

CITY OF KOPRIVNICA

PP4

Draft Action Plan

General information

Project: E-MOB

Partner organisation(s) concerned: City of Koprivnica

Country: Croatia

NUTS2 region: Koprivničko – križevačka županija

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Policy Context

2nd Generation SUMP of the City of Koprivnica

Action: Developing business models for existing charging infrastructure under the City of Koprivnica ownership

Relevance to the project

The action will provide a model that could be used by many small – medium sized public authorities that have charging infrastructure in their ownership, but that is not regulated and is starting to make a burden for the public authority.

The experience of other partners, that was gathered during the duration of the project has shown that charging infrastructure and its development and planning plays an important role if a municipality, in our, wants to ensure that the transition towards a electric powered future runs smoothly.

It has been shown that the electric vehicle charging market is not regulated and sometimes does not direct the development into the right direction, and by that it is causing a lot of externalities, that in the end the municipalities, public governments, local, regional, and national authorities have to pay for, transferring the costs in the end to the taxpayer.

The idea for this action came from the regular communication with the project partners, gather experience basically from each of the partners but there were two good practise that made the most impact on this action.

The first good practice came from Paks - Protheus Holding ltd. with the project “Long-time rental of E-taxies in Paks” This good practise has shown us the possibility to use the existing infrastructure, that is under the supervision of a public authority to incorporate a service that is public and that is enforcing the usage of taxi vehicles and by that decreasing the demand for motorised vehcls of individuals. The GP has shown us that there might be a possibility to develop a service and provide the charging Infrastructure to the service management only for that purpose. This would utilise the existing infrastructure and promote public services that are contributing to the promotion of electric vehicles and all the benefits that are accompanying the usage of such vehicles.

The second good practise that was most interesting for us as a partner was the “vwk VLOTTE – creating charging solutions and charging infrastructure for e-mobility” that was shown by the partner from PP6- Vorarlberg University of Applied Science. The GP has shown us how a systematic approach to promote electric vehicles and charging infrastructure could lead to a system that has the possibility to bring a number of electric vehicles to the market and to the end consumers, and in that process uses electric energy that is produced locally. As a project that is ongoing form 2008, it has shown its sustainability and endurance, meaning that this kind of approach, where clear rules of engagement

are set, bring the most results. This good practise was one of the main reasons why partner, City of Koprivnica, has decided to develop new models in order to use the existing infrastructure it has in order to promote electromobility and clean, local energy production.

The transfer of knowledge happened during the regular meetings of the eMOB consortium and the representation of the good practices from Protheus Holding ltd. and Vorarlberg University of Applied Science.

Nature of action

City of Koprivnica has been developing charging infrastructure for the last 10 years. The municipality was one of the first ones in Croatia that had fast charging infrastructure, DC chargers up to 50 kw, installed on its administrative area. This happened in years when the number of electric vehicles owned by citizens and companies was smaller than the number of charging stations.

Because of that fact and the fact that there was no commercial interest from charging companies, who have continued to implement new charging infrastructure for electric vehicles anticipating the future demand for charging infrastructure.

In the last 5 years, due to the increased cost availability of electric vehicles, that was the result of lower prices of new electric vehicles, the availability of used electric vehicles and the incentives provided by the national funds that funded the purchase of new electric vehicles by up to 10.000,00 € the number of electric cars has drastically increased, making the current infrastructure not adequate and making the experience of driving and charging electric cars very unpleasant. Suddenly the owners of electric vehicles, especial those that did not have access to charging infrastructure at home, like residents of multistorey buildings, did not have the possibility to charge their electric vehicles.

Therefore, City of Koprivnica has started to build new charging stations at locations that we found appropriate for charging and where the need for such infrastructure was displayed.

During the last 4 years we have started a couple of pilot projects that showed the idea how to properly develop the charging infrastructure. The focus was not only on charging point for electric vehicles, it is also focused on the charging possibilities for electric bikes and other smaller electric vehicles.

The results were as following.

- In 2019 three electric chargers were set up. The specifics of these charging stations were that they were installed on public light poles. This was a pilot project that had the intention to show how to make affordable charging infrastructure, by using existing infrastructure. This allowed

lower costs of build. Also, these charging stations were installed in areas of multistorey building complex, where residents did not have any possibility of charging their vehicles overnight.

- In 2020 two electric chargers were installed on the premises of the academic and business hub that is currently in development. The specific of this system is that it is a system that uses renewable energy, produced on sight and stores the energy in a battery storage system that deploy the electricity gathered through the day in periods where solar energy is not available. The system allows the usage of up to 10% of energy provided to the vehicles that was produced on sight.
- From 2016 – 2020 15 charging stations were installed for electric bikes at different locations in Koprivnica.

All of the mentioned charging stations are free to use for the general public.

Because of the advancement of the commercial charging stations that were set up in Koprivnica (not City owned) and the fact that the billing of the services started in 2021., there was an increased interest on the charging stations owned by the city of Koprivnica and that is slowly starting to be a major cost item for the city administration. Not only because of the electricity costs, but also because of the maintenance of the charging stations.

Since the City of Koprivnica is not an energy distributor nor it can sell the electricity to the citizens (therefore it is free of charge) a new model of managing the charging infrastructure has to be developed. The model has to keep providing the service of charging to the citizens and other interested parties that are of importance for the City of Koprivnica, but it also has to cover the costs of the distributed energy and the maintenance of the charging stations.

The new model will be based on setting regulations on how to use the existing charging infrastructure that is owned by the City of Koprivnica. It will clearly define who will be able to use the charging infrastructure and what are the rules connected with the usage of the infrastructure. The model will propose giving priority to services, like taxi services, small bus operations, residents that live in the vicinity of the charging stations and that do not have the possibility to charge their vehicles at home for overnight charging. During the development of the model, a new tracking and issuing mechanism will be developed. The online tool will be developed by the employees of the City of Koprivnica that have the necessary knowledge in the development of such tools. The tool, that will web based will provide to the responsible city departments a more comprehensive insight into the process of issuing permits for using the charging infrastructure based on the limitations that will be set, approximative costs for the city authority and monitoring of the usage of the charging infrastructure.

These guidelines will be set in the 2nd generation SUMP and later will be transferred into city regulation documents that will ensure the implementation of the model.

The 2nd generation SUMP will give the guidelines and the overall vision on how the development of electromobility should look like in Koprivnica in the next 10-year period. Based on the previous experiences of the 1st generation SUMP, the 2nd generation SUMP will be adopted by the City council, making the vision and guidelines obligatory and eligible for transfer into the specific regulatory documents that respective city departments have to bring.

As a conclusion, this action will develop a business model and a tool that will be managing the charging stations that are in the ownership of a public authority. The result of the action will be a set of new regulations regarding the charging billing for a municipality, taking into account the fact that the municipality is not a electricity provider, and tools that will provide easy, online management of the billing service. It will provide the possibility to prioritise certain groups of users that are of interest for the city of Koprivnica, like Taxi providers that provide a service that is much needed in the city of Koprivnica, considering the small operational span of the current public bus operation.

If the model will prove to be effective, it will be possible to expand the service and, in the early stages of the development of charging infrastructure, manage and direct the available resources towards services that are of use for the City of Koprivnica.

The model will be developed by the City of Koprivnica, Regional energy agency North and the local Development agency North.

Stakeholders involved

City of Koprivnica

City of Koprivnica will be in charge of the implementation of the action. It will be responsible for the development of the vision and guidelines and taking the necessary administrative steps for the adoption of the regulatory documents. Also, City of Koprivnica will be responsible for the functioning of the system after its implementation.

Regional energy agency North

Regional energy agency North will, because of the knowledge it has in the field of setting up charging infrastructure, support the city departments in the preparation of the necessary documentation and also will give support in the development of the web based tool.

Development agency North

The Development agency North will, according to its competencies, give input on the cost -benefit analysis of the action, in order to see what will be the costs of this action and in the end.

Timeframe

August 2022 – June 2023

- Development of the guidelines and vision needed for the action implementation (08/2022 – 02/2023)
- Development of the web-based tool for the management of the action (10/2022 – 02/2023)
- Adoption of the actions by the relevant policy makers (02/2023 – 04/2023)
- Testing of the system and its functionalities (04/2023 – 06/2023)

Costs

25.000,00 €

Cost breakdown

9.000,00 € - 3 employees of the City of Koprivnica, 10% of the total working hours in 12 months

4.000,00 € - 1 employee of the Regional energy agency North, 10% of the total working hours in 12 months

4.000,00 € - 1 employee of the Development agency North, 10% of the total working hours in 12 months

2.000,00 € - software licenses and web costs

4.000,00 € - subcontracting of external experts in web development

2.000,00 € - promotional activities and material for policy implementation

Funding sources

City of Koprivnica budget

The majority of the costs will refer to the staff hours of employees working on the business model and a part of the costs (tbd) will refer to the development and integration of a tool that will be used for the implementation of the action.

