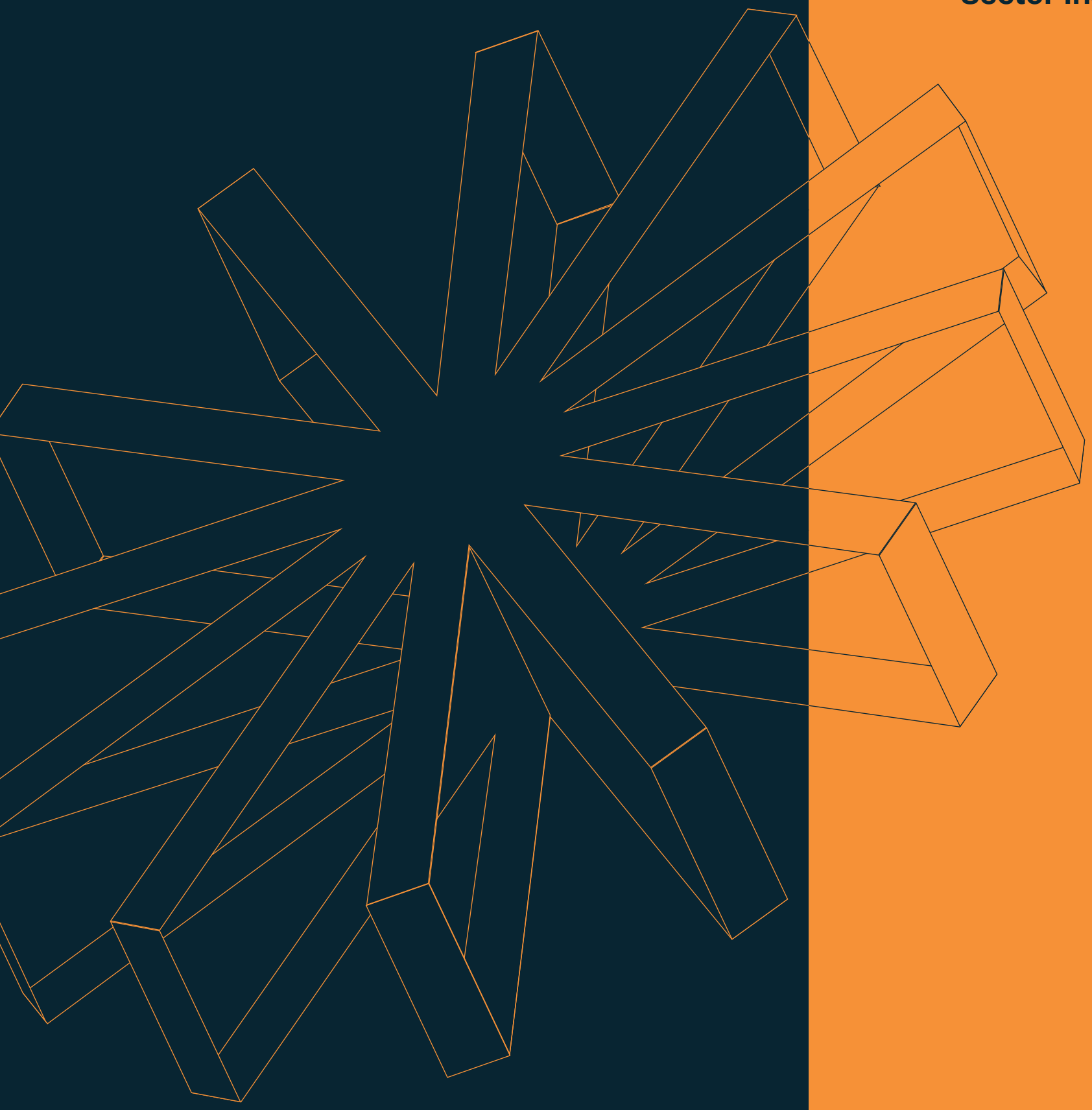
Sector Insights



alinnea report: electric mobility

Value chains driven by mobility electrification in Spain

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EXECUTIVE SUMMARY

The purpose of this document is to present the current state of electric mobility in Spain, analysing the regulatory framework in force, existing incentive schemes, potential obstacles to rollout, and proposals to accelerate its uptake.

Decarbonisation is no longer a choice. Member States, and Spain in particular, have committed to addressing a series of challenges in order to comply with the European Green Deal and advance the transition towards zero-emission mobility. Reducing CO_2 emissions while fostering economic and industrial growth is possible, but it requires a coherent political and regulatory framework that supports Spain's green reindustrialisation and provides the neccesary tools to create opportunities across the automotive value chain.

A number of priority actions have been identified to achieve this shared objective and promote the electrification and decarbonisation of mobility:

1. Coordination of all ministries involved, under the leadership of the Office of the Prime Minister.
2. Reform vehicle taxation through measures such as those targeting corporate fleets, as well as subsidies and grants for the purchase of electric vehicles, incorporating environmental criteria and ensuring they reach consumers and businesses in a direct, simple and predictable way.
3. A National Plan for Charging Infrastructure that addresses Spain's specific challenges, such as low-density areas and access to charging for urban populations without private parking spaces, together with the creation of a National Centre for Charging Infrastructure responsible for rollout coordination and governance.
4. Swift implementation of the e-Credits mechanism.
5. A roadmap for the automotive sector through to 2035.

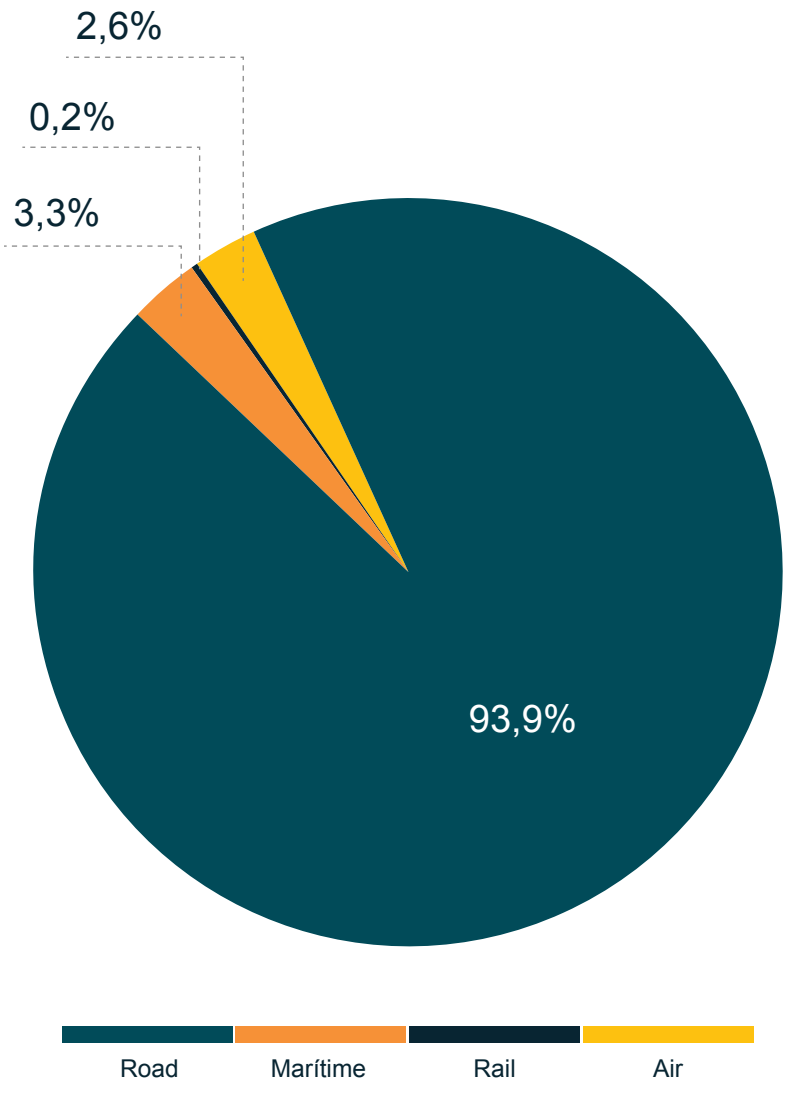
1

Emissions from the transport sector

Road transport is by far the dominant mode of mobility in Spain, for both passengers and freight, accounting for more than 80% of total transport activity nationwide. Several factors explain this predominance: in passenger mobility, the dispersed urban development model; and in freight, Spain's peripheral location within European distribution networks. The sector is also marked by its heavy reliance on petroleum-based fuels, which make up more than 90% of total transport energy consumption.

In 2022, transport-related emissions in Spain reached 90.46 $MtCO_2$ eq (million tonnes of CO_2 equivalent), continuing an upward trend linked to growing demand for passenger and freight mobility. Overall, transport accounts for 30.7% of Spain's greenhouse gas (GHG) emissions, with road transport alone responsible for 28.4%. The contribution of other modes remains comparatively small[1].

% of GHG emissions from the transport sector by mode, 2022



Source: Observatorio del Transporte y la Logística en España

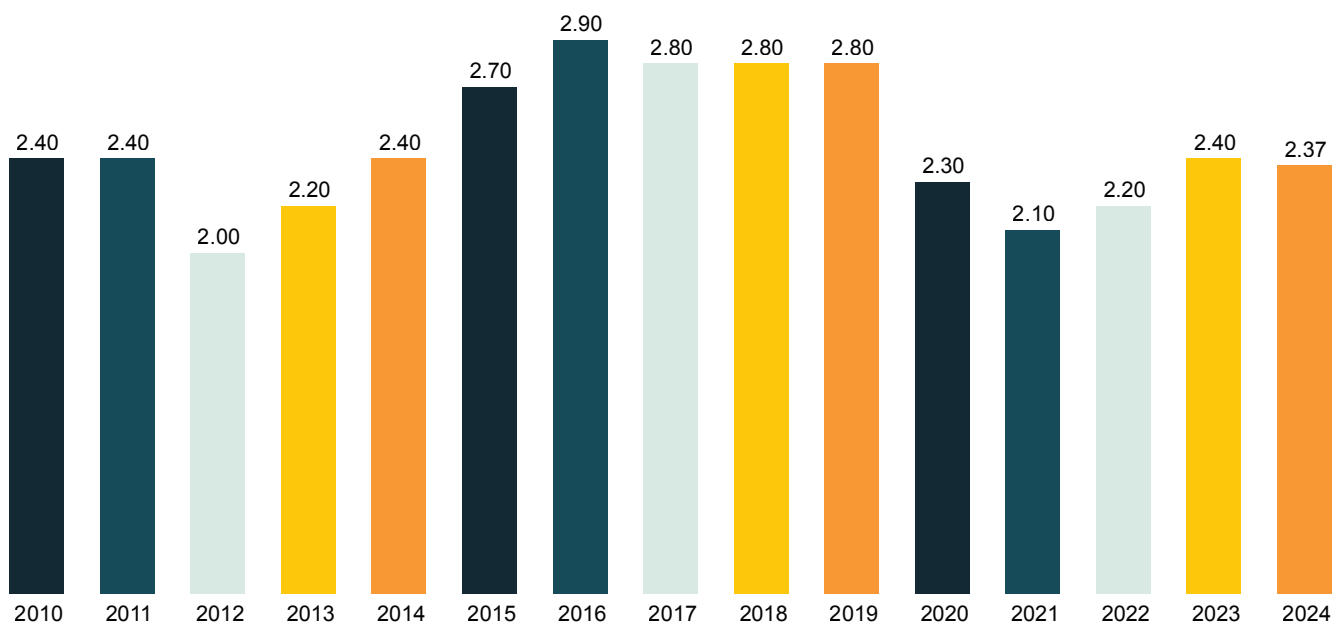
1. https://www.miteco.gob.es/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/transporte.html

2 Current status of electric mobility in Spain

2.1 Vehicle fleet and charging infrastructure

The automotive sector is a cornerstone of the Spanish economy, representing nearly 10% of GDP[2] and 9% of total employment. Spain is the second-largest car manufacturer in Europe, after Germany, and the ninth worldwide. In 2024, annual production stood at around 2.37 million vehicles, a 3% decrease compared to 2023, with approximately 90% destined for export[3]. While these figures are broadly in line with those of a decade ago, the outlook for the coming years appears less favourable than in the previous decade unless decisive measures are taken.

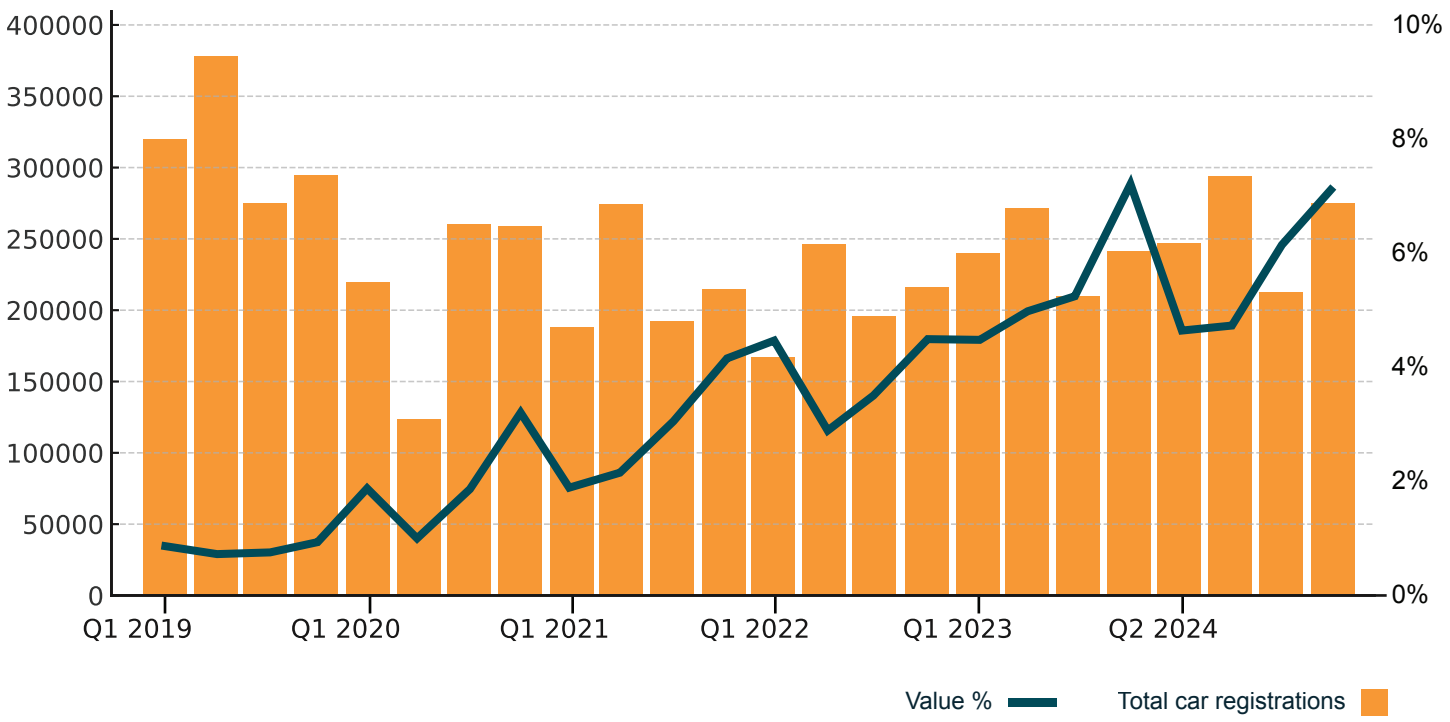
Vehicles manufactured in Spain (millions)



Source: ANFAC

This outlook, which might appear favourable to the rollout of zero-emission mobility, stands in sharp contrast to Spain's performance on transport electrification. In 2023, Spain ranked nineteenth[4] among the 27 EU Member States in terms of electric vehicle registration share, reflecting a worrying lag that poses serious risks for public health, the climate and the long-term competitiveness of the sector. By the end of 2024, Spain had only just exceeded a 5%[5] share of battery electric vehicles, compared with an EU average of 15%. These numbers, together with a decline in vehicle demand and a fleet that is 14 years old[6] underscore the urgent need for a profound transformation of the Spanish automotive sector.

Registrations of battery electric vehicles (BEVs) in Spain

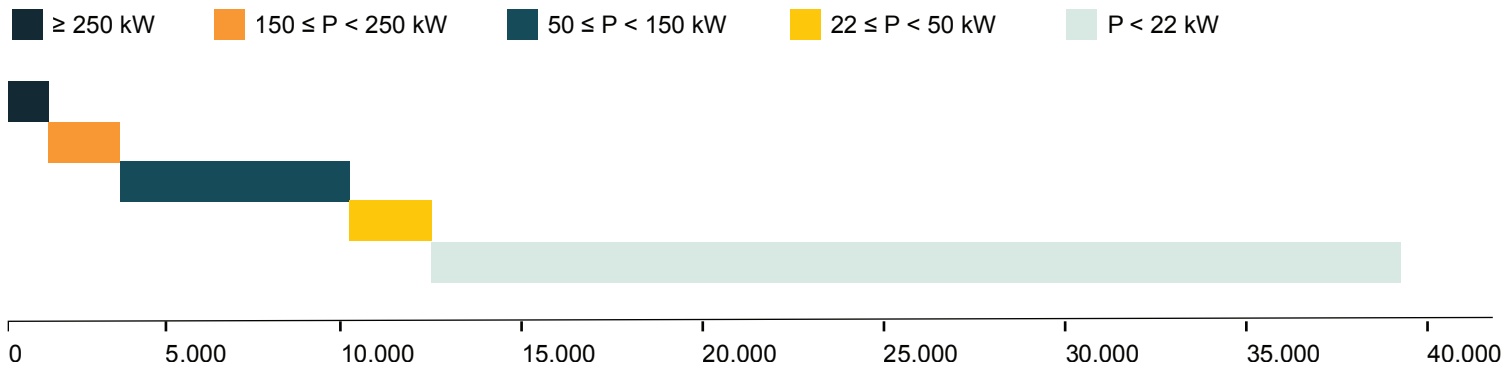


Source: quarterly registrations of alternative-fuel vehicles, ACEA (2024)

2. Source: ICEX Invest in Spain
3. Data from ANFAC
4. Source: Dataforce (2023))
5. T&E. https://www.transportenvironment.org/topics/cars/ev-market
6. Source: ANFAC

Transport electrification depends on the rollout of a reliable, sufficiently dense charging infrastructure that can meet the needs of a growing fleet. In this regard, Spain has a network of more than 38,000 public charging points, of which only around 8.4% are ultra-fast chargers with a power output of 150 kW or higher.

Distribution by power output of public charging points in Spain, 2024



Source: ANFAC Electromobility Barometer (Fourth quarter 2024)

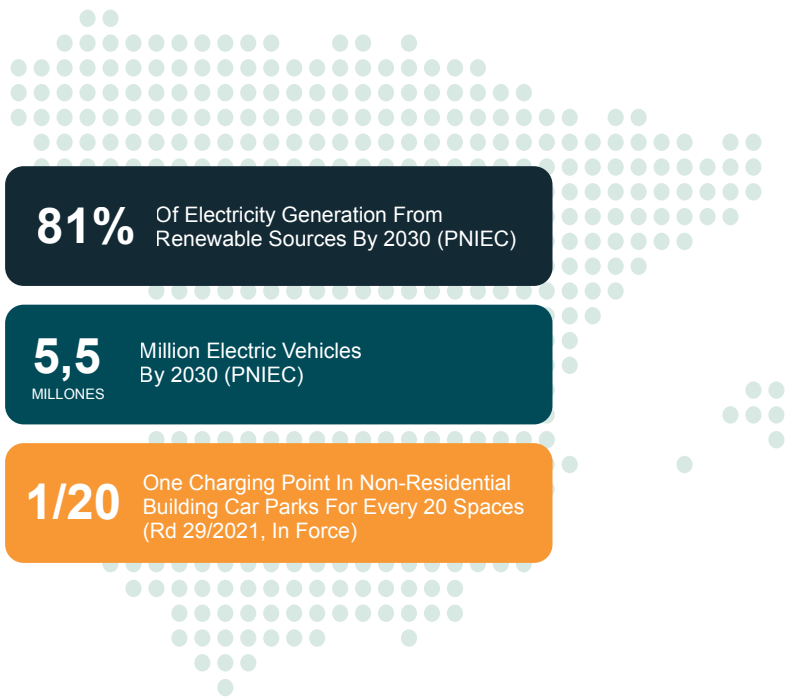
Spain is broadly on track to meet EU targets for electric vehicle charging infrastructure, although the country's less populated provinces are lagging behind (T&E, 2023)[7]. Half of Spain's territory which is often referred to as "depopulated Spain", hosts only 15% of chargers. A National Plan for Charging Infrastructure should be developed to ensure a coherent and reliable charging network nationwide. This should include a clear roadmap through to 2030, as Germany and the Netherlands have already done.

An official charging point registry must also be established to provide users with accurate information on their location and availability.

2.2 Current regulations

In the context of the transition towards a more sustainable economy and the fight against climate change, transport electrification has become a national and international priority. In Spain, current regulations reflect this commitment through a range of laws and decrees governing both electric vehicle usage and charging point installation.

Royal Decree 184/2022 of 8 March establishes the framework for the provision of electric vehicle charging services, in line with the objectives of the **National Integrated Energy and Climate Plan 2021–2030 (PNIEC)**, which sets a target of 5.5 million battery electric vehicles (BEVs) by 2030, including cars, vans, motorcycles and buses. The decree is intended to significantly reduce greenhouse gas emissions by promoting sustainable mobility.



In parallel, **Royal Decree-Law 29/2021** of 21 December sets specific requirements for charging infrastructure, mandating the installation of charging points in non-residential buildings with more than 20 parking spaces.

Furthermore, the **Climate Change and Energy Transition Law (Law 7/2021)** requires all Spanish cities with more than 50,000 inhabitants to implement Low Emission Zones (LEZs) by 2023. To date, of the 149 municipalities required to establish LEZs, around 20 have fully operational zones and 104 are in the process of implementation. However, the absence of binding national criteria to harmonise LEZs across municipalities has limited the effectiveness of this measure. In this regard, Transport & Environment (T&E) has submitted an alternative proposal to the draft Regulation on Low Emission Zones, pursuant to Article 14.3(a) of Law 7/2021. This proposal is set out in the annex to this document.

With regard to the European framework, the Clean Air for Europe (CAFE) regulations on CO_2 emissions from vehicle exhausts will impose even stricter limits on new vehicles from 2025 onwards, with the aim of reducing the environmental impact of road transport. The European Commission has welcomed the regulation on CO_2 emission standards for cars and vans, adopted by the European Parliament and the Council as part of the Fit for 55 package, which requires all new passenger cars and vans registered in Europe to be zero-emission as of 2035. This milestone will help pave the way towards achieving climate neutrality by 2050. To help deliver the 2035 target within the industrial sector, the industryfor2035.org initiative has emerged to boost a sector that is lagging behind in the transition.

Achieving these emissions reductions in the next decade is crucial for Europe to realize the European Green Deal, meet the targets agreed in the European Climate Law, and contribute to radically transforming our economy and society to promote a fair, green, and prosperous future.

7. T&E. Estado actual de la infraestructura de recarga del vehículo eléctrico en España. 2023. https://www.transportenvironment.org/te-espana/articles/estado-actual-de-la-infraestructura-de-recarga-del-ve-en-espana

The new **European Alternative Fuels Infrastructure Regulation (AFIR)** came into force in October of 2023. It is part of the **"Target 55"** or **Fit for 55** package of measures and sets mandatory targets for electric charging infrastructure in the road transport sector. These targets are based on two main criteria: one related to the country's fleet of electrified vehicles, and the other referring to the distance between charging stations.

Under the fleet-based target, Member States must ensure that from 2024 onwards, by the end of each year, publicly accessible charging stations provide at least 1.3 kW of available power per battery electric vehicle (BEV) and 0.8 kW per plug-in hybrid electric vehicle (PHEV). This requirement is designed to guarantee that charging infrastructure for passenger cars and vans grows in line with electrified vehicle fleet expansion.

Trans-European Transport Network

In turn, the distance-based target requires Member States to deploy charging stations at intervals of 60 km along the TEN-T core network and 100 km along the TEN-T comprehensive network.

By 31 December 2025 at the latest, each charging pool on the core network must provide a total available power of at least 400 kW and include at least one charging point with an individual output of 150 kW or more. For the TEN-T comprehensive network, these targets must be met gradually by 2035, with initial obligations entering into force in 2027.

For heavy-duty electric vehicles, charging pools must also be gradually deployed every 60 km on the TEN-T core network, with a minimum available power of 3,600 kW by 2030. On the comprehensive network, pools must be installed every 100 km, with at least 1,500 kW of available power from 2025, reaching full coverage by 2030. In both cases, each pool must include at least one recharging point with an individual output of at least 350 kW.

These provisions not only promote the uptake of electric vehicles but also ensure that charging infrastructure is reliable and widely accessible, thereby contributing to the decarbonisation of the transport sector and meeting Spain's and ultimately Europe's environmental commitments.

8. Definition of "charging group" under AFIR: one or more charging stations located at a given location.
9. Further information T&E. https://www.transportenvironment.org/te-espana/articles/-la-cuota-de-mercado-de-vehiculos-electricos-alcanzara-el-24-en-2025-porque-los-fabricantes-aumentaran-las-ventas-para-cumplir-los-objetivos-de-la-ue-segun-un-analisis-de-t-e

3 Towards an electrified road transport

3.1 Objective: National Integrated Energy and Climate Plan (PNIEC)

Spain has set ambitious goals for transport electrification, with the PNIEC targeting 5.5 million electrified vehicles by 2030. According to AEDIVE, by 31 December 2024 there were 599,877 electrified vehicles on the road, equivalent to just 10.9% of the 2030 target.

Source: AEDIVE Yearbook 2024-2025

The electrification of road transport therefore still has a long way to go and requires a decisive push to accelerate electric mobility. According to T&E forecasts, electric vehicles are expected to reach a 24% market share in Europe in 2025, driven by the increased supply from European manufacturers seeking to comply with EU CO_2 emission standards[9].

Given this scenario, combined with the arrival of Chinese-made electric vehicles, there is a pressing need for a profound transformation of the European automotive sector, and of the Spanish sector in particular. Green reindustrialisation, driven by the shift to electric and sustainable mobility, is emerging as a key strategy to safeguard the sector's competitiveness and future. This approach is embedded in Spain's Recovery, Transformation and Resilience Plan (PRTR), which promotes a sustainable economy through decarbonisation and digitalisation. These measures are expected not only to strengthen competitiveness, but also to boost employment and generate new opportunities in areas such as the circular economy. Investment in sustainable mobility, particularly the transition to electric vehicles, is one of the central pillars of these policies, with significant funds allocated to accelerating clean technology adoption. All these actions are aligned with the EU's overarching objective of achieving climate neutrality by 2050.

3.2 Aid to promote road transport electrification

In summer 2024, the government approved an extension of the **MOVES III** funds[10] allocating an additional €350 million on top of the €1.2 billion already mobilised under the programme, which remained in force until the end of the year. This line of aid, aimed at supporting electric vehicle purchases and charging point installation, provided a stimulus for electric mobility. However, the programme's limited results highlight the need to reform the plan. Section 4.2 Incentives for electric mobility sets out proposals for a future version of the MOVES plan. **MOVES Corredores** is specifically focused on supporting road-based public charging infrastructure deployment and on facilitating compliance with Regulation (EU) 2023/1804 on alternative fuels infrastructure. Finally, **MOVES Flotas Plus** provides additional support at the national level.

Also noteworthy is the **Strategic Project for the Recovery and Economic Transformation of Electric and Connected Vehicles (PERTE VEC)**, approved by the Council of Ministers on 13 July 2021. Through public-private cooperation, this project focuses on strengthening the value chains of Spain's automotive industry, which, as outlined above, is a strategic sector for the country. In the first PERTE VEC call for proposals in 2022, ten flagship projects were approved with a budget of €800 million.[11] As a continuation of this plan, PERTE VEC II was launched to support the reindustrialisation and electrification of production plants. It comprises two components: Section A, dedicated to battery production, and Section B, focused on the industrial value chain of electric vehicles. In this call for proposals, fifteen projects were awarded funding under Section A, with a total budget of €528.7 million in grants[12]. Beneficiaries include Stellantis, Envision, SEAT, Renault and Ford, among others. For Section B, the Ministry of Industry and Tourism approved seven new projects at the end of 2024 linked to the automotive value chain, with a budget of €39.7 million[13]. The closure of PERTE VEC II also resulted in €72 million in loans to finance 29 new projects under Section B[14]. This strategic initiative, part of the **Recovery, Transformation and Resilience Plan (PRTR)**, is expected to mobilise €24 billion in combined public and private investment, with the overarching aim of ensuring that Spain remains one of Europe's leading manufacturers of electric vehicles.

Lastly, in 2024, the government extended state grants to cover electric bicycles, allocating €40 million to promote public bicycle rental systems and to support daily mobility for individuals and delivery companies using this mode of transport in urban areas[15].

3.3 Other climate action measures and regulations

The new **Sustainable Mobility Act**, due for approval in the second quarter of 2025, introduces measures to decarbo-

10. Real Decreto 266/2021, de 13 de abril, por el que se aprueba la concesión directa de ayudas a las comunidades autónomas y a las ciudades de Ceuta y Melilla para la ejecución de programas de incentivos ligados a la movilidad eléctrica (MOVES III) en el marco del Plan de Recuperación, Transformación y Resiliencia Europeo.
11. Ministerio de Industria y Turismo. https://www.mintur.gob.es/es-es/GabinetePrensa/NotasPrensa/2022/Paginas/20221025-distribucion-perte-coches.aspx
12. https://www.lamoncloa.gob.es/serviciosdeprensa/notasprensa/industria/paginas/2023/101123-ayudas-perte-vec.aspx
13. https://planderecuperacion.gob.es/noticias/Industria-aprueba-siete-7-nuevos-proyectos-linea-B-cadena-valor-perte-vec-II-por-39-millones-euros-prtr
14. https://planderecuperacion.gob.es/noticias/Hereu-anunci-cierre-perte-vec-ii-29-nuevos-proyectos-linea-B-72-millones-euros-prtr
15. https://www.lamoncloa.gob.es/presidente/actividades/paginas/2024/120924-sanchez-fomento-transporte-publico.aspx

nise transport. It is designed to provide the regulatory framework that will allow administrations to respond more effectively to citizens' mobility and transport needs as well as to the challenges of the 21st century. The Act is structured around four main pillars:

1. Mobility as a social right
2. Promotion of clean and sustainable mobility
3. Digitalisation and automation of transport and open data
4. Better investment at the service of citizens

Although the law should serve as a tool for achieving climate neutrality, the current draft does not establish specific targets for reducing emissions in the transport sector.[16] As a result, there is a risk that the legislation will remain a catalogue of good intentions, without identifying the modes of transport and fuels to be promoted or setting clear objectives and interim targets for their achievement.

Another significant development on the legislative agenda is the new **Draft Law on Industry and Strategic Autonomy**, led by the Ministry of Industry and Tourism. In July 2024, a public consultation was launched to gather input from individuals and organisations potentially affected by the new regulation. This law forms part of Spain's commitments under Component 12 of the Recovery, Transformation and Resilience Plan (PRTR), identified as milestone 176, related to measure C12.R1 "Spanish Industrial Promotion Strategy 2030."

The manufacturing industry (excluding the energy sector) accounts for 11.6% of Spain's GDP, a smaller share than in many neighbouring countries. However, the sector has considerable growth potential, both due to its direct and indirect economic impact and because of the need to address vulnerabilities exposed by recent crises such as the COVID-19 pandemic, the war in Ukraine and the United States' Inflation Reduction Act (IRA).

In 2023, following the adoption of the United States Inflation Reduction Act (IRA), the European Commission presented the Green Deal Industrial Plan to strengthen the competitiveness of Europe's net-zero industry and accelerate the transition to climate neutrality. The plan is built around several pillars: regulatory frameworks such as the Net Zero Industry Act (NZIA)[17] and the Critical Raw Materials Act (CRMA)[18], funding to boost clean technology production in Europe, and measures to promote reskilling in strategic industries.

This context has made it necessary to replace Spain's current Industry Act, in force since 1992, so as to adapt it to new realities and steer the economy towards a greener and more sustainable model. The extent of the required changes goes beyond what can be achieved through amendments to the existing law, thus requiring a new legislative framework. An initial public consultation was launched in January 2023. At that stage, the draft law did not refer to "decarbonisation," whereas the latest draft now mentions the term 14 times. In light of recent shifts in European industrial policy, a further consultation is needed to bring the draft law into line with these developments.

On the other hand, the **Climate Change and Energy Transition Law**, adopted in Spain in May 2021, establishes an ambitious framework for addressing climate change and moving towards a decarbonised and sustainable economy by the middle of the 21st century. The law places particular emphasis on renewable energy, emissions reduction and a just transition for society. Its main objectives include:

- Climate neutrality by 2050: Spain is committed to achieving net zero greenhouse gas emissions by 2050.
- 2030 reduction target: 23% reduction in greenhouse gas emissions by 2030 compared to 1990 levels.
- Renewable energy share: by 2030, at least 74% of electricity generation must come from renewable sources.
- Transport decarbonisation: by 2050, the transport system must be fully decarbonised; by 2040, all new light and commercial vehicles sold must be zero-emission.
- Green taxation: promotion of an ecological tax reform that taxes activities generating high carbon emissions and encourages sustainable behaviour.

In sum, the law promotes Spain's transition to a decarbonised and sustainable economy by fostering renewable energy, reducing emissions and supporting adaptation to climate change, while at the same time ensuring a just transition that protects the most vulnerable workers and sectors. Its comprehensive approach seeks to mitigate the impacts of climate change while promoting green growth and climate justice.

In addition, the **Strategy for Safe, Sustainable and Connected Mobility 2030** was approved by the Council of Ministers on 10 December 2021. This strategy serves as the roadmap guiding the actions of the Ministry of Transport, Mobility and Urban Agenda (MITMA) in the field of transport and mobility over the next decade. It is structured around nine strategic areas (mobility for all, new investment policies, safe mobility, low-emission mobility, smart mobility, intermodal logistics chains, connecting Europe and connecting to the world, social and labour aspects, and the evolution and transformation of MITMA) comprising more than 40 lines of action and over 150 specific measures.

It is also worth noting the proposed **Renewable Energy Directive (RED III)**. Member States must transpose this third version of the Directive by May 2025, a challenging task given the significant increase in renewable energy ambition for the transport sector.

At the same time, there is continued high demand for biofuels to decarbonise the transport sector. While considered sustainable, their availability is very limited. . This mismatch between demand and supply has led to fraudulent practices and large-scale imports of raw materials such as used cooking oil (UCO)[20]. The following are a few of the recommendations submitted by T&E to the public consultation on Spain's transposition of RED III:

- Require more information from economic operators on compliance with sustainability criteria for biofuels
- Overhaul the biofuel certification system in order to combat fraud
- Reduce the sub-target for advanced biofuels (Part A of Annex IX) to 3.5% and increase the sub-target for renewable fuels of non-biological origin (RFNBOs) to 2%.

The transformation of the mobility model is already a reality, with impacts on Spain's social, economic and industrial fabric, as well as in sectors such as transport, energy, industry and innovation. It is therefore essential that the regulatory framework described above safeguards the interests of all social and economic groups and sectors involved, under the common goal of decarbonising transport. Within this framework, there is a need for public-private cooperation to establish the conditions for achieving this objective while at the same time strengthening national industry. Comprehensive manufacturing, and not merely assembly, of electric vehicles and their entire value chain (for example components, batteries, software and chargers) is a key lever for Spain's green reindustrialisation. At the European level, from 2027 onwards, road transport and building construction will be included in the **EU Emissions Trading System** (EU ETS2).

16. Letter from a coalition of NGOs addressed to Spain's Third Vice-President and Minister for the Ecological Transition, Teresa Ribera. https://www.transportenvironment.org/te-espana/articles/el-proyecto-de-ley-de-movilidad-sostenible-abandona-la-descarbonizacion-del-transporte-2
17. T&E. The Net Zero Industry Act. https://www.transportenvironment.org/uploads/files/TE_Recommendations_on_NZIA.pdf
18. T&E. An industrial blueprint for batteries in Europe. https://www.transportenvironment.org/uploads/files/Summary-an-industrial-blueprint-for-batteries-in-Europe-How-Europe-can-successfully-build-a-sustainable-battery-value-chain.pdf
T&E. Aplicación de la RED III en los Estados miembros europeos.
19.T&E. Aplicación de la RED III en los Estados miembros europeos. https://www.transportenvironment.org/articles/how-eu-states-can-tackle-unsustainable-biofuels-and-promote-cleaner-alternatives
20.T&E. Europe ann US used cooking oil demand increasingly unsustainable https://www.transportenvironment.org/articles/european-and-us-used-cooking-oil-demand-increasingly-unsustainable-analysis ropes-bev-market-defies-odds-but-more-affordable-models-needed

These inclusions are expected to lead to higher energy and fuel bills for households and transport users, with a particularly severe impact on the most vulnerable groups. This measure is therefore linked to the **Social Climate Plan**, which requires Member States to adopt measures aimed at mitigating the effects of ETS2 implementation on vulnerable groups.

4 Challenges identified for the rollout of electric mobility

For over a decade, there have been three main barriers to the large-scale adoption of electric vehicles: purchase price, driving range and charging infrastructure availability. Significant progress has been made in recent years: battery costs have fallen by 90%, vehicle range has increased from 100–150 km to more than 400 km, and the charging network continues to expand. In Spain, the most critical of these barriers remains the purchase price, although there are also other obstacles which, while significant, can be overcome on the path to electrifying road transport.

4.1 Purchase price of electric vehicles

There is no doubt that the purchase price of electric vehicles remains one of the main obstacles preventing drivers from choosing this option.

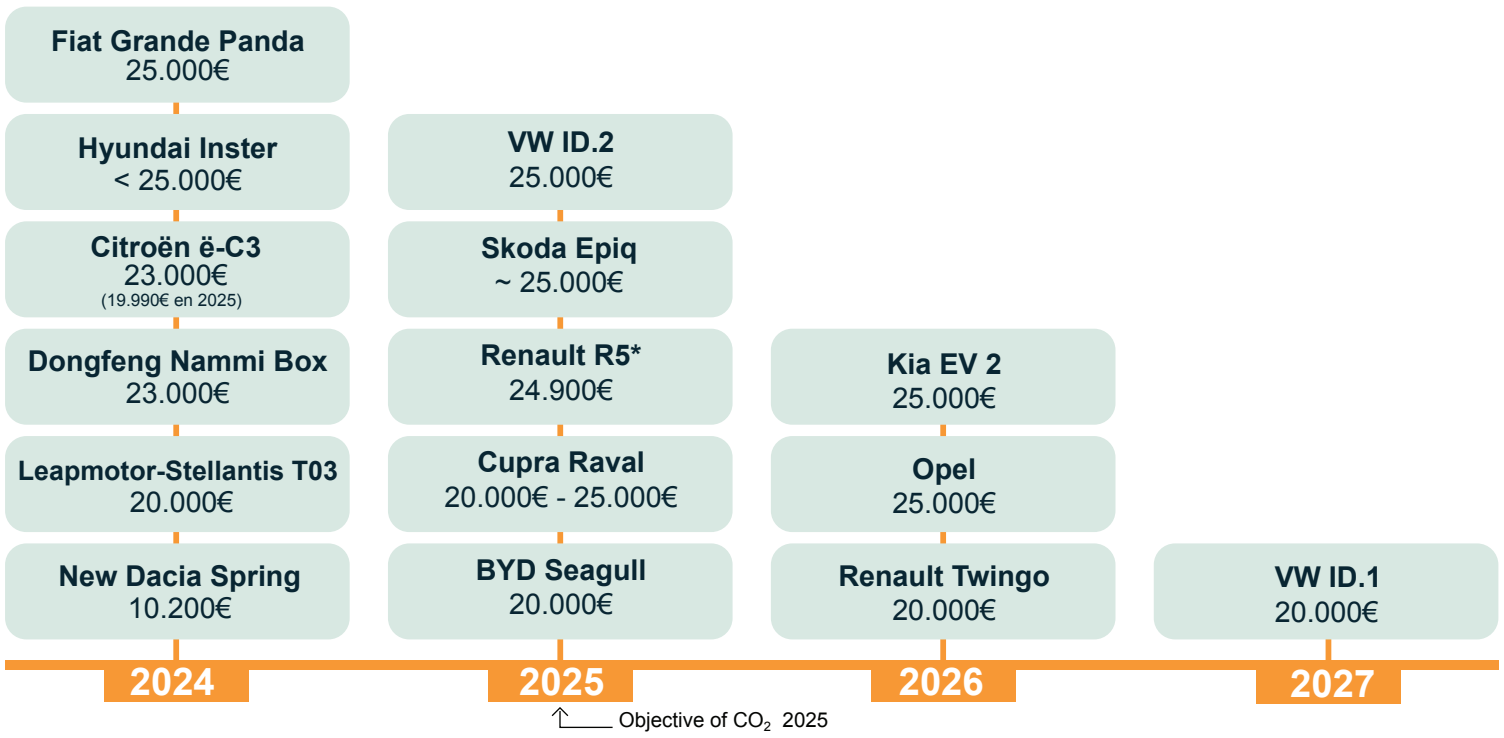
According to an analysis by T&E[21], only 17% of electric cars sold in Europe in 2023 were compact B-segment vehicles, which are more affordable, compared with 37% of new combustion-engine cars. Car manufacturers are slowing down the uptake of electric mobility by prioritising the production and sale of larger and more expensive electric cars. Between 2018 and 2023, only 40 fully electric models were launched in the compact segments (A and B), compared with 66 in the large and luxury segments (D and E).

In Europe, 28% of electric car sales are in the D-segment of large cars, compared with only 13% of new combustion cars, according to T&E's analysis of 2023 sales data collected by Dataforce. The average price of a BEV or battery electric vehicle in Europe has increased by 39% (+€18,000) since 2015, whereas in China it has fallen by 53%[22]. This divergence reflects the fact that European manufacturers have focused disproportionately on large cars and SUVs, which carry a premium price tag.

A recent survey indicates that the arrival of small, more affordable electric cars would accelerate the adoption of zero-emission vehicles in Europe. According to a YouGov survey, one in four (25%) new car buyers in Spain already intend to buy an electric car in the coming year[23]. When presented with the option of a small electric car costing 25,000€, however, the proportion of buyers willing to choose a battery electric model rises to 37%[24]. This would translate into an additional 103,000 electric vehicles sold in Spain each year, directly replacing combustion models.

The launch of a small electric model in the €25,000 range would be a game changer for wider adoption of electric cars. For European manufacturers to compete effectively with Chinese rivals, who already market small and affordable electric cars, it is crucial that such models reach the European market quickly and at scale.

Affordable electric vehicles under €25,000 arriving in Europe from 2024.



According to a survey carried out in 2023 by the European Commission's European Alternative Fuels Observatory (EAFO)[25], Spanish drivers consider the purchase price of BEVs to be by far the main disadvantage of owning an electric car. Spanish respondents indicated that they are willing to pay an average of €20,000 for a BEV (new or used), while 38% of Spanish BEV drivers reported having paid between €20,000 and €39,999.

21. Analysis of the latest biofuels data reveals a worrying increase in imports of used cooking oil of questionable origin. https://www.transportenvironment.org/articles/80-of-europes-used-cooking-oil-now-imported-raising-concerns-over-fraud-study
22 T&E. Europe's BEV market defies odds but more affordable models needed. 2024. https://www.transportenvironment.org/articles/eu
23 Jato Dynamics. (2023) EV Price Gap: A divide in the global automotive industry. Enlace.
24. All figures, unless otherwise stated, are from YouGov Plc. The total sample size in Spain was 501 adults. Fieldwork was conducted between 3 and 7 August 2023. The survey was carried out online.

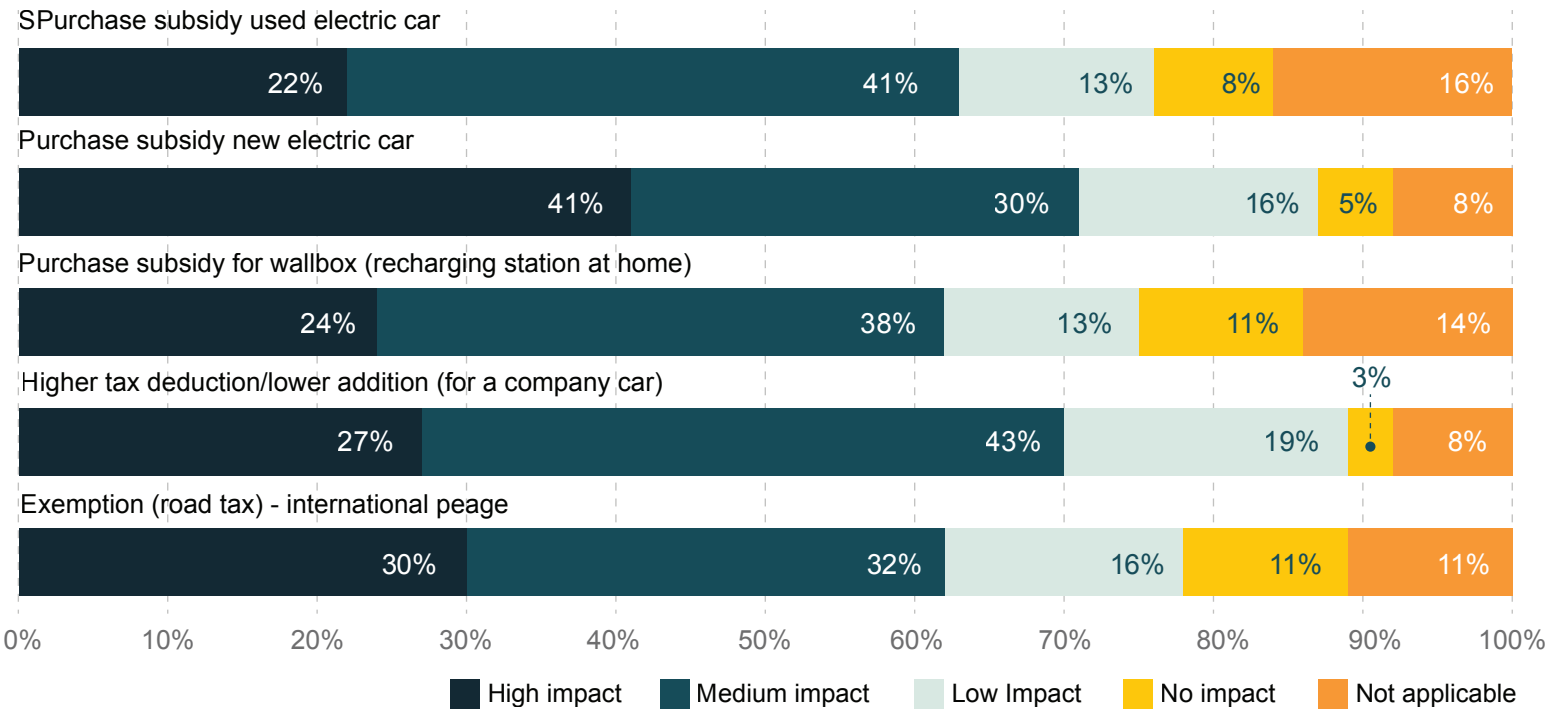
4.2 Incentives for electric mobility

The MOVES III programme offered grants of up to €7,000 in 2024 for the purchase of new electric vehicles, provided that another vehicle over seven years old in categories M1 or N1 was scrapped. However, the regulatory bases for this programme date from 2021[26] and require revision in light of their limited effectiveness in promoting electric mobility. The following aspects should therefore be considered in the future version of the MOVES plan:

- grants should reach buyers immediately
- grants should not be subject to personal income tax
- the amount allocated to plug-in hybrids should be limited, with a clearer differentiation in favour of battery electric vehicles
- access to smaller vehicles should be encouraged
- the process should be automated and streamlined
- a social leasing programme financed through the Social Climate Fund should be considered, so that grants also reach low-income groups and ensure that no one is left behind

In the EAFO 2023 survey, Spanish drivers responded to questions regarding the impact of different government incentives on their decision to purchase an electric vehicle. A grant for the purchase of a new electric vehicle and exemption from road tax were the incentives with the greatest perceived impact.

Perceived impact of governmental incentives on Spanish drivers' decision to drive a full-battery electric vehicle.



Source: EAFO Consumer Monitor and Survey 2023

Furthermore, outdated vehicle taxation and the absence or inadequacy of tax incentives to promote the uptake of non-polluting vehicles are major obstacles to the widespread adoption of electric mobility.

4.3 Installation of charging infrastructure

Contrary to the common perception that Spain lacks charging infrastructure for electric vehicles, the reality is that more and more high-power public charging points are being installed. However, to accelerate this rollout, a series of measures is needed to remove the administrative barriers faced by charging point operators. At present, installing a charging point involves the following steps:

- Requesting a connection point from the distributor
- Defining the project
- Obtaining permits and licences
- Construction of the charging point or station
- Certification
- Commissioning by the relevant authority
- Activation by the distributor

This process, which operators must navigate, is not standardized across Spain and varies depending on whether the authority is local or regional. Depending on the location, up to six different public authorities may be involved, including local councils, provincial councils, the Ministry of Transport and Sustainable Mobility, the Ministry for the Ecological Transition and the Demographic Challenge, hydrographic confederations and National Heritage, among others. Promoting transparency, and simplifying and standardising procedures, would reduce the time required to install charging equipment and thereby accelerate the rollout of infrastructure needed to ensure compliance with AFIR[27].

4.4 Social resistance and NIMBY movements

The NIMBY phenomenon ("Not In My Back Yard"), and its Spanish equivalent SPAN (Sí, Pero Aquí No or "Yes, But Not Here"), refers to movements of people who oppose the installation of certain facilities or activities in their local area, particularly those perceived as dangerous, while at the same time often acknowledging their importance and wishing to benefit from them.

In the field of electric mobility, critical issues that attract opposition include:

- Installation of renewable energy facilities such as wind farms or photovoltaic plants in rural areas
- Extraction of raw materials and supply of elements critical for electric batteries, such as lithium, nickel, aluminium, cobalt and magnesium
- Recycling of electric vehicle batteries. This is both a challenge and an opportunity in the transition to sustainable mobility, and reflects a clear commitment to sustainable development and environmental protection through the circular economy
- Effective implementation of low-emission zones

25. Of respondents in Spain who intend to purchase a new car in the next 12 months, 25% said they would be very likely to buy an electric vehicle. Of those who said they would be very likely to buy an internal combustion vehicle, 16% said they would switch to an electric vehicle if a small BEV model priced at €25,000 were available on the market. Among those who were undecided, 7 out of 32 said they would switch to an electric vehicle if offered the option of a small, affordable model. If these intentions were reflected in the car market, the introduction of affordable small BEVs would increase the share of fully electric car sales to 37%.

26. EAFO Consumer Monitor 2023 Country Report: Spain. https://alternative-fuels-observatory.ec.europa.eu/system/-files/documents/2024-06/Country%20Report%202023%20Spain_0.pdf

27. Real Decreto 266/2021, de 13 de abril, por el que se aprueba la concesión directa de ayudas a las comunidades autónomas y a las ciudades de Ceuta y Melilla para la ejecución de programas de incentivos ligados a la movilidad eléctrica (MOVES III) en el marco del Plan de Recuperación, Transformación y Resiliencia Europeo.

5 Proposals to accelerate road transport electrification

5.1 Financing through e-Credits and Energy Saving Certificates (ESCs)

Charging infrastructure rollout requires adequate financial resources. The EU's Alternative Fuels Infrastructure Facility (AFIF), with a budget of €1.2 billion for 2021–2027 (covering projects beyond charging infrastructure), has provided significant investment support. However, given the high capital needs associated with rolling out charging infrastructure in line with the Alternative Fuels Infrastructure Regulation (AFIR), funding cannot, and should not, rely exclusively on public budgets.

In this context, it is essential to put in place policies and instruments that encourage private investment in electric vehicle charging infrastructure. RED III can play a decisive role by creating a market in which charging point operators, who supply electricity to electric vehicles, generate and sell credits to other market participants, such as fuel suppliers. In this way, fuel suppliers are not limited to biofuels in order to meet their renewable energy obligations but can also count the sale of renewable electricity towards their targets.

Through this exchange of credits (e-Credits) between fuel suppliers and charging point operators, the business case for deploying charging points can be strengthened without the need for public funding. This generates additional revenue for operators, which can then be reinvested in charging infrastructure expansion. Other European countries such as Germany, Austria, the Netherlands and France already apply this system and are benefiting from denser and more economically sustainable charging networks.

Energy Saving Certificates (ESCs) are another instrument that enables energy savings to be monetised after the implementation of energy efficiency measures. The system was introduced to help generate additional energy savings and thereby allow Spain to comply with its obligations to the EU under the Energy Efficiency Directive 2012/27/EU. Since their launch in January 2024, ESCs have delivered annual energy savings of 2 TWh, equivalent to one month of electricity consumption in Madrid, and avoided 500,000 tonnes of CO_2 emissions, representing 1% of industrial emissions in one year. Industry is the sector with the highest demand for certificates, accounting for 68% of savings, followed by transport with 23.4%.[28]

5.2 Implementation of social leasing in Spain

Social leasing is a measure aimed at supporting low and middle-income households by facilitating access to electric vehicles. Included in the Social Climate Plan, it is expected to become a key instrument for democratising the electric vehicle market and accelerating the shift away from fossil fuels.

In 2023, T&E together with ECODES, Anthesis Lavola and the Gabinet d'Estudis Econòmics, carried out a study on how such a scheme could be implemented in Spain. The main conclusions were:

- A social leasing scheme in Spain could enable low-income households to access an electric car for €90 per month, with 70,000 units available per year
- Individuals would commit to monthly instalments for a minimum of four years and a maximum of eight years
- The programme could cover 25% of private new vehicle buyers and users in the lowest four income deciles if rolled out over a 12-year period

This initiative would allow vulnerable households to access a zero-emission car at a reduced price, while also ensuring that many of these vehicles would later enter the second-hand market once the programme ended.

If implemented, the proposed system could replace 39,000 fossil-fuel passenger cars driven an average of 15,000 kilometres annually. This would generate savings of 48,775 tonnes of CO_2 equivalent, while also avoiding 214,695 kg of NOx emissions and 21,353 kg of PM10. Therefore, not only would the system yield environmental benefits, but it would also contribute to improving citizens' health.

5.3 Modernisation of vehicle taxation

Promoting electric vehicle registration in Spain will require changes to existing regulations and taxation rules. These proposals build in part on measures already implemented in other European Union countries with significantly higher levels of electric vehicle uptake, where bonus–malus systems have been used to decisively steer the market towards zero-emission vehicles, with Portugal being a clear example.

Percentage of BEV passenger car registrations

Business Channel			Private Channel		
Spain 2024	**Portugal** 2024	**Belgium** 2024	**Spain** 2024	**Portugal** 2024	**Belgium** 2024
4,4%	**21,6%**	**41,1%**	**7,1%**	**15%**	**9,8%**

Datos de Dataforce

28. AEDIVE (2024). Reformas regulatorias para el cumplimiento de AFIR. https://aedive.es/aedive-propone-reformas-regulatorias-para-el-cumplimiento-del-reglamento-europeo-afir/
29. https://www.miteco.gob.es/content/dam/miteco/es/energia/files-1/Eficiencia/CAE/Documents/20250131_Informe%20CAE_2025_Enero.pdf

Regulations applying specifically to the business channel are also particularly relevant. This channel has greater financial capacity and higher vehicle turnover, making it one of the main sources of the used car market, which is in turn the option chosen by most private buyers (in Spain, sales in the used car market on average double those of new vehicles). Redirecting the business channel is therefore essential to shifting the vehicle fleet towards more sustainable options.

To achieve the target of 5.5 million electric vehicles by 2030, immediate measures are needed to ensure that taxation clearly differentiates and rewards the purchase of an electric vehicle over an internal combustion vehicle.

1. Improve regulations on remuneration in kind. The last amendment dates back to 2015, when advantages were defined for "energy-efficient vehicles." However, the requirements for this classification are now outdated, as they continue to grant advantages even to purely petrol and diesel vehicles, which do not contribute to decarbonisation objectives.

2. Modify the VAT deduction. Following the Portuguese model, it would be advisable to allow full VAT deduction for electrified company vehicles when used for mixed purposes, at least in the coming years, while increasing electric vehicle registrations is crucial.

3. Reform road tax. A comprehensive reform would be the most appropriate approach, as the current framework offers little flexibility to adapt to changes in the vehicle fleet or to promote its renewal and decarbonisation. Road tax is governed by the Local Finance Law, which defines tax bands based on fiscal horsepower. The last amendment to the IVTM was made through Royal Legislative Decree 2/2004 of 5 March, which approved the revised text of the law, meaning that the current regulations are still based on the situation that existed more than two decades ago.

4. Reform the registration tax. Currently, around 70% of registered vehicles are exempt, as they fall below the 120 gCO_2/km emissions threshold. Reviewing the tax bands to lower this threshold could help redirect the market towards vehicles with electric technologies. This measure could also encourage buyers of large, highly polluting vehicles to shift to plug-in alternatives with lower environmental impact.

5. Include a corporate tax deduction to promote electrification within the business channel and commercial fleets. Between 2001 and 2011, a 10% corporate tax deduction already existed for the purchase of so-called environmentally friendly industrial and commercial vehicles. A similar deduction could now be reintroduced for vehicles used exclusively for professional purposes when they are BEVs or FCEVs, and, to a lesser extent, PHEVs and EREVs, as well as for chargers used with these vehicles.

6 Key stakeholders in the sector

The transition to fair, zero-emission mobility requires the involvement of private initiatives, public authorities, policymakers and civil society organisations. The following stakeholders are considered key to the viability of zero-emission mobility:

- Industry associations.
- Companies across the electric vehicle value chain.
- Public authorities: Ministry for the Ecological Transition and the Demographic Challenge (including OECC and IDAE), Ministry of Industry and Tourism, Ministry of Economy, Trade and Business, Ministry of Finance and Public Service, Ministry of Transport and Sustainable Mobility, and the Presidency of the Government.
- Civil society: environmental associations, consumer associations, trade unions, think tanks, universities, etc.
- Political parties and members of parliament.

7 Success stories

Portugal

Portugal is an example of the implementation of a bonus–malus taxation system that has clearly boosted electric vehicle registrations. With a GDP per capita slightly below that of Spain, the country registers around 3.5 times more fully electric vehicles (16.5% vs. 4.7% in H1 2024). This demonstrates the effectiveness of a well-designed tax system that creates a clear distinction between choosing electric vs. polluting vehicles. Such differentiation is key to steering the market towards new technologies.

	Spain	**Portugal**
Remuneration in kind	The tax is calculated as 20% of the vehicle's value and applies to all vehicles. **Rebates** exist for **"energy-efficient"** vehicles, leading to the following effective rates: • 17% for vehicles emitting less than 120 g/km of CO_2 (15% discount) • 16% for MHEVs/CNG/LPG vehicles (20% discount) • 14% for PHEVs/BEVs (30% discount)	The tax is calculated based on the propulsion type and the vehicle's price. • **BEVs: exempt** • PHEVs: 5% (< €20,000); 10% (> €20,000) • LPG/CNG: 7.5% (< €20,000); 15% (> €20,000) • Others: 10% (< €20,000); 20% (> €20,000) •
VAT deduction	100% deduction for strictly professional use. **50% for mixed use.** **Applies to all vehicles.**	100% deduction for strictly professional use. **Full VAT deduction for mixed use is possible only for PHEVs and BEVs.**
Road tax	Fixed fee based on where the vehicle is registered, not on emissions. **BEVs and PHEVs receive a 75% discount. However, the fiscal horsepower (CVF) calculation is usually unfavourable to electric vehicles.**	The Imposto Único de Circulação (IUC) operates **similarly to the ISV**, based on the same parameters. **Only BEVs are exempt.**
Registration tax	Vehicles emitting less than 120 g/km of CO_2 are exempt. **About 70% of new registrations qualify.**	The Imposto Sobre Veículos (ISV) is calculated on **engine displacement and CO2 emissions.** Diesel vehicles are taxed more heavily. **Hybrids** and **PHEVs** receive a **75% discount** **BEVs are fully exempt.**

Bélgium

Belgium is another example where tax measures have been applied to corporate fleets, with tax exemptions in many cases limited to electric vehicles. This has led to a clear upward trend in BEV registrations, as the corporate channel holds significantly greater weight than the private channel in Belgium. In the first half of 2024, the market share of fully electric vehicles reached 24.4%, representing a 48% increase compared with the same period the previous year.

Germany

At the end of 2019, Germany approved the Masterplan Ladeinfrastruktur, a national strategic plan to define the key aspects of electric vehicle charging infrastructure rollout. This was followed in 2023 by the second Masterplan Masterplan Ladeinfrastruktur. Although these plans cannot be fully transposed to Spain, given differences in key factors such as population density and distances between cities, they provide a valuable example of how to schedule and design a national strategy and implementation plan.

United Kingdom

The United Kingdom has seen successful growth in slow charging points located on public roads under the ORCS (On-Street Residential ChargePoint Scheme). These chargers use the existing street lighting system, creating a well-distributed urban charging network. This approach is particularly important in areas where electric vehicle users do not have private parking and represents one of the most effective solutions to this challenge.

References

- Asociación Empresarial para el Desarrollo e Impulso de la Movilidad Eléctrica (AEDIVE). Anuario 2023-2024 de la movilidad eléctrica de AEDIVE. La voz de la cadena de valor. [AEDIVE Annual Report on Electric Mobility 2023–2024. The voice of the value chain.]
- European Commission. European Alternative Fuels Observatory (EAFO). Available at: *https://alternative-fuels-observatory.ec.europa.eu/consumer-portal/consumer-monitor*
- Law 7/2021 of 20 May on Climate Change and Energy Transition. Boletín Oficial del Estado 121, de 21 de mayo de 2021. *https://www.boe.es/eli/es/l/2021/05/20/7/con*
- Ministry of Sustainable Transport and Mobility. (November 7, 2023). Changes to European legislation on transport, infrastructure, and fuels. *https://esmovilidad.transportes.gob.es/noticias/cambios-sobre-legislacion-europea-en-transporte-infraestructuras-y-combustibles*
- Ministry of Transport and Sustainable Mobility. (December 2021). Strategy for Safe, Sustainable and Connected Mobility 2030. *https://cdn.mitma.gob.es/portal-web-drupal/esmovilidad/ejes/211223_es.movilidad_accesibilidad_BAJA_vf.pdf*
- Regulation (EU) 2019/631 of the European Parliament and of the Council of 17 April 2019 setting CO_2 emission performance standards for new passenger cars and for new light commercial vehicles, and repealing Regulations (EC) No 443/2009 and (EU) No 510/2011.
- Regulation (EU) 2023/1804 of the European Parliament and of the Council of 13 September 2023 on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU. Official Journal of the European Union L 234 of 22 September 2023.
- Regulation (EU) 2024/1610 of the European Parliament and of the Council of 14 May 2024 amending Regulation (EU) 2019/1242 as regards strengthening CO_2 emission performance standards for new heavy-duty vehicles and the establishment of reporting obligations, amending Regulation (EU) 2018/858 and repealing Regulation (EU) 2018/956.
- Transport & Environment. (28 November 2023). Current status of EV charging infrastructure in Spain and recommendations for its development. *https://www.transportenvironment.org/te-espana/articles/estado-actual-de-la-infraestructura-de-recarga-del-ve-en-espana*

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Appendices

Transport & Environment. ALTERNATIVE PROPOSAL TO THE DRAFT ROYAL DECREE approving the Regulation on Low Emission Zones, in accordance with Article 14.3.a) of Law 7/2021 on Climate Change and Energy Transition

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