



## ***Action plan***

Draft Final Report



## ***Action plan***



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# Part I — General information

**Project:** EMOBICITY

**Partner organisation:** Energy Institute Hrvoje Požar

**Other partner organisations involved:** Centre for Renewable Energy Sources and Savings (CRES, Greece), Portuguese Energy Agency (Adene, Portugal), Northwest Regional Development Agency (NWRDA, Romania), Regional Directorate North Hesse GmbH (RMNH, Germany).

**Country:** Republic of Croatia

**NUTS2 region:** HR05

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## Part II — Policy context

- The action plan plans to influence:
- Investment for Growth and Jobs programme
  - European Territorial Cooperation Programme
  - Other regional development policy instruments

Title of the policy instrument addressed by the Action Plan:

### **The Environmental Protection and Energy Efficiency Fund**

The Environmental Protection and Energy Efficiency Fund (EPEEF) was established under the provisions of Article 60, paragraph 5, of the Environmental Protection Act (OG 82/94 and 128/99) and Article 11 of the Energy Act (OG 68/01). The Act on the Environmental Protection and Energy Efficiency Fund was published in the Official Gazette No. 107/03), and it is applied in Croatia as of 1 January 2004.

In accordance with the provisions of the Environmental Protection Act, the Fund is established for the purpose of securing additional resources for the financing of projects, programmes and similar activities in the field of conservation, sustainable use, protection and improvement of the environment.

Under the provisions of the Energy Act, the Fund is established for participating with its resources in the financing of the national energy programmes, with a view to achieving energy efficiency and use of renewable energy sources.

Under the provisions of the Act on the Environmental Protection and Energy Efficiency Fund, the Fund is established for the purpose of financing of the preparation, implementation and development of programmes and projects and similar activities in the field of conservation, sustainable use, protection and improvement of the environment, and in the field of energy efficiency and use of renewable energy sources.

The Fund is established as an extra-budgetary fund in the capacity of a legal person with public authority set out in said Act. Public authority means adoption of administrative acts on payment of the fees and special fee, keeping the register of person liable to pay the fees, specifying the requirements to be fulfilled by beneficiaries of the Fund's financial resources and conditions for granting the funding.

Apart from the provisions of the Act on the Environmental Protection and Energy Efficiency Fund, the Fund is subject to the provision of the Budget Act, the General Tax Act and the General Administrative Procedure Act.

The Founder's rights and duties are exercised by the Croatian Government on behalf of the Republic of Croatia.

The Fund manages and disposes of the funding for the tasks and purpose set out in the Act on the Environmental Protection and Energy Efficiency Fund. The Fund is liable for its obligations with all its assets.

The Republic of Croatia has joint and several and unlimited liability for the obligations of the Fund.



Croatia joined the clean mobility trend, for which the credit also goes to the programmes of co-financing implemented by the Environmental Protection and Energy Efficiency Fund in the past years. In the period 2014 – 2020, through the programmes worth around HRK 300 million, the Fund promoted different ways to improve energy efficiency in transport, from planning the transport systems at local levels, to energy efficient and environmentally friendly vehicles.

In the context of subsidies for recharging infrastructure for alternatively powered vehicles, the EPEEF provides for an incentive measure to co-finance alternative fuels infrastructure. Therefore, EPEEF launched co-financing programmes for charging stations for local and regional self-government units, state administration bodies, other budgetary and extra-budgetary beneficiaries, companies, and natural persons.

The results of implemented programmes point to a negligible interest rate by entities operating or using public buildings. Consequently, it is necessary to intervene in the measure prescribed by the EPEEF, by further specifying the terms and conditions of future schemes for managers/users of public buildings in order to work towards balanced market development.

This action plan clearly indicates the current bottlenecks in terms of the development of the market for infrastructure for electric vehicles. A revision of the EPEEF policy instrument is also proposed accordingly, by providing for measures to be implemented to encourage co-financing scheme of the deployment of recharging infrastructure for electric vehicles in public buildings.



## Part III — Details of the actions envisaged

This action plan includes activities in terms of improving the existing framework for the development of e-mobility in Croatia, by making public calls for co-finance the establishment of charging infrastructure for electric vehicles in public sector buildings.

### ACTIVITY 1

#### **Co-financing the deployment of charging infrastructure for electric vehicles in public buildings.**

##### **Background of activity**

###### **Existing policy scheme and shortcomings**

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 were entitled to apply for co-financing. The limit on the amount of the subsidy is set at 40 % of eligible investment costs, i.e. a maximum of HRK 200,000 (cca 26,650 EUR) per beneficiary, whereby the total amount of available funds under this call was HRK 5.8 million. For co-financing, charging stations of a minimum total power of 50 kW DC or 22 kW AC were eligible, and the technical concept was not regulated by the call, but was open to a variety of solutions regarding voltage systems, power, charging speed and the location of charging stations and traffic routes. In practice, this means that no locations or regions where the placement is prioritised are defined.

Although formally public entities (such municipalities, other public buildings etc) were able to apply for the call and receive co-financing, in practice there was interest only from the private sector, as there were restrictions that did not make such a call suitable for the public sector. Some of the key **shortcomings** of the existing call are the following.

- Only high-power chargers (minimum of 22KW) are eligible for co-financing. The management of such charging stations represents a significant operating cost, since in Croatia a part of the energy cost is related to network costs that depend on the maximum used power. Such costs are generally discouraging for the public sector to install EV chargers. Also, for the installation of a higher power charging station in many cases it is necessary to lease additional electricity connection capacity, which also represents a significant cost in the initial investment.
- The list of costs eligible for co-financing covers only a small part of the total costs that arise when setting up a charging station. Therefore, the total amount of funds to be paid by investors is relatively large from a public sector perspective. In particular, the cost of leasing additional connection capacity as well as the cost of project development by an authorized designer are currently not eligible costs for co-financing.
- According to the current system, there is no clearly prescribed obligation that the EV charging station set up with co-financing must be set up as a publicly available charging station.
- The current incentive scheme does not take into account the need for proportional development of EV charging infrastructure in all parts of the country, i.e., the development of infrastructure in low integration fields.



## Linkage, ideas and inspiration from the EMOBICITY project

The Interreg Europe project activities of the EMOBICITY project inspired the creation of additional mechanisms to encourage the development of EV charging infrastructure dedicated primarily for the public sector. In particular, the project partner from Romania (North-West Regional Development Agency) recognised as an example of good practice the development of EV charging infrastructure in **cities** and **municipalities** that was included in the Interreg Europe PLP platform ("Policy Learning Platform") entitled "*Good practice: Infrastructure stations for recharging motor vehicles available in municipalities*". The example showed how the deployment of charging infrastructure for electric vehicles can be encouraged in circumstances where there is not sufficiently strong private enterprise initiative, so the **public sector** needs to be involved in the installation of charging stations. Namely, the administrative-territorial units - county residences and the municipality of Bucharest were eligible to participate in this financing Program. In doing so, such an activity shall be carried out considering a balanced geographical distribution of the infrastructure. This was done in a way that the maximum amounts that can be granted for each applicant was established according to the number of inhabitants. Also, the example shows how such activities can be financed by an environmental fund that raises funds primarily from those polluting entities.

Overall, the above-described good practice from the EMOBICITY project clearly shows how an incentive scheme to develop the EV charging infrastructure can be set up that is tailored to the target group such as the public sector and that considers local circumstances and the degree of e-mobility development. Therefore, this good practice can be considered as a key inspiration for the action stressed in this action plan.

In addition to the above-mentioned key good practice recognised as part of the EMOBICITY project, there are also a number of examples of good practices included in the Interreg Europe PLP platform that show in different ways how a system of encouraging the development of charging infrastructure for electric vehicles can be established. These include the development of public charging infrastructure EV in the region of Flanders (Project: e-MOPOLI, presented at the 2<sup>nd</sup> workshop of EMOBICITY project, *Good practice: Deployment of public charging infrastructure in Flanders Region*) describing the definition of the mandatory installation of a large number of EV charging stations to certain public entities. Furthermore, the development of a strategic plan for the development of EV infrastructure in Catalonia is also highlighted as an example of good practice (Project: EV Energy, *Good practice: PIRVEC (Strategic Plan for deployment of charging infrastructure for electric vehicles in Catalonia)*), which highlights the problem of centralisation of EV infrastructure around the metropolitan area of Barcelona, while in other parts of the region there is a major lack of infrastructure.

In addition to recognizing good practices, it is worth mentioning the broad analyses made within the EMOBICITY project on the development of e-mobility in **low integration fields**. This was the topic of the entire workshop (4th EMOBICITY Project Workshop) as well as the topic of the Publishable report made as part of the project (*Publishable Report on the Promotion of E-mobility in Low Integration Fields of selected countries. Challenges and possible solutions.*). On this basis, the activity stressed in this Action plan takes into account the importance of this benchmark and aims to take it into account when designing the a new incentive scheme.

The key determinants of good practice that will be used and transferred to the activities of this action plan are the following:

- Co-financing the installation of EV charging stations for the **public sector** (municipalities, other public buildings)
- Co-financing the installation of **publicly available** EV charging stations
- Uniform **territorial distribution** of EV charging stations
- **Source of funding** from the fund which is raising resources from those producing harmful and polluting emissions





In order to bring together all these determinants, a co-financing for the installation of EV charging stations in public buildings has to be established. In fact, public sector buildings are evenly distributed across the territory of Croatia and correlate with the population of a given area. Also, public buildings are most often located in well-connected locations and in the vicinity of other facilities in the service sector, which is suitable for charging electric vehicles. Moreover, public buildings often have a number of parking spaces that can be easily converted to recharging points for electric vehicles.

### General goal and targeted improvements

A general goal of the Action stressed out in this Action plan is to introduce a new improved incentive scheme for the deployment of charging infrastructure for electric vehicles that will be adapted to the needs of **public sector (municipalities, other public buildings)** taking into account all the specificities of such buildings such as target users, usage patterns, financial opportunities, operational potentials, etc.

Targeted improvements are the elimination of shortcomings identified in the existing incentive system, which make this system completely inadequate for the public sector.

Recognized shortcomings and opportunities for improvement are both recognized thanks to the activities of the EMOBICITY project, as all relevant stakeholders in the process of adopting and implementing incentive schemes were involved in the project (active participation in workshops, LSG meetings, other bilateral discussions on EMOBICITY related activities).

### Action

The EPEEF policy instrument will be improved by the implementation of the action envisaged by this plan which consists of the following phases:

- **Phase 1:** Technical analyses and design of a new co-financing scheme to encourage the construction of EV charging infrastructure in accordance with this Action Plan.
- **Phase 2:** Publication of the Public Call for co-financing of EV charging stations in Public buildings.
- **Phase 3:** Evaluation of received applications for co-financing and implementation of the grant allocation procedure (signing of co-financing agreements).
- **Phase 4:** Monitor the implementation and effects of co-financing.

The EPEEF is responsible for the implementation of all phases of this Action.

The newly established Public Call will consist of the usual elements for calls of this kind, some of which will be specifically tailored to the target group, namely public sector buildings. The key adjustments are listed in the following table.

Public call element	Tailored for public sector buildings
Subject of public call	The subject of the call is co-financing of the installation of EV charging infrastructure that will be <b>publicly available</b> <sup>1</sup> .

<sup>1</sup> within the meaning of the Act on the establishment of alternative fuels infrastructure (Official Gazette no. 120/16). The Act in question provides that a recharging point, where the supply of electricity is provided and which provides non-discriminatory access to users, is publicly accessible. Non-discriminatory access may include different possibilities for authentication, use and payment. Similarly, the Act provides that all publicly accessible



Eligible applicants	The call is intended for the public sector, ie the installation of EV charging infrastructure in <b>public sector buildings</b> .
Fund resources	According to the “ <i>Ordinance on the conditions and manner of allocating funds from the Fund for Environmental Protection and Energy Efficiency, as well as criteria and criteria for evaluating requests for allocating funds from the Fund</i> ”
Eligible investment costs	<ul style="list-style-type: none"> <li>- allow a <b>minimum power</b> of the charging station (per connection) <b>of 3.7 kW</b>,</li> <li>- maximum power not limited,</li> <li>- <b>Project documentation</b> is an eligible cost</li> </ul>
Mandatory documentation	In addition to the usual documentation: <ul style="list-style-type: none"> <li>- proof of availability of the parking space where the charger will be installed.</li> </ul>
Submitting applications to Call	<i>The usual procedure for this type of Call</i>
Application processing	<i>The usual procedure for this type of Call</i>

## Players involved

The Environmental Protection and Energy Efficiency Fund is an implementing body that will issue a public call to co-finance the installation of charging infrastructure for electric vehicles adapted for the needs of public sector buildings.

Bodies of the EPEEF which will oversee the implementation of the action are Management Board and the Director of the EPEEF. The Management Board manages the EPEEF in accordance with the provisions of the Act on the Environmental Protection and Energy Efficiency Fund, the Statute of the Fund and other general documents of the Fund, as well as other acts and regulations. The scope, authorisations and responsibilities, and the method of work of the Management Board are set out in the Statute of the Fund. The Management Board has a chairman and six members who are appointed and relieved of duty by the Government of the Republic of Croatia.

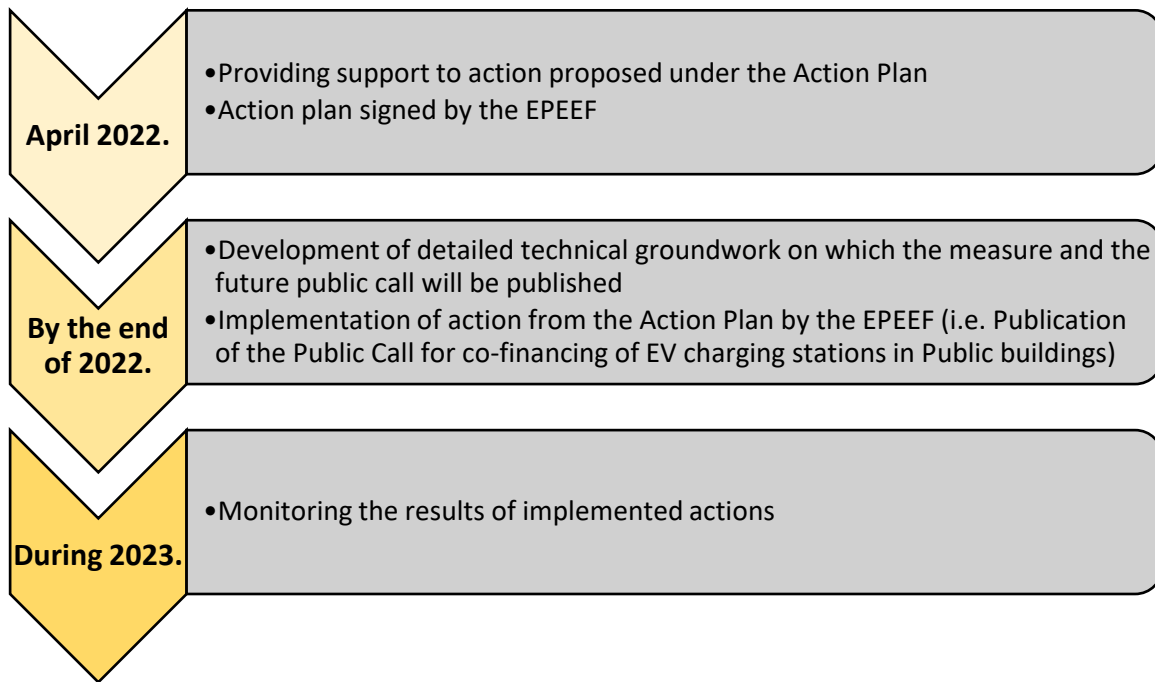
The Government of the Republic of Croatia appoints to the Management Board two representatives of the ministry responsible for environmental protection, one representative of the ministry responsible for energy, one representative of the ministry responsible for finance, one representative of the Croatian Chamber of Economy, and one representative of experts in the field of environmental protection. All members will be referred to the actions and all will approve the implementation of the action plan.

## Timeframe

In accordance with this Action Plan the Environmental Protection and Energy Efficiency Fund will endeavour to comply with the following deadlines:

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recharging points for electric vehicle users also provide for the possibility of charging on an ad hoc basis without entering into a contract with the electricity supplier or operator concerned.



The action plan foresees the continuous annual implementation of the action until 2027, after which a detailed report on the results of the action will be prepared and decide whether to continue the same activities.

## Costs

The funds needed to implement the incentive have been estimated for a typical design of one slow charging station with two connection points.

Specifications of the typical design:

- a power lease,
- development of the conceptual and main project,
- expert supervision,
- charging station hardware,
- total project costs of HRK 150,000 (cca 20,000 EUR)
- co-financing of the EPEEF in the amount of 40 % (HRK 60,000 (cca 8,000 EUR).

Assuming that each public sector building has the possibility to install a charging station, and that each of the buildings is eligible for co-financing by the EPEEF (a total of around 8,500 typical projects), the total required EPEEF funds amount to around HRK 5.1 billion (cca 680,000,000 EUR).

It is expected that the costs incurred will ultimately be lower. The reason is that it can be assumed that only in a small number of buildings there will be a need to lease the additional power of electricity. Indeed, the application of other energy efficiency measures in a building, such as the replacement of lighting fixtures with new LED technology, frees up existing connection capacity that can be used to install charging stations for electric vehicles. It can also be assumed that a significant proportion of public buildings does not have own parking spaces and thus the possibility of installing a charging station.



## **Funding sources**

The activities in question are planned to be financed by the executive body, the Environmental Protection and Energy Efficiency Fund.

**Date:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Stamp of the organisation (if available):** \_\_\_\_\_

