

# EMOBICITY

## Azores Peer Review

### Final report

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## Introduction

This Peer Review intends to contribute to the experience of exchange and mutual learning among participants' regions and countries and to the improvement of the quality of this project's results. The main goal of peer reviews is to gather useful information from all project partners and stakeholders, so as to apply their recommendations and learned lessons to the proper development of the Action Plans.

The main element of the Peer Review Report and developed Action Plan is the deployment of the charging infrastructure for electric vehicles in the Autonomous Region of the Azores.

The consortium and external peers have been invited to go through the addressed policy instrument: the Azores Operational Programme 2020. However, after the Action Plan revision, and based on the outcomes of the Peer Review online meeting, it was acknowledged that the policy instrument more effectively impacted by the Action Plan would be the Plan for Electric Mobility in the Azores (PMEA). In spite of this alteration, the main element of the Peer Review Report and the Action Plan remains the same: the **deployment of the charging infrastructure for electric vehicles in the Azores**.

Following up on the Peer Review's online meeting, this comprehensive report summarises the review's implementation, identifies the participants' learning points and provides recommendations to relevant stakeholders.

### 1. Policy context and policy challenges encountered

In terms of policy instruments, the Azores 2020 Operational Programme (PO Açores 2020) is a programme funded by the EU structural funds ERDF and ESF, for the 2014-2020 programming period, with execution in the Autonomous Region of the Azores. The Operational Programme was developed by the Regional Government of the Azores, synthesizing an extensive array of consultations and contributions from a wide range of regional agents, and consisting of a set of proposals in terms of regional development policy for the near future, in compliance with the main guidelines of the European 2020 Strategy and of the National Partnership Agreement.

The Azores 2020 Operational Programme is structured into twelve priority axes, whose management is supported by a thirteenth axis related to technical assistance. Each priority axis has specific objectives<sup>1</sup>. Axis 4, referring to the 'Low Carbon Economy', has the specific objective of 'Promoting Sustainable Urban Mobility' (4.5.1), which includes actions to support the promotion and implementation of e-mobility, namely:

- Investment in public charging stations on strategic points of the islands;

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<sup>1</sup> Azores 2020 Operational Program. Retrieved from: <http://poacores2020.azores.gov.pt/eixos/>

- Investment in equipment for the improvement of information management and user support systems in urban areas;
- Awareness-raising actions.

Regarding the defined targets, one of the results' indicators within the scope of the previously referred objective 4.5.1 was "EV charging stations". The target was to deploy 26 stations until 2023. Nevertheless, there are currently 34 EV charging stations already in place: 17 fast charging and 17 normal. This means that the set targets have already been surpassed and the Region holds the right conditions to promote this type of mobility.

Furthermore, the Azores 2020 Operational Programme 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, amounting to a total investment of almost €2 million. Of those, two were related to the EV charging infrastructure and were implemented by the Regional Directorate for Energy:

Operation number	Operation name	Total eligible expenditure	Approved fund
ACORES-04-1406-FEDER-000010	Public network EV fast charging stations	€903,086.66	€767,623.66
ACORES-04-1406-FEDER-000013	Public network EV normal charging stations	€128,502.00	€109,226.70

The operation concerning EV fast charging stations is complete, with 16 infrastructures installed and running. Regarding the EV normal charging stations, the Regional Directorate for Energy has acquired 33 charging stations: 6 of them are in operation and the remaining 27 are to be installed by regional entities that comprise several sectors – hotels, corporations, municipalities and the regional public administration.

In recent years, the Autonomous Region of the Azores has been implementing its energy policy according to the guidelines and national/international commitments regarding energy and mobility. To this end, several strategic documents and policies have been enacted, such as the Strategy for the Implementation of Electric Mobility in the Azores (published under 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, the strategy involves:

- The implementation of a public 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:

- The 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. The PMEAs offers the following strategic objectives: reduction of greenhouse gas (GHG) emissions; decarbonisation of the regional economy; promoting energy efficiency; more efficient use of the electric power system; cost reduction for families and organisations; and reputational gain of the Autonomous Region, enhancing the Azores, in the context of European islands and outermost regions, as a living lab of solutions for electric mobility.

The PMEAs presents a number of measures to promote electric mobility that consider both financial and non-financial incentives. Financial incentives include a system of incentives implemented by the Government of the Azores, through Regional Decree-Law 4/2021/A, which also contemplates an incentive for the acquisition of charging stations. As for non-financial incentives, these include the gradual expansion of the public network of charging stations in strategic locations, so as to disseminate this technology and encourage potential new electric vehicle users. As of right now, all islands and municipalities in the Azores are covered by at least one charging station.

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

### 1.1. Challenges

The EV charging infrastructure is of great importance in the Azores, especially in residential areas, as it is estimated that only about 40% of residences possess an allocated parking space. Also, the costly initial investment continues to be a challenge when implementing e-mobility, not only for individuals/families, but also for corporations, in spite of the incentive systems already in place. In addition, 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.

To promote e-mobility, the Azores have been working on several initiatives, including financial support for the purchase of electric vehicles, awareness campaigns and expanding the public network of charging stations, in coordination with municipalities, public entities, corporations and organisations.

Considering the element of this Action Plan is the deployment of a charging infrastructure, the PMEAs's measure #6, 'Implementation of the public charging station network', is evidently connected.

An improvement to the existing policy instrument was then identified: when the PMEA was designed, priority was given to the implementation of the public charging network in non-urban areas by installing fast and normal charging stations of 50 kW and 20 kW, respectively, in order to tackle the range of anxiety. Today, keeping in mind all the information collected through the EMOBICITY project, the lack of sufficient charging points in urban areas has been recognised and should be addressed.

## 2. Expected outcomes and immediate challenges

At a national level, the 2050 Carbon Neutrality Roadmap (RNC2050) identified the main decarbonisation vectors in all sectors of the economy as well as its policy, available measures and emission reduction paths. All sectors must contribute to reduce emissions, increase efficiency and innovation and promote improvements, with the energy system as the greatest contributor, particularly regarding electricity generation and transmission. The elaboration of RNC2050 was carried out in parallel with the preparatory work for the National Energy and Climate Plan (PNEC), which will stand as the main energy and climate policy instrument for the decade of 2021-2030, setting new national targets for the reduction of GHG emissions, renewable energy and energy efficiency, in line with the carbon neutrality goal.

The RNC2050 states that electrification based on renewable sources will allow a relatively rapid transition from current internal combustion engine vehicles to electric vehicles, with electricity reaching around 70% of total transport energy consumption by 2050. In light passenger transport, diesel will no longer be cost-effective by 2030 and petrol by 2040, both being replaced by electric vehicles. Electricity will meet more than 30% of the mobility demand in 2030, with a potential to reach 100% by 2050. As a complement to the use of electric vehicles, forms of shared and/or autonomous mobility will enable huge efficiency gains, with higher utilisation rates for each vehicle (more passengers per trip and more trips per day). This type of model will ensure half of mobility demand by 2050, which will allow for an accelerated decarbonisation of the sector.

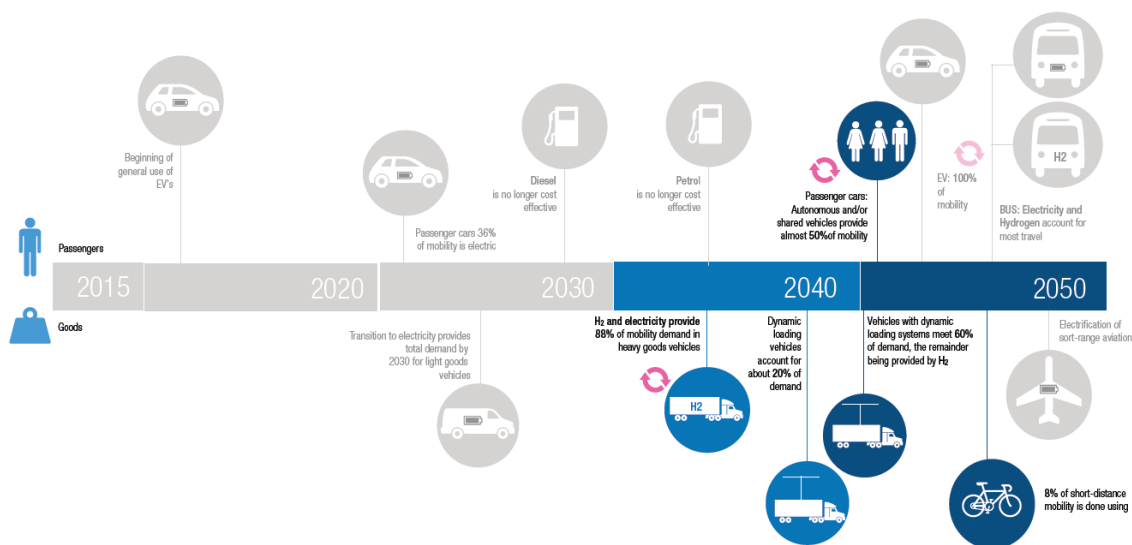


Figure 1 – Narrative of carbon neutrality of the transport sector up to 2050 (RNC2050 – Long-term strategy for carbon neutrality of the Portuguese Economy by 2050)

Concerning the Autonomous Region of the Azores, based on policy definition and investment on e-mobility in recent years, there is a mutual understanding that the Azores Operational Programme is aware of the importance of e-mobility for the future. Most of the identified challenges are typically associated with the high technical level of activities related to electric mobility and renewable energy sources. Therefore, Managing Authorities must be able to count with the support of energy and public policy experts to deliver optimised results. Within the activities of the project, it was possible to develop a closer work relationship between the Regional Directorate for Energy and the Managing Authority of the Azores OP. To this end, a reinforced collaboration with the Managing Authority is already in place.

Within the scope of the Azores Operational Programme 2030, in particular in its specific objective 2.8 “Promote sustainable multimodal urban mobility”, an investment of €30,000,000 is foreseen for actions, such as: the expansion of the public network charging infrastructure for EV; the creation of cycle paths and infrastructure for soft mobility; shared mobility solutions; the renewal of collective passenger transport; and, finally, studies, awareness-raising actions and promotion of electric mobility.

At a regional level, the Plan for Electric Mobility in the Azores sets several targets for 2024, which concern the charging infrastructure. One of its measures – Measure #6: Implementation of the public network of charging stations – establishes that 118 normal charging stations should be of public use and connected to the Electric Mobility Network Managing Entity (EGME) – MOBI.E.

## 2.1. Challenges

One can identify several impending obstacles to e-mobility in general, specifically charging infrastructure development obstacles. In the Azores, the charging infrastructure network should be focused on urban areas, where residents, and the population in general, do not have associated parking spaces. This may constitute itself a barrier, considering that many parking spaces in urban areas are under concession, which fall into the competence of municipalities. Furthermore, there are three issues that need to be assessed:

1. The weather conditions in the Azores negatively influence the charging infrastructure if there is no regular use by going offline, which consequently leaves the end user with no service.
2. Need of improvement of the communication between the charging station and the IT platform of the Electric Mobility Network Managing Entity – MOBI.E. Sometimes, there are technical problems, negatively impacting the final user (i.e.: network failures, which hinder the connection between the charging station and MOBI.E's IT platform).
3. Different agents in the electric mobility area enforce different rates, which makes it difficult for the EV user to be aware of a certain payment, since the invoice is sent to the user monthly.

Lastly, given the recent rise of electricity prices all over Europe, charging infrastructure tariffs are expected to rise as well, which can negatively influence e-mobility.

## 3. Strategic documents

- Strategy for the Implementation of Electric Mobility in the Azores, published by Regional Decree-Law 21/2019/A<sup>2</sup>.
- Plan for Electric Mobility in the Azores, approved by Government Council Resolution 106/2019<sup>3</sup>.
- System of incentives implemented by the Government of the Azores, through Regional Decree-Law 4/2021/A<sup>4</sup>.
- Azores 2020 Operational Programme<sup>5</sup>.

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<sup>2</sup> Strategy for the Implementation of Electric Mobility in the Azores. Available in: <https://files.dre.pt/1s/2019/08/15100/0008000085.pdf>

<sup>3</sup> Plan for Electric Mobility in the Azores. Available in: <https://jo.azores.gov.pt/api/public/ato/aeae8937-9741-4473-950d-4d3d4a7582d5/pdfOriginal>

<sup>4</sup> System of incentives implemented by the Government of the Azores. Available in: <https://jo.azores.gov.pt/api/public/ato/d72370d7-5921-44cb-bc23-d987548036ec/pdfOriginal>

<sup>5</sup> Azores 2020 Operational Programme. Available in: <http://poacores2020.azores.gov.pt/wp-content/uploads/2015/11/PO-A--ORES-2020-Reprograma---o-2021-REACT-EU.pdf>



- 2050 Carbon Neutrality Roadmap<sup>6</sup>.

#### 4. Inspired best practices

- Infrastructure stations for recharging motor vehicles available in municipalities, by NWRDA<sup>7</sup>: this practice consisted of financing the reduction of GHG emissions in transport by promoting the infrastructure for energy-efficient road transport vehicles, such as EV charging stations. The example showed how the deployment of a charging infrastructure for electric vehicles can be encouraged in circumstances where there is no sufficiently strong private enterprise initiative, so the public sector needs to be involved in the installation of charging stations, particularly regional municipalities.
- GO ELECTRIC boosts e-mobility<sup>8</sup>: the Greek government has decided to take action by forming a dedicated National E-mobility Plan through the subsidy scheme “GO ELECTRIC”, for the promotion of e-mobility. The evidence of success is clear, having had a very positive impact on mobility, especially micro-mobility.
- Incentives for the introduction of low-emission vehicles – Portuguese Environmental Fund<sup>9</sup>: the incentives for the introduction of low-emission vehicles have been in force on a yearly basis since 2017, through a Government Order that sets the amount of the budget in distribution, taken from the Portuguese Environmental Fund. These incentives are very well received by the targeted group and the number of applications exceeds the budget allocated.

#### 5. Peer Review meeting

Organised by DREn (AZORES) and ADENE, the Peer Review meeting took place on 8 May 2022. In addition to EMOBICITY’s partners, three external peers participated in the meeting: MOBI.E (Portugal), Kassel-Marburg Chamber of Industry and Commerce (Germany) and the Technical University of Cluj-Napoca (Romania).

After introducing the main element of the Peer Review Report and Action Plan – the deployment of the charging infrastructure for electric vehicles in the Azores – the addressed policy instrument was briefly presented (Azores 2020 Operational Programme), as well as the Plan for Electric Mobility in the Azores.

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<sup>6</sup> 2050 Carbon Neutrality Roadmap. Available in: [https://unfccc.int/sites/default/files/resource/RNC2050\\_EN\\_PT%20Long%20Term%20Strategy.pdf](https://unfccc.int/sites/default/files/resource/RNC2050_EN_PT%20Long%20Term%20Strategy.pdf)

<sup>7</sup> <https://www.interregeurope.eu/policylearning/good-practices/item/3862/infrastructure-stations-for-recharging-motor-vehicles-available-in-municipalities/>

<sup>8</sup> <https://www.interregeurope.eu/policylearning/good-practices/item/4586/go-electric-boosts-e-mobility/>

<sup>9</sup> <https://www.interregeurope.eu/policylearning/good-practices/item/3641/incentives-for-the-introduction-of-low-emission-vehicles-portuguese-environmental-fund/>

An interesting debate between the partners resulted in the following outcomes:

- Future investments in the charging infrastructure should be focused on urban areas, meaning one of the targets of the Action Plan should be those very same areas.
- MOBI.E, the Portuguese Electric Mobility Network Management Entity, mentioned that it is making efforts to ensure the installation of charging stations in residential condominiums and other residential areas.
- It was also suggested that future calls for infrastructure should define minimum IP standards for a complete charging station, in order to tackle the impact of weather conditions in the Azores that negatively affect the charging infrastructure.
- A mention has been made of electricity prices, a current problem across Europe that needs to be tackled by the parties, i.e. Regions and States.
- Lastly, while it was not an explicit objective of the Action Plan, the bike sharing systems were considered to be truly important to the deployment of the sustainable mobility concept.

## 6. Policy recommendations and expectations to improve e-mobility in the Azores

Current investments in and improvements to e-mobility are acknowledged in the archipelago of the Azores, anchored by the financial and non-financial incentives for the adoption of electric mobility, albeit a shortcoming has been identified within the scope of this report's element: a lack of sufficient charging points in urban areas.

Following up on the peer review process, several policy recommendations have been identified:

- Continue with the financial and non-financial incentives for the adoption of e-mobility, particularly the incentive scheme for the acquisition of e-vehicles and charging stations and the awareness raising actions for civil society, respectively.
- Address the shortcoming related to the lack of charging stations for e-vehicles in urban areas, while ensuring a balanced representation between the Azorean islands and municipalities, as well as reinforce the number of charging stations within the scope of the regional public access network connected to the Electric Mobility Network Managing Entity – MOBI.E.
- Continue investing in renewable energy sources, also having a positive impact on the promotion of e-mobility while contributing towards the decarbonisation of the archipelago of the Azores.

## 7. Final remarks

At the time of the Peer Review meeting, the policy instrument to be addressed was PO Açores 2020. After the Action Plan revision, together with the project officer and project coordinator, it was agreed upon that the policy instrument more effectively impacted was the Plan for Electric Mobility in the Azores (PMEA).

Despite this change, the main element of the Peer Review Report and Action Plan remained the same – the deployment of the charging infrastructure for electric vehicles in the Azores – and, therefore, this peer review meeting continued to convey critical insights.

The Peer Review has proven to be an enduring success. As a result of this process, the Action Plan went through improvements, especially concerning its policy. In short, the main goal of the Action will be the deployment of charging infrastructures for electric vehicles, adapted to the needs of the public sector.

Furthermore, this will be key in ensuring the success of the strategic policies, particularly those of the Plan for Electric Mobility in the Azores, by supporting, among others, sustainable mobility.

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