



<https://www.interregeurope.eu/e-mopoli>

Alternative
Fuel



e-mobility



Storage

e-MOPOLI aims at contributing to an efficient diffusion of electric and other alternative fuel mobility by promoting mobility patterns, transport systems, infrastructure and sustainable low CO₂ emission services

Regional Action Plan



March 2021

Responsible partner

BSC, Business Support Centre, Ltd, Kranj – Regional Development Agency of Gorenjska, Slovenia

Author(s)

B. Odlazek, P. Ferik

Project partners



Low-carbon
economy

Index

1. Introduction.....	3
1.1 The e-MOPOLI Project.....	3
1.2 The Action Plan.....	3
2. General Information.....	6
2.1 Slovenia.....	6
2.2 Contact Details.....	7
3. Policy Context.....	8
4. Background.....	9
4.1 Current Situation.....	9
4.1.1 The state of GHG in Slovenia.....	9
4.2 SWOT Analysis.....	10
4.3 Regional Analysis.....	11
4.4 Recommendations.....	12
5. Actions envisaged.....	17
5.1 General Information.....	17
5.2 Actions for Slovenia.....	17
5.2.1 Priority 1: Infrastructur.....	19
5.2.1.1 Incentives for the establishment of the alternative fuel infrastructure.....	19
5.2.2 Priority 2: Means of transport.....	27
5.2.2.1 Supporting technological development and the economy related to alternative fuel vehicles (AFV).....	27
5.2.2.2 Incentives for AFV use.....	31
5.2.2.3 Elimination of administrative barriers.....	35
5.2.3 Priority 3: Improving mobility management.....	37
5.2.3.1 Local / regional action plans on mobility to electricity and other alternative fuels, infrastructure and multimodal mobility.....	37
5.2.3.2 Open information exchange.....	39
5.2.3.3 Increasing the usability of public passenger transport (PPT) with AFV.....	42
5.2.3.4 Introduction of "mobility as a service" models.....	45
6. Monitoring.....	48
7. Bibliography.....	51
3.1 Web sources:.....	54
8. Declaration.....	56

1. Introduction

The energy consumption and emissions production are exponentially increasing worldwide. In the structure of final energy consumption in Europe, in 2017 the largest share was oil and petroleum products (37.2%), followed by electricity (22.7%) and natural gas (22.6%). The largest share in primary energy production in the EU-28 in 2017 was represented by renewable energy sources (29.9%), followed by nuclear heat (27.8%), solid fossil fuels (16.4%), natural gas (13, 6%), petroleum and petroleum products (9.7%) and non - renewable waste (1.9%). In 2017, the largest share of energy in the EU-28 countries was used for energy transformation (25.8%), followed by the transport sector (19.5%), households (17.2%), and the industrial sector (15.6%). services) (9.2%), other sectors (6.6%) and not energy consumption (6.1%). Between 1990 and 2017, international aviation had the highest energy consumption between the EU-28 and among the main modes of transport - a total of 106.8%. Road transport was second in terms of energy consumption in those years.¹

Based on European Union, the transportation sector has the highest share in **energy consumption** (33,1% in 2016) and constitutes the second contributing factor in CO₂ emissions (28,5% in 2016). Specifically, the road transportation field is responsible for most CO₂ emissions (72,9% in 2016).²

The above presented high shares in European, reveal the need for the design and implementation of interventions and actions towards a more **sustainable mobility**. Within this framework, **electromobility** and **alternative fuels** are considered to be key - solutions towards a more environmentally friendly transportation system, having a direct effect on energy saving and emissions reduction.

1.1 The e-MOPOLI Project

e-MOPOLI (**Electro MObility as driver to support POLicy Instruments for sustainable mobility**) project is a European research project financed by the European Regional Development Fund aiming at the diffusion of electromobility and the implementation of innovative strategies for reducing the carbon footprint of economic activities in urban and extra-urban areas.

1.2 The Action Plan

A key output of e-MOPOLI project was the development of **action plans** which contributed in **promoting electromobility and alternative fuels** in the region of each project partners. In order to achieve this output nine regions from eight different European countries exchanged ideas, knowledge and policies already implemented that should be adopted, altered or avoided. The overall methodological process be adopted is illustrated in Figure 1 and explained below.³

¹ Source: <<https://ec.europa.eu/eurostat/statistics-explained/pdfscache/29046.pdf>>, 25. 10. 2019; <<https://www.eea.europa.eu/signals/signals-2013/infographics/sources-of-air-pollution-in-europe/view>>, 25. 10. 2019.

² Source: <<https://www.eea.europa.eu/signals/signals-2013/infographics/sources-of-air-pollution-in-europe/view>>, 25. 10. 2019.

³ E-MOPOLI started on June 1, 2018. It has taken place in two phases. The first phase ends on 30 November 2020, the second phase ends on 30 November 2022. The project is worth EUR 1,792,053.00. It is co-financed by ERDF funds, the INTERREG Europe program, in a share of 75% of the total project value. Project partners are from Italy, Brescia and Calabria, Slovenia, RDA Gorenjska, BSC, doo, Kranj, Greece, region Attica, Belgium,

Figure 1: Methodology approach of e-MOPOLI

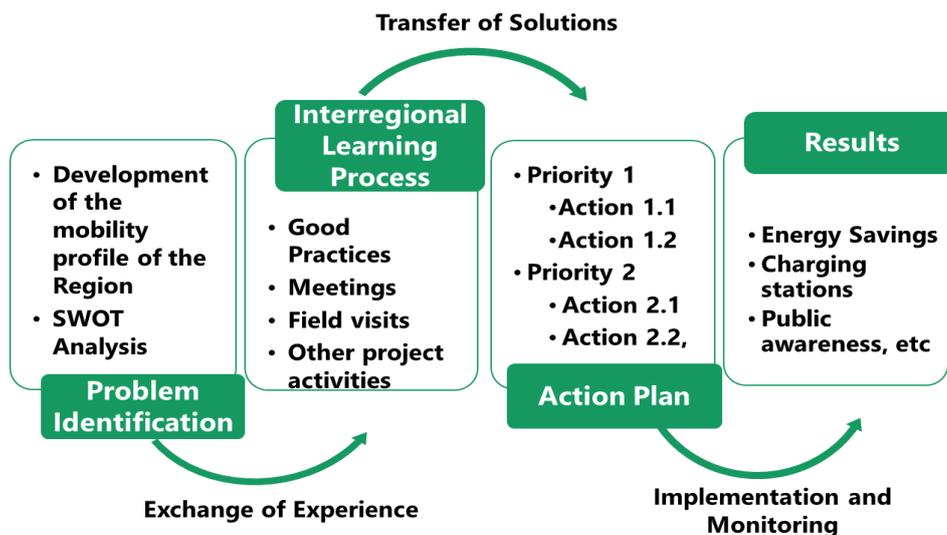


Fig. 1 Flow Diagram

The first step refers to the **problem identification** and each Region assessed its SWOT mobility profile in terms of electromobility and alternative fuel, in order to identify main strengths, weakness, opportunities and threats in the examined mobility aspects.

The next step, the **Interregional Learning Process**, consists a core factor for the formulation of the action plan. The exchange of good practices among the project partners, the discussions and meetings, the field visits and the various project activities are the components for the development of actions suitable and necessary for each region based on the current situation and according to its needs and visions. Inspiration from the learning process and not transfer of a good practice is the key-point for developing a successful action plan.

After the identification of good practices and experience sharing among the project partners as well as the consultation with the regional stakeholders' group, each region formulated, in the third step, an action plan which contains the necessary actions that should be implemented in order to promote electromobility and use of alternative fuels. It should be mentioned that all actions are categorized in respective priority axes.

Finally, the fourth step refers to the implementation and monitoring (in phase 2 of the project) of the actions that are established and presented in the action plan. Consequently, the objective of the present report is to develop and present the action plan of RDA of Gorenjska which aims to promote electromobility and use of alternative fuels in Slovenia by specific actions.

The present document is structured in four key parts as follows:

- The first part includes general information about the Region
- In the second part, the policy instrument and its context are specified and described. Additionally, the scope of the action plan is presented as well as the way it contributes to the improvement of this policy.

Flanders Government, Finland, Kainuu Regional Council, Norway, Rogaland Regional Council, Romania, Bucharest -Ilfov RDA and from Latvia, the Planned region of Zemgale.

- In the third part, current situation of electromobility and alternative fuels is illustrated based on the consultation with the regional stakeholders.
- The fourth part is the core of the document and it presents information about the necessary actions, formulating the present action plan.

2. General Information

2.1 Slovenia

Slovenia is located in the heart of Europe, where the Alps meet the Mediterranean and the Pannonian Plain meets the karst world. It is bordered by Austria to the north, Hungary to the northeast, Croatia to the south and Italy to the west. It covers an area of 20,273 km² and has a population of 2.100.126 (SURs, 2021).⁴ The population density is 103.1 inhabitants / km². The average age of the population is 43.4 years.⁵ The share of people aged 0 to 14 is 15.1%, the share of people aged 15 to 64 is 64.9% and the share of people aged over 65 is 20.0%. 22% of employees have a university degree and 57% have a master's or doctoral degree.

In the second quarter of 2019, Slovenia recorded 2.5% real GDP growth compared to the same quarter of the previous year. In 2018, GDP per capita amounted to EUR 22,083 and government debt to 70.4% of GDP.⁶ In September 2019, the average monthly gross earnings amounted to EUR 1,712.11, which means EUR 1,105.26 in net value.

Real GDP growth (seasonally adjusted) shows a percentage change in GDP excluding the effect of the season at constant prices in the quarter compared to the same quarter last year. In Slovenia, it was 3.7% in the first quarter of 2019. GDP growth (seasonally adjusted) indicates the percentage change in GDP at constant prices in the quarter compared to the previous quarter. In the 1st quarter of 2019, it amounted to 0.8%.

In June 2019, there were 70,747 registered unemployed from the working population. At the end of January 2019, approximately 881,200 people in Slovenia were in employment. The average gross salary in 2019 amounted to EUR 1,728.12, which means EUR 1,113.88 net.

Slovenia has a relatively small but fast-growing and export-oriented economy. Economic growth today is driven primarily by private consumption, investment and exports. The main industries are transport, computer services, the automotive industry and tourism.

The most important industry is the automotive industry, which directly employs 25,000 workers and indirectly affects as many as 150,000 jobs. Since 2002, car manufacturers and their suppliers have been merged into the Automobile Cluster of Slovenia (ACS), which unites about 60 companies and research institutions.

The companies achieve high levels of innovation on a global scale and are members of the SiEVA, ERTRAC research centers and the owners of several patents. The largest producer is Revoz, successful companies are Akrapovič, Cimos, Hidria, Kolektor, Riko, Letrika, Iskra Mehanizmi, LTH Castings, Unior, Kovinoplastika Lož, Kolektor Liv, Hella Saturnus, Impol, Domel, Talum and Magna Steyr. Slovenia's geostrategic position has stimulated the development of logistics and transport.

⁴ SURs, available on <https://www.stat.si/StatWeb/Field/Index/17/104>, 27. 1. 2021.

⁵ SURs, population, data on the 1. July 2019, available on: <<https://www.stat.si/StatWeb/Field/Index/17/104>>, 6. 5. 2020.

⁶ SURs, GDP and national accounts, available on: <<https://www.stat.si/StatWeb/Field/Index/1>>, 6. 5. 2020.

The Port of Koper is the largest and ever-growing Slovenian port. The necessary facilities to secure the leading position of the Port of Koper among the ports in the region will be provided by the state through the project of the second railway track.

Slovenian Railways is one of the most important railway carriers and passengers in the region. The infrastructure and rolling stock are currently being upgraded and the renewal will last until 2025.

Despite its small size, Slovenia has three international airports: Jože Pučnik International Airport Ljubljana, Edvard Rusjan International Airport Maribor and Portorož Airport.

The energy and renewable energy sector is one of the fastest growing industries in the country due to numerous investments. Among the largest investments in the energy sector the following should be highlighted: VI block of the thermoelectric power plant Šoštanj; the hydroelectric power plants on the lower Sava and the construction of ten hydroelectric power plants on the middle Sava.

The road network is well developed. Pan-European transport corridors crossing Slovenia are:

- Extended Pan-European Corridor V: The Mediterranean Corridor is the main east-west axis in the TEN-T network south of the Alps. It runs between the southwestern Mediterranean region of Spain and the Ukrainian border with Hungary, follows the coastlines of Spain and France and crosses the Alps to the east through Italy, Slovenia and Croatia and continues through Hungary to the eastern border with Ukraine.

- Pan-European Corridor X, Eastern Adriatic Sea: It runs between Salzburg in Austria and Thessaloniki in Greece. The corridor runs through Austria, Slovenia, Croatia, Serbia, Northern Macedonia and Greece.

According to forecasts, freight transport is expected to increase by 68.3% in 2011-2030, and passenger transport by 21.3%.⁷

2.2 Contact Details

Region Information	
Partner organization	RDA of Gorenjske, BSC, Business Support Centre, Ltd, Kranj
Country	Slovenia
NUTS2 region	SI04 Western Slovenia
Contact person	Blanka Odlazek
Position	Project manager
E- mail	blanka.odlazek@bsc-kranj.si
Phone number	0038642817242

⁷ Transport development strategy in the Republic of Slovenia until 2030, available at: <https://www.gov.si/assets/ministrstva/MzI/Dokumenti/Strategija-razvoja-prometa-v-Republiki-Sloveniji-do-leta-2030.pdf>, 13. 12. 2019.

3. Policy Context

The Action Plan aims to impact: Investment for Growth and Jobs programme
 European Territorial Cooperation programme
 Other regional development policy instrument

The actions in the Action Plan in question address a policy instrument: **Operational Program for the Implementation of European Cohesion Policy 2014-2020 (Operational Program 2014-2020)**⁸

When applying for the project, the relevant Priority Axis addressed was 2.4.6, now Priority Axis 4, reads: "Promoting low-carbon strategies for all types of areas, especially for urban areas, including the promotion of sustainable multimodal urban mobility and appropriate mitigation adaptation measures".⁹

The content of the action plan within the project focuses only on the policy proposals of the current priority axis 4, in the Operational Program 2014-2020, which are directly or indirectly related to the introduction of mobility on alternative fuels.

Most of the proposed measures are Type 3¹⁰ measures, which require a change in the strategic focus of the policy instrument, namely structural change, which at the same time requires the availability of funds in the policy instrument. With this Action Plan, we propose to upgrade the existing measures in Priority Axis 4 of the Operational Program 2014-2020, to promote mobility to alternative fuel sources for the Operational Program for the Implementation of European Cohesion Policy in the period 2021-2027. At the same time, the secondary objective of the Action Plan in question is to influence the Investments for Growth and Jobs Program, the European Territorial Cooperation Program and other regional development policy instruments.

For each policy instrument addressed by the project, at least one result indicator has to be defined to be used to monitor the performance of that instrument and therefore to assess throughout phase 2 whether performance has been improved thanks to interregional cooperation. Essentially, this indicator is specific to each policy instrument. It measures the percentage of beneficiaries that are better off thanks to this instrument. Like any other indicator, this indicator must be both meaningful and measurable.

The "Self-defined performance indicator" is **"Increase (%) of measures promoting mobility on alternative fuels included in the Operational Program 2021-2027 in relation to the 2014-2020 OP"**.

⁸ Republic of Slovenia: Operational Program for the Implementation of European Cohesion Policy in the Period 2014-2020, available at: <https://www.eu-skladi.si/sl/dokumenti/kljucni-dokumenti/op_slo_web.pdf>, 22. 11. 2019.

⁹ Placement in the Operational Program 2014-2020, as it was valid at the time of the e-MOPOLI project application, but during the implementation of the e-MOPOLI project the Operational Program 2014-2020 was amended several times. At the time of the adoption of the Action Plan in question, the current version 4.1 of the Operational Program 2014-2020 of 21 June 2018 is available at: <https://www.eu-skladi.si/sl/dokumenti/kljucni-dokumenti/programme_2014si16maop001_4_1_sl.pdf>, 9 February 2020. In version 4.1 of the Operational Program 2014-2020, the measure in question is included in priority axis 04 »Sustainable Energy use and production and smart grids", investment priority 4e" Promoting low-carbon strategies for all types of areas, especially for urban areas, including the promotion of sustainable multimodal urban mobility and appropriate mitigation adaptation measures". See Operational Program 2014-2020 Version 4.1, p. 128-133.

¹⁰ Point 5.1 of the Action Plan.

4. Background

4.1 Current Situation

The main cause of climate change are greenhouse gas emissions (GHG), the situation at the EU level and in Slovenia is presented below. In efforts to reduce GHG emissions and mitigate climate change, promoting sustainable mobility on alternative fuels in transport is crucial. Infrastructure and vehicles running on alternative fuels in Slovenia, of which the Gorenjska Statistical Region is a part, are gaining in importance.

4.1.1 The state of GHG in Slovenia¹¹

Total GHG emissions in Slovenia in 2017 reached 17,453 kt CO₂ equivalent, which was 14.5% below the value in the base year 1986. The largest contributors to the reduction of emissions were the energy sector (-28.1%) and the fuel consumption sector in industry and construction (-62.4%). Total emissions in 2017 decreased by 1.3% compared to the previous year, to which traffic contributed the most.

In the total share of GHG emissions, in Slovenia, CO₂ has the largest contribution (as much as 82.8% in 2018). CO₂ is produced mainly by the combustion of fuel and also in industrial processes, especially those where carbonates are used as a raw material. It is followed by methane (11.1%), which mostly comes from waste and agriculture, and nitrous oxide (4.3%), which is also generated mainly in agriculture. Emissions of nitrous oxide from road transport are also noticeable. Emissions of F-gases, including fluorinated hydrocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆), are very small, but due to their high greenhouse effect, their contribution to global warming is not negligible (1.9%).¹²

Emissions from the EU-ETS sector were lower than non-ETS emissions; in 2017 their share amounted to 37.6% of total emissions in Slovenia. In 2017, emissions from electricity and heat production accounted for 72% of EU-ETS emissions, industrial emissions 28%, of which fuel combustion emissions 16% and process emissions 12%. In the period 2005–2017, EU-ETS emissions in Slovenia decreased by 25%, which is more than the target for the EU-ETS sector for the entire EU by 2020. In 2016 and 2017, the trend was unfavourable, in 2016 for the first time since 2007, emissions increased by 6% compared to the previous year and in 2017 they increased by another 1.5% compared to 2016. In the period 2005-2017, emissions from the EU-ETS sector decreased more than non-ETS emissions, which fell by 7.5%.¹³

Slovenia's emissions from sectors not included in the EU ETS in 2017 were 10,883 kt of CO₂ equivalent, which was 2.8% lower than in the previous year and 10.8% lower than the maximum permitted emissions for this summer.

In Slovenia, in 2016, the main source of greenhouse gas emissions in sectors not included in the EU ETS was transport with 50.8%. Agriculture accounted for 15.9%, buildings 14.1%, non-ETS industry 9.8%, waste 5.1% and non-ETS energy 4.3%.¹⁴

¹¹ Status summarized after: <http://okolje.arso.gov.si/onesnazevanje_zraka/vsebine/toplogredni-plini>, 19. 3. 2020.

¹² Environmental Agency of the Republic of Slovenia: Greenhouse gases: <http://okolje.arso.gov.si/onesnazevanje_zraka/vsebine/toplogredni-plini>, (5. 5. 2020).

¹³ Source: <https://www.podnebnapot2050.si/wp-content/uploads/2019/06/Podnebno_Ogledalo_2019_Zvezek10_EU-ETS_KONCNO-2.pdf>, 19. 3. 2020.

¹⁴ Source: <<https://www.gov.si teme/zmanjsanje-emisij-toplogrednih-plinov/>>, 19. 3. 2020.

The shares presented above for Slovenia reveal the need to design and implement interventions and measures for more sustainable mobility. In this context, electro mobility and other alternative fuels are considered to be key solutions for a greener transport system, which has a direct impact on energy savings and emission reductions.

4.2 SWOT Analysis

Based on the analysis of the current situation, the GAP analysis and the PESTEL analysis, an analysis of strengths and weaknesses and opportunities and threats (SWOT analysis) was carried out within the e-MOPOLI project in relation to the policy instrument under consideration.

The following is a summary of the SWOT analysis:¹⁵

- **Strengths** (abilities, capabilities, skills, etc. related regarding electro mobility in the "region" Slovenia)

Sufficient number¹⁶ of publicly accessible (in front of companies, P + R parking lots...) and private (at home...) electric charging stations, low cost of e-charging compared to fossil fuel costs, support and favourable attitude of the authorities towards e-mobility, relatively high state financial subsidies for the purchase of e-vehicles and e-charging equipment, low interest rates on loans, introduction of e-mobility by public authorities in the region, modernization of the vehicle fleet with e-vehicles, introduction of e-cycling. There are several researchers, production and innovative companies and institutes in Slovenia and Gorenjska with quality services and products in the field of e-mobility (road, air and water). These companies are expanding their products and services and marketing and collaboration networks across Europe. One of the advantages are subsidized projects to promote the introduction of electro mobility in road transport, the use of niche fleets (micromobility), increase knowledge and awareness, and overcome obstacles. Participation in European projects has an added value.

- **Weaknesses** (weaknesses, gaps, etc. regarding electro-mobility in the "region" Slovenia)

High dependence on road transport, scattered settlements (higher costs for the construction of charging stations because they need to be more dispersed), public transport, which is not popular due to its impracticality. Electric cars are still not affordable for most people, subsidies are only granted for new cars, a cheap e-car like Zoe has the same price as an old car of a higher price range on fossil fuels, but size, quality, comfort and usability speak for themselves, in favor of the second choice. Customers are discouraged by the price and short range of electric cars, the need to constantly connect the charging cable, which is especially acute in bad weather, uncertainty about charging when traveling long distances, especially abroad, lack of information about the value of a used vehicle and the need for parking next to one's house for

¹⁵ Taken from BSC: Electro MObility as driver to support POLicy Instruments for sustainable mobility, Recommendations, undated document.

¹⁶ At the European level, the International Energy Association (IEA) has recommended a ratio of 10 electric vehicles to 1 charging port, available at: <<https://evadoption.com/what-is-the-ideal-ratio-of-evs-to-charging-stations/>>, 7 January 2020. In accordance with the Market Development Strategy for the Establishment of Appropriate Infrastructure in Relation to Alternative Fuels in the Transport Sector in the Republic of Slovenia, Slovenia strives for a ratio between the number of publicly available charging stations and the number of electric vehicles at least 1: 7. Data for 2018 show a 1: 6 ratio. From the point of view of the electricity network, it is considered (Eles, Concept E8) that the number of charging stations should be greater than the number of e-vehicles, as the vehicle must be connected to the charging station at all times while not driving. The vehicle thus needs one "home" charging point and one "business" charging point where the vehicle is parked during business hours ("personal port").

charging, which means additional investment. The capacity of the electricity network in some areas does not allow the establishment of electric charging stations with a power greater than or equal to 22 kW and therefore needs to be upgraded. For multi-apartment buildings, the main obstacle is obtaining the consent of residents for the implementation of solutions. Charging station operators do not have mutual contracts for users of one or another charging service provider. Users want to opt for that parking space in the parking lot that is equipped with a charging station, regardless of the operator. Charging station services are not currently profitable. There is considerable uncertainty about the organization of future expansion of charging stations.

- **Opportunities** (general impacts on mobility and the environment, quality of life, innovation and technology, human resources, urban and regional development and mobility policies, etc. in the "region" Slovenia)

E-mobility is an excellent opportunity for business, research and development, and has a positive impact on the environment in terms of air pollution and noise pollution in the field of e-mobility. From a health point of view, improved air quality could help reduce the costs associated with treating the negative effects of polluted air on humans. From the point of view of the electricity system, it means the ability to regulate consumption and the provision of system services, which is useful for the further integration of renewable sources, but also enables new business models. Establishments of so-called virtual power plants are envisaged. Virtual power plants would combine a larger number of charging stations in individual regions and would enable market activity to support the electricity system. Politically and economically, it means less dependence on fossil fuel countries. For the environment, in the long run, it means the preservation of live beings and their habitats, depending on the methods of obtaining electricity. From a tourism perspective, countries with charging stations and e-mobility are more attractive to e-mobility users. Subsidized projects to promote the use of niche fleets (micromobility), increase knowledge and awareness, and overcome obstacles. There is also an opportunity to participate in European projects. A reporting obligation for charging station operators would be an opportunity to improve the user experience and promote charging stations. The popularity of electric cars is also growing with the use of company electric cars. An important opportunity is the growing environmental awareness.

- **Threats** (financial instruments, development costs, implementation and maintenance costs, legislation, complexity of communication between stakeholders, political influences, etc. in the "region" Slovenia)

The automotive sector is lobbying for CO₂ emission values, for the rate of reduction of CO₂ emissions, because they cannot meet EU requirements so quickly. There is a belief that charging infrastructure in the EU is deficient due to the lack of uniform data on accessible charging stations (non-uniform naming, non-uniform and / or partial management of statistics by Member State). An electric vehicle needs to be charged more often than a normal car, creating a "reach anxiety", among other things also in terms of charging speed. Additional threats are high prices of electric cars in the future and waiting times (delivery) for electric vehicles. With the exception of models in the higher price range, electric cars are generally more attractive as a second family car.

4.3 Regional Analysis

The Gorenjska statistical region is located in the northwestern part of Slovenia. It borders Austria to the north, Italy to the northwest, the Gorizia statistical region to the southwest, and the Central Slovenian statistical region to the south and southeast. In terms of population, it is the 4th largest region in Slovenia, and in terms of area it is ranked 6th (SORS, 2019). It covers an

area of 2,137 km² and currently has a population of 204,670, which represents approximately 10% of the population of Slovenia (SURS, 2019).

The Gorenjska region is almost entirely alpine and partly protected as a national park. Its characteristic are high mountains, among them the highest mountain in Slovenia – Triglav, 2864 m. n. v.

In 2018, in Gorenjska, there were 171,225 inhabitants aged 15 and over. Of these, a total of 94,644 were active - 88,723 were employed and 5,921 were unemployed. The average monthly gross earnings amounted to EUR 1,673.34, which means EUR 1,091.38 in net value (SURS, 2019).

In 2017, Gorenjska generated 3,769 million EUR gross domestic product or EUR 18,507 per capita, which puts it below the Slovenian average.¹⁷ In that year, there were 19,484 companies operating in Gorenjska, employing 73,979 people.¹⁸ Most people are employed in the manufacture of electrical machinery and apparatus, the manufacture of wood products and the metal processing industry.

At the end of 2018, 147,357 vehicles¹⁹ were registered in Gorenjska. Of these, between 40 and 50 were electric vehicles.²⁰ E-vehicles can be charged at 40 charging stations for electric vehicles located in Gorenjska. In addition, regarding infrastructure for alternative fuels, the only hydrogen filling station has been set up in Gorenjska - it is located at Petrol's petrol station in Lesce - and one of the five filling stations for compressed natural gas is located in Jesenice.

4.4 Recommendations

The following are the recommendations developed in the framework of the e-MOPOLI project, on the basis of which guidelines were defined in the design of policy instruments for the transition from fossil fuels with regard to each aspect of e-mobility.²¹

Table 1: Key recommendations

Aspects of e-mobility	Key recommendations
Economy Increasing market share of mobility to alternative fuels in	<ol style="list-style-type: none"> 1. In order to achieve faster results, it is necessary to increase investment in research and development, strengthen the capacity, longevity and durability of batteries. 2. The automotive industry needs to increase investment in e-vehicle production and the development of more models.

¹⁷ SURS, Gross domestic product by region, Slovenia, 2017, available at: <<https://www.stat.si/StatWeb/News/Index/7820>>, 16. 1. 2020.

¹⁸ SURS, for the year 2017: <https://pxweb.stat.si/SiStatDb/pxweb/sl/20_Ekonomsko/20_Ekonomsko__14_poslovni_subjekti__01_14188_podjetja/1418806S.px/table/tableViewLayout2/>, 16. 1. 2020.

¹⁹ SURS, for the year 2018: <https://pxweb.stat.si/SiStatDb/pxweb/sl/20_Ekonomsko/20_Ekonomsko__22_transport__08_22221_reg_cestna_vozila/2222104S.px/table/tableViewLayout2/>, 16. 1. 2020.

²⁰ BSC, Ltd., Kranj: Regional Context Analysis, page. 11.

²¹ Taken from BSC: Electro MObility as driver to support POLicy Instruments for sustainable mobility, Recommendations, undated document.

relation to fossil fuels and related activities.

3. Customers must be shown the calculated financial added value or benefits when buying an e-vehicle.
4. The price gap between alternative fuel vehicles and fossil fuel vehicles needs to be gradually bridged through tax policies - incentives for alternative fuel sources, possible additional carbon taxation, where the overall impact of possible additional carbon taxation on the economy must be examined and also on the standard of living of the population.²²
5. The use of e-vehicles should be promoted at the same level as conventional vehicles, through driving assessments and technical tests.
6. The charging network needs to be more user-friendly: the interoperability of charging stations needs to be improved (e.g. develop standards for a simple payment solution, privacy increased), access to information improved (price transparency, affordability, availability), incentives need to be increased to increase the number of charging stations at work place and fast charging stations.
7. The transition to electric vehicles and other alternative fuel sources in public transport should be encouraged, e.g. in buses, taxis, company cars and freight transport.
8. It is necessary to invest in hydrogen technologies (efficiency), since the efficiency is 40-60%, except for the use of heat, where it is 85%. Hydrogen vehicles make sense for freight and bus transport.
9. As the transition to electric vehicles affects the entire supply chain, which means a serious shift in the employment structure, training and retraining are needed to acquire new employment opportunities.
10. It is necessary to establish a platform through which users of electric vehicles with flexible charging will be able to receive price benefits from assistance to the electricity system and will be stimulated to constantly (daily) use charging stations and not only when absolutely necessary (when they have a flat battery).
11. In cooperation with importers of electric vehicles, it is necessary to establish a regional center for the collection of used batteries from electric vehicles, and to enable them to be used as stationary electricity storage or purchase. This would reimburse users for part of the means to purchase an electric vehicle. At the same time, for completely worn out or damaged batteries, controlled transport to the nearest battery decommissioning center must be arranged.
12. From 2030, it is necessary to prevent the registration of passenger cars with emission standards (environmental protection categories) from EURO 0 up to and including EURO 3 and other light and heavy goods vehicles in lower emission categories (EURO I, EURO II). According to data as

²² Dodatna obdavčitev lastnikov vozil na fosilna goriva pri prvi registraciji je že implementirana. V letu 2020 je bil tudi implementiran ukrep, da je uporaba službenih vozil na električni pogon za zasebne namene manj obdavčena.

at 31 December 2019, the latter means 28% of registered vehicles in Slovenia for passenger cars. The number of "old-timers" should be examined and, if necessary, policies on their use should be amended to avoid the transition of vehicles with a lower environmental category from EURO 4 to the category of old-timers. In the case of passenger cars, such a measure would mean that from 2030 onwards, passenger cars with 500 mg / km (EURO 3) of NOx emissions and more would be excluded from traffic. Compared to EURO 3, EURO 6 has a limit of 80 mg / km. In the higher emission categories, the PN pollutants of ultrafine particles and CO2 emissions are also lower.

<p>Management Needs, requirements and policies to increase sustainable mobility based on e-mobility and alternative fuels.</p>	<ol style="list-style-type: none"> 1. Conditions should be established for the establishment and control of a single national charging infrastructure information platform with uniform information on, inter alia, type, operational status, location, ownership and then a link to the operator for more information and with internal websites where statistics are collected. 2. Ad hoc payment options and strict rules under the General Data Protection Regulation for e-vehicle users should be enforced to protect their right to privacy. 3. Financial subsidies for alternative propulsion vehicles and charging stations need to be continued. Subsidies for equipment: in addition to private charging stations and charging stations for legal entities, it is also necessary to set up charging stations for multi-apartment settlements, P + R car parks, which encourage the introduction of mobility on alternative fuel. The need to install 150 kW or more charging stations near the motorway junction, following the example of the rest of the world, should be analysed (and implemented, if necessary). 4. Subsidies for public passenger transport buses and freight transport on compressed or liquefied natural gas should be considered. 5. Guidelines for municipal government policies need to be developed and regional and local incentives increased. 6. Appropriate measures should be taken to adjust the capacity of the electricity network and to upgrade it and to encourage the smart use of the network to find solutions for energy consumption at peak values. 7. The Operational Policy Program for the Implementation of European Cohesion Policy for the period 2014-2020 does not address measures to support the deployment and deployment of alternative fuel vehicles, but only measures for infrastructure, in particular electricity. In the operational program for the implementation of European cohesion policy for the period 2021-2027, we propose the inclusion of measures to promote sustainable mobility on alternative fuels in transport. 8. Options need to be found to remove EURO standards 1, 2 and 3 cars from traffic. 9. Administrative procedures for the use of financial or fiscal incentives need to be simplified. 10. There is no single infrastructure manager, funding sources need to be identified, legislation needs to be amended.
--	--

<p>RIS3 E-mobility according to RIS3 Smart Specialization Strategy documents.</p>	<ol style="list-style-type: none"> 1. Education and training measures for the maintenance of alternative propulsion vehicles should be introduced for both repairers and end-users. 2. Measures have to be introduced to transfer technology or European incentive projects to promote innovative projects and to allocate funds for R&D, e. g. for the areas of heavy commercial vehicles, battery efficiency, battery innovation, environmental impacts of battery sources, smart grids, autonomous driving, etc. 3. The policies already in place have to be implemented. 4. Synergies between different policies need to be used. 5. A system for monitoring the implementation of measures needs to be set up.
---	--

5. Actions envisaged

5.1 General Information

The action plan structure was defined by the responsible project partner, Region Attica, Greece and confirmed by all project partners.

The content of the action plan was prepared and written by responsible partner BSC, Ltd, Kranj – RDA of Gorenjska and external company Institute for Public-Private Partnership.

The observer of the project and the managing authority of the addressed policy, the Ministry of Infrastructure has been engaged in the process of action plan preparation by feedback information on proposed actions and activities in the document. The Ministry of Infrastructure was an active participant in workshops of regional stakeholder group meetings (WRSG) and as a project observer participated on partners international learning interactions, including field visits, staff exchange activities, round tables and international workshops.

There were 3 WRSGs planned for the process of the preparation of the action plan in 3 key project implementation periods. Other members of WRSG were representatives of regional municipalities, regional road public transport service provider, DSO and TSO from energy sector and other RDAs.

The proposed actions came from the learning interaction activities within the project and the WRSG meetings, where good practices from partners regions, needs and obstacles were discussed.

Action plan activities, at least the ones applicable to municipalities, were tested by some of the municipalities in the region. The aim of testing was to receive the information on the level of difficulties local public administration will be faced with when implementing the activities from the upgraded policy on the national level to the local environment. Upon the received feedback amendments to the action plan were made.

The Ministry of Infrastructure has been very supportive also in the process of financial evaluation of investments for proposed actions. Ministry has been at that point in the final phase of the negotiations for the budget for EU Cohesion Policy financial scheme and partially the financial objectives were known. Therefore proposing the financial consequences of the proposed actions in the action plan was very difficult and tricky. In some cases, financial proposals for a certain action went below the budget that is believed to be necessary to achieve the optimal results. At the end, the budget assigned to each of the proposed actions is the minimum believed to be achievable.

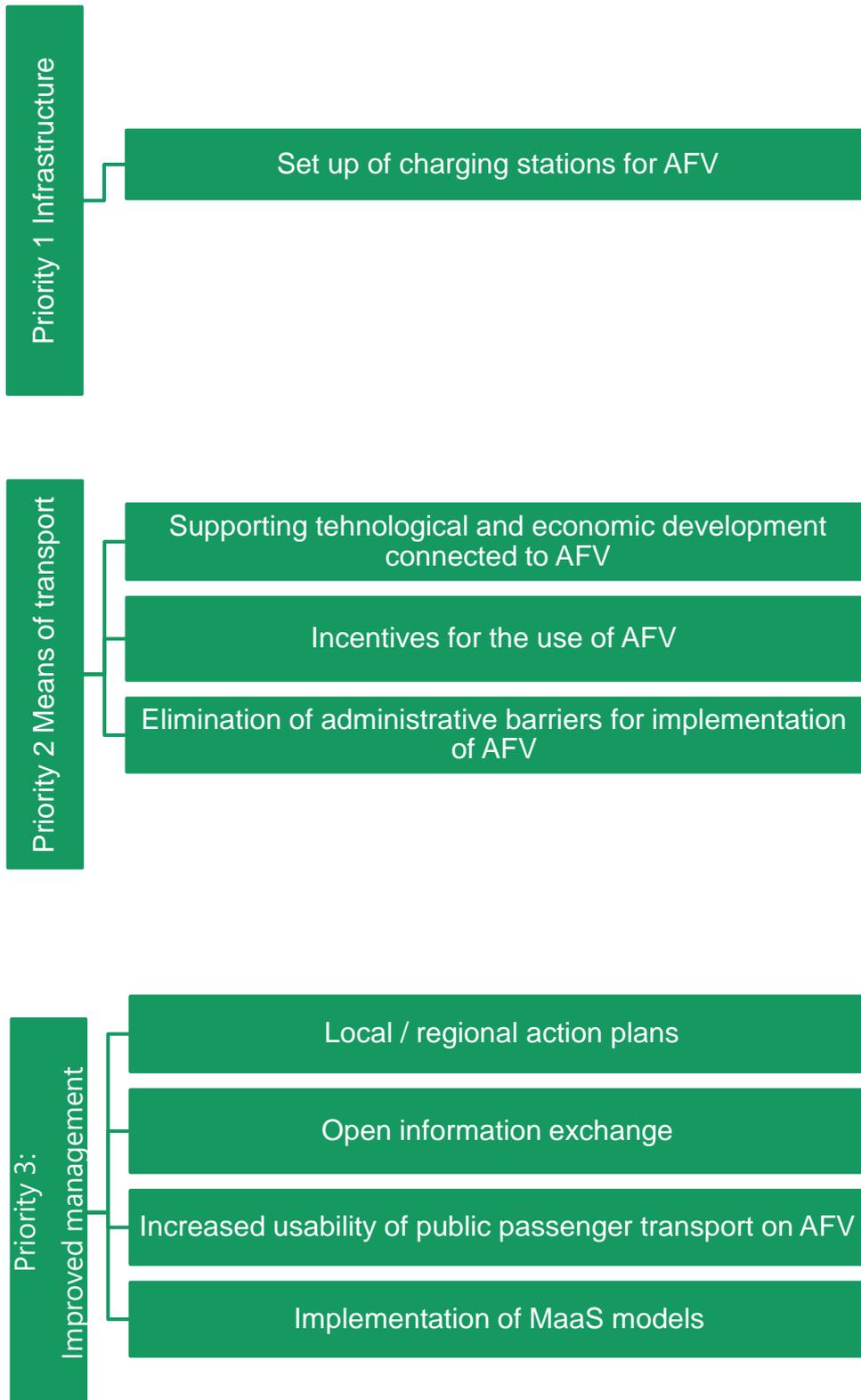
5.2 Actions for Slovenia

The Actions that are included in the action plan of Slovenia are divided in several priority axes as follows:

- Priority 1: Infrastructure
- Priority 2: Means of transport
- Priority 3: Improved management

In the next figure both the priorities as well as the specific actions are presented and are

analysed below.



5.2.1 Priority 1: Infrastructure

5.2.1.1 Incentives for the establishment of the alternative fuel infrastructure

Action 1 Set up of charging stations for AFV

Background

In the e-MOTICON project, Alpine Space Program, which lasted from November 1st 2016 to June 30 2019, the analysis of the charging stations number, location and technical specifications was prepared, regional action plans for the expansion of charging stations for electric vehicles and a transnational strategy for the expansion of charging stations and unified management systems in the Alpine region were prepared. In the same period, at the national level, the Eco Fund started tenders for subsidies for the purchase of charging stations for municipalities. Municipalities were the first to promote the expansion of charging stations for electric vehicles. At the national level, policies were developed during the period to promote and expand charging stations for electric vehicles as well as other fuels from alternative sources.

Based on national and regional policies to promote mobility on alternative fuel sources, we joined the e-MOPOLI project, the INTERREG Europe program, of which the first phase lasts from 1 June 2018 to 30 November 2020. During the project, we prepared a book of good practices, which presents, inter alia, policies to promote the expansion of charging stations for electric vehicles.

Based on good practice from Belgium, the Flanders region and transnational exchange of knowledge and policies, more precisely, the discussion on Preliminary Action Plans of partner countries in Latvia, beginning of December 2019, we are upgrading e-MOPOLI Action Plan for Slovenia with the following policy proposals to promote AFV infrastructure.

In the e-MOPOLI preliminary action plan, Flanders envisages the installation of fast charging stations for taxi drivers. Taxi drivers are one of the instruments to reduce the use of private vehicles in the city and are complementary to public passenger transport. The setting up of fast charging stations for taxi drivers encourages the transition to electric vehicles for taxi services, as they travel several kilometers and cannot have longer stops during the working day, if they want to provide services efficiently. In addition, dedicated taxi charging stations release other public charging stations that are designed for slow charging and longer periods of time. Conversely, taxi drivers will have more options to recharge. We also saw an example of existing good practice in Brussels presented by a Belgian partner.

Belgian Practice, No. 13 in the Book of Good Practices. The expansion of public charging infrastructure in the Flanders region addresses national level policies in cooperation with municipalities to promote the deployment of charging stations and the principle of "charging station follows the vehicle". According to this principle, EV owners have the right to request the installation of a charging station when no other options are available (e. g. charging at home). In the proposals for measures, we adapted the good practice of Flanders to Slovenian established practices and the

model of promoting the expansion of charging stations.

An international conference entitled “Micro-mobility: the next big thing?” was organized in Ljubljana, on October 14th 2019, which supported reflections on policies to promote micro-mobility - electric vehicles with accompanying infrastructure.

The E8 concept of TSO ELES Ltd, is a concept for the integrated development of the infrastructure for mass charging of e-vehicles. The eight key building blocks of the concept are: aware users, a dense network of private chargers for long-term charging, instant vehicle identification at the charging station, easy connection of the vehicle to charging stations, remote control of private charging station power, integration of private charging stations' consumption into distribution and transmission network control centers and strategic management of the challenges of using fast charging stations and local electricity storage devices. The presented ELES concept is being tested at the level of a demonstration project, within which 14 electric vehicles will be procured at ELES locations and 18 smart charging stations for long-term charging will be set up in Slovenia and a central charging system management system will be established.²³ From the standpoint of development and needs in the field of production, supply and management solutions for charging infrastructure, the activities of ELES were one of the building blocks of proposals for incentive policies for charging infrastructure.

The RESHUB node project is a ready-made project that was in the initial phase of implementation in May 2020. "The purpose and goal of the project is to build the initial long-term self-sufficiency of defence infrastructure capacities in the Republic of Slovenia (hereinafter: RS) and the European Union (hereinafter: EU), which supply energy to vehicles and equipment, accommodation, defence and other facilities in the army facility Kranj."²⁴

"The set-up of the node promotes development in the field of hydrogen technologies, energy storage, alternative drives, charging stations for various energy sources, cogeneration of heat and electricity, renewable energy sources, standardization of protocols, use of artificial intelligence (hereinafter AI), international integration and synergies, strengthening industrial bases in the field of renewable energy sources and electric mobility and risk reduction and robustness of public electricity networks."²⁵

Objective

Encourage the establishment of sufficient, efficient, sustainable, connectable and smart charging infrastructure in the region, which will

²³ U. Salobir, September 2019. ELES Ltd, September 2019.

²⁴ RS Ministry of Defence, directorate for logistic. 7. 4. 2020. Public call to promoters for the submission of applications of interest for implementation of public-private partnership for the project DEFENCE RESILIENCE HUB NETWORK IN EUROPE – RESHUB – hub in the barracks Petra Petriča Kranj (number 360-3/2020-1).

²⁵ RS Ministry of Defence, directorate for logistic. 7. 4. 2020. Public call to promoters for the submission of applications of interest for implementation of public-private partnership for the project DEFENCE RESILIENCE HUB NETWORK IN EUROPE – RESHUB – hub in the barracks Petra Petriča Kranj (number 360-3/2020-1).

	follow the demand and trends in the field of e-mobility.
Relevance Policy Change	<p>Type 3: change in the strategic focus of the policy instrument (structural change)</p> <p>In the OP 2014-2027 the policy existing supported the implementation of smart charging station. The policy proposed suggests continuation of the existing action into the period of 2021-2027 OP and proposing new activities relevant for the diffusion of mobility on alternative fuels nationally, that have not been considered in the existing one. The inclusion of the proposed actions will give a legal base for the managing authority to financially stimulate the diffusion of alternative fuel public charging infrastructure network.</p>

Activities

- Financial subsidies for AFV equipment - encouraging the purchase and installation of smart private charging stations or. charging points (domestic charging stations, charging stations for multi-dwelling settlements, incentives for legal entities to set up official charging stations, fast public charging stations from 150 kW onwards near motorways) and public transport in road transport (remote power control, connectivity, interoperability), strategic directed gradual establishment of the basic network of charging stations, establishment of charging centers, establishment of smart systems, connection of smart systems with others into a coordinated whole.
- Promoting the establishment of charging infrastructure for electric buses.
- Promoting public charging stations that enable the selection of a provider (several providers on one charging station) and the simplest possible payment.
- Co-financing the purchase and installation of fast charging stations for taxis and public service providers.²⁶
- Installation of smart charging stations in P + R car parks, or car parks where drivers park vehicles for combined driving to work in another city, where vehicles are stationary for a long time.²⁷
- Encouraging the installation of charging stations in multi-dwelling settlements.²⁸
- Connecting charging station providers into a common system for a simpler and more transparent charging process.
- Establishment of a network of charging infrastructure for vehicles on CNG.
- Establishment of a network of charging infrastructure for hydrogen vehicles.
- Non-financial incentives: raising awareness and encouraging users (including by offering various privileges - parking provided, driving in places where internal combustion engine (ICE) vehicles are not allowed...), transparency of charging prices, transparency of private space infrastructure installation costs, interoperability payment methods, standardization, ensuring the participation of all charging stations in the consumption market, strategic planning of investments in charging stations and local electricity storage facilities in accordance with the E8 concept.²⁹
- Development and integration of public-private partnership models (e.g. the establishment of a partnership in which the private partner assumes the following risks: (1) replacement of fossil fuel vehicles of public authorities with electric vehicles or vehicles on other alternative fuels, (2) establishment of solar power plants on the roofs of public buildings) owned by public partners, (3) setting up a network of public charging stations; vehicles may be available to the general public outside the working hours of public authorities).
- The establishment of a trading platform for the provision of system

²⁶ It is envisaged in the Strategy for Alternative Fuels in the Transport Sector, p. 36, 39; Action Program, p. 13, 14, 16.

²⁷ Already foreseen in the Action Program, p. 13.

²⁸ It is envisaged in the Strategy for Alternative Fuels in the Transport Sector, p. 34; Action Program, p. 13.

²⁹ These are activities that introduce measures of the E8 concept. More information at: <<https://www.e8concept.com/sl/o-konceptu>>, 19 November 2019. Point 7 of the E8 concept makes sense when setting up fast domestic charging stations, in the case of electricity consumption that is comparable with the energy consumption of other household appliances, a household socket can also be used. Already foreseen in the Strategy for Alternative Fuels in the Transport Sector, p. 33, 34; Action Program, p. 12.

	<p>services to the network (controlled consumption), which will enable users to reduce charging costs.</p> <ul style="list-style-type: none"> - Establishment of a system for monitoring the results of implemented research and development innovation projects, synergy effects with the possibility of capitalization of projects. - The establishment of a uniform format of ID codes for stakeholders in the field of alternative fuels, the establishment of a registry office for the allocation of ID codes and the establishment of a database (register) of charging infrastructure for alternative fuels.³⁰ - The establishment of infrastructure for alternative fuel micro-vehicles is introduced and encouraged.
Bottleneck	<ul style="list-style-type: none"> - Charging stations for electric vehicles are one of the key elements for accelerating traffic electrification, 50 kW are too slow for transit traffic because they extend travel time beyond the emergency time for stops, with increasing number of electric car owners abroad there will be too long queues at existing charging stations. - Unresolved ownership relations over parking lots in front of multi-apartment buildings between urban municipalities and housing communities. - Lack of human and financial resources and the absence of a strategy for the introduction of charging infrastructure for the establishment and maintenance of infrastructure, in particular for bus and coach transport, public service operators and freight transport, the issue of sufficient electricity generation capacity and the negative effects of certain production methods on the environment and management of energy consumption surpluses. - Lack of control over the establishment of systemically compatible charging station systems for electric vehicles, resulting in non-functioning charging stations. - Open information systems versus closed information systems; - Lack of charging station systems that allow the selection of several providers in one place. - Slow installation of charging stations in block settlements. - In some areas, the electricity network needs to be upgraded.
Stakeholders involved	Municipalities, concessionaires, MZI (Ministry of Infrastructure), MOP (Ministry of the Environment and Spatial Planning), Eco Fund (a financial instrument of the Climate Change Fund coordinated by MOP with MZI cooperation), private company, public company.
Timeframe	2021-2027
Indicative Funding Sources	Cohesion policy funds, national financing of public services, private investments of legal entities. The measure goes through the policy instrument stated in the chapter 3.
Indicative Costs	14.476.500 EUR
Expected Impact - economic	<p>Environmental:</p> <ul style="list-style-type: none"> - supporting the transition to a low-carbon economy in all sectors; - promoting adaptation to climate change and risk prevention and management;

³⁰ Partly foreseen already in OP TGP, p. 46; Action Program, p. 11, 12.

- **environmental**
- **territorial**
- **on e-mobility**

- preserving and protecting the environment and promoting energy efficiency in transport.

Impact on e-mobility:

- development of (urban) mobility to improve air quality (in cities);
- promoting sustainable transport and smart grids and eliminating bottlenecks in key network infrastructures.

Economic:

- increase in electricity consumption, increase in investments in domestic charging stations and public charging stations for buses and freight transport, increase in sales of e-vehicles and vehicles on other alternative fuel sources, depending on promotion and economy.

Example of a description of the effects, in this case on electricity consumption:

1. The impact of charging electric vehicles on electricity consumption in Slovenia.

Taking into account the above assumptions, the impact of charging electric vehicles on the electricity system (EES) will be negligible by 2020. It will become more pronounced in 2030, as energy consumption for charging electric vehicles will amount to 2% of the planned consumption in Slovenia. The peak power will increase by 140 MW. However, it should be borne in mind that by 2030 the control systems (smart grids), electric vehicle technology and associated charging infrastructure should be at a high enough level to charge the charging of each or at least most electric vehicles to the operation of the power system and thus reduce their consumption during peak system load hours. Charging of electric vehicles will therefore not have a significant impact on the energy situation at the level of the Slovenian Power System until at least 2030, i. e. from the point of view of providing the necessary energy and covering the charging power.

2. The impact of charging electric vehicles on local network conditions

The charging station can be connected to the network as a direct connection to the public network or as a connection to the internal network of the client.

Depending on the method of use, charging stations are divided into:

- private, which are connected to the existing internal (home) network of the client;
- semi-private, which are placed on publicly accessible areas, but their use is intended only for a certain circle of users;
- public, accessible to all users.

Regardless of the method of use and connection, the local consequences of the operation of a larger number of charging stations can pose a serious problem, especially with a higher local density of stations. The increase in the load of network elements occurs with each charging of the electric vehicle and may be known or expected (consent for connection issued) or not (charging of the electric vehicle from the internal networks of users if the consent for connection would not be issued). The issue of network operation arises when several charging stations on a smaller part of the network (for example in a settlement of individual houses, in public car parks) are installed locally, on a part of the network supplied from the same point of the network. It should be noted that the electric vehicle is the largest consumer in the home network in most households. The typical concurrency factors taken into account when planning network development are not sufficient in this case. Charging starts in a very narrow time frame (for example, in compact settlements of residential houses after arriving home, at semi-private charging stations before arriving to work, in public car parks before the start of a nearby event). Network operation that is not planned for such local congestion due to a different concurrency factor taken into account may be seriously compromised by congestion.

Charging electric vehicles also worsens local voltage conditions. A smaller part is due to a drop in voltage due to the load on the network, and a larger part due to the increased consumption of reactive power. Rectifiers installed in electric vehicles have a relatively low $\cos \varphi$ (even up to 0.70). Electric vehicle manufacturers are developing rectifiers with a high $\cos \varphi$ (up to 0.95), but at least at the beginning of the introduction of electric vehicles, it should be expected that vehicles that are a relatively large consumer of reactive energy during charging will be connected to the grid. Therefore, the operators of charging stations will be interested in compensating the reactive power when building and operating groups of charging stations connected to the same transfer point, as otherwise they will have to pay for the excessive overtaken reactive energy. Every rectifier in an electric vehicle is a source of network pollution. With a low power consumption density of electric vehicles compared to other consumption, this impact is negligible. However, with the concentration of higher charging powers of electric vehicles in a limited part of the network (for example, several charging stations in front of an office building or in public car parks intended and equipped exclusively for charging electric vehicles), this effect may become noticeable. The same procedures apply to the detection of the causative agent as to the detection of the causative agents of local congestion of network elements.³¹

Transferability

Measure with transfer potential.

³¹ Batič, D.: Introduction of electromobility in Slovenia from the point of view of the regulator, Agencija poti, 2020. Available at: <<http://www.agencija-poti.si/Clanki/Vsi-clanki/ArtMID/637/ArticleID/102/UVAJANJE-OF-ELECTROMOBILITY-IN-SLOVENIA-FROM-THE-VIEW-OF-THE-REGULATOR>>, 19 February 2020

5.2.2 Priority 2: Means of transport

5.2.2.1 Supporting technological development and the economy related to alternative fuel vehicles (AFV)

Action 2 Supporting technological development and the economy related to alternative fuel vehicles (AFV)

Background

Since the beginning of the e-MOPOLI project activities, part of the content has been dedicated to technological development and the economy. From the point of view of research, innovative technological solutions in the project, some good practices were highlighted. The good practices in the e-MOPOLI book of good practices that have contributed to policy proposal initiatives are:

- number 12, installation of four charging stations for testing the exchange of electricity between electric vehicles and the grid and vice versa, Greece, Attica;
- good practice number 24, demo project of three electric buses, Norway, Rogaland;
- Number 40, Monitoring of Biogas Solutions and Transnational Exchange of Knowledge and Policies, Finland, Kainuu.

The goal of the Attica project is to establish an interoperable network that would connect the capacities of the neighbourhood and broad regional ecosystems of RES + EES. One of the stakeholder activities was the installation of flexible charging of e-vehicles and V2G services. Therefore, the project is testing 4 charging stations for electric e-vehicles in the network in Meltemi, Greece. The focus of the project is the development of interoperable adapters.

A similar test aimed at determining the cost-effectiveness of using an e-vehicle system in a network was also conducted at the University of Kempten, Germany. Testing of the same system is performed at the company ENEL in Milan in order to test the usability of electricity storage in vehicle batteries and the usability of the vehicle.³²

The aim of the Rogaland demo project is to (1) focus on state-of-the-art technology, (2) learn how to best use battery buses in the public transport system and (3) how today's system needs to be adapted to the use of electric buses, including installation charging stations and bus maintenance.

Biogas production processes are often demanding to control, requiring targeted expertise that is often not available for dispersed production sites. The solutions they have developed open up production processes in small and dispersed settlements, e. g. in agricultural environments. This supports the future use of gas as a fuel for vehicles or for heavy agricultural vehicles. The findings from practice are: 1) It is estimated that digital monitoring of the biological process will reduce the operating time of the new biogas reactor by 15-25% and provide solutions for early warning of disturbances in biological processes. 2) Remote support solutions offer new business for local SMEs and offer early warning solutions for biogas production units. An important barrier to traffic is the investment in cleaning, upgrading and packaging for fuel use. The so-called good practice does not remove this investment bottleneck.

Return on energy per investment (EROI or EROEI) is the ratio between the usable amount of energy we produce from a specific energy source

³² Information obtained from the e-SMART project, INTERREG Alpine region.

	<p>and the energy we use to produce energy. If the quotient is less than one, equal to one or close to one, it does not make sense to produce energy from this source. The ratio must be at least 3:1, one unit of energy input for 3 units of energy obtained. The latter was one of the topics of the MUSE project, cross-border cooperation Slovenia - Italy, in January 2020. The latter is important for the selection of the source of energy and the method of obtaining energy. In some methods of obtaining biofuels, it is important to take into account the consumption of space and assess whether it makes sense to allocate cultivated areas for the production of crops for biofuels or for the production of food for self-sufficiency.</p> <p>Given the expensive production of certain raw materials (lithium, nickel, cobalt), in certain periods of scarcity to produce the most efficient electric lithium-ion batteries for electric vehicles and the slow withdrawal of cobalt as a raw material for battery components, further research towards innovation for materials and solutions is important. This would enable the production of batteries at reasonable prices and of the same or higher quality as lithium-ion batteries with a lower negative impact on the environment.</p>
Objective	Development of alternative fuel vehicles that provide a good user experience and are able to compete - especially in terms of reach and price - with traditional fossil fuel vehicles.
Relevance Policy Change	The proposed action proposes support to R&D projects to increase innovation in alternative vehicle segment, since Slovenian research institutions and companies are focusing in development of vehicle parts – electro motors, batteries and similar and directly can contribute to the development of alternative fuel vehicles that provide a good user experience and are able to compete - especially in terms of reach (energy savings) and price - with traditional fossil fuel vehicles. This action is not existing in the present OP, however the need for improvement exists and would mean a contribution to economic development in the long run.
Activities	<ul style="list-style-type: none"> - Innovative projects focused on research and development, e. g. batteries and other research in the automotive industry...³³ - Investments in hydrogen technology and new technological mobility solutions.³⁴ - Introduction of content on hydrogen technologies in educational programs. - Identification and production of biofuels, which makes sense given the resources that are a by-product of industry and do not additionally burden the environment, the EROI does not approach 1. - Development and integration of innovative criteria in public procurement procedures, promotion of public procurement of innovative solutions (innovation partnerships). - Development and research in the field of automation of the filling process (e. g. EDISON Winci project).³⁵
Bottleneck	- Lack of strategic planning of economic development at the local level and long administrative procedures for approving investments of private

³³ It is already foreseen in the Strategy for Alternative Fuels in the Transport Sector, p. 31, 36, 37; Action Program, p. 9, 14.

³⁴ It is envisaged in the Strategy for Alternative Fuels in the Transport Sector, p. 36; Action Program, p.

³⁵ Already foreseen in the Action Program, p. 9.

	<p>investors in municipalities.</p> <ul style="list-style-type: none"> - Staffing challenges: lack of qualified staff, deficient professions, brain drain, staff inflexibility, higher salaries in foreign countries, which attract Slovenian staff, greater opportunities for promotion abroad. - High costs of human resources training. - High costs of introducing and testing new technologies. - The raw materials used in the production of electric vehicles can be hazardous waste for the environment. - Complex legal relations for the implementation of supervision and evaluation of projects. - Rapidly changing technology. - Slovenian companies focus on the production of components depending on foreign companies and not enough on the development of the entire product. - Vehicle production has a direct impact on the market share of exports and thus on GDP; a relatively high share of Slovenian exports is related to the European automotive industry and related industries; every shift in the automotive industry in Europe has financial effects in Slovenia. - Slovenia's lag in funding in the field of the European Innovation Index with the EU average in 2017 and the unknown effects of measures to increase research and development activities after 2017.
Stakeholders involved	Research institutions, private companies, public companies.
Timeframe	2021-2027
Indicative Funding Sources	Cohesion policy funds, state budget, private investments. The action goes through the policy instrument mentioned in chapter 3. instrument stated in the chapter 3.
Indicative Costs	20.500.000 EUR

<p>Expected Impact</p> <ul style="list-style-type: none"> - economic - environmental - territorial - on e-mobility 	<p>Environmental:</p> <ul style="list-style-type: none"> - promoting adaptation to climate change and risk prevention and management; - preserving and protecting the environment and promoting energy efficiency in transport. <p>Impacts on e-mobility:</p> <ul style="list-style-type: none"> - promoting sustainable transport and smart grids and eliminating bottlenecks in key network infrastructures; - development of (urban) mobility to improve air quality (in cities). <p>Economic:</p> <ul style="list-style-type: none"> - strengthening research, technological development and innovation; - strengthening the competitiveness of the Slovenian economy; - creating new jobs, increasing entrepreneurial activity; - according to the ACEA, 14,582 people were directly employed in the automotive industry in Slovenia in 2017, with 7.1% we were in 12th place among 28 EU countries in the share of direct employment in the automotive industry. Accelerating sales in a certain share also affects our production, as Revoz produces smart forfour EV and companies produce various car parts. The trend may shift to the production of other e-vehicles; - supporting the transition to a low-carbon economy in all sectors; - strong pressures on the automotive industry.
<p>Transferability</p>	<p>Measure with transfer potential.</p>

5.2.2.2 Incentives for AFV use

Action 3 Incentives for use of AFV³⁶	
<p>Background</p>	<p>A book of good practices and a transnational exchange of knowledge and policies in a project e-MOPOLI.</p> <p>The good practice that inspired the proposal to set up an infrastructure for micromobility comes from Romania, staff exchange activities, September 2019. There are two electric scooter rental systems in Bucharest. One is "free floating", the other is a system with "docking stations". Because of the way people think and habits, both systems work. The biggest concern of the "free floating" system is that the vehicle is left anywhere within the permitted area of use. Controversial is the possibility of people leaving vehicles in the middle of the sidewalk, the road, alongside of the road and thus obstructing existing traffic. It is customary for Bucharest residents to leave vehicles at the extreme edge of sidewalks, preferably along building</p>

³⁶ The measure already foreseen in the GHG OP, p. 46, 48; SRP, p. 215, 216, 220; National Program, p. 64, 70, 86; Strategies for Alternative Fuels in the Transport Sector, p. 32, 36, 38, 40, 41; Action Program, p. 11, 12, 13, 14, 16, 17.

facades, which reduces the possibility of vehicles overturning for any reason. By doing so, scooters do not hinder pedestrians or cyclists riding on sidewalks, which is more of an exception than a practice. Another concern against scooters is the safety of drivers and other road users. After many years of practice in Bucharest, where there are incomparably more road users than we can ever meet in Slovenia, the level of safety in the use of electric scooters is very high without protective equipment, with appropriate tire equipment even in winter. Micro-mobility vehicles include, but are not limited to, "lighter" engines, electric bicycles and Segway PT vehicles. TMC Electric Mobility is a private company that expands electric mobility in Romania, especially electric motors and accompanying infrastructure.

TMC imports and sells e-scooters from various manufacturers and motorcycles exclusively from Europe and installs electric charging stations, prepares and implements e-charging infrastructure projects for customers, including public administration (municipalities) and operates networks. They have been cooperating with the Slovenian company Etrek, Ltd, and use their software to operate charging stations. Such vehicles can be used in city logistics.

Pilot project in the Municipality of Kranj: a public-private partnership project based on a three-pillar structure - the obligations of the private partner are: (1) replacement of public authorities' vehicles with fossil fuels for electric vehicles with alternative fuels; (2) the establishment of solar power plants on the roofs of public buildings owned by public partners; (3) establishment of a network of public charging stations. Outside the working hours of public authorities, vehicles may be available to the general public and for inclusion in the "mobility as a service" system.

Objective

Reduce energy consumption for transport and reduce carbon emissions for each area, especially for the urban area.

**Relevance
Policy Change**

Type 3 (change of strategic focus of the policy instrument - structural change), which also requires the availability of funds in the policy instrument.

The proposed action and activities support reaching of the set national goals in accordance with EU in the Strategy for alternative fuels. The goal about 130.000 battery electric vehicles (BEVs) and 70.000 plug in hybrids vehicles (PHEVs) by 2030. According to this plan, Slovenia should have had, by the end of 2020, 5.311 BEVs and 6.033 PHEVs. On the 31st of December 2020, the numbers in the registry of car registrations published by the Ministry of Infrastructure show 3.678 BEV and 944 PHEVs. The action does not exist in the present OP.

Activities

- Transition to mobility on alternative fuels in public transport and mobility of public services (i. e. buses, taxis, company cars, freight transport, post service, waste transport or green urban logistics in general)³⁷ and related determination of the minimum share of alternative fuel vehicles (at least) for passenger public transport on regular bus lines.
- Promoting the transition to AFV in agricultural activities;
- Promoting the transition to mobility on alternative fuel in private mobility (personal means of transport).³⁸
- Additional training for professional drivers, where the advantages and possibilities of using alternative fuels in the transport of goods are presented.
- Measures related to the purchase of electric vehicles: subsidies for AFV and favourable loans (additional positive effect in combination with other measures, (e. g. simultaneous establishment of a solar power plant).³⁹
- Measures related to the use of electric vehicles: financing of awareness-raising activities, free / lower parking, exemption or reduction of prices for vignettes up to 10% of the share of e-vehicles in the total number of vehicles in Slovenia, free parking during charging, maintaining current tax incentives, etc.⁴⁰
- Activities related to promoting the use of less polluting vehicles and ensuring their sufficient number and affordability, as Slovenia intends to limit the first registration of passenger cars and light trucks of categories M1 and M1G and N1 after 2025, which according to the manufacturer's declaration have a higher share of CO₂ from 100 g / km and reduce this limit to 50 g / km after 2030.
- A positive tax policy, excise duties and environmental taxes for LPG, CNG and LNG.
- Promoting public-private partnerships in the e-mobility sector (e. g. the replacement of fossil fuel vehicles with AFV in the wider public sector, together with other activities, including the establishment of charging stations and e.g. solar power plants, with the risk of financing, establishment, accessibility, management and marketing outside public works to a private partner).⁴¹
- Measures and support for the introduction of micro-mobility in the electric vehicle segment, both in the public grid and for private purposes.⁴²
- Promoting a change in the concepts of urban logistics by introducing electric freight bicycles and vehicles for the last kilometer of delivery and closing urban delivery areas for vehicles with internal combustion engines.
- Incentives for the replacement of existing fossil fuel vehicles with a lower EURO standard than EURO 5 with AFV.⁴³
- The adoption of a policy stipulating that, from 2030, registration may

³⁷ Already foreseen in the CFP, p. 216, 220; National Program, p. 70, 86; Strategies for Alternative Fuels in the Transport Sector, p. 33, 34; Action Program, p. 11, 12, 13, 17.

³⁸ Already foreseen in OP TGP, p. 46, 48; SRP, p. 215; National Program, p. 64; Strategies for Alternative Fuels in the Transport Sector, p. 32, 36, 38, 40, 41; Action Program, p. 11, 13, 14, 16, 17.

³⁹ Already foreseen in the Strategy for Alternative Fuels in the Transport Sector, p. 32; Action Program, p. 11, 13.

⁴⁰ Already foreseen in the Strategy for Alternative Fuels in the Transport Sector, p. 32, 35; Action Program, p. 10, 11.

⁴¹ Partly foreseen in the National Program, p. 86.

⁴² Due to the global epidemic COVID-19, it is expected that the need will increase or demand for individual means of transport or micro-mobility, which it would make sense to start integrating more intensively into the public network as well.

⁴³ Already foreseen in the SAF, p. 216, 220; National Program p. 86, 70; Strategies for Alternative Fuels in the Transport Sector, p. 33, 34, 38, 41; Action Program, p. 12, 13.

	<p>only be renewed for passenger cars with a EURO 4 and higher emission standard and for light trucks with a EURO 3 and higher emission standard.</p> <ul style="list-style-type: none"> - Funding awareness raising activities.
Bottleneck	<ul style="list-style-type: none"> - Disagreement among policy makers on the promotion of certain types of alternative fuels approved by the EU and related incentives. - Emissions of lorries and buses are measured in g / kWh, which does not allow clear comparability with passenger cars. - The proposal for additional taxation of e-vehicles is not in favour of promoting e-mobility, even if it is only for luxury vehicles.⁴⁴ - Very slow adoption of alternative propulsion (average CO₂ emissions in Slovenia in 2018 120.9 g / km, EU average 120.6 g / km.⁴⁵ - Cost-benefit ratio; uncertain consumer responses and meeting consumer expectations (purchase costs, battery life, maintenance costs, road safety, adoption and use of new technologies, vehicle autonomy with 1 charge, energy safety and availability of recharging infrastructure). - The issue of the capacity to produce a sufficient amount of electricity and the negative effects of certain methods of electricity production on the environment and the management of energy surplus consumption. - Introduction of a battery recycling system.⁴⁶ - The inability of car manufacturers to ensure the supply of e-vehicles under the same conditions as currently apply to vehicles with internal combustion engines (waiting periods, quotas).⁴⁷
Stakeholders involved	<p>Municipalities, concessionaires, Ministry of Infrastructure, Ministry of Environment and Spatial Planning, Eco fund, Ministry of Finances, DARS (a publicly owned company managing highways. It can give incentives for highway fees if the government approves), Ministry of Agriculture and Forestry (influences the implementation of AF vehicles in agriculture and forestry)</p>
Timeframe	2021-2027
Indicative Funding Sources	<p>ERDF, Cohesion policy funds, state climate fund, private investments, municipal, local sources of financing. The action goes through the policy instrument mentioned in chapter 3.</p>
Indicative Costs	128.561.463 EUR
Expected Impact	<p>Environmental:</p> <ul style="list-style-type: none"> - promoting adaptation to climate change and risk prevention and management; - promoting low-pollution transport and reducing fossil fuel consumption and achieving commitments to the EU; - preserving and protecting the environment and promoting energy efficiency in transport.
- economic	
- environmental	
- territorial	
- on e-mobility	

⁴⁴ This proposal from a Ministry of finance has been abandoned for the time being. The taxation for luxury cars reduced.

⁴⁵ European Automobile Manufacturers Association (ACEA), 2020. Available at: <<https://www.acea.be/statistics/tag/category/key-figures>>, 21 February 2020.

⁴⁶ In terms of raising awareness among general public. Car producers already have a system of battery recycling planned.

⁴⁷ Not an issue any more. The waiting time is comparable to fossil fuel vehicles. Some vehicles are not available in Slovenia due to a small market.

	<p>Impacts on e-mobility:</p> <ul style="list-style-type: none"> - increase sales of vehicles on alternative fuel sources; - new mobility models, e. g. shared ownership, car sharing, companionship, app tramping (e. g. prevoz.org), vertical take-off autonomous aircraft (human drones), micro-mobility development, e-bike infrastructure and other micro electric vehicles; - development of (urban) mobility to improve air quality (in cities). <p>Economic:</p> <ul style="list-style-type: none"> - supporting the transition to a low-carbon economy in all sectors; - increasing opportunities for the development of companies for the production of biodiesel, methane (e. g. from waste), reduction of agricultural land for food production...; - reduction of jobs, electric mobility is more efficient; - positively discriminatory differences in tax policy in favour of electric vehicles affect the price competitiveness of electric vehicles compared to fossil fuels; - the construction of large infrastructure projects ensures the introduction of funds into local economies during construction, which can create new employment opportunities, and has a positive impact in the long run. <p>Territorial:</p> <ul style="list-style-type: none"> - increasing demand for electricity.
Transferability	Measure with transfer potential.

5.2.2.3 Elimination of administrative barriers

Action 4	Elimination of administrative barriers for the implementation of AFV⁴⁸
Background	In the process of preparing the E-MOPOLI Action Plan, which promotes the introduction of mobility to alternative fuels in a specific policy part of the Operational Program for the Implementation of European Cohesion Policy for the period 2014-2020, several meetings were held with national policy makers in this area. At one of the meetings, the national side of the co-drafters initiated the placement of the measure "removal of administrative barriers to the introduction of AVG". The basic initiative of the measure was further specified through activities in cooperation with an expert on public-private partnerships.
Objective	It supports low-carbon strategies by promoting the accessibility and wider use of less polluting vehicles.
Relevance Policy Change	Type 3 (change of strategic focus of the policy instrument - structural change). The proposed action does not exist in the present OP. The action would contribute to faster diffusion of the vehicles on alternative

⁴⁸ The measure already envisaged in the Strategy for Alternative Fuels in the Transport Sector, p. 33, 37; Action Program, p. 11.

	fuels, eliminating administrative barriers.
Activities	<ul style="list-style-type: none"> - Simplification of special procedures for receiving subsidies or tax supplements, facilitations by enabling subsidies to be received directly from the seller before the actual purchase of the vehicle and to consider introducing a subsidy for the purchase of used e-vehicles (e.g. 1 year or up to 5 years old BEV); - encouraging transporters to absorb EU funds more effectively to modernize their vehicle fleets; - tax incentives for electric battery vehicles;⁴⁹ - toll classes for AFV;⁵⁰ - examine the possibility of simplifying the procedures for placement of the AFV infrastructure in space, e. g. hydrogen.
Bottleneck	<ul style="list-style-type: none"> - Public policy issues and adequate awareness and encouragement of users to switch to the use of AFV: nature, scope and eligible costs for investments in sustainable mobility; - administrative challenges in cooperation between public infrastructure management and the establishment of smart systems; - lengthy procedures (multi-dwelling buildings, industrial plants), administrative constraints and lack of strategic planning in the location and planning of the establishment of appropriate infrastructure (charging stations, expansion of the electricity network); - administrative barriers to receiving subsidies, tax supplements, reliefs; - lack of qualified staff, promotion of appropriate directions of education for the needs of the economy; - the wider economic effects of tax incentives are unknown.
Stakeholders involved	National public authorities, local public authorities, business entities and the general public.
Timeframe	2021-2027
Indicative Funding Sources	National public authorities. The action does not go through the policy instrument set out in Part II of the Action Plan (Chapter 3).
Indicative Costs	2,875,640 EUR
Expected Impact	Environmental
- economic	- promoting adaptation to climate change and risk prevention and management;
- environmental	- preserving and protecting the environment and promoting energy efficiency in transport.
- territorial	
- on e-mobility	Impacts on e-mobility <ul style="list-style-type: none"> - accelerated implementation of AFV; - faster achievement of the set strategic goals regarding the introduction of AFV.

⁴⁹ Already foreseen in OP TGP, p. 47; Strategies for Alternative Fuels in the Transport Sector, p. 32; Action Program, p. 10, 11.

⁵⁰ Partly foreseen in the Strategy for Alternative Fuels in the Transport Sector, p. 41; Action Program, p. 17.

	Economically - supporting the transition to a low-carbon economy in all sectors.
Transferability	Measure with transfer potential.

5.2.3 Priority 3: Improving mobility management

5.2.3.1 Local / regional action plans on mobility to electricity and other alternative fuels, infrastructure and multimodal mobility

Action 5 Local / regional action plans on e-mobility and other alternative fuels, infrastructure and multimodal mobility or additions to CPS⁵¹	
Background	<p>Book of good practices e-MOPOLI, good practices number:</p> <ul style="list-style-type: none"> - 16 Region of Lombardy - The Regional Strategy and Guidelines for Electric Mobility promotes the development of charging stations for electric vehicles that support the flow of electric vehicles and plug-in hybrids. <p>The document is prepared within the established parameters of the National Infrastructure Plan for Charging Electric Vehicles (PNIRE) and the European AFID Directive (Alternative Fuel Infrastructure) and plays a leading role for all public and private entities preparing for the design of the implementation of electricity infrastructure networks at regional level. The guidelines were developed on the basis of a comparison with electric mobility stakeholders and the territory in order to specify the methodology and priorities to be considered in the construction of the charging infrastructure network, according to two macro categories: public access charging point and private access charging point.</p> <ul style="list-style-type: none"> - no. 17. Participation in the ministerial project "CReIAMO PA". <p>As part of the "CReIAMO PA" project, skills and networks for networking in the environment and for the improvement of public administration organizations, launched in 2018 and funded by the National Operational Program Governance and Institutional Capacity 2014-2020, the Province of Brescia is actively participating in a technical working group of "Mobility Management", promoted by the Ministry of the Environment and involving representatives of local authorities, regions, central administrations, research institutions and associations. Its aim is to establish a planning and practical document on "Mobility Management", which was presented at the national conference held in November 2018. The mentioned good practice supported cooperation with the Ministry of Infrastructure in preparing the measures of this document and participation in events organized by national government institutions to raise awareness and raise mobility skills on alternative fuels. The same practice is implemented at the level of the Lombardy region, practice no. 19. Working Party on</p>

⁵¹ The measure already foreseen in the GHG OP, p. 46; SRP, p. 215, 216; National Program, p. 64; Strategies for Alternative Fuels in the Transport Sector, p. 33, 36.

	Electric Mobility in Lombardy (MEL).
Objective	It supports low carbon strategies. Review of the current state of the implementation of mobility on alternative fuel in municipalities. Preparation of measures with financial evaluation of the investment and time frame for implementation.
Relevance Policy Change	Type 3 (change of strategic focus of the policy instrument - structural change). The proposed action aims to influence planning, promotion and monitoring of the implementation of alternative fuels on the local level and by the local authorities and to improve the implementation of the mobility on alternative fuels in municipalities. The action proposed does not exist in the present OP and its inclusion in the OP 2021-2027 would have the influence on the municipal policy making.
Activities	<ul style="list-style-type: none"> - Inventory of the current state of AFV deployment; - coordinated unified inventory of the state of introduction of mobility on alternative fuels by regions and submission / establishment of a regional register for providing information to MZI and MOP; - preparation of a legal basis at national level for municipalities or RDAs / regions for the preparation of action plans; - preparation of the structure of the action plan for unification of documents; - preparation of information events for the introduction of requirements and legal framework; - preparation of action plans by the RDA or municipalities with instructions that municipalities that do not wish to join the regional action plans must include in their own action plans or SUMP's for the implementation of mobility on alternative fuels; - promoting the integration of public-private partnership models into local / regional action plans (introduction of energy-efficient mobility in municipalities (e.g. but not limited to: (example 1) establishment of a carsharing system the public partner will set up the parking infrastructure, the private partner will set up the vehicle fleet and provide management; (example 2) replacement of fossil fuel vehicles with AFV, where the investment is covered by energy savings and, if necessary, additional payment, together with other activities, including the establishment of charging stations and e.g. solar power plants, the establishment of applications for better utilization of the established vehicle fleet on alternative fuel sources, etc.).
Bottleneck	<ul style="list-style-type: none"> - Small size and diverse needs (diverse bottlenecks) of individual municipalities; municipalities are limited by financial resources for investments; - changing the investment priorities of municipalities; -lack of interest in interdisciplinary cooperation among municipalities for joint investment, public procurement, projects; - the proliferation of information and communication systems and networks poses a number of threats to cyber incidents - digitalisation; - municipalities could do a lot by requiring from the concessionaire (public utility service provider) to have a certain percentage of AFV in the fleet, but this can affect the price of the service if the (especially environmental) cost analysis is not taken into account throughout life.

Stakeholders involved	National public authorities, local public authorities (e. g. municipalities, public tourism institutes), regional agencies (12 RDAs), business entities. The action goes through the policy instrument set out in Part II of the Action Plan (Chapter 3).
Timeframe	2021-2027
Indicative Funding Sources	Cohesion policy funds, RS.
Indicative Costs	1,962,750 EUR
Expected Impact - economic - environmental - territorial - on e-mobility	<p>Environmental:</p> <ul style="list-style-type: none"> - promoting adaptation to climate change and risk prevention and management; - preserving and protecting the environment and promoting energy efficiency in transport; - development of mobility to improve air quality and harmonious development, faster achievement of national goals. <p>Impacts on e-mobility:</p> <ul style="list-style-type: none"> - support for the regional development of sustainable mobility; - promoting sustainable mobility and smart grids and eliminating bottlenecks in key network infrastructures; - a review of the current state of the mobility on alternative fuel implementation and measurable results of the set targets until 2027; - more evenly distributed promotion of the implementation of mobility on alternative fuel; at the moment, certain municipalities are accelerating investments in the transition, others are not. <p>Economic:</p> <ul style="list-style-type: none"> - strengthening research, technological development and innovation and providing appropriate administrative support to industry; - support for the transition to a low-carbon economy in all sectors.
Transferability	Measure with transfer potential.

5.2.3.2 Open information exchange

Action 6 Open exchange of information⁵²

Background	As part of the e-MOTICON project, INTERREG Alpine Space Program, which took place during 2016-2019, a Regional Action Plan for e-mobile
-------------------	---

⁵² The measure already foreseen in the GHG OP, p. 48; Strategies for Alternative Fuels in the Transport Sector, p. 33, 37, 38, 40; Action Program, p. 13, 15, 16.

infrastructure for the Gorenjska statistical region was prepared, in which one of the measures was Support and establishment of a national information platform with the e-charging infrastructure under the direction and control of the national public authority. The measure was proposed by Electro Gorenjska and RDA Gorenjska - BSC, d.o.o., Kranj. An example of integrated and centralized data collection has been the Italian Ministry of Infrastructure, which has been collecting data on the number and technical specifications of charging stations for years, but these are not publicly available data. Veneto Strade, Lombardy, Italy, set up an open information platform in the e-MOTICON project with a publicly accessible map of charging stations with technical specifications and performance information. A part of the platform, available by registration, is meant to collect statistics and other documents to improve planning, investment in charging stations and charging infrastructure network management.

On January 1st 2019, the Ministry of Infrastructure started the implementation of the IDACS - ID project and data collection for sustainable fuels in Europe. IDACS is a support project of a centralized EU program - the Connecting Europe Facility (CEF). The general purpose of the IDACS project is to provide the end user of the AFV with better static and dynamic data on the charging / supply infrastructure for alternative fuels, improve mobility, even over long distances. The specific purpose of the project is:

- identify charging infrastructure stakeholders (charging infrastructure managers / operators - CPOs), e-charging service providers (MSPs) and the public network of charging / supply points for alternative fuels (AF) in transport (electricity and hydrogen as mandatory AFs, other AFs (CNG, LNG, LPG, biofuels) at the discretion of the consortium Member State);
- through the open web portal - National Access Points (NAP), provide end users with free access to a range of quality static and dynamic data on public charging / supply points for AF in traffic.

The broader purpose of the IDACS project is also to raise awareness of the importance of using alternative fuel vehicles and thus actively contribute to climate change mitigation and the protection of nature and the environment.

The activities listed below are support for the IDACS project and an initiative to add data collection for charging stations for electric bicycles and motorcycles in the long run, as well as information on charging stations and landing sites for vertically take-off & landing autonomous electric aircraft in the future.

The information about IDACS and discussions on how it could be upgraded and supported by the OP policy and included in the e-MOPOLI action plan were done within the e-MOPOLI activity of WSGR.

Objective

Promotion of low-carbon strategies for all territories by promoting data collection, processing and the use of data with an aim to establishing effective mobility management systems.

Relevance Policy Change	Type 3 (change of strategic focus of the policy instrument - structural change). This action is also something new proposed in the OP for the charging infrastructure and supports the transnational cohesion of IDACS information platforms. The IDACS platform stands also as a tool for policy makers to plan and implement the public charging infrastructure on alternative fuels.
Activities	<ul style="list-style-type: none"> - Unified national information platform for open information on alternative fuel infrastructure, operation and internal statistical platform for all e-vehicles: national access point with dynamic and static data in real time, on the entire charging infrastructure for alternative fuels in transport in the Republic of Slovenia and the establishment of a European network of equal national platforms in Europe; - Activities to promote open exchange of information and good practices such as conferences, meetings, workshops...
Bottleneck	<ul style="list-style-type: none"> -Resources for setting up, managing and maintaining the platform; - Political will, change of priorities; -Ensuring the consistency of the platform with public procurement rules; - Organization, preparation and implementation of the project; - Preparation of protocols for data acquisition and data handling (who, to whom, what, when); - How to obtain data from existing infrastructure; -Administrative issues in setting up the information network, exchanging data, monitoring and ownership; - Obtaining consents on the nature of the selected data; - Implementation of personal data protection rules.
Stakeholders involved	MZI, ICT companies (chosen by a public procurements), electrical distributors, owners and operators of charging stations (e. g. electricity distributors, energy and petrol companies, hotels, restaurants, municipalities).
Timeframe	2021-2027
Indicative Funding Sources	Cohesion policy funds, RS, IPE. The action goes through the policy instrument set out in Part II of the Action Plan (Chapter 3).
Indicative Costs	324.683 EUR

<p>Expected Impact</p> <ul style="list-style-type: none"> - economic - environmental - territorial - on e-mobility 	<p>Environmental:</p> <ul style="list-style-type: none"> - Improving air quality in urban environments - indirect impact; - Indirect preservation and protection of the environment and promotion of efficient energy use in transport. <p>Impacts on e-mobility:</p> <ul style="list-style-type: none"> - Informing consumers nationally, at EU level and globally about the AFV infrastructure (next step - use of the map / information to integrate into international free publicly available information platforms); - Promoting sustainable transport; - Improved user experience; - A single information platform for all users / potential users who promote e-mobility or mobility to other alternative fuels (public charging stations for e-buses, and methane lorries, in the future on hydrogen, also for transit traffic, personal e-vehicles and e-bikes); - Monitoring the technical standard of e-charging infrastructure, which affects the diffusion of the e-charging infrastructure network and a higher level of customer satisfaction; - Reducing anxiety related to the autonomy of e-vehicles; - Promoting sustainable transport and smart grids and eliminating bottlenecks in key network infrastructures; - Development of sustainable mobility. <p>Economic:</p> <ul style="list-style-type: none"> - Support the transition to a low-carbon economy in all sectors. <p>Territorially:</p> <ul style="list-style-type: none"> - Support for studies, collection and analysis of statistics, spatial planning, network capacity planning and the like; - Attracting tourists with AFV.
<p>Transferability</p>	<p>Measure with transfer potential.</p>

5.2.3.3 Increasing the usability of public passenger transport (PPT) with AFV

<p>Action 7</p>	<p>Increasing the usability of public passenger transport (PPT) with AFV⁵³</p>
<p>Background</p>	<p>In Slovenia, the introduction of electric buses and hydrogen buses is expanding slowly. There were total of 6 electric buses according to the "Register of registered vehicles - cross-section on December 31st 2019, Ministry of Infrastructure". Implemented are: mini electric buses (so-called</p>

⁵³ The measure already foreseen in the GHG OP, p. 46, 48; SRP, p. 216, 220; National Program, p. 70, 86; Strategies for Alternative Fuels in the Transport Sector, p. 33, 34; Action Program, p. 11, 12.

	<p>cavaliers), running in the strict city center and hybrid diesel electric buses.</p> <p>The e-MOPOLI book of good practices, presents good practice number 24, a demo project of three electrically battery-powered buses in Norway, Rogaland. The aim of the Rogaland demo project is (1) to focus on state-of-the-art technology, (2) to learn how battery buses can be best used in the public transport system and (3) how today's system should be adapted to the use of electric buses, including installation charging stations and bus maintenance.</p> <p>In Belgium, Flanders, they supported the transition to zero emissions by financing projects (good practice number 32, e-MOPOLI Book of Good Practices). In 2015, the Flemish Region adopted a comprehensive 'Clean Transport Power' action program to facilitate the transition to zero-emission transport. One of the measures identified in the action program was the financing of projects. With the annual call for proposals, public and private parties were invited to submit project proposals on annual topics (electrification of buses, taxis, government / business fleets, electric car sharing initiatives, light electric vehicle projects ...). Projects have been running for two years and need to be reported regularly. Each project is monitored by a representative of the Flemish government department. Calls are held every year since 2016. The last call was published in 2019.</p>
Objective	It supports low-carbon strategies for all types of territories, especially for urban areas, including adapting mobility by promoting the use of user-friendly public passenger transport on the alternative fuels, thus reducing the use of predominantly fossil fuel-powered passenger cars.
Relevance Policy Change	Type 3 (change of strategic focus of the policy instrument - structural change). The action proposed does not exist in the present OP. The change aims to provide the legal basis for the national financing mechanisms provided to municipalities (e. g. Agreement for Regional Development) for the faster deployment of the vehicles on alternative fuels.

Activities	<ul style="list-style-type: none"> - New PPT models with alternative fuel vehicles that are more attractive to the public should be studied and implemented (e. g. on-demand PPT with mini e-buses, e-vans or e-taxis); lines should be analysed and identified where, instead of conventional regular transport, it would be sensible to introduce public transport with alternative fuel vehicles on demand; - Introduction and integration of smart transport systems and integration with other public transport and energy control systems; -Planning, setting up and integrated management and monitoring of advanced mobility services; - Development and integration of public-private partnership models in the field of providing public passenger transport on alternative fuels; - Introducing the correct and consistent application of procurement criteria, taking into account the lifetime costs of vehicles; - Application, development and integration of innovative criteria in public procurement procedures, promotion of public procurement with innovative solutions in the field of providing public passenger transport on alternative fuels; -Financial support with subsidies for the establishment of infrastructure, including smart systems, for adapted PPT vehicles on demand and micro AFV. The provision of the service should be financially supported by compensations (gap financing), if necessary.
Bottleneck	<ul style="list-style-type: none"> - Unadjusted timetables, road lines and rail public passenger transport (harmonization of timetables, optimization of the use of a single ticket, arrangement of all transfer points and stops and modernization of the vehicle fleet needed); - A predominantly non-integrated transport network that does not connect different modes of transport; - The system of public passenger transport in Slovenia is fragmented, not managed comprehensively; - Administrative barriers for the different public infrastructure managers to cooperate; - Lack of areas for stationary traffic at P + R hubs on the outskirts of cities and at major bus and train stations; - Financial constraints for the deployment of intelligent transport systems; - Exceeded permeability on road infrastructure (outdated state - lack of established yellow lanes on motorways and bypasses for public passenger transport, as a permanent measure or at peak times); - Certain PPT lines are already congested at peak times, without introducing additional measures to encourage the use of public transport.
Stakeholders involved	National public authorities (responsible for issuing concessions for public road transport on national level, responsible for the decisions to support electrification of taxis and implementing, supporting the implementation of the new mobility models, public procurements), local public authorities (responsible for issuing concessions for public road transport for schoolers and can implement other local public transport models, public procurements, last kilometre logistic ...), public service providers - public undertakings and concessionaires.
Timeframe	2021-2027

Indicative Funding Sources	EU funds, national resources, private investment. The action goes through the policy instrument set out in Part II of the Action Plan (Chapter 3).
Indicative Costs	2.210.000 EUR
Expected Impact - economic - environmental - territorial - on e-mobility	<p>Environmental:</p> <ul style="list-style-type: none"> - promoting adaptation to climate change and risk prevention and management; - preserving and protecting the environment and promoting energy efficiency in transport. <p>Impacts on e-mobility:</p> <ul style="list-style-type: none"> - Increasing the usability of public passenger transport and thus changing the behaviour of users traveling, increasing connections and encouraging the integration of different modes of transport and the implementation of activities for safer and more economically sustainable public transport; - Encouraging the development of more user-friendly mobility services on alternative fuels at the inter-municipal level (students, pensioners, workers, etc.), within urban areas and to local communities where local public services (schools, hospitals, public administration, etc.) are most important; - Promoting sustainable transport and smart grids and eliminating bottlenecks in key network infrastructures; - Developing (urban) mobility to improve air quality (in cities). <p>Economic:</p> <ul style="list-style-type: none"> - Supporting transition to a low-carbon economy in all sectors. <p>Territorially:</p> <ul style="list-style-type: none"> - Improving the connectivity of hinterland areas with the city.
Transferability	Measure with transfer potential.

5.2.3.4 Introduction of "mobility as a service" models

Action 8 Introduction of "mobility as a service" models

Background	<p>The e-MOPOLI book of good practices represents good practice no. 21 PISL - Better movement. The aim of "PISL" is to launch a local public transport policy based on a process of planning, integrated management and monitoring of advanced mobility services. The aim of this process is to change the behaviour of users on the road, to increase tangible and intangible networks of connections and to promote integration between different modes of transport, which is essential for a safer and more economical sustainable transport system. The lead partner of PISL is the Province of Reggio Calabria. The total amount of funding is EUR 4,506,676.</p> <p>The above good practice is in line with the idea of the MaaS project - mobility as a service or. in the original "Mobility as a Service", which was presented at a transnational workshop in Romania, in September 2019 as part of the e-MOPOLI project. The idea of mobility as a service is also known to the Ministry of Infrastructure, which supports the idea.</p>
Objective	<p>It promotes low-carbon strategies for all types of territories, especially urban areas, including promoting mobility on alternative fuels through appropriate mitigation measures and adapting mobility by always encouraging users to choose the optimal transport solution taking into account priority aspects.</p>
Relevance Policy Change	<p>Type 3 (change of strategic focus of the policy instrument - structural change). The action proposed does not exist in the present OP. The change aims to provide the legal basis for the national financing mechanisms provided to municipalities (e. g. Agreement for Regional Development) for the support on establishing MaaS concept.</p>
Activities	<ul style="list-style-type: none"> - Implementation of a platform for the integrated offer of existing transport systems by calculating the optimal mobility service according to the selection of priority parameters (e. g. speed, price, comfort...); - Preparation of projects for MaaS testing; - Development and integration of public-private partnership models with energy saving elements (e. g. public-private partnership model for changing the fleet of public authorities for the fleet of alternative fuel vehicles and charging them from individual or community self-supply devices with electricity from RES); - Introduction and integration of intelligent transport systems and integration with other energy control systems.

Bottleneck	<ul style="list-style-type: none"> - Financial constraints on the introduction of intelligent transport systems; - Information security and privacy of individuals using the information and communication technology; - Ownership structure of road infrastructure and restrictions on the construction of additional infrastructure; - The long-term nature of certain projects related to political will; - Slovenian railways and restrictions on the expansion of passenger transport capacity; - Complex legal relations for exercising control - which bodies will exercise control and what will be their responsibilities (whether it will be included in the public service system within public-private partnerships or left to the market, then the possibilities for control are smaller); - Business risks of implementing a public-private partnership (these are new models, so the risks for private investors are relatively high, they can be mitigated by combining different sources of financing); - Uncertain consumer responses and meeting consumer expectations, lack of identification of what people will accept according to their habits, needs and desires - what is a higher quality of life for an individual is reflected in actions.
Stakeholders involved	National public organizations, local public organizations, regional agencies, other legal entities under public law, private legal entities.
Timeframe	2021-2027
Indicative Funding Sources	EU funds, national resources, private investment. The action goes through the policy instrument set out in Part II of the Action Plan (Chapter 3).
Indicative Costs	2.900.000 EUR
Expected Impact - economic - environmental - territorial - on e-mobility	<p>Environmental:</p> <ul style="list-style-type: none"> - Promoting adaptation to climate change and risk prevention and management; - Preserving and protecting the environment and promoting energy efficiency in transport. <p>Impacts on e-mobility:</p> <ul style="list-style-type: none"> - Promoting sustainable transport and smart grids and eliminating bottlenecks in key network infrastructures; - Development of (urban) mobility to improve air quality (in cities). <p>Economic:</p> <ul style="list-style-type: none"> - Strengthening research, technological development and innovation; - Supporting the transition to a low-carbon economy in all sectors; - An opportunity for new business development.
Transferability	Measure with transfer potential.

6. Monitoring

The results will be monitored in the second phase of the implementation of the e-MOPOLI project, from December 1st 2020 to November 30st 2022. The task of the responsible partner is to obtain information on how many proposed measures and subordinate activities of the action plan approved by the responsible Ministry are included in the policy: Operational Program for the Implementation of EU Cohesion Policy 2021-2027 by the managing authority (Ministry of Infrastructure).

Even if not obligatory, the responsible partner will monitor the number of proposals for activities that will not be used for the Operational Program for the Implementation of EU Cohesion Policy in the period 2021-2027 by the responsible ministry, but will be included in other policies.

Monitoring the achievement of indicators for individual proposed activities, which will be determined by the competent Ministry with regard to the obtained and allocated financial resources, is optional.

In the table in Annex 1, responsible partner has determined at least one result indicator for each policy instrument measure addressed by the project, which will be monitored by selected indicators of the responsible Ministry in the second phase of project implementation. Regular monitoring of the project is therefore envisaged mainly through regular monitoring of indicators in cooperation with the competent Ministry and for the implementation of the proposed measures.

Other monitoring activities include regular exchange of information with all stakeholders, regular reporting, appointment of an interdisciplinary and working group to monitor measures and promote development, strengthening the data collection and analysis system, processing of obtained data, measurements and follow-up of analyses.

As stated above, the key responsibility of the RDA Gorenjska – BSC, Ltd., Kranj is to monitor the number of proposed actions in the Action Plan include in the addressed policy, in order to evaluate the % of the change as indicated in the self-performing KPI. The below table shows the months in the reporting periods of the second phase of the project, defined in the application form, when we plan to have activities giving us the feedback on our results.

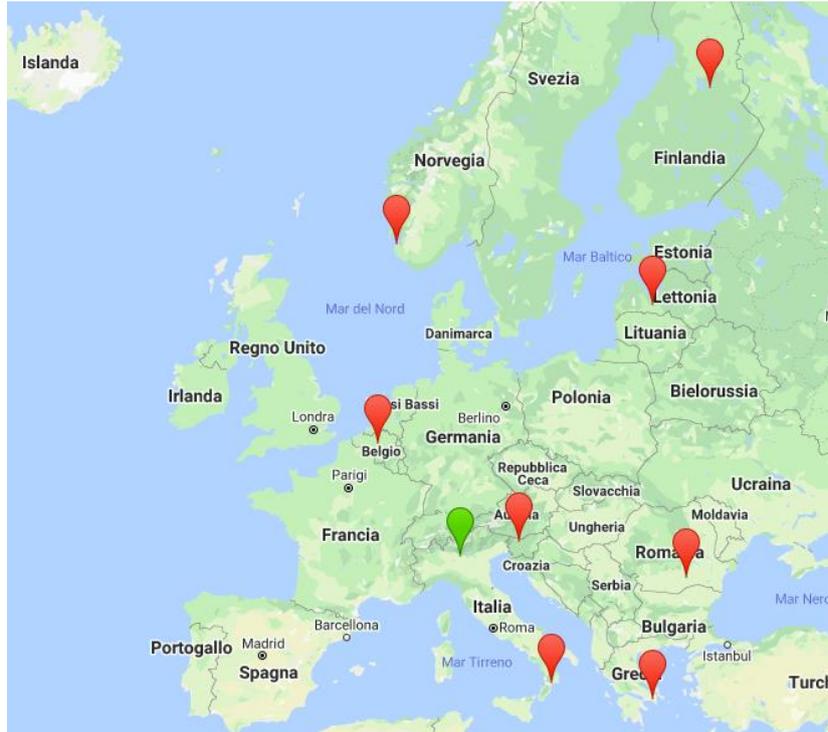
Monitoring Timetable:

Year	2021						2022												
Periods/months	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
7				I															
8																			
9																			

Milestones:

July - August 2021	August - September 2021	September - October 2021	October - December 2021 if no delay	February 2022	March - April 2022	From September 2022 on	From October 2022
MZI finalizes consideration of the actions proposed in the e-MOPOLI AP and sends the proposal of the policies, to be included in the OP EKP 2021-2027 to the Government Office for Development and European Cohesion Policy (SVRK)	SVRK prepares a draft of the whole document	SVRK puts the document on public display and defines the timeline for the stakeholders' comments	Revising the draft of the document and monitoring the number of the actions proposed in the e-MOPOLI AP included in the OP EKP 2021-2027. Possibility for coordination with the managing authority, the Ministry of Infrastructure	BCS Kranj will have the information comments and feedbacks on the proposal in relation to alternative fuel mobility policies proposed	Checking the status of finalising the OP EKP 2021-2027	Checking the finalisation of the OP EKP 2021-2027 and state of play of policies on alternative fuel	Reporting the final outcomes

It has to be emphasised that the prolongation of the activities by the responsible Ministry and Office is possible, which will influence the set milestones.



e-MOPOLI: Electro MOBility as driver to support POLicy Instruments for sustainable mobility



€1,792,053.00



from 1 Jun 2018
to 30 Nov 2022



Low carbon
economy



9 partners
IT - SI - EL - BE - FI
NO - RO - LV

Project coordinator and lead partner

Province of Brescia
Technological Innovation and Associate Management department
Piazza Paolo VI – 25121 Brescia (IT)

Sabrina Medaglia
smedaglia@provincia.brescia.it

This project is co-financed by ERDF - European Regional Development Fund 2014-2020. The content of this publication is the sole responsibility of the e-MOPOLI Partnership and does not reflect the official opinion of the European Union. Published in July 2020

7. Bibliography

- AUTOCLUSTER Project (2009). Summary of Best Practices Across Regions and SWOT Analysis (WP3.3). Available online at [file:///C:/Users/Foteini%20Orfanou/Downloads/Collection+of+good+practices+in+research_business+cooperation+in+SEE+automotive+industry%20\(1\).pdf](file:///C:/Users/Foteini%20Orfanou/Downloads/Collection+of+good+practices+in+research_business+cooperation+in+SEE+automotive+industry%20(1).pdf)
- AUTOCLUSTER Project (2011). Analysis of Electromobile Infrastructure in South-East Europe Countries. Available online at http://www.autoclusters.tuiasi.ro/downloads/E-MOBILITY%20ANALYSIS_Work%20Version_1.0.pdf
- Coffman, M., Bernstein, P., & Wee, S. (2017). Electric vehicles revisited: a review of factors that affect adoption. *Transport Reviews*, 37(1), 79–93.
- Daňo, F. and Reháč, R. (2018). Electromobility in the European Union and in the Slovakia and its Development Opportunities. *International journal of multidisciplinary in business and science*, 4(5), 74-83.
- ELMOS project (2014). Electric Mobility Strategy of the Hanseatic City of Rostock. Available online at http://www.elmos-project.eu/fileadmin/content/documents/RSS_Feed/150107_Rostock_e-mobility_strategy_executive_summary.pdf
- European Commission (2014). National/Regional Innovation Strategies For Smart Specialisation (RIS3) – Cohesion Policy 2014-2020 – Cohesion Policy 2014 – 2020. Available online at https://ec.europa.eu/regional_policy/sources/docgener/informat/2014/smart_specialisation_en.pdf
- EU Transport in Figures – Statistical Pocketbook, 2017.
- European Union. <https://ec.europa.eu/eurostat/statistics>
- European Environment Agency. <https://www.eea.europa.eu/>
- Interreg Europe. (n.d.). Retrieved April 8, 2019, from <https://www.interregeurope.eu/>.
- Knez, M., Celik, A. and Muneer, T. (2014). A sustainable transport solution for a Slovenia town. *International Journal of Low-Carbon Technologies*. 10. 10.1093/ijlct/ctu007.
- Nanaki E.A. and Koroneos C.J. (2013). Comparative economic and environmental analysis of conventional, hybrid and electric vehicles—the case study of Greece. *J Clean Prod* 2013, 53, 261–6.
- National Policy Framework on alternative fuels - Newspaper of the Greek Government 31 of October 2017, Paper number 3824, 2nd issue (46463 – 46550). Available online at: <https://www.maritimes.gr/news/uploads/YEN/171115%20National%20Policy%20Framework%20on%20alternative%20fuels.pdf>
- Pickton, D.W. and Wright, S. (1998). What's swot in strategic analysis? *Strateg. Change*, 7, pp. 101-109.
- Raslavicius, L., Azzopardi, B., keršys, a., Starevičius, M., Žilvinas, B. and Makaras, R. (2015). Electric vehicles challenges and opportunities: Lithuanian review. *Renewable and Sustainable Energy Reviews*. 42. 786-800. 10.1016/j.rser.2014.10.076.
- SAGE Project (2013). Deliverable 3.2: SWOT Analysis Of The Consortium. Available online at <http://www.sage->

project.eu/fileadmin/user_upload/documents/D3.2_Consortium_Analysis_01.pdf

Sierzchula, W., Bakker, S., Maat, K. and Van Wee, B. (2014). The influence of financial incentives and other socio-economic factors on electric vehicle adoption. *Energy Policy* 2014, 68, 183–194.

Vanhaverbeke, L., & Van Sloten, R. (2018). Easy mobility incentives for electric vehicles: Best practices based on an international expert survey. 2018 13th International Conference on Ecological Vehicles and Renewable Energies, EVER 2018, 1–5.

Yu, A. and Pettersson, S. (2014). Opportunities and threats for the electric two-wheelers in China. 10th ITS European Congress, Helsinki, Finland, 16-19 June 2014.

- Broos, J., Vanhaverbeke, L.: Interregional policy learning regional context analysis, Brussels, 5. 8. 2019;
- Broos, J., Vanhaverbeke, L.: Interregional policy learning sourcebook of good practices, Brussels, 5. 8. 2019;
- BSC, Ltd, Kranj: e-MOPOLI, Action Plan summary, Kranj;
- BSC, Ltd, Kranj: eMopoli, ActionPlan, Template 11;
- BSC, Ltd, Kranj: e-MOPOLI, Additional information to the Regional context analysis; Kranj;
- BSC, Ltd, Kranj: e-MOPOLI, Electro MObility as driver to support POLicy Instruments for sustainable mobility, Recommendations Template, Kranj;
- BSC, Ltd, Kranj: e-MOPOLI, Preliminary Action Plan template on electric and alternative fuel mobility, Kranj;
- BSC, Ltd, Kranj: e-MOPOLI, Regional Context Analysis, Kranj;
- BSC, Ltd, Kranj: Additional information to the Regional Context Analysis, Kranj;
- BSC, Ltd, Kranj: Report, e-Mobility Transnational Strategy for an Interoperable Society and Networking in the Alps (e-MOTICON), e-MOTICON Regional Action Plans, 15 January 2019;
- Directive 2009/33 / EC of the European Parliament and of the Council of 23 April 2009 on the promotion of clean and energy efficient road transport vehicles, Official Journal of the EU no. L 120, date 15. 5. 2009;
- Directive 2014/94 / EU of the European Parliament and of the Council of 22 October 2014 establishing infrastructure for alternative fuels, Official Journal of the EU, no. L 307, day 28. 10. 2014;
- Energy Act, Official Gazette of the RS, no. 17/14, 81/15 in 43/19;
- European Environment Agency: Electric vehicles from life cycle and circular economy perspectives, TERM 2018: Transport and Environment Reporting Mechanism (TERM) report, Luxembourg, 2018;
- European Commission: White Paper. Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system, COM (2011) 144 final, Brussels, March 2011;
- European Commission: Report from the Commission to the European Parliament and the Council, the EU and the Paris Agreement on Climate Change: Assessing progress at the Katowice Climate Conference, COM (2018) 716 final, Brussels, 26. 10. 2018;
- Informa Echo: Research REUS 2019;

- LIFE Climate Path 2050: Climate Mirror 2019 GHG emissions and the EU-ETS sector, Final Report, 7 June 2019;
- Ministry of Infrastructure: Register of registered vehicles - cross-section of the situation on the day 31. 12. 2019;
- Ministry of the Environment and Spatial Planning: Third Annual Report on the Implementation of the Operational Program of Measures to Reduce Greenhouse Gas Emissions by 2020, December 2018;
- Operational Program of Measures to Reduce Greenhouse Gas Emissions by 2020, Ljubljana, December 2014;
- Resolution on the National Transport Development Program in the Republic of Slovenia for the period up to 2030 (ReNPRP30), Uradni list RS, no. 75/16;
- Office of the Government of the Republic of Slovenia for Development and European Cohesion Policy: Development Strategy of Slovenia 2030, Ljubljana, 2017;
- Government Office for Development and European Cohesion Policy: Operational Program for the Implementation of European Cohesion Policy in the Period 2014–2020, Ljubljana, 2015;
- Operational Program for the Implementation of European Cohesion Policy in the Period 2014-2020, Version 4.1, 21 June 2018;
- Europe 2020 Strategy, Brussels, 3.3.2010, COM (2010) 2020 final;
- Strategy in the field of market development for the establishment of appropriate infrastructure related to alternative fuels in the transport sector in the Republic of Slovenia, 12 October 2017;
- Transport Development Strategy in the Republic of Slovenia until 2030, Ljubljana, June 2017;
- Regulation (EU) no. Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010 / EU, Official Journal of the EU, no. L 348, of 20.12.2013;
- Government of the Republic of Slovenia: Action Plan for Renewable Energy Sources for the Period 2010-2020 (AN RES) Slovenia, Ljubljana, July 2010 and Update of AN RES, 2017;
- Government of the Republic of Slovenia: Action Program for Alternative Fuels in Transport, 6 June 2019; – Act Amending the Personal Income Tax Act, Official Gazette no. 66/2019.

3.1 Web sources:

- ARSO: Greenhouse gases. Available at: <http://okolje.arso.gov.si/onesnazevanje_zraka/vsebine/toplogredni-plini>; 2020.
- Batič, D.: Introduction of electromobility in Slovenia from the point of view of the regulator, Travel Agency, 2020. Dostopno na: <<http://www.agencija-poti.si/Clanki/Vsi-clanki/ArtMID/637/ArticleID/102/UVAJANJE-ELEKTROMOBILNOSTI-V-SLOVENIJI-Z-VIDIKA-REGULATORJA>>;
- Bednaš, M., Čelebič, T., Fajić, L., et al.: Development Report, IMAD, Ljubljana, June 2019. Available at: <https://www.umar.gov.si/fileadmin/user_upload/razvoj_slovenije/2019/slovenski/PO_R2019_splet1.pdf>;
- E8: About the concept. Available at: <<https://www.e8concept.com/sl/o-konceptu>>;
- Eko sklad: Electric and hybrid vehicles: Subsidy, 2020. Available at: <<https://www.ekosklad.si/prebivalstvo/pridobite-spodbudo/seznam-spodbud/elektrina-in-hibridna-vozila/elektricna-in-hibridna-vozila-sbvencija-237>>;
- European Automobile Manufacturers Association, 2020. Available at: <<https://www.acea.be/statistics/tag/category/key-figures>>;
- European Environment Agency: Sources of air pollution in Europe, 2019. Dostopno na: <<https://www.eea.europa.eu/signals/signals-2013/infographics/sources-of-air-pollution-in-europe/view>>;
- Eurostat: Energy statistics – an overview. Available at: <<https://ec.europa.eu/eurostat/statistics-explained/pdfscache/29046.pdf>>;
- European Commission: EU action to limit car air pollution: Questions and Answers, Information Review, Brussels, 31 August 2017. Available at: <https://ec.europa.eu/commission/presscorner/detail/sl/MEMO_17_2821>;
- Chamber of Commerce and Industry of Slovenia: Trading in GHG emission rights. Available at: <https://www.gzs.si/skupne_naloge/varstvo_okolja/vsebina/Podnebnepremembe/Izpusti-TGP/EU-ETS>;
- Gov.si: Reducing greenhouse gas emissions. Available at: <<https://www.gov.si teme/zmanjsanje-emisij-toplogrednih-plinov/>>;
- International Energy Association: What Is The “Minimum Acceptable” Ratio Of EVs to Charging Stations?, 8. april 2019. Available at: <<https://evadoption.com/what-is-the-ideal-ratio-of-evs-to-charging-stations/>>;
- Liftshare: Carsharing, carpooling, ridesharing... what’s the difference? Available at: <<https://blog.liftshare.com/liftshare/carsharing-carpooling-ridesharing-whats-the-difference>>;
- Ministry of Finance, Financial Administration of the Republic of Slovenia, 3rd edition, February 2019. Available at:



<https://www.fu.gov.si/davki_in_druge_dajatve/podrocja/davek_na_motorna_vozila_dmv/>;

- Ministry of Infrastructure: Presentation of the EU IDACS project and explanations to the planned activities in the field of charging / supply infrastructure for AG in transport, Version 1.0, February 2020, p. 7. Available at: <https://www.acs-giz.si/uploads/predstavitev_idacs_ver._1.0.pdf>;
- Pavšič, G.: Analysis of the car market with alternative drives in the EU, Automotive data that are of concern to politicians in Slovenia, AUTOMOTIVE, SiolNET, 2019. Available at: <<https://siol.net/avtomoto/novice/avtomobilski-podatki-ki-skrbijo-tudi-politike-v-sloveniji-507305>>;
- Portal Energetika: Operational program of measures to reduce LNG emissions. Available at: <Operativni program ukrepov zmanjšanja emisij TPG>;
- Portal Energetika: Market development strategy for the establishment of appropriate infrastructure related to alternative fuels in transport. Available at: <<https://www.energetika-portal.si/dokumenti/strateski-razvojni-dokumenti/strategija-za-alternativna-goriva/>>;
- Slovenia reduces CO₂: Consequences of climate change. Available at: <[http://www.slovenija-CO₂.si/index.php/o-CO₂/podnebne-spremembe-in-njihove-posledice](http://www.slovenija-CO2.si/index.php/o-CO2/podnebne-spremembe-in-njihove-posledice)>;
- Statistical Office of the Republic of Slovenia, GDP and national accounts. Available at: <<https://www.stat.si/StatWeb/Field/Index/1>>;
- Statistical Office of the Republic of Slovenia, Gross domestic product by region. Available at: <<https://www.stat.si/StatWeb/News/Index/7820>>;
- Statistical Office of the RS, Business entities. Available at: <https://pxweb.stat.si/SiStatDb/pxweb/sl/20_Ekonomsko/20_Ekonomsko__14_poslovni_subjekti__01_14188_podjetja/1418806S.px/>;
- Statistical Office of the RS, Population. Available at: <<https://www.stat.si/StatWeb/Field/Index/17>>;
- Statistical Office of the RS, registered road vehicles. Available at: <https://pxweb.stat.si/SiStatDb/pxweb/sl/20_Ekonomsko/20_Ekonomsko__22_transport__08_22221_reg_cestna_vozila/2222109S.px/>;
- The Transport Knowledge Hub: Transport and the economy: The relationship between transport and the economy. Available at: <<https://transportknowledgehub.org.uk/guidance-tool/relationship-between-transport-economy/>>;
- Natural gas purely favorable energy: Transport. Available at: <<https://www.zemeljskiplin.si/promet/polnilne-postaje>>.



REPUBLIKA SLOVENIJA
MINISTRSTVO ZA INFRASTRUKTURO

Langusova ulica 4, 1535 Ljubljana

T: 01 478 80 00
F: 01 478 81 70
E: gp.mzi@gov.si
www.mzi.gov.si

e-MOPOLI
Interreg Europe



European Union
European Regional
Development Fund

Declaration

The Ministry of Infrastructure, the undersigned Jernej Vrtovec, in my capacity as a Minister, support the Action Plan for the promotion of sustainable mobility on alternative fuels in transport, prepared in e-MOPOLI project and declare that we will strive to place proposals for measures related to:

- establishment of infrastructure for alternative fuel (AF),
- supporting technological and economic development related to vehicles on AF,
- incentives for the use of vehicles on AF,
- elimination of administrative barriers for the introduction of vehicles on AF,
- increasing the usability of public transport by vehicles on AF,
- implementation of mobility as a service model,
- local / regional action plans and open exchange of charging infrastructure information for vehicles on AF

in the Operational Programme for the Implementation of the EU Cohesion Policy 2021-2027 or, if relevant, other policies supporting deployment of mobility on alternative fuels. By this, I specifically underline, e-MOPOLI Action Plan for the Ministry is neither legally nor financially binding document.

Signature: _____

Date: 10. 02. 2021

Stamp of the organisation





9 Deklaracija

Ministrstvo za infrastrukturo, Jernej Vrtovec, v funkciji ministra, podpiram Akcijski načrt za spodbujanje trajnostne mobilnosti z alternativnimi gorivi v prometu projekta e-MOPOLI in izjavljam, da si bomo prizadevali za umestitev predlogov ukrepov, ki se nanašajo na:

- vzpostavitev infrastrukture za alternativne vire goriv (AVG),
- podpiranje tehnološkega in gospodarskega razvoja povezanega z vozili na AVG,
- spodbude za uporabo vozil na AVG,
- odpravo administrativnih ovir za uvajanje AVG,
- dvig uporabnosti JPP z vozili na AVG,
- uvajanje modelov mobilnosti kot storitev,
- lokalne/regionalne akcijske načrte ter odprto izmenjavo informacij o infrastrukturi za AVG

v Operativni program za izvajanje evropske kohezijske politike za obdobje 2021–2027. V kolikor primerno pa tudi v druge politike, ki podpirajo uvajanje mobilnosti na alternativna goriva. Pri čemer izrecno izpostavljamo, da Akcijski načrt projekta e-MOPOLI nima oz. ne vzpostavlja pravne ali finančne zaveze za naše ministrstvo.

Podpis _____

Datum: 10. 02. 2021

Žig organizacije

