

The Autoridade da Concorrência – Portuguese Competition Authority (AdC) has conducted an analysis of the conditions of competition in the electric vehicle recharging sector, for the benefit of consumers and the transition to a sustainable energy economy. The AdC has identified barriers that may jeopardise the development and expansion of an electric vehicle recharging network with adequate, efficient and competitive coverage.

From the analysis carried out, significant barriers to the entry in the installation and operation of recharging points on motorways have been identified, with a negative impact on competition. The current legislative framework has allowed to extend long-term sub-concession contracts for service areas or fuel supply areas on motorways to encompass the installation and operation of recharging points. As such, currently, these recharging points are concentrated in only seven operators, four of which are oil companies and the remaining operate the points through partnerships with oil companies.

The experience of the electric vehicle users could be improved, in terms of ensuring greater simplicity in the payment and price comparability. It is difficult to anticipate the final cost of recharging, there are different pricing structures depending on the type of recharging point and the recharging points integrated into the public network do not offer the users the possibility of recharging on an *ad-hoc* basis through electronic payments, without having to access a digital app or a website. To promote greater electric vehicle recharging, it would be important to ensure that the recharge of an electric vehicle would be, if possible, almost as easy as filling up with petrol or diesel. In this regard, the full entry into force of Regulation (EU) 2023/1804 will be relevant to ensure that the publicly accessible recharging points provide recharging on an *ad-hoc* basis, by accepting electronic payments. It is important, however, to ensure its full implementation in a timely manner, for the benefit of the consumers.

The organisational model of the electric vehicle recharging in Portugal may be simplified, to the benefit of a more efficient system. In particular, the integration of the activities of supplying electricity for electric vehicle recharging (CEMEs) and of operating recharging points (OPCs) would allow for a more efficient model and would enable to broaden the range of offers made available to

the consumers. In fact, currently, the activity of CEME may only be performed by OPCs. Furthermore, the existence of different agents in the system requires additional data collection for billing between the different agents.

The current legislative framework is not adapted to the existence of new players in the electricity sector, such as the aggregators, since it requires that the CEMEs contract the supply of electricity with one or more duly recognised electricity suppliers or through the organised markets. This legal standard constitutes, therefore, a legal barrier to entry.

With a view to promoting competition and efficiency in the electric vehicle recharging network in Portugal, to the benefit of the consumers, a set of recommendations to the Government and to the Municipalities is set forth.

In January 2024, the AdC published, for public consultation, a preliminary version of the present Study. **In the scope of the public consultation, the AdC received the opinion of the Energy Services Regulatory Authority (ERSE) and 183 contributions**[1], which cover a wide and diverse range of knowledge and experience and, as such, have enriched the debate significantly, as discussed in the public consultation report[2]. The present (final) version of the Study, including the recommendations issued in it, benefited, thus, from a process involving various relevant stakeholders of the sector.

[1] Participated in the public consultation: (i) 159 consumers; (ii) 15 entities from the electric vehicle recharging sector, in particular the electric vehicle recharging network managing entity (EGME), five vehicle recharging point operators (OPCs), six electricity suppliers for electric vehicle recharging (CEMEs) (and, consequently, OPCs) and three entities of other types; (iii) two entities from the electricity sector; (iv) two entities from other sectors; and (v) five public entities. The non-confidential version of the contributions is available on the AdC's website (in Portuguese only).

[2] See "Study Competition and Electric Vehicle Recharging in Portugal – Public Consultation Report" (in Portuguese only).

Recommendations to the Government (simplified version)

Recommendation 1. **Promote the simplification of the payment method at publicly accessible recharging points**. Regulation (EU) 2023/1804, in particular its rules that impose obligations for the OPCs associated with the recharging on an *ad-hoc* basis, should be fully and timely implemented.

Recommendation 2. **Promote the simplification of the organisational model, integrating the role of the OPCs and of the CEMEs**. The recharging service would then be purchased to the OPCs or to the mobility service providers, without a prior contract with a CEME, without the need for payment through a digital app or internet connection and with a price freely determined by the OPCs or by the mobility service providers. The adoption of the new model could be carried out in a staged manner.

Recommendation 3. **Evaluate the costs and benefits of selecting the EGME through a mechanism that is competitive**, open, transparent and non-discriminatory.

Recommendation 4. **Make it compulsory for the EGME to be independent of the CEMEs**. In that sense, paragraph 1 of article 22º of Decree-Law nº 39/2010 should be amended to require that the EGME must have autonomy from the OPCs and, also, from the CEMEs.

Recommendation 5. **Repeal the obligation for the CEMEs to be OPCs**. In particular, paragraph 1 of article 7º of Decree-Law nº 39/2010 should be amended to separate the systems of exercise of the two activities in question.

Recommendation 6. **Abolish the possibility of extending, without a public tender process, the (sub)concession contracts for service areas or fuel supply areas, in particular, on motorways to encompass the installation and operation of recharging points**.

Recommendation 7. **Promote the award of rights to install and operate recharging points on motorways through mechanisms that are competitive**, open, transparent and non-discriminatory. In that context, the possibility of different OPCs coexisting at a given location should be assessed, for each procedure for awarding the rights in question. Additionally, the award of the rights in question (pertaining to the recharging points) should not be included in the (new) public tender processes for awarding the rights to install and operate service areas or fuel supply areas on motorways.

Recommendation 8. **Allow that the CEMEs or the OPCs (depending on whether the organisational model of the electric vehicle recharging is the current one or the one presented in Recommendation 2, respectively) contract electricity from any economic agent that sells it**. In that sense, the need to, in the legal and regulatory framework applicable to electric vehicle recharging, include provisions that guide the actions of market agents in the scope of matters related to the possible forms of contracting electricity for vehicle recharging should be assessed.

Recommendations to the Municipalities

Recommendation 9. **Promote, in a timely manner, the regional development of the electric vehicle recharging network, with a view to mitigating regional differentiation**, namely through a clear and timely definition of the municipal framework for electric vehicle recharging.

I. BACKGROUND

1. **The European Union's (EU) and Portugal's climate and energy policies have as main objective the transition to a sustainable economy**, comprising commitments of decarbonisation of the economic activity. The EU has been promoting the development of renewable energy sources and of energy-efficient products and services, namely through the financing of projects.

2. **The transition to a sustainable economy depends, to a large extent, on the transport sector**, namely on the replacement of the fossil fuel consumption with electricity consumption. In 2022, in the EU, the transport sector[3] was responsible for around 31% of the net greenhouse gas emissions[4,5], with road transport generating around 73% of those emissions produced by the sector[6]. Around 59% of those emissions from road transport were originated from cars[7]. The road transport was the only transport sector to record a level of the net greenhouse gas emissions higher than 1990 every year[8].

3. **Electric vehicle recharging is essential in the efforts to decarbonise the economic activity, by focusing on the use of electric vehicles**[9]. Its importance is enhanced whenever there are constraints on the international liquid road fuel markets, as has happened, for illustrative purposes, as a result of the Covid-19 pandemic and of the war between Russia and Ukraine.

4. **The adoption of electric vehicles depends, on the one hand, on a dense and competitive network of recharging infrastructures**. **On the other hand, it is more attractive to invest when the demand is higher**. This interrelationship between the demand for electric vehicles and the network of recharging points presents indirect network effects and the so-called "*chicken and egg*" problem[10], which will be more pronounced at the initial stages of the infrastructure development.

5. **In order to contribute to the promotion of the electric vehicle recharging, efforts should be made to mitigate the barriers to the entry and to the expansion of operators, eliminate the unnecessary costs and enhance the efficiency of the system**. To that end, special attention should be given to the development of the infrastructures aimed at ensuring the electric vehicle recharging and to the creation of conditions in the electricity networks to accommodate the needs arising from the electrification of the transport sector.

6. **The Autoridade da Concorrência – Portuguese Competition Authority (AdC) has been monitoring the legislative and regulatory developments in the electric vehicle recharging market in Portugal, having issued several recommendations** (see Box 1), with a view to promoting competition and maximising consumer welfare. Those recommendations remain of

[3] Including the international transports.
[4] Including the indirect emissions generated by the electricity consumption.
[5] Data source: European Environment Agency (EEA). Data processing: AdC. Data collection date: 13.05.2024.
[6] Data source: EEA. Data processing: AdC. Data collection date: 13.05.2024.
[7] Data source: EEA. Data processing: AdC. Data collection date: 13.05.2024.
[8] Data source: EEA. Data processing: AdC. Data collection date: 13.05.2024.
[9] Electric vehicles can be classified, according to the type of propulsion of the engine(s) and to the way the battery(ies) are recharged, as follows (see Glossary of the European Alternative Fuels Observatory (EAFO), consulted on 22.11.2023): (i) battery electric vehicles (BEV), if they are vehicles whose only source of propulsion is electric and is powered by battery(ies) whose recharging is made through a connection to the electricity networks; (ii) hybrid electric vehicles (HEV), if they are vehicles whose sources of propulsion are an internal combustion engine and an electric motor and which are equipped with battery(ies) whose recharging is made internally; and (iii) plug-in hybrid electric vehicles (PHEV), if they are vehicles whose sources of propulsion are an internal combustion engine and an electric motor and which are equipped with battery(ies) whose recharging can be made through a connection to an external electricity source.
[10] See European Commission (EC), *"Competition analysis of the electric vehicle recharging market across the EU27 + the UK – Market for the provision of publicly accessible recharging infrastructure and related services"*, prepared by CRA, in October 2023 (hereinafter referred to as "Report published by the EC in October 2023").

relevance at the current moment. Nevertheless, the AdC considered it opportune to develop a more in-depth and comprehensive analysis of the electric vehicle recharging sector in Portugal, with a view to promoting competition and consumer welfare.

Box 1. Recommendations related to the electric vehicle recharging issued by the AdC

1. Comments on the proposal to amend the Regulation on the electric vehicle recharging[11], issued in September 2019

The AdC argued that it was important to consider the simplification of the organisational model of the electric vehicle recharging (defined in Decree-Law nº 39/2010) and, thereby, to increase the efficiency of the system. Among the aspects to consider, the AdC highlighted the reduction in the number of agents, namely intermediaries, involved.

The AdC recommended, also, the assessment of the impact of the model, in particular of the fees it foresees, in the consumer welfare, namely in terms of the cost of recharging electric vehicles.

The AdC also underlined that it was important that the system of guarantees to be provided by various agents to the electric vehicle recharging network managing entity (EGME) did not introduce unnecessary barriers to the entry and to the expansion of operators in the market. In particular, the AdC advocated the (re)assessment: (i) of the guarantee requirements; and (ii) of alternative ways of achieving the objective in question (namely, reducing the exposure of the system and of the consumers to the financial risk of active agents) that are less restrictive of the competition.

2. Comments on the proposal for general conditions of the contract to join the electric vehicle recharging network[12], issued in March 2020

The AdC recognised the proposal's contribution to the simplification of the legislative framework applicable to the organisational model of the electric vehicle recharging, through the adoption of a single regulatory instrument to govern (multilateral) relationships between several players in the electric vehicle recharging.

Nevertheless, the AdC reiterated its comments on the proposal to amend the Regulation on the electric vehicle recharging issued in September 2019.

II. THE PROMOTION OF SUSTAINABLE ELECTRIC VEHICLE RECHARGING IN EUROPE

7. **The framework for electric vehicle recharging in Portugal is defined, to a large extent, by the EU's climate and energy policies**. As such, the evolution of those policies, both recent and future (expectable), is a crucial element for understanding the electric vehicle recharging market.

8. **The decarbonisation of the transport sector and the transition to a sustainable and intelligent mobility have been on the EU's agenda**, with the adoption of several legislative and regulatory initiatives in the past few years.

9. **In that respect, the European Green Deal, established by the European Commission (EC) in December 2019, which aims to achieve EU climate neutrality[13] by 2050[14], stands out**. The Pact foresees, also, the intermediate objectives of, by 2030, a reduction of the net greenhouse gas emissions of 50% compared with 1990 and, by 2050, a 90% reduction of the emissions from the transport sector compared with 1990. The Pact covers all economic sectors, including transports.

[11] See the AdC's comments on the proposal to amend the Regulation on the electric vehicle recharging (in Portuguese only), of 17.09.2019.
[12] See the AdC's comments on the proposal for general conditions of the contract for adhesion to the electric vehicle recharging network (in Portuguese only), of 24.03.2020.
[13] Elimination of net greenhouse gas emissions.
[14] See Communication COM(2019) 640 final.

10. **With a view to implementing the European Green Deal and, in particular, the climate neutrality, relevant plans and legislative acts were adopted at EU level**. In December 2020, the EC approved the Sustainable and Smart Mobility Strategy[15] which aims, namely, to promote the adoption of zero-emission vehicles[16]. In June 2021, Regulation (EU) 2021/1119[17] was adopted, defining: (i) climate neutrality in the EU by 2050[18] and establishing the framework to achieve it; and (ii) the internal reduction of the net emissions[19] of greenhouse gas by at least 55% compared with 1990 by 2030[20].

11. **In Portugal, the objectives and targets of reducing greenhouse gas emissions are established, namely, in the Roadmap to Carbon Neutrality 2050 (RNC 2050)**[21] **and in the National Energy and Climate Plan 2030 (PNEC 2030)**[22].

12. **Also of note is the "Fit for 55" package, adopted by the EC in July 2021, which comprises a set of legislative proposals to reduce the emissions** by, at least, 55% by 2030. The proposals reinforce eight legislative acts and propose five initiatives in the areas of climate, of energy and fuels, of transports, of buildings, of land use and of forests.

13. **Several of those proposals aim to promote the development of the electric vehicle recharging in the EU, of which, at the time of the writing of the present Study, only one still has its respective legislative process ongoing**: the proposal for a Directive on the restructuring of the EU framework for the taxation of energy products and electricity[23], with the subsequent repeal of Directive 2003/96/EC on the same subject.

14. **In the meantime, seven of the legislative processes in question were concluded**, from which emerged, namely, the following legislative acts:

    (i) Directive (EU) 2024/1275[24], on the energy performance of buildings and that repeals Directive 2010/31/EU, on the same subject;

    (ii) Regulation (EU) 2023/1804[25,26], on the deployment of alternative fuels infrastructure and that repeals Directive 2014/94/EU, on the same subject;

    (iii) Directive (EU) 2023/2413[27], which amends Directive (EU) 2018/2001, on the promotion of the use of energy from renewable sources;

    (iv) Regulation (EU) 2023/857[28], which amends Regulation (EU) 2018/842, on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement;

    (v) Directive (EU) 2023/1791[29], on energy efficiency and that repeals Directive 2012/27/EU, on the same subject;

[15] See Communication COM(2020) 789 final.
[16] Namely, the following objectives: (i) achieving, by 2030, at least 30 million zero-emission vehicles on European roads and (ii) achieving, by 2050, nearly all new cars of zero-emission.
[17] Also referred to as "European climate Law".
[18] See paragraph 1 of article 2 of Regulation (EU) 2021/1119.
[19] Emissions after deduction of removals.
[20] See paragraph 1 of article 4 of Regulation (EU) 2021/1119.
[21] Approved by the Resolution of the Council of Ministers nº 107/2019.
[22] Approved by the Resolution of the Council of Ministers nº 53/2020.
[23] See Proposal for a Directive COM(2021) 563 final.
[24] Resulting from the Proposal for a Directive COM(2021) 802 final.
[25] Resulting from the proposal for a Regulation COM(2021) 559 final.
[26] Also referred to as "Regulation AFIR".
[27] Resulting from the Proposal for a Directive COM(2021) 557 final.
[28] Resulting from the proposal for a Regulation COM(2021) 555 final.
[29] Resulting from the Proposal for a Directive COM(2021) 558 final.

(vi) Directive (EU) 2023/959[30], which amends Directive 2003/87/EC, on establishing a system for greenhouse gas emission allowance trading within the EU, and Decision (EU) 2015/1814, on establishing and operating a market stability reserve for the system in question;

(vii) Regulation (EU) 2023/851[31], which amends Regulation (EU) 2019/631, on the carbon dioxide (CO_2) emission performance standards for new passenger cars and new light commercial vehicles.

15. **Regulation (EU) 2023/1804 must be highlighted, which sets targets for publicly accessible electric vehicle recharging infrastructure for light-duty vehicles**[32], in terms of the installed capacity at recharging stations and the minimum coverage of recharging points on the Trans-European Transport Network (TEN-T). That Regulation establishes, also, several obligations for vehicle recharging point operators (OPCs).

16. **Regulation (EU) 2021/241 must also be highlighted, which establishes the Recovery and Resilience Facility (RRF), which particularly refers to the ecological transition**[33]. The RRF is part of the "Next Generation EU" Plan[34], which aims to mitigate the economic and social impact of the Covid-19 pandemic, namely by promoting the climate transition, with the mobilisation of funds for the reforms and investments contained in this Plan being carried out through the RRF.

17. **Within the RRF, funds have been allocated to Portugal through the Recovery and Resilience Plan (RRP)**[35]**. Boosting electric vehicle recharging is one of the objectives of this plan**, and it is directly linked to the reform "*TC-r31: Reform of the transport ecosystem*" of component "*C15*: Sustainable mobility" of the "*Climate transition*" dimension of the RRP[36].

18. **In addition, there has been widespread interest among European countries in monitoring the electric vehicle recharging sector.** Most recently, the report published by the EC in October 2023 focuses on the conditions of competition in public recharging of electric vehicles in the EU27 and the UK, with an in-depth analysis of four countries (Ireland, Italy, Croatia and Belgium). The report highlights, among other matters, the high degree of heterogeneity in the EU in terms of the stage of development of the electric vehicle recharging sector.

19. **This interest has also been reflected in the preparation of market studies by National Competition Authorities** (NCAs)[37]. The UK's NCA has issued recommendations, notably with the aim of improving the experience of electric vehicle drivers by facilitating price comparability and recharging on an ad-hoc basis. The German NCA focused on the transparency of the price structure and the accessibility of recharging points, recommending a simplification of the

[30] Resulting from the Proposal for a Directive COM(2021) 551 final.
[31] Resulting from the Proposal for a Regulation COM(2021) 556 final.
[32] See article 3 of Regulation (EU) 2023/1804.
[33] In accordance with subparagraph a) of article 3 of Regulation (EU) 2021/241.
[34] See Next Generation EU *webpage.*
[35] The governance model of the European funds allocated to Portugal through the RRP under the EU RRF for the period 2021-2026 is established by Decree-Law nº 29-B/2021.
[36] See the "Recover Portugal" portal.
[37] For illustrative purposes: (i) in July 2021, the UK NCA, the *Competition & Markets Authority* (CMA), published the "*Electric vehicle charging market study – Final report*"; (ii) in October 2021, Germany's NCA, the *Bundeskartellamt* (BKA), published the interim report "*Sector inquiry on the provision and marketing of publicly accessible charging infrastructure for electric vehicles*" (see here and here); (iii) in December 2023, Denmark's NCA published the final report "*Konkurrencen på markedet for opladning af elbiler*"; and (iv) in June 2024, France's NCA, the *Autorité de la concurrence* (AdlC), published the "*Avis n° 24-A-03 du 30 mai 2024 relatif au secteur des infrastructures de recharge pour véhicules électriques*". Additionally, in February 2023, Spain's NCA, the *Comisión Nacional de los Mercados y la Competencia* (CNMC), announced the opening of market research to analyse the competitive dynamics of the electric vehicle recharging infrastructure sector in the respective country (see CNMC press release of 22.02.2023).

recharging experience for users. Several NCAs have also opened investigations into possible infringements of competition law[38].

III. THE ELECTRIC VEHICLE RECHARGING IN PORTUGAL

20. **In Portugal, electric vehicle recharging took its first steps in 2010, with the establishment of its legal framework by Decree-Law nº 39/2010.** This law regulates the organisation of electric vehicle recharging activities, as well as access to and exercise of these activities, establishes a (pilot) electric vehicle recharging network (initially free for users) and regulates incentives for the use of electric vehicles[39]. Since then, the path of electric vehicle recharging in Portugal has had several important moments, largely inspired by the evolution of the EU's climate and energy policies.

21. **In 2014, the operation of vehicle recharging points on the electric vehicle recharging network has been liberalised**[40], and now takes place under a free competition system, similar to the electricity for electric vehicle recharging trading market, under which this system has been adopted since 2010[41].

22. **Also in 2014, the integration of recharging points installed in private spaces into the electric vehicle recharging network was facilitated**[42]. Since then, the electric vehicle recharging network has included: (i) public access recharging points[43]; and (ii) private access recharging points[44] whose owners are responsible for their installation, provision, operation and maintenance and have opted to integrate them into the network.

23. **Also since 2014, the management of the electric vehicle recharging network has been carried out by Mobi.E, S.A.** (Mobi.E)[45]. Since 2015, Mobi.E has carried out this activity as the electric vehicle recharging network managing entity (EGME)[46]. In the report published by the EC in October 2023, Portugal was considered to be an exceptional case in Europe due to the existence of an entity in which the management of the national electric vehicle recharging network was centralised.

24. **Between 2018 and 2020, the sector transitioned to a commercial phase**. This transition began in November 2018 with users paying for fast recharging of vehicles on the electric vehicle

[38] For illustrative purposes: (i) in April 2023, the Italian NCA, the *Autorità Garante Della Concorrenza E Del Mercato* (AGCM), opened an investigation in the context of an alleged abuse of a dominant position in the market for the installation and operation of recharging points, resulting in margin crushing by the investigated OPCs (see AGCM press release of 14.04.2023); and (ii) on 22.07.2021, the CMA initiated an investigation into possible infringements of competition law in the context of the provision of recharging points on or near motorways, related to long-term exclusivity agreements entered into between a OPC and three operators of service areas located on motorways, and, on 08.03.2022, closed the investigation upon acceptance of commitments proposed by the entities concerned.

[39] Pursuant to paragraph 1 of article 1º of Decree-Law nº 39/2010.

[40] Pursuant to paragraph 6 of article 5º of Decree-Law nº 39/2010 (in particular, pursuant to the wording of this rule given by Decree-Law nº 90/2014).

[41] Pursuant to paragraph 5 of article 5º of Decree-Law nº 39/2010.

[42] Pursuant to subparagraph d) of paragraph 1 of article 4º, subparagraph l) of paragraph 2 of article 21º and paragraph 3 of article 27º of Decree-Law nº 39/2010 (in particular, pursuant to the wording of these rules given by Decree-Law nº 90/2014).

[43] Such equipment may be installed in public domain places with access to public roads or similar roads or in private spaces that allow access by the general public (such as commercial parking lots and service stations) (under the terms of paragraph 2 of article 6º of Decree-Law nº 39/2010).

[44] This equipment is installed in places of private access (under the terms of paragraph 3 of article 6 of Decree-Law nº 39/2010) and may be destined for exclusive use or shared use (under the terms of paragraph 4 of article 6 of Decree-Law nº 39/2010).

[45] Pursuant to paragraph 10 of article 5º of Decree-Law nº 90/2014 (between 12.06.2014 and 09.03.2015), the sole point of Order nº 2288/2015 (between 10.03.2015 and 22.06.2015) and the sole point of Order nº 6826/2015 (since 23.06.2015).

[46] Pursuant to the sole point of Order nº 2288/2015 (between 10.03.2015 and 22.06.2015) and the sole point of Order nº 6826/2015 (since 23.06.2015).

recharging network[47]. From 2020[48], users will pay for all top-ups made on the electric vehicle recharging network.

25. **The Government has adopted measures to support the development of electric vehicle recharging that have a direct impact on the costs associated with recharging vehicles** on the electric vehicle recharging network covered by the respective users (see Box 2). In particular, the Government has covered part of these costs, thus replacing the users in that share of the costs.

[47] See Regulation nº 854/2019.
[48] See Order nº 14724-A/2022.

Box 2. Public support measures for electric vehicle recharging in Portugal

1. Incentives for the purchase of electric vehicles

Between 2015 and 2023, incentives were made available for the purchase of battery electric vehicles (BEVs) through the Environmental Fund, by granting a maximum amount per vehicle. In 2023[49], this support was set at: (i) 4.000 € for light passenger BEVs whose purchase cost does not exceed 62.500 €; and (ii) 6.000 € for light commercial BEVs. The incentive was subject to limits per beneficiary.

In 2023, the financial allocation for the public support in question was of 6,1 million €.

2. Incentives for the purchase and installation of electric vehicle battery chargers in condominiums

In 2022 and 2023, it has been assigned an incentive for the purchase and installation of electric vehicle battery chargers in condominiums connected to the electric vehicle recharging network, through the Environmental Fund. In 2023[50], this support consisted of 80% of the purchase price of a charger, up to 800 €, and 80% of the cost of the electrical installation, up to 1.000 € per parking space. The incentive was subject to limits per beneficiary.

In 2023, the financial allocation of the state support in question was of 500 thousand €.

3. Tax benefits

There have been several tax benefits associated with electric vehicle recharging. In this context, the following stand out: (i) partial or total tax exemptions, in particular from the Vehicle Tax (ISV) and the Single Circulation Tax (IUC); (ii) Value Added Tax (VAT) deductions; (iii) partial or total exemptions from fees, in particular from autonomous taxation rates in Corporate Income Tax (IRC), autonomous taxation rates in Personal Income Tax (IRS), the contribution due to the Directorate-General for Energy and Geology (DGEG) and the audiovisual contribution; (iv) the increase of expenses in terms of IRC; and (v) the increase in corporate income tax and personal income tax deductions.

4. Discounts in the recharging services

Between 2018 and 2021, a financial support has been granted, supported by the Innovation Support Fund, which ensured partial coverage of the costs incurred by the use of the public recharging network for electric vehicles[51], materialized in a discount applicable to the tariffs for access to electric vehicle recharging networks approved by the Energy Services Regulatory Authority (ERSE). The value of the discount (€ per kWh) varied depending on the type of access (low or high voltage), the type of tariff (tri-hourly or bi-hourly) and the type of hours (peak, full, empty or off-peak).

Since 2022, financial support has been granted to partially cover the same costs, supported by the Environmental Fund, which corresponded to a discount applicable to the cost of each charge registered on the electric vehicle recharging network. In 2024[52], this support was set at 0,1684 € for each recharge.

5. Municipal benefits

Several municipalities have granted benefits to electric vehicle recharging. In this context, it stands out the exemption (partial or total) from paying for parking on public roads, in parking spaces reserved for electric vehicles in recharging and in private places with public access (such as shopping centers and public services facilities).

26. **In 2020, Mobi.E completed the transfer of the functions it has been assigned with to the electricity suppliers for electric vehicle recharging (CEME) and to the OPCs,** and which this entity has temporarily ensured[53]. Since then, Mobi.E has only be incumbent with the activity of managing the electric vehicle recharging network.

[49] See Order nº 5126/2023.
[50] See Order nº 5126/2023.
[51] See, for example, Order nº 5380/2021 (support granted for 2021).
[52] See Order nº 341/2024.
[53] See Mobi.E's management report for 2020.

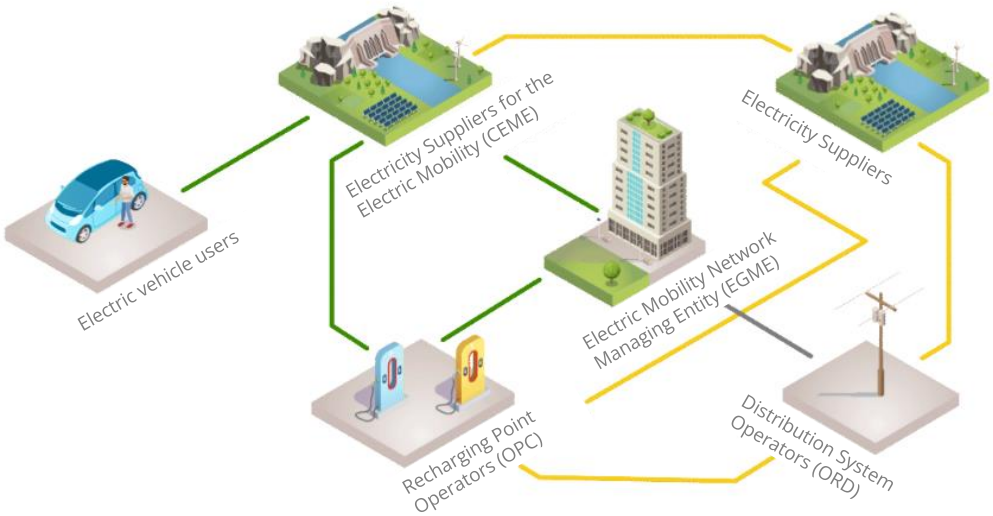
27. **In 2022, the electric vehicle recharging network started to integrate vehicle recharging points in all municipalities in Portugal**[54]. The expansion of the network in terms of geographical coverage has been accompanied by its reinforcement in terms of the power of the recharging points. In fact, the number of stations whose power is higher than 22 kWh is increasing, having reached 1.761 stations on May 28, 2024[55], which represents a growth of around 7% compared to 1 January 2024[56].

28. **Managing the operations of the electric vehicle recharging network is the single main activities that is not performed under free competition while it is subject to regulation**[57]. The regulation of this activity is entrusted to the ERSE[58].

III.1. ORGANISATIONAL MODEL OF THE ELECTRIC VEHICLE RECHARGING

29. **The organisational model of the electric vehicle recharging in Portugal, defined in Decree-Law nº 39/2010, is based on sector-specific agents and commercial relationships** and it is closely connected with the electricity sector organisational model (see Figure 1). In this sense, the vehicle recharging points connected to the electric vehicle recharging network deliver electricity from the electricity distribution network.

Figure 1. Organisational model of the electric vehicle recharging in Portugal



Caption:
- Electric vehicle recharging sector
- Electricity sector
- Electric vehicle recharging sector and electricity sector

Source: ERSE.

30. **The main activities aimed at ensuring electric vehicle recharging include:**

(i) **the commercialisation of electricity for electric vehicle recharging (CEME),**[59] which corresponds to the wholesale purchase and retail sale of electricity for the recharging of electric vehicle batteries at the recharging points integrated in the electric vehicle recharging network[60];

[54] See Mobi.E press release entitled "*MOBI. E: what are the electric vehicle recharging trends for 2023?*", published on 21.11.2022.
[55] Data source: Mobi.E. Data processing: AdC. Data collection date: 28.05.2024.
[56] Data source: Mobi.E. Data processing: AdC. Data collection date: 28.05.2024.
[57] Pursuant to paragraphs 5, 6 and 7 of article 5º of Decree-Law nº 39/2010.
[58] Pursuant to paragraph 2 of article 43º of Decree-Law nº 39/2010.
[59] Pursuant to subparagraph a) of paragraph 1 of article 5º of Decree-Law nº 39/2010.
[60] Pursuant to paragraph 2 of article 5º of Decree-Law nº 39/2010.

(ii) **the operation of recharging points (OPCs)** integrated into the electric vehicle recharging network[61], which corresponds to the installation, provision, operation and maintenance of such recharging points[62]; and

(iii) **the management of operations of the electric vehicle recharging network (EGME)**[63], which corresponds to the management of the energy and financial flows associated with these operations and the respective platform[64], which includes, in particular, managing the information flows required for billing between agents[65] and the collection and dissemination of information elements that enable the monitoring of the operation of the electric vehicle recharging network.

31. **The organisational model of the electric vehicle recharging enables a system of free competition for the activities of electricity trading and operation of recharging points**. The activities associated with or complementary to the main activities related to electric vehicle recharging [66] are also carried out under a free competition framework[67].

32. **Drivers can charge electric vehicles by means of a contract previously signed with at least one CEME.** The object of this contract is to provide electric vehicle recharging services in the electric vehicle recharging network. Afterwards, the user can charge vehicles at any recharging point integrated into the public network[68]. To this end, the user identifies himself, by presenting a physical card, a digital application or a connection to the *Internet*, and pays to the CEME a price consisting of the following elements (see Figure 2):

(i) price applicable to electricity and its commercialisation (freely established by the CEME, except for the Autonomous Regions, where it is regulated);

(ii) tariffs for accessing electricity networks (regulated by the ERSE);

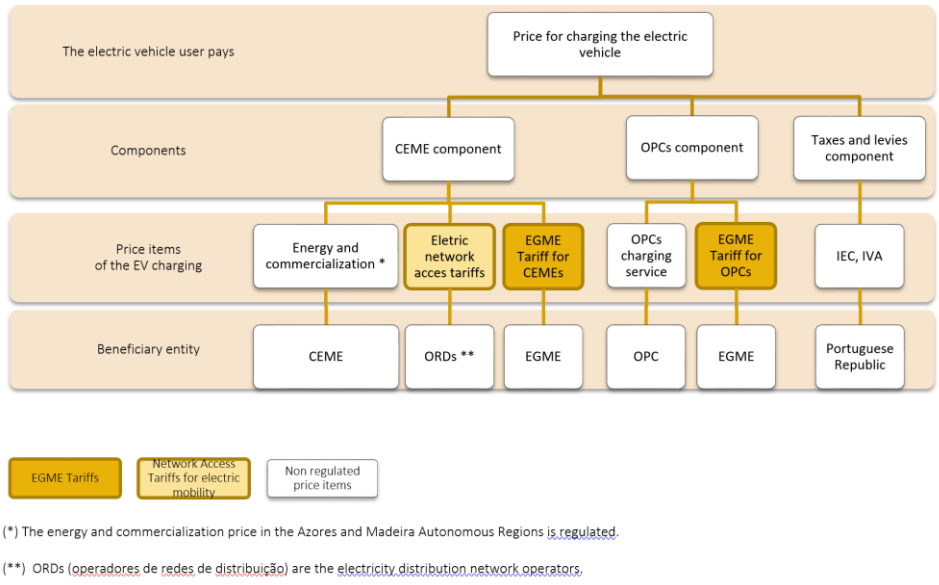
(iii) price applicable to the use of the recharging point (freely established by the OPC);

(iv) EGME tariffs (regulated by the ERSE); and

(v) fees and taxes (defined by the State).

[61] Pursuant to subparagraph b) of paragraph 1 of article 5º of Decree-Law nº 39/2010.
[62] Pursuant to paragraph 3 of article 5º of Decree-Law nº 39/2010.
[63] Pursuant to subparagraph c) of paragraph 1 of article 5º of Decree-Law nº 39/2010.
[64] Pursuant to paragraph 4 of article 5º of Decree-Law nº 39/2010.
[65] These flows involve the following elements of information relating to each upload: (i) identification of the user; (ii) recharging point; (iii) charged electricity; and (iv) duration of the upload.
[66] Those activities include the provision of parking spaces, the leasing of recharging points and the leasing of vehicles or their components, including batteries.
[67] Pursuant to paragraph 9 of article 5º of Decree-Law nº 39/2010.
[68] Including the points integrated in the network located in the autonomous regions of the Azores and Madeira.

Figure 2. Structure of the price paid by the electric vehicle users for recharging vehicles on the electric vehicle recharging network



Source: ERSE.

33. **Drivers can also charge electric vehicles without signing a contract or establishing a long-term business relationship with a CEME, by using a digital app or an Internet connection**[69]. These digital solutions provide several functionalities to their users, such as: (i) the identification of the nearest recharging points included in the network provided by the CEME in question, including the information of the power, occupancy level and prices; and (ii) payment through an application or a website.

34. **According to a survey carried out by the Automobile Club of Portugal (ACP)**[70]**, in March 2023, 18% of respondents with an electric vehicle did not have a contract with a CEME.** In addition, the electric vehicle recharging network did not yet integrate recharging points with terminals and/or devices used for payment services, unlike in the case of liquid road fuels.

35. **In this context, it should be noted that Regulation (EU) 2023/1804 establishes several obligations of OPCs associated with shipments on an *ad-hoc*** basis, under which these market agents must, in particular:

    (i) at publicly accessible recharging points requiring payment for recharging installed after 13 April 2024, **provide the possibility of recharging on an *ad-hoc***[71,72] **basis, accepting electronic payments through terminals and devices used for payment services**, "***including at least one of the following: (a) payment*** *card readers; (b) devices with a contactless functionality that is at least capable of reading payment cards; (c) at publicly accessible recharging points with a power of less than 50 kW, devices that use an internet*

[69] Such as *Miio* and *EVIO.*

[70] See ACP, "*Electric Vehicle Recharging in Portugal*", March 2023. The survey is based on telephone interviews and *online interviews*. The universe includes 1550 respondents, of which 1046 do not have electric vehicles and 504 do have electric vehicles. These respondents, were, at the time of the survey, residents in Portugal, have a driving license and have driven in the previous month.

[71] Such top-up is characterised by the absence of the need for the user to register, conclude a written contract or establish a longer-term business relationship with the OPC that surpasses the mere purchase of the service (pursuant to paragraph 47 of article 2 of Regulation (EU) 2023/1804).

[72] Pursuant to paragraph 1 of article 5 of Regulation (EU) 2023/1804.

connection and enable secure payment transactions, such as those that generate a specific Quick Response Code (QR code)";

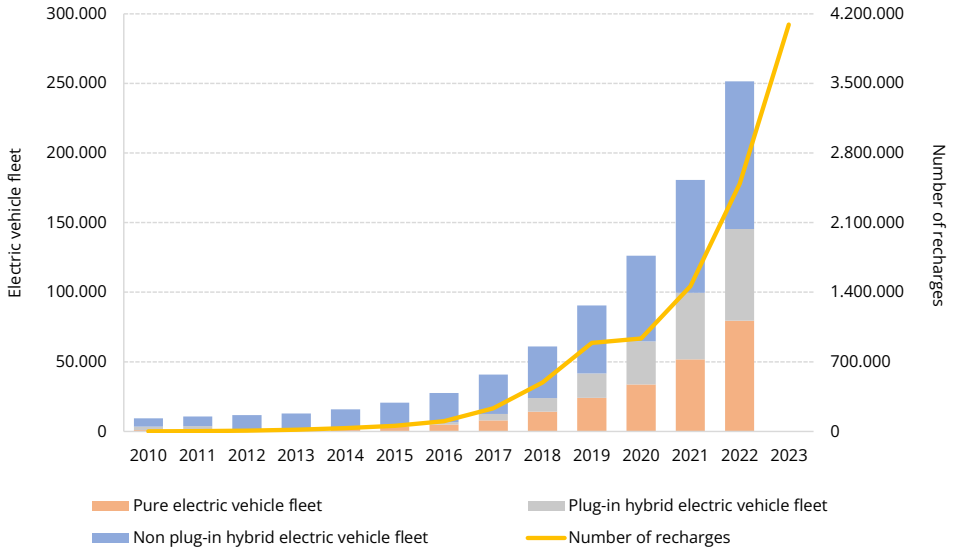
(ii) at publicly accessible recharging points at which automatic authentication is available, to **ensure that users have the right not to use automatic authentication and alternatively to charge their vehicle on an *ad-hoc* basis or on a contractual basis**[73]; and

(iii) at publicly accessible recharging stations, **display the *ad-hoc* price and of all its components** (in the case of recharging points with a power lower than 50 kW) or the *ad-hoc* price and any occupancy rate (in the case of recharging points with a power equal to or higher than 50 kW installed after 13 April 2024)[74].

III.2. DEMAND FOR ELECTRIC VEHICLES AND FOR RECHARGING

36. **In Portugal, the electric vehicle fleet has grown rapidly in recent years**. In 2022, there were 251.499 electric vehicles (see Figure 3), which represents a growth of around 39% compared to 2021 and about 2.590% compared to 2010. More recently, **in July 2024, around 58% of new passenger cars sold were electric**[75], with this type of vehicle continuing to outnumber other types of vehicles.

Figure 3. Electric vehicle fleet and recharges made on the electric vehicle recharging network between 2010 and 2023



Data source: Instituto Nacional de Estatística, I.P. – Statistics Portugal (INE) and Mobi.E. Data processing: AdC. Data collection date: 3 June 2024.

37. **In August 2022, Portugal led the way, only preceded by Cyprus, in the intention to purchase electric vehicles in the EU**[76], with around 85% of respondents that choose to have their own vehicle declaring they would prefer to purchase a battery vehicle (around 44%) or hybrid (around 42%) in their next acquisition, values that stood around 14 percentage points above the EU average. However, the pace for replacing the Portuguese car fleet may be slow, since it has been systematically composed by vehicles aged 10 or more years (in 2022, this age

[73] Pursuant to paragraph 2 of article 5 of Regulation (EU) 2023/1804.
[74] Pursuant to paragraph 4 of article 5 of Regulation (EU) 2023/1804.
[75] See *UVE* website, consulted on 11.09.2024.
[76] See "Climate Survey – 5th edition (2022-2023)", published by the European Investment Bank. The survey was conducted based on online interviews with 22,772 individuals, of which 1,000 were Portuguese citizens.

group represented about 64% of the passenger car fleet[77]). In addition, there are other surveys that do not illustrate such high purchase intention values, and the price of electric vehicles has been identified as one of the main reasons (see Box 3).

Box 3. Reasons to buy and not to buy an electric vehicle

According to a survey conducted by TIS[78], in 2023, **55% of respondents without an electric vehicle said they intended to purchase one**. **The cost of acquisition was indicated as one of the main barriers (44%)**.

The ACP also conducted a survey in 2023 with drivers in Portugal[79]. This survey revealed that **59% of respondents would choose to buy an electric or hybrid vehicle if they had to buy a car "*today*"** (i.e., at the time of the survey).

- the main reasons for buying an electric (or hybrid) vehicle were the following: less polluting (54%) and more economical (36%).
- the main reasons for not buying an electric (or hybrid) vehicle are the following: high price (48%), low autonomy (24%), lack of recharging locations (10%), high price of batteries (9%), lack of confidence (8%), delay in recharging (7%) and little information (6%).
- despite the low range associated with electric vehicles, the majority of respondents without an electric vehicle considered that this type of vehicle has lower maintenance costs. **41 % of respondents without an electric vehicle considered it difficult to charge it at home**.

According to a 2022 survey prepared for the EC[80], targeted at drivers in 10 EU countries (which does not include Portugal):

- 47% of respondents said they would not consider buying an electric vehicle, while 31% considered doing so in the next 5 years; and
- the main disadvantages associated with electric vehicles included the price of the vehicles (26%), the lack of recharging points (18%) and the range of the vehicles (7%).

38. **The growing number of electric vehicles has been accompanied by a greater use of the electric vehicle recharging network**. Namely, recharging on the electric vehicle recharging network, between 2022 and 2023, has increased by around 64% and, between 2010 and 2023, it had an average annual growth rate of around 1.076% (see Figure 3).

39. **This growth regarding the use of the electric vehicle recharging network may also be related to the fact that a significant part of households do not have a parking space or a garage in their residence**. In fact, in 2021, this was the case for about 42% of family dwellings (see Figure 4), being the Setúbal Peninsula, Greater Lisbon and Alentejo the regions in which this indicator presented the highest values. In addition, according to the ACP survey, 41% of respondents without an electric vehicle considered that it is difficult to charge it at home (see Box 3).

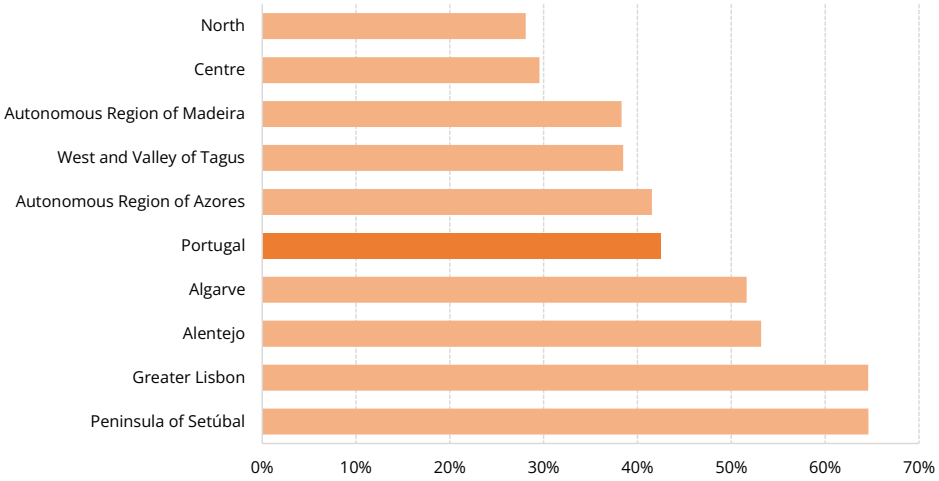
[77] Data source: INE. Data processing: AdC. Data collection date: 14.11.2023.

[78] See "Study on recharging infrastructures to support the energy transition of mobility in Portugal", dated 06.07.2023, prepared by TIS and made available by Mobi.E. This study includes results from an *online* survey answered by 784 people, of which 18% do not have an electric vehicle and of which 82% are electric vehicles users.

[79] See footnote 70.

[80] See European Commission (EC), "*Consumer Monitor 2022 – European Alternative Fuels Observatory – European Aggregated Report*", dated 15.06.2022. The survey contains two parts: (i) part I is based on 16.664 valid responses from drivers of electric vehicles (380) and non-electric vehicles (16.284) in the EU; (ii) part II focuses only on electric vehicle drivers, adding to the 380 respondents an additional AVERE database, totalling 1.378 valid responses.

Figure 4. Classic family dwellings for usual residence in Portugal without parking space or garage in 2021



Data source: INE. Data processing: AdC. Data collection date: 24 June 2024.

40. **Notwithstanding the evolution of the number of electric vehicles and the network, the Portuguese electric vehicle recharging market has been considered to be "*under development*"** in the report published by the EC in October 2023. In 2022, Portugal did not comply with the values recommended by the EU as regards the representativeness of electric vehicles within the vehicle fleet and the number of electric vehicles per publicly accessible recharging point. In fact, in 2022, electric vehicles represented 1,7% of the vehicle fleet (a percentage that stands below the recommended percentage of 2% by the EU). Besides, there were 18 electric vehicles per publicly accessible recharging point (higher than the EU recommended number of 10).

III.3. ELECTRICITY SUPPLY FOR ELECTRIC VEHICLE RECHARGING

41. **According to the current legal framework, the activity of electricity trading for electric vehicle recharging can only be performed by OPCs**[81] and it is subject to a registration[82] with the DGEG.

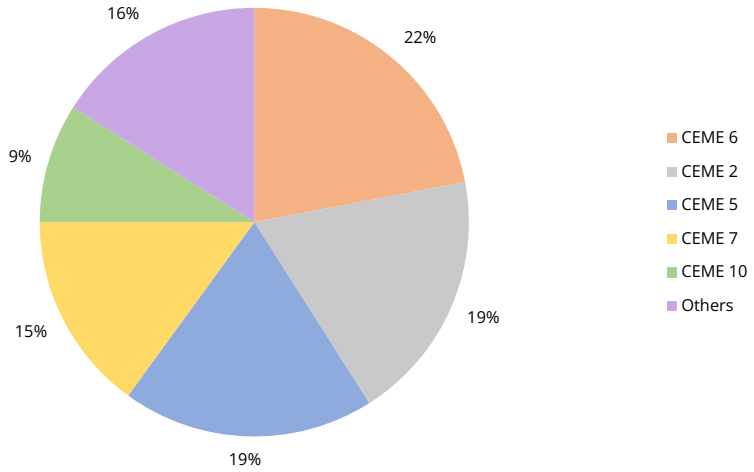
42. **Any contract with a CEME enables the access to all points of the electric vehicle recharging network, and as such CEMEs are prevented from discriminating recharging points**, "*preventing or making excessively expensive the use of certain recharging points, unjustifiably favoring the use of the remaining ones*"[83].

43. The AdC has already delimited, for the purposes of a merger, the relevant market for the trading of electricity for electric vehicle recharging with a national geographic scope[84].

44. **In Portugal, in February 2024, there were 35 CEMEs registered with the DGEG**[85] **and 26 of these agents had entered into a contract to join the electric vehicle recharging network**[86]. **In May 2024, 60% of the electricity used in the electric vehicle recharging network has been traded by the three main CEMEs** (**CEMEs** that traded more energy in the grid) (see Figure 5).

[81] Pursuant to paragraph 1 of article 7º of Decree-Law nº 39/2010.
[82] Pursuant to paragraph 1 of article 8º of Decree-Law nº 39/2010.
[83] Pursuant to paragraph 5 of article 7º of Decree-Law nº 39/2010.
[84] AdC - Ccent. 47/2021, Galp Power / Mobiletric (§ 40).
[85] See CEME list published by DGEG updated on 07.02.2024, consulted on 05.05.2024.
[86] See *Mobi.E* website, consulted on 05.05.2024.

Figure 5. Electricity traded in the electric vehicle recharging network by each CEME in May 2024



Data source: Mobi.E. Data processing: AdC. Data collection date: 14 May 2024.

III.4. SUPPLY OF RECHARGING POINTS

III.4.1. Characteristics of the recharging points

45. **The recharging points differ according to the recharging power, the type of current and the respective average recharging time of the electric vehicle** (see Table 1).

Table 1. Classification of recharging points adopted in Portugal

Recharging type	Power (kW)	Chain type	Average load time to reach 80%
Normal	< 7.4	Alternating	≥ 8 hours
Semi-fast	[7,4 – 22]	Alternating	Up to 4 hours
Fast	]22 – 150[	Alternating or continuous	1 hour – 1 hour and 30 minutes
Ultra-fast	≥ 150	Alternating or continuous	< 1 hour

Data source: Mobi.E. Data processing: AdC. Data collection date: 24 June 2024.

46. **The use of fast or ultra-fast recharging points usually depends on the need**[87], for example, in situations of medium-long distance trips or emergency trips, for which the speed of recharging is particularly valued by the user. This type of recharging is common on motorways, in which drivers prefer faster recharging. In May 2024, about 18% of ultra-fast recharging sockets were installed on motorways[88].

47. **Normal or semi-fast recharging points are the most suitable for day-to-day recharging, on short routes**. The demand for these points is fundamentally determined by the opportunity, for example, to charge at workplaces or even by taking advantage of trips to private places with public access (such as supermarkets, cinemas or restaurants) to charge the battery of the electric vehicle.

[87] Electric vehicle manufacturers recommend that the use of fast or ultra-fast recharging points should be moderate, as it can decrease the battery life of electric vehicles when used very frequently and consecutively.
[88] Data source: Mobi.E. Data processing: AdC. Data collection date: 07.05.2024.

48. **The electric vehicle can also be charged at recharging points that are not integrated in the electric vehicle recharging network**, namely in private places with private access, such as private garages where access is not public. In this case, recharging is done using a home recharging station or a conventional electrical outlet[89].

49. **The possibility for users to charge their electric vehicles at home (particularly at night) or at the place in which they perform their activity (namely during the day) may relieve the electric vehicle recharging network**. Indeed, recharging at home would in fact be more frequently used, both because of the convenience of the location and the price. (see Box 4). However, in 2021, about 42% of family dwellings in Portugal did not have a parking space or a garage, with the Setúbal Peninsula, Greater Lisbon and Alentejo recording a higher incidence[90].

Box 4. Use of recharging points

As regard respondents with an electric vehicle, the 2023 TIS survey[91] identified the following:

- most of the charges are made at home (85%); and
- the convenience of the location (42%) and the price/proximity ratio (28%) are decisive for the choice of the recharging point.

According to the survey conducted by ACP[92], in 2023, and with regard to respondents with an electric vehicle in Portugal:

- most of them travel, on average, more than 400 kms. per month with an electric vehicle (59%) and makes short trips (58%), and trips longer than 90 kms are less frequent;
- most of them make between 1 and 3 weekly top-ups (65%) and spends up to 7 € per charge at home (54%) and up to 50 € per month (58%);
- **charging is most often done at home**, followed by recharging at public stations and finally at work, and 56% of respondents reported never having charged their vehicle at their workplace;
- charging at normal stations is more frequent than recharging at fast and ultra-fast stations, and ultra-fast stations are the least used. 23% of respondents reported never having charged their vehicle at ultra-fast recharging stations; and
- when having to choose the place to charge their vehicles, respondents selected the following main criteria: the lowest price (75%), convenient location (67%), fast chargers (more power) (54%), proximity to other services (33%) and type and number of outlets (17%)[93].

The 2022 survey prepared for the EC[94] identified that the majority of respondents with electric vehicles charge their vehicles most frequently at home, followed by recharging at public stations.

50. Finally, it should be noted that **there are networks of electric vehicle recharging points that are exclusively being used by subscribed users**, through a card issued by the respective owners. Within these networks, the following should be highlighted: (i) the Tesla network[95],

[89] The use of a conventional electrical socket would be, in fact, a less appropriate solution, since this type of socket is not suitable for long periods of recharging. See, for example, "Quick Guide to Electric Vehicle Recharging Solutions – 1st edition: December 2021", published by AGEFE – Business Association of the Electrical, Appliance, Electronic, and Information and Communication Technologies Sectors (AGEFE).
[90] See paragraph 39.
[91] See footnote 78.
[92] See footnote 70.
[93] Multiple choice question.
[94] See footnote 80.
[95] Tesla's network has been operating since 01.01.2018 and is located in hotel and restaurant car parks.

exclusive for vehicles of this brand[96]; and (ii) the MCretail, S.G.P.S., S.A. (Continente) network[97], exclusive for customers of the "*APP Continente*"[98].

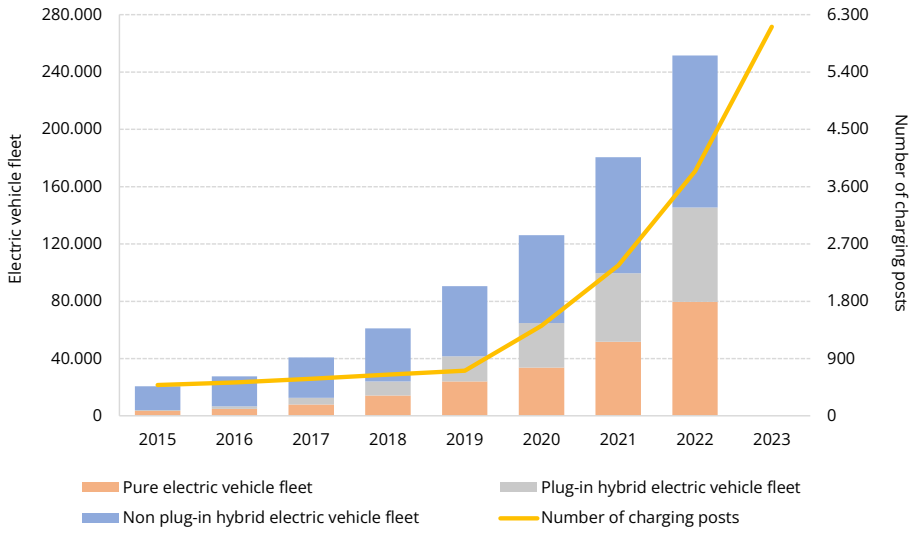
51. **In this context, it should be noted that ENSE (Nacional Entity for Energy Sector) has already carried out several inspection actions whose conclusion pointed out that there are recharging points installed in public access locations which are not integrated in the electric vehicle recharging network[99,100], contrary to the provisions of the legal and regulatory framework regarding electric vehicle recharging**[101]. It should also be noted that the investigation of the existence of situations of this type has become more significant for in the ENSE's inspection activity and, for that reason, the "*National Plan for Inspection and Prevention | 2024*"[102] includes a specific objective thereof.

III.4.2. Coverage and geographical distribution of recharging points

52. **In December 2023, the electric vehicle recharging network integrated 6,113 recharging stations** (see Figure 6). **It was only in 2020 that the development of this network started to keep up with the entry into circulation of electric vehicles and, consequently, the number of electric vehicles in circulation in 2020**. Between 2020 and 2022, the annual growth rate of recharging stations integrated in the electric vehicle recharging network (in 2022, around 63%) was higher than the annual growth rate of the electric vehicle fleet (in 2022, around 39%). This relationship has enabled the recovery of the inverse relationship registered between 2015 and 2019 (in 2019, the indicators in question assumed a value of around 10% and around 48%, respectively).

[96] In Portugal, Tesla's network may not yet be used by vehicles other than Tesla, although it is already available in other countries (see *Tesla's* website, consulted on 11.09.2024).
[97] Continente's network has been in operation since 17.09.2020 and is located in car parks of food retail establishments of this entity (see Sonae MC's press release entitled "*Plug & Charge – Continente installs chargers for electric vehicles*", published on 17.09.2020).
[98] See *Continente's* website.
[99] See ENSE's contribution within the scope of the public consultation.
[100] The enforcement of compliance with the legislation regulating the exercise of economic activities in the energy sector falls within the scope of ENSE's activities (under the terms of paragraph b) of paragraph 1 of article 3º of the ENSE Statute, approved by Decree-Law nº 339-D/2001).
[101] The legal and regulatory framework applicable to electric vehicle recharging seems to determine that recharging points installed in car parks of hotels, restaurants or food retail establishments are installed in places of public access (see third subparagraph i) of paragraph 4 of the Annex to the Resolution of the Council of Ministers nº 81/2009 and recital 11 of Regulation (EU) 2023/1804). Under the same legal and regulatory framework, recharging points installed in places of public access must be connected to the electric vehicle recharging network (see paragraph 1 of article 25º and paragraph 1 of article 26º of Decree-Law nº 39/2010).
[102] See "*National Plan for Inspection and Prevention | 2024*" of ENSE.

Figure 6. Electric vehicle fleet and recharging stations integrated into the electric vehicle recharging network between 2015 and 2023



Data source: INE and Mobi.E. Data processing: AdC. Data collection date: 3 June 2024.

53. **Currently, the public recharging network is present in all municipalities**. In addition, its development has been reinforced by the establishment of partnerships in the field of electric vehicle recharging points in service areas (see Box 5).

Box 5. Partnerships for the operation of electric vehicle recharging points

1. Via Verde Electric Partnership

In November and December 2020, Brisa – Áreas de Serviço, S.A. (Brisa) established (tripartite) partnerships with the oil companies BP Portugal – Comércio de Combustíveis e Lubrificantes, S.A. (BP), Cepsa – Portuguesa Petróleos, Lda. (Cepsa), Petrogal, S.A. (Galp) and Repsol Portuguesa, Lda. (Repsol) and with OPC EDP Comercial – Comercialização de Energia, S.A. (EDP Comercial), IONITY GMBH – Sucursal em Portugal (IONITY), GalpGeste – Gestão de Áreas de Serviços, S.A. (GalpGeste) and EDP Comercial, respectively.

This partnership is intended to create a national long-distance electric recharging network[103], connecting the North (Minho) and the South (Algarve) and the coast (Lisbon) and the interior (Elvas) by motorway.

This partnership provides for the installation of 82 fast or ultra-fast recharging points in Brisa's service areas operated by the oil companies in question[104].

In the service areas covered by the partnership, the OPCs are EDP Comercial (in the case of the service areas operated by BP and Repsol), Galpgeste and Galp Power, S.A. (Galp Power) (in the case of the service areas operated by Galp) and Propel – Produtos de Petróleo, Lda. (Propel) (of the Cepsa Group) and IONITY (in the case of the service areas operated by Cepsa)[105].

2. Cepsa / IONITY Partnership

In 2018, Cepsa and IONITY[106] established a cooperation agreement for the installation and operation, on a preferential basis, by IONITY, of recharging stations in the service areas operated by Cepsa in the Iberian Peninsula[107].

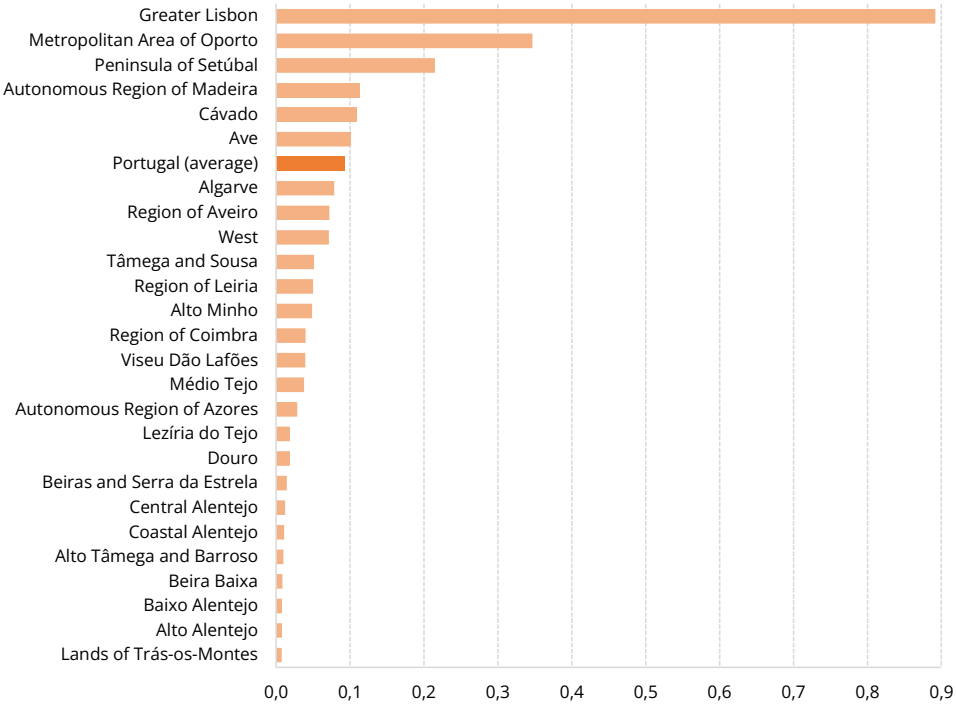
3. BP / Iberdrola partnership

In December 2023, BP and Iberdrola launched a joint venture aimed at installing, operating and maintaining a public network of fast or ultra-fast recharging points in Spain and Portugal[108], following the EC's authorisation[109], in October 2023.

54. **However, there is significant heterogeneity by region for the supply of recharging stations**. In fact, the public electric vehicle recharging network has developed asymmetrically, both in terms of the number of recharging points per km^2 (see Figure 7), as well as (albeit to a lesser extent) in terms of the number of recharging points per 10 thousand residents (see Figure 8), and it is particularly limited in the interior regions.

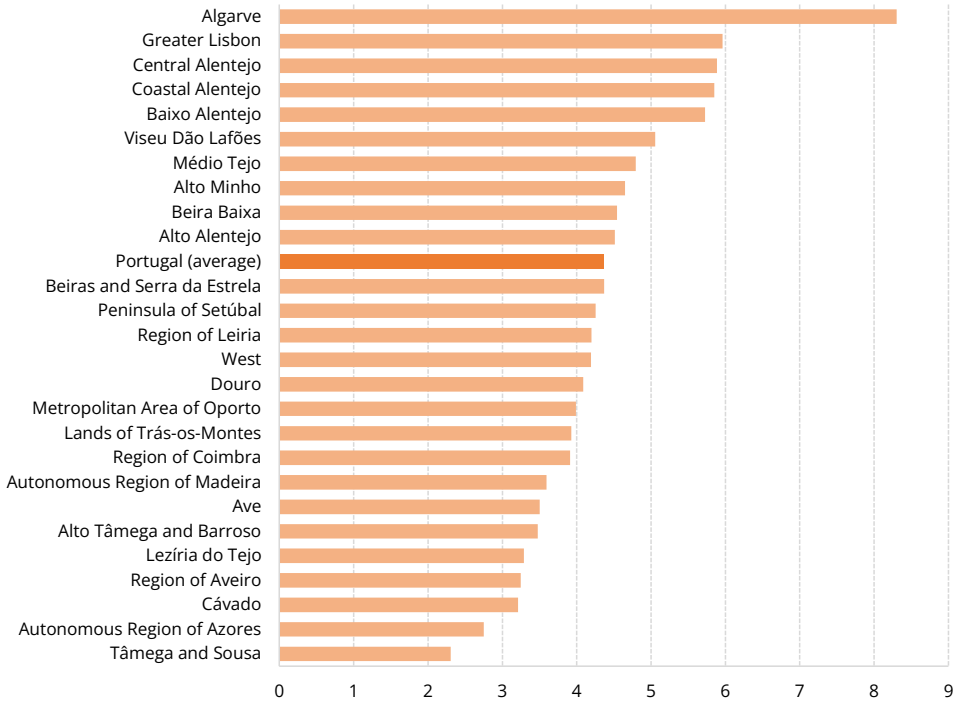
[103] See Brisa's integrated report for 2020.
[104] See Brisa's integrated report for 2020.
[105] Data source: Mobi.E. Data processing: AdC. Data collection date: 07.05.2024.
[106] Joint venture composed by *BMW Group*, *Mercedes Benz AG*, *Ford Motor Company*, *Hyundai Motor Group* and *Volkswagen Group* and owner of a network of ultra-fast recharging stations.
[107] See Cepsa press release entitled "*Cepsa and IONITY unveil their first high-power charging points in Portugal and make progress in the structuring of the Iberian Peninsula*", published on 21.04.2021.
[108] See BP press release entitled "*Iberdrola and bp pulse launch fast and ultra-fast charging joint venture in Spain and Portugal*", published on 04.12.2023.
[109] See EC press release entitled "*Commission clears creation of joint venture by Iberdrola and BP*", published on 27.10.2023.

Figure 7. Number of recharging stations per Km² in Portugal in May 2024



Data source: Mobi.E and Directorate-General for Territory (DGT). Data processing: AdC. Data collection date: 7 May and 29 July 2024, respectively.

Figure 8. Number of recharging stations per 10 thousand residents in Portugal in May 2024



Data source: Mobi.E and INE. Data processing: AdC. Data collection date: 7 May and 3 July 2024, respectively.

55. This regional asymmetry associated with the development of the electric vehicle recharging network can also be verified by the surveys on the experience of electric vehicle users regarding the coverage of the network (see Box 6).

56. A regional asymmetry is likely to compromise the adoption of electric vehicles, by limiting connectivity in the national territory.

Box 6. Experience of the electric vehicle users regarding the coverage of the network of recharging points

According to the TIS survey[110], in 2023, and with regard to respondents with an electric vehicle:

- rural areas (24%) and small towns (32%) were identified as places where it is more difficult to load;
- 73% have already experienced difficulties finding available recharging points; and
- 42% of respondents are satisfied with the density of points existing next to their job location and 38% are satisfied with the points existing next to their residence.

In turn, the survey conducted by the ACP[111], in in 2023, and with regard to respondents with an electric vehicle in Portugal, identified the following:

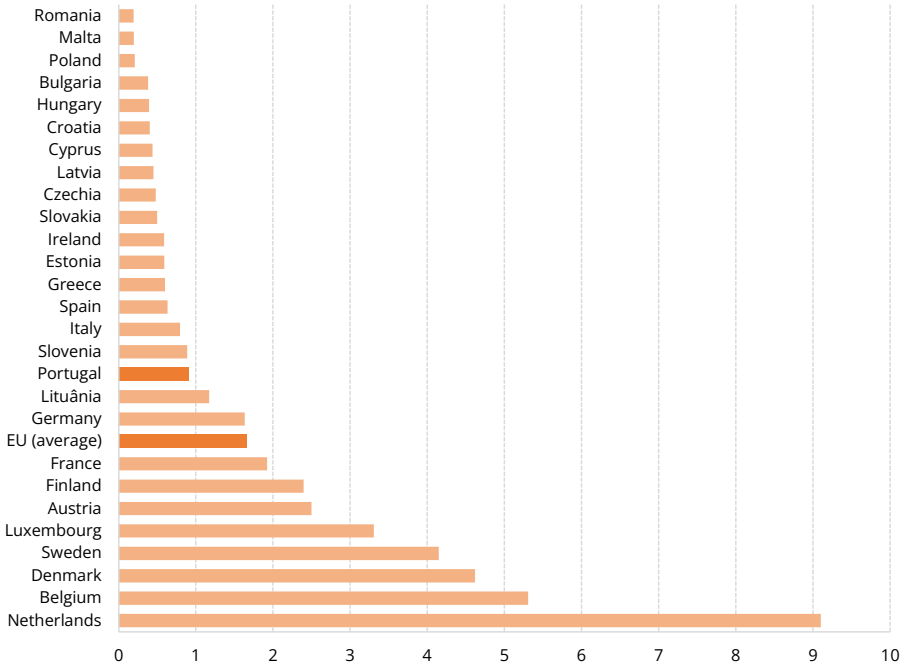
- 30% reported they had difficulties finding an available recharging point, especially for drivers over 54 years old; and
- the majority reported that it was more difficult to find a recharging point in small towns and villages and in rural areas, about 15% of respondents reported experiencing difficulties in finding a recharging point on motorways and Alentejo was the Portuguese area in which it was more difficult to find recharging points.

57. **Another factor of regional differentiation in terms of electric vehicle recharging has been the way in which municipalities act**, namely as regards the preparation and implementation of municipal plans, programs and regulations for electric vehicle recharging and the adequacy of other instruments for planning and spatial planning, mobility and transport. In fact, according to a TIS study[112], **in July 2023, approximately 70% of the 95 municipalities surveyed still did not have structured municipal plans defining the location for recharging stations**.

58. **At an international level, in June 2024, publicly accessible recharging points installed in Portugal accounted for 1,30% of the points installed in the EU**[113,114]. In terms of network coverage, there were 0,91 recharging points per 1.000 inhabitants in Portugal, which is below the EU average (1,66) (see Figure 9).

[110] See footnote 78.
[111] See footnote 70.
[112] See footnote 78.
[113] Data source: EAFO and Eurostat. Data processing: AdC. Data collection date: 25.06.2024.
[114] It should be noted that around 59% of the recharging points installed in the EU were concentrated in just 3 countries: The Netherlands (around 22%), Germany (around 19%) and France (around 18%).

Figure 9. Number of recharging points per 1.000 inhabitants per EU country in June 2024

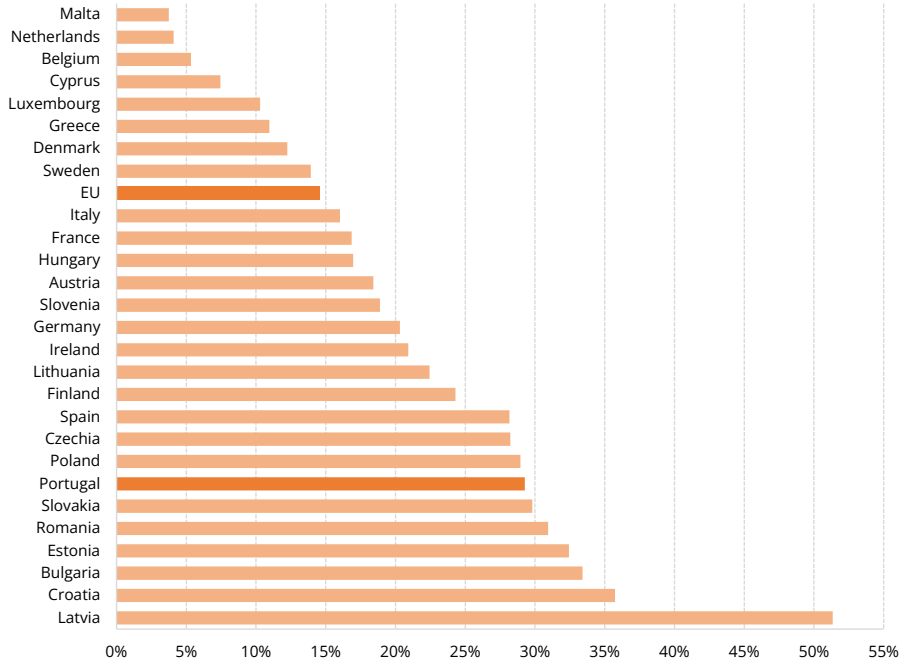


Note: Population data refer to the number of persons whose habitual residence is in the country in question or, if that number is not available, to the number of legal or registered residents in the country in question on 1 January 2023.
Data source: *European Alternative Fuels Observatory* (EAFO) and Eurostat. Data processing: AdC. Data collection date: 25 June 2024.

59. **In Portugal, the weight of fast or ultra-fast recharging points (around 29%) stood above the EU average (around 15%)** (see Figure 10). Nevertheless, in May 2024, most of the recharging points installed in Portugal were of normal or semi-fast recharging[115].

[115] Data source: Mobi.E. Data processing: AdC. Data collection date: 28.05.2024.

Figure 10. Weight of fast or ultra-fast recharging points for the overall recharging points, by EU country, in June 2024



Note: Data for fast or ultra-fast recharging points does not include direct current recharging points with a power output higher than 22 kW and lower than 50 kW.
Data source: EAFO. Data processing: AdC. Data collection date: 25 June 2024.

III.4.3. Representativeness of the OPCs

60. **The operation activity of recharging points integrated in the electric vehicle recharging network depends on the allocation of a permit**[116]. The license is granted by the DGEG for a period of 10 years and the term may be extended for 10 years[117]. The license may, exceptionally, be granted by means of a tender procedure[118], if the Government determines that the recharging points integrated in the electric vehicle recharging network installed by the OPCs do not comply with national demands.

61. **The EGME must be autonomous regarding the legal, organisational and decision-making spheres, from OPCs**, and from the entities acting in the electricity sector, energy production, transmission, distribution and marketing activities[119]. However, the EGME may hold recharging points whose operation may be assigned to OPC, by means of competitive and transparent procedures[120].

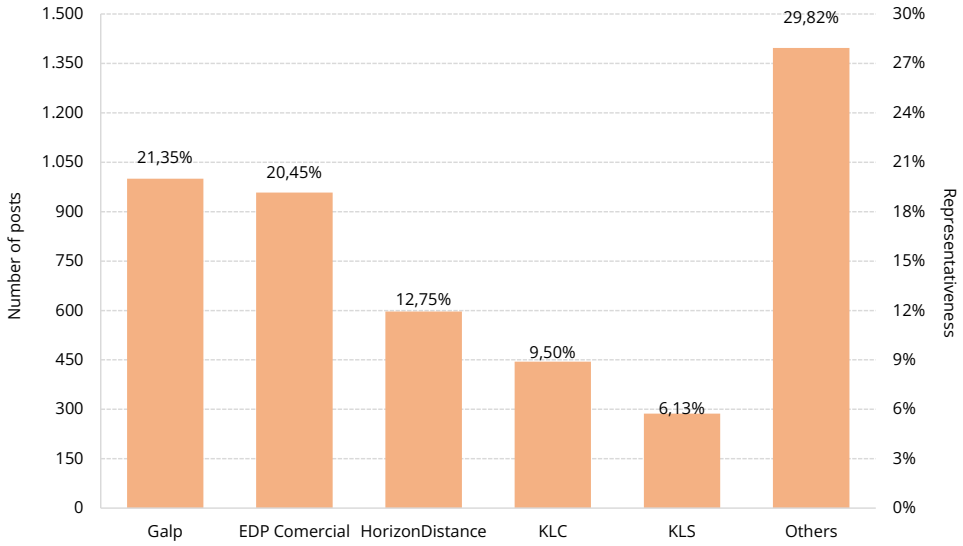
62. **As of April 2024, there were 109 OPCs**[121], **of which 94 had sign an adhesion contract with the electric vehicle recharging network**[122]. **In May 2024, around 55% of the recharging stations integrated in the electric vehicle recharging network were operated by the three most representative OPCs** (see Figure 11). The report published by the EC in October 2023 referred the high number of active OPCs in Portugal, a circumstance that motivated the mention

[116] Pursuant to paragraph 1 of article 14º of Decree-Law nº 39/2010.
[117] Pursuant to paragraph 1 of article 15º of Decree-Law nº 39/2010.
[118] Pursuant to paragraph 8 of article 15º of Decree-Law nº 39/2010.
[119] Pursuant to paragraph 1 of article 22º of Decree-Law nº 39/2010.
[120] Pursuant to paragraph 5 of article 22º of Decree-Law nº 39/2010.
[121] See OPC list published by DGEG updated on 17.04.2024, consulted on 05.05.2024.
[122] See *Mobi.E* website, consulted on 05.05.2024.

to the obligation for CEMEs to be OPCs[123] and the subsequent limitation to access activities of electricity trading for electric vehicle recharging by agents that are not OPCs.

63. **From the analysis of the five major OPCs at a national level, differences arise as for the type of OPC, in terms of business model**. Power Dot, S.A. (HorizonDistance), KLC and Kilometer Low Cost II Serviços, S.A. (KLS) emerge as *independent pure players*. EDP Comercial already acted in the production, purchase and sale of electricity and Galp already acted in the purchase and sale of energy and in the operation of service areas.

Figure 11. Recharging stations integrated in the electric vehicle recharging network operated by each OPC and representativeness of these agents in May 2024



Data source: Mobi.E. Data processing: AdC. Data collection date: 15 May 2024.

Notes: (i) The OPC identified as "Galp" includes Galp Power, Galpgeste and Mobiletric, Lda., due to the inclusion of these entities in Galp Energia, SGPS, S.A.; and (ii) the OPC identified as "KLC" includes Atlante Infra Portugal, S.A. and Kilometer Low Cost, S.A., since the latter was integrated in the first.

64. **It is expected that electric vehicle drivers would prefer to charge their vehicles in the vicinity of their location at the time of that operation**. As such, it is pertinent to develop an analysis comprising the operation activity of recharging points integrated in the electric vehicle recharging network with a more limited geographic scope than the national scope, by adopting a disaggregation of information for each municipality.

65. **In the context of mergers and acquisitions, the AdC and the EC have already defined, albeit not precisely, the markets in question based on location and recharging speed**[124]. In particular, the following markets have been identified:

(i) the market for the installation and operation of normal and fast recharging stations outside the motorway, at a local level;

(ii) the market for installing and operating ultra-fast recharging stations outside the motorway, at a local level;

(iii) the market for installing and operating fast recharging stations on the motorway, at a local or national level with elements of local competition; and

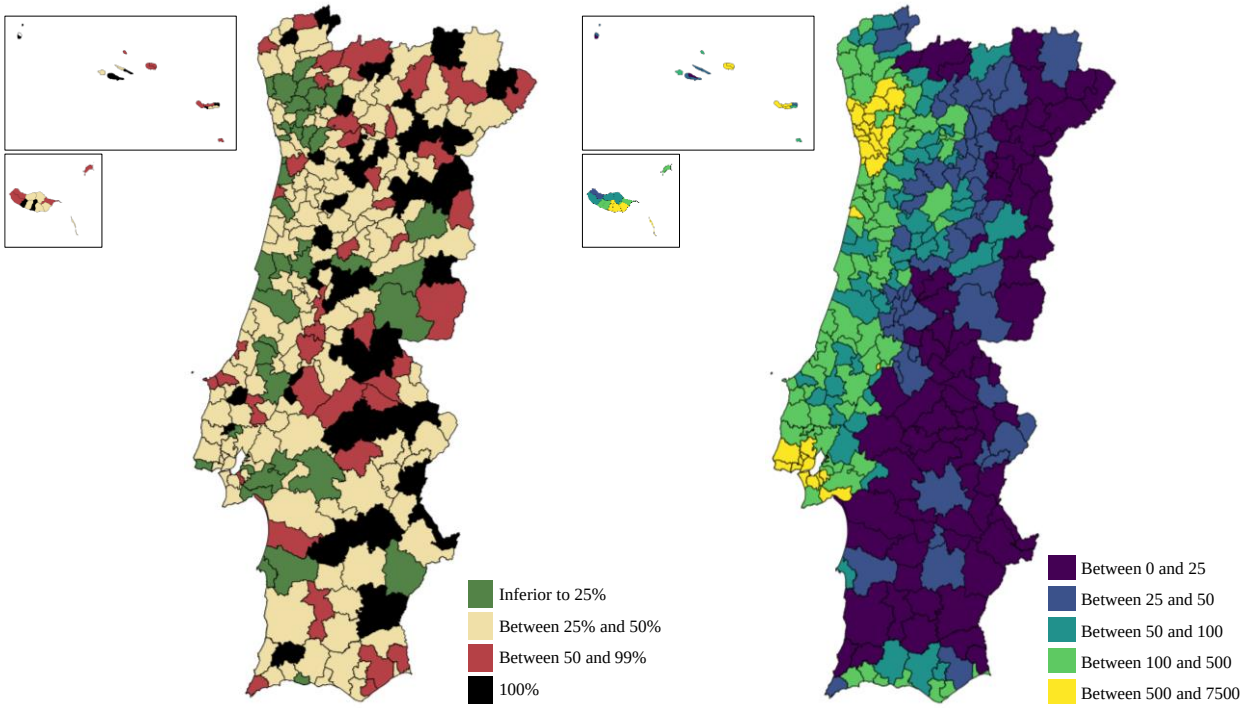
[123] Pursuant to paragraph 1 of article 7º of Decree-Law nº 39/2010 (see paragraph 41).
[124] AdC - Ccent. 47/2021, Galp Power / Mobiletric, and CE - COMP/M.8870, E.ON/Innogy, respectively.

(iv) the market for for installing and operating ultra-fast recharging stations on the motorway, at a local or national level with elements of local competition.

66. **Given the location-based delimitation, the analysis presented hereafter only takes into consideration the activity outside motorways** (including all recharging stations), while activity on motorways is analysed in the following section.

67. **In May 2024, 20% of the municipalities were covered by only one OPC** (see Figure 12). **In these municipalities, the population density tends to be low**, thus being expected a narrowed number of operators. In fact, in general, the lower the population density of a given region, the less commercially attractive it is to invest in these areas, given the lower degree of expected use of recharging points, and, consequently, the lower number of competitors.

Figure 12. Representativeness of the major active OPC in each municipality and number of inhabitants per Km2 per municipality in May 2024



Data source: Mobi.E and INE. Data processing: AdC. Data collection date: 7 and 10 May 2024, respectively.

68. **To this extent, one expects a negative correlation between the representativeness of the major active OPC in each municipality and the population density of that municipality**. This relationship is determined based on the graphical representation of these variables (see Figure 12) and also in the average population density of the municipalities by category of representativeness of the major active OPC in each municipality (see Table 2).

Table 2. Average population density of municipalities by category of representativeness of the major active OPC in each municipality, in May 2024

Representativeness	Number of inhabitants per Km²
Less than 25%	204,1
Equal to or greater than 25% and less than 50%	142,8
Equal to or greater than 50% and less than 100%	57,9
100%	23,6

Data source: Mobi.E and INE. Data processing: AdC. Data collection date: 7 and 10 May 2024, respectively.

69. One should refer that the disaggregation of the analysis presented based on loading speed does not change the qualitative conclusions. By proceeding with the same exercise, disaggregating the points in terms of power level, one should obtain similar conclusions to those indicated by the overall analysis.

III.4.4. The electric vehicle recharging network on motorways

70. **The current legislative framework enables to extend contracts for (sub)concession of service areas or fuel supply on motorways to the installation and operation of recharging points**. In particular, current concessionaires, sub-concessionaires or operators of service or fuel supply areas with access to public or similar roads may request an amendment to their license to include the installation, availability, operation and maintenance of recharging points[125]. The implementation of this option limits the entry of operators in the provision of recharging points on motorways.

71. **To this extent, one of the strategic factors in terms of recharging electric vehicles on motorways is the network of service areas and fuel stations**.

72. **In 2019, the existing 141 motorway gas stations[126] were operated, exclusively by long-term sub-concession contracts (on average, about 20 years), by five operators**[127]: (i) by Galp (33,3%); (ii) by BP (27,7%); (iii) Repsol (17,7%); (iv) by Cepsa (17,0%); and (v) by Prio Energy, S.A. (Prio) (4,3%). To that extend, around 96% of these installations were operated by vertically integrated oil companies (Galp, Repsol, BP and Cepsa). Thus, there is a reduced diversity of operators and low competitive dynamics in the sale of liquid road fuels on motorways, as concluded by the AdC in 2012[128] and 2018[129].

73. **In May 2024, around 71% of the petrol stations located in motorway service areas had at least one recharging point for electric vehicles**[130], with nine of the service areas in question having recharging points in only one direction of the motorway. This indicator clearly contrasts with the percentage of 27% recorded in December 2019[131].

[125] Pursuant to paragraph 4 of article 25º of Decree-Law nº 39/2010.
[126] They correspond to 70 double service areas (in which each direction is counted individually) and a single service area.
[127] See Report entitled "*Road Infrastructure Concessions – Portugal 2019*", published by AMT in February 2021.
[128] See "*Analysis of the impact of the introduction of fuel price panels on motorways*", published by the AdC on 24.07.2012.
[129] See "*Analysis of the liquid road fuels sector in mainland Portugal: Report – Non-confidential version*", published by the AdC on 07.06.2018.
[130] Data source: Mobi.E. Data processing: AdC. Data collection date: 07.05.2024.
[131] See Report entitled "*Road Infrastructure Concessions – Portugal 2019*".

74. **With regard to the power available, in May 2024, motorways accounted for about 18% of ultra-fast recharging sockets**. The use of this type of technology is related to the average time it takes to reach 80% of the load. Drivers are, naturally, limited to the time they have to charge.

75. **Four of the existing OPC on the motorways (Galp, Prio.E – Mobility Solutions, Lda. (Prio.E), Cepsa and Repsol) are also oil companies** (see Table 3). These entities, operating their respective fuel stations, are present in about 62% of the gas stations that have, at least, one recharging point. In particular, the installation and operation of recharging points in motorway service areas exploited by these companies are made by:

(i) in the cases of Galp and Prio, directly, by these entities;

(ii) in the case of Cepsa, by IONITY (at most of the recharging points) or, directly, by this entity (at the remaining recharging points);

(iii) in the case of Repsol, by EDP Comercial (at most recharging points) or, directly, by this entity (at the remaining recharging points); and

(iv) in the case of BP, by EDP Comercial (at most recharging points) or by GRCAPP, Lda. (GRCAPP) (at the remaining recharging points).

Table 3. Petrol stations located in motorway service areas with at least one electric vehicle recharging station, per OPC, in May 2024

OPC	Filling stations with recharging stations	Recharging stations	Motorways
Galp	48	60	A1, A2, A4, A5, A6, A7, A8, A12, A13(S), A22, A23, A25 and A28
EDP Commercial	27	37	A1, A2, A4, A6, A9 and A26-1
IONITY	9	10	A1, A2, A3, A6 and A23
Prio.E	6	6	A13(N), A16 and A25
Cepsa	4	6	A1 and A23
Repsol	8	10	Node A1/A23, A8, A17, A25 and A29
GRCAPP	1	4	A4
Total	**103**	**133**	

Data source: Mobi.E. Data processing: AdC. Data collection date: May 7, 2024.

Notes: (i) The OPC identified as "Galp" includes Galp Power and Galpgeste, due to the inclusion of these entities in Galp Energia, SGPS, S.A.; and (ii) the OPC identified as "Cepsa" includes Cepsa and Propel, due to the inclusion of these entities in *Compañía Española de Petróleos, S.A.*.

76. **It should also be noted that partnerships have been established in the field of exploration of recharging points involving oil companies**, operating petrol stations located in motorway service areas (see Box 5).

III.5. PRICES

77. **In 2023, the acquisition cost of a new electric vehicle was still, on average, higher than the acquisition cost of a vehicle equipped with a new internal combustion engine**[132]. This occurred despite the reduction in the production costs of electric vehicles in the preceding years, to which contributed the scale production of these vehicles, the technological evolution of batteries and the price of raw materials on international markets. However, this differential in

[132] See Report entitled "*EV price gap: a divide in the global automotive industry*", published by *JATO Dynamics Ltd.* on 26.10.2023.

terms of vehicle acquisition costs may be reduced by the implementation of various public support measures to electric vehicle recharging (see Box 2).

78. **As regards the cost of recharging or refuelling, electric vehicles are currently generally more competitive than vehicles equipped with an internal combustion engine**. Indeed, in June 2024, travelling a distance of 100 kilometres was, on average, more expensive (around 4%) using an electric vehicle than using a vehicle with an internal combustion engine, provided that the electric vehicle was charged on the electric vehicle recharging network and the vehicle with an internal combustion engine used diesel[133].

79. **However, in general, if the recharging operation is carried out through a CEME, before the operation, electric vehicle users are unaware of the total amount they will pay for the recharging.** In fact, consumers are aware of the applicable tariffs for energy and the use of the recharging point, but the other cost components and the specific amount to be paid are only known when the CEME invoice is received, which is usually monthly. This uncertainty regarding the cost of recharging an electric vehicle may represent a significant barrier to the transition to electric vehicle recharging.

80. **The tariffs charged at the recharging points vary based on three** variables (see Table 4): (i) the number of charges, with the price expressed in € per charge; (ii) the amount of electricity charged, with the price expressed in € per kWh; and (iii) the duration of the parking time at the recharging point, with the price expressed in € per minute.

Table 4. Pricing structure by type of recharging applied in the electric vehicle recharging network

Pricing structure	Number of outlets per recharging type			
	Normal	Semi-fast	Fast	Ultra-fast
€/recharging	3	42	0	0
€/kWh	0	10	23	83
€/minute	636	1.203	596	10
(€/recharging)+(€/kWh)+(€/minute)	2	592	1.126	194
(€/recharging)+(€/kWh)	0	203	84	8
(€/recharging)+(€/minute)	58	3.339	1.985	50
(€/kWh)+(€/minute)	0	68	0	2
Total	**699**	**5.457**	**3.814**	**347**

Data source: Mobi.E. Data processing: AdC. Data collection date: May 7, 2024.

81. **The tariffs charged at around 75% of the outlets in the electric vehicle recharging network are based on a structure with at least two prices**, with particular emphasis on the use of a structure based on the number of charges and the duration of the parking time at the recharging point. It is also noted that, in the case of single-price structures, as the power of the recharging points increases, the variable associated with the amount of electricity charged (€ per kWh) tends to be used in an increasing number of outlets, unlike the variable associated with the duration of parking time at the point (€ per minute).

[133] See information entitled "*How much does it cost to travel 100 km with a 100% electric vehicle?*", published by UVE and consulted on 26.08.2024.

82. **The different pricing structures adopted, which vary by type of recharging, can make the price comparison exercise difficult and complex**, hindering the decision-making process of consumers regarding the recharging point to be used.

83. **In fact, the inability to understand the price to be paid for recharging has been identified as one of the main difficulties experienced by electric vehicle users** (see Box 7). This aspect has also been highlighted in several contributions received by the AdC in the context of the public consultation.

Box 7. Users' experience regarding the recharging price

According to the survey conducted by ACP[134], in 2023, and with regard to respondents with an electric vehicle in Portugal:

- the following main difficulties were identified when recharging is carried out in public locations: inability to locate available and functioning recharging points (41%), lack of information about the prices applied at recharging points (24%), expenses and consumption control (24%), access and unlocking of charges (21%), and inability to reserve a recharging point before arriving at the location (16%);
- 30% reported having difficulty understanding the price they pay to the CEME for electricity, which is more significant for people over 54 years old; and
- 40% reported paying with their CEME card when using a recharging point, 28% reported paying through the CEME app, and 26% reported using a specific app.

The results of the survey by the Association for the Modernization of Electric Vehicle Recharging (AMME)[135], of 2022, point to the following aspects:

- **93,2% express that the most important factor is knowing the price they will pay at the end of the recharging**, through a fixed price per recharging unit, and the preferred unit for 78,6% is €/kWh; and
- **74,8% prefer a fixed price per energy and/or time unit** over a variable price that changes depending on the day of the week and/or the time of day.

84. **Additionally, it is worth noting that the recharging price increases with the power of the recharging points** (see Table 5). In terms of dispersion, the variable associated with the number of charges (€ per charge) shows the greatest deviation from the average in normal recharging points.

[134] See footnote 70.

[135] See AMME Survey of November 2022. The survey was conducted online and sent via email to AMME email subscribers, with 412 valid responses obtained, the vast majority of which were from respondents with an electric vehicle (96,8% of the sample).

Table 5. Mean and standard deviation of prices per type of recharging applied to the electric vehicle recharging network

Pricing structure	Charging Type							
	Normal		Semi-fast		Fast		Ultra-fast	
	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation
€/charging	0,087 €	0,151	0,314 €	0,048	N.a.[136]	N.a.	N.a.	N.a.
€/kWh	N.a.	N.a.	0,168 €	0,036	0,300 €	0,000	0,406 €	0,106
€/minute	0,006 €	0,003	0,032 €	0,018	0,082 €	0,021	0,230 €	0,026

Data source: Mobi.E. Data processing: AdC. Data collection date: 6 May 2024.

III.6. BARRIERS TO ENTRY AND EXPANSION OF OPERATORS IN THE MARKETS

85. **The legal, economic, and technological framework associated with electric vehicle recharging allows for the identification of a set of barriers to entry and expansion of operators in the markets**. These barriers hinder the development and expansion of an electric vehicle recharging network with adequate, efficient, and competitive coverage.

86. **In order to mitigate or, ideally, eliminate these barriers, a set of recommendations is presented to the Government and Municipalities**, focusing on promoting competition and maximising consumer welfare.

87. In this context, it is noted that the EC and some NCAs have already listed constraints in terms of the electric vehicles recharging network and the user experience of these vehicles (see Box 8), which, when they occur, can be detrimental to the development of the sector. However, it should be noted, that the organisational model in Portugal differs significantly from the predominant organisational model at the European level.

[136] The description "N.a." refers to the types of recharging for which there is no information on the respective pricing structure.

Box 8. Barriers to the entry and to the expansion of operators in the European markets

The reports published by the EC in October 2023[137], the CMA in July 2021[138] and the *Bundeskartellamt* in October 2021[139] refer to a wide and diverse range of concerns with respect to the competition conditions of the markets. The following situations stand out, which, if they occur, entail risks in terms of competition concerns:

(i) integration between OPC and electric vehicle recharging service providers (eMSP)[140];

(ii) integration between OPC and electricity distribution network holders;

(iii) signing of exclusivity agreements between OPC and operators of petrol stations, namely in service areas located on motorways;

(iv) entering into joint ventures between OPCs;

(v) use of public funds for the development of networks of recharging points;

(vi) lack of a private (domestic) recharging point at the residences of electric vehicle drivers;

(vii) high complexity and difficulty in the process of recharging electric vehicles, associated with the location of available functional recharging points, the comparison of recharging point usage costs, and the evaluation of subscriptions and bundled offers involving recharging;

(viii) limited use of tender procedures for the installation of recharging points on public roads; and

(ix) adoption of tender procedures for the installation of recharging points on public roads with rules that distort competition, such as the establishment of maximum caps on recharging prices.

III.6.1. Experience of the electric vehicle users

88. **At the present time, the experience of using an electric vehicle is still generally negative when compared to the experience of using a vehicle equipped with an internal combustion engine**. From the factors contributing to this, the following are highlighted: (i) the recharging time of an electric vehicle[141]; (ii) the types of payment available on the electric vehicle recharging network[142] and, concurrently, the moment of awareness of the recharging cost of an electric vehicle[143]; (iii) the comparability of prices applicable to the recharging of an electric vehicle[144]; (iv) the coverage of the electric vehicle recharging network[145]; and (v) the (im)possibility of recharging an electric vehicle at home[146].

89. **In fact, DECO, within the scope of the public consultation, reported various communications from consumers regarding difficulties related to**: (i) **the cost of vehicle**

[137] See footnote 10.
[138] See CMA "*Electric vehicle charging market study – Final report*".
[139] See "*Sektoruntersuchung zur Bereitstellung und Vermarktung öffentlich zugänglicher Ladeinfrastruktur für Elektrofahrzeuge – Sachstandsbericht*".
[140] A mobility service provider is a legal person that provides services, including recharging or refuelling services, to end-users in exchange for remuneration (pursuant to paragraph 36 of article 2 of Regulation (EU) 2023/1804). In the case of electric vehicle recharging service providers, the services provided are electric vehicle charging services. As such, these agents can only resell the charging service, and there is no need to purchase, at a wholesale level, electricity to provide this service, unlike CEMEs.
[141] Recharging an electric vehicle to 80% of its capacity takes, on average, less than an hour only in the case of ultra-fast recharging (see Table 1).
[142] The electric vehicle recharging network does not yet include recharging points with terminals and/or devices used for payment services (see paragraph 32).
[143] The components of cost beyond the price applicable to the use of the recharging point are only known when the CEME invoice is received (see paragraph 79).
[144] In particular, the different tariff structures adopted by OPCs make comparing prices particularly difficult and complex (see paragraph 82).
[145] In October 2023, the electric vehicle recharging network, although present in all municipalities on the mainland, is particularly limited in inland regions (see paragraph 53) and includes recharging points in only 45,4% of the fuel stations located at service areas on the national motorway network (see paragraph 73).
[146] In 2021, about 42% of classic Portuguese family dwellings do not have a parking space or garage (see paragraph 39).

operations to be borne by consumers[147]; (ii) **the payment methods available at** publicly accessible **recharging points**[148]; **and** (iii) **the coverage of the** electric vehicle recharging **network**[149].

90. **In the same vein, several contributions from individual consumers received by the AdC in the context of the public consultation highlighted the unpredictability of the cost of a recharging session and the complexity of the tariff structure** as barriers to adopting electric vehicle recharging solutions **and/or considered the possibility of payment through bank card readers** at all public access points **to be positive**.

91. **Furthermore, several surveys have already identified the difficulty in understanding the price that will be paid for recharging as one of the main challenges faced by consumers**[150].

92. **This situation has a negative impact on the adoption of electric vehicle recharging, which must be mitigated**, **although it is expected that the experience of electric vehicle users will evolve positively due to technological developments**[151]. In its Report[152], the CMA identified a similar situation, of high complexity for consumers associated with electric vehicles recharging. In this regard, the CMA recommended the Government to promote the simplification of the recharging experience and, in particular, of the access to information relative to the available functional recharging points, the recharging payment process and the retail tariff structure.

93. **The full and timely implementation of the rules of Regulation (EU) 2023/1804 which establish obligations for OPCs related to recharging on an *ad-hoc* basis will benefit electric vehicles users**. In fact, the implementation of these rules will be relevant to ensure that the electric vehicle recharging network integrates recharging points with terminals and/or devices used for payment services. This will bring benefits to consumers, in particular with regard to the moment when the cost of recharging is known, and with regard to the procedures and literacy required to carry out these operations.

94. **Nevertheless, the implementation of these rules raises issues related to the compatibility between the Portuguese and European legal and regulatory frameworks**, as the recharging on an *ad-hoc* basis adopted so far in Portugal does not meet all the requirements set out in Regulation (EU) 2023/1804. In particular, these charges: (i) require the celebration of a (one-off) contract between consumers and an EMSP and, as such, have not been operationalized through the provision of service by the OPCs to consumers; and (ii) in some cases, require consumers to submit a registration, although it is brief.

95. **It is also important to highlight that the payment of recharging with terminals and/or devices used for payment services should be available at all recharging points integrated into the electric vehicle recharging network**, in a manner broader than what is specified in Regulation (EU) 2023/1804, due to its benefits for consumers. This position is in line with the

[147] In particular, the "[u]*ncertainty*" about the cost, the "[i]*nability to compare prices*[,] *which hinders the freedom to choose a charging point based on its usage cost*", and the "[d]*elay in sending invoices to consumers by CEME*".
[148] In particular, the "[a]*bsence of charging points with terminals and/or devices used for payment services (inability to pay with debit/credit cards)*".
[149] In particular, the "[i]*nsufficiency of charging points (with the aggravating factor of the marked geographical asymmetry in network coverage)*".
[150] See Box 7.
[151] Namely, in terms of the capacity of the batteries of the electric motors and the power of the recharging points, with a positive impact on the autonomy and recharging time of the vehicles, respectively.
[152] See CMA (2021) "*Electric vehicle charging market study – Final report*".

stance of the European Economic and Social Committee (EESC) on the matter, according to which "[p]*ayment card readers must be available for all ad-hoc payments*"[153].

96. **It is also noted that, conceptually, in the cost structure of OPCs, the costs related to the installation of terminals and/or devices used for payment services do not appear to be significant *vis-à-vis* the costs of installing recharging points**.

97. **In addition, the integration of recharging points with these accessible terminals and/or devices into the electric vehicle recharging network is expected to improve the experience of electric vehicle users**.

98. In fact, the benefit for consumers arising from the availability of a more accessible payment method for the general public, such as through bank cards, is expected to be considerable, particularly in terms of the moment of knowing the cost of recharging and the procedures required to carry out these operations.

99. Furthermore, greater adoption of electric vehicles will involve users with lower technological literacy[154]. In this regard, even though current electric vehicle users may have a high average level of literacy, it is expected that this level will decrease as the spread of electric vehicles increases.

100. Moreover, the integration of recharging points with terminals and/or devices used for payment services into the electric vehicle recharging network does not prevent the continued availability of current payment methods to consumers, such as physical cards and digital applications from CEMEs/EMSPs.

Recommendation 1 | to the Government

Promote the simplification of the payment method at publicly accessible recharging points. Regulation (EU) 2023/1804, in particular its rules that impose obligations for the OPCs associated with the recharging on an ad-hoc basis, should be fully and timely implemented.

III.6.2. Organisational model of the electric vehicle recharging

101. **The organisational model of the electric vehicle recharging, enshrined in Decree-Law nº 39/2010, seems to be able to be simplified** and less costly, to the benefit of the system efficiency and consumers.

102. **In fact, the legal framework for electric vehicle recharging had its last major change in 2014, at a time when electric vehicle recharging was still in its early stages** in Portugal, driven by the pilot phase of development of an integrated network of recharging points in some municipalities.

103. **Since then, there have been several significant developments at the technological and legislative level[155], which make it pertinent to reevaluate this model** (and its related regulations), with the aim of increasing system efficiency and fostering competition in the electric vehicle recharging sector in Portugal.

[153] See the CESI Opinion on the European regulation proposal on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU, and on the European Commission communication entitled "*A strategic rollout plan to outline a set of supplementary actions to support the rapid deployment of alternative fuels infrastructure*", dated 09.12.2021.

[154] It should be noted that, within the scope of the public consultation, AMME and the Portuguese Association for Consumer Protection – DECO (DECO) highlighted the importance of simplifying the payment and the possibility of payment through terminals or devices.

[155] See chapters II and III.

104. **In particular, the legally enshrined model involves a large number of agents**. This situation may hinder the entry of operators and reduce the efficiency of the system itself, increasing the costs borne by consumers, even though it allows consumers to charge vehicles at any recharging point integrated into the public network after entering into a contract with at least one CEME.

105. **This understanding has been shared, in the past, by different *stakeholders*[156], who advocated for a simpler model, in which the recharging service would be purchased from the OPCs, integrating both OPCs and CEMEs**. The AdC has also been advocating for a reassessment of the current legislative framework aiming to simplify the organisational model of the electric vehicle recharging (see Box 1), highlighting the reduction in the number of agents, namely intermediaries, involved.

106. **In the same vein, more recently, several contributions from individual consumers received by the AdC as part of the public consultation:**

    (i) **considered that the current organisational model of the electric vehicle recharging hinders the integration of the national network with other European networks**, constituting a barrier to entry and/or expansion of operators, to the detriment of consumers in terms of the simplicity of the tariff structure, knowledge of the total cost of recharging, and the offers and functionalities available; and/or

    (ii) **advocated for the integration of the OPC and CEME figures**, as it would simplify the organisational model, contribute to the entry and expansion of operators operating in the European space, enable the broadening of retail offerings, and allow for the simplification of the retail tariff structure, thus increasing price comparability and the predictability of recharging costs.

107. **In a simpler model, with the integration of OPCs and CEMEs, there would be no prior contract with an CEME** or, even, the use a digital application or an *internet* connection for the purpose of paying for the top-up. In addition, the price of the recharging service would freely be determined by the OPCs.

108. **In this (new) model, the EGME's role would have to be adjusted**. The EGME would no longer manage the information flows associated with billing between OPCS and CEMEs, as electric vehicles users would begin making payments directly to the OPCs.

109. **The transition to the new model would represent a paradigm shift in the electric vehicle recharging sector and would encompass two aspects: (i) the integration of CEME's role into the OPCs; and (ii) access to each recharging point through the OPC or, where applicable, through one of the mobility service providers** with whom that OPC has established a partnership.

110. **It is worth noting that the adoption of the new model would result in the adoption of a definition of a OPC in line with the definition of OPC provided for in Regulation (EU) 2023/1804**[157], which has direct application in the Member States. According to that definition, an OPC is an entity responsible for the management and operation of recharging points and for providing a recharging service to end-users, including on behalf of and for the account of a mobility service provider.

111. **This would require a comprehensive review of the legal and regulatory framework for electric vehicle recharging**, in order to adapt the roles performed by the OPCs and the EGME to the new model. **Nevertheless, the adoption of the new model would be facilitated by the**

[156] See, for example, the summary document of the comments received by the ERSE as part of its public consultation nº 78, regarding the proposal to amend the electric vehicle recharging regulation.
[157] See paragraph 39 of article 2 of Regulation (EU) 2023/1804.

fact that, at the moment, the legal and regulatory framework intrinsically links the activities of the OPCs and of the CEMEs, as it stipulates that only OPCs are allowed to engage in the electricity retail activity for electric vehicle recharging.

112. **After the adoption of the new model, each consumer, for recharging services beyond an *ad-hoc* basis, would contract the provision of the vehicle recharging service with at least one OPC or mobility service provider**. From that moment on, the consumer would be able to recharge vehicles at recharging points operated by the respective OPC or by OPCs partnered with the respective mobility service provider.

113. In that model, **each OPC and each mobility service provider would freely determine the retail prices** applicable to vehicle recharging **(while taking into account the wholesale costs they incur)**.

III.6.2.1. Main advantages associated with the adoption of the new model

114. **As identified in some contributions received by the AdC during the public consultation, the adoption of the new model aims to promote direct benefits for consumers in terms of retail prices applicable to vehicle recharging, including:**

(i) **simplifying prices from the consumers' perspective**, which would mitigate their difficulty in understanding the applicable price and comparing prices of alternative service providers. In extreme cases, this difficulty could discourage consumers from using the electric vehicle recharging network, including hybrid vehicle users opting not to use the network in favor of road liquid fuels;

(ii) **the potential increase in transparency regarding prices and the cost of recharging operations borne by consumers,** through the display of this information at the recharging point; and

(iii) **the expansion of the range of offers that OPCs could provide**, particularly through the extension of potential discounts applicable to the use of recharging points, which at present cannot depend on the consumer and/or the type of consumer using the infrastructure; and

(iv) **the elimination of intermediation costs associated with CEMEs**.

115. In fact, the need to simplify the price and to provide clarity on the total cost of recharging is one of the main concerns raised by individual consumers, DECO, and AMME. Alongside other essential aspects, such as a dense and competitive public recharging network, simplifying the price can be a decisive factor in attracting a greater number of consumers to electric vehicles instead of internal combustion vehicles, at the time of acquiring a vehicle.

116. **In addition, the adoption of the new model would be expected to result in a decrease in the EGME's costs**, borne by agents and, consequently, by consumers. In fact, the EGME would at least cease to manage the information flows necessary for invoicing between the OPCs and the CEMEs, which is one of the current responsibilities of this entity.

117. **The adoption of the new model would also enable OPCs to use electricity generated by energy production units for self-consumption**. This would allow these agents to reduce their costs, which could potentially lead to lower retail prices, to the benefit of consumers.

118. Finally, it should be noted that **that aligning the model adopted in Portugal with the predominant model in the EU, which would result from adopting the new model, could potentially lead to fewer entry barriers in Portugal** by requiring less technical and operational adaptation from operators.

III.6.2.2. Main disadvantages associated with the adoption of the new model

119. The adoption of the new model raised some concerns because it involves the integration of two types of entities (from CEMEs into the OPC).

120. **Some contributions received by the AdC during the public consultation intended to illustrate that the adoption of the new model could potentially lead to an increase in local market power at the level of OPCs**. This effect, according to the contributions, is mitigated under the current model by the existence of a cost component incurred by consumers that is associated with the service provided by the CEMEs. For each vehicle recharging operation, the competitive pressure would become more dependent on the offers made available at competing recharging points (which may be operated by a single OPC) compared to the current situation. The relevance of this effect would be inversely proportional to the number of OPCs present in a given geographic area and, as such, would tend to be greater in areas with fewer available OPCs.

121. **Additionally, some contributions received by the AdC during the public consultation warned that the principle of universal access to electric vehicle recharging services could be jeopardized by the adoption of the new model**. In fact, the new model does not provide for any obligation of universality. As a result, the ability to charge vehicles at any recharging point within the electric vehicle recharging network through the service agreement with a single agent (such as a CEME) would no longer be guaranteed.

122. **Another concern identified in the public consultation was related to the incentives of OPCs to establish partnerships with mobility service providers**, who would become their competitors in retail markets, a concern similar to the risks associated with the integration between OPCs and mobility service providers identified in the report published by the EC. According to some contributions received by the AdC during the public consultation, this could result in the absence of partnerships or in partnerships being established under conditions that would place mobility service providers at a competitive disadvantage compared to the OPCs.

123. **It was also pointed out that some OPCs that are not CEME and some agents interested in becoming OPCs may have no interest in engaging in the activity of a CEME,** preferring instead to specialize in the operation of recharging points. As such, according to some contributions received by the AdC during the public consultation, these agents might either exit the market or refrain from entering it if the model required them to also establish a relationship with consumers.

124. **The following examines those concerns arising from the adoption of the new model**.

125. With regard to the regime of universal access to electric vehicle recharging services and the incentives for OPCs to establish partnerships with mobility service providers, there are factors that would contribute to mitigating the negative effects of adopting the new model.

126. **One way to ensure universal access would be the expected spread of the possibility of recharging on an *ad-hoc* basis**, with more accessible payment methods for the generality of consumers, associated with the implementation of Regulation (EU) 2023/1804[158] and the expected increasing demand for this type of recharging. In fact, as long as this type of recharging is available, each electric vehicle user would be able to access any recharging point.

127. **In the same vein, the activity of mobility service providers would allow the use of the recharging points operated by the various OPCs with which these agents would have established a partnership**, thus enhancing the universal access regime.

[158] Which imposes this possibility on various types of recharging points (pursuant to article 5 of Regulation (EU) 2023/1804).

128. **Additionally, the adoption of the new model aims to align the organisational model of the electric vehicle recharging adopted in Portugal with the predominant model in the EU**, in which agents choose to integrate the activities of OPCs and mobility service provider[159]. Given the increase in the growth rate of integrated agents, this model is expected to become even more prevalent in the future[160].

129. **Moreover, in the EU, there is a widespread use of bilateral agreements between OPCs and mobility service providers**[161], even though these agreements do not include all rival mobility service providers.

130. **This suggests that agents will, in principle, have incentives to ensure some degree of interoperability in the market**[162]. In particular, interoperability: (i) for OPCs, increases the use of their infrastructure, helps them attract consumers and provides them a new revenue stream; and (ii) for mobility service providers, it increases brand loyalty and enhances the quality of the service provided.

131. Moreover, the five OPCs with the most infrastructure have been operating a significant number of recharging points integrated into the electric vehicle recharging network (around 70% in May 2024[163]). As such, if this situation continues, it is expected that, in the model resulting from the adoption of the new model, contracting with some (few) OPCs would allow consumers to access a large number of recharging points.

132. **The possibility for OPCs to establish partnerships with mobility service providers would mitigate the potential negative effects of the (partial) misalignment between the interests of the agents and their** legal and regulatory **responsibilities**[164]. Through such partnerships, mobility service providers would perform the functions currently performed by CEMEs, allowing OPCs to specialise in the operation of recharging points.

133. **In any case, under the current model, OPCs are already required, to some extent, to provide the recharging service to consumers**, given the obligations of these agents related to recharging on an *ad-hoc* basis, as set out in Regulation (EU) 2023/1804[165].

134. **Additionally, one of the concerns raised in the contributions received by the AdC during the public consultation is related to the increase in local market power**. In fact, the current model incorporates two active consumer choices: (i) the CEME to be contracted; and (ii) the OPC to be used. The integration of these two agents would result in a single consumer choice: the OPC.

135. **It should be noted, however, that, under the current model, in the amount to be paid by consumers for recharging vehicles, the share of the cost associated with the OPC is already greater than the share of the cost associated with the CEME, despite the fact that the OPC does not have the ability to offer distinctive retail offers to attract consumers**.

[159] See Report published by the EC.
[160] See Report published by the EC.
[161] See Report published by the EC.
[162] See Report published by the EC.
[163] Data source: Mobi.E. Data processing: AdC. Data collection date: 15.05.2024.
[164] See paragraph 123.
[165] See article 5 of Regulation (EU) 2023/1804.

On average, of the amount paid by consumers, the share for the CEME's share[166] accounts for around 25%[167] to 27%[168], while between around 30%[169] and 39%[170] is established by the OPCs[171,172].

136. **It should also be noted that closer commercial contact between OPCs and consumers, along with the expansion of retail offers provided by OPCs and the increase in OPC revenue sources could have a positive effect on the coverage of the electric vehicle recharging network and on the competitive pressure at the OPC level**. Indeed, these factors could result in an increase in the incentives for current OPCs to expand their network, including in geographical areas with fewer OPCs present and, therefore, with a higher degree of concentration, as well as the incentives for new OPCs to enter Portugal[173]. These effects would tend to mitigate the disadvantages associated with the adoption of the new model regarding the potential increase in local market power at the OPC level.

137. **In addition, the number of municipalities with only one OPC decreased from around 32% to around 20%, between October 2023 and May 2024[174], improving the competitive context in the municipalities where this evolution was observed,** thereby mitigating the concerns raised about the potential increase in local market power. It is expected that this downward trend in municipalities with only one OPC will continue, given the expected evolution in the use of electric vehicles.

III.6.2.3. Conclusion

138. It is considered that **the advantages associated with the simplification of the organisational model of the electric vehicle recharging resulting from the adoption of the new model could positively influence the entry of operators into the market** and the adoption of electric vehicles in Portugal, given the expected evolution of recharging on an *ad-hoc* basis and the strong presence of mobility providers in the EU, which ensure some degree of interoperability.

139. **Nevertheless, and to mitigate the potential adverse impact of this simplification on the sector, the transition to the new model could be carried out in phases**. This would allow for the adaptation of the transition process to any unforeseen situations, as well as the softening of the impact of the transition over time on agents and consumers.

140. **In this regard, the adoption of the new model could be carried out, at least, in three phases, with an impact assessment at the end of each phase:**

    (i) **in the first phase, the model for loading on an *ad-hoc basis* suggested by the ERSE would be adopted**;

    (ii) **in the second phase, the role of the OPCs and the CEME would be integrated, and an obligation for the OPCs to allow the use of their equipment by consumers of**

[166] It corresponds to the price applicable to electricity and its commercialisation.
[167] In the case of fast recharging at medium voltage.
[168] In the case of normal low-voltage recharging.
[169] In the case of normal low-voltage recharging.
[170] In the case of fast recharging at medium voltage.
[171] Corresponds to the price applicable to the use of the recharging points.
[172] See the ERSE's opinion on the version of the Study submitted for public consultation, dated 15.03.2024.
[173] For example, Tesla mentioned in its contribution to the public consultation, that it has not expanded its network in Portugal and has not opened it to vehicles from other brands, considering that the *"current market structure in Portugal"* hinders "*the ease of use, price transparency and* [the] *accessibility of a charging session*" and, therefore advocated for the adoption of, namely, the new model.
[174] Data source: Mobi.E and INE. Data processing: AdC. Data collection date: 07.05.2024 and 10.05.2024, respectively.

other OPCs would be established, thereby ensuring universal access to electric vehicle recharging services; and

(iii) **in the third and final phase, the new model would be fully adopted**, by repealing the obligation for the OPCs to allow the use of their equipment by consumers of other OPCs, and universal access to electric vehicle recharging services would then be guaranteed on the basis of *ad-hoc* recharging and the activity of mobility service providers.

Recommendation 2 | to the Government

Promote the simplification of the organisational model, integrating the role of the OPCs and of the CEMEs.

The recharging service would then be purchased to the OPCs or to the mobility service providers, without a prior contract with a CEME, without the need for payment through a digital app or internet connection and with a price freely determined by the OPCs or by the mobility service providers.

The role of the EGME would have to be adjusted to the fact that this entity would no longer manage the information flow related to invoicing between OPCs and CEMEs.

The adoption of the new model could be carried out in a staged manner, with an impact assessment at the end of each phase. In particular:

(i) **in the first phase, the model for loading on an *ad-hoc basis* suggested by the ERSE would be adopted**;

(ii) **in the second phase, the roles of OPCs and CEMEs would be integrated, and an obligation for the OPCs to allow the use of their equipment by consumers of other OPCs would be established**, thereby ensuring universal access to electric vehicle recharging services; and

(iii) **in the third and final phase, the model underlying the recommendation would be fully adopted**, by repealing the obligation for OPCs to allow the use of their equipment by consumers of other OPCs, and universal access to electric vehicle recharging services would be guaranteed based on the basis of *ad-hoc* basis recharging and the activity of mobility service providers.

III.6.3. Exercise of the activity of management of electric vehicle recharging network operations

141. **The Government's decision for the management of the electric vehicle recharging network to be carried out by Mobi.E was based on the knowledge and experience of this entity**[175]. Nevertheless, the Government considered that this decision may be transitory and, in this sense, could remain in force only until there is a further development of the electric vehicle recharging network. When this decision was last made, in 2015, electric vehicle recharging was still in its early stages in Portugal, as it was in the pilot phase of developing an integrated network of recharging points in some municipalities.

[175] See preamble to Order nº 2288/2015 and preamble to Order nº 6826/2015.

142. **Since 2015, the electric vehicle recharging network has developed significantly**, in particular in terms of the number of charges made[176], the number of recharging points[177] and the coverage and geographical distribution of recharging points[178].

143. **Consequently, it is pertinent that the selection of the entity(ies) that will carry out the management activity of the electric vehicle recharging network is re-evaluated**, namely regarding the process adopted to make this selection. The existence of a single EGME appears to be appropriate at the present time, since the centralisation of this activity contributes to the efficiency of its application, given the functions underlying it.

144. **Therefore, it seems relevant to assess the costs and benefits of having the EGME selection process governed by competitive, open, transparent and non-discriminatory market mechanisms**. From a competition perspective, this option would help boosting market competition, to the benefit of economic efficiency. This could result in a reduction of the EGME tariff, to the benefit of consumers.

145. **In fact, the AdC has advocated a set of principles within the procedures for the formation of public service contracts, particularly involving the allocation of exclusive rights, in various sectors**[179]. Among these principles, the following are highlighted:

    (i) the total duration (including any renewals) of a concession contract shall ensure that the service is regularly exposed to competition, in particular:

        – the duration of a concession contract should not exceed the period during which the concessionaire can reasonably expect to recover the investments made for the operation of the services, alongside the remuneration of the invested capital, taking into account the necessary investments to achieve the contractual objectives, as provided for in Directive 2014/23/EU[180]; and

        – a concession must be subject to a (new) public tender, rather than its renewal, after the termination of the respective contract;

    (ii) the contracting authority's ability to adequately and effectively assess the tenders it receives should not be limited by the exclusion of price and service quality as criteria for awarding the concessions; and

    (iii) the concession awarding procedures should not impose unnecessary barriers to the participation of competitors.

146. **These principles should apply, with the necessary adjustments, to the case under consideration**. The adjustments relate, in particular, to the legal form chosen to the allocation of the rights in question, which may be a concession contract, a license or another form.

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[176] See Figure 3.
[177] See Figure 6.
[178] See paragraph 53.
[179] See, for example: (i) Best practices in the context of the conclusion of public service contracts for road passenger transport, of 17.02.2021; (ii) Recommendation of the AdC regarding the concession of the exploration of tourism and sports activity in Serra da Estrela, of 28.07.2020; (iii) Recommendation of the AdC on the regime of access to private use permits for quays on waterways, of 31.01.2019; (iv) AdC's study on competition in the port sector, published on 27.12.2018; (v) Recommendation of the AdC in the context of the liberalisation of rail passenger transport services, of 14.12.2018; (vi) AdC's Action Plan for the legislative and regulatory reform of 13 self-regulated liberal professions and for the road, rail, maritime and port transport sectors, the updated version of which was published in November 2018, prepared within the scope of the "AdC Impact 2020" Project, together with the *Organisation for Economic Co-operation and Development* (OECD); (vii) Comments of the AdC on the proposals for the allocation of municipal concessions for the distribution of low voltage electricity, dated 20.09.2018; and (viii) AdC's analysis of the liquid road fuels sector in mainland Portugal, published on 17.05.2018.
[180] See paragraph 2 of article 18 of Directive 2014/23/EU, on the award of concession contracts.

147. **The evaluation exercise in question should take into account the factors flagged by various contributions received by the AdC within the public consultation**. Among these factors, the following are highlighted: (i) the regulatory elements in force, including the structure and values of the EGME tariffs defined by the ERSE; (ii) the responsibilities of the EGME [181]; and (iii) the technical resources required for the proper provision of the service by the EGME.

Recommendation 3 | to the Government

Evaluate the costs and benefits of selecting the EGME through a mechanism that is competitive, open, transparent and non-discriminatory, as it involves an exclusive right.

This exercise must take into account the factors that are crucial for the development of the activity in question, namely: (i) the regulatory elements in force, including the structure and values of the EGME's tariffs defined by the ERSE; (ii) the responsibilities of the EGME; and (iii) the technical resources required for the proper provision of the electric vehicle recharging network management service.

The AdC has advocated a set of principles within the scope of public service contract formation procedures, particularly those involving the allocation of exclusive rights in various sectors, which should apply, with the necessary adaptations (related, in particular, to the legal form chosen to allocate the rights in question), to the case under consideration:

(i) the total duration (including possible renewals) of a concession contract shall ensure that the service is exposed to competition on a regular basis, in particular:

- the duration of a concession contract shall not exceed the period during which the concessionaire can reasonably expect to recover the investments made for the operation of the services, along with the remuneration of the invested capital, taking into account the necessary investments to achieve the contractual objectives as provided for in Directive 2014/23/EU; and
- a concession should be the subject of a (new) public tender, rather than its renewal, after the expiration of its respective contract;

(ii) the contracting authority's ability to fully and consistently evaluate the tenders it receives should not be limited by the exclusion of price and service quality as criteria for awarding the concessions; and

(iii) the concession award procedures should not impose unnecessary barriers to the participation of competitors.

148. **It is also worth noting that Decree-Law nº 39/2010 provides that the EGME must be an entity with autonomy in terms of legal, organisation and decision-making in relation to OPCs** and entities engaged in activities related to the electricity sector of production, transmission, distribution and trading[182].

149. **However, the autonomy in question is not imposed in relation to the CEMEs.** On the contrary, until 12 June 2014, Decree-Law nº 39/2010 provided that autonomy would also apply in relation to the CEMEs[183], and no justification was identified for this not being provided for in the regulation.

[181] Defined in paragraph 2 of article 21º of Decree-Law nº 39/2010.
[182] See paragraph 1 of article 22º of Decree-Law nº 39/2010.
[183] Pursuant to article 2º of Decree-Law nº 90/2014.

150. **In this context, it is important to highlight that the possibility of the EGME not being independent of the market agents may introduce risks in terms of competition concerns**. Due to its responsibilities, the EGME has access to information about the activities of each agent, whose knowledge by its competitors could significantly harm the competitive environment. Key elements include flows related to energy and financial information, as well as geographical areas of activity.

151. **Therefore, it is considered pertinent that the autonomy of the EGME should apply not only in relation to the OPCs but also with regard to the CEMEs**.

Recommendation 4 | to the Government

Make it compulsory for the EGME to be independent of the CEMEs. In that sense, paragraph 1 of article 22º of Decree-Law nº 39/2010 should be amended to require that the EGME must have autonomy from the OPCs and, also, from the CEMEs.

III.6.4. Exercise of the activity of electricity trading for electric vehicle recharging

152. **The activities of electricity trading for electric vehicle recharging and the operation of recharging points present differences**, which result from the very definition of the activities, namely in terms of: (i) the required financial investment and the respective break-even period; (ii) the necessary technical knowledge; (iii) the ability to influence revenues; and (iv) the relationship with consumers.

153. **It is expected that the entities exercising each of these activities will also be required to have different characteristics**, namely in terms of: (i) financial resources; (ii) knowledge, technical capacity and qualifications of human resources; (iii) material resources[184]; and (iv) organisational structure.

154. **In fact, until 12 June 2014[185], the legal and regulatory framework did not require CEMEs to be OPCs**. Until that time, the exercise of the two activities was subject to distinct and separate regimes (including licensing procedures). From that date, the obligation for CEMEs to be OPCs was provided for in Decree-Law nº 39/2010[186].

155. **The requirements associated with the exercise of the OPC activity outlined in the legal and regulatory framework have not undergone any significant change with the introduction of the obligation for CEMEs to be OPCs**[187]. These requirements were defined based on the specificities and needs of that activity alone, and not also of the activity of electricity trading for electric vehicle recharging.

156. **Furthermore, the number of CEMEs registered with the DGEG has been significantly lower than the number of licensed OPCs**: (i) on 7 February 2024, there were 35 CEMEs[188] and 26 of these agents had signed an adhesion contract in the electric vehicle recharging network[189]; and (ii) on 17 April 2024, there were 109 OPCs[190] and 94 of these agents had signed an adhesion

[184] In particular, facilities, computer equipment and information technology.
[185] Date of entry into force of Decree-Law nº 90/2014, which introduces the obligation of the CEME in question in paragraph 1 of article 7º of Decree-Law nº 39/2010.
[186] See paragraph 1 of article 7º of Decree-Law nº 39/2010.
[187] See paragraph 1 of article 2 of Ordinance nº 1201/2010 and paragraph 1 of article 2 of Ordinance nº 241/2015, in force since 13.08.2015.
[188] See CEME list published by DGEG updated on 07.02.2024, consulted on 05.05.2024.
[189] See *Mobi.E* website, consulted on 05.05.2024.
[190] See OPC list published by DGEG updated on 17.04.2024, consulted on 05.05.2024.

contract in the electric vehicle recharging network[191]. This is consistent with the aforementioned differences between these activities, demonstrating that agents interested in being OPCs do not necessarily have an interest in being CEMEs, and vice versa.

157. **It is also worth noting that OPCs are only required to operate a minimum of one recharging point connected to the electric vehicle recharging network**[192]. It is expected that entities interested in becoming CEMEs but not in becoming OPCs that decide to develop their activity in Portugal will meet this requirement with a very small number of recharging points and, therefore, in a way that is not significant for the development of infrastructure. In this regard, in May 2024, four CEMEs operated only one recharging point integrated into the electric vehicle recharging network[193] and about 38% of CEMEs operated more than 20 recharging points integrated into the same network[194,195].

158. **Given the above, the requirement for CEMEs to be OPC does not appear to be objectively necessary and does not constitute any safeguard for the exercise of the electricity trading activity for electric vehicle recharging. On the contrary, it implies additional costs for entering the market**.

Recommendation 5 | to the Government

Repeal the obligation for the CEMEs to be OPCs. In particular, paragraph 1 of article 7º of Decree-Law nº 39/2010 should be amended to separate the systems of exercise of the two activities in question.

III.6.5. Exercise of the activity of operating recharging points on motorways

159. **The model for operating recharging points on motorways has been based on the possibility for companies holding sub-concessions for fuel supply stations, if they wish, to modify their license to include the relevant activities**[196]. The implementation of this model has resulted in the operation of the recharging points located along motorway service areas by these companies or by OPCs selected by them.

160. **This model limits the entry of market players into the activity of operating recharging points on motorways**, to the detriment of competitive conditions and, consequently, of consumers. This negative effect is compounded by the (structural) space constraints characteristic of the locations in question.

161. **The revocation of the possibility in question is not intended to jeopardize the validity of the current (sub)concession contracts related to service areas or gas stations, but only applies to new contracts**. In this sense, there are no anticipated risks regarding the preservation of the economic-financial balance of current contracts resulting from the revocation of this possibility.

162. **Nevertheless, and with a view to promote competition, it is relevant that the allocation of (new) rights for the installation and operation of recharging points on motorways is**

[191] See *Mobi.E* website, consulted on 05.05.2024.
[192] Pursuant to subparagraph f) of paragraph 1 of article 2º of Ordinance nº 241/2015.
[193] MEO Energia – Comercialização de Energia, S.A., PetroTérmica Energia, S.A., BP Portugal – Comércio de Combustíveis e Lubrificantes, S.A. and EasyCharger, S.A..
[194] It should be noted that there are no recharging stations integrated in the electric vehicle recharging network associated with nine CEMEs.
[195] Data source: Mobi.E and DGEG. Data processing: AdC. Data collection date: 15.05.2024.
[196] See paragraph 70.

carried out through public tenders, rather than renewing current (sub)concession contracts, their respective validity ends. In this context, the total duration (including possible renewals) of a concession contract must ensure regular exposure of the service to competition, as advocated by the AdC[197].

163. **Furthermore, it is not anticipated that the revocation of the possibility in question may result in increased risks associated with ensuring the economic and financial balance of current (sub)concessions**. In this context, it is worth noting that: (i) in the case of users of purely electric vehicles, the sale of the vehicle recharging service does not compete with the sale of liquid road fuels; and (ii) in the case of users of hybrid vehicles, an eventual decrease in revenues from the sale of liquid road fuels would always be offset by the increase in revenues from vehicle recharging and by the reduction in the variable rent paid by sub-concessionaires to concessionaires, which has been indexed to the volume of fuel sales[198].

164. Finally, it should be noted that the revocation of the possibility in question is closely linked to the relationship between the rights to install and operate recharging points in service areas or fuel stations and the (new) public tenders for the (sub)concession of service areas or fuel stations. This matter will be addressed below.

Recommendation 6 | to the Government

Abolish the possibility of extending, without a public tender process, the (sub)concession contracts for service areas or fuel supply areas, in particular, on motorways to encompass the installation and operation of recharging points. In particular, paragraph 4 of article 25º of Decree-Law nº 39/2010 should be repealed.

165. In order to promote competition in the activities of installing and operating recharging points on motorways, **the process for selecting the entities responsible for the operation of recharging points on motorways should be governed by competitive, open, transparent and non-discriminatory market mechanisms**.

166. **In the context of these mechanisms, the possibility of coexistence of different OPCs in the relevant service area should be assessed**. This possibility aims to promote competition in the market, at the time of recharging electric vehicles, since it could generate an increase in the efficiency of operators and, in this way, reduce the costs incurred by consumers when recharging in these locations. Several contributions received by the AdC during the public consultation alerted to aspects regarding the implementation of this possibility, namely concerning the potential sharing of the connection point to the electricity distribution and transmission networks by different OPCs. These aspects should be considered when designing the tender procedure.

167. In order to promote market competition, **the (new) procedures for the concession of service areas or refuelling supply stations should not include the installation and operation of recharging points**. In fact, the retail supply of refuelling stations is substantially different from the retail supply of electric vehicle recharging points. As such, a procedure for allocating rights that necessarily includes both services will exclude agents not qualified to provide both services, negatively affecting market competition and the diversity of OPCs on motorways.

168. **The adoption of the new mechanisms is not intended to undermine the validity of the current (sub)concession contracts associated with service areas or fuel supply stations**,

[197] See Recommendation 3, which outlines the principles that the AdC has advocated in the context of public service contract formation procedures, particularly those involving the allocation of exclusive rights in various sectors.
[198] See Report entitled "*Analysis of the liquid road fuels sector in mainland Portugal*", published by the AdC on 07.06.2018.

but rather to apply to new contracts. It should be noted that the fact that current contracts include the exclusive supply of both liquid road fuels and electric vehicle recharging points does not mean that, in the future, the supply of both services cannot be separated.

169. **As such, the rights to install and operate recharging points at these locations should be granted under the new terms only after the expiration of the respective existing (sub)concession contracts**, in cases where their scope includes the rights in question. In other cases, granting these rights in accordance with the new mechanisms can be done at any time, as the (sub)concessionaires have chosen not to have decision-making power over the activities in question.

170. **This implies that the adoption of the new mechanisms will, in principle, have no effect on the risk associated with the recovery of the investment by OPCs in the recharging points installed at the present time**, since the conditions accepted by OPCs in this regard do not change. In this context, it should be noted that the rights to install and operate recharging points on the motorways in which Brisa is the concessionaire were granted, on an exclusive basis, to the sub-concessionaires of the respective service areas or gas stations until the end of the sub-concessions, on 31 December 2035. From that moment on, the existing goods and equipment necessary for the operation of the recharging points will revert to Brisa. In this context, service levels and conditions for reinforcing the supply of recharging points were defined.

171. These competition concerns, namely the level of concentration in service areas located on motorways, have already been flagged, albeit in different contexts, by other NCAs. For example, in the report published by the CMA in July 2021[199], the CMA considered that the development of the electric vehicle recharging market was hampered by the conclusion of long-term exclusivity agreements between one OPC and three entities operating service areas located on motorways. In this context, the CMA recommended the Government to promote the existence of competition between OPCs in the motorway service areas[200]. These exclusivity agreements were also the subject of a CMA investigation, launched in July 2021, regarding potential infringements of competition law[201]. In March 2022, the CMA closed that investigation, after accepting commitments proposed by the entities involved, as it considered that these commitments addressed the competition concerns raised by the agreements.

[199] See "*Electric vehicle charging market study – Final report*".
[200] Under this recommendation, the UK Government should use the Rapid *charging fund* to achieve this goal, making the allocation of such public support conditional, in particular, on the absence of (future) exclusivity, the allocation of access to network capacity based on public tenders, and the interoperability of the OPCs network with all electric vehicles. The financial allocation of this public fund (of £950 million) should be directed towards strengthening the electricity network to meet the demand for recharging points in service areas located on motorways and on major regional roads where infrastructure installation costs are excessively high making impossible their commercialisation.
[201] See footnote 38.

Recommendation 7 | to the Government

Promote the award of rights to install and operate recharging points on motorways through mechanisms that are competitive, open, transparent and non-discriminatory.

In that context, and with a view to maximise the number of participants in tender procedures and promote a greater diversity of OPCs on motorways:

(i) **the possibility of coexistence of different OPCs** at a given location should be assessed;

(ii) **in the case of allocating exclusive rights, the principles outlined in Recommendation 3 are recommended and should be applied**, *mutatis mutandis* (particularly concerning the legal framework chosen for the allocation of the rights in question), to the case at hand; and

(iii) **the allocation of the rights in question (related to recharging points) should not be included in the (new) public tenders for the allocation of rights to install and operate service areas or petrol stations** on motorways.

III.6.6. Contracting of electricity by the CEMEs

172. **Under the terms of Decree-Law nº 39/2010**[202]**, CEMEs must contract electricity supply from electricity traders or through organized markets. However, this rule does not consider the most recent market agents**, such as aggregators, and the latest forms of electricity production, namely self-consumption (individual and collective) and Communities (renewable energy and citizens), as provided for in Decree-Law nº 15/2022.

173. **In this sense, it is considered important to update the legal framework for electric vehicle recharging** to allow CEMEs to contract electricity for their customers from any market agent and regardless of the form of electricity production.

174. As indicated by several contributions received by the AdC during the public consultation, **the change in the set of possible methods for contracting electricity for vehicle recharging may justify that the legal and regulatory framework for electric vehicle recharging now covers provisions that guide the actions of market agents in related matters**. These matters concern, namely: (i) the possibility of using small and intermittent electricity production operations; (ii) the measurement assumptions adopted; (iii) the possibility of using distributed production for vehicle recharging; and (iv) the distribution of revenues from the sale of electricity by renewable energy communities in which the Municipalities participate for vehicle recharging.

[202] See subparagraph b) of paragraph 1 of article 11º of Decree-Law nº 39/2010.

Recommendation 8 | to the Government

Allow that the CEMEs or the OPCs (depending on whether the organisational model of the electric vehicle recharging is the current one or the one presented in Recommendation 2, respectively) contract electricity from any economic agent that sells it, and not only from electricity suppliers.

In that sense:

(i) subparagraph b) of paragraph 1 of article 11º of Decree-Law nº 39/2010 should be amended in order to allow the contracting of electricity by CEMEs or OPCs from any economic agent that commercialises electricity; and

(ii) the need to include, in the legal and regulatory framework applicable to electric vehicle recharging provisions that guide the actions of market agents in matters related to the potential forms of electricity contracting for vehicle recharging should be assessed, namely: (a) the possibility of using small and intermittent electricity production operations; (b) the measurement assumptions adopted; (c) the possibility of using distributed production for vehicle recharging; and (d) the distribution of revenues from the sale of electricity by renewable energy communities in which the Municipalities participate for vehicle recharging.

III.6.7. Municipalities' Role in electric vehicle recharging

175. As already mentioned[203], there is a significant heterogeneity by region in the supply of recharging stations, which could negatively affect a faster adoption of electric vehicles.

176. **A crucial factor for the development of electric vehicle recharging is the existence of a proportionate and appropriate municipal framework**, which reflects the needs and specificities of each municipality, in addition to the legal and regulatory frameworks at national and European level. The instruments that are part of this framework include municipal planning and land use instruments, mobility and transportation plans, and, in particular, municipal plans, programs, and regulations for electric vehicle recharging.

177. **This framework serves as the basis for planning the activities of the OPCs and, therefore, it is clear and timely definition will allow to mitigate any barriers to the expansion of these agents and contribute to their development across the territory**. In fact, the clear and timely definition of the municipal framework allows operators to understand the intentions of the municipalities in terms of the quantity and location of recharging points, as well as the technical and administrative rules that will govern their activity in each municipality.

178. **However, in most municipalities, the municipal framework for electric vehicle recharging is not yet fully defined**.

179. **Nevertheless, progress has been made in this area**, which is worth highlighting.

180. **Since 2019, several municipalities have approved rules regarding the availability and use of municipal public space for the installation of recharging stations**[204], namely rules

[203] See paragraph 54.

[204] By way of example: (i) on 14.10.2019, the Municipal Assembly of Porto approved the regime for the provision of municipal space for the installation of recharging stations in the Municipality of Porto (see Public Notice nº 1267/2019), which was integrated into the Regulatory Code of that Municipality (in its articles D-9/1 to D-9/16 and in articles 65-A of its Annex G-1 and 65-A of its Annex G-2); (ii) on 15.11.2021, the Municipal Assembly of Oliveira do Bairro approved Regulation nº 17/2022, on the

regarding the installation of these equipment, its location and the fees due for the activity in question.

181. **In several other municipalities, regulatory procedures are underway with the aim of approving such standards**, within which drafts of the relevant standards have already been submitted for public consultation[205]. At least one of these municipalities[206] has adopted temporary rules, to be in force until the final rules come into force.

182. **In order to boost the development of the electric vehicle recharging sector, it is crucial to ensure the timely approval of standards whose regulatory procedures have already been initiated** and the identification of each municipality's needs in terms of recharging points.

183. **In addition, several municipalities have promoted public procurement procedures for the installation, maintenance and/or operation of recharging points in municipal public spaces**. In April 27, 2024[207], information on 23 procedures was identified, which: (i) were promoted by 17 Municipalities[208]; (ii) were published mainly since 2022[209]; (iii) predominantly adopted the public tender format[210]; (iv) were concluded with the award to a wide and diverse range of OPCs[211]; and (v) mainly adopted a contractual execution period, including renewals

occupation of public space and advertising in the Municipality of Oliveira do Bairro, which regulates the occupation and private use of public spaces, namely, with recharging stations in that Municipality (in its articles 55 to 67); (iii) on 20.12.2021, the Municipal Assembly of Caminha approved Regulation nº 32/2022, regarding the granting of the right to private use of public space for the installation of recharging points in public places of public access in the Municipality of Caminha; (iv) on 22.02.2022, the Municipal Assembly of Amarante approved Regulation nº 264/2022, on the provision of municipal spaces for the installation of recharging stations, which was integrated into Regulation nº 165/2022 (in its articles I/94-A to I/94-M), which constitutes the Regulatory Code of the Municipality of Amarante; (v) on 17.06.2022, the Municipal Assembly of Faro approved Regulation nº 844/2022, regarding electric vehicle recharging stations; (vi) on 30.09.2022, the Municipal Assembly of Aveiro approved Regulation nº 976/2022, on mobility management, which, in particular, regulates the occupation of public space for the installation of equipment for the recharging of vehicles in the Municipality of Aveiro (in its articles 79 to 92); (vii) on 11.10.2022, the Municipal Assembly of Matosinhos approved the Municipal Regulation of electric vehicle recharging stations (see Public Notice nº 1643/2022); (viii) on 12.27.2022, the Municipal Assembly of Cabeceiras de Basto approved the Municipal Regulation for the installation of recharging points in public places of public access in the public domain (see Public Notice nº 96/2023); (ix) on 28.02.2023, the Municipal Assembly of Valongo approved the Regulation for the occupation of public space with recharging stations of the Municipality of Valongo (see Order nº 3970/2023); (x) on 05.06.2023, the Municipal Assembly of Mafra approved Regulation nº 780/2023, on the granting of the right to private use of public space for the installation of recharging points in public places of public access in the Municipality of Mafra; and (xi) on 28.09.2023, the Municipal Assembly of Vizela approved Regulation nº 1158/2023, regarding the installation of recharging stations in public places of public access in the public domain.

[205] As an example: (i) on 14.05.2021, the Lisbon City Council submitted to public consultation, for a 30 days, the draft Regulation on the private use of the municipal public domain for the installation and operation of recharging stations in the Municipality of Lisbon (see Resolution of the Lisbon City Council nº 273/CM/2021 and Resolution of the Lisbon Municipal Assembly nº 262/AML/2021); (ii) on 14.06.2022, the Municipality of Cascais submitted to public consultation, for 30 working days, the draft Regulation for the private use of the municipal public domain for the installation of recharging points in the Municipality of Cascais (see Notice nº 11917/2022); and (iii) on 24.02.2024, the Municipality of Vouzela submitted to public consultation, for 30 days, the draft Municipal Regulation for the installation of recharging stations in public places of public access in the public domain (see Notice (extract) nº 4425/2024).

[206] The Municipality of Lisbon.

[207] See the official public procurement portal (hereinafter referred to as the "BASE Portal"), consulted on 27.04.2024.

[208] For the Municipalities of Albufeira, Arcos de Valdevez, Arruda dos Vinhos, Corvo, Covilhã, Figueira da Foz, Guimarães, Maia, Matosinhos, Mirandela, Montalegre, Óbidos, Oeiras, Penafiel, Sabugal, Torres Vedras and Vila Franca de Xira.

[209] 19 were published as of 01.01.2022, two were published in 2021, one was published in 2020 and 1 was published in 2011.

[210] 15 adopted the public tender format, four adopted a framework agreement, two were direct awards and two had the form of prior consultation.

[211] 14 OPCs, which are significantly different in terms of their size, despite the fact that 6 procedures were awarded to Petrogal, S.A..

and/or extensions, of 10 years[212]. It is worth noting that these procedures do not represent all procedures promoted[213].

184. **From a perspective of promoting competition, it is considered that these procedures should be based on the principles that the AdC has advocated in the context of the formation of procedures of public service contracts**, in various sectors, as outlined in Recommendation 3. This is particularly relevant in cases involving the allocation of exclusive rights.

185. **The regional differentiation observed in the electric vehicle recharging network extends to the regulatory framework and is not limited to the infrastructure.** In fact, the standards and procedures defined by the municipalities show significant differences, although these differences may be objectively justified.

186. **With a view to promote greater intermunicipal harmonisation and speed up municipal regulatory procedures, the relevance of developing a good practice document for municipal regulatory procedures should be assessed**. Such an exercise would benefit from the participation of the EGME, which has played a relevant role in promoting the sector at a national level, as well as entities from the electricity sector involved in vehicle recharging. It should be noted that Mobi.E has already mentioned its collaboration with municipalities in developing municipal regulations applicable to electric vehicle recharging[214]. In addition, several contributions have underlined the benefits of a good practice document, which can serve as a foundation for defining the topics to be addressed in the document.

Recommendation 9 | to the Municipalities

Promote, in a timely manner, the regional development of the electric vehicle recharging network, with a view to mitigating regional differentiation, namely through a clear and timely definition of the municipal framework for electric vehicle recharging.

In particular, it is recommended:

(i) **the timely approval of the rules regarding the availability and use of municipal public space for the installation of recharging points in each municipality**, namely in cases in which the respective regulatory procedures have already been initiated;

(ii) **the transparent and timely identification of each municipality's needs in terms of recharging points**, to allow the OPCs to plan the expansion of their activity in a timely manner, reducing barriers to expansion; and

(iii) **the evaluation of the relevance of creating a best practices document within the municipal regulatory procedures necessary** for the regional development of the electric vehicle recharging network, aiming to promote greater intermunicipal harmonisation and the acceleration of municipal regulatory procedures.

[212] 14 adopted the (total) term of 10 years, five adopted the (total) term of 3 years, two adopted the (total) term of 15 years, one adopted the (total) term of 20 years and one adopted the (total) term of 60 years.
[213] As an example, on 23.02.2024, the Municipality of Fundão announced the opening of a procedure, but no reference to it was found on the BASE Portal (date of data collection: 28.04.2024).
[214] See Mobi.E's contribution within the scope of the public consultation.

IV. CONCLUSION

187. In line with other EU countries, the electric vehicle recharging sector in Portugal is in an expansion phase, supported by the sharp growth in sales of new electric vehicles and the ongoing expansion of the public network of recharging points.

188. However, the current organisational structure of the electric vehicle recharging market contains access restrictions and unnecessary costs that affect the use of electric vehicles, reducing the benefits of their use and delaying their adoption.

189. In this context, and in accordance with its Statutes[215], the AdC presents a set of recommendations aimed at promoting competition in the electric vehicle recharging market in Portugal and enhancing consumer welfare.

[215] Among other duties, the AdC is responsible for "*contributing to the improvement of the Portuguese regulatory system in all areas that may affect free competition, on its own initiative or at the request of Assembleia da República or the Government*", and "*formulating suggestions or proposals for creating or revising the legal and regulatory* framework" (pursuant to subparagraph g) of article 5º and subparagraph d) of paragraph 4 of article 6º of the AdC's Statutes, approved by Decree-Law nº 125/2014, respectively).

Recommendations to the Government

Recommendation 1. **Promote the simplification of the payment method at publicly accessible recharging points**. Regulation (EU) 2023/1804, in particular its rules that impose obligations for the OPCs associated with the recharging on an ad-hoc basis, should be fully and timely implemented.

Recommendation 2. **Promote the simplification of the organisational model, integrating the role of the OPCs and of the CEMEs**.

The recharging service would then be purchased to the OPCs or to the mobility service providers, without a prior contract with a CEME, without the need for payment through a digital app or internet connection and with a price freely determined by the OPCs or by the mobility service providers.

The role of the EGME would have to be adjusted to the fact that it would no longer manage the information flows associated with invoicing between the OPCs and the CEMEs.

The adoption of the new model could be carried out in a staged manner, with an impact assessment at the end of each phase. In particular:

(i) **in the first phase, the model for recharging on an *ad-hoc basis* suggested by the ERSE would be adopted**;

(ii) **in the second step, the roles of the OPCs and the CEMEs would be integrated, and an obligation would be established for OPCs to allow the use of their equipment by consumers from other OPCs**, thereby ensuring universal access to electric vehicle recharging services; and

(iii) **in the third and final phase, the model underlying the recommendation would be fully adopted**, by repealing the obligation for OPCs to allow the use of their equipment by consumers of other OPCs, with universal access to electric vehicle recharging services then being guaranteed based on recharging on an *ad-hoc* basis and the activity of mobility service providers.

Recommendation 3. **Evaluate the costs and benefits of selecting the EGME through a mechanism that is competitive, open, transparent and non-discriminatory**, given that this involves an exclusive right.

This exercise should take into account the factors that are crucial for the development of the activity in question, namely: (i) the regulatory elements in force, including the structure and values of the EGME's tariffs defined by the ERSE; (ii) the EGME's responsibilities; and (iii) the technical resources necessary for the adequate provision of the electric vehicle recharging network management service.

The AdC has defended a set of principles within the scope of public service contract formation procedures, particularly those involving the allocation of exclusive rights, in various sectors, which should apply, with the necessary adaptations (particularly regarding the legal form chosen to allocate the rights in question), to the case under analysis:

(i) the total duration (including any renewals) of a concession contract shall ensure the regular exposure of the service to competition, in particular:

- the duration of a concession contract shall not exceed the period during which the concessionaire can reasonably expect to recover the investments made for the operation of the services, along with the return on the invested

capital, taking into account the investments required to achieve the contractual objectives as provided for in Directive 2014/23/EU; and

- a concession should be the subject of a (new) public tender, rather than its renewal, after the expiration of the respective contract.

(ii) the contracting authority's ability to fully and consistently assess the tenders it receives should not be limited by the exclusion of price and service quality as awarding criteria for concessions; and

(iii) the awarding procedures for concessions should not impose unnecessary barriers to the participation of competitors.

Recommendation 4. **Make it compulsory for the EGME to be independent of the CEMEs**. In that sense, paragraph 1 of article 22º of Decree-Law nº 39/2010 should be amended to require that the EGME must have autonomy from the OPCs and, also, from the CEMEs.

Recommendation 5. **Repeal the obligation for the CEMEs to be OPCs**. In particular, paragraph 1 of article 7º of Decree-Law nº 39/2010 should be amended to separate the systems of exercise of the two activities in question.

Recommendation 6. **Abolish the possibility of extending, without a public tender process, the (sub)concession contracts for service areas or fuel supply areas, in particular, on motorways to encompass the installation and operation of recharging points**. In particular, paragraph 4 of article 25º of Decree-Law nº 39/2010 should be repealed.

Recommendation 7. **Promote the award of rights to install and operate recharging points on motorways through mechanisms that are competitive, open, transparent and non-discriminatory**.

In this context, and with a view to maximise the number of participants in tender procedures and promoting a greater diversity of OPCs on motorways:

(i) **the possibility of coexistence of different OPCs** at a given location should be assessed;

(ii) **In the case of allocating exclusive rights, the principles set out in Recommendation 3 are recommended**, which should be implemented, *mutatis mutandis* (particularly concerning the legal form chosen for allocating the rights in question) to the case at hand; and

(iii) **the allocation of the rights in question (related to recharging points) should not be included in the (new) public tenders for allocating the rights to install and operate service areas or** fuel stations on motorways.

Recommendation 8. **Allow that the CEMEs or the OPCs (depending on whether the organisational model of the electric vehicle recharging is the current one or the one presented in Recommendation 2, respectively) contract electricity from any economic agent that sells it**, and not only from electricity suppliers.

In this sense:

(i) subparagraph b) of paragraph 1 of article 11º of Decree-Law nº 39/2010 should be amended in order to allow CEMEs or OPCs to contract electricity with any economic agent that sells electricity; and

(ii) the need to assess the inclusion of provisions in the legal and regulatory framework for electric vehicle recharging should be considered, which guide the actions of market agents regarding issues related to the possible forms of contracting electricity for vehicle recharging, namely: (a) the possibility of using small and intermittent electricity production operations; (b) the assumptions adopted for measurement; (c) the possibility of using distributed production for vehicle recharging; and (d) the distribution of revenues from the sale of electricity by renewable energy communities in which municipalities participate for vehicle recharging.

Recommendations to the Municipalities

Recommendation 9. **Promote, in a timely manner, the regional development of the electric vehicle recharging network, with a view to mitigating regional differentiation, namely through a clear and timely definition of the municipal framework for electric vehicle recharging**.

In particular, it is recommended:

(i) **the timely approval of rules concerning the availability and use of municipal public space for the installation of recharging points in each municipality,** namely in cases in which the respective regulatory procedures have already been initiated;

(ii) **the transparent and timely identification of the needs of each municipality in terms of recharging points**, to allow the OPCs to plan the expansion of their activity in advance, reducing barriers to expansion; and

(iii) the evaluation of the relevance of creating a best practices document within the municipal regulatory procedures necessary for the regional development of the electric vehicle recharging network, aiming to promote greater intermunicipal harmonisation and the acceleration of municipal regulatory procedures.