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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

Bucharest Ilfov Regional Development Agency Regional Action Plan

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Responsible partner
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Low-carbon
economy

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1. Introduction

The energy consumption and emissions production are exponentially increasing worldwide. Based on European Union (europa.eu), 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). Decarbonising the transport sector is central to achieving the Paris Agreement temperature objectives and Europe's long-term strategy in achieving a climate-neutral economy by 2050.

Regarding Bucharest-Ilfov region, the level of air pollution due to car traffic is highly variable, the highest impact occurring in the built areas, with overcrowded traffic lanes, where the dispersion of pollutants is difficult to achieve. In the localities of Ilfov County, compared to the inhabited areas of Bucharest, there is the advantage that the dispersion of pollutants in the air is faster, because there are no buildings with many levels placed as a barrier in their path. The contribution of the transport sector to the total emissions of ozone precursor pollutants, in 2014, stands at over 95% for CO and about 90% for NO_x. Also, for PM₁₀ and PM_{2.5} pollutants, the contribution of the Transport sector to the total emissions of primary particles in suspension for 2014 exceeds 90% and 95% respectively. In the case of heavy metal emissions, Pb comes mainly from transport (over 95%).

The above presented high shares, 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 to a more environmentally friendly transportation system, having a direct effect on energy saving and emissions reduction.

1.1 The e-MOPOLI Project

Based on the above, the 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, with a total budget of approximately 1,8 mil. euros for the 54 months of implementation.



Good cooperation between project partners and successful implementation of learning activities has led to a spread of sustainable mobility - based on alternative fuels in all partner regions, as follows:

- ✚ **Province of Brescia – Italy – Lead Partner**
- ✚ **Calabria Region Infrastructure Department N.6 – Italy**
- ✚ **Regional Development Agency of Gorenjska, BSC, Ltd, Kranj - Slovenia**
- ✚ **Region of Attica - Greece**
- ✚ **Flemish Government Department of Environment - Belgium**
- ✚ **Regional Council of Kainuu - Finland**
- ✚ **Rogaland County Council - Norway**
- ✚ **Bucharest-Ilfov Regional Development Agency - Romania**
- ✚ **Zemgale Planning Region – Latvia**

1.2 The Action Plan

A key output of e-MOPOLI project is the development of **action plans** which will contribute 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 will exchange ideas, knowledge and policies already implemented that should be adopted, altered or avoided. The overall methodological process that will be adopted is illustrated in Figure 1 and explained below.

The first step refers to the **problem identification** and each Region will assess 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.

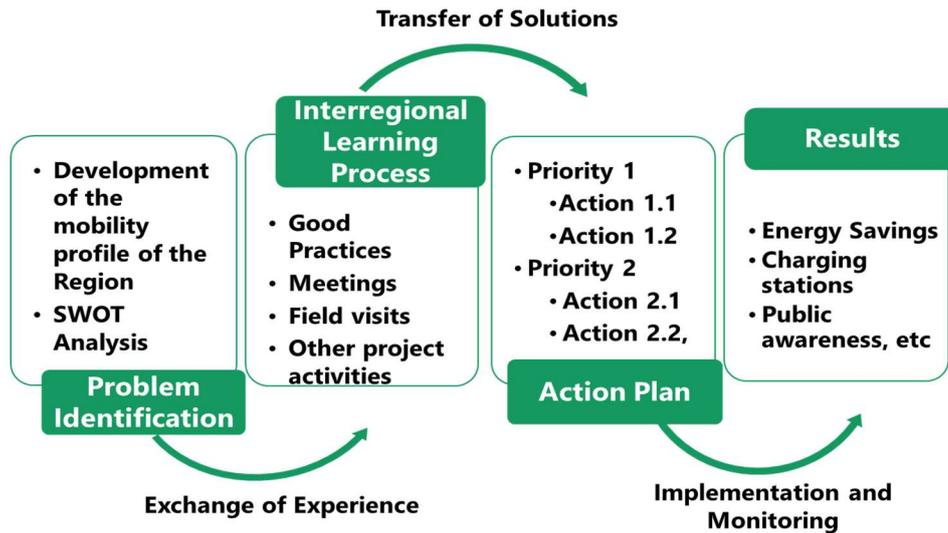


Fig. 1 Flow Diagramm

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 will formulate, in the third step, an **action plan** which will contain the necessary actions that should be implemented in order to promote electromobility and use of alternative fuels. It should be mentioned that all actions should be 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 Region of Bucharest - Ilfov which aims to promote electromobility and use of alternative fuels in the Region 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 will contribute to the improvement of this policy.
- **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 presents several information about the necessary **actions** formulating the present action plan.

2. General Information

2.1 Region of Bucharest-Ilfov

Bucharest - Ilfov is one of the eight development regions of Romania, situated in the south of the country, in the center of the Romanian Plain. It is unique to the other development regions as it is made up of the capital - Bucharest, the largest urban agglomeration in Romania - and Ilfov County, the traditional hinterland of the metropolis. From the point of view of the surface it is the small region, but it is the most developed in terms of demographic, urban and economic. The capital city has the highest socio-economic potential and the highest living standards of the country.

It has a total area of 1,821 km² and a total population of 2,301,255 inhabitants (Eurostat, 2019). The indicators for the two component entities are diametrically opposed: Bucharest cumulates the vast majority of population, economic and urban development, and Ilfov County is the largest in area, less populated and with a high degree of ruralization. Besides the city of Bucharest, the region also includes 8 other small cities, 32 communes and 91 villages. Together the two entities form the largest industrial agglomeration in the country.

In Bucharest – Ilfov region is the highest density of public roads and railways reported on 100 km of territory of all the development regions of the country. Also, in Bucharest are located the most important transportation hubs of railroad, air-national and international of the country. The region is located at the intersection of two European multi-modal corridors: Nădlac – Constanța (TEM), Giurgiu – Albița (TEM), planned to be built in the period ahead. Air and multi-modal accessibility are provided by the international airport "Henri Coandă" (Otopeni), the largest international airport in Romania, situated at 16.5 km North of Bucharest center. According to TomTom Traffic Index, Bucharest is considered the third most congested city in Europe after Moscow and Istanbul, which shows that residents of Romania's capital city spend 48 percent more time in traffic than needed.

National co-ordination of the regions is ensured by the National Council for Regional Development. Regional coordination is performed by the Regional Development Council (RDC) and its executive body, the Bucharest-Ilfov Regional Development Agency (ADRBI). The basic activity of ADRBI is the provision of specific services to the local public administration and private sector, with the view of developing the Bucharest-Ilfov Region. Since its establishment until the present moment, ADRBI has implemented several programs focusing on to socio-economic development of the Bucharest-Ilfov region. These were: the Phare Program – Social and Economic Cohesion, the 2007-2013 Regional Operational Program and some programs funded by the Government of Romania.

ADRBI has been an intermediary organism for the Regional Operational Programme funded by EU Structural Funds during 2007-2013. It is also in charge for the implementation of the 2014-2020 Regional Operational Programme in the region. This development aims to increase ADRBI's regional coordination role and interaction with the local Chambers of Commerce, professional associations, NGOs, etc. for integrating public and private investments.

2.2 Contact Details

Region Information	
Partner organization	Bucharest-Ilfov Regional Development Agency
Country	Romania
NUTS2 region	Macroregion three - RO32
Contact person	Daniel Popescu
Position	Head of Technical Assistance Department
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3. Policy Context

(further details on the policy context and the way the action plan should contribute to improve the policy instrument are necessary)

The **Action Plan** aims to impact:

- Investment for Growth and Jobs programme
- European Territorial Cooperation programme
- Other regional development policy instrument

Name of the policy instrument addressed: Regional Operational Programme 2014 - 2020

The Regional Operational Program (ROP) 2014-2020 is the successor of the Regional Operational Program 2007-2013 and one of the programs through which Romania will be able to access the European structural and investment funds from the European Fund for Regional Development (ERDF), between 2014 and 2020. The Regional Operational Program (ROP) 2014-2020, managed by the Ministry of Regional Development and Public Administration as Managing Authority, was adopted by the European Commission (EC) on June 23, 2015.

The strategic vision regarding the development needs to be answered by the ROP 2014-2020 is based on the analysis of the economic and social situation of the regions of Romania (in the

National Strategy for Regional Development 2014-2020), which led to the identification of the main problems:

- Research-development and innovation: limited transfer of market research results and low level of assimilation of innovation in companies,
- SMEs: SME sector underdeveloped, with negative impact on the competitiveness of regional economies. The main weaknesses of the SME sector, in the national strategic programming documents, are:
 - ✚ the low degree of entrepreneurial culture - reflected by the relatively low density of businesses in all regions,
 - ✚ low resilience of new businesses - 2/3 of new businesses disappear from the market in the first year of life.
- Energy efficiency: unsustainable energy consumption and high saving potential in public infrastructures, including public buildings and residential buildings.
- ***Environment: high level of pollution in urban areas.***
- Urban development: urban areas degraded, vacant or not properly used in Romanian cities.
- Heritage resources: valuable resources of cultural heritage weakly exploited.
- Tourism: valuable tourism potential, balanced territorial distribution - an alternative for reviving less developed / isolated areas.
- Road infrastructure: the low level of accessibility of certain areas of the country, which results in low attractiveness and extremely low investments.
- Social and education infrastructure: undersized educational, health and social services infrastructures impede social inclusion and human capital development.
- Cadaster: low level of cadastral records, which affects the implementation of policies regarding the socio-economic development of local communities.
- Administrative capacity: the need to strengthen the administrative capacity of the ROP Managing Authority, the ROP Implementing Bodies and the beneficiaries, for a good ROP implementation.

These directions of action have been correlated with the strategic directions of action mentioned by the European Commission regarding the financing from the European Structural and Investment Funds, through the European Fund for Regional Development in the period 2014-2020:

- ✚ Innovation and research;
- ✚ Digital agenda;
- ✚ Support for small and medium-sized enterprises (SMEs);
- ✚ Low carbon economy.

These objectives are translated into 11 priority axes (plus a technical assistance axis), which have a total estimated allocation of 8.25 billion euros, of which 6.7 billion euros represents EU support, through the European Regional Development Fund (ERDF), and 1.5 billion euros - national contribution.

Compared to the previous program 2007 - 2013, ROP also funds new types of investments related to sustainable urban development, in particular, financing the development of sustainable urban mobility (ecological means of transport and the necessary infrastructure).

At present, from the research carried out by the project team in the Bucharest - Ilfov region, regarding the analyzed policy instrument in the ROP 2014-2020, it was found the possibility of financing the projects regarding the installation of the necessary charging infrastructure for electric and hybrid vehicles, under Priority Axis 3 - Supporting the transition to a low-carbon economy, investment priority 4e – Promote low carbon dioxide strategies for all types of territories, especially for urban areas, which can promote sustainable multimodal urban mobility and adaptation measures relevant to attenuation, Section B - Investments for electric and non-motorized transport, in particular the construction of charging stations. For achieving the specific objective 3.2 of this operation - the reduction of carbon emissions in urban areas based on sustainable urban mobility plans, those projects that prove to have a direct positive impact on reducing CO₂ equivalent emissions generated by motorized road transport from cities are supported and the starting point is the sectorial transport strategy. Analyzing from the point of view of the expected result, this is represented by limiting the increase of greenhouse gas emissions, in line with EU directives in this field.

By creating a transport infrastructure that facilitates non-motorized and non-polluting mobility, the conditions for a significant reduction of CO₂ emissions will be assured. In addition, by offering the public alternative transport options, thus managing to discourage the use of personal cars, cities will become better living spaces for citizens.

The main goal of this Action Plan is to formulate of specific actions and measures in order to promote the concept of alternative fuels mobility and electromobility in the Bucharest-Ilfov region and to promote and encourage potential users to shift towards ecofriendly vehicles. Consequently, policy makers will find the appropriate legislation frameworks for the regulation of the transport sector. Therefore, this Action Plan will be the initiative for a more sustainable mobility in the Bucharest-Ilfov, lower energy consumption and less emissions creating a better, cleaner and healthier environment for its residents and thus enhancing and improving their quality of life.

In this context, the e-MOPOLI project will act as a "bridge of contact" between all the stakeholders identified by the project team in our region, in an attempt to identify and overcome the barriers that stand in the way of developing sustainable mobility. By working closely with them, the current situation was being analyzed and at the same time, measures were identified which are the basis for designing the action plan that will follow the improvement of the existing policies. ADR BI was originally targeting the Regional Operational Programme Investment in Growth and Jobs ERDF

2014-2020 - Development of innovation public procurement strategy under ERDF IP 1b. This has not proved to be feasible because of the timeframe - the current Regional Operational Programme is at its end period and concrete changes cannot be obtained at this time, however, we hope to be able to link the results of our Action Plan in relation to the next Operational Programme (BI POR 2021-2027). No link to other Strategies or Programmes can be made at this time.

Apart from the description of the Policy Instrument addressed within the framework of the e-MOPOLI project, is it important to set a self-defined performance indicator. In order to monitor the performance of the instrument, result indicators have been established according to the chosen policy instrument. In this respect, according to the application form for the Bucharest-Ilfov region it is stated as a self-defined performance indicator, the following:

- Stakeholders, Members of Regional Development Board adhere to measures targeting promoting e-mobility – 10

4. Background

4.1 Current Situation

The analysis of the current situation in our region showed that the transport sector is an important contributor in the CO₂ emissions and the air quality deteriorates gradually, having a negative influence on the residents' health. In this respect, here are the most dangerous pollutants in Bucharest and the effects on human health, as this information is transmitted by the Romanian Environmental Protection Agency:

- Suspended particles PM₁₀ and PM_{2.5} - industrial activity, population heating system, thermoelectric power plants. Road traffic contributes to the dust pollution caused by the tires of cars, both by stopping them and by incomplete combustion.
- Benzene - 90% of the amount of benzene in ambient air comes from road traffic. The remaining 10% comes from the evaporation of the fuel at its storage and distribution.
- Nitrogen oxides NO_x (NO / NO₂) - Nitrogen oxides are formed in the combustion process when the fuels are burned at high temperatures, but most often they are the result of road traffic, industrial activities, electricity production. Nitrogen oxides are responsible for the formation of smog, acid rain, deterioration of water quality, greenhouse effect, reduced visibility in urban areas.

The contribution of the transport sector to the total emissions of ozone precursor pollutants, in 2014, stands at over 95% for CO and about 90% for NO_x. Also, for PM₁₀ and PM_{2.5} pollutants, the contribution of the Transport sector to the total emissions of primary particles in suspension

for 2014 exceeds 90% and 95% respectively. In the case of heavy metal emissions, Pb comes mainly from transport (over 95%).

Furthermore, according to TomTom Traffic Index, which provides detailed insights on live and historic road congestion levels in 416 cities around the world, Bucharest is considered the third most congested city in Europe, after Moscow and Istanbul, which shows that residents of Romania's capital city spend 48 percent more time in traffic than needed. Also, the same information showed that the time lost in Bucharest traffic amounts to 218 hours a year, the equivalent of 27 days of work.

All the above information shows that the shift towards to a sustainable mobility is urgent and electro-mobility, as well as alternative fuels, are considered important players towards this direction. In this respect, Bucharest-Ilfov region is still at the beginning of defining a clear path regarding sustainable mobility. Even so, some bold initiatives have already occurred in this "foggy" environment and some basic actions have been implemented. Thus we mention some governmental measures, considered as good practice, implemented by the Environmental Fund Administration, which have the role of developing sustainable mobility. This organization is the main institution that provides the financial support for the implementation of projects and programs for environmental protection, established according to the European principles "polluter pays" and "producer responsibility".

To address issues related to the greening of the transport sector, the Environmental Fund Administration is implementing a national program to stimulate the greening of transport in all regions of the country by encouraging the procurement of new full electrical cars by offering financial incentives, about 10.000 euro/ per car and 5.000 euro/ per car if it is plug-in hybrid. In 2018 the budget has covered about 2.000 new electrical cars and the main rule is that the amount of this bonus may not exceed 50% of the contract price of the vehicle. It is a program that is implemented and funded annually by the Romanian government. Also, research has revealed that there are national funds granted by the Ministry of Environment through the same organization, funds destined to the development of electric vehicle charging infrastructure. The program was launched in 2016 and it financed the installment costs for about 260 charging stations with a total budget of about three million euros. The program is intended for legal entities, namely city halls with more than 50,000 inhabitants, public institutions and economic agents in such cities, but also to economic agents whose social offices or work points have direct access to motorways, European roads and national roads, and will receive from the state a grant of maximum 80% representing a maximum of 200,000 euros per project. At the same time, the Environmental Fund Administration is developing a program on improving the air quality by reducing greenhouse gas emissions, using less polluting vehicles in the local public transport. The financing is granted as a percentage of maximum 80% of the purchase value of electric buses or trolleybuses, the maximum amount of financing being granted according to the number of inhabitants of the territorial administrative unit – county residence.

According to the programmatic documents at European level, the development of urban mobility must become much less dependent on the use of cars, by changing the focus from a mobility based mainly on their use, to a mobility based on walking, the use of the bicycle as a means of displacement, the use of high quality and efficient public transport, the reduction of the use of cars in parallel with the use of some categories of clean cars. By developing an attractive and efficient public passenger transport system, by creating a coherent network of routes for bicycles, but also by creating / modernizing some pedestrian spaces, pedestrians can be assured the conditions for a sustainable transfer of part of the modal share of private transport by cars (increasing in Romania), to public transport, the use of the bicycle as a means of traveling and walking. In this respect, the Bucharest City Hall have submitted for approval a number of 11 projects, financed by Regional Operational Programme 2014 – 2020, aiming to modernize the public transport. The projects involve the purchase of 100 electric buses and 80 trams, and also the modernization of a section of tram lines as well as of passenger shelters, implicitly, installing the necessary charging infrastructure. Currently all projects are approved and are to be implemented. Moreover, another measure meant to reduce the number of vehicles passing through Bucharest, is the partnership between the City Hall with Metrorex (subway operator), which runs a pilot project for a period of 3 months, making available to all drivers who also have a monthly or annual subway subscription, free parking spaces in the park and ride multimodal terminal - Straulesti, with a capacity of 660 parking places. This measure is due to take effect from March 1st. In addition, to support the reduction of pollution generated by city traffic, the Bucharest City Hall implemented a program which is aims to eliminate old vehicles, with a high degree of pollution, from roads. or every car out of circulation, citizens receive an eco-voucher worth 2000 euros, with which they can purchase new cars - EURO 6, other environmentally friendly means of transport - micro mobility, even new household appliances and electronic items with reduced energy consumption.

The “e-Mobility Week” campaign is the first one of its type in Romania and it was dedicated entirely to informing, educating and acknowledging the benefits of ecological mobility. It was organized only one time, on October 2016, with focusing on two of the most pressing environmental issues – CO2 emissions and climate change. The e-Mobility Weeks campaign aimed to promote a sustainable lifestyle, by choosing alternative modes of transport, which reduce the emissions of polluting gases and protect the environment. For two months, children and adults became familiar with electric cars and learned more about the benefits of using them on the environment.

Also, private companies represent an important impulse in the development of sustainable mobility in the region through the initiatives they have supported. Here we can exemplify the partnership between Kaufland Romania, a big retail market, and Renovatio Group, a leading renewable energy sector player, which allowed the opening of the first fast charging hub for

electric cars in Romania and Eastern Europe. The hub allows the simultaneous charging of 6 electric vehicles. The stations in the hub are compatible with all 100 percent electric vehicles and hybrid plug-ins, they are non-stop open and all the charging costs are fully supported by Kaufland Romania. In 2016, alongside Renovatio, they launched the first electric car fast charging public stations network in Romania, which were free for everybody. In 2018, they reached over 20 locations in their parking lots, offering a better autonomy on the move. The Renovatio e-charge network currently has 92 charging points in 38 locations, of which 62 charging points are installed in 23 Kaufland locations.

Regarding the situation of the electric vehicles fleet and charging stations in our region, this presents an upward trend, considering that the phenomenon of e-mobility is just at the very beginning. Currently there are 88 charging stations in the Bucharest-Ilfov region, 25 more than in July 2018, up 39.7%, including both public and private loading stations. Regarding the fleet of electric vehicles, there is a strong trend in the growth of electric vehicle purchases, so in 2017 the sales of electric vehicles increased by 162% compared to the previous year. Also, in 2018, the trend was maintained, reaching about 1375 electric vehicles at the end of 2018, compared with only 514 at the beginning of the same year. These data have been processed by the Automotive Manufacturers and Importers Association (APIA), based on the information made available by the Vehicles Registration Direction within the Romanian Police. Moreover, APIA represents one of the most involved regional stakeholders, actively participating in the development of all project activities, including transmitting centralized information in this field.

From the discussions carried out during the regional workshops with the Bucharest-Ilfov regional stakeholders, arose the idea that the level of awareness among the population is very low. Moreover, there is a mindset among the people which suggests that in the present is a lack of charging infrastructure both in the region and throughout the country and also, the electrical vehicles range is too low. In this sense, the present document, through the actions that it contains, wants to improve the level of awareness among population regarding the benefits of adopting a sustainable mobility.

4.2 SWOT Analysis

The Interregional Learning Process carried out within the e-MOPOLI project allowed the project team to understand and observe both, the current situation in the field of sustainable mobility and the good practices identified in the partner regions of the project, which have applicability in our region. In this respect, for the development of an action plan as real as possible, the project team carried out a SWOT analysis of electric mobility or based on alternative fuels.

- **Strengths** (advantages, capabilities, skills in relation to electro-mobility in our region)

- Providing high incentives for the purchase of electric or hybrid vehicles.
 - Providing high incentives for the installing of the charging infrastructure.
 - The growth rate of the charging infrastructure network.
 - The growth rate of the purchasing of electric vehicles.
 - The possibility to charge electric vehicles free of charge to public charging stations (some located in the big chain supermarkets parking, others in public institutions car parks).
 - Authorities have created the legislative framework for the diffusion of electro-mobility and alternative fuels mobility.
 - Participation in European projects like e-MOPOLI.
 - Private organizations in the field represent a basic pillar (strongly involved) in the development and promotion of sustainable mobility in the region.
- **Weaknesses** (disadvantages, gaps etc. in relation to electro-mobility in our region)
 - It would be necessary an education among school children to make transport activities environmentally friendly in the region. To make them get used to e-mobility and alternative fuels.
 - It would be constructive that public institutions to set an example in our region by performing actively in this sector of e-mobility (buying electrical cars, provision of infrastructure, etc.).
 - The electrical car should be regulated in a legislative framework so that car owners can benefit of the electrical car advantages
 - Lack of awareness campaigns of high level pollution.
 - Lack of awareness campaigns of electrical vehicle benefits.
 - The development of the electricity network in close connection with the development of the charging infrastructure.
 - Price gap between electric and internal combustion vehicles is still too big.
 - The lack of measures to help the transition to sustainable mobility among niche fleets (e.g. Taxis, Courier Companies)
 - Charging stations and applications are dispersed and represent a barrier to fast-charging.
 - Lack of adequate energy reserve for the installation of charging points on highways.

- **Opportunities** (overall impacts on mobility and the environment, quality of life, innovation and technology, human resources potential, urban and regional development and mobility policies etc.)
 - Supporting the development of the electric vehicles charging network by accessing European funds.
 - Raising awareness among the population of the region about poor air quality and by the benefits of using electrical cars.
 - The trend of purchasing electric vehicles in considerable increase.
 - Learning about electro-mobility from other countries that are more specialized in this sector.
 - Potential for the production of renewable energy from Renewable Energy Sources.
 - Preparing and introducing into the school curriculum a study program to track the development of electro-mobility in close connection with climate changing.
 - Updating the Sustainable Urban Mobility Plan by introducing aspects related to development of sustainable mobility.
 - Centralizing stations and loading applications in a single platform.
- **Threats** (financial instruments, cost of development, cost of deployment and maintenance, legislation, complexity of communication between stakeholders, political impacts etc.)
 - Increased bureaucracy as regards the approvals needed to install the charging stations on public spaces.
 - Collapsing the national electricity grid when the number of electric vehicles grows a lot.
 - Nearly nonexistent communication between regional and central public authorities, private companies operating in this field, academia and research sector and also community members.
 - Low level of information in the sustainable mobility field that offers the perception that the range of EV is not enough and also that the charging infrastructure is poor.

4.3 Regional Analysis

In order to better understand the real situation regarding electro-mobility or mobility based on alternative fuels, within the project, a regional analysis was carried out, activity managed at project level by Flemish Government Department Environment. This analysis included both, information that characterizes the area from a geographical point of view, as well as information on the

economic development of the region, the quality of the air, the number of inhabitants and the preferences for transport modes.

Natural, physical and geographical characteristics			
		Year	Source
Region Size (km²)	1.804	2015	Eurostat
Average temperature (°C)	11,2		
Average wind speed (m/s)	3-4		
Sunshine (hours/year)	2.187		
CO2 emission per source	0,6631 transport; 0,255 industry; 0,0697 residential; 0,0122 other		

Demographic Data			
		Year	Source
Population (inhabitants)	2.287.347	2017	Eurostat
Population density (inhabitants per km²)	1.304,40	2016	Eurostat
Age structure	14,51%; 7,74%; 17,86%; 17,89%; 13,55%; 12,98%; 8,54%; 5,10%; 1,84%	2017	Eurostat
Education mix	10,90%; 53%; 36,10%	2017	Eurostat
Environmental awareness	55,90%	2016	Eurostat

Economic indicators			
		Year	Source
Gross Regional Product (€ in millions)	44.512	2016	Eurostat
GRP per capita (€)	19.450	2014	Eurostat
Average income (€ per year)	12.700	2016	Eurostat
Unemployment rate	1%	2016	Eurostat
Arrivals at tourist accommodation	901.731	2017	Eurostat

Mobility indicators			
		Year	Source
Number of vehicles	1.382.122	2017	Automotive Manufacturers and Importers Association
Number of cars in household	1,54	2017	Automotive Manufacturers and Importers Association
Number of Electric Vehicles	308	2017	Automotive Manufacturers and Importers Association
Electric Vehicle Sales (last year)	162%	2017	Automotive Manufacturers and Importers Association

Available Charging Infrastructure	26	2017	Automotive Manufacturers and Importers Association
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Financial Benefits	✓
Non-financial benefits	X
Low emission zone	X

		<i>Year</i>	<i>Source</i>
Total streets distance (km)	1.086	2017	Sustainable Urban Mobility Plan
Street Mix	13,08% highway; 20,26% national roads; 45,21% county roads; 21,46% communal roads	2017	Sustainable Urban Mobility Plan

The economic activity is overwhelmingly concentrated in Bucharest, Ilfov County being a space complementary to the activities carried out in the capital. Regional GDP has been increasing since 2009 (€30.1bn) and it was at €50.6bn in 2017 (Eurostat, 2019). GDP per capita in purchasing power standards (PPS) was 43,200 PPS per inhabitant in the same year (highest of the country), above the EU average (30,000) and the national average (18,800), showing a remarkable disparity in terms of living standards between the capital region and the rest of Romanian regions. Together the two entities form the largest industrial agglomeration in the country. Gross Domestic Product is the largest in the country, located at 5,616.7 euros / inhabitant, about twice the average per country.

4.4 Recommendations

Following the analysis conducted regarding electro mobility or mobility based on alternative fuels, several recommendations have emerged that would improve the existing situation in this sector, categorized according to the three fields, as follows:

e-mobility aspects	Key Recommendations
Business Market take-up of sustainable mobility from alternative fuels	<ol style="list-style-type: none"> 1. Raising awareness among prospective buyers about the benefits of purchasing electric vehicles. 2. Decrease price gap between conventional and electric vehicles. 3. Increase the range of the electric vehicles. 4. Training employees in the automotive industry to cope with changes in maintenance and service.

<p>Governance</p> <p>Needs, requirements and policies to enhance sustainable mobility from e-mobility and alternative fuels</p>	<ol style="list-style-type: none"> 1. As many campaigns as possible across all broadcast media as to the need to protect the environment but also at the benefits of sustainable mobility. 2. Preparing and introducing into the school curriculum a study program to track the development of electro-mobility in close connection with climate changing. 3. Tax and duty surcharges for internal combustion vehicles. 4. Introducing the obligation among public authorities that a percent of the fleet of vehicles to be electric. 5. Introduction of zero emission zones in the crowded cities. 6. More measures (e.g. incentives) to help the transition to sustainable mobility among niche fleets (e.g. taxis, courier companies, public transport) 7. Free parking spaces for electrical vehicles. 8. Collecting all information and applications in a single platform used for charging vehicles.
<p>RIS3</p> <p>e-mobility in relation to RIS3 Smart Specialization Strategy documents.</p>	<ol style="list-style-type: none"> 1. Learning about electro-mobility from other countries that are more specialized in this sector 2. Supporting the development of the electric vehicles charging network by accessing European funds. 3. Technological transfer from other countries that are more developed in this area. 4. Developing the Smart Specialization Strategy – RIS 3 BI

5. Actions envisaged

5.1 General Information

In terms of implementing the project activities, the Bucharest team had the chance to get acquainted with the most important best practices and initiatives implemented and identified in the partner regions, which was the basis for the drawing the regional action plan. Many of the experiences we had in this framework were shared with the regional stakeholders group during the meetings held with them, in order to be able to identify the best scenario, that is suitable for our region. At the same time, in order to perform the deliverables 'regional context analysis' and 'SWOT analysis of the region', we called on the help of stakeholders, who provided us with the latest information, both when it comes to the characteristics of the car market in our country and if we discuss funding programs or other policies designed to develop the sustainable mobility sector. Moreover, the presence of stakeholders and their active involvement in learning process activities denotes the importance given to our project. It is also worth noting that by attending these events, both the members of the partnership and the stakeholders present were able to exchange information and create connections with stakeholders from other European regions. In fact, the idea of influencing the level of awareness among the population regarding all relevant aspects related to the acquisition and use of electric vehicles emerged, based on discussions with

the regional stakeholder group, following the participation of the project team in the Interregional Learning Process implemented in Bussels. With this occasion we noticed some measures implemented by them for diffusion of electric mobility, an website which provides all kind of information about EV and their's multiannual awareness campaigns. Starting from this good practice and based on the results of the project analysis performed in the region, the idea of the need to improve awareness about the benefits of using environmentally friendly vehicles, succeeding at the same time, through the notions introduced in this guide, the myths regarding the low autonomy of the electric vehicles but also those regarding the insufficiency of the development of the necessary charging network. In this context, our regional action plan consists of an action that falls within the Awareness Priority, namely, to develop a guide to promote sustainable mobility in the region, which presents information of interest about all types of sustainable means of transport that are present in our region, non-reimbursable financing sources for their acquisition, cost of ownership, technical characteristics, as well as information about the charging network available.

6.2 Actions for Region of Bucharest – Ilfov

The regional Action Plan consists one action meant to contribute to the efficient spread of electric or based on alternative fuels mobility, that involves the development of a promotion guide, which can be included in the Awareness priority, the expected result being to influence as many potential EV users as possible to make the transition to these sustainable means of transport. In the next figure both the priorities as well as the specific actions are presented and are analyzed below.



6.2.1 Priority 1: Awareness

Action 1 **Developing a guide for promotion of sustainable mobility in the region**

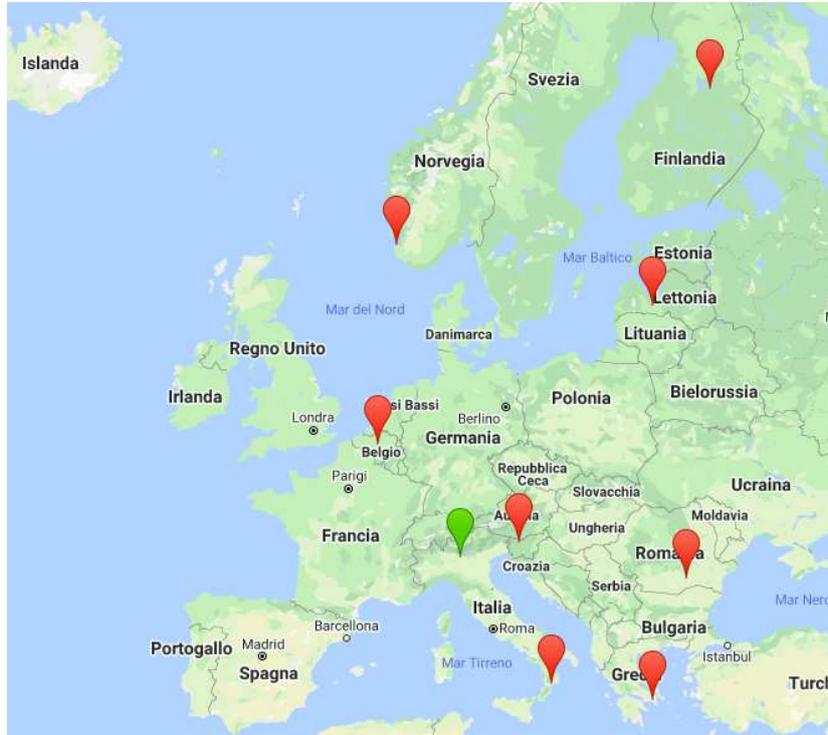
<p>Background</p>	<p>Considering the participation in the Interreg Europe e-MOPOLI project, the implementation team passed through the project activities in order to fulfil the indicators and in this way leading to the achievement of the main objective, to promote sustainable mobility.</p> <p>By participating in discussions held during the regional meetings with the Bucharest-Ilfov stakeholders and based on the analysis carried out by the project team, the idea of a major weakness is regarding to the level of awareness among the population about the benefits of sustainable mobility. In the context of participating in the project learning process activities, held in Kainuu, the members of the project team could note statements of Rogaland region representatives, from Norway, which says that at the beginning, they started with many awareness campaigns among people. Also, in Brussels, with the occasion of organizing the same type of activities, a stakeholder from the Flemish partner presented a model for raising awareness campaign process – We all drive electric, an electric vehicle experience day where people can drive this type of cars. Moreover, Flemish partner inspired us to choose this action also by presenting a good practice - Website about environment friendly vehicles - an information mode that presents clear, current and neutral information about all kinds of environment friendly vehicles that you can buy in Belgium.</p>
<p>Objective</p>	<p>Given the lack of awareness campaigns about the benefits of using sustainable transport in the region and considering their importance in promoting electric mobility or based on alternative fuels, we believe that this action will contribute to the achievement of the general project objective. By implementing this action at regional level, it is desired to coagulate all the information regarding the eco-friendly means of transport - technical characteristics, costs of ownership as well as the benefits of their use on the environment. Moreover, this guide will also include up-to-date information on the financing sources made available by the central and local public authorities in the region, in order to develop the fleet of electric mobility means of transport, on the one hand and on the other hand, for the development and diversification of the charging infrastructure. In this way, potential buyers will get familiar with this new type of vehicles and their characteristics and will increase public acceptance and confidence in this field.</p> <p>The main objective of this action is to raise awareness both, for the funding opportunities that are available in the region in order to develop sustainable mobility and also to increase users' confidence in choosing such a sustainable means of transport.</p>
<p>Relevance</p>	<p>This action will indirectly contribute to improving the policy instrument addressed. Nevertheless, the dissemination of the guide will achieve in getting people familiar with electric vehicles, raising awareness concerning the benefits of using this kind of environment friendly vehicles and their advantages and capabilities over conventional vehicles. Moreover, in this way, we hope to succeed to minimize or</p>

	<p>even eliminate any potential users concerns regarding “EV range anxiety” or the insufficient deployment of the fast charging network. Moreover, the guide will promote the funding instruments available for the development of the charging network, including the ROP, through which financial allocations are granted for the development of public passenger transport – low carbon, EV charging infrastructure as well as the development of bicycle infrastructure. Therefore, these will lead to increase in the penetration rate of sustainable means of transport, bringing about less emissions and noise levels and thus improving life quality in the region.</p> <p>ADR BI was originally targeting the Regional Operational Programme Investment in Growth and Jobs ERDF 2014-2020 - Development of innovation public procurement strategy under ERDF IP 1b. This has not proved to be feasible because of the timeframe - the current Regional Operational Programme is at its end period and concrete changes cannot be obtained at this time, however, we hope to be able to link the results of our Action Plan in relation to the next Operational Programme (BI POR 2021-2027). No link to other Strategies or Programmes can be made at this time.</p>
Activities	<p>The activities carried out in order to develop the guide are presented as follows:</p> <ul style="list-style-type: none"> - Organization of the work process and setting a guide structure - Contacting all stakeholders from the region which are being involved in sustainable mobility for collecting information and input sharing (quadruple helix framework) & web research. - Introducing all elements information about electro mobility and alternative fuels and presenting the results to the stakeholder’s group - Maintaining close connection with regional stakeholders’ group in order to receive a specialized feedback from our experts in this field. - Printing and dissemination of the guide to all relevant stakeholders and interested organisations from the Bucharest-Ilfov region. - Ensuring increased visibility of the guide in the online environment
Bottleneck	<p>Lack of awareness campaigns concerning the environmental benefits by using eco-friendly vehicles</p> <p>Lack of specific and targeted information regarding EV technical characteristics and the development of the necessary infrastructure</p>
Stakeholders involved	<p>Automotive Manufacturers and Importers Association, Renovatio, TMC Electric Mobility, Flow, Ilfov County Council, National Institute for Research and</p>

	Development in Electrical Engineering, Bucharest Transport Company, Intercommunity Development Association for Public Transport, Romanian Car Registry
Timeframe	2021 – 2022
Indicative Funding Sources	The funds needed to cover the costs for implementing this action will be gathered from the local authorities in the Bucharest-Ilfov Region, through the Regional Development Fund (based on the Law 315/2004).
Indicative Costs	16.000 euro
Expected Impact - economic - environmental - territorial - on e-mobility	By implementing this action, it is expected to achieve a long-term environmental impact, given that this action may encourage potential users to shift towards sustainable mobility. Moreover, this action will facilitate the transition to a low-carbon economy and will promote energy efficiency in transport sector. Regarding economic aspects, we can mention that by succeeding this action will raise the number of EV in our area and consequently this can be translated to an increase in energy consumption, increase in investments in domestic and public charging stations, and these together will help to sustainable development of our region.
Transferability	This action can be easily transferred to any European region.

6. Monitoring

		2021						2022												2023		
		June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	February
Priority Axis Awareness	Developing a guide for the promotion of sustainable mobility in the region	Organization of the work process and setting up the guide structure																				
		Collecting information and input sharing from regional stakeholders group & web research																				
		Drawing the guide introducing information from the above steps												Printing, disseminating to all relevant stakeholders & ensuring increased visibility of the guide in the online								
		Maintaining close connection with regional stakeholders' group in order to receive a specialized feedback																				
		Monitoring the implementation of the purposed activities																				



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

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8. Declaration

The General Director of Bucharest-Ilfov Regional Development Agency agrees to support and promote the implementation (and where appropriate implement) the plan detailed above.

Name, Surname: DAN-DUMITRU NICULA

Position: General Director

Signature _____ date: July 27th - 2021

Stamp of the Organisation