Interregional Learning towards Electric Mobility in Europe: the EV ENERGY experience

ACTION PLAN

Association of Lazio Municipalities – ANCI LAZIO

EUR S.p.A.

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General information

Project: **Electric Vehicles for City Renewable Energy Supply – EV ENERGY**

Partner organisation: Regional Association of Lazio Municipalities – ANCI Lazio & EUR S.p.A..

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NUTS2 region: Lazio Region.

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Policy context

The Action Plan aims to impact:

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

Name of the policy instrument addressed: ROP ERDF Lazio 2014-2020 Action 4.6.1 and Action 4.6.3 (Thematic Object 4)

An overview on EV Energy project

European cities are advancing at rapid pace in the field of **renewable energies** and **urban electric mobility**.

These are **innovative and smart technologies** that can contribute significantly to reducing greenhouse gas emissions and increase energy efficiency.

Their **intelligent integration** into energy and mobility system is of high priority in our urban ecosystem.

The EV Energy project aims to analyse, initiate and implement policies favouring **sustainable energy and electric mobility systems in urban areas**.

It works with experienced cities and regions, transferring the most appropriate policies and good practices.

The project focuses on three thematic areas:

- Renewable energies
- Electric mobility
- Infrastructures (Smart grids, ICT, etc.)

European context

On 23 October 2014, the European Council agreed on the "**2030 climate and energy framework**" containing the new **EU-wide targets and policy objectives** for the period between 2020 and 2030.The framework proposes the following targets for 2030:

- 40% greenhouse gas reduction relative to 1990 levels
- at least 27% of EU energy consumption from renewables
- 27% improvement in energy efficiency

With these objectives in mind, a major trend becomes even more necessary: the **decarbonisation of the energy and mobility sector**.

Urban context

Cities are the **main energy consumers**, but also offer the **greatest opportunities** for change.

Two of the most important technologies that are gaining momentum in European cities are electric vehicles (EVs) and renewable energies. Both technologies offer great potential for climate change mitigation but do come with limitations.

Solar energy production peaks at noon, when demand is low.

EVs are mainly charged after working hours, precisely at the **period of maximum demand**, when the solar energy generation is much lower.

This **inconsistency leads to inefficient use of urban renewable energies**, and a large dependence on the national energy mix, which is more CO2 intensive.

EV Energy approach

EV Energy analyses and develops **innovative policies** that promote renewable energies, electric mobility and the use of ICT for their integration.

Through interregional policy learning, the most appropriate policies are **transferred to cities, regions and partner countries and implemented subsequently**.

Identified best practices and policies are further disseminated for the benefit of the widest possible audience.

EV Energy in numbers

EV Energy project has been co-financed by the **Interreg Europe Programme** under the topic **Low-carbon economy**.

The project has been started on 1st January, 2017 and it will be concluded on 30th of June, 2021.

The project budget is € 1.049.797 and is co-financed by **ERDF funds** with an amount of € 892.327,45.

EV Energy project partners

The Project is leaded by GreenIT Amsterdam Region, a Dutch public organization.

The partnership is composed by:

- Province of Flevoland (The Netherlands);
- Barcelona Official Chamber of Commerce, Industry, Services and Navigation (Spain);
- Stockholm County Council, Growth and regional planning administration (Sweden);
- Kaunas University of Technology (Lithuania);
- Regional Association of Lazio Municipalities – ANCI Lazio (Italy);
- EUR S.p.A. (Italy).

General background

Starting from a SWOT analysis developed during the EV Energy touring around Lazio region in 2017, six factors were taken into consideration, in line with the PESTLE model (Political, Economic, Social, Technological, Legal, Environmental).

Il modello P.E.S.T.L.E.

1) Political factors (P)

Despite the presence of different industrial excellences, there is still lack of programming and difficulties in defining technical standards for the electric-infrastructures. Other obstacles are represented by the insufficient information to the consumer on the advantages and performances of the EVs, the not competitive purchase price for EVs, lack of incentives to favour their purchase, the absence of e-infrastructures in motorways, and lack of subsidized and uniform tariffs for the electric supply of charging points.

However, the new PRMTL guidelines (Regional Mobility, Transport and Logistics Planning), should be a government stimulus in the future to change the behaviour of people in favour of electric mobility and renewable energy. In addition, the RETROFIT legislative initiative enables a conventional vehicle to be transformed into an EV (Law 134/2012 approved and published in the Official Journal in January 2016).

Another impulse to the development of electric mobility is today placed on the following political factors: measures such as tax reduction, access to limited traffic areas for electric vehicles; the new EU directive on renewable energy (767 2016/0382, dated 30/11/2016), which states that renewable self-consumers are entitled to use self-consumption and sale, without being subject to charges they are not cost-reflective (renewable self-consumers are subjects with renewable plants for the production, accumulation, management and use of energy in a decentralized and shared way).

2) Economic factors (E)

Currently, the economic impact in Italy of the commercial production of motor vehicles with internal combustion engines amount to 1,897 companies and 20 billion euros in annual turnover and 91thousand of employees. The estimate turnover in 2030 thanks to the EVs market could record from 113 thousand to 400 thousand employees with a turnover that can grow up to 70 billion euros a year (source: The European House Ambrosetti).

The adoption of electric mobility in Lazio region is driven by two main forces: consumer demand, industry developments. In fact, private business initiatives on EVs are growing in Lazio region (e.g. electric car sharing Sharen'go in the Italian

market at a price of 0.22 euros per minute). The planned development of fast charging stations should encourage people to change their behaviour in favour of the use of EVs and e- infrastructures.

3) Social Factors (S)

High costs, range anxiety, and low awareness are still the most barriers to EV adoption by the broader customer pool. However, early adopters of EVs in Lazio region show a significant market opportunity: they are “trendy greens” (trendy, environmentally conscious, and willing to try new technology as well as sensitive towards cost savings). Therefore, electric mobility is becoming synonymous with better quality of life. In addition, electric mobility does not only allow the reduction of emissions into the atmosphere but also contributes to a reduction in noise pollution.

4) Technological factors (T)

Electric motors are more efficient and require less maintenance than conventional fuels. But they need an "ecosystem" to develop and refill charging systems. ZD2 is the expected new generation of e- cars with a range of 200 kilometres, and hyper connected (mesh network-wifi 4G).

From the traffic statistics, it emerges that in Italy there is more time spent on home-work travel than in the other EU countries, with an average of 10 hours and 40 minutes a week, 1 hour and 5 minutes more than the European average (data from the Boston Consulting Group). Therefore, investments in infrastructures for inter-modality and interconnection between different means of transport and the use of info-mobility would reduce the use of the car. Technological innovation should guarantee soon the possibility of using EVs for long distances. The Italian Enel company counts to install 180 fast charging stations (up to 50 kW) along the main roads and highways. However, some motorway managers are showing hostility to the project. Enel company is the only player of e-infrastructures on the whole Italian territory.

5) Legal factors (L)

European legislation requires that by 2021 the average emissions of circulating cars amount to 95 grams of CO2 per kilometre: an objective that requires that a share of approximately 10 percent of the population travel by zero emission, electric cars.

The Italian scenario is characterised by the new National Strategic Framework of 14.01.2017 aiming to install a network of EV charging points" (PNIRE) across the Italian national territory, both public and private, in a ratio of 1 to 8 by December 2020, Funds are available for the development of the network, including the 50 million euros allocated in 2013 and, so far, blocked by complex bureaucracy:

complex administrative procedures are the cause of delay in installing e-infrastructures.

6) Environmental factors (E)

The white paper 2017 requires EU member states to reduce 60% of the greenhouse gas emissions in the transport sector by 2050, compared to 1990 levels. In Italy, the urban density increases the need of sustainable mobility and new inter-modality systems. The new intermodal systems identified and promoted by ANCI, as part of the EV ENERGY project, are therefore key factors.

According to the Italian National Agency of Energy ENEA, renewable sources grew in 2016: 44% of the energy produced in Italy is "green" coming from wind, photovoltaic and hydroelectric.

At national level, carbon dioxide is responsible for more than 85% of emissions, 8% depends on methane, 5% nitrogen oxide and 2% from fluorinated gases. In Lazio Region, a decrease of emissions has been registered from 2015, in particular 13% of CO2, 9% of CH4, 4% of NO2. Compared to 1990, regional variations are respectively -7%, + 5%, -21%. The Lazio region is ranked 12th, with 6.4 t CO2 eq/ab, below national average.

New policies

The development of **storage technologies**, with progressive **reduction of battery costs**, together with the **new Governmental incentives** and a **greater industrial competition** are giving a great boost, also in Italy, to the market of both plug-in **hybrid cars** and **electric vehicles**. Currently, policy measures that can expedite progress are placed in the aforementioned **National Strategic Framework of 14.01.2017 aiming to install a network of EV charging points" (PNIRE**), with the ambition to spread adequate e-infrastructures in the Italian territory for over 130,000 electric vehicles, adding to the current 9,000 e-charger points, up to **19,000 charge points** including up to **6,000 "high power" charge points**. However, the implementation of the PNIRE is still in the process of starting up, but the new measure of the "Kyoto 5 rotation Fund" establishing subsidies for companies to invest in e-infrastructures may mark a faster realignment with the best Europeans trends in the upcoming months.

On 14 April 2018 Rome hosted for the first time the E-Prix, the Formula Electric Grand Prix that gave life to an unprecedented show of electric cars on a sensational circuit in the heart of the city's Eur district. Immediately after the first E-Prix, in May 2018, the **City Council of Rome** approved a **Plan for Electric Mobility**, aimed at promoting the development of electric infrastructures. The Plan foresees an estimated need of **700 electric charging points** for the Horizon 2020, considering an annual growth of electric vehicles in Rome equal to + 20%, based on an analysis of the estimate of the fleet of electric vehicles in the metropolitan area of Rome. The implementation of the Plan is ensured through call for tenders addressed to the private sector, with precise regulations on the modalities and conditions to implement e-infrastructures regarding: 1. Exemption from “concession” charges for the occupation of public land, 2. Signage to be adapted; 3. Technical documentation and authorization process, 4. Duration of concessions.

Together with the City Administration of Rome, another key actor is the Regional Administration, in the management of electric mobility for the territory of the Lazio region.

The Lazio Regional Administration has focused its program on the **daily commuting from the regional territory to the city of Rome**: there are more than 800,000 of commuters a day to the workplace in the city centre, without counting the countless daily tourists from the Cruise ships of the Port of Civitavecchia, the daily students to the Rome’s universities, and the growing number of people who daily pours into Rome for health’s reasons to the hospital poles.

Until now, regional policies for the management and development of multi-modal nodes have taken into account only traditional private vehicles and public transport (regional public transport in the bus terminals and railway transport in the stations).

As a consequence, ERDF ROP of Lazio Region 2014-2020 was focused on increasing the number of train convoys that enter Rome every day and on the modernization of the regional public transport fleet with ecological means to cope with the flow of commuters. However, electric mobility was not considered. This is accompanied by the absence of charging infrastructure for electric vehicles, as highlighted in the background analysis described above.

The RSEs of EV Energy involving the Lazio Region's Mobility Management were the opportunity to discuss the above-mentioned critical issues. This resulted in the availability of the ERDF ROP of Lazio Region 2014-2020 Management Authority to launch a new Call for proposals on the 4.6.1 action aimed at creating new "Park & Ride" facilities, in the metropolitan area of Rome, mainly for daily commuters.

In light of the foregoing and with regard to the current process of good practices' exchange and transfer within EV Energy project, the following 2 scenarios of action plan have emerged in the context of the Lazio region:

a) **integration of RE & E-infrastructures** into the aforementioned "Park & Ride" facilities.

b) **awareness campaign:** promotion of a new culture in favour of the low-carbon economy, aimed to break people's distrust of electric mobility.

The SWOT analysis.

Factors related to the Good Practice (Internal)	
Strengths	**Weaknesses**
✓ Different types of initiatives support the introduction of EVs and HEVs in Italy: legislation, regulations, standards, promotions, and project demonstrations. Most of these initiatives are the result of a growing interest for electric utilities in analysing market prospects and the potential impact of EVs on the electricity grid. E.g. the so-called PNIRE (National Infrastructure Plan for charging electricity-powered vehicles), drafted by the Ministry of infrastructure and transport, govern the development of recharging systems in Italy. High concentration of graduates in science and technology (18.4 every 1000 inhabitants) approx. 40,000 graduates are from Universities of Lazio region (=13.6% of graduates for Italy), and in particular science and technology graduates over the last decade have more than tripled from 6.3 every 1,000 inhabitants of class 20-29 Years) to 19 every 1,000 inhabitants. ✓ High concentration of R&D experts: in 2011, 5.7 R&D experts per 1,000 inhabitants (3.8 Italian average); ✓ Innovation driven by great innovative companies based in Lazio region: cutting-edge technologies in favor of EVs (NISSAN, ENEL, etc) ; ✓ Since 2008, production from renewable sources has each year set new records. In 2014, it reached a new record level of 120,679 GWh. Hydropower represented the source	✓ Limited propensity of SMEs in R&D spending: in 2011, only 0.53% of GDP (0.68% national average); ✓ Weak relationship between enterprises, research and public sector in the management of common innovative projects; ✓ Lack of needed funds to implement new infrastructures and technologies in favor of electric mobility; ✓ Lack of true electrical corridors and recharge stations infrastructure, not only in urban areas but on long trips at intercity and regional/national level. ✓ Bureaucratic fog and still too low awareness in the public sector due to duplication and overlap of competences. No wonder citizens are often confused about who's in charge, and who can be held accountable for what goes right or wrong. In addition, there is considerable delay in the reimbursements of the funds which discourage businesses from participating in EU calls and funding opportunities; ✓ Motorization rate in Rome is 9 vehicles per 10 inhabitants. High congestion of the metropolitan area due to the increase of commuters using their own car in Lazio region (60% of total displacements). ✓ Lack of a clear National legislative address strongly geared towards electric mobility; The PNIRE (National Infrastructure Plan for

that provided the greatest contribution to the production of electricity: with 58,545 GWh it accounted for 48% of the total production from renewable sources, setting a production record. While up to 2008 the trend of electricity generated from renewable sources was mainly driven by the hydro source, in recent years the importance of “new renewables” (solar, wind and bioenergy) has increased, which in 2014 accounted for 52% of national electricity production from renewable sources; ✓ In 2017, the contribution of renewable production to total electricity production amounted to 44% (source from ENEL company). ✓ Numerous municipalities of Lazio region are committed in SEAP’s implementation; ✓ Electric Car-sharing is continuously expanding and reaching a wider range of users in Lazio region: in Rome there are more than 2,000 shared cars (mainly from private services such as Car2Go, Enjoy and Sharen’Go) with approx. 220,000 users, to be extended very soon also in peripheral areas of the city; ✓ Kyoto rotation fund 5 (Italian Law, 2017) will finance approx.. € 50 million to support sustainable mobility (electric infrastructures as well as supply of alternative fuels and the collective and shared transport); ✓ Electric vehicles are exempted from motor vehicle taxes for five years, from the date of the first registration (Lazio Region Law 30.12.2013, n. 13);	Charging Vehicles fed by Electricity) has the ambition to set up an infrastructure for over 130,000 electric vehicles, while the car market seems to be unable to go beyond 70,000 registered vehicles over the next 4 years. Lack of consistency raises some concern. There is therefore a need for a "downsizing" of the PNIRE towards an infrastructure in line with what is expected for the EVs market; such as a "reinforcement" of incentive systems for the purchase of both EVs or a "hybrid" vehicles. ✓ Lack of National and Regional financial instruments for new policies in favor of electric mobility e.g. incentives for the purchase of EVs; ✓ Loss of competitiveness of Lazio companies of high technology goods and services in international markets, measured by trade balances in high tech products in part due to the presence of increasingly competitive external markets in R&D. There has also been a negative trend over the number of patent applications per million inhabitants submitted to the EPO in the sub-sector "ICT Consumer electronics". Another cause is the weak support by public policies for R&D and Innovation support to compete in the global market.; ✓ Commuting to and from Rome’s metropolitan area: commuter mobility, + 50% between 2004 and 2013, ranging from 550,000 daily trips in 2004 to 820,000 in 2013; for local public transport there are 478.2 thousand passengers (peak hours in the morning, departures from and to

✓ According to Lazio Region Law, starting from December 2017, new buildings should be provided of charging infrastructure for EVs; ✓ A first Open Innovation initiative titled “The car of the future” was launched in Lazio Region in 2016 (a local regional initiative), in order to support regional innovation on EVs. ✓ Italian Ministry of Infrastructure and Transport is funding projects to be promoted by regions and municipalities for a total sum of 50 million of euros, with a contribution of 50% on the cost of works for sustainable mobility.	areas outside Rome).
Factors related to the **EV and Mobility Market (External)**	
Opportunities	**Threats**
✓ Cultural change to get public opinion familiar with the EVs concept. EV’s are growing in popularity. There are 3 main factors driving a cultural change in favor of electric mobility: environmental education in schools; upgrading of the Regional Framework of Professional Standards as well as the Courses for Public and Private Mobility Managers; Initiatives in favor of electric mobility (e.g. Sustainable Mobility Technology Festival September 15th -17th , 2017 in Vicenza-IT). After that cultural maturation for a transition from internal combustion engine cars to electric vehicles meets three major technical factors that hinder this green revolution: vehicle prices, battery autonomy and the possibility of charging, not always easy and accessible. ✓ Paris Climate Change Agreement (COP21) target for Italy is the	✓ Strong dependence on traditional energy sources (oil products) : fossil fuels such as natural gas, coal and oil largely imported from abroad transported to the country through the use of power lines and diffused through the transmission network and Electricity distribution network. The country's total electricity consumption was 297.3 TWh in 2013, of which 278.8 TWh (93.7%) was produced domestically (the remaining 6.3% was imported). ✓ EVs recharging stations are still in the development stages. ✓ Longer Recharge Time: While it takes couple of minutes to fuel your gasoline powered car, an electric car take about 4-6 hours to get fully charged (lack of fast-charging infrastructure); ✓ Still low distinctive skills (technologies and human capital) in the green economy and particularly

decarbonisation within the second half of the century, to contribute to maintain the global warming below the 2 degrees. In EU the 2030 climate and energy framework sets 3 key targets for the year 2030: at least 40% cut in greenhouse gas emissions compared to 1990; at least 27% of total energy consumption from renewable energy; at least 27% increase in energy efficiency. ✓ According to EU Directives, all Member States have to ensure an adequate and efficient electrical recharging network by December 31, 2020; ✓ Italian Municipalities must update their building regulations in favor of renewable energy, according to the Legislative Decree published on January 13, 2017, (implementation of EU Directive 2014/94/ on Alternative Fuels. Starting from January 1st, 2018, the acquisition of the licensing title for new buildings will be bound to the provision of electric vehicle charging points. Measures included in the decree are the installation of electric infrastructure for the recharging of vehicles by December 31th 2017, mandatory for: ✓ - new built residential buildings with at least 10 residential units; ✓ - new buildings other than residential buildings with a surface area exceeding 500 m2; ✓ - building rehabilitations (interventions involving more than 50% of the external dispersing surface and possible refurbishment of the winter and/or summer thermal	in electric mobility sector; ✓ Still too low degree of internationalization of enterprises. In Lazio region, half of the exports is carried out by large companies with over 250 employees (55.9% of the total). This system is characterized by the presence of important multinationals in the chemical-pharmaceutical and energy sectors. The international market orientation concerns a very limited number of SMEs in Lazio; ✓ High costs of Electric vehicles as a barrier of broad market penetration, EVs are still "anti-economic" is what emerges from a Survey of the “Top Thousand Observatory”, according to which the price is one of the main obstacle to their diffusion. (1 EV every 10,000 vehicles.) Prices range from 26K (Citroen E-MEHARI) to 39,811 (Nissan Evalia); 29.9 (Mitsubishi i-MiEV) at 46.7 (Mercedes Benz): approx. 170k (Tesla).; ✓ Only 1,700 infrastructures for EVs installed in Italy, while available millions of Euros unused yet (source: the Italian Court of Auditors - Deliberation December 19, 2016, no. 15/2016/G) ✓ High investment costs related to batteries; ✓ Battery swapping (or switching) stations in Italy, are almost non-existent. ✓ Electric vehicles are heavily dependent on the energy mix with which electricity is produced, therefore the assessment of the life cycle (LCA) analysis of electric vehicles must also include the

installations). ✓ Increasing number of EVs models on the markets. During 2016, 800,000 EVs (both BEVs, full electric models and PHEVs, plug-ins hybrids) were sold in the world; in Italy 2.560, representing 0.1% of the car market (+ 40% compared to 2015). In Europe, there are around 20 available BEV models, produced by 12 different players, but by December 2017, four more car manufacturers (Honda, Opel, Porsche and Audi) will enter the market and the offer will almost tripled to 54 BEV models (Source: E-Mobility Report, Politecnico di Milano). ✓ PNIRE (National Infrastructure Plan for charging electricity-powered vehicles), by the Ministry of infrastructure and transport (implementing the EU Directive DAFI - Directive for Alternative Fuels Infrastructure – to develop recharging systems in Italy. In the period 2017-2020 it is foreseen the consolidation of standards and large-scale diffusion of electric vehicles. A Single National Platform (PUN) is set up to collect information on charging infrastructure accessible to citizens and operators. Furthermore, the following objectives are planned: between 4,500 and 11,000 alternating current recharging stations, allowing for slow or fast charging up to 22kWh. Between 2,000 and 6,000 DC points, corresponding to fast charging solutions, over 22kWh - virtually the electric analog of fuel distributors. ✓ Fuel and CO2 emissions saving Guide (updated annually on the	impacts of the production of lithium batteries and their end-life. A last-generation electric car has a benefit of "only" 10-15% gas emissions from a good diesel engine, in the event that the energy used for charging the first is that of the current European mix.

basis of Directive 1999/94/EC, adopted in Italy through the Decree 84-17 February 2003). For Italy, the reduction target is 13% compared to 2005 levels by 2020 ('Effort Sharing' targets). ✓ EV Energy selected good practices + European strategic projects are aimed at improving storage technologies, demonstration and research areas for smart grids (among others, ISGAN - International Smart Grids Action Network- co-ordinated by RSE; but also TWENTIES, REALISEGRID, OPENMETER, ICOEUR, etc.) ✓ Three Year Plan for National Electricity Research (last one is 2015-2017) ✓ Using green energy fuels efficiently with the minimum of adverse impacts is the aim of ethical business and corporate social responsibility	

The ROP ERDF Lazio 2014-2020

Basically, the **Action 4.6.1 and Action 4.6.3 (Thematic Objective 4) of the ROP ERDF Lazio 2014-2020, implemented by the Lazio Region, are aimed to:**

1. Purchase of new eco-buses with greater capacity for regional public transport under the management of the public company COTRAL (Resolution: 27/05/14 - Number: 298);
2. Purchase of new trains for regional transport on the main access routes to Rome (Resolution: 19/04/17 - Number: 201).
3. Regulation of Lazio region to implement **P&R facilities** in the metropolitan area of Rome. Under the responsibility of the City administration of Rome is the design of new P&R facilities in the metropolitan area and the launch of new calls for tender to ensure their implementation.
4. Improve infomobility systems.

These investments will guarantee a more ecological regional transport system for several tens of thousands of passengers, increasing the overall daily capacity of the regional public transport system.

Even though the solutions adopted by the Lazio Region are addressed to the right direction, achieving the self-defined indicator identified by ANCI Lazio and EUR S.p.A., the e-infrastructures (better if connected to cogeneration systems) are still neglected.

This is why the action of ANCI Lazio and EUR S.p.A. was specifically focused to favour the adoption of suitable tools to increase the use of electric mobility for the last mile between home-P&R facilities.

ANCI Lazio and EUR S.p.A. believe that the P&R facilities represent the ideal space for the development of e-infrastructures, combined with cogeneration systems, as the long average stopping times of vehicles would allow an ideal dynamic management of the electric charging, taking full advantage of the renewable energy produced.

Project partners presented good practices/solutions that could contribute to solve the above-mentioned critical issues, providing different methodologies, technologies and dimensions due to:

1. Different contexts in terms of PESTLE and SWOT analysis;

2. Different demographic dimensions of the areas studied: e.g. 300.000 inhabitants in the study area of Kaunas, Lithuania, 407.000 inhabitants in the study area of Flevoland, Netherlands, 800.000 inhabitants in Stockholm;
3. Different flows of commuters and daily visitors who move to the diverse urban centres, as highlighted above;
4. Different level of development of e-infrastructures and use of new technologies;
5. Different planning, implementation and management of mobility infrastructures (the scales in the various territories can be at national, regional or municipal level);
6. The different level of development of regulations and related mobility policies;
7. The different availability of funds to be allocated to mobility and transport.

The analytical study of the diverse proposed good practices allowed to verify their effectiveness in strict relation to the specific context of the Lazio Region.

This study showed that not all good practices represented solutions that can be applicable to the regional context, although representing effective solutions.

In light of the above, here below are the **2 ACTIONS** which were specifically identified and developed, to be integrated into the addressed regional policy instrument of the Lazio Region Administration:

Along the learning process ("EV Energy learning process"), ANCI LAZIO and EUR S.p.A. have identified, basically, two good practices, one from the Province of Flevoland, The Netherlands, and the other from the City of Kaunas, Lithuania.

Power Parking project has been realized at Lelystad Airport in the Dutch region of Flevoland. It is a pilot project in which large carparks become renewable energy plants, connected with a smart grid to EV chargers and the adjacent buildings. Furthermore, the smart management model of the charging systems has been considered, optimizing the top-ups to reduce the peaks and maximize the use of renewable energies.

ESCO model (Energy Service Company) from Kaunas, Lithuania, facilitate the involvement of the private sector in the implementation of innovative solutions (including renewable energy production plants), through project financing solutions, increasing the potential of achievable investments.

The models of the Dutch Power Parking and the Lithuanian ESCO should be "combined" in the P + R (commuter parking areas) of Lazio region, in order to support electric mobility connected to on-site renewable energy production plants and integrated with smart management solutions capable of optimizing the proposed actions.

PROPOSED ACTIONS

Two actions are planned, complementary one each other, described here below.

ACTION 1

Along the learning process, ANCI Lazio and EUR S.p.A. identified the good practice proposed by the Province of Flevoland and GreenIT Amsterdam Region (Netherlands), which concern the Power Parking project at Lelystad Airport in Flevoland. It is a pilot project in which large carparks are converted into renewable energy plants, connected with a smart grid to EV chargers and the adjacent buildings.

Compared with other Dutch regions, the province of Flevoland is a frontrunner in producing energy from renewable sources. The production of renewable energy will be extended in the next years according to the will of the regional government to be energy neutral by 2020.

However, the production of energy with renewable resources (wind, solar, water) is demanding space. In fact, the challenge is that the space of Flevoland's province is limited. As a consequence, an extension of renewable energy production is an additional bottleneck for the regional land use.

The **'Power Parking'** project responds to this challenge, by integrating renewable energy and electric mobility in the new airport and a business park.

In more details, this means that carparks will be used for producing energy with solar whereas electric vehicles will be used as storage facilities for excess energy.

This system will be integrated in the development and daily use of the Business Park and Airport.

The project was promoted by the Province administration of Flevoland (Regional government) and developed in collaboration with 7 stakeholders, which are partners of 'Power Parking' project.

The project is realised on a local scale and co-financed by the Structural Funds/ 'Kansen voor West II'ERDF programme.

Such experience has been matched with the lessons learnt through another good practice, Amsterdam Smart Charging, which was presented by the Province of Flevoland and GreenIT Amsterdam Region.

Amsterdam Smart Charging is part of the Interreg North Sea Region project SEEV4-City. It jointly brings charging points for EVs and renewable energies generated at district level. Solar energy produced during the day, and EV charging demand during the evening, will be able to produce undesirable imbalances in the electricity distribution network in the near future.

But, by combining the local renewable generation with EV charging in a smart way, these imbalances are smoothed, which results in a more costs effective solution than grid reinforcing. The goal is to reduce the need of grid investment and to match solar energy locally generated with EV demand. This project is jointly implemented by the Municipality, the Grid-operator, the Knowledge Centre (HvA) and the Charging points Operator.

As per the General Background described above, the planned intermodal parking facilities in Lazio Region can allow the daily commuters to take advantage of the local renewable energy combined with the EV charging infrastructures, as highlighted in the Dutch examples.

Now, Lazio Region Administration is granting new intermodal parking facilities for daily commuters in the metropolitan area of the City of Rome, through the ERDF ROP Lazio 2014-2020 Programme.

In fact, the Lazio Regional Council Resolution 323 dated 28/06/2016 is a framework agreement between the Lazio Region Administration and the City of Rome to implement, among other things, the Action 4.6.1 of the ERDF ROP 2014-2020 Lazio, by supporting the implementation of interchange nodes aimed at increasing collective mobility, in line with the Mobility Plan of the Province of Rome.

More adequate infrastructures and easily accessible by public transport and private transport by road are planned to allow a growing number of travelers to have mixed trips in the metropolitan City of Rome: by local public transport and/or private vehicle up to the railway stations, and then to the destinations, using the different networks (regional, metropolitan, urban).

The framework agreement covers the costs of designing, carrying out works and acquiring the related goods and services for the extension and/or construction of new exchange nodes.

The actual implementation of the framework agreement is as follow:

1. Signing of the Framework agreement between Lazio Region Administration and the City of Rome (Roma Capitale): the Framework agreement has been approved and signed on 2016, allocating the total amount of € 54 million to the City of Rome to implement mobility actions. In the frame of this amount, € 20 million are dedicated to the realization of new exchange nodes and/or the implementation of the existing ones. All the allocated grant are covered by the ERDF ROP Lazio 2014-2020 Programme and in particular the amount granted for the exchange nodes is covered by the Action 4.6.1.
2. Design of the new infrastructures: the City of Rome is in charge to design the new exchange nodes and/or the implementation of the existing ones. This activity is still ongoing and the number of new car parks realized will depend from this activities. EV Energy project has already started to support the City of Rome in this activities, through the transferring of its acquired know-how, involving representative of the City administration in the Stakeholders meetings. ANCI Lazio can continue to support the City of Rome in this activities through its own budget and EV Energy project can continue to involve the city administration in the future stakeholders meeting during the monitoring actions.
3. Launching of the public tenders: the City of Rome is in charge to launch the necessary public tenders to assign the realization of the necessary works to realize the new granted mobility infrastructures.
4. Realization of the new infrastructures: the new mobility infrastructures realized through the support of the ERDF ROP Lazio 2014-2020 Programme will be directly under the responsibility of the City of Rome.

It's compulsory for the City of Rome to spend and report the allocated ERDF grant by next 30th of June, 2022.

Moreover, it should be noted that energy and mobility are under the responsibility of different public departments that develop their own policies without (often) cooperating one each other. This has been verified at different administration levels, even at EU level (ie: during a dissemination meeting in Brussels, we were informed that for electric mobility the DG MOVE official said that they do not jointly work with the DG Energy).

Moreover, the tools to support electric mobility are many and often concern the implementation of national distribution plans.

In order to guarantee a harmonization of all future interventions, a regional policy instrument is needed, in order to establish the main mandatory features for the development of electric mobility in Lazio region, regardless of the shift policy maker involved in the Lazio Regional Authority or in the other Bodies (Municipalities, Provinces, etc.). In fact, only through a Regional Act it is possible to establish the requirements suitable to ensure the success of the Action, regardless of the implementing body of the investments.

As per the above, ANCI Lazio and EUR S.p.A. consider the necessity to prepare, by managerial decision, a Regional Act to be immediately applicable, without the need for financial coverage, which would address all the undergoing projects towards forms of sustainable mobility.

We believe, in fact, that within the planned activities of designing new carparks and extending existing ones, only a clear Regional Act can unequivocally address the use of tools to promote electric mobility in the Lazio Region.

The Regional Act would refer to all the carparks in the Lazio Region, including those which are going to be built, and which guarantee modal transport exchange and serve the different modes of collective public transport, including road transport, rail transport, naval and air.

Therefore, when designing new carparks or in the case of extension and / or modernization of existing carparks, it will be mandatory to:

1. implement car stalls dedicated to EVs equipped with charging stations, according to the minimum parameters indicated below:
   a. For carparks exclusively used for long-term inter-modality (daily): 1 double charging station of 3KW each, for every 50 available parking spaces;
   b. For carparks used in a promiscuous manner for long-term inter-modality and for residential areas (short-term parking): 1 double 3KW charging station each and 1 double 22KW charging station each, for every 100 available car stalls.
2. build on-site co-generation plants from renewable sources, for the electricity needed to the recharging stations, during daylight hours, with a guaranteed minimum coverage (proposed from ANCI Lazio and EUR S.p.A. and left to the assessment of the Lazio Region Administration) equal to 50% of the total requirement. This constraint does not apply to carparks in areas where there are

insurmountable constraints that do not allow the construction of such infrastructures (urban, archaeological and landscape constraints).

On a temporary basis, pending the implementation of the aforementioned Regional Act, in consideration of the Framework Agreement between the Lazio Region and the City of Rome (Lazio Regional Council Resolution N. 323 dated 28/06/2016 for the 'Action 4.6.1 of the POR FESR Lazio 2014-2020) and that the City of Rome is currently implementing it, it is necessary to consider the opportunity to transfer this Action to the relevant municipal offices in charge of planning new intermodal parking lots.

For its side, ANCI Lazio is already engaged with the City of Rome in providing operational support in this regard, transferring the lessons learned within the EV Energy Project.

PLAYERS INVOLVED

Lazio Region, as the subject responsible for the identified policy.

The City administration of Rome, as beneficiary of the grant and actor in charge of planning, designing and implementing the new interchange nodes.

It's not considered necessary, at this stage, the involvement of other stakeholders but in case ANCI Lazio and EUR S.p.A. can support Lazio Region to identify the most relevant ones taking advantage from the experience done during the EV Energy project activities. In any case, the final decision is in charge to Lazio Region Administration.

TIMEFRAME

As for the preparation of the Guidelines for the Regional Administration of Lazio, by managerial decision, 12 months are estimated to be necessary.

Once the process has been completed, the Act can be immediately subscribed and published in the Official Bulletin of the Lazio Region.

The activity is supposed to start at the beginning of the next year (2020).

COSTS

No additional costs are required to implement the change.

The amount of the contributions that should be impacted is estimated in 20 million of euros and is related to the Action 4.6.1 of the ERDF ROP 2014-2020 Lazio.

The exact ERDF amount impacted will depend from the real number of new exchange node influenced by EV Energy project. It's not possible to estimate it in a more realistic mode at this stage.

FUNDING SOURCES

Action 4.6.1 of the ERDF ROP 2014-2020 Lazio.

ACTION 2

As per the aforementioned SWOT and PESTLE analysis, Italy has a high rate of motor vehicle motorisation with over 64 vehicles per 100 inhabitants, in significant growth compared to 2013 and much above the averages of EU cities[1]. In this respect, there is no doubt that policies aimed at reducing motorisation rates must be accompanied by policies that favour the use of cars with lower global emissions and cars with zero local emissions such as EVs

In the ambit of the National Strategic Framework of 14.01.2017 aiming to install a network of EV charging points" (PNIRE), in 2013, the Lazio region received a grant to build 24 charging points in order to test in the cities the diffusion of public and private fleets of EVs. This was the first initiative of the Region in favour of the electric mobility. Successively, in 2015, the Lazio Region was given a fund of 3.2 million of Euros to implement charging stations in public and private areas.

This was the first initiative of Lazio Region in favor of electric mobility. Subsequently, in 2015, the Lazio Region received a 3.2 million euro fund for the implementation of charging points in both public and private areas[2]. For this purpose, in 2016 the Lazio Region prepared the "Guidelines for the Regional Electric Mobility Plan", which is still being drafted in line with the Electric Mobility Plan 2017-2020 of the City of Rome. These Guidelines start from the fundamental assumption of creating the necessary conditions for the development of electric mobility, such as the coordinated planning and management of interventions and the widespread diffusion of recharging infrastructures in the Lazio region.

[1] Compared to 2017, behind Italy is Germany (55,5 vehicles per 100 inhabitants), followed by Spain (49,3 vehicles per 100 inhabitants), France (47,9 vehicles per 100 inhabitants) and United Kindom (47,2 vehicles per 100 inhabitants). Source: Osservatorio Autopromotec, 2017.

[2] Directorial Decree n. 503 of 22.12.2015 (Department for Land Development and planning of the Ministry of Infrastructure and Transport).

In the last six years the number of hybrid and electric cars has considerably grown, and to a greater percentage than the national average, representing almost 1% of the entire regional vehicle fleet, compared to 0.66% of the national figure.

With regard to the supply of electric infrastructures, a survey conducted on the ENEL[3] website shows 307 charging stations in Lazio region, of which 235 are in the city of Rome and 28 are "Fast recharge" (with power outlets> 43 kW). However, this is an underestimated figure, as there are other e-infrastructures of other operators not considered in the ENEL database. In addition, ENEL has a national infrastructure Plan as well as a Memorandum of Understanding signed on 11.27.2018 with the Lazio Region for the installation of 2,400 charging points in its 5 provincial capitals. These are figures in rapid evolution: around 1,000 requests for installation of charging points are currently being managed in the city of Rome.

For the elaboration of the present action, some specific lessons have been developed throughout the learning process of the good practices presented by the partners.

In particular, the Action 2 is inspired by:

- "**Supporting EV web sites**" presented by "Stockholm County Council, Growth and regional planning administration": Many potential buyers of electric vehicles need information on the advantages and disadvantages of buying and using an electric vehicle. In particular, information on e-infrastructure is essential for many people who want to know their mobility options while driving an electric vehicle.

  The following websites contribute significantly to the introduction of electric vehicles in Sweden and Stockholm County. They contain extensive technical and non-technical information from Sweden on electric vehicles and e-infrastructure.

  www.uppladdning.nu This website is a free Internet service that helps electric vehicle drivers find charging stations. It contains a database with information on charging stations, mapping service, smartphone app and downloadable files for using the GPS unit in the car.

  www.laddinfra.se (database for the Swedish map service www.eniro.se). It is a database and a clearing house for information on electric vehicles, including smart grids. It also provides direct links to other relevant websites:

  a) www.elbilsstatistik.se - a web site showing the state of development of electric vehicle fleets in Sweden;

[3] https://www.eneldrive.it/

b) http://emobility.se/ - a portal for electric vehicles and charging infrastructure.

The main target users are individuals but also companies interested in electric mobility. The main characteristic of these portals consists in the simplicity and in the orientation of their services to a widespread target of people.

- "**PIRVEC Plan 2016-2019"** presented by "Barcelona Official Chamber of Commerce, Industry, Services and Navigation": the lack of e-infrastructure can strongly reduce the choices to purchase electric vehicles. This represents a limit to their diffusion. In Catalonia, e-infrastructures are strictly concentrated in the metropolitan area of Barcelona, which makes it difficult to move freely in Catalonia with an electric vehicle (covering over 200 km away). To overcome this shortcoming, the Catalan government has launched the PIRVEC Plan for the development of e-infrastructures. The strategic plan is part of the broader "2017-2025 Action Plan: clean energy for all Catalans".

  Under such Plan, the Government has allocated 5.8 million euros to set up:

  - 81 fast-charging stations accessible from the public road network;
  - 360 new e-stations for semi-fast recharging in urban areas and in recreation centers;
  - 21,000 new e-stations (currently approx. 4,000) with contributions up to 50% of the installation costs for all those areas where there are difficulties in installing them, such as in the parking lots of the condominium buildings;
  - a unified identification and payment system developed for users and accessible via smartphone for easier access to the electric charging networks.

  The overall objective of the Plan is to implement 100 fast-charging stations, 400 semi-fast charging stations and 25,000 charging points connected to the network. The e-infrastructure is addressed to the users of electric vehicles. But this considerable injection of public funds helps to overcome the infrastructural deficiencies that are the biggest obstacle to buy electric vehicles. This is why such policy of regional subsidies is a good practice for the diffusion of e-infrastructures.

- as for the **"Power Parking"** and "**Amsterdam Smart Charging**" presented by "Green IT Amsterdam Region" and "Province of Flevoland" see Action 1.

- "**MRA - Elektrisch**" presented by the Province of Flevoland: In 2011, three provinces of the Netherlands, including Flevoland, developed a project to increase the use of electric vehicles with the aim of reaching 20,000 vehicles by 2020. The project aims to involve all stakeholders and provide them with a

platform to share experiences. The project supports 82 municipalities to encourage the use of electric vehicles in their areas. Under this project, diverse local governments, consumer organizations, the Royal Dutch Touring Club, car manufacturers and charging station manufacturers are working together to achieve a common goal. At the regional and local level, the provinces of North Holland, Flevoland and Utrecht have started the project to support their municipalities in facilitating the growth of electric car users.

- "**Zero emission OV**" presented by "Green IT Amsterdam Region" and "Province of Flevoland": 12 Dutch provinces and the Ministry of Infrastructure and Environment (national government) have established that regional public transport (buses) will have to be zero-emission by 2030. Furthermore, 100% of the energy they use must be supplied from renewable sources by 2025. The provinces (regional authorities) are responsible for regional public transport and subcontract this service to external transport companies (semi-profit). Until 2025, the authorities will work with producers, research institutes and transport companies to provide innovation in order to achieve the requested objectives. The agreement is concluded at national level with all provinces, under the coordination of the National Government, but the implementation of e-infrastructures will be at regional level.

As per the aforementioned good practices, only a harmonious plan effectively integrated into regional policies will allow an effective development of sustainable electric mobility. In fact, an integrated action is needed between the Electric Mobility Plan and other strategic plans managed and implemented by the Lazio Regional Administration. In particular, we refer to the Regional Mobility Plan of Lazio and the Regional Energy Plan of Lazio as well as to urban planning instruments.

Therefore, this Action intends to provide some recommendations deemed useful by ANCI Lazio and EUR S.p.A. because they aimed to develop a Regional Electric Mobility Plan, in coherence with the Regional Mobility Plan in progress, by maintaining a permanent dialogue with the other Departments of the Lazio Region, specifically for the harmonization with the other plans.

The main intent to be achieved through these recommendations is to create the general conditions that allow to:

- create a favorable environment for the development of electric vehicles connected to renewable co-generation sources on site;
- convert the delay of Lazio region in the electric vehicles market, into an opportunity to develop innovative actions by allowing a regulated and

homogeneous strategic plan and learning from previous mistakes made by other European regions;

- make the best use of the technologies and innovative solutions that the market has developed so far in those regions which have a most mature market of e-vehicles;
- make e-mobility and renewable energy closer to end users in order to support the needed change of behavior from citizens and businesses.

In light of the above, ANCI Lazio and EUR S.p.A. require the following recommendations to be included in the new Electric Mobility Plan that the Lazio Region is drawing up:

1. "**Charging stations and renewable sources**". From a conceptual point of view, the new Plan should consider e-stations for e-vehicles as a whole integrated with the electric energy production plants. This system would ensure both a form of sustainable mobility in line with the principles of local smart grids, and the conditions to allow a widespread future development of electric mobility.

charging station powered by photovoltaic panels installed in the Eskilstuna center in Sweden

2. "**Regional info-graphic standard**". As emerged during the activities of the EV Energy Project, a policy aimed at favoring the development of electric mobility is successful only if it favors an easy "usability" by end users. One of the important pre-conditions are the homogenization of the information provided to the users, regardless of the Municipality and the operator who eventually manages the charging stations (see also the following recommendations). In this sense, it is essential that a single regional info-graphic standard is prepared, so that all the e-stations and the connected renewable energy plants have the same design (symbols, colors, architecture, etc.), so the e-drivers can easily identify and use them. This could be a standard for all administrations and private actors who implement e-infrastructures on public land. For those already implemented, countermeasures should be considered to plan works of renovation for an infrastructure upgrade. A useful example can be represented by the Plan for electric mobility already approved by the City of Rome which has not included renewable sources plants yet and, therefore, should integrate this fundamental infrastructure to the existing e-stations.
3. "**Standards of procedures**". As per the aforementioned point 2, a critical issue that emerged during the meetings with the Lazio stakeholders is the bureaucracy regarding the necessary authorizations for the installation of e-infrastructures on public land and / or on private soil at public access. It is crucial to standardize the procedures, simplifying the steps necessary to obtain the authorizations. These standard procedures should be implemented by all Municipalities of Lazio region.
4. "**Homogeneous and widespread plan for recharging infrastructures**".

   One of the major factors slowing down the development of the electric vehicle market is the range anxiety that concern users of all-electric vehicles. A deployed an EV charging network with region-wide coverage, would help to reduce this phenomenon. Municipalities, especially small ones, do not have the necessary skills and knowledge to identify the necessary provision of such infrastructures. The Plan should therefore aim to alleviate range anxiety among electric car drivers through the deployment of extensive charging infrastructure at regional level. Alternatively, if this is not considered feasible, the Plan should provide the minimum guidelines to allow municipalities to identify the most strategic locations of these infrastructures.
5. "**Scalability and integration of charging systems**". As per the aforementioned point 4, and in line with the learning process, including the study visits in Netherlands and Sweden, it is necessary that the e-driver can count on a charging station at a reasonable distance. To this purpose, it the e-driver should use all infrastructures spread in the regional territory, and hopefully national, regardless of the owner and / or operator who manages them. For this, a single

contract with a single operator is needed, using the relevant card for all Lazio e-infrastructures. A compensation between operators should be subsequently established, based on the actual recharges made by the users. This solution can be implemented through an agreement amongst the operators currently operating in Lazio.

6. "**Infomobility**". As per the aforementioned points 4 and 5, it is necessary that the e-driver can have the opportunity to easily know the location of the e-infrastructures in order to easily plan their movements. The Lazio Region has already developed a regional info-mobility system, managed and implemented by the Regional agency ASTRAL SpA, which contains information on local public transport in Rome, regional public transport including rail transport. The information on local public transport of the entire Metropolitan City of Rome is going to be integrated soon. This tool represents a valid travel planning tool for users in Lazio region. Therefore, the information on the position of the e-infrastructures in the Lazio region could be also integrated. The ideal would be that for each e-column there was information on recharging power, the operator and its status in real time (if free or in use), as well as the opportunity to enter the booking service for the e-station, with a maximum booking up to 15 minutes (based on the car-sharing service model).
7. "**EV Platform**". As per the good practices of "MRA - Elektrisch" and "Supporting EV web sites" illustrated above, it is necessary to launch information campaigns and diffusion of know-how on electric mobility. The two good practices developed in the Netherlands and Sweden show that this is to make users more aware in order to overcome the skepticism. A web platform should be created to promote the Regional Plan (based on the web model of https://www.pianomobilitalazio.it/): not only the information on the new Electric Mobility Plan, but also all sector's information would be useful for its dissemination.
8. "**Zero emission buses**". The new Electric Mobility Plan should include a specific section dedicated to convert the local public transport into e-vehicles in the municipalities of Lazio region. During the study visit organized in Barcelona on 3-4 October 2018, the partners of the EV Energy project and the stakeholders involved from Lazio visited a full electric articulated bus of the local public transport line of Barcelona. In addition, it was possible to visit the e-stations in the bus depot as well as the systems to "top up" the battery along the stops (see photos below). The technology solutions to guarantee the transformation of the traditional means of local public transport into electric buses can become true, and, for this, should be included in the new regional Plan. The model comes from the Dutch practice "Zero Emission OV" described above. The plan should

foresee modalities to transform the local public transport in Lazio into an electric one and, secondly, to foresee the integration of renewable sources. These objectives are for Netherlands to be respectively achieved by 2025 and 2030, for Lazio they could be by 2035.

9. "**Incentives**". In countries where electric mobility is already widespread, the public sector has activated a system of incentives designed to encourage their use. This system has been experimented in countries such as Netherlands, Sweden, Norway, Denmark, etc.. In all the cases analyzed, the incentives were suspended once the spread of electric vehicles on the road had reached the expected objectives and the market was mature to compete "on equal terms" with traditional vehicles. The incentives should be included in the Plan both in direct form on the regional budget, to encourage their implementation by Provinces, Metropolitan Cities and Municipalities.

   In detail, the following incentives should be provided for:

   a. intermodal parking lots with charging points powered by renewable sources (see Action 1 above); charging of electric vehicles and paid parking should be for free for all users having a monthly public transport pass (local and regional buses, and train). If the intermodal car park is equipped with a recharging infrastructure connected to the network, the incentive should be limited to free parking only.

   b. the cost of electric vehicles still represents the main obstacle to purchasing. Therefore, also incentives for inhabitants of Lazio region should be provided for the purchase of such vehicles. The purchase incentive could be in the form of a "one-off" fee at the time of purchase and / or a reduction of the car tax.

   c. the owners and managers of paid parking on public land (blue lines), to insert the exemption from payment of parking for electric vehicles.

d. the Municipalities to allow electric vehicles to entry in restricted traffic areas for free. This facility should not be extended to pedestrian areas that should remain without any vehicle circulation. Furthermore, this incentive should not be extended to hybrid vehicles.

e. promoting other incentives for public and private entities that install recharging stations powered locally by renewable sources in the Lazio region.

f. promoting incentives for private actors who install recharging points powered locally by renewable sources in private areas at public access, such as large-scale organized parking, fuel distributors, shopping centers, etc.

charging station built inside a parking lot of a supermarket in Sweden.

10. "**Vehicle to Grid**". The "Vehicle to Grid" technology (V2G) can become true but, in Italy, as well as in many other European countries, current legislation is an obstacle to its development. However, the new Regional Plan should consider this opportunity from now on. Lazio Region could become the innovative Region which promotes this promising technology at national level, through the State-Regions Conference, in order to encourage the adaptation of the current national legislation and then the realization of such systems also in Italy.

    Synergistic actions with other Regional administrations should be promoted, in order to standardize the strategies, policies and guidelines and thus to activate virtuous circles that can favor a widespread development of electric mobility in the country.

In detail we recommend the following synergistic actions with:

- Department of Agriculture, Supply Chain Promotion and Food, Environment and Natural Resources. Considering the high value of the electric mobility in terms of

energy policies, forms of collaboration are needed in order to integrate and / or standardize policies for electric mobility in the Regional Energy Plan.

- Department of Economic Development, Trade and Crafts, Research, Start-Up, Creative Lazio and Innovation. Companies, as vehicle fleet managers, represent an important means to spread the use of electric mobility. The companies that prove to have activated a model of management of company fleets passing from traditional to electric vehicles and that have developed, in their offices, e-infrastructures connected with renewable sources produced on site could be awarded by the Lazio Region as a form of incentive.

PLAYERS INVOLVED

Lazio Region as the subject responsible for the identified policies.

The expected impact of the actions is on all the Municipalities of Lazio, businesses and citizens. For that reason, it's duly recommended to Lazio Region to create a stakeholder platform in order to involve all the most relevant stakeholders active in the region. ANCI Lazio and EUR S.p.A. can support Lazio Region to identify the most relevant ones taking advantage from the experience done during the EV Energy project activities. In any case, the final decision is in charge to Lazio Region Administration.

ANCI Lazio, with its expert group, is available to support Lazio Region administration in the frame of the Framework Agreement approved by the Lazio Regional Council in May 2019.

TIMEFRAME

For the preparation of the Electric Mobility Plan it is estimated that a time frame of 1 year is required from the start of the administrative procedures.

Actually, Lazio Region Administration has approved the guidelines to realize the Plan and the design of it is not already started. It's important to underline that we consider essential the design of the new Electric Mobility Plan and we encourage Lazio Region administration to allocate the proper budget in the new financial law in order to start the procedures at the beginning of the 2020.

COSTS

Since the staff of the Lazio Region is currently working on the preparation of the Plan, there are no additional costs.

FUNDING SOURCES

The financial coverage for this activity is to be ascribed to the regional budget.

Date 28/06/2019

Signature

Signature

EVR

Il Presidente
ALBERTO SASSO

Stamp of the organisation

Stamp of the organisation

A separate letter of endorsement of the Action Plan is provided through a separate letter.

Version revised with minor changes on 16/09/2019