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- Integration of incentives in policy instruments to stimulate e-mobility by private users -

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Executive Summary

After analysing the incentives that are put into action across the EMOBICITY project countries, it is clear that three main types of incentives are widely being used as e-mobility promoters: direct incentives for BEV and PHEV acquisition; fiscal incentives, namely positive fiscal differentiation for BEV and PHEV; and incentives for the expansion of the electric vehicles' charging infrastructure. Nevertheless, from these, the direct incentives for EVs acquisition are probably the ones with most visible impacts.

In **Greece**, the "GO ELECTRIC" program grants direct subsidies for the purchase of EVs and foresees subsidies up to 48,5 million euros until December 2021. Besides the "GO ELECTRIC" subsidy scheme, currently Greece provides various tax incentives for the promotion of e-mobility (nevertheless, mostly addressed to companies rather than individuals). Another subsidy program for the promotion of e-mobility in Greece is "e-Astypalea", that aims to transform the Astypalea island into an energy-autonomous island, producing energy exclusively from renewable energy sources (RES), coupled with an energy storage system. Moreover, the project aims to have only BEVs circulating on the island, charging their batteries from electricity generated 100% from RES. The project budget is 9 million euros for 2,5 years.

In **Portugal** (mainland), the direct incentive to the purchase of electric vehicles is granted by the Portuguese Environmental Fund. The incentive for the Introduction of Low-emission Vehicles is annually in force since 2017, through a Government Order that sets the amount of the budget to be distributed and is in fact the most effective direct incentive for private EV users. In 2020, the incentive was extended and contemplated conventional bikes with a total budget of 4 million euros. All the available funds were allocated, and the call had almost 5.000 applications. Regarding 2021 incentive, the total budget allocated was set into 4,5 million euros, to be attributed to the acquisition of low emission vehicles, highlighting three key areas of intervention, which integrate different types of support and different beneficiaries: light duty passenger vehicles; urban logistics; and cycling active mobility and two wheels vehicles.

Regarding the **Azorean Autonomous Region**, the first financial incentive program for the purchase of electric vehicles and charging points was established in 2020. According to the 2020 implementation report, 151 applications were submitted and 107 were approved between March and December 2020. An analysis on the incentives granted showed that 116 units were financially supported by this incentives system, corresponding to a total of 250.385 euros. The incentives for 2021 increased and a new bonus was introduced. Thus, by the end of July of 2021, 115 applications were submitted.

In **Germany**, three incentive programs are at the forefront of the promotion of electric mobility: temporary purchase incentives; expansion of the charging infrastructure; and public procurement of electric vehicles. The environmental bonus that is granted to vehicles with a list price of up to 40.000€, amounts to 9.000€ for pure EV and fuel cell vehicles, and 6.750€ for plug-in hybrids. For vehicles above 40.000€, the incentive is 7.500€ for pure EV and 5.625€ for hybrid vehicles. In the case of an EV on lease, the state subsidy is linked to the leasing term.

Regarding **Romania**, the RablaPlus Program is the policy instrument that support the acquisition of electric vehicles by individual persons and legal entities but does not include support for leasing vehicles. The RablaPlus Program has evolved in recent years, starting with a smaller allocated budget, and increasing throughout the years. In 2020 the program's total budget more than doubled its value to 41,4 million euros. In the same way as the available funds, the number of purchased EVs or hybrid vehicles also increased. However, the highest increase has been in recent years, with almost 80% more vehicles being approved in the program in 2020 compared to 2019, and 70% more vehicles being approved in 2019 compared to 2018. During the 2016-2020 period 5.705 new vehicles have been acquired through the RablaPlus Program, out of which 1.036 were plug-in hybrid vehicles and 4.669 were fully electrical vehicles.

In **Croatia**, the two key measures implemented concern the activities of the Environmental Protection and Energy Efficiency Fund (EPEEF), namely to co-financing of electric vehicles' purchase and the co-financing of installation costs for electric vehicles charging infrastructure. In 2014, the project "Driving economically" was launched, through which citizens and companies are awarded grants for the purchase of energy efficient vehicles. From 2014 to 2019, the EPEEF co-financed the purchase of 3.681 energy efficient vehicles (electric, hybrid and plug-in hybrid vehicles) with about 15 million euros. As part of the program of co-financing electric vehicles in 2020, no subsidy was allocated for hybrid vehicles, but only for electric and plug-in hybrid vehicles. For plug-in hybrid vehicles, the maximum amount of the subsidy was up to 5.300€, and for fully electric vehicles up to 10.500€.

1. State of the art – Integration of incentives in policy instruments to stimulate e-mobility by private users

1.1. Greece

1.1.1. Summary of the legislative framework and policy instruments enforce towards e-mobility promotion

The legislative initiative for the promotion of e-mobility started about a decade ago in Greece, with the latest addition being Law 4710/2020 (Promotion of e-mobility and other provisions) and thus forming a more complete framework. The legislative framework is comprised by the following, that intend to dynamise the electric vehicle sector in Greece.

The Law 4233/2014 introduced the possibility of installing charging stations for electric vehicles at Fuel and Energy Stations, indoor and outdoor car stations, car and motorcycle maintenance and repair shops, as well as public or private KTEO (Vehicle Technical Control Center).

The Joint Ministerial Decision 71287/6443/2015 determined the terms, conditions, and technical specifications of the charging devices of electric vehicles for their installation in the stations.

Another step has been Law 4439/2016 transposing Directive 2014/94 of the European Commission into Greek legislation. Directive 2014/94 establishes a common framework of measures for the development of alternative fuel infrastructure setting out, *inter alia*, the minimum standards required for the establishment of alternative fuel infrastructure, including recharging points for electric vehicles.

The Joint Ministerial Decision 77226/3824/2017 specified further the required implementation details, as well as the technical specifications for the development of the market of alternative fuel infrastructures in the transport sector, and for the implementation of the relevant infrastructures. These details included, *inter alia*, the completion of the regulatory framework regarding charging infrastructure, the provision of use of chargers in new and renovated buildings and direct or indirect financial incentives (e.g., subsidies, tax exemptions).

Moreover, Law 4513/2018 amending Law 4067/12, allowed the installation of electric vehicles (EV) charging stations in public areas. Furthermore, Joint Ministerial Decision 42863/438/2019 determined conditions and technical specifications for the installation of charging points for EV in vehicle service facilities, in publicly accessible recharging

points along the urban, interurban, and national road network, as well as in parking lots of public and private buildings.

The last major regulatory initiative for the promotion of e-mobility has been Law 4710/2020. Among other, the Law foresees:

- The establishment of financial and fiscal incentives for the purchase and use of EVs, as well as the development incentives for EV production units and related items.
- The spatial planning of the charging infrastructure with provision for the installation of charging points in private and public spaces, in new and existing buildings.
- The simplification of the licensing process, regarding the installation of the EV charging stations.
- The definition of electric vehicle now includes, in addition to cars, motorcycles, mopeds as well as e-bicycles. The incentives for the development of e-mobility, concern among other the subsidies for the purchase of EVs.

Furthermore, according to the National Energy and Climate Plan, by 2030, 30% of all new vehicle registrations should represent electric vehicles.

1.1.2. E-mobility promotion – types of direct incentives for private users

In August 2020, the Ministry of Energy and Environment officially launched the program **"GO ELECTRIC"** including direct subsidies for the purchase of EVs, and foreseeing subsidies up to 48,5 million euros until December 2021. The main objective includes the renewal of private and professional vehicles' fleets (current average age is 15,7 years) and the renewal of taxis' fleet (currently average age 12 years), through the introduction of EVs. These subsidies are described in the following figures in more detail.

For natural persons, the subsidies are shown in Figure 1.

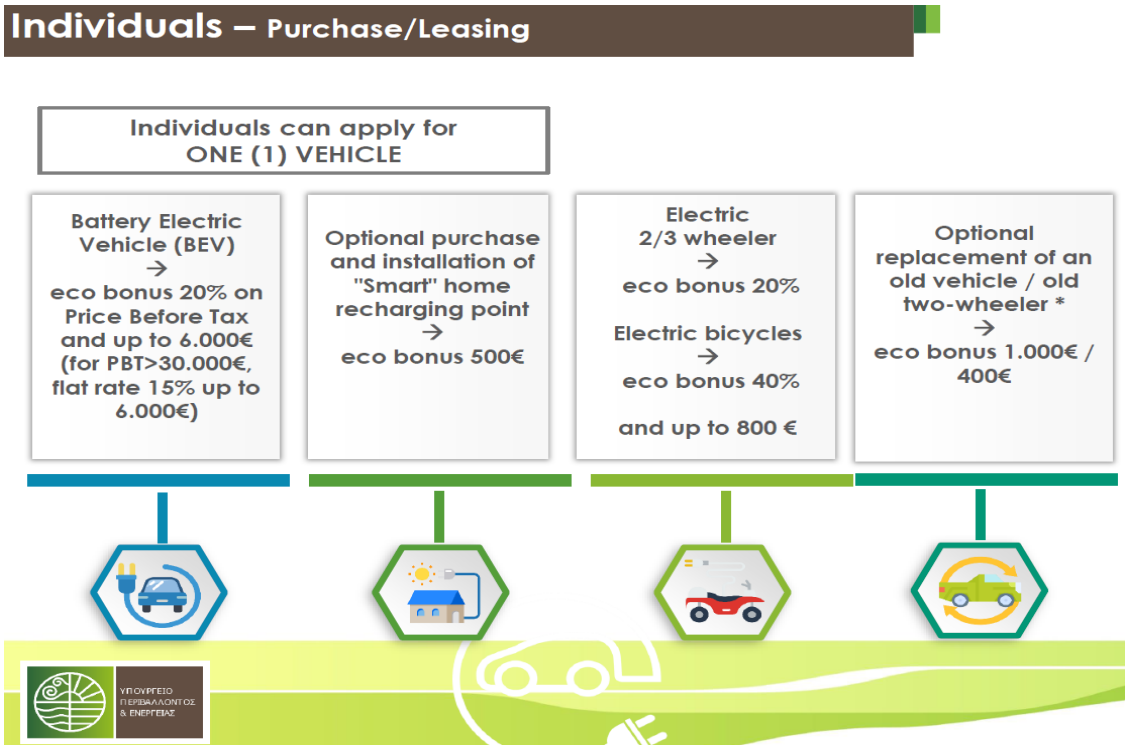
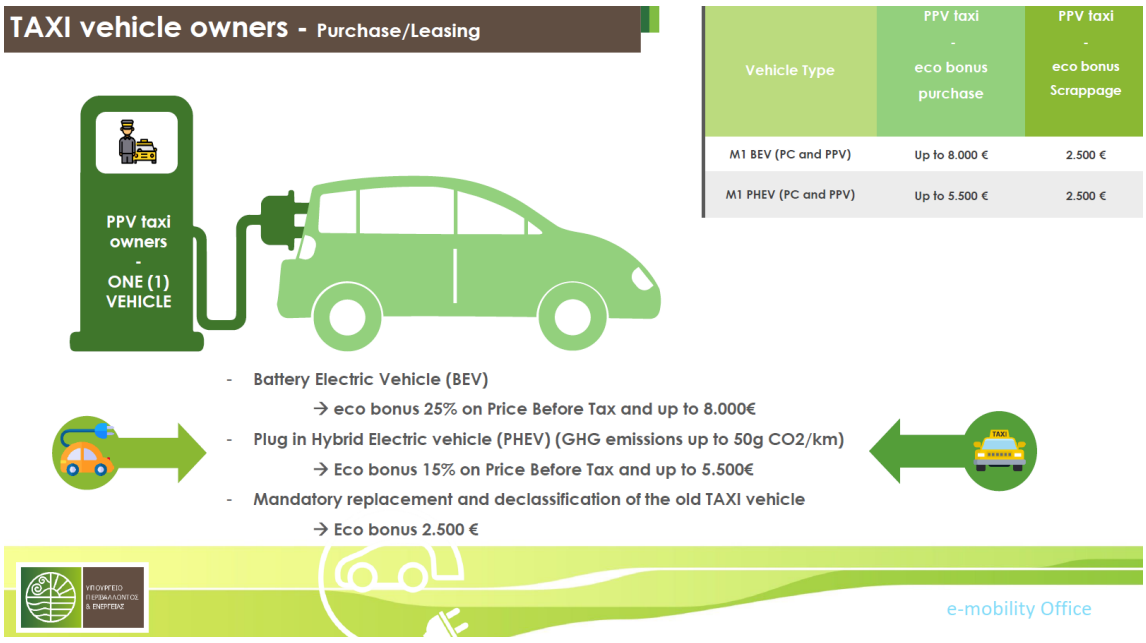


Figure 1 – Individuals' subsidies

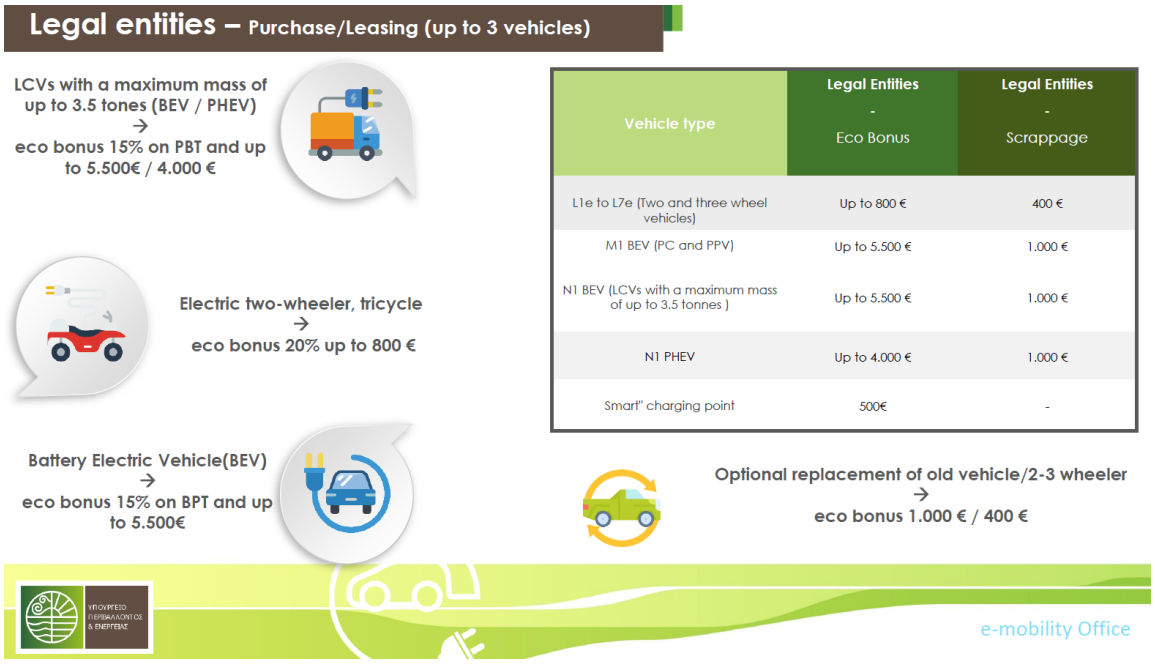
Whereas the subsidies for taxi owners include the following, as in Figure 2.



Vehicle Type	PPV taxi - eco bonus purchase	PPV taxi - eco bonus Scrappage
M1 BEV (PC and PPV)	Up to 8.000 €	2.500 €
M1 PHEV (PC and PPV)	Up to 5.500 €	2.500 €

Figure 2 – Taxi vehicle owners' subsidies

For legal entities, "GO ELECTRIC" foresees the following, as in Figure 3.



Vehicle type	Legal Entities - Eco Bonus	Legal Entities - Scrappage
L1e to L7e (Two and three wheel vehicles)	Up to 800 €	400 €
M1 BEV (PC and PPV)	Up to 5.500 €	1.000 €
N1 BEV (LCVs with a maximum mass of up to 3.5 tonnes)	Up to 5.500 €	1.000 €
N1 PHEV	Up to 4.000 €	1.000 €
Smart" charging point	500€	-

Figure 3 – Legal entities' subsidies

Besides the "GO ELECTRIC" subsidy scheme, currently Greece provides various **tax incentives** for the promotion of e-mobility, mostly addressed to companies rather than individuals. These tax incentives are:

1. The expenditure discount is increased by 50% for Battery Electric Vehicles (BEV). For example, buying an EV of 30.000€ leads to an accounting cost of 45.000€ and to a reduction of taxable income by 3.300€. For a similar Plug-in Hybrid Electric Vehicle (PHEV), the expenditure discount is 30% and the reduction of taxable income amounts to 1.980€. If the business is based on an island, the discount rates are further increased to 75% and 35% (for BEV and PHEV respectively).
2. Regarding the previous example and if leasing is preferred than buying an EV, the reduction of taxable income amounts to 396€/year for BEVs and 238€/year for PHEVs.
3. The provision of a BEV or a PHEV (50 gCO_2/km) to an employee, of worth up to 40.000€, is not taxed as it's considered to be a benefit in kind.
4. The charging costs of EVs (for work purposes) incurred by employees are considered a company expense, leading to the reduction of the taxable income.
5. Increase in depreciation of asset to 50% when purchasing an EV.
6. Increase in depreciation of asset to 100% for purchasing an EV charging station.

7. Expenditure discount is increased by 50% (70% in islands) when EV charging station is publicly accessible.
8. Expenditure discount increased by 30% when EV charging station serves the company needs.

The combination of the subsidies and tax incentives led to encouraging results, as in Figure 4.

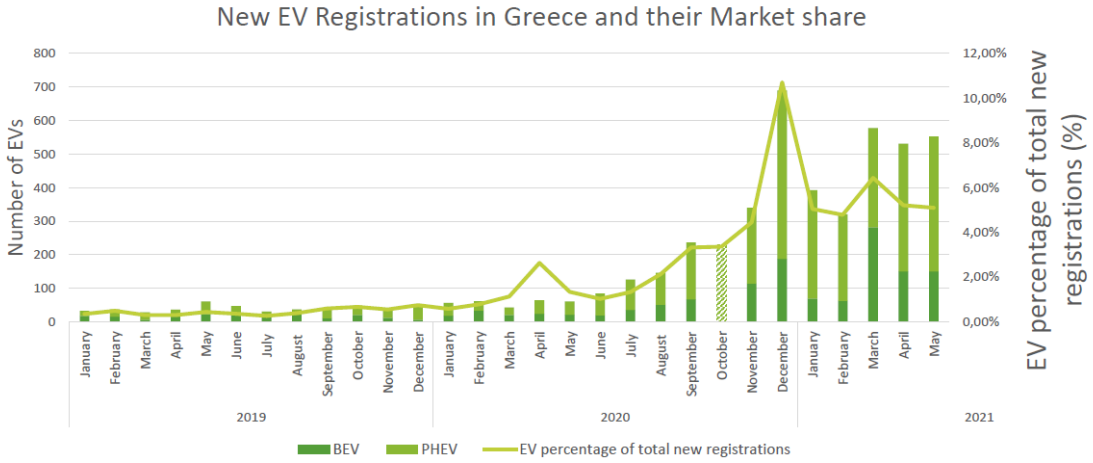


Figure 4 – New EV registrations in Greece and their market share

Concretely, the EVs market share rose from 1% in August 2020 to 10,6% in December 2020. The average market share of EVs has been 2,6% (2.135 EVs) which is higher than the forecast of the National Energy and Climate Plan (NECP). The trend seems to continue in 2021 as well, with 5,3% EVs market share for the first 5 months.

The **e-mobility industrial production incentives** are aligned with the government's policy to phase-out lignite for energy production by 2023, and to promote local economy growth:

- Tax exemptions of the salary costs during the construction phase of a production unit.
- Over-depreciation of the upfront capital costs.
- Tax reduction of 5% for 5 years.
- Fast-track licensing procedures.

Another recent subsidy program for the promotion of e-mobility in Greece is called **"e-Astypalea"**, aiming to transform the Astypalea island into an energy-autonomous island, producing energy exclusively from renewable energy sources (RES), coupled with an energy storage system. The program runs as an initiative (Memorandum of Understanding) between the Greek government and Volkswagen Group.

Moreover, the project aims to have only BEVs circulating on the island, charging their batteries from electricity generated 100% from RES. To support this, the "e-Astypalea" subsidy scheme, supports inhabitants, taxi owners and local companies to replace their conventional cars with electric vehicles. The project budget is 9 million euros for 2,5 years and 70% of this will be distributed for private/company cars (M1/N1), 20% for motorbikes/motorcycles (L) and 10% for bicycles. A dedicated platform (https://e-astypalea.gov.gr/) is now available for local stakeholders who wish to apply.

The program subsidies are summarised below in Figure 5.

	BEVs (M1, N1) (Retail price before taxes, up to 50.000€)	e- 2/3 wheels (L)	e-bikes	Smart Charger	Disabled-Families with more than 3 children
Privates (up to 1 vehicle)	40%, max 12.000€	25%, max 2.000 €	40%, max 800€	500 €	500-1.000 €
Vehicle Withdrawal	**Optional** 3.000 €	**Optional** 800 €	-	-	-
TAXIs (up to 1 vehicle)	40%, max 15.000€	-	-	500 €	1.000 €
Vehicle Withdrawal	**Mandatory** 4.500	-	-	-	-
Enterprises (up to 30 vehicles but max 15 cars)	40%, max 12.000€	25%, max 2.000€	40%, max 800€	400€	-
Vehicle Withdrawal	**Optional** 3.000 €	**Optional** 800 €	-	-	-

Figure 5 – Program "e-Astypalea" subsidies summary

It is clear from this table, that the subsidies of "e-Astypalea" are far greater comparing to these of the "GO ELECTRIC" program, making the purchasing of an EV particularly appealing. To make it even more appealing, Volkswagen offers an extra discount to the purchase price of the vehicles that are offered to the island stakeholders. Below is an example of the final price of Volkswagen ID.3 for the "e-Astypalea" project:

Starting price:	**33.500€**
Subsidy offered from the e-Astypalea program:	8.484€
Price discount offered by Volkswagen:	7.200€
Final price (incl. VAT):	**18.436€**

More incentive (subsidies) schemes are expected to follow in the coming period, as part of the **Recovery and Resilience Fund**. Among other, the Fund foresees a subsidy scheme **"CHARGE EVERYWHERE"** for the development of publicly accessible charging points in cities and other places of interest like airports, motorways, ports etc. The budget foreseen for this is 80 million euros.

Another future incentive program foreseen in the Recovery and Resilience Fund is the program called **"E-PRODUCE"** to strengthen the industrial production of e-mobility. The budget foreseen for this is 200 million euros.

A third subsidies program of the Resilience and Recovery Fund is the **"GREEN TAXIS"**, regarding the subsidies for the replacement of old internal combustion engines (ICE) taxis with BEV. The budget foreseen for this is 40 million euros.

1.1.3. Challenges and barriers to e-mobility incentives integration and implementation

The results from the "GO ELECTRIC" subsidy scheme are encouraging. Until 24 June 2021, there have been:

- 12.572 applications for 14.130 EVs of all types.
- 13 million euros of the program budget have been reserved, leveraging 52 million euros market turnover.
- Scrappage / withdrawal of 1.495 old vehicles.

Out of the 14.130 EVs, 1.073 were cars (7,6%), of which:

- 1.011 were passenger cars (M1 BEV).
- 49 were vans (N1 BEV).
- 2 were vans (N1 PHEV).
- 11 were e-taxis (8 BEV, 3 PHEV).

The rest of the EVs included:

- 10.395 e-bicycles (73,6%).
- 2.662 two or three wheelers (L1ea – L7) (18,8%).

Therefore, it's interesting that most of the subsidized EVs were bicycles and 2/3 wheelers. This may be attributed to the following reasons:

- Despite the subsidies, electric private cars are still very expensive.
- The charging network isn't yet fully deployed, leading to range anxiety. This is also true for long range trips, since a small number of fast charging stations is currently operating in rest areas along the motorways.

- Another issue about the effectiveness of such subsidy schemes, is that the beneficiary must make the payments first on its own and then receive the subsidy.

COVID-19 pandemic has also a role in the effectiveness of such subsidy schemes and of other incentives. In general, it is a barrier towards economic growth (Greek economy growth has been halted due to reduced activities in lockdowns) and consequently citizens and companies are reluctant in making expensive purchases, such as the purchase of an EV. On the other hand, during the lockdowns in Greece, it was observed that due to the decreased traffic from cars, more and more citizens took advantage of the free space and replaced their cars with walking and cycling. Especially e-bikes proved to be very popular during this period.

1.2. Portugal (Mainland)

1.2.1. Summary of the legislative framework and policy instruments enforce towards e-mobility promotion

The **Ministries Council Resolution 20/2009**, of February 20th, reviewed by the **Dispatch 9220/2013**, of July 15th, established the **Programme for Electric Mobility in Portugal**, that had the objective to introduce and promote the use of electric vehicles. The Mobi.E programme intended to disseminate the introduction of electric vehicles in Portugal, through the development of an innovative charging network that included electric grid management. This programme had an initial pilot phase with a limited use of the available charging infrastructure due to the small number of purchased electric vehicles. Nevertheless, this phase allowed the development and test of several technological solutions, as well as the deployment of an innovative mobility model. In this sense, the pilot phase was extended (Decree-Law 90/2014) to study the programme constraints, guarantee its sustainability and stimulate electric vehicles procure. In 2015 it was defined the **National Action Plan for Electric Mobility** (**Ordinance 8809/2015**) that compiles all the measures intended to promote the Portuguese electric mobility. This Action Plan intended to contribute to 4 national main goals: achieve CO_2 reduction targets; reduce external dependency regarding fossil fuels; improve competitiveness and modernization of the Portuguese industry; and promote smart mobility. Lately, the **Resolution of the Council of Ministers 49/2016** gave Mobi.E the necessary skills to ensure operational and relocation decisions on all charging stations subject to pilot network status. Moreover, the **Ministerial Order 3636/2019** assured the financial support from the National Innovation Fund (FAI) to Mobi.E, aiming to partially cover the costs associated with the use of the electric network, dedicated to electric mobility. Finally, the **Resolution of the Council of Ministers 41/2020** supported the national electric vehicle charging network, through Mobi.E, with a focus on charging speed. In addition to the expansion of the public electric mobility network, it was foreseen the development of a **Management Platform for Mobi.E Network and the Electric Mobility Portal**, with the objective of constituting a unique digital interface that will deal with all mobility related processes.

Regarding fiscal incentives, it was **granted to electric vehicles a fiscal differentiation** translated into the total exemption of the environmental component of the Tax over Vehicles' Circulation – Imposto Único de Circulação (IUC) and the exemption of the Tax over Vehicles – Imposto sobre Veículos (ISV) approved by **Law nº 22/2007**, of June 29th. Additionally, **Law 82-D/2014**, of December 31st (the "Green Taxation" legislation) implemented new incentives for electric and plug-in vehicles, as purchase subsidies and tax reductions. The **Law 7-A/2016**, of March 30th, amended Law 82-D/2014 and updated

the electric and plug-in vehicles incentives. Later, **Law 75-B/2020** (Article 391º), of December 31st, amended Law 22-A/2007 and reduced the Tax over Vehicles exemption applied to hybrid and plug-in electric light duty passenger vehicles.

In terms of direct incentives to the purchase of electric vehicles, **Decree-Law 42-A/2016** created the **Portuguese Environmental Fund**. This Fund has the purpose to support environmental policies in pursuit of the objectives of sustainable development by contributing to the achievement of national and international objectives and commitments, including those relating to climate change, water resources, waste and nature conservation and biodiversity. The incentives for the Introduction of Low-emission Vehicles are annually in force since 2017, through a Government Order that sets the amount of the budget to be distributed, from the Portuguese Environmental Fund. The Order 2535/2021, of March 5th, altered by the **Order 8363/2021**, of August 24th, sets the Regulation and budget for the incentive for the Introduction of Low-Emission Vehicles regarding 2021.

1.2.2. E-mobility promotion – types of direct incentives for private users

As previously stated, the incentives for the Introduction of Low-emission Vehicles are annually in force since 2017, through a Government Order that sets the amount of the budget to be distributed, and these are in fact the most effective direct incentives for private EV users. The incentive application can be submitted online through the application desk available on the Environmental Fund's website. The beneficiary is notified by email of the submission's confirmation of the incentive request. If entitlement to the incentive is recognized, payment will be made by bank transfer to the payee account. The beneficiaries of this incentive may be individuals or companies.

In 2017, the Portuguese Environmental Fund incentives were directed only to passenger and commercial light duty vehicles with a total budget of 2,3 million euros, as in Table 1 below.

Table 1 – Incentives for the introduction of low-emission vehicles, 2017

Typology	Incentive Rules	Beneficiary	Total Budget [€]
Passenger and commercial light duty vehicles (100% electric)	2.250€ each; 1 incentive/beneficiary if individual; 5 incentives/beneficiary if company	Individuals or companies	**2.300.000€**

Despite the total budget available was not allocated, as in Table 2, this first call was a huge success with more than 1.200 applications. It is worth mention that one of the main reasons for an application exclusion is lack of compliance with the call regulations.

Table 2 – Incentives assigned and financed value for the introduction of low-emission vehicles, 2017

Typology	Applications [nº]	Incentives assigned [nº]	Beneficiary	Financed value [€]
Passenger and commercial light duty vehicles (100% electric)	1.266	238	Individuals	535.500€
		738	Companies	1.660.500€
Total	-	976	**-**	**2.196.000€**

In 2018, the Portuguese Environmental Fund incentives were extended to motorcycles with a total budget of 2,65 million euros, as in Table 3 below.

Table 3 – Incentives for the introduction of low-emission vehicles, 2018

Typology	Incentive Rules	Beneficiary	Total Budget [€]
Passenger and commercial light duty vehicles (100% electric)	2.250€ each; 1 incentive/beneficiary if individual; 5 incentives/beneficiary if company	Individuals or companies	-
Motorcycles (100% electric)	20% of purchase price up to 400€; 1 incentive/beneficiary if individual; 5 incentives/beneficiary if company	Individuals or companies	-
Total	**-**	**-**	**2.650.000€**

This second call used all available funds and had more than 1.600 applications, from which 322 were not evaluated due to lack of available budget, as in Table 4.

Table 4 – Incentives assigned and financed value for the introduction of low-emission vehicles, 2018

Typology	Applications [nº]	Applications excluded [nº]	Applications not evaluated [nº]	Incentives assigned [nº]	Beneficiary	Financed value [€]
Passenger and commercial light duty vehicles (100% electric)	1.596	104	322	339	Individuals	762.750€
				831	Companies	1.869.750€
Motorcycles (100% electric)	47	6	0	28	Individuals	11.196€
				13	Companies	5.200€
Total	**1.643**	**110**	**322**	**1.211**	**-**	**2.648.896€**

In 2019, the incentives were extended also to bikes with a total budget of 3 million euros, as in Table 5 below.

Table 5 – Incentives for the introduction of low-emission vehicles, 2019

Typology	Incentive Rules	Beneficiary	Total Budget [€]
Passenger and commercial light duty vehicles (100% electric)	3.000€ each & 1 incentive/beneficiary if individual; 2.250€ each & 4 incentives/beneficiary if company: vehicles up to 62.500€.	Individuals or companies	2.650.000€
Motorcycles (100% electric)	20% of purchase price up to 400€; 1 incentive/beneficiary (individual or company)	Individuals or companies	100.000€
Bikes (100% electric)	250€; 1 incentive/beneficiary (individual or company)	Individuals or companies	250.000€
Total	**-**	**-**	**3.000.000€**

The third call used again all available funds and had more than 3.000 applications, from which 838 were excluded due to lack of available budget and lack of compliance with the incentives' regulations, as in Table 6. The success of the measure was now clear.

Table 6 – Incentives assigned and financed value for the introduction of low-emission vehicles, 2019

Typology	Applications [nº]	Applications excluded [nº]	Incentives assigned [nº]	Beneficiary	Financed value [€]
Passenger and commercial light duty vehicles (100% electric)	1.694	-	329	Individuals	987.000€
			757	Companies	1.703.250€
Motorcycles (100% electric)	158	-	111	Individuals	43.389€
			37	Companies	14.493€
Bikes (100% electric)	1.227	-	920	Individuals	230.000€
			87	Companies	21.750€
Total	**3.079**	**838**	**2.241**	**-**	**2.999.882€**

In 2020, the incentives were again extended and contemplated conventional bikes with a total budget of 4 million euros, as in Table 7 below. In this sense, from 2020 on the incentive also incorporated the promotion of conventional soft mobility modes, expanding the scope of the incentive, and contributing to the national strategy enforce.

Table 7 – Incentives for the introduction of low-emission vehicles, 2020

Typology	Incentive Rules	Beneficiary	Total Budget [€]
Passenger light duty vehicles (100% electric)	3.000€ each & 1 incentive/beneficiary if individual; 2.000€ each & 4 incentives/beneficiary if company; vehicles up to 62.500€.	Individuals or companies	2.700.000€
Commercial light duty vehicles (100% electric)	3.000€ each & 1 incentive/beneficiary if individual; 3.000€ each & 4 incentives/beneficiary if company; vehicles up to 62.500€.	Individuals or companies	900.000€
Bikes, two-wheel motorcycles and electric mopeds (100% electric)	50% of purchase price up to 350€ & 1 incentive/beneficiary if individual; 50% of purchase price up to 350€ & 4 incentives/beneficiary if company	Individuals or companies	350.000€
Conventional bikes	10% of purchase price up to 100€; 1 incentive/beneficiary (individual or company)	Individuals or companies	50.000€
Total	-	-	**4.000.000€**

The complete results regarding the fourth call aren't available yet. Nevertheless, we already know that all the available funds were allocated, and the call had almost 5.000 applications, as in Table 8 below.

Table 8 – Applications for the introduction of low-emission vehicles, 2020

Typology	Applications [nº]
Passenger light duty vehicles (100% electric)	1.954
Commercial light duty vehicles (100% electric)	74
Bikes, two-wheel motorcycles and electric mopeds (100% electric)	2.107
Conventional bikes	819
Total	**4.954**

Regarding 2021 incentives, the total budget allocated was set into 4,5 million euros, to be attributed to the acquisition of low emission vehicles, highlighting three key areas of intervention, which integrate different types of support and different beneficiaries: light duty passenger vehicles; urban logistics; and cycling active mobility and two wheels vehicles. The values and limits of the incentives to be assigned are as follows in Table 9 below.

Table 9 – Incentives for the Introduction of Low-emission Vehicles, for 2021

Support area	Typology	Incentive Rules	Beneficiary	Total Budget [€]
Passenger light duty vehicles	T1: Passenger vehicles (100% electric)	Total 700 incentives; 3.000€ each; vehicles up to 62.500€; 1 incentive/beneficiary	Individuals	2.100.000€
Urban Logistics	T2: Commercial vehicles (100% electric)	Total 150 incentives; 6.000€ each; 1 incentive/beneficiary if individual; 2 incentives/beneficiary if company	Individuals and companies	900.000€
	T3: Cargo bikes (100% electric or conventional)	Total 300 incentives; 50% of purchase price up to 500€ if conventional and up to 1.000€ if electric; 1 incentive/beneficiary if individual; 4 incentives/beneficiary if company		300.000€
Cycling active mobility and two wheels	T4: City bikes, two-wheel motorcycles and electric mopeds (100% electric)	Total 3.142 incentives; 50% of purchase price up to 350€; 1 incentive/beneficiary if individual; 4 incentives/beneficiary if company		1.100.000€
	T5: Conventional bikes	Total 1.000 incentives; 20% of purchase price up to 100€; 1 incentive/beneficiary if individual; 4 incentives/beneficiary if company		100.000€
Total	-	-	-	**4.500.000€**

Since 2007, the total budget for funding this incentive almost doubled, as in Figure 6.

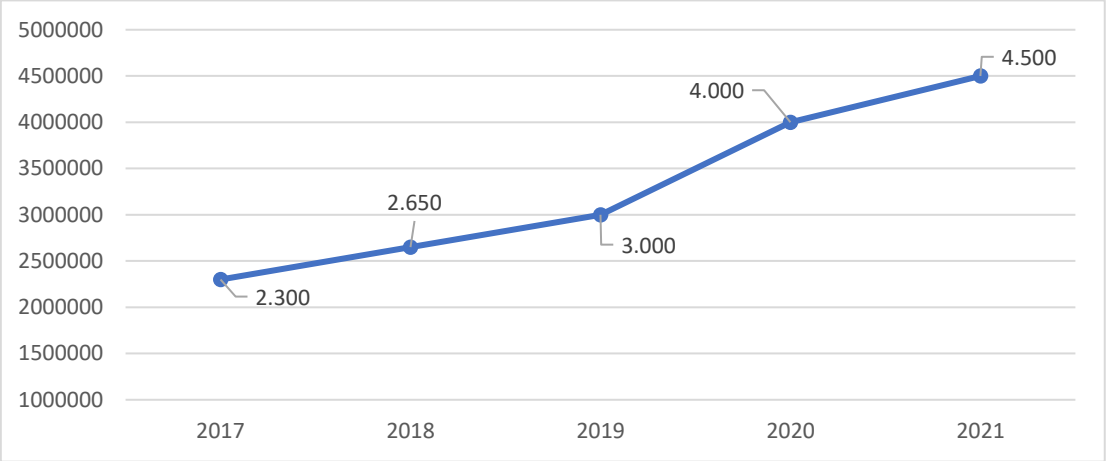


*Figure 6 – Total funding available for the incentives for the Introduction of Low-emission Vehicles, **thousand €** (2017 – 2021) (Source: Portuguese Environmental Fund)*

The increasing values of the budget available were also accompanied by the increasing number of applications and incentives assigned, as in Figure 7. Nevertheless, it should be highlighted that the scope of the incentives' programme was also expanded throughout the years.

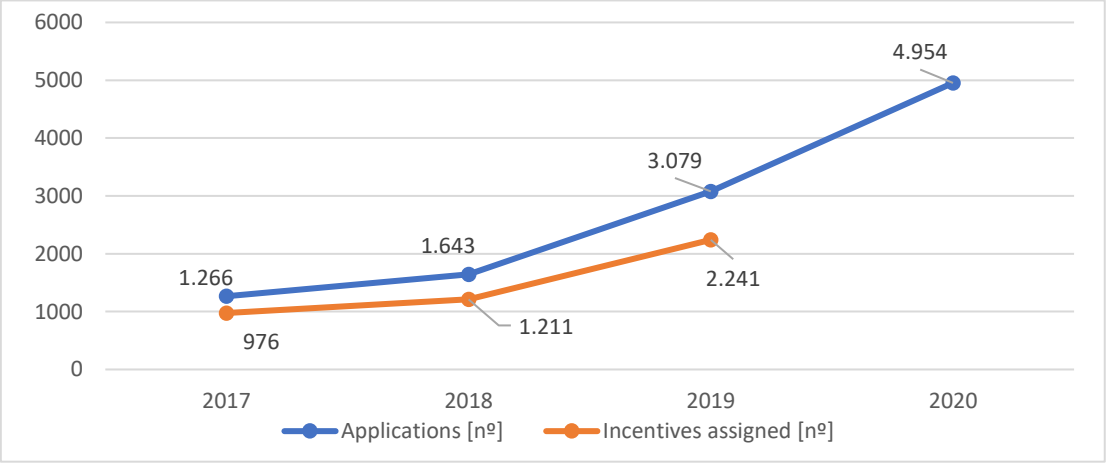


Figure 7 – Number of applications and incentives assigned (2017-2020) (Source: Portuguese Environmental Fund)

1.2.3. Challenges and barriers to e-mobility incentives integration and implementation

The incentive for the Introduction of Low-emission Vehicles is not automatically assigned and requires the application submitted to be reviewed and accepted. Since each typology of vehicles has a maximum support ceiling, if the number of applications reaches its maximum value, the potential beneficiary is put on a waiting list, and may or

may not be entitled to the incentive. However, despite the maximum support ceiling is attained, it is still possible to submit applications on the platform until the deadline is reached. All applications are subject to requests for additional documents or clarifications, to be validated or rejected. It is also important to clarify that if you are left out your application is not valid for the following year. This is a time-consuming process that can demote some individuals' beneficiaries. Furthermore, the reviewing and acceptance process is also time-consuming, especially if there are many applications, so usually the waiting time to be granted the incentive is more than 30 days, after the application has been validated.

In 2020, electric vehicles sales in Portugal grew exponentially, beating successive records, the result of an ever-increasing offer from the vehicles' manufacturers, vehicles' increasing real autonomy, lower prices, and a set of incentives and tax benefits. By the end of 2020, these sales had 13,6% of market share (2020 accumulated), which is impressive considering that it was a particularly hard year due to the pandemic restrictions. In Figure 8 and Figure 9 below are the number of 100% electric vehicles and PHEV registered in Portugal, each year, by type of vehicle. In Figure 10 it is possible to observe the total number of vehicles.

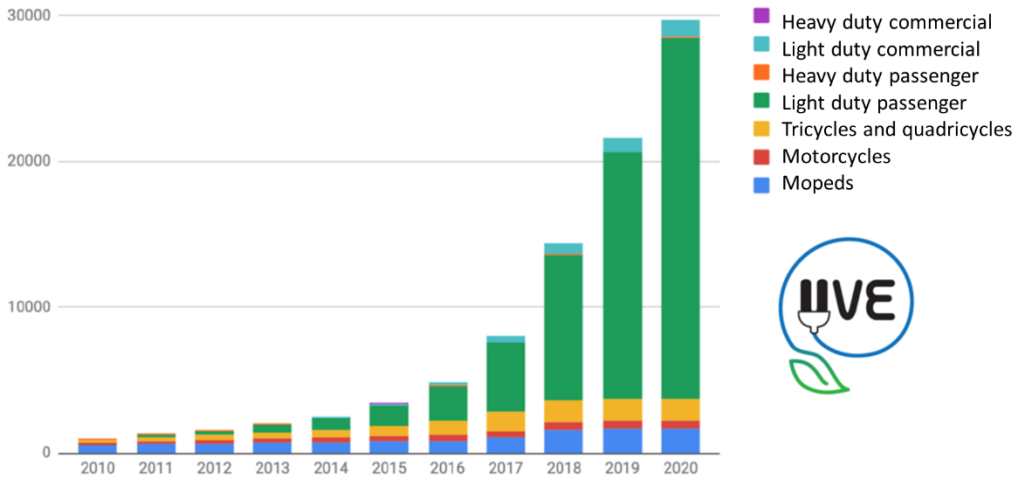


Figure 8 – Number of 100% electric vehicles registered in Portugal and part of the rolling stock (Source: UVE – Association of Electric Vehicles Users)

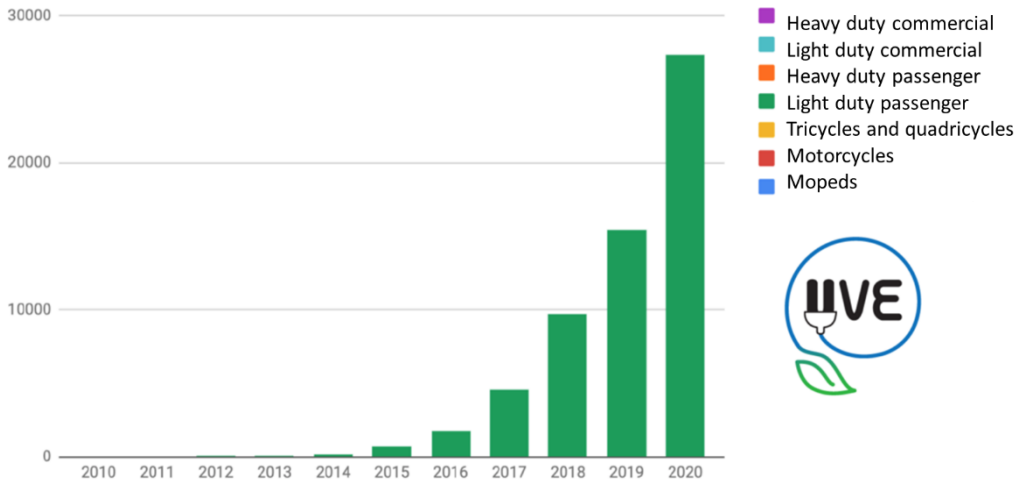


Figure 9 – Number of Plug-in Hybrid Electric Vehicle (PHEV) registered in Portugal and part of the rolling stock (Source: UVE – Association of Electric Vehicles Users)

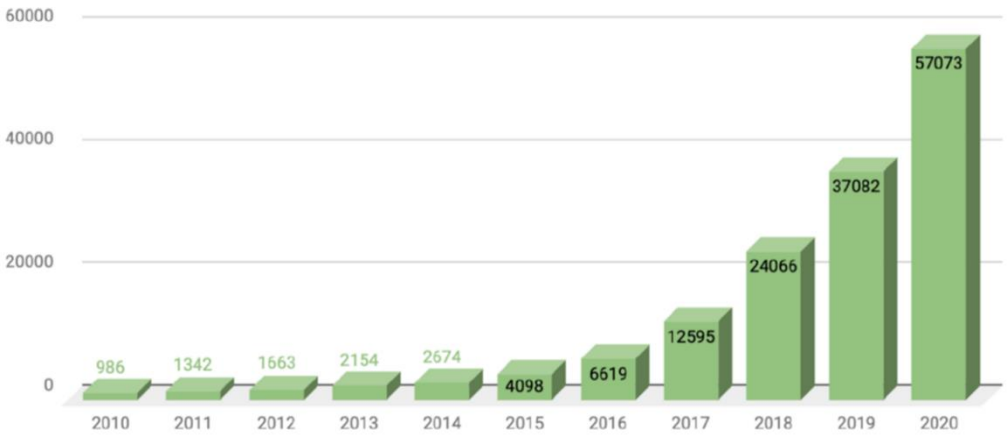


Figure 10 – Total of 100% electric vehicles and PHEV registered in Portugal at the end of 2020 (Source: UVE – Association of Electric Vehicles Users)

It is notorious that the number of vehicles registered increased substantially, namely since 2017, which is also a good success indicator regarding the incentives implemented. Nevertheless, as an increasing number of applications for the Introduction of Low-emission Vehicle's incentive if being left out, due to the lack of available budget, the future calls could be reinforced with an extra budget to accommodate the growing number of requests.

1.3. Portugal (Azores)

1.3.1. Summary of the legislative framework and policy instruments enforce towards e-mobility promotion

In recent years, the Autonomous Region of the Azores has implemented its energy policy according to the guidelines and national/international commitments regarding energy and mobility.

To this end, the **Strategy for the Implementation of Electric Mobility in the Azores** was published (Regional Decree-Law 21/2019/A), establishing the strategy for the implementation of e-mobility in the Azores, considering its geographic, physiographic, and environmental characteristics. In short, the strategic priorities are to reduce energy dependence in the Azores, to contribute towards the reduction of greenhouse gas emissions, to invest in the production and consumption of electricity from renewable and endogenous sources, to promote energy efficiency and support sustainable mobility, especially through the electrification of the land transport sector and, finally, to carry out awareness campaigns for civil society.

With this in mind, the **Strategy** involves:

- Implementation of a public access charging network for electric vehicles.
- Incentives for the adoption of electric mobility (financial and non-financial).

The implementation of the electric mobility policy in the Azorean archipelago implies the existence of **regional and municipal planning instruments**, namely:

- Plan for Electric Mobility in the Azores (PMEA).
- Municipal Electric Mobility Plans (PMEM).

The Plan for Electric Mobility in the Azores (approved by Government Council Resolution 106/2019) was developed by the Government of the Azores for the period between 2018 and 2024. It is a **guide for the implementation of electric mobility in the Region** that integrates the diagnoses of several activity sectors. In addition to that, PMEA is validated by diagnoses and simulations that support the proposed measures.

For its part, the Municipal Electric Mobility Plans are being prepared with the support of the Regional Directorate for Energy. In total, there will be 19 different plans, one for each municipality in the Azores.

In terms of policy instruments, the **Azores 2020 Operational Program** (PO Açores 2020), in its specific objective 4.5.1 (Axis 4), “Promoting Sustainable Urban Mobility”, includes actions to support the promotion and implementation of e-mobility:

- Investment in public charging stations on strategic points on the islands.
- Investment in equipment for the improvement of information management and user support systems in urban areas.
- Awareness raising actions.

The Azores 2020 Operational Program has been essential for the implementation of electric mobility in the Azores, through the financing of several projects. Between 2014 and 2020, seven projects were approved, involving a total investment of almost 2 million euros.

In addition to the measures listed above, there have been introduced financial incentives systems to support the purchase of electric vehicles, which will be discussed below.

1.3.2. E-mobility promotion – types of direct incentives for private users

The **first financial incentive program for the purchase of electric vehicles and charging points** in the Azores was established by the Regional Decree-Law 2/2020/A, with applications being submitted between March 5 and December 31, 2020.

This Decree-Law regulated the concession of financial incentives for the purchase of new electric vehicles and charging stations acquired in the Azores by natural or legal (artificial) persons. The incentives granted could be increased through bonuses according to different criteria, as shown below in Figure 11.

TYPE	BENEF.	AMT.	FINANCIAL SUPPORT	BONUSES			MAXIMUM VALUE
				TIME DIFFERENTIATED ELECTRICITY TARIFF	UNESCO WORLD NETWORK OF BIOSPHERE RESERVES*	SCRAPPING OF AN INTERNAL COMBUSTION VEHICLE	
PASSENGER CAR	natural persons	1	10% up to **3.000€**	500 €	250 €	150 €	**3.900€**
	artificial persons	up to 3	10% up to **2.000€**	500 €	250 €	150 €	**2.900€**
TWO-WHEEL MOTORCYCLES OR CYCLOMOTORS	natural and artificial persons	1	20% up to **400 €**	150 €	100 €		**650€**
MOTORISED TRICYCLES OR QUADRICYCLES	natural and artificial persons	1	20% up to **750 €**	150 €	100 €		**1 000€**
CYCLES WITH AUXILIARY MOTOR	natural and artificial persons	1	**250 €**	50 €	50 €		**350€**
EV CHARGING STATIONS	natural and artificial persons	1	50% up to **500 €**				**500€**

*ISLANDS OF CORVO, FLORES, GRACIOSA AND SÃO JORGE

Figure 11 – Financial Incentive Program (RDL 2/2020/A)

Beneficiaries could **accumulate** the incentives granted with others of a similar nature, as foreseen in the national diploma. The Regional Directorate for Energy functioned as the managing authority, as the energy-competent authority within the Government of the Azores. According to the 2020 implementation report, 151 applications were submitted and 107 were approved between March and December, as in Figure 12.

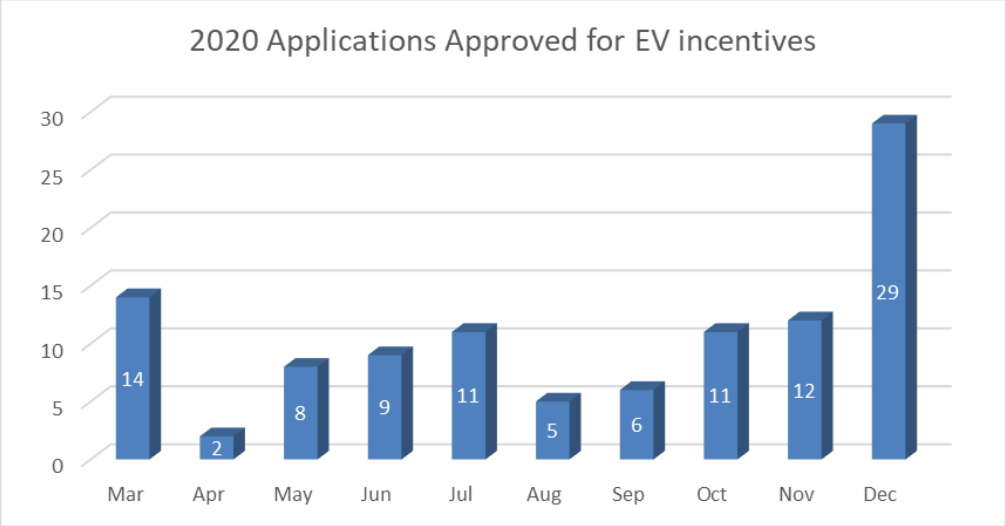


Figure 12 – Applications approved for EV incentives in 2020

An analysis on the incentives granted shows that the number of units financially supported by this incentives system was 116, corresponding to a total of €250.385,00, as in Table 10.

Table 10 – Incentives granted per number of units and monetary value (2020)

	Passenger car	Cycle with auxiliary motor	Two-wheel motorcycle or moped	Motorized tricycle or quadricycle	Charging station	Total
Nº units	77	17	1	1	20	116
Incentive	€236.143,00	€4.800,00	€550,00	€750,00	€8.142,00	€250.385,00

As the incentives system for 2020 expired, **a new regulation was published** and is now in effect – Regional Decree-Law 4/2021/A – determining the attribution of financial incentives for the introduction of new electric vehicles in the Azores (Figure 13), either through purchasing or through leasing for both natural and legal (artificial) persons. Similarly, to the expired one, this new system also regulates the granting of financial incentives for the acquisition of charging stations for EV.

The amount of the financial incentive to be granted differs according to unit typology, as well as according to applicable bonuses. Compared to the previous incentive system (Figure 11), the maximum amount to be awarded has been increased and a new bonus has been introduced. By the end of July of 2021, 115 applications had been submitted to the new incentives system.

ELECTRIC VEHICLE	PURCHASER	QT.	INCENTIVE	BONUSES				MAX AMOUNT
				DIFFERENTIAL ELECTRICITY TARIFF	UNESCO WORLD NETWORK OF BIOSPHERE RESERVES	PROOF OF ICE VEHICLE SCRAPPING	PERSON WITH DISABILIITY*	
Passenger Car	Natural Persons	1	10% ≤ 3 000 €	250 €	250 €	750 €	300 €	**4 550 €**
	Artificial Persons	≤ 3	10% ≤ 2 000 €	250 €	250 €	750 €		**3 250 €**
Two-wheel motorcycle or Moped	Natural and Artificial Persons	1	20% 750 €	150 €	100 €		200 €	**1 200 €**
Motorised tricycle or Quadricycle	Natural and Artificial Persons	1	20% 750 €	150 €	100 €		200 €	**1 200 €**
Cycles with auxiliary motor	Natural and Artificial Persons	1	250 €	50 €	50 €		100 €	**450 €**
Electric Vehicle Charging Station	Natural and Artificial Persons	1	50%. 500 €					**500 €**

* NATURAL PERSONS ONLY

Figure 13 – Current incentive scheme (RDL 4/2021/A)

The Regional Directorate for Energy continues to be the managing authority, for the same reasons set out in the previous incentive scheme. Beneficiaries can accumulate the incentives granted with others of a similar nature, as foreseen in the national diploma. Currently, the Portuguese Environmental Fund is promoting a system of "Incentives for the introduction of low-emission vehicles", which financially supports the integration of EVs in Portugal.

Regarding electric mobility, the **indicators** (KPIs) are provided in the Plan for Electric Mobility in the Azores. This document identifies 21 measures to be implemented in the archipelago (10 related to incentives; 7 related to raising awareness on electric mobility in civil society; 4 relating to the promotion of electric mobility in the Regional Public Administration). All these measures include achievement and/or result indicators; 17 of these measures also set quantifiable targets.

The policy for implementing energy transition in the Azores, also through electric mobility, has been **one of the priorities of the archipelago**, through its definition, through strategies and action plans and through financial support. Even so, there are still some challenges that need to be overcome to achieve full implementation of electric mobility in the Azores.

1.3.3. Challenges and barriers to e-mobility incentives integration and implementation

To begin with, the **costly initial investment** in electric vehicles continues to be a challenge when implementing e-mobility, not only for individuals/families, but also for companies, despite the incentive systems already in place. Nevertheless, as previously stated, the Azorean incentive system is key for overcoming this challenge, as the feedback received from private users on the application process has been quite positive.

In addition to that, **economic and social/cultural obstacles** need to be tackled. These problems come in the form of low-income households/individuals, as well as the lack of information regarding EV autonomy. Apart from that, the charging infrastructure is of great importance in the Azores, especially in residential areas, as it is estimated that only about 40% of residencies have an allocated parking space.

To promote e-mobility, the Azores has been working on several initiatives that include financial support for the purchase of electric vehicles, awareness campaigns and expanding the public network of charging stations, in coordination with municipalities, public entities, companies and organisations. For instance, as of right now, all islands and municipalities in the Azores are covered by at least one charging station.

As for the projects currently underway in the archipelago, as established in PMEA, Graciosa has been chosen as the **Model Island** for the promotion of innovative solutions regarding e-mobility. The “Graciólica” project has allowed for over 60% of renewable energy integration, consisting in a hybrid production unit, relying on wind and solar power, together with an innovative energy storage system, that can supply the island with over 24-hour consecutive periods of electric energy. To take maximum advantage of the clean energy coming from this project, several measures and initiatives are in place, namely:

- The system of incentives for the purchase of electric vehicles has come to include rent-a-cars and taxi companies in the island of Graciosa.
- Together with the Municipality of Santa Cruz, the Government of the Azores has acquired an electric minibus that will allow citizens to opt for public transportation while contributing towards the decarbonisation of the island.
- Now, an electric bike sharing system is in the final stages of development.

Lastly, the Island of São Miguel is also the focus of an innovative pilot project named Vehicle-to-Grid (V2G) that aims to develop the technology related to intelligent grids, through a bidirectional interaction between electric vehicle batteries and the public electricity grid.

1.4. Germany

1.4.1. Summary of the legislative framework and policy instruments enforce towards e-mobility promotion

In the last fifteen years, the topic of electric mobility in Germany has been increasingly promoted through legal framework conditions and funding measures. Various programmes and incentives have ensured that the automotive industry and user behaviour have adapted significantly, resulting in a rapidly increasing number of electric vehicles. Electric mobility is intended to reduce greenhouse gases. It is also important for Germany and Europe to become technologically independent. Therefore, research and development in the battery sector is being strategically promoted by the Federal Government. In addition to the national framework conditions, each of the 16 German federal states also can set its own priorities. This summary only refers to the national funding programmes and framework conditions.

To accelerate the development on the market for electric mobility, the Federal Government therefore decided on 18 May 2016 on a package of policy instruments with an investment volume of just under one billion euros. With the increase in the Federal Government's premium of around two billion euros decided by the coalition committee on 3 June 2020, around 300.000 electrically powered vehicles will continue to be subsidised until 31 December 2025. This is also based on the government's electric mobility programme (*Die Bundesregierung,* 2021). The Federal Government, which is supported by the "National Platform for the Future of Mobility", has recently further expanded the promotion of electric mobility with an innovation premium. Among other initiatives, the Federal Government has doubled its share of the purchase premium, which is currently limited until the end of 2021, and has made it possible to promote young used cars. An extension of the doubling of the federal share until the end of 2025 is planned. At the 4th meeting of the "*Konzentrierten Aktion Mobilität*" (Car Summit) on 17 November 2020, it was decided to extend the innovation premium until the end of 2025 (*Bundesministerium für Wirtschaft und Energie* (BMWI), 2021).

The legislative framework in Germany can be divided into five areas:

- Create uniform charging standards.
- Create uniform payment standards.
- Strengthening legal security.
- Strengthening investment security.
- Improving tax treatment of electric mobility.

For electric mobility to be used optimally, uniform charging and payment standards are crucial. The German government passed the Charging Station Ordinance (LSV), which

came into force on 17 March 2016. With the LSV, Germany has transposed the EU Directive 2014/94/EU into applicable law, which regulates the development of infrastructure for alternative fuels. Above all, it standardises plug standards for publicly accessible charging facilities through binding regulations, giving investors more certainty when setting up the charging infrastructure. The latest survey by the German Association of Energy and Water Industries (BDEW) shows that the development of the charging infrastructure is progressing. The BDEW's charging point register currently (as of November 2020) shows 33.100 publicly accessible charging points in Germany, 14% of which are fast chargers. At the end of 2019, there were 23.840 charging points. (BMWI, 2021)

The next step is to standardise authentication and payment at charging stations. Minimum standards for payment are to ensure non-discriminatory access to charging options. On 12 May 2017, the Federal Council approved the Amendment Ordinance to the Charging Points Ordinance II of the Federal Ministry of Economics and Technology. The amendment to the LSV regulates so-called point charging, which is intended to abolish dependence on the electricity provider's billing system. With the promulgation of the LSV, users of electric vehicles will be able to charge and bill for electricity for their electric vehicles at all publicly accessible charging points using a common web-based payment system (e.g., via app) or - if available - cash or EC/credit card. (BMWI, 2021)

Important foundations for smart grids in terms of the energy industry, data protection and data security law were already laid with the 2011 Energy Industry Act. Within the framework of the amendment to the Energy Industry Act (EnWG), the prerequisites were created so that in the future the grid fees can be reduced when electric vehicles are used in a way that serves the grid, thus making charging cheaper. (BMWI, 2021)

By classifying charging points for electric vehicles in the Electricity Market Act as end consumers under energy law, the framework conditions for the development of a needs-based charging infrastructure have also been significantly improved and legal and investment security has been created. This means that investors from all sectors and from a wide range of market motives can contribute to the development of charging facilities in fair competition. Charging points are not subject to the strict regulation of grid operation and the formation of a monopoly in operation is avoided. The energy management obligations of the charging infrastructure operators are also limited to what is necessary. (BMWI, 2021)

The German Bundestag passed a Transport Tax Amendment Act on 25 October 2012. Subsequently, the motor vehicle tax exemption for purely EV with first-time registration until 31 December 2015 was extended from five to ten years and extended to purely EV of all vehicle classes. In 2015, the Federal Cabinet passed the Electric Mobility Act

(EmoG) for the labelling and privileging of EVs in road traffic, which initially came into force until 2030. The law allows municipalities to give preference to electrically powered vehicles - i.e., pure battery electric vehicles, plug-in hybrids, and fuel cell vehicles - especially when parking and using bus lanes. These privileges only apply to electrically powered vehicles and externally chargeable hybrid vehicles that meet the requirements of a minimum range of 40 km for purely electric use or emit a maximum of 50 gCO_2/km driven during operation. In addition, building, rental, and ownership regulations are to be adapted to enable a quicker and simpler installation of charging facilities. (BMWI, 2021)

The Act on the Further Fiscal Promotion of Electric Mobility ("JStG 2019") (BGBl. I 2019, p. 2451) introduced a special depreciation for the acquisition of new, purely electrically powered delivery vehicles, as well as electrically powered cargo bicycles in the years 2020 to the end of 2030. In addition, the concessionary company car taxation for private use of a company electric or externally chargeable hybrid electric vehicle was extended until the end of 2030 (section 6 nº4 EStG). A further reduction in company car taxation for pure EV was introduced up to a gross list price of 40.000 euros (implemented with the Electromobility Promotion Act). (BMWI, 2021)

1.4.2. E-mobility promotion – types of direct incentives for private users

Three incentive programs are at the forefront of the promotion of electric mobility in Germany:

- Temporary purchase incentives.
- Expansion of the charging infrastructure.
- Public procurement of electric vehicles.

The environmental bonus that is paid for vehicles with a list price of up to 40.000€, now amounts to 9.000€ for pure EV and fuel cell vehicles with the innovation premium, and 6.750€ for plug-in hybrids. For vehicles above 40.000€, the premium is 7.500€ for pure EV and 5.625€ for hybrid vehicles. The Federal Government subsidy is only paid if the manufacturers contribute their own share. The innovation premium applies to vehicles registered after 4 June 2020 and is limited until 31 December 2025 (see Table 11, Table 12, Table 13 and Table 14 below).

The subsidy consists of grants from manufacturers and the state, that have a maximum of 9.000€. The amount of the state subsidy depends on the list price (net) of the EV. There is less subsidy for plug-in hybrid vehicles. In the case of an EV on lease, the state subsidy is linked to the leasing term. There is also less money subsidised for leased plug-in hybrids. (Rhode, 2021)

Table 11 – Subsidies for the purchase of electric cars

Price electric car	State promotion	Manufacturer promotion
Up to 40.000€	6.000€	3.000€
Up to 65.000€	5.000€	2.000€

Table 12 – Subsidies for the purchase of plug-in hybrid vehicles

Price plug-in hybrid	State promotion	Manufacturer promotion
Up to 40.000€	4.500€	2.250€
Up to 65.000€	3.750€	1.875€

Table 13 – Subsidies for the leasing of electric cars

Leasing term	Price up to 40.000€	Price up to 65.000€	Holding period
6-11 months	1.500€	1.250€	6 months
12-23 months	3.000€	2.500€	12 months
Over 23 months	6.000€	5.000€	24 months

Table 14 – Subsidies for the leasing of plug-in hybrid vehicles

Leasing term	Price up to 40.000€	Price up to 65.000€	Holding period
6-11 months	1.125€	937,50€	6 months
12-23 months	2.250€	1.875€	12 months
Over 23 months	4.500€	3.750€	24 months

The Federal Government is providing 300 million euros to improve the charging infrastructure: 200 million euros for the fast-charging infrastructure and 100 million euros for the normal-charging infrastructure. As a further incentive to promote electric mobility, the Federal Ministry of Economics and Technology is supporting cities and municipalities in setting up charging infrastructures, among other initiatives, as part of the "Clean Air 2017 - 2020" emergency programme, as well as projects in research for innovative charging infrastructures for electric mobility and integration into the energy system through the "*Elektro-Mobil*" funding guideline. The goal is to have at least 20% electric vehicles in the Federal Government's vehicle fleet in the future. (BMWI, 2021)

Furthermore, if employees charge the EV at their employer's premises, this no longer constitutes a non-cash benefit. Benefits granted by the employer for the electric charging of an EV or hybrid electric vehicle at the employer's or an affiliated company's premises, and for the company charging device temporarily provided for private use, are tax-exempt until the end of 2030 (section 3 nº.46 EStG). Additionally, the commuting allowance for long-distance commuters will be increased for a limited period from 2021 to 2026. Thus, to ease the burden, the commuting allowance will be raised to 35 cents and by a further 3 cents to 38 cents from 2024. Moreover, low-income earners whose income is below the basic allowance will also receive a mobility bonus. (BMWI, 2021)

1.4.3. Challenges and barriers to e-mobility incentives integration and implementation

Social acceptance of electric mobility is increasing, although there are still some problems. Supposedly low ranges and the fear of too few charging stations, which is mostly unfounded, are the biggest obstacles for buyers.

In general, it can be assumed that the financial subsidies provided will be sufficient to encourage private users in Germany to use electric vehicles, as the funding can be accessed without any major difficulties. However, the buyer must make all payments in advance and can only apply for funding afterwards. Therefore, the buyer receives the subsidies after the application has been processed.

The rising numbers of 365.300 registered EVs on 1 April 2021 show that the incentive system seems to work. The number of registered EVs with an exclusively electric energy source are shown in the Figure 14. Depending on the definition, plug-in hybrid passenger vehicles are also counted as electric, and their stock on 1 April 2021 was around 349.300. Overall, the number of electrically powered passenger vehicles is approaching one million. (Kords, 2021)

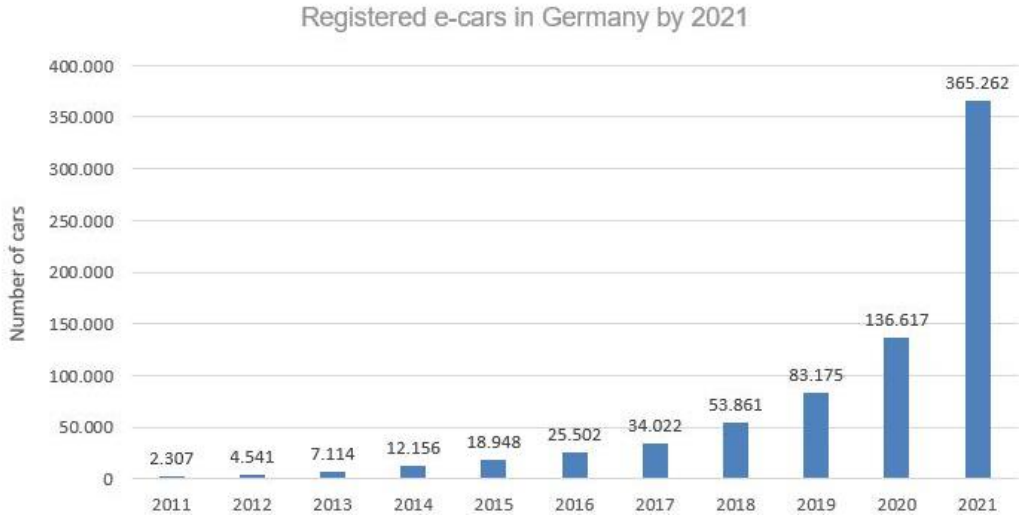


Figure 14 – Number of electric cars in Germany from 2011 to 2021 (Source: Kraftfahrt Bundesamt, 2021)

Charging problems in private locations can slow down the expansion of electric mobility. While investments have already been made in public charging stations, which are increasingly occupied at peak times, the private charging infrastructure has been neglected. Despite this, 85% of charging takes place in private locations, according to a joint letter from the VDA (Association of the Automotive Industry), BDEW (German Association of Energy and Water Industries) and GDW (German Association of Housing and Real Estate Companies). As this problem was identified, the Federal Government's economic stimulus package already includes funds for the expansion of a modern and safe charging infrastructure, including a subsidy of half a billion euros for private and commercial charging facilities. (Grimm, 2020)

On the one hand, there are some hurdles in setting up the charging infrastructure. From April 2019, customers should be able to check how much electricity they are being charged - and at what price. German calibration law provides for this, but it is still technically difficult to implement. The problem is not the measurement and display of the electricity consumed, but that the measurement results must also be "verifiable" for the consumer. What this means can be seen by comparing it with the conventional refuelling of diesel and petrol: the customer can immediately compare the calibrated display of the petrol pump with his receipt. If something is wrong, he can complain immediately. At most electric charging stations, however, users do not pay directly; the operator or service provider usually settles the bill later. Direct verifiability is therefore not yet given and a solution for this still needs to be found. (Becker, 2019)

Another problem for the promotion of electric mobility in Germany is quite trivial. Many municipalities are not using the incentives to facilitate the transition to electric mobility, that are anchored in the Electric Mobility Act of 2015. Since then, municipalities have

been able to waive parking fees for EVs or allow them to use the bus lane. However, the law enforcement evaluation, performed by external experts during 2018, showed that only 22% of the municipalities surveyed are already implementing the options offered, and 11% wanted to start it in 2019. This means that almost half of the municipalities is unaware of the law. It seems that the funding opportunities need to be more and better explained to the public, municipalities, and private users. (Becker 2019)

1.5. Romania

1.5.1. Summary of the legislative framework and policy instruments enforce towards e-mobility promotion

Romania has two main policy instruments for supporting the uptake of electric vehicles. The first is dedicated exclusively to public institutions (i.e., companies and administrations) for updating their public transport fleets. The policy instrument is the Regional Operational Program (ROP) for 2014-2020, which supports the acquisition of electric public transport vehicles through 2 priority axis: (i) Priority Axis 4 – Supporting sustainable urban development, Investment priority 4.1 - Promotion of carbon reduction strategies for all types of territories, in particular urban areas, including the promotion of sustainable urban mobility plans and measures to mitigate climate change, a priority axis developed for the main cities in each region, and (ii) Priority Axis 3 – Supporting the transition towards an economy with low carbon emissions, Investment priority 3.2 - Promotion of carbon reduction strategies for all types of territories, in particular urban areas, including the promotion of sustainable urban mobility plans and measures to mitigate climate change, a priority axis developed for towns or smaller cities in the regions. The ROP is coordinated by the Ministry of Development, Public Work and Administration.

The Sustainable Urban Mobility Plan (SUMP) is a prerequisite of the ROP, for the investments to be eligible within the program. Through the ROP, all types of public transport electric or hybrid vehicles are eligible, namely: trams, trolleybuses, electric or hybrid buses and minibuses. Also, the necessary infrastructure for charging stations is financed through the ROP, both for public transport vehicles and for publicly available charging stations.

The second policy instrument is the Environmental Fund, which supports both the acquisition of electric vehicles and the installation of charging stations. The fund is coordinated by the Administration of the Environment Fund, under the authority of the Ministry of Environment, Waters and Forests. The RablaPlus Program is the policy instrument for supporting the acquisition of electric vehicles by individual persons and legal entities in Romania. The program provides support for the acquisition of vehicles but does not include support for leasing vehicles. Additionally, the Environmental Fund supports the installation of charging stations through the RablaPlus Program, concerning the reduction of greenhouse gas emissions resulting from the transport sector by promoting infrastructure for non-pollutant vehicles: charging stations for electric and plug-in hybrid vehicles.

1.5.2. E-mobility promotion – types of direct incentives for private users

The RablaPlus Program has evolved in recent years, starting with smaller financial support and total allocated budgets, and increasing throughout the years. The following Table 15 and Figure 15 summarize the budget increases for the program.

The most significant increase for the subsidy happened between 2016 and 2017, by doubling the values for electric vehicles and increasing by 4 times the values for hybrid vehicles. The changes seen for the 2017 – 2020 period are a result of the national currency fluctuations, as the values in RON (Romanian Lei) have remained the same.

Table 15 – Subsidies for the purchase of electric or hybrid vehicles in Romania, for the 2016-2020 period (Source: Summary of the evolution of the RablaPlus program)

Vehicle type	**Value of subsidy (€)**				
	2016	2017	2018	2019	2020
Electric	4.454€	9.851€	9.670€	9.483€	9.303€
Hybrid Plug-in	1.113€	4.378€	4.298€	4.215€	4.135€

The total budged for the RablaPlus increased gradually until 2019 but saw a steeper increase (more than double in value), for the year 2020, going from 20 million euros to 41,4 million euros.

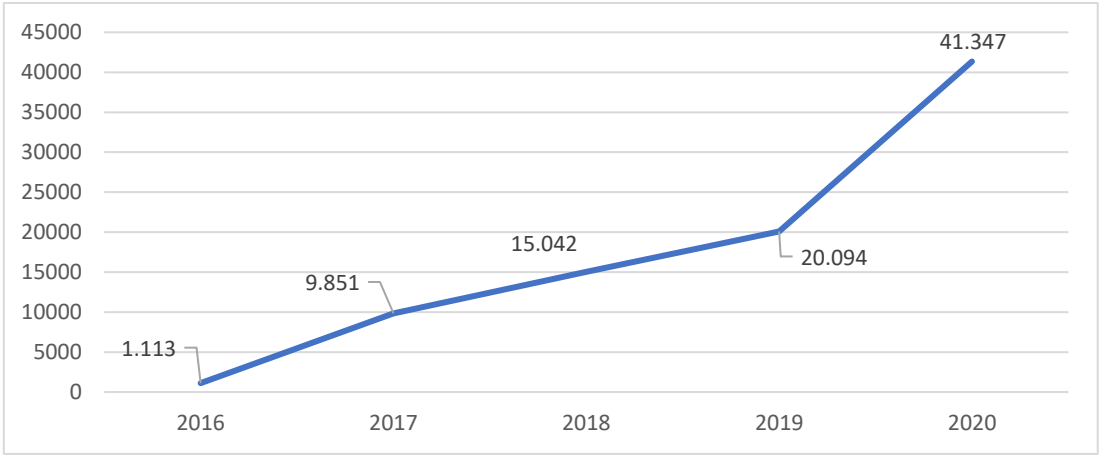


Figure 15 – Evolution of the total funding provided for the RablaPlus Program, the 2016 – 2020 period, ***thousand €*** *(Source: Summary of the evolution of the RablaPlus program)*

In the same way as the available funds, the number of purchased EVs or hybrid vehicles increase during the equivalent period. However, the highest increase has been in recent

years, with almost 80% more vehicles being approved in the program in 2020 compared to 2019, and 70% more vehicles being approved in 2019 compared to 2018. The type of vehicle preferred by most buyers was fully electrical, more than 79% of vehicles in any given year being as such. The highest ratio for hybrid vehicles was in 2020, when 21% of vehicles were hybrid, and the lowest was in 2016 when only 13% of vehicles being hybrid. During the 2016-2020 period 5.705 new vehicles have been acquired through the RablaPlus Program, out of which 1.036 were plug-in hybrid vehicles and 4.669 were fully electrical vehicles. These values can be observed in Figure 16 below.

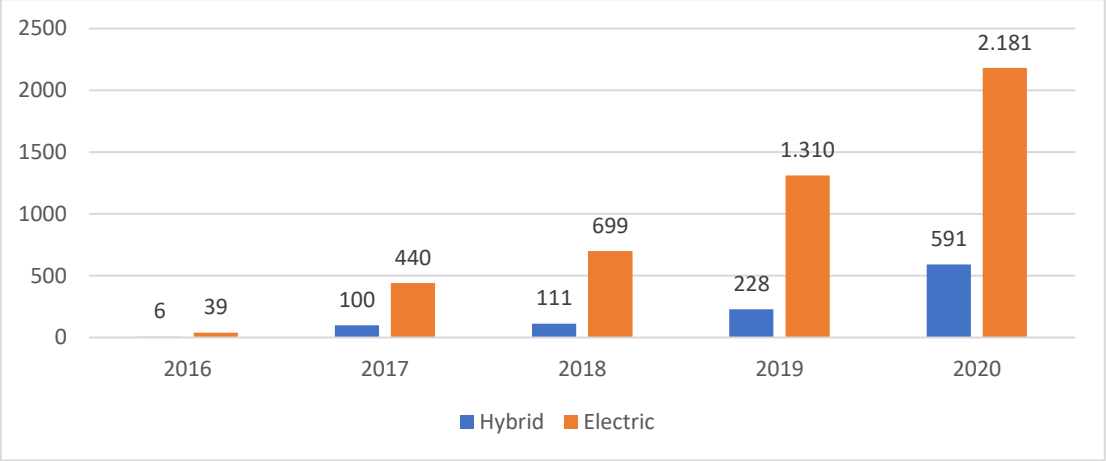


Figure 16 – Results of the RablaPlus Program – nº of new vehicles acquired, for the 2016-2020 period (Source: Summary of the evolution of the RablaPlus program)

The most recent version of the RablaPlus Program, updated for 2021, provides the following:

- 9.106€ for fully electric vehicles and 4.047€ for hybrid, plug-in vehicles.
- The total amount allocated for the project initially doubled compared to 2020 and was increased further in August, reaching more than 120 million euros (600 million RON).
- The incentive cannot surpass more than 50% of the total acquisition price for a vehicle.
- The program is opened to both private individuals and legal entities.

During 2021, the interim results until August, for the RablaPlus program are:

- 1.697 requests for 2.747 vehicles, of which 1.865 are full electric cars, 878 are hybrid cars and 4 are electric motorcycles.
- 6.067 individual persons registered for the program, who have purchased so far 1.401 new vehicles.

- 189 legal entities registered for the program, who have purchased 253 new vehicles.

Such results clearly show an increased interest from the public to buy and use an electric vehicle. Furthermore, companies or other legal entities are purchasing more than one vehicle 30% of the time.

1.5.3. Challenges and barriers to e-mobility incentives integration and implementation

Partial results of the ROP 2014-2020 funding schemes for electric vehicles are highlighted by the acquisition of electric buses, a type of vehicle that had not been used in the country prior to 2013. The following Figure 17 presents the increase in number for electric buses in the 2013 - 2020 period and highlights a much higher increase since 2018, when most local authorities submitted their projects for funding under the ROP 2014-2020. These are interim values, as the ROP is under implementation until December 2023.

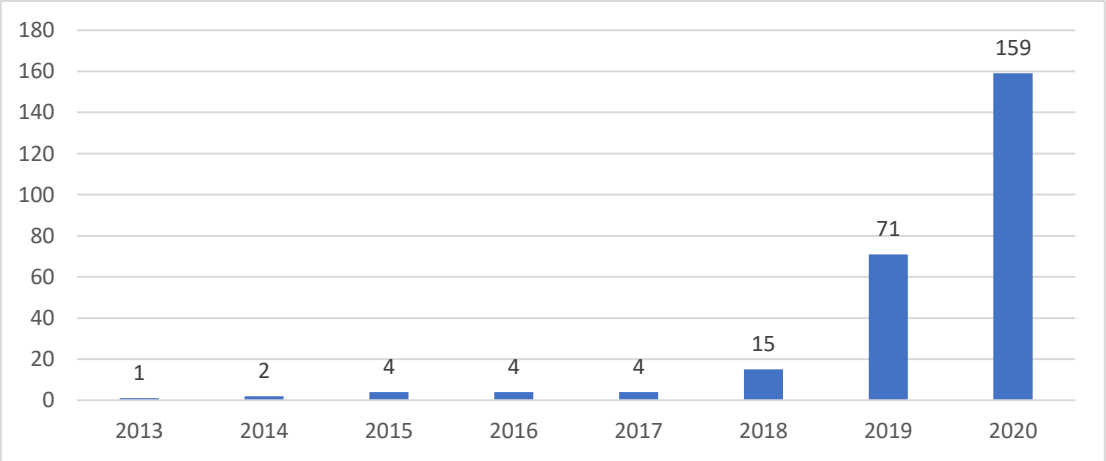


Figure 17 – Evolution of the number of electric buses and minibuses in Romania, for the 2013-2020 period (Source: Romanian National Institute of Statistics)

Furthermore, 2020 was the first year when the National Institute of Statistics included hybrid vehicles in their data base. A total of 176 hybrid (Diesel + electric) buses had been purchased in or by 2020.

The impact of the RablaPlus Program is visible in the increase in the number of electric and hybrid passenger cars and trucks. The following Figure 18 presents this increase for passenger cars, making obvious the higher number of such vehicles being purchased in the 2016 – 2020 period, especially since 2017, when the allocated funds for the program and corresponding incentives increased. The smaller values in 2020 can be in part attributed to the COVID-19 pandemic and the higher level of uncertainty it generated.

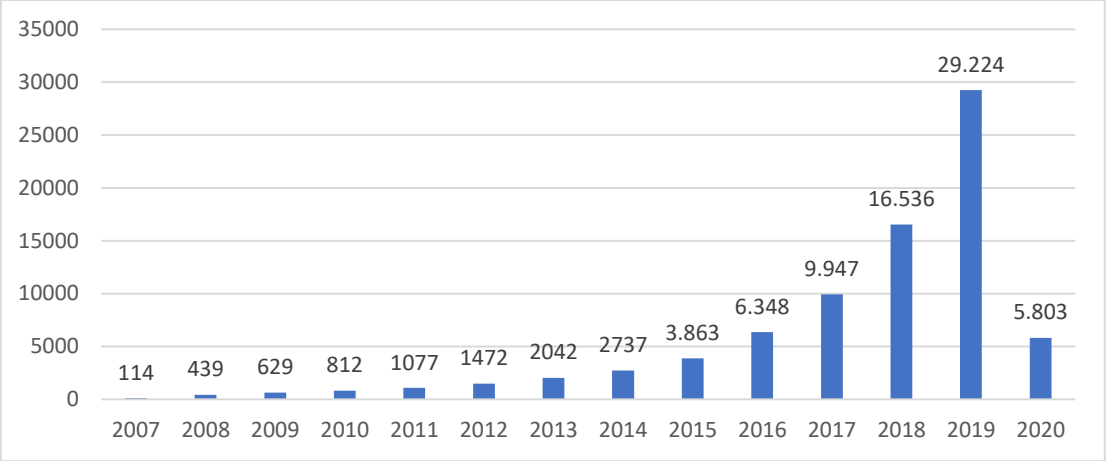


Figure 18 – Evolution of the number of electric cars in Romania, the 2007-2020 period (Source: Romanian National Institute of Statistics)

In 2020, a total of 44.994 hybrid passenger cars were registered in Romania. Out of them, 12% were Diesel and electric and 88% were gasoline and electric. Only 6 cars in total were hybrid with an LPG and electric system.

The RablaPlus Program produced effects for private companies as well, with an increase in the total fleet of electric trucks, as in Figure 19 below. As passenger cars, the increase in electric trucks was more prominent since 2017. Also, in 2020, a total of 55 hybrid trucks were registered, but the ratios differ from passenger cars, with 9% of trucks being hybrid gasoline and electric, and the remaining 91% being hybrid Diesel and electric.

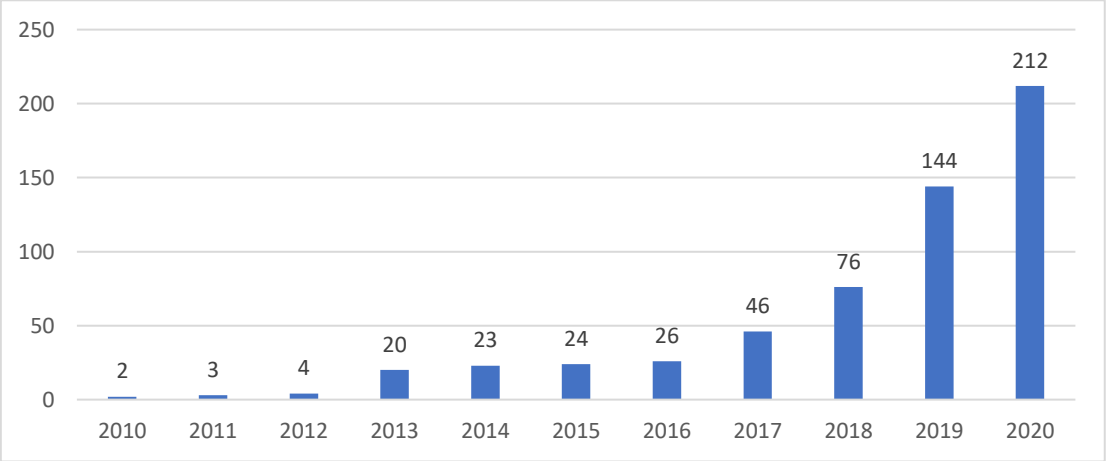


*Figure 19 – Evolution of the number of electric trucks in Romania, for the 2010-2020 period (*Source: Romanian National Institute of Statistics)

The main policy instruments focused, up to this point, on providing incentives for the development of the needed infrastructure (charging stations) and the acquisition of electric or hybrid vehicles. As the values for both incentives and the total allocated sums

for such investment increased, so did the results. This means they were both well received by the public and provided sufficient financial support.

However, certain challenges exist. For the public sector, the changes brought on by the acquisition of electric or hybrid vehicles implies updating their existing technologies and improve their technical capacity to better operate and maintain their fleets. For the public, the increase of overall electric vehicles puts a certain strain on the existing urban energy networks, which have not been designed for such a capacity and can lead in time to power shortages. Such challenges have not been so far clearly tackled at the national level, but the new Regional Operational Programs for the 2021-2027 period and the Romanian Recovery and Resilience Plan present a good opportunity to do so.

The results have been obtained with a high budget allocation. To further increase the impact of such programs, additional softer measures are needed, preferably focused on increasing awareness and shifting the public mind-sets and level of acceptance for more sustainable transport vehicles.

1.6. Croatia

1.6.1. Summary of the legislative framework and policy instruments enforce towards e-mobility promotion

Long-term national energy and climate policy objectives, which consequently affect the development of e-mobility objectives, are closely linked to the relevant European Union policy, and all strategic documents in the Republic of Croatia must therefore be considered as part of the global policy and in particular the policies of the European Union. Strategic documents in the Republic of Croatia, which are among other things relevant for the development of e-mobility, are adopted in the light of the European Union's energy and climate policy.

In this context, the **Integrated National Energy and Climate Plan for the Republic of Croatia for the period 2021-2030** (NECP) of December 2019, adopted based on Regulation (EU) 2018/1999 of the European Parliament and of the Council on the Governance of the Energy Union and Climate Action, should be highlighted. The achievement of the objectives of the Energy Union is planned to be ensured through a combination of Union initiatives and consistent national policies set out in the integrated national energy and climate plans.

The integrated national energy and climate plan for the period 2021-2030 builds on existing national strategies and plans and provides an overview of the current energy and climate policy areas. It shall also provide an overview of national targets for each of the five key dimensions of the Energy Union and corresponding policies and measures to achieve these targets. In the integrated energy and climate plan, particular attention was devoted to the 2030 targets, including the reduction of greenhouse gas emissions, energy from RES and the energy efficiency of electricity interconnection.

Beyond the objectives of reducing greenhouse gas emissions, one of the key targets for 2030 set out in the Integrated National Energy and Climate Plan is to achieve a 13,2% share of RES in final consumption of energy in transport. To achieve the objectives set several measures have been developed, of which 13 relate to the transport sector. Most of these measures are particularly relevant for the development of e-mobility.

On 28 February 2020, following a proposal from the Government of the Republic of Croatia, the Croatian Parliament adopted the **Energy Development Strategy of the Republic of Croatia until 2030, with a view on 2050**, which adopts a fundamental vision for the energy transition of the Republic of Croatia. The Strategy presents a wide range of energy policy initiatives, which will strengthen the security of energy supply, gradually reduce energy losses, and increase energy efficiency, reduce dependence on fossil fuels, increase domestic production and use of renewables. It defines the priorities as well as

the long-term guidelines for developing the Croatian energy sector, which are based on a broad discussion of all key stakeholders. For this purpose, analytical bases presented to the public as a "Green Paper" have been produced as a basis for discussion. The key elements of the analysis produced in the Strategy for the transport and e-mobility development process will be here identified and presented.

The provisions of Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 **on the deployment of alternative fuels infrastructure** have been transposed into the legal framework of the Republic of Croatia by the **adoption of the Law on the establishment of alternative fuels infrastructure**. The Act establishes a common infrastructure setting framework and minimum requirements for the deployment of alternative fuels infrastructure, including charging points. Furthermore, it sets out common technical specifications for recharging and refueling points, user information requirements, as well as the way to perform reporting obligations on the implementation of alternative fuels infrastructure deployment measures.

Under the Alternative Fuels Infrastructure Act, the **National policy framework (NPF) for infrastructure deployment and the development of the market for alternative fuels in transport** has been adopted, with the purpose as defined therein: "The objective of the NPF is to define and elaborate objectives and measures for the establishment of infrastructure and the development of the market for alternative fuels in transport. In this regard, the NPF shall include an examination of the types of alternative fuels with their advantages and limitations and the elements provided in Article 4 (2)."

Among others, the following measure is also mentioned in the NPF: "It is necessary to provide for amendments to the law governing transport infrastructure by laying down obligations for the establishment of alternative fuels infrastructure for transport infrastructure operators, as well as supplementing the law regulating the conditions for the construction of alternative parking areas by obliging alternative fuels infrastructure to be established." The current Construction Act (NN, 153/13, 20/17) does not mention infrastructure intended for the recharging of electric vehicles. However, the "Rules on simple and other works" provide that on an existing building construction work may be carried out without a building permit in accordance with the main project. Despite this, none of those legal acts have defined the conditions and requirements that charging companies should follow for the construction of parking areas.

1.6.2. E-mobility promotion – types of direct incentives for private users

Given that, at an early stage of the development of e-mobility where there are high prices of electric vehicles, development based purely on market principles is not possible. Therefore, there is a need to establish certain incentive mechanisms, to reach

a development stage where further developments can be based on a market demand. Moreover, early developments conduct to a known “chicken and egg” barrier to e-mobility deployment: the lack of publicly accessible charging infrastructure, while at the same time investors are not interested to finance the installation of charging infrastructure, as there are not enough users to put in place rentable business models. In such situations, incentives capable of initiating developments to switch to market principles can play an important role.

There are two global approaches to boost e-mobility:

- Bottom-up, where the initiative comes from both the users and the business segment, that seeks to compel the government to introduce various forms of incentives. The main example of this approach is Norway.
- Top down, where the government seeks to impose e-mobility to society. Most countries in Europe follow this approach by setting targets and incentive schemes.

As in over Europe, Croatia uses the “top down” approach, but the focus is now mainly on fiscal stimulus. The two key measures implemented concern the activities of the Environmental Protection and Energy Efficiency Fund (EPEEF), namely to co-financing of electric vehicles’ purchase and the co-financing of installation costs for electric vehicles charging infrastructure. The EPEEF’s main actions are marked by its lack of continuity (once a year), high co-financing rates for the purchase of electric vehicles, operational implementation of the allocation, and low final number of co-financing beneficiaries, as detailed below:

- **Incentives for the purchase of electric vehicles**

With the aim of encouraging cleaner transport in Croatia and reducing air pollution, in 2014 the project "Driving economically" was launched, through which citizens and companies are awarded grants for the purchase of energy efficient vehicles. From 2014 to 2019, the EPEEF co-financed the purchase of 3.681 energy efficient vehicles (electric, hybrid and plug-in hybrid vehicles) with about 15 million euros.

These EPEEF actions are carried out periodically, usually once a year, through the publication of a public call, where the funds are allocated according to the time of receipt of the request for co-financing. In practice, it happens that the available funds are used within a few minutes of the announcement of the call.

As part of the program of co-financing electric vehicles in 2020, no subsidy was allocated for hybrid vehicles, but only for electric and plug-in hybrid vehicles. For plug-in hybrid

vehicles, the maximum amount of the subsidy was up to 5.300€, and for fully electric vehicles up to 10.500€.

- **Incentives for the construction of EV charging infrastructure**

In 2019, in addition to co-financing the purchase of electric vehicles, the EPEEF introduced a novelty and issued a public call for direct co-financing of the construction of charging stations for electric vehicles. Public and private legal entities had the right to apply for co-financing. The limit on the amount of the subsidy is set at 40% of the eligible investment costs, i.e., a maximum of 26.600€ per beneficiary, with the total amount of available funds under this call amounting to 0,77 million euros. Charging stations with a minimum total power of 50 kW DC or 22 kW AC were eligible for co-financing, and the technical concept is not regulated by the call, but is open to various solutions regarding voltage systems, power, charging speed and location of charging stations and traffic areas. In practice, this means that the locations or regions in which charging stations placement are priority are not defined.

It should be noted here that the cost of charging points connection to the distribution network is not considered eligible and in the case of fast charging stations these values are substantial. According to current prices, the value may exceed the total amount of the investment regarding the charging point itself.

1.6.3. Challenges and barriers to e-mobility incentives integration and implementation

The system of incentives for e-mobility has played an important role so far in initiating and creating the early development of an e-mobility market, namely by placing this topic in the public agendas. However, the current situation and trends indicate that the existing incentive system is not adequate and needs to be improved. This includes reviewing what needs to be encouraged, analysing the need to expand the subject of the incentive, reviewing the amount of the incentive, improving the operational implementation of the allocation of funds, and finding a way to reach a wider range of beneficiaries. Below are some guidelines and considerations to improve the system of encouraging e-mobility in Croatia.

- **Continuity and operational implementation of co-financing**

Failure to maintain the continuity of a certain measure is one of the main objections regarding the current incentive system. The periodicity of the publication of public calls for co-financing introduces uncertainty into market operations, violates market principles and makes it difficult to plan the operations of the stakeholders involved, which includes end buyers of electric vehicles. It is therefore necessary to carry out

analyses from which guidelines will emerge for the establishment of incentive mechanisms that are predictable and less limited.

- **Values to encourage the purchase of electric vehicles**

Given the development projects of the automotive industry and related technology companies, there is an evident decrease in battery prices over the years, as well as the appearance of an increasing number of different models of electric cars on the market. The difference in the purchase price compared to conventional vehicles is gradually decreasing, so electric cars are becoming more and more competitive. Accordingly, it is necessary to conduct analyses, as a basis for auditing the existing values that co-finance the EVs purchase. Also, while maintaining identical available funds, by reducing the co-financing value this incentive system would reach a larger number of beneficiaries.

- **Co-financing the cost of connection to the distribution network**

According to the existing incentive system, the cost of connecting the charging station to the distribution network is not considered an eligible cost. For fast charging stations that have a large connection power, this value is substantial and often discourages investors. Therefore, it is necessary to conduct more detailed analyses that assess the justification for the introduction of co-financing of the described cost.

- **Co-financing of infrastructure depending on the zones**

In addition, in future public calls for co-financing of the construction of EV charging stations it is desirable to define zones for which different values of co-financing will apply, to encourage balanced development of charging infrastructure in all parts of Croatia, thus enabling uninterrupted travel by electric vehicle.

2. Comparison of incentives' integration in policy instruments to stimulate e-mobility by private users

After analysing the incentives that are put into action across the EMOBICITY project countries, it is clear that three main types of incentives are widely being used as e-mobility promoters: direct incentives for BEV and PHEV acquisition; fiscal incentives, namely positive fiscal differentiation for BEV and PHEV; and incentives for the expansion of the electric vehicles' charging infrastructure. Nevertheless, from these, the direct incentives for EVs acquisition are probably the ones with most visible impacts.

In **Greece**, the "GO ELECTRIC" program grants direct subsidies for the purchase of EVs and foresees subsidies up to 48,5 million euros until December 2021. Besides the "GO ELECTRIC" subsidy scheme, currently Greece provides various tax incentives for the promotion of e-mobility (nevertheless, mostly addressed to companies rather than individuals). Another recent subsidy program for the promotion of e-mobility in Greece is "e-Astypalea", that aims to transform the Astypalea island into an energy-autonomous island, producing energy exclusively from renewable energy sources (RES), coupled with an energy storage system. Moreover, the project aims to have only BEVs circulating on the island, charging their batteries from electricity generated 100% from RES. The project budget is 9 million euros for 2,5 years and 70% of this will be distributed for private/company cars, 20% for motorbikes/motorcycles and 10% for bicycles. The subsidies of "e-Astypalea" are greater comparing to these of the "GO ELECTRIC" program, making the purchasing of an EV particularly appealing under this incentive program.

However, despite the subsidies, private EV are still considered expensive. Moreover, the charging network isn't yet fully deployed, leading to range anxiety. Another issue raised concerns the effectiveness of such subsidy schemes once the beneficiary must make the payments first on its own and then receive the subsidy.

Still, the EVs market share rose from 1% in August 2020 to 10,6% in December 2020. The average market share of EVs has been 2,6% (2.135 EVs) which is higher than the forecast of the National Energy and Climate Plan (NECP). The trend seems to continue in 2021 as well, with 5,3% EVs market share for the first 5 months.

In **Portugal** (mainland), the direct incentive to the purchase of electric vehicles is granted by the Portuguese Environmental Fund. The incentive for the Introduction of Low-emission Vehicles is annually in force since 2017, through a Government Order that sets the amount of the budget to be distributed and is in fact the most effective direct incentive for private EV users.

In 2017, the incentive was directed only to passenger and commercial light duty vehicles with a total budget of 2,3 million euros. Despite the total budget available was not allocated, this first call was a huge success with more than 1.200 applications. In 2018, the incentive was extended to motorcycles with a total budget of 2,65 million euros. This second call used all available funds and had more than 1.600 applications, from which 322 were not evaluated due to lack of available budget. In 2019, the incentive was extended also to bikes with a total budget of 3 million euros. The third call used again all available funds and had more than 3.000 applications, from which 838 were excluded due to lack of available budget and lack of compliance with the incentives' regulations. The success of the measure was now clear. In 2020, the incentive was again extended and contemplated conventional bikes with a total budget of 4 million euros. In this sense, from 2020 on the incentive also incorporated the promotion of conventional soft mobility modes, expanding the scope of the incentive, and contributing to the national strategy enforce. The complete results regarding the fourth call aren't available yet. Nevertheless, we already know that all the available funds were allocated, and the call had almost 5.000 applications. Regarding 2021 incentive, the total budget allocated was set into 4,5 million euros, to be attributed to the acquisition of low emission vehicles, highlighting three key areas of intervention, which integrate different types of support and different beneficiaries: light duty passenger vehicles; urban logistics; and cycling active mobility and two wheels vehicles.

In 2020, EVs sales in Portugal grew exponentially, beating successive records, the result of an ever-increasing offer from the vehicles' manufacturers, vehicles' increasing real autonomy, lower prices, and a set of incentives and tax benefits. By the end of 2020, these sales had 13,6% of market share (2020 accumulated), which is impressive considering that it was a particularly hard year due to the pandemic restrictions.

Regarding the **Azorean Autonomous Region**, the first financial incentive program for the purchase of electric vehicles and charging points was established in 2020. The incentives' beneficiaries can accumulate the incentives granted with others of a similar nature, as the ones from the Portuguese Environmental Fund.

According to the 2020 implementation report, 151 applications were submitted and 107 were approved between March and December 2020. An analysis on the incentives granted showed that 116 units were financially supported by this incentives system, corresponding to a total of 250.385 euros. As the incentives system for 2020 expired, a new regulation was published for 2021. Compared to the previous incentive system, the maximum amount to be awarded increased and a new bonus was introduced, and by the end of July of 2021, 115 applications were submitted.

As for the projects currently underway in the archipelago, Graciosa island with the "Graciólica" project was chosen as the Model Island for the promotion of innovative solutions regarding e-mobility. To take maximum advantage of the clean energy resulting from this project, several measures and initiatives are in place, namely: a system of incentives for the purchase of EVs that includes rent-a-cars and taxi companies; the Government of the Azores, together with the Municipality of Santa Cruz, acquired an electric minibus; an electric bike sharing system in the final stages of development.

In **Germany**, three incentive programs are at the forefront of the promotion of electric mobility: temporary purchase incentives; expansion of the charging infrastructure; and public procurement of electric vehicles.

The environmental bonus that is granted to vehicles with a list price of up to 40.000€, amounts to 9.000€ for pure EV and fuel cell vehicles, and 6.750€ for plug-in hybrids. For vehicles above 40.000€, the incentive is 7.500€ for pure EV and 5.625€ for hybrid vehicles. In the case of an EV on lease, the state subsidy is linked to the leasing term. Furthermore, the Federal Government is providing 300 million euros to improve the charging infrastructure: 200 million euros for the fast-charging infrastructure and 100 million euros for the normal-charging infrastructure.

In general, it can be assumed that the financial subsidies provided will be sufficient to encourage private users in Germany to use electric vehicles, as the funding can be accessed without any major difficulties. There are already 365.300 registered EVs in Germany (1.04.2021) that show that the incentive system seems to work.

Regarding **Romania**, the RablaPlus Program is the policy instrument that support the acquisition of electric vehicles by individual persons and legal entities but does not include support for leasing vehicles. The RablaPlus Program has evolved in recent years, starting with a smaller allocated budget, and increasing throughout the years. In 2020 the program's total budget more than doubled its value to 41,4 million euros.

In the same way as the available funds, the number of purchased EVs or hybrid vehicles also increased. However, the highest increase has been in recent years, with almost 80% more vehicles being approved in the program in 2020 compared to 2019, and 70% more vehicles being approved in 2019 compared to 2018. During the 2016-2020 period 5.705 new vehicles have been acquired through the RablaPlus Program, out of which 1.036 were plug-in hybrid vehicles and 4.669 were fully electrical vehicles.

Such results clearly show an increased interest from the public to buy and use an electric vehicle. Furthermore, companies or other legal entities are purchasing more than one vehicle 30% of the time.

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