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Programme URBACT II 2007-2013

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LOCAL ACTION PLAN FOR THE PROMOTION AND IMPLEMENTATION OF THE ELECTRIC VEHICLES AND THE CHARGING INFRASTRUCTURE IN SUCEAVA

Document issued under the framework of

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Suceava, November 2012

EUROPEAN UNION

European Regional Development Fund

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1. INTRODUCTION

Against the backdrop of the economic crisis and the environmental challenges facing urban environments, the URBACT II programme, which supports sustainable urban development by connecting cities, co-funded the EVUE platform. The city of Suceava decided to participate in the EVUE network to increase understanding of the possibility of new technologies to provide for cleaner mobility in future.

The introduction of electric vehicles in EU cities is a major strategic economic and environmental priority for both individual countries and the EU as a whole. However, as demonstrated throughout the EVUE project, each partner city is subject to significant differences in their individual social, political, economic and infrastructural circumstances.

The URBACT programme is focused on improving the decision and policy making within cities through transnational exchange and learning. As a methodology it requires partner cities to form an Urbact Local Support Group (USLG). These groups, comprising public and private sector organisations and individuals, seek to enhance the quality of discussion and decision making through the contribution of a broad range of positions and experience.

The Suceava ULSG has been meeting since early 2010 to discuss the challenges and opportunities associated with enabling electro-mobility It has provided an opportunity for the diverse stakeholders involved with a particular issue, to come together, identify issues of concern and seek ways to overcome them. With representatives from local authorities, the motor industry, electricity generators/distributors and retailers as well as academic institutions and private consultancies, the ULSG has provided a focused approach to looking at the challenges while incorporating the experience of other EVUE partner cities, in developing an approach that can taken forward in Romania.

This document outlines the local action plan for electric mobility in Suceava. It is based on the learning derived from participation in the URBACT EVUE project, the transnational study visits, the capacity building events, and the work of the local support group in analysing the local context and defining future objectives.

2. NATIONAL POLICIES DEVELOPED UNDER THIS CONTEXT AND THE MAIN STATISTICAL INDICATORS

In an increasingly globalized context, Romania's energy policy is made within the changes and developments taking place at national and European level. Under these circumstances, Romania's energy policy must be correlated with similar documents at European level in order to ensure the conformity of our country's policy with EU policy in the field.

Global warming currently involves two major problems for mankind: on the one hand, the need to drastically reduce emissions of greenhouse gases to stabilize the concentration of these gases in the atmosphere and thus prevent human influence on the climate system and enable natural ecosystems to adapt naturally, and, on the other hand, the need to adapt to climate change effects, since these effects are already visible and unavoidable due to the inertia of the climate system, regardless of the outcome of actions meant to reduce emissions.

The European Commission launched in March 2010 the Europe 2020 Strategy to exit the crisis and prepare EU economy for the next decade. In practice, the Union has set five key objectives - on employment, innovation, education, social inclusion and environment / energy - to be achieved by 2020.

Romania adopted its own national objectives in these areas. The environmental / energy targets are the following:

EU 27 OBJECTIVES	ROMANIAN OBJECTIVES BY 2020		
	Initial value (2008)	Preliminary value	Final value
Energy and Climate Change (20/20/20)			
Reduce emissions of greenhouse gases - 20 %	-	20%	20%
Share of energy from renewable sources in the final consumption - 20%	-	24%	24%
Increase energy efficiency - 20%	-	10 - 12% if limited to the definition used by 2006/32 Directive, 20% otherwise	19%

In order to achieve national objectives on climate change by 2020, necessary measures to be adopted correspond to the **Memorandum "Approval of the final values of Romanian objectives for Europe 2020 strategy"**, signed by the Romanian Government on June 8th, 2010.

The main measures concern the following areas:

- *development of institutional capacity in the field of energy and climate change;*
- *reduction of greenhouse gas (GHG) emissions by promoting carbon capture and storage technology (CCS);*
- *increase the share of renewable energy in the final energy consumption;*
- *increase energy efficiency.*

2.1 Romanian Energy Strategy for the period 2011 - 2020 will aim at fulfilling the main objectives of the new Energy - Environment Policy of the European Union, objectives also assumed by Romania.

The main directions of action of Romania's energy strategy, converging with the EU energy policy, are:

- choose a balanced energy mix, meant to provide the energy sector with competitiveness and security of supply with a focus on internal resources, namely coal, harnessable economic hydropower potential, nuclear power potential and renewable energy sources potential;
- effectively manage and rationally use in safe condition exhaustible primary energy sources in Romania and maintain an acceptable level (in terms of economy and security) of the primary energy sources import (limited / controlled dependency);
- increase energy efficiency on the entire chain: extraction - production - transport - distribution - consumption; Romania no longer affords to waste energy while the sources of energy have a reduced availability and increased cost; energy efficiency is the most cost-effective way to reduce emissions, improve safety and lower competitiveness and energy service bill;
- promote energy production from renewable sources, so that the share of electricity produced from these sources in total gross electricity consumption would be 33% in 2010, 35% in 2015 and 38% in 2020;
- promote the use of renewable energy sources in accordance with EU practices, based on the National Allocation Plan in terms of renewable energy drawn up in 2010;
- create market conditions meant to stimulate greater energy savings and increased investment in low carbon technologies;
- facilitate investment in those projects that contribute to achieving the objectives set for 2020 according to EU policy;
- achieve objectives of environmental protection and reduce emissions of greenhouse gases.
- support research, development and dissemination of research results applicable in the field of energy.

The development of the electricity production field is seen only in conjunction with environmental legislative requirements, which leads to the implementation of specific measures consisting mainly of:

- environmental investments necessary to comply with the provisions of Directive 2001/80/EC on the limitation of emissions of certain pollutants (SO_2, NOx and particulates) from large combustion plants and Directive 1999/31/EC on the landfill of waste;
- observance of Directive 96/61/EC on integrated pollution prevention and control;

- reduction of GHG emissions (CO_2) from 2008 to 2012 in order to observe the rates of GHG emission allocated through the National Allocation Plan

2.2 The main energy indicators

2.2.1 Greenhouse gases

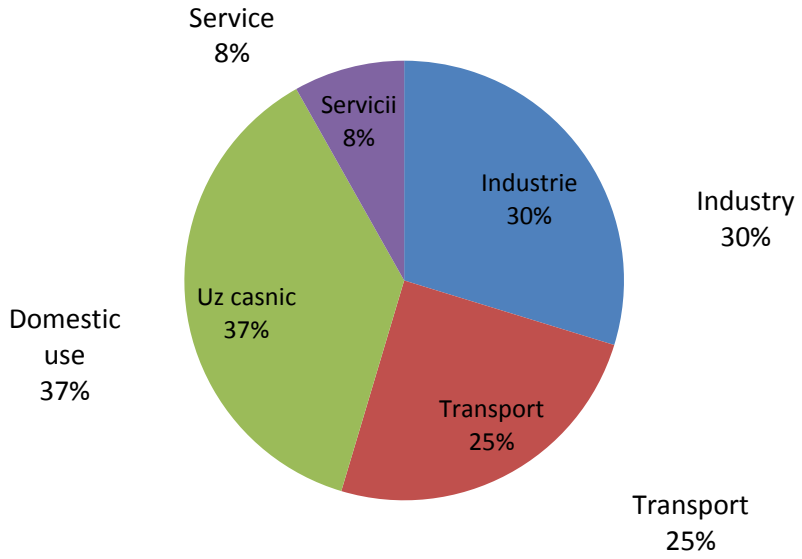
In what concerns the component meant to reduce GHG emission, the Government decision no. 1570/2007 assigns the Environmental Protection Agency functions for managing the national system to estimate the anthropogenic emissions of greenhouse gases resulted by sources or by carbon sequestration, regulated by the Kyoto Protocol, which published the following estimates for GHG emission evolution:[1]

Index	M.U.	1990	2008	2009	2010	2012	2013	2015	2020
Total GHG emissions	Equiv. 1000t CO_2	248.040	152.203	129.709	181.814	191.182	195.836	204.974	226.511
Percent reduction of GHG emissions in Romania	%	0	-38,64	-47,71	-26,70	-22,92	-21,05	-17,36	-8,68
Percent reduction of GHG emissions UE27	%	0	-11,30			-8,00			-20,00

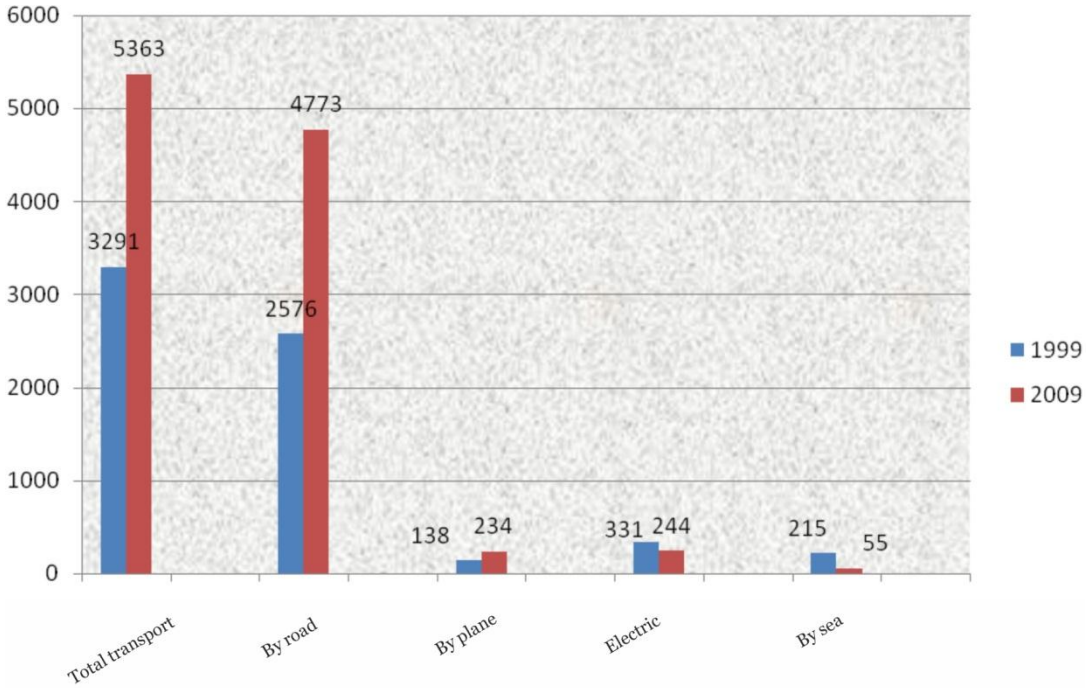
By the Kyoto Protocol, Romania has committed to reduce greenhouse gas emissions with 8% by 2012 (compared to 1990) and, according to the appropriate measures under implementation, the estimated reduction is of 22.92% compared to 1990.
It should be noted here that according to the package for Climate Change - Energy, Romania is allowed an increase in GHG emissions with 19% compared to 2005 for fields not included in the CO_2 emission trading system (agriculture, transport services, waste, construction).
A new assessment will be made in 2015, when other possible studies published before and new measures implemented during this period will be taken into consideration, as well as the effects of the current economic crisis on Romania.

[1] Study conducted by Bucharest Institute for Studies and Power Engineering

2.2.2 Final energy consumption in Mtoe[2] , by sectors



2.2.3 Final energy consumption in ktoe, based on the transportation modes[3]



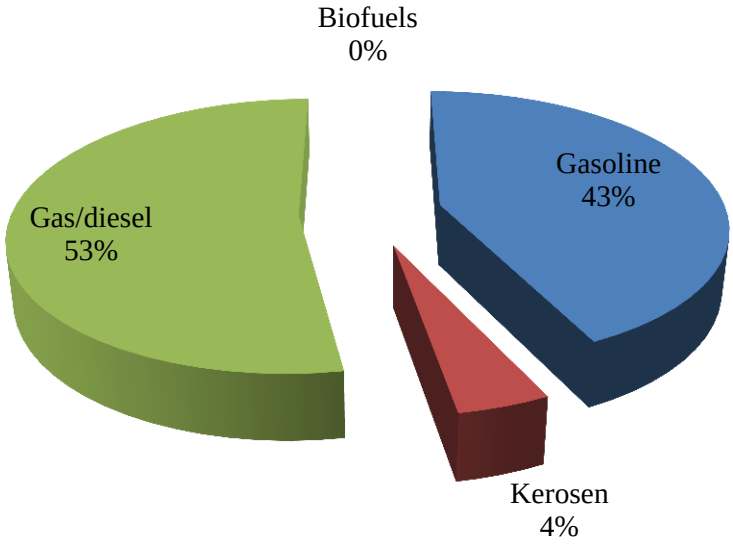
In Romania, transport policy aims to align ongoing national transport system to EU transport policy principles set out in the White Paper on transport (with corresponding updates) and the requirements of the Romanian sustainable development.

[2] Source: Eurostat Pocketbooks, 2011 edition, values for 2009

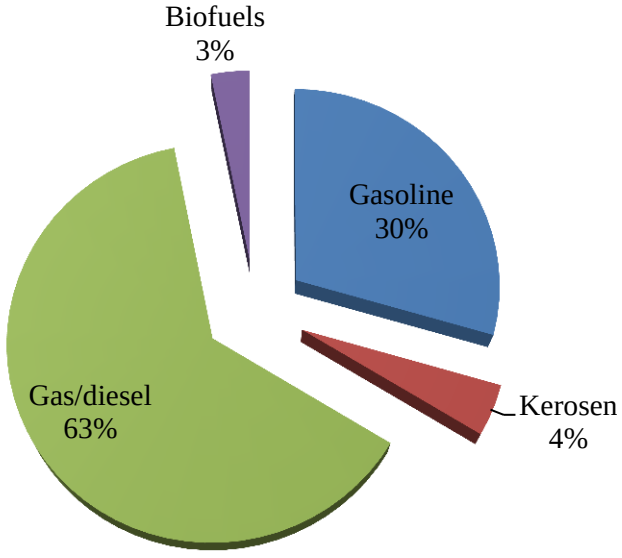
[3] Sursa Eurostat Pocketbooks, 2011 edition

2.2.4 Energy consumption in the field of transport in Romania in ktoe, per type of fuel [4]

Percentage per type of fuel in transport,%, in 1999



Percentage per type of fuel in transport, %, in 2009



[4] Source: Eurostat Pocketbooks, 2011 edition

2.3 National policies for promoting clean and energy-efficient road transport vehicles

In order to reduce emissions from the transport sector, **Directive 2009/33/EC of the European Parliament and Council was implemented on April 23rd, 2009 and aims at promoting clean and energy-efficient road transport vehicles and improve the transport sector's contribution to EU policies on environment, climate and energy**, which require Member States to apply at least one of the following options:

- setting technical specifications for energy and environmental performance in the documentation for the purchase of road transport vehicles on each of the impacts considered, as well as other aspects of environmental impact;
- include energy and environmental impact in the purchasing decisions in the sense of using these impacts as award criteria, where a procurement procedure is applicable.

Transposing this Directive into Romanian legislation was made through the ***Emergency Ordinance no. 40 of April 20th, 2011 on the promotion of clean and energy-efficient electric vehicles***.

Given that Romania as an EU member state must implement EU Directives, the Romanian State approved the ordinance requiring contracting authorities covered by the Government's Emergency Ordinance no. 34/2006 and public service operators to consider, when purchasing road transport vehicles, the energy and environmental impact in their entire lifetime in the form of energy consumption, CO_2 and NOx emission, NMHC and particulate; thus the purchase price reflects all costs.

The encouraging and stimulating condition newly introduced for the sale of hybrid and electric vehicles consists in offering grants under the "Program for National Fleet Renewal Stimulation" also to recipients who wish to purchase a vehicle outside this program, paid by the Environment Fund. In the same piece of legislation, the Annex contains the data set to calculate the lifetime costs linked to the operation of vehicles: costs of emissions from road transport (euro / g), the energy density of motor fuels (MJ/l) and lifetime mileage of road transport vehicles, categories M1 and N1 (km).

> "Grants from the Environmental Fund consist of discounts in the retail price of motor vehicles and financing sessions. The amount of the discount is up to:
>
> Art. 9 – Natural persons, municipalities and public institutions who give away used vehicles for scrapping within the Incentive program for national fleet renewal in 2011 benefit from a total number of 4 vouchers, as follows:

a) 2 vouchers for purchasing a hybrid vehicle in exchange for a used vehicle to be scrapped
b) 4 vouchers for purchasing an electric vehicle in exchange for a used vehicle to be scrapped.

Art.10 (1) Natural persons, territorial and administrative divisions and public institutions who do not take part in the Incentive program for national fleet renewal, but acquire hybrid or electric vehicles, benefit from:

a) A discount of up to 10% of the selling price (VAT included) of the purchased hybrid vehicle, but no more than 1.800 Euros (...)
b) A discount up to 20% of the selling price (VAT included) of the electric vehicle purchased, but no more than 3.700 Euros. (...)"

The provisions of Art. 9 of the Emergency Ordinance no. 40/2011 are implemented through the **"Program for National Fleet Renewal Stimulation"** ("Rabla" scrappage scheme) managed by the Ministry of Environment and Forests through the Environmental Fund Administration, which grants compensatory vouchers for vehicles older than 10 years removed from service in exchange for buying a new vehicle with lower emissions. This program has the following objectives:

- reducing the negative effects of air pollution on human health and environment in urban areas as a result of exhaust emissions from cars, with very high levels of pollution;
- limit these emissions to the values allowed at European level for the ambient air;
- prevent the formation of waste as a consequence of used cars abandonment and reach the targets set by the EU environmental acquis on recovery and recycling of waste from used vehicles

The Order no. 981 / March 7th, 2012 approves the Financing Guide of the Program for National Fleet Renewal Stimulation and regulates eligible participants: natural persons, local government, public and private academic institutions, NGOs, religious establishments and economic operators.

The sessions for enrolment of old vehicle owners who seek for financing to purchase new electric or hybrid vehicles through this program are regularly held and so far the following steps have been developed:

1) Session 2011 addressed natural persons, public institutions and municipalities that intend to purchase vehicles with electric and / or hybrid propulsion system within the "**Program for National Fleet Renewal Stimulation"** in 2011, between October 3rd and November 4th, 2011.
2) Session 1 of 2012 has addressed so far:
   - individual contractors, local government and subdivisions of local government, public or private educational institutions or units, public institutions, including research and development institutes established as public institutions, NGOs, units belonging to a recognized religion in Romania, economic operators including research and development institutes operating for economic purposes and financial banking institutions, unincorporated traders operating for economic purposes, incorporated owners and unincorporated operators between April 23rd and August 31st, 2012.
   - natural persons: as of August 8th, 2012

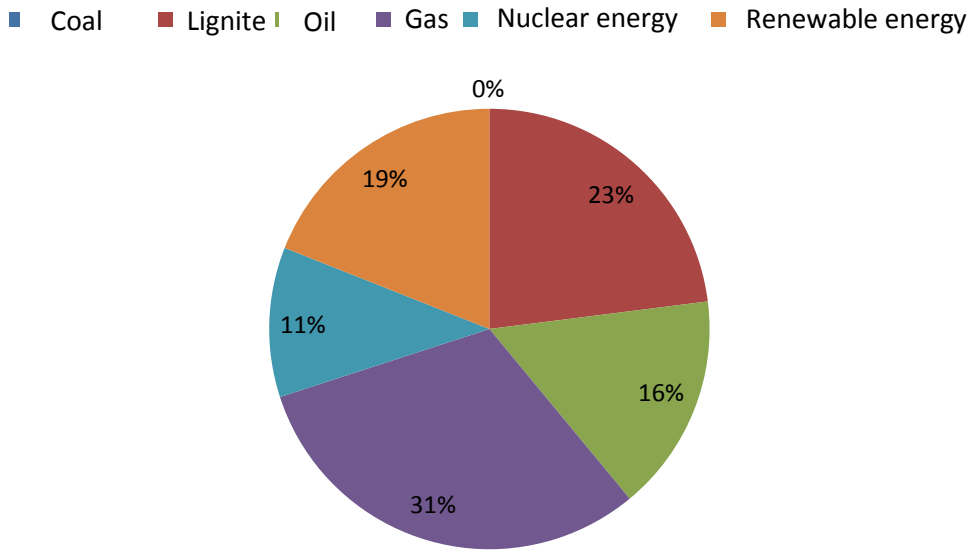
The instructions of July 28th, 2011 on the application of Article 10, paragraph (1) of the Government Emergency Ordinance no. 40/2011 concerning the promotion of clean and energy-efficient road transport vehicles and Order no. 1994 of July 28th, 2011 for the approval of the Guidelines on the application of Article 10, paragraph (1) of the Government Emergency Ordinance no. 40/2011 concerning the promotion of clean and energy-efficient road transport vehicles - regulate the conditions and means of financing for acquisition by natural persons, public institutions and local government of clean and energy-efficient road transport vehicles. Grants are given from the Environmental Fund, consisting of discounts in the retail price of motor vehicles, in financing sessions. The amount of discounts is up to:

1) 10% of the selling price (VAT included) of the hybrid vehicle purchased, but not more than 1,800 Euros.
2) 20% of the selling price (VAT included) of the electric vehicle purchased, but no more than 3,700 Euros.

2.4 Energy and actions on clean energy

2.4.1 Production of primary energy[5]

Natural gas and solid fuels dominate primary energy supply in Romania, with an aggregate percentage of 54%, but renewable energy production has increased steadily, reaching 19% in 2009.



2.4.2 Renewable energy sources

The International Energy Agency estimates that in Europe, oil resources will be exhausted in 40 years, natural gas in 60 years and coal in 200 years, which would translate in the fact that, in about 20 years, Europe will have to import 70 percent of its energy needs.

The strategy for renewable energy sources valorisation approved by the Government Decision no. 1535/2003 has transposed into Romanian legislation the Directive 2001/77/EC. Therefore, valorisation of renewable energy sources is thus a major policy objective of the European Union, and thus Romania enrolled in the context of gradually renouncing to the use of conventional fuels and obtaining energy independence from foreign sources of energy.

[5] Source: Eurostat Pocketbooks, 2011 edition, values for 2009

Romania has a great potential of renewable energy sources due to its geographic location, as follows:

- ❖ solar energy - the exploitable potential of producing electricity by photovoltaic systems is about 1.200 GWh / year; the Southern Plain and Dobrogea are representative areas in this sense;
- ❖ wind energy - the wind energy potential is high in the Black Sea coast, highlands of Moldova and Dobrogea and mountain areas. In these areas, wind turbines can be installed with a total power of 14.000 MW;
- ❖ biomass - biomass energy potential is high across the country, estimated at about 7.594 thousand toe / year, which represents almost 19% of total primary energy consumption in 2000. About 54% of the heat produced from biomass is obtained from burning forest residues;
- ❖ geothermal energy - now about 70 pumps for hot water (with temperature above 60˚C) in different geographical areas. Geothermal reserve with current mining possibilities in Romania is around 167 thousand toe; West Plane and South Plane are representative areas in this sense.

2.4.3 National Renewable Energy Action Plans (NREAP) 2010 and promotion programmes

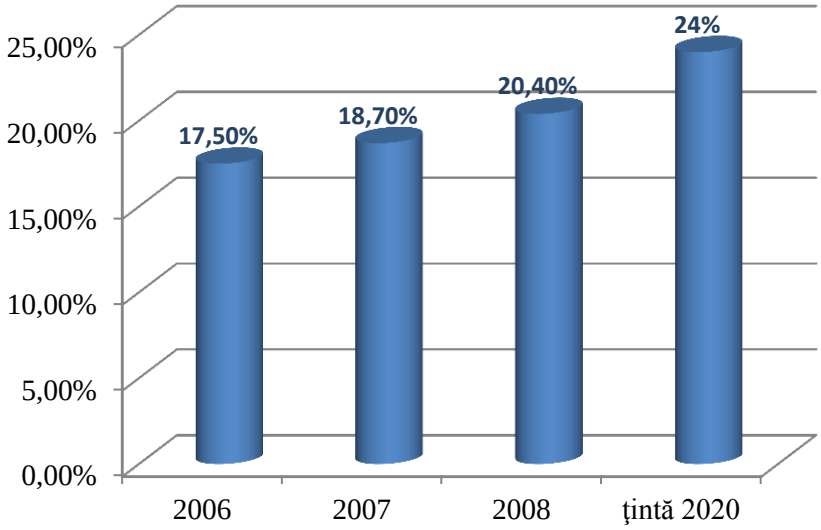
National Renewable Energy Action Plans (NREAP) 2010 contain the general objectives of the renewable energy source valorisation strategy, as follows:

- integrate renewable energy in the national energy system structure
- reduce technical, functional and psychosocial barriers in the use of renewable energy and, at the same time, identify cost and economic efficiency elements
- promote private investments and create conditions to facilitate access of foreign capital on renewable energy markets
- ensure independence of the national economy energy consumption
- ensuring, where necessary, energy supply for isolated communities by valorising local renewable energy potential
- create conditions for Romania's participation on the European market of "green certificates" for renewable energy.

Renewable energy	Annual energy potential	Energy economic equivalent (thousand toe)	Application
Photovoltaic solar power	1,200 GWh	103.2	Electricity
Wind power	23,000 GWh	1,978.0	Electricity
Hydropower, out of which	40,000 GWh	3,440.0	Electricity
Under 10 MW	6,000 GWh	516.0	Electricity

The usable potential of these alternative sources of electricity generation is much smaller in reality, due to technological limitations, economic efficiency and environmental restrictions.

The share of renewable energy in final energy consumption[6]



Achieving the target share of energy consumption from renewable sources in final consumption of 24% by 2020 compared with 1990, requires in the end the capitalization of 63.50% of the final total potential of existing renewable energy resources. Among the renewable energy sources, the share is owned by hydropower and biomass energy, while an e target potential stands in wind power. Currently, projects are being developed and they will provide sources of wind power production way above the national consumption needs and for which external customers will be targeted.

The promotion of renewable energy resources continues through funding provided by the Ministry of Environment and Forests through the Environmental Fund, using two mechanisms:

1) **The "Programme for the increase of energy production from renewable sources"** which finances the installation of power generation plants from renewable sources: sun, wind, water (≤ 10 MW), geothermal, biomass, biogas, waste and sludge fermentation gas in water treatment plants, aiming at improving environmental quality, reducing CO_2 emissions, using primary resources rationally and efficiently, preserving and protecting the eco-system. In the medium term, a plant for electricity generation from renewable sources of 505.79 MW is expected to be installed and commissioned.

2) The "**Green House Program**" which allocates grants for the installation of heating systems for private homes, owners associations, agricultural farms and public institutions using renewable energy.

[6] Source: Eurostat Pocketbooks, 2011 edition

The promotion of electricity produced from renewable energy sources is also achieved through the green certificates system

In order to reach the national target of achieving a 24% share of energy from renewable sources in the amount of energy Romania will consume by 2020, an important measure is the promotion and development of investments in building plants on the renewable energy market by means of the green certificate system. The legal framework governing the functioning of the system is set up by Law no. 220/2008 on establishing the promotion system of energy production from renewable energy sources and the Government Emergency Ordinance no. 88/2011 amending and completing Law no. 220/2008. The promotion system established by Law no. 220/2008 consists in providing green certificates to producers of electricity from renewable sources, which are then sold to final electricity suppliers in Romania. Suppliers are required to purchase an annual number of green certificates calculated according to the quota established by ANRE (Romanian Energy Regulatory Authority) applied to the electricity supplied. The Green certificate system is a market mechanism that will encourage investment in renewable energy in Romania and therefore will support Romania's efforts to achieve, by 2020, its renewable energy targets without distorting the market. The energy sources covered by this legislation are: water (≤ 10 MW), wind, geothermal, solar, biomass from biological waste, biomass from energy crops, gas from waste fermentation and gas from sludge fermentation in wastewater treatment plants.

In order to ensure compliance with the requirements imposed at European level by Directive 2009/28/EC of all operators entitled to install systems for producing electricity and heat from renewable sources, Romania has accessed funding from the **Intelligent Energy Europe Programme** in order to create beginning with 2012 a national qualification platform for appropriate authorization of operators in the market.

By means of the EU cohesion policy and structural operational programmes on the convergence objective in the field of renewable energy, Romania can access grants through the following grant programs:

The Sectoral Operational Programme "Increase of Economic Competitiveness"", Priority Axis 4 "Increase of energy efficiency and sustainable development of the energy system", Area of intervention 4.2 Valorisation of renewable energy resources, provides funding for modernization and construction of new plants for electricity and heat production through the use of renewable energy resources: wind, water, sun, biomass, geothermal energy resources and other renewable energy resources.

Between 2008 and 2010, 14 projects were contracted (with a total amount of 630 million lei) and the great number of projects submitted led to supplementing the funds allocated to this operation with another 200 million Euro.

National Rural Development Program 2007-2013 gives grants to modernize farming and supporting rural operators, integrating in the obtained aggregate impact also environmental objectives, in terms of energy and climate change, through the following measures:

- increase efficiency and use of biofuels on agricultural machines;
- develop energy crops both for biofuel production and for electricity and heat production in cogeneration;
- increase energy efficiency of irrigation systems.

Romania has been using the "Joint Implementation" mechanism as host country since 2000. The legal framework for the development of these projects under the "Joint Implementation" mechanism consists in concluding and ratifying Memoranda of Understanding with various states. Romania concluded 10 such memoranda with governments and ministries of Switzerland, Netherlands, Norway, Austria, Denmark, Sweden, France, Finland and Italy. In this context, Suceava Municipality is the recipient of a grant awarded by the Swiss State Secretariat for Economic Affairs by means of the Swiss-Romanian Cooperation Programme to prepare an own Action Plan for Sustainable Energy and some project drafts to start its implementation

The WHITE PAPER Roadmap to a Single European Transport Area - Towards a competitive and efficient transport system in terms of resources, which establishes that by 2050 the European cities will have to drive only clean, non polluting cars was adopted by Decision no. 38/2011 and thus Romania was aligned to the overall European transport policy, articulated around the objectives of developing and implementing new and sustainable fuels and new propulsion systems, optimizing the performance of multimodal logistic chains, including by an increased use of more energy-efficient ways, increased transport efficiency and infrastructure use by information systems based on market incentives.

The approval of this strategic document bonds our country and encourages Suceava Municipality to adopt certain measures linked to the objective of *"Development and implementation of fuels and sustainable propulsion systems"* through introducing by 2020 an information framework for implementing a multimodal transport system by decisively shifting to cleaner cars and fuels and reducing with 50% the number of cars with conventional fuel by 2030 and eliminating them progressively in cities by 2050.

The National energy saving potential and energy loss reduction potential is estimated at 27-35% of primary energy resources (industry 20 - 25%, buildings 40 - 50%, transport 35 to 40%).

In order to reduce energy intensity in sectors with high energy consumption and achieve the targets set up in the National Strategy for Energy Efficiency as well as in the Action Plan for Energy Efficiency corresponding to Directive 2006/32/EC on energy end-use efficiency, the following measures in transports will be taken:

- improve the quality of public transport in order to use it to reduce private car transport;
- extend public transport network through new transport routes;
- render traffic and more efficient parking management;
- provide means of public transport for employees by the beneficiary companies;
- encourage a greater development of vehicles running on tracks and part of the urban transport (trams, trolleybuses);
- increase the energy efficiency of vehicles by establishing minimum efficiency criteria;
- introduce norms to support the energy-efficient and clean vehicles;
- use gaseous fuels and biofuels in transport.

Sustainable transport is a complex system designed to meet the mobility needs of current generations without damaging environmental factors and health. By rendering more efficient energy and material consumption, it should be possible to meet - in optimum conditions, from an economic-ecological-social perspective - the need for mobility of future generations. Until recently, the industry was considered as the main source of pollution of the planet. With the fast development of transport and, in particular, with the scale of production vehicles, the balance of toxic sources and unpleasant effects changed tilt, that is the transport became the main source of aggression against the environment and human health. A sustainable transport system is achieved by clean transport modes or which have a low impact on the environment and health by increasing fuel energy efficiency, reducing fuel consumption coming from non renewable sources and continuously decreasing solid and liquid waste from the construction, maintenance and disposal of transport modes.

Energy efficiency is now a prerequisite for sustainable development worldwide, being also for Romania a prerequisite for the transition to the developed market economy and an urgent requirement to increase the country's energy independence and reduce environmental pollution. The most important method of implementing new technologies, leading to large energy savings and increased energy yield is implementation of investment projects in the economic sectors where there are energy intensity and high energy losses.

3. URBACT EVUE

Local Support Group of Suceava for electric vehicles

The Mayor's decision no. 2714/12.10.2010 establishing the composition of the Local Support Group of Suceava Municipality to achieve the project "EVUE - Electric Vehicles in European urban areas" approves the establishment of the Local Support Group (LSG) of Suceava. As a result, all parties signed the Association Agreement on participation in Suceava Local Support Group for the project "EVUE - Electric Vehicles in Urban Areas in Europe", funded by the Interregional Cooperation Programme URBACT II registered with no. 34075/02.11.2010.

Thus, Suceava ULSG is composed of different institutions and organizations, represented by qualified and experienced staff in all areas related to the project's main areas of intervention, who have conscientiously responded to all calls to local and transnational meetings, roundtables and seminars organized by Suceava Municipality. They have experience and expertise in areas such as education, transport operators and authorities, business environment - consultancy and car dealers, authorities and NGOs for environmental protection, a NGO for support and education of young people, a scientific society, local media and the City Council of Suceava

It is well known that public participation and citizen involvement in developing a common understanding of the objectives, problems and possible strategies providing solutions to problems can improve the quality of decision planning, its implementation and evaluation throughout the entire duration, increase its efficiency in financial terms, effectiveness, transparency, acceptability and public support, but also its legitimacy.

Benefits: it improves the quality of decisions, certain issues and challenges are identified in the planning phase and consultation in the planning phase leads to agreeing controversial issues and preventing the opposition in the decision making process; it can also prevent delays and reduce costs during implementation, increase acceptability of measures, the decisions making process becomes more democratic, putting in the hands of local communities the power to influence decisions; as a consequence, they become responsible, consultations determine the capacity to plan locally, increase public confidence in their decision-making ability, learn and exchange of experience.

The URBACT EVUE Local Support Group is composed of:

1. Radio Kiss FM Suceava
2. Crai Nou Suceava (local newspaper)
3. Obiectiv de Suceava (local newspaper)
4. Monitorul de Suceava (local newspaper)
5. Autoritatea Rutieră Română, Agenţia Suceava (Romanian Road Authority, Suceava Branch)
6. Uniunea Naţională a Transportatorilor Rutieri din România, Suceava (National Union of Road Carriers from Romania, Suceava)

7. Colegiul Naţional “Ştefan cel Mare” Suceava (“Stefan cel Mare” National High School of Suceava)
8. Colegiul Naţional “Petru Rareş” Suceava (“Petru Rares” National High School of Suceava)
9. Colegiul Tehnic “Samuil Isopescu” Suceava (“Samuil Isopescu” Technical High School of Suceava)
10. Colegiul Tehnic “Alexandru Ioan Cuza” Suceava (“Alexandru Ioan Cuza” Technical High School of Suceava)
11. S.C. Relians Corp SRL
12. S.C. ADRIA S.R.L.
13. Asociaţia Nonguvernamentală TRANSIRA (TRANSIRA non-governmental organization)
14. Asociaţia Grupul Ecologic de Cooperare – GEC Bucovina Suceava (Ecological Cooperation Group Bucovina Association, Suceava)
15. Organizaţia Naţională Cercetaşii României, filiala Suceava (National Organization of Romanian Scouts, Suceava branch)
16. Biroul Autoritatea Locală de Transport, Primăria Municipiului Suceava (Local Transport Authority’s Office, Suceava Town Hall)
17. S.C. Transport Public Local S.A. Suceava (local public transport company)
18. Garda Naţională de Mediu, Comisariatul Regional Suceava (National Environmental Police, Regional Commissioner's Office of Suceava)
19. Agenţia de Protecţie a Mediului Suceava (Environmental Protection Agency of Suceava)
20. Consiliul Judeţean Suceava (Suceava County Council)
21. Centru Regional de Resurse pentru ONG-uri (Regional Resource Centre for NGOs)
22. Societatea Ştiinţifică “Cygnus” (“Cygnus” Scientific Society)
23. Facultatea de inginerie electrică şi ştiinţa calculatoarelor, Universitatea Ştefan cel Mare Suceava (Faculty of Electrical Engineering and Computer Science, “Stefan cel Mare” University of Suceava)
24. Facultatea de Ştiinţe Economice şi Administraţie Publică, Universitatea Ştefan cel Mare Suceava (Faculty of Economic Sciences and Public Administration, “Stefan cel Mare” University of Suceava)
25. Clubul Antreprenorial Studenţesc CAST (CAST Student Entrepreneurship Club)
26. Consiliul Local al Municipiului Suceava (City Council of Suceava).

Consultations, discussions and information gathering, as well as exchange of experience took place in round tables, seminars and workshops organized periodically depending on the progress of project activities, according to the following schedule:

1. April 14th, 2010, a common event for launching and getting to know the project by the designated members of Suceava LSG, but also for introducing the thematic expert (Sally Kneeshaw), project manager (Matthew Noon) and financial manager representing the project manager (Maku Obuobi)
2. October 14th, 2010, a seminar held by two experts from Oslo, a partner city, with advanced planning in the field of electric cars and where the notion of "Index of preparation for implementation of electric vehicles" was introduced
3. December 29th, 2010, a round table where the document "Informative report on activities and results for the 1st semester, Suceava LSG" was presented; it records the most important initial information at the time of project start-up - Baseline Study
4. March 25th, 2011, a working meeting where the questionnaire "Index of preparation for implementation of electric vehicles" was completed and revised as an innovative instrument for the "measurement" of possible reasons for which the inhabitants of Suceava would embrace electric transportation, given the precarious economic and financial situation at the moment.

Based on the analysis of questionnaires and centralization answers given, the following conclusions were drawn:

a) The indicators designating benefits were ranked as follows: 1 - Reduce air pollution in the city, 2 – Noise reduction and energy independence, 4 - Increased energy efficiency, reduced vehicle operating costs and economic development opportunities, 7 - Contribution to environmental protection (reduction of CO_2 emissions), 8 - Preservation of historic buildings and monuments.
b) The indicators designating challenges were ranked as follows: 1 - The high cost of buying this type of vehicle, 2 - Limited investment resources of the public sector, 3 - Lack of political support, 4 - Lack of charging infrastructure, 5 - Lack of services and technical assistance after purchase, 6 - Lack of support from the consumer.

Moreover, other 4 indicators were identified, one representing a benefit - comfort for consumers and three referring to challenges - poor legislation, topography (pronounced differences in altitude) and lack of education. Most of these indicators of benefits and problems identified were inspirational in preparing the Local Action Plan at the time of making the Problem Tree.

1. June 22nd, 2011, an informative working meeting for the presentation of all transnational meetings organized in this project, reports and materials presented.
2. October 28th, 2011, seminar 1 with Suceava LSG and the outside expert contracted by the Suceava Municipality, to provide technical assistance to strengthen the LSG, coordinate implementation of the Local Action Plan, coordinate and animate the group discussions; this resulted in a draft of the Local Action Plan for EV in the following stages: tree problem, SWOT analysis, objectives, strategy and action planning.

3. April 10th, 2012, a roundtable discussion which followed updating the information obtained in the partnership, reviewing the draft of the Local Action Plan developed, refreshing knowledge and preparing the 2nd seminar with the contracted outside expert.
4. April 25th, 2012, 2nd seminar with Suceava LSG and the outside experts contracted by the Suceava Municipality, meant to provide technical assistance to strengthen the LSG, coordinate implementation of the Local Action Plan, coordinate and animate the group discussions; this resulted in a new draft of the Local Action Plan detailing the activities per actions and key-actors (action leaders and their partners). Implementation commitments and estimated Budget.
5. August 17th, 2012, a working meeting to present newsletters from the project partnership, other news on electric vehicles and discuss the progress in elaborating the Local Action Plan of Suceava and preliminary approval of the content.
6. December 17th, 2012, a meeting for final approval of the Local Action Plan.

Another relevant meeting which was hosted by Suceava Municipality took place on November 2nd, 2011, when it was visited by a representative of SC RENAULT Romania SRL, who made the presentation and promotion of electric vehicle models they provide on the Romanian market in the context of concluding a Partnership Agreement between DACIA RENAULT car manufacturer and technical charging equipment manufacturers to develop a dedicated infrastructure for EVs (Schneider Electric Romania and Siemens) and electricity suppliers (Electrica); the Ministry of Environment and Forests was notified on this agreement and had a favourable reaction to the purpose of the project.

Transnational exchange meetings held in turn by each EVUE city partner, in advanced stage of implementation of measures meant to develop and implement EVs, have always been for Suceava municipality a source of inspiration on the way of strategic approach of actions that can enhance visibility and focus attention of possible early users of new technologies towards the EV technology. Together with the project team, these meetings were also attended by the members of the Local Support Group who could see, visit and test the functionality and interoperability of EVs and different charging technologies. This helped to strengthen the trust of Suceava LSG and enhance their imagination in local meetings in terms of development of practical ideas applicable locally. This is a value added to the already indisputable initial value of working groups and joint activities within the project.

Knowing the lagged response at national level on the adoption of EV technology and determination of the demand-supply addressed to the specific equipment construction industry, we consider beneficial the presence of representatives of the Ministry of Regional Development and Tourism in two of the joint meetings part of the project: at the transnational meeting organized jointly by Oslo and Stockholm (representative of the Intermediate Body of the Regional Operational Programme 2007-2013 - Regional North-East Development Agency of Piatra Neamt) and in the final project conference held in London (representative of the Ministry of Regional Development and Tourism - General Direction for Territorial Development). This way, the Municipality's interest and intentions of modernization / innovation were made known in what concerns the changing of urban mobility traditional pattern in Suceava, by transferring a part of the conventional transport modes to alternative electric transport modes, both in private car transport and at the institutional level, as well as the local public transport by bus.

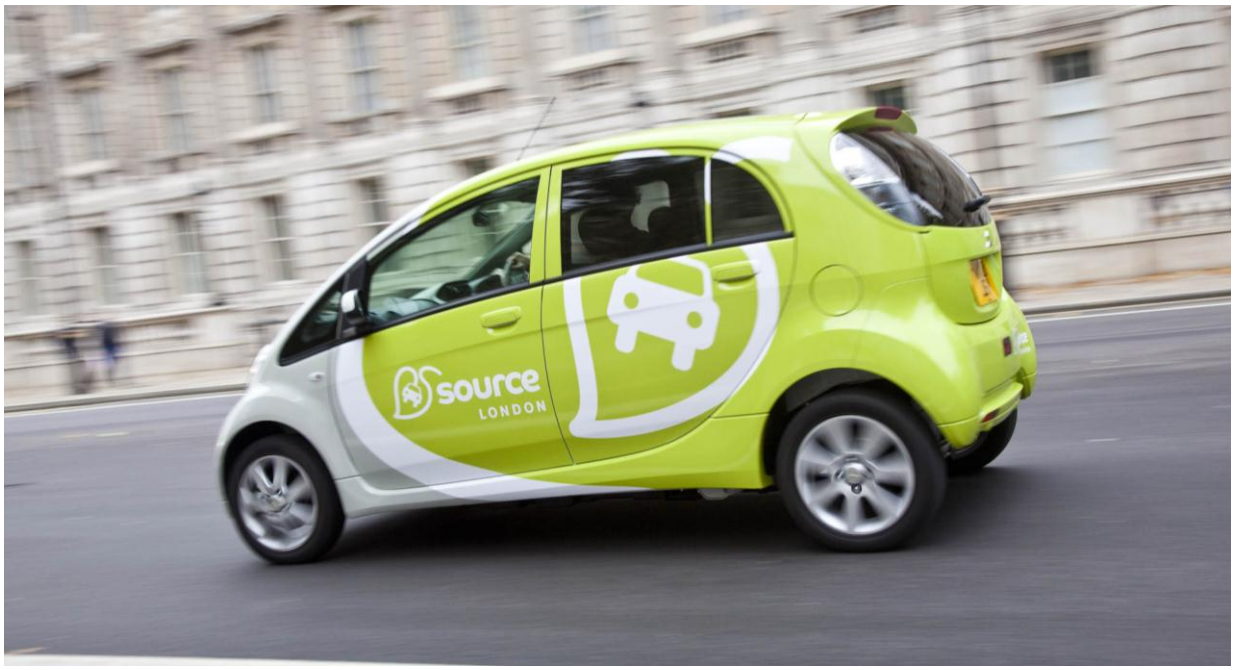
A remarkable event took place on 29th of November 2012, when an informing campaign was deployed in Bucharest, with the Ministry of Regional Development and Tourism, the Ministry of Finance, the Romanian Municipalities Association, that gave opportunity to distribute informing and dissemination materials (leaflets 1, 2 and 3, memory-sticks with the EVUE project presentation electronic materials, Project Final Report in English and in Romanian languages, the Local Action Plan for the promotion and implementation of the electric vehicles and infrastructure in Suceava. In the beginning of December 2012, dissemination materials have been handed out to the responsible of the Swiss-Romanian Cooperation Programme - Government of Switzerland will co-finance sustainable energy projects in Suceava (through the Agreement signed between the Swiss Embassy and the Municipality – one of the projects proposed is related to electro mobility in Suceava city).

In the beginning of month December, Suceava Municipality organised meetings to hand out materials for visibility and information to the local economic agents (local vehicle dealers, IT companies, radio broadcasters, consultancy companies, telecommunication companies), technical schools and public institutions.

4. Elaboration of the Local Action Plan for the implementation of electric vehicles

Definition: *Suceava Local Action Plan will be developed as a strategy to promote and implement electric vehicles and charging infrastructure in the city and we will plan activities for the development of communication campaigns with citizens to initiate development of a market for electric vehicles and put into practice favourable legislative measures and mechanisms that can help overcome financial barriers which are in the way of implementing electric transportation.*

The plan is a flexible instrument, given the change in time of the economic and legislative context and gain of experience in various other projects and so it can be regularly revised based on applicable opportunities that arise along the way and can bring a contribution to achieving the medium and long term objectives. The Plan remains a document that citizens have access to, they can propose changes and improvements that will take into account the active participation of all stakeholders in its implementation. The Plan is a political document, so it must have the support of the decisional board of Suceava Municipality - Suceava City Council, in which case it will be subject to its approval.



4.1 Stages of planning and methodology:

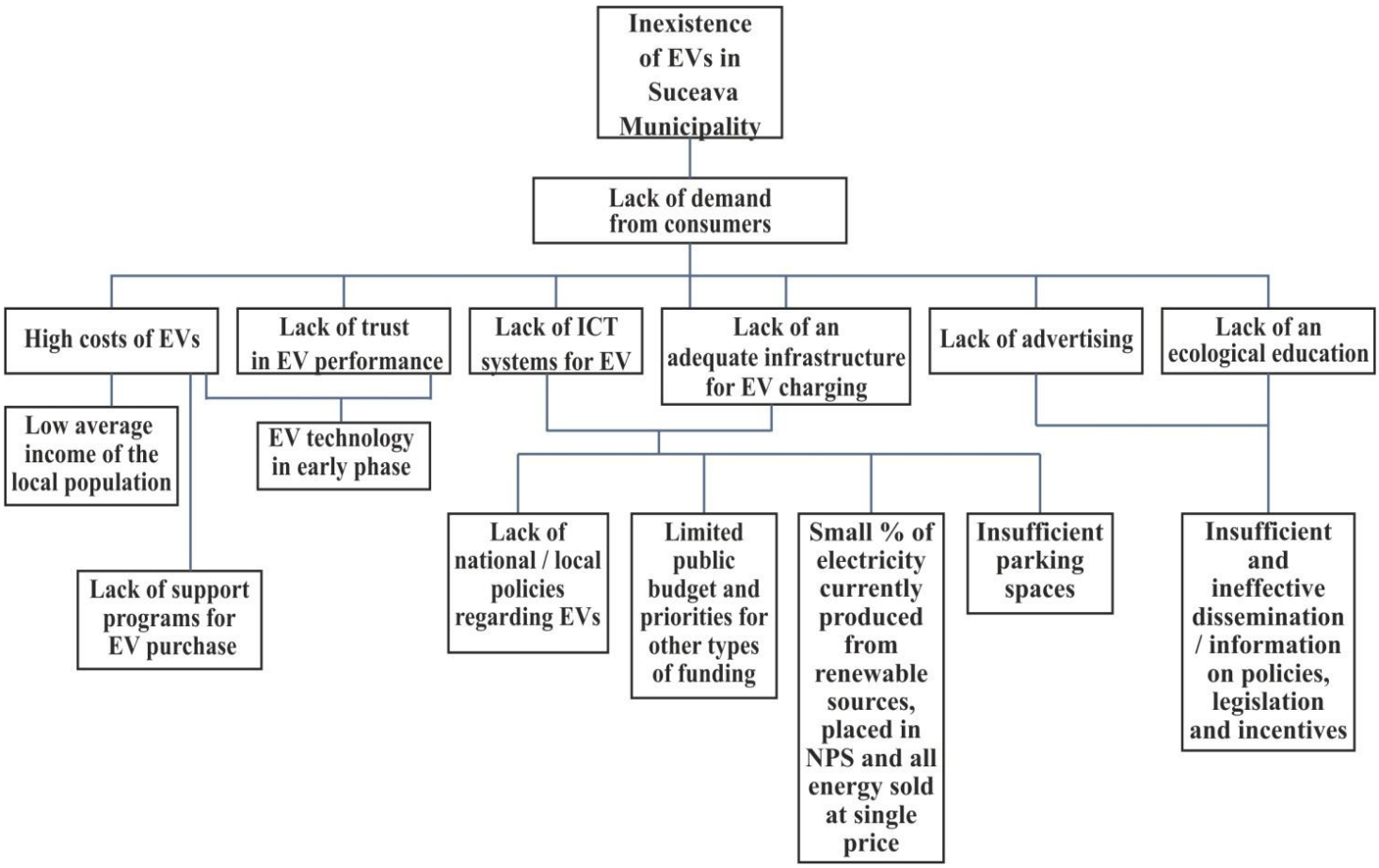
1. Review the baseline situation, Analysis (establishing personal interests, how they are affected, capacity and motivation) and involvement (possible actions to attract their participation) of stakeholders and key participants
2. Problem Analysis
   - identify the major problems and find possible solutions to the problem;
   - prepare the problem tree: a simple graphical representation of the problem / causes generating it / the effects it has and then its solutions (translating the negative aspects identified into positive statements)
3. Moving from solutions to objectives proposed, selection and prioritization of objectives to be covered by future planning: Setting Targets (an observable and measurable result suggested on an indefinite period of time / Objectives (target defined more specifically and for a clearer period of time / Results (clear, measurable, necessary to establish the achievement of objectives) / Activities (in what way the expected results can be achieved)
4. Action Planning
   - Fill in a table comprising: possible activities and description, Actor and Key-partner to be involved in developing the activity, Expected results and Indicators to measure achievements, Implementation period, Necessary financial and human resources. Development of the way activities are implemented.
5. Make a draft format of a Local Action Plan
6. Consultation and approval from Suceava LSG
7. Local action plan review
8. Signing
9. Establishing a strategy to communicate the Local Action Plan and Public Launch.

4.2 **Target group** - The definition of the target group was required as an orientation guide for setting strategic objectives and activities planning, since they are actually the main beneficiaries of current planning measures and results.

It consists of:

- traders active in the field of people transport by car (taxis)
- car dealers
- car service operators
- car manufacturers
- local public transport operators (SC TPL SA Suceava)
- providers on the electricity market (producers and carriers indirectly)
- providers of technological charging equipment
- citizens (residents, students and tourists)

4.3 Graphic representation of the Problem Tree:



SWOT Analysis for boosting EV use in Suceava	
S – Strengths - The obligation to implement EU policies aimed at achieving environmental targets imposed by the EU Member States - Introducing EV is a rational way to improve quality of life, due to low level noise and CO2 emissions - The experience of Suceava Municipality and local partners in formulating strategies for development and implementation of projects - The openness shown by the private sector to EV introduction - EV attractiveness in terms of cost of use, once the vehicle was purchased	W - Weaknesses - High cost investments: EV charging and power payment systems - Absence of any specific operating systems for EVs - Reduced range of EVs - Low income of the population - Lack of consistent policies for financing and promoting EVs at national level - National legislation granting only one financial facility when purchasing which is not enough to attract buyers of EVs - Local policies that do not include measures to lower the tax for EVs - Lack of interest among local electricity distribution companies - Lack of appropriate advertising of environmental policies - Lack of appropriate environmental education and public accountability
O - Opportunities - The emergence of EU grants and other funding sources for innovation in environmental protection and sustainable development planning in the medium and long term - Continuous development and innovation in technology - Creating new business opportunities - The existence of multiple opportunities for obtaining electricity from renewable sources used in EV propulsion - Considerable decrease of conventional fuel resources and the continuous increase in the unit price for conventional fuels	T – Threats - Continue the urban agglomeration with vehicles and charging stations - Increase the quantity of hazardous waste due to inappropriate recycling of batteries and continuous increase in the cost of disposal / neutralization of waste - Increase the risk of road accident due to the very low noise level - Increase air pollution where electricity is produced from conventional sources - People's reluctance to new

4.4

Strategic objectives to stimulate the use of EVs in Suceava
Overall strategic vision - establish the position of Suceava Municipality as a precursor and model for Romanian cities using EVs
Specific objectives (reachable by 2020) - Promote the use of EVs by creating a charging infrastructure through the installation of charging points in public and private parking spaces      - Adopt electric transport as part of the local public transport in 85% of the total capacity and measures to encourage the use of electrical means in public transport - Promote the use of EVs in public institutions by buying EVs within a demonstration pilot project developed by Suceava Municipality - Introduce electric transport in urban taxi service at 15% of the authorized transport means - Promote legislative action favourable for purchasing and using EV meant to stimulate electric transport among private transport companies - Ensure the existence of renewable energy sources in the public EV charging system and the presence of a balance between the electricity consumed by EVs and the renewable energy produced      - Public information of citizens for environmental education purposes and use of EVs and alternative transport means (ex. roller skates, electric bicycles) - Prepare a concrete plan to create a specific operating system for EVs and submit it to the approval of the ULSG partnership

4.5 Actions to be implemented

Recent studies on car driving show that in most of the cases more than 80% of the urban trips are shorter than 60 km per day, which means that they could be covered with EVs. For this finding to be integrated effectively, we need to define groups of potential future users and application areas in order to plan measures with direct addressability to them.

Electromobility, without using 100% renewable energy, cannot provide full benefits for the environment. Romania has an exceptional potential of alternative electricity generation, but an absolute disadvantage is the way of distribution which is made through a single national system that does not make the difference in the price plan depending on the source of energy. Therefore, certain financial incentives for the energy prices are possible only for charging at night and by supporting energy costs by authorities.

Given that EU is funding with 24 million Euros, under FP7 Programme - Transport, the "Green E-motion" project dedicated to the development of a European platform of electromobility, addressing 43 key-partners (municipalities and relevant organizations), infrastructure, electric equipment, intelligent information communication networks, aiming at planning a single EV market, an interoperable EV use platform, harmonized at European level, with compatible associated services and technical standards and related technology, a coherent European network of eco-routes and a similar cost / benefit rate. The project takes place between March 2011 and February 2015, and the results will become available for major market players and beneficiaries in the next period.

Specific objective 1: Stimulate the use of EV by creating a charging infrastructure, installing charging points in public and private car parks

Activity 1.1. Installing a network of above-ground EV charging points and allocating and signalling the parking spaces exclusively for EVs			
Action leader	Suceava Municipality		
Organization type	Local Public Authority		
Main Partners	Private companies operating as equipment and electricity suppliers		
Expected results	Creating a uniform system of charging points in public spaces above ground, with good visibility, 1 pilot project		
	Raising awareness of citizens regarding EVs and their benefits to the quality of life in Suceava		
	Appropriately stimulate the private business sector		
		Period	Sources
	at least 3 off-street charging points in above-ground public parking located near major shopping areas downtown	2014-2015	Local budget Government of Switzerland through the

Estimated indicators			Swiss-Romanian Cooperation Programme grants and other funds (possibly through the Cohesion Fund 2014-2020)
	at least 3 parking spaces exclusively for EVs, with visible signage	2015	Local budget Grants
	at least 2 charging points available to taxi vehicles, including on-street and off-street points	2014-2015	Local budget Government of Switzerland through the Swiss-Romanian Cooperation Programme grants and other funds (possibly through the Cohesion Fund 2014-2020)
	at least 2 parking spaces exclusively for EVs, with visible signage	2015	Local budget Grants
	Number of citizens who are informed and understand the benefits of EVs	2020	Qualitative marketing research
	Number of companies that have expressed their interest to be involved in EV business	2018	Internal audit records
The national policy on public investment by 2014 determines the need to reorganize public investment costs in order to shift from investments financed entirely from national sources to investment co-financed by EU funds. Thus, in the context of the current economic crisis and reluctance of private investors to making investments, the local public authority shall endeavour to find resources to initiate a pilot project to install a network of charging points in the city of Suceava, addressing the public places accessible to drivers, meant to prove EV's functionality, reliability and ease of use. Given the possible grants available and know-how to attract European funds from the EU and from national governments, Suceava municipality may initiate a pilot project and provide a good example to other legal entities in the city. By raising the overall confidence in this technology, it			

is expected that natural persons who have access to off-street parking facilities in the area where they live or where they work, will realize the long-term economic benefits of this electromobility technology. We plan to install three charging points located as follows: 1 in the parking in front of the City Hall, 1 in the low emission area located downtown, an area subject to extensive modernization and 1 for the vehicles parked on public space, in front of Bucovina Shopping Centre (off-street).
In addition, efforts will be made to extend this initiative for the benefit of taxi vehicles and two charging points will be made available for them, located in crowded locations where taxi drivers park their cars waiting for customers; the proposed locations are on public space near Bucovina Shopping Centre (on-street) and near the Central Market (off-street). The presence of two charging points near Bucovina Shopping Centre, with appropriate markings, will increase their visibility and render more credible the technology's viability for both individual exploitation and as part of an economic activity. Their accessibility also depends on the presence of specific elements meant to serve people with disabilities, for which special requirements will be taken into account.
The type of access to charging (open or restricted) and charging technology (manual or preferably intelligent) chosen will be a subject matter to be decided by decision makers in charge at the time, while the network capacity will be discussed with the electricity supplier and distribution operator. In what concerns the charging way and times, the type of supply technology used will allow rapid charging in on-street points and standard charging in off-street points, on public parking spaces. The public procurement will be a 2-stage procedure to provide a competitive dialogue with tenderers in order to obtain a better understanding of the power equipment market.
By entering into public-private partnerships or concession contracts to provide installation, maintenance and operation of technological equipment in designated parking spaces, the number of above-ground charging points on public space could be increased, as well as the interest in the type of business.
ESTIMATED BUDGET: 65.000 euro

Action leader	Public-private partnership between Suceava Municipality and private sector		
Organization type	Local public authority		
Main Partners	Iulius Mall, Shopping City Suceava, Kaufland, Metro, Selgros, Galleria Mall		
Expected results	Expansion of the unitary charging points system in parking spaces located in private parking above ground		
	Raising awareness of citizens regarding EVs and their benefits to the quality of life in Suceava		
		Period	Sources
Estimated indicators	2 paid charging points every 100 parking spaces in private supermarket parking	2016-2018	Private funds
	At least 2 parking spaces in private parking exclusively for EVs (in supermarkets)	2017-2018	Private funds
	Number of citizens who are informed and understand the benefits of EVs	2020	Qualitative marketing

			research
Business premises in Suceava are a point of attraction and are heavily populated by citizens who generally go shopping by their private cars. By the pilot project in which Suceava Municipality will initiate the EV charging points network, it will consider carrying out an information and promotion action, meant to stimulate a multiplier effect among the main operators providing numerous parking spaces. Large parking spaces near shopping centres are available without charge, provide access to a large number of vehicles parked and thus encourage customers to go there in their own cars. This may support the promotion of urban transport towards shopping centres in electric vehicles, establishing a system of financial incentives granted in charging facilities and even in-store for having purchased their products (eg. organic products in public food premises, in electronics stores encompassing intelligent technologies). It is intended that the type of technology and access to charging points would be a standard one, but this largely depends on the funding efforts in research-development-innovation and EU policies and directives transmitted to Member States. ESTIMATED BUDGET: 190.000 euro			

Activity 1.2. Installation of charging points in underground public premises			
Action leader	Suceava Municipality		
Organization type	Local public authority		
Main Partners	n/a		
Expected results	Initiate implementation of charging points in underground parking in places with good visibility		
		Period	Source
Estimated indicators	2 charging points installed and properly marked in underground central parking	2014	Local budget
	Number of citizens who are informed and understand the benefits of EV	2020	Qualitative marketing research

With the upgrading of the central area of the city by creating two underground parking facilities, totalling 163 parking places, at the entrance to the main parking, two charging points for EVs were installed, which will be clearly marked and properly allocated for use by EVs. As access to the central area by cars is gradually limited and conditioned in order to turn it into pedestrian area and a space for rest and relaxation, these facilities will be the only places where vehicles will be allowed for parking. EVs will be well represented by the presence of charging points, which also ensure the possibility of re-charging the cars while parked. Currently, parking in these underground facilities will not be paid (they were built from structural funds and can not generate revenue in the next 5 years of operation), therefore financial incentive measures related to this issue can not be applied.

Currently, a Parking regulation is being worked on and it will include exact provisions regarding the parking spaces assigned to EVs and their visible signage; their abusive occupation will be strictly punished by local regulations.

Visible marking of parking spaces, their location at the entrance to parking and restrictions for other vehicles to park in such spaces are non-financial incentives that will create a favourable environment for EV future users.

It is estimated that between 2020 and 2030, EVs will become a common means of urban

transport in Suceava, in line with the evolving trends in technology and environmental protection requirements and biodiversity conservation in Europe. The number of charging stations would be much higher and there will be the necessary logistics to access real-time information about availability, accessibility of parking space, authorization and user identification, price, type of equipment and charging mode.
ESTIMATED BUDGET: 30.000 euro

Activity 1.3 Assignment and visible marking of parking spaces exclusively for EVs in public parking			
Action leader	Suceava Municipality		
Organization type	Local public authority		
Main Partners	n/a		
Expected results	Visible marking of EV charging points located in underground and above-ground parking		
	Raising awareness of citizens regarding EVs and their benefits to quality of life in Suceava		
		Period	Sources
Estimated indicators	2 parking places in an underground public parking exclusively for EVs parking and charging	2014	Local budget
	Number of citizens who are informed and understand the benefits of EV	2020	Qualitative marketing research
Non-financial incentives can be as effective and motivating as financial and fiscal ones for growing the interest of private car owners and companies for EVs. Therefore, in order to provide the availability of parking spaces equipped with electric batteries and visibility, these parking spaces, by a positive discrimination, will be allocated only to EV users. The use of off-street charging points located in public parking and two on-street points to be used by taxi vehicles, with technologies characterized by differentiated charging times, will have the special purpose of providing testing models and technical charging solutions. We expect that those charging points near drivers' homes and office buildings will be the most common, but it should be noted that only a proportion no higher than 8-10% of the urban population has access to private garages and land around residential areas, which will make it impossible to install them safely.			

Specific objective 2: Planning the implementation of a specific EV operation system

Activity 2.1 Consulting LSG partners in order to elaborate and agree an exact strategic plan for implementation of a specific EV operation plan	
Action leader	Suceava Municipality
Organization type	Local public authority
Main Partners	Suceava Local Support Group for Electric Vehicles
Expected results	Organizing at least 8 meetings, roundtables with LSG representatives to develop a specific plan for the implementation of an EV support system

	Develop a plan for implementing a specific VE operating system		
	Acquiring certain services for the design of VE operating system		
	Leading users' attention towards EVs and increasing their confidence by improving EV use infrastructure and logistics		
		Period	Sources
Estimated indicators	8 meetings for consultations and debates	2014- 2015	-
	1 Plan for the implementation of a specific EV operation system	2016-2017	Local budget and Government of Switzerland through the Swiss-Romanian Cooperation Programme grants and other funds (possibly through the Cohesion Fund 2014-2020)
	1 designed EV operating system, implemented and operational	2018-2020	Local budget and Government of Switzerland through the Swiss-Romanian Cooperation Programme grants and other funds (possibly through the Cohesion Fund 2014-2020)
	Number of EV holders who use the operating system	From 2016 - Annual records	Local budget
	Degree of satisfaction of EV owners who	2020	Qualitative

	benefit from the specific EV operating system		marketing research
The establishment of the Local Support Group for EV is an important step in complying with European practices which set up that all programs, planning and project ideas must appear as a result of consultations and debates within the local community by bringing together the groups of stakeholder per fields of activity. The measures thus taken must consider all target groups; there must be a good communication and information between public authorities and community, the benefits of this type of approach to planning are now well understood: the transparency of decision-making, legitimacy by public participation in decision-making, better public acceptance and a higher rate of success correctly and effectively respond to community needs and integrate ideas and opinions coming from all levels. The Plan will include specific measures that allow relating with similar interoperable services with a role in maximizing and improving EVs, including interoperability of the EV operating system with mobile phone service, accessibility via Internet, smart cards, GPS traceability, surveillance cameras, intelligent maps containing locations, places and charging points. The design of the operating system will be subcontracted to specialized firms who will be assigned the task to provide hosting for the online application on a website, maintenance and allow the upgrades as they arise. The service contract will be extended beyond 2020 since it is estimated that most likely the Romanian EV market will be more open after 2020 and until 2030, as the private sector will display a mass orientation to smart technology. ESTIMATED BUDGET: 50.000 euro			

Specific objective 3: Implementing electric vehicles in local public transport for at least 85% of the total capacity and incentives to use local public transport electrical means

Activity 3.1 Start implementing a local public transport with electric buses and establish measures to encourage the use of electrical public transport means	
Action leader	SC TPL SA Suceava
Organization type	Joint-stock company
Main Partners	Suceava Municipality
Expected results	Modernization of local public transport
	Increase people's confidence in local public transport in buses operated by clean and energy-efficient means of transport and reduce urban traffic values
	Reduce operating costs of the public transport company managed by Suceava Municipality
	Reduce CO_2 emissions generated by the transport modes of SC TPL SA company
	Develop alternative transport modes, increase the visibility of electric transport and its contribution to the quality of life in Suceava
	Promote examples of good practice regionally and nationally
	Increase the number of local public transport users and the number of kilometres covered by buses

		Period	Sources
Estimated indicators	1 new fleet of 40 electric buses	2014-2018	Local budget European Grants from the Cohesion Fund 2014-2020
	1 battery charging infrastructure organized in a bus garage	2014-2018	Local budget European Grants from the Cohesion Fund 2014-2020
	1 smart charging and payment system	2014-2018	Local budget European Grants from the Cohesion Fund 2014-2020
	1 real-time information system	2014-2018	Local budget European Grants from the Cohesion Fund 2014-2020
	1 facility plan for the use of electric public transport by disadvantaged and young people	2018	Own funds of TPL SA company
	Improve public perception on the performance of the service provided by the local public passenger transport, classify electric and conventional transport means globally and separately (noise level, comfort, safety, relative travel price, facilities for disabled people, travel time, stations marking and accessibility, routes, frequency of service, reduction of total emissions of pollutants and CO_2)	2020	Directly applied questionnaire and data provided by TPL SA Company
	Profitability and profit, electric buses vs. buses with conventional fuel supply	2020	Processing of data provided by SC TPL SA company
	Total number of passengers km / electric buses	2020	Processing of data provided by SC TPL SA company and own market research

The national policy on public investment by 2014 determines the need to reorganize public investment costs in order to shift from investments financed entirely from national sources to investment co-financed by EU funds. The Ordinance no. 195 of December 22nd, 2005 on environmental protection brings about the need for Suceava Municipality to invest in a new network of trolleybuses and buses by 2014 in order to implement green transport in local public transport.
The Local Public Transport Company (SC TPL SA) has improved its services since 2006, managing to get out of the precarious financial situation it used to deal with. Since then, 36 new buses were purchased, some of which underwent conversion to run on LPG and this way brought their

contribution to reducing CO_2 emissions from road traffic. Bus fleet modernization and complementary measures associated to the bus fleet renewal have increased the number of passengers by about 756% at the end of 2008 compared to 2005.

The transformation and modernization process involves a great financial effort, and that is why authorities seek to find external funding and develop a new model of service for passengers. In this context, a complex project to renew the bus fleet will be developed by purchasing 40 electric buses, modernize the garage where electric buses are parked overnight by creating an own charging infrastructure and a real-time information system for passengers in stations and buses, a smart payment system through smart cards and ensure proper accessibility to stations and routes served. Buses in Suceava cover on average 180-200 km / day, and their journey crosses without exception the modernized city centre converted, by the measures promoted, in a low emission zone, which means that the electric bus is an optimal vehicle to cross it.

Local public authorities' involvement in projects for the use of renewable energy and energy-efficient consumption makes locally known the commitment assumed by Suceava Municipality towards achieving their national objectives on climate change and the need to implement a sustainable transport while the demand for transport is increasingly higher.

In order to support the achievement of "Europe 2020 Strategy" objectives, the Cohesion Policy 2014-2020 and the future Operational Programs will fund types of projects centred on urban mobility and development of alternative modes of transport. Therefore, we intend to prepare an integrated project through which to access grants for renewal of public transportation modes and expand this service both as surface and length of time covered, including telematic management systems and charging infrastructure. Moreover, since vehicles and associated equipment with the same performance characteristics are required, buying an increasing number of vehicles in a single auction removes obstacles such as low interest from producers, lack of models on the Romanian market and high prices for those models entering however the market. Great benefits arise from the fact that such acquisition may show to manufacturers / dealers which is the demand, supports bringing new models on the market, accelerates the introduction of new technologies, leads to lower prices, helping to introduce EV infrastructure and supports the appearance of new business opportunities for EVs maintenance and service and related equipment. A two-step procurement procedure will be recommend, with pre-qualification of tenderers and invitation to tender, preparing a plan of communication with vehicle manufacturers and dealers in order to determine the appropriate technical specifications of the equipment and ensure visibility and information on organizational rigours of a public tender procedure which most private market players are not used to.

The same complex project provides training for bus drivers on driving such vehicles and to ensure proper operation of equipment. At the same time, it will consider the need of technical training for mechanical and electrical specialists, specifically for this equipment. For the supply of electricity, the regional distribution operator will be drawn into negotiations (SC E.ON Moldova Distributie SA), from which they will try to obtain pricing advantages for the energy consumed by the electric buses of TPL SA Suceava Company.

ESTIMATED BUDGET: 12.000.000 euro

Specific objective 4: Promoting the use of EVs among public institutions by buying EVs for Suceava City Hall

Activity 4.1 Purchase EVs by Suceava Municipality in order to give a good example to other public institutions and schools			
Action leader	Suceava Municipality		
Organization type	Local public authority		
Main Partners	n/a		
Expected results	Introduce EVs in the car fleet of the local public administration		
	Provide a good practice model for other public institutions by beginning the implementation of electric transport in the local municipality fleet		
	Increase confidence of car users in the reliability of the new EV technology		
	Change perceptions and behaviour of citizens on the purchase of a private electric vehicle in relation to a conventional one		
		Period	Sources
Estimated indicators	2 EVs used by the fleet of Suceava Municipality	2014-2015	Local budget Government of Switzerland through the Swiss-Romanian Cooperation Programme grants and other funds (possibly through the Cohesion Fund 2014-2020)
	Number of EVs introduced in fleets owned by other public institutions	From 2016 - annual records	Local budget for market research local
	An increasing awareness of EV technical issues and benefits in terms of environmental protection	2020	Qualitative marketing research
	Number of kilometres covered, number of operating hours, energy consumption, financial results for the 2 EVs owned by Suceava Municipality fleet	2020	Own findings

The local government's involvement in projects on renewable energy use and energy-efficient consumption makes locally known the commitment assumed by Suceava Municipality for the achievement of national objectives focused on climate change and sustainable transport, established by European policies.
Since the implementation of EVUE project revealed that the existence of an efficient network of charging stations is not a prerequisite to ensure the success of electromobility, but rather to provide citizens a battery charging facility at any time, a new project was proposed which includes purchasing EVs for own fleets, testing and demonstrating their reliability in urban area.
The recent studies regarding the vehicles driving shows that in the most of the cases, over 80% of the total urban trips are shorter than 60 km per day, meaning that they could be performed with Evs. To integrate efficiently this finding, we must be able to define the future potential user groups and application areas in order to plan measures directly addressed to them.

Suceava Municipality owns a fleet with a relatively low number of 10 vehicles, especially for short trips within the city. Therefore, EVs could respond appropriately to the travel needs of managing staff for whom these cars are available and could serve some of their operational needs of the local government. The fact that some persons working for the City Hall and local politicians are involved in an e-mobility campaign can help popularize electric vehicles among equipment manufacturers, electricity suppliers and consumers. Through a public procurement procedure in two stages (pre-qualification of tenderers and evaluation of tenders) 2 EVs will be bought and they will be used in meeting the needs of mobility for two people in the management. This will be a good example for other public institutions and the cars can be seen by citizens in public space. For a better transmission of information, media campaigns will be organized and they will be integrated in prestigious local events that bring together a large number of local inhabitants, guests and casual visitors.

In order to define technical specifications, specialists in the field will be called for consultations and if necessary private consulting services can be contracted in order to complete the requirements of the tender specifications, mentioning all the features expected, especially those related to environmental performance.
ESTIMATED BUDGET: 70.000 euro

Specific objective 5: Introduction of electric transport in urban transport services by taxi in 15% of the total authorized transport means

Activity 5.1 Adapting regulations on urban taxi transport to stimulate the purchase of EVs by taxi service providers	
Action leader	Suceava Municipality
Organization type	Local public authority
Main Partners	n/a
Expected results	Use of electric vehicles by owners - public transport taxi service providers

		Period	Sources
Estimated indicators	1 Local Council's Decision with a new set of criteria meant to encourage the licensing of taxi service providers who own EVs	2014	-
	At least 55 electric vehicles in the local taxi fleet	2020	Private sources

Currently, Suceava Municipality granted a number of 370 taxi licenses and new licenses can only be obtained if some of the existing ones become vacant. Classification criteria focus on the vehicle's length of service from its manufacturing date, classification according to pollution norms, useful cargo capacity, ABS braking system, air conditioning or climate control, passenger airbag, engine capacity, carrier experience, type of ownership and extras (GPS, credit card payment device, device for recording specifications made by the client, platform for people with disabilities). Currently, electric vehicles are disadvantaged because they cannot be scored on engine capacity and classification according to pollution norms.

The new set of criteria to promote electric taxi cars will change the regulations in the sense of giving maximum score to engine capacity, while classic cars will be assigned at most 1/5 of EV score. Also, for the criterion concerning the level of pollution, electric vehicles will be listed with maximum points, while vehicles with Euro 5 conventional engines will be assigned at most half of the points given to EV. To create favourable conditions for new transport operators, the weight of carriers' seniority in the overall score will be reduced.

Additional measures to this regulation are promoted and they are meant to assign priority places for EV taxi cars in waiting stations equipped with special places, visible, well located and marked. This measure will become more attractive to owners of taxi cars if waiting stations will be equipped with one demo charging point for EVs. Between 2013 and 2020, two taxi charging points will be installed in the area of Bucovina Shopping Centre and Central Market.

ESTIMATED BUDGET: 1.375.000 euro

Specific objective 6: Promote legislative and financial measures favourable to the purchase and use of EVs in order to stimulate electric transport in the private sector

Activity 6.1 Initiation of a Local Council's Decision for the introduction of paid parking for all conventional vehicles and free parking for EVs in public areas			
Action leader	Suceava Municipality		
Organization type	Local public authority		
Main Partners	n/a		
Expected results	Regulate the use of parking spaces in public areas, by charging car parking and introducing a new regime of infrastructure use		
		Period	Sources
Estimated indicators	1 Local Council's Decision introducing provisions on the parking charges in public areas	2014	-
	1 Local Council's Decision introducing charges in central underground parking	2018	
	1 Local Council's Decision allocating free parking for EVs and determining the value of the fine for breaking the rules	2018	

One of the key impediments potential EV buyers are facing is the high cost of purchase. Although overall operating costs are lower throughout the life of the vehicle, the initial capital is often an obstacle in adopting new technologies.
To solve this problem, a series of new business models was introduced to further reduce the initial cost of purchase of EVs and financial risk and uncertainty of prospective buyers.
Suceava is currently in a major urban regeneration process using structural grants provided by the EU Cohesion Policy through the convergence objective. The Northern - East Development Region the City of Suceava belongs to (consisting of a total of five neighbouring counties and Suceava County) is considered the second poorest region in the EU, in terms of purchasing power per capita. Only 5% of the total parking spaces are currently charged and parking charges are insignificant. Relatively low income of local urban population, ever increasing costs of life and insufficient number of parking spaces so far thwarted any initiative to introduce paid parking or restricted parking in crowded areas of the city.
In this context, the introduction of paid parking will become a tool that will discourage travel by car in crowded areas, favouring the use of alternative means of transport. At the same time, the regulation of certain measures with severe financial implications enforced on those who violate laws on paid parking, the pressure put on them will result in compliance with the new regime of public parking infrastructure.
The regulatory proposal will come from the department responsible for managing urban public roads "Road Management Service", with the assistance of the European Integration and Development Strategies Service and will become a law by the Decision of the Local Council. Along with building the central underground parking and road space fit-out in the area, a parking fee will be introduced for cars of private persons and economic operators after a period of 5 years after their commissioning.

It is expected that in this context there would be a good and accurate information and awareness of citizens on the financial profitability of EV use on long and medium term.

<table>
<tr><th colspan="4">Activity 6.2 Identify grants to increase EV fleet at the expense of conventional vehicles and their popularization in the private sector</th></tr>
<tr><td>Action leader</td><td colspan="3">Suceava Municipality</td></tr>
<tr><td>Organization type</td><td colspan="3">Local public authority</td></tr>
<tr><td>Main Partners</td><td colspan="3">n/a</td></tr>
<tr><td>Expected results</td><td colspan="3">Increase the number of electric vehicles in Suceava Municipality and reduce the number of conventional vehicles</td></tr>
<tr><td></td><td colspan="3">Increase the interest in EVs from the private market segment</td></tr>
<tr><td colspan="2"></td><td>Period</td><td>Sources</td></tr>
<tr><td rowspan="2">Estimated indicators</td><td>Identify programs that grant funds for purchasing green vehicles</td><td>permanent</td><td>-</td></tr>
<tr><td>Number of EVs purchased through grants vs. Number of conventional vehicles replaced</td><td>2020</td><td>Own market research and data existing in the records of Suceava Municipality</td></tr>
</table>

Suceava has seen so far a high increase in the degree of motorization and the negative effect of locally registered motor vehicles is completed by the one generated by transit traffic and vehicles belonging to operators performing economic activity in the municipality but who have a fleet registered elsewhere. The negative impact was often felt immediately and consisted of increased congestion, CO_2 emissions and the social cost expressed in accidents and noise.

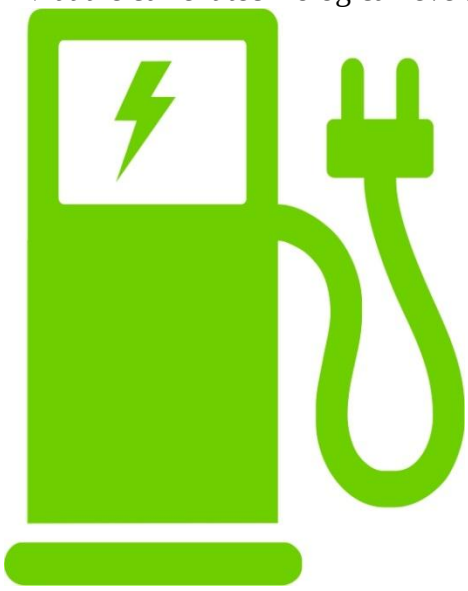
The actions of Suceava City Hall were directed towards establishing strategies that would consider all elements of sustainability and finding grants with which implement innovative actions for a sustainable urban mobility; among them, the most important ones were the *CIVITAS II PROGRAMME - Smile Project "Towards Sustainable Mobility for People in Urban Areas", and STEER Programme Intelligent Energy Europe - MIDAS Project "Measures to Influence transport Demand to achieve sustainability".*

There are European targets known set by:

- *The White Paper - Roadmap to a Single European Transport Area - Towards a competitive and efficient transport system in terms of resources* - appropriate standards were regulated on CO_2 emissions, respectively reducing CO_2 emissions with 60% compared to 1990 by 2050 and with 20% from 2008 to 2030, and develop and implement fuels and propulsion systems; the measure considered consist in halving the use of conventional vehicles in urban areas by 2030, with their gradual disappearance by 2050.
- ***Directive 2009/33/EC*** *of the European Parliament and of the Council of April 23rd, 2009 on the promotion of clean and energy-efficient road transport vehicles*
- ***COM (2010) 186 final****; a European strategy on clean and energy-efficient vehicles; this Communication sets out a strategy to encourage the development and uptake of heavy vehicles (buses and trucks) and light (cars and vans) as well as clean and energy-efficient two and three-wheel vehicles and quadricycles (green vehicles)* and the specific actions related to its application in 2010-2020 period include the review of the ways to achieve by 2020 the objective of 95 gCO_2/km established in the legislation on new cars and analyse the life cycle of the energy used by vehicles with integration of the "well-to-wheel" approach as a long-term objective.

In order to contribute to reaching these targets, Suceava Municipality intends to promote accelerated measures for the replacement of inefficient and polluting vehicles while ensuring interoperability of charging infrastructure for clean vehicles, taking into account the reduction of the non-renewable energy resources consumption. To raise funds for these interventions, the Municipality will track all funding programs that propose actions for implementing a sustainable local transport, which can contribute significantly to the effort to reduce GHG emissions.

Based on previous experience and the proposal of project partners, private owners of fleets have the greatest potential for EV takeover, out of which those private fleets for car rental services are potential absorbers of EVs, due to lower maintenance costs, simplicity of construction and possibility of batteries recycling; other advantages arise from the fact that they can ensure proper recycling of batteries and specialized technical personnel, removing this burden from the users' shoulders and eliminating a flaw discovered in the current phase. The issue of EV range integrated in the urban transport is not a barrier as traffic studies show that most users of vehicles in cities, no longer cover daily distances over 120-150 km, which is a normal range for an EV at the current technological level.



The Framework Programme for Research and Development, current FP7 and future proposals of the research programme HORIZON 2020 support e-mobility projects, electric vehicles for transportation of goods and electric buses.

Intelligent Energy Europe has three priority areas for which the e-mobility responds quite well:

- Promote energy efficiency and encourage rational use of energy sources
- Increase the use of new and renewable energy sources and encourage energy diversification
- Encourage energy efficiency and renewable sources in transport

The proposals of the Cohesion Policy for the period between 2014 and 2020 include priorities for sustainable transport, carbon reduction and technological innovation. Operational programs in each region may also provide opportunities for developing and implementing new business models of electro-mobility. Since 2007 - 2013 budget draws to a close, a number of funding programs either are consulted for the new period or documentation programs are launched and these funding sources will be encouraged.

The Commission's communication to the European Parliament, European Economic and Social Committee and the Committee of the Regions of November 2012 - CARS 2020: for a strong, competitive and sustainable European car industry, it proposes a massive support for innovation through more efficient research and innovation under the European Initiative for green cars.

A standard charging interface at European level will bring the necessary certainty in terms of regulation in order to facilitate a decisive trend towards the large scale production of electric cars. The Action Plan contains specific proposals of strategic initiatives with the following objectives:

1. Promoting investments in high-tech and innovative green cars, by:

- a comprehensive package of measures to reduce CO_2 emissions, other pollutant emissions and noise pollution
- measures aimed at road safety, including the implementation of intelligent transport systems
- development of infrastructure for alternative fuels (electricity, hydrogen and natural gas)
- an EU standard for electric cars recharging interfaces
- a European initiative on green cars under Horizon 2020 programme to promote investment in research and innovation

2. Improving market conditions, for example by:

- strengthening the single car market through an improved type approval, including market surveillance against unfair competition
- improve incentives for green cars
- consistent application of the smart regulation principles, including analysis of the effects of main strategic initiatives on competition in order to assess their specific impact on the car industry

3. Supporting the industry to enter the global market, by:

- conclude balanced trade agreements, carefully assess the cumulative effects of these agreements, and promote and perpetuate bilateral dialogues with the main third partner countries
- enhance the work of international harmonization of regulations on cars, aiming mainly to achieve an international approval type for cars and establish safety requirements applied globally for electric cars and corresponding batteries.

4. Promoting investment in qualification and training to meet the structural changes and to anticipate the needs of the labour market and the needs in terms of qualifications, for example by encouraging the use for this purpose of the European Social Fund (ESF).

From the first communications received regarding the **Cohesion Policy 2014-2020,** future projects will be developed as integrated territorial investment projects with an approach with strong holistic and strategic character and the courses of action will address measures to support the transition to a economy with low CO_2 emissions for all types of territories, especially urban areas, with emphasis on promoting public transport of passengers and goods and urban transport.

Activity 6.3 Stimulation of electric transport in the private sector by purchasing EVs by private companies	
Action leader	Suceava Municipality
Organization type	Local public authority
Main Partners	Environmental Authority, Environmental Protection Agency of Suceava, Suceava County Council
Expected results	Starting the adoption of electric vehicles by local operators carrying out various local economic activities
	Stimulate the establishment of management and maintenance services for EVs in local service workshops

		Period	Source
Estimated indicators	Local information campaigns organized regularly by 2020	2013-2020	Local budget
	At least 10 EVs adopted as a pilot project in the private sector	2018-2020	Private sources and possible grants
	At least 1 garage endowed with specialized equipment and personnel to provide servicing and maintenance of EVs	2018-2020	Private sources and possible grants
	Number of firms that were attracted in the EV business and related fields	2018-2020	Own market research and data existing in the records of Suceava Municipality
	Passengers Vehicle	2020	Own market research and data existing in the records of Suceava Municipality

The stimulation of electric transport in the private sector by purchasing EVs by private companies, could be done by the tool cost price of electricity, in which case it would be advantageous to charge the cars at night to benefit from the night price of electricity and this action should be supported in collaboration with E-ON Moldova Distribuţie SA. Then the leasing, tax and road fee can become instruments stimulating the electric transport in the private sector.

We must also underline the importance of some issues such as: reliability, noise, pollution and good charging infrastructure with standardized elements. This category should also contain the obligation to recognize in public tender for purchasing a new vehicle the ISO Environmental Standard so that trading of clean vehicles would be especially encouraged. The increase in the cost of vehicle should be supported by the state through direct grants when purchasing vehicles and not only under the "Jalopy" programme.

The business model envisaged for Romania includes a value chain proposed by the vehicle manufacturer Renault (in partnership with manufacturers of electrical and electronic equipment Schneider Electric Romania, Siemens and the energy supplier Electrica SA) through a program which, to reduce the direct cost, provides the opportunity to directly purchase EVs without battery; but instead it can be rented monthly at a price between 39 to 75 Euros, depending on the model. At the same time, the company provides its replacement and recycling at the end of its life cycle (or when no longer holds at least 80% of capacity). This business model minimizes the price of the vehicle, knowing that the most consistent part of the sale price is the price of the car battery.

At the same time, the suppliers of the above mentioned equipment will install charging equipment and the energy supplier will sell the necessary energy. Collaboration is possible with the direct participation of the Ministry of Environment and Forests.

According to the presentation held in Suceava on November 2nd, 2011, the Renault company proposed for sale on the Romania market the following models:
- Renault Fluence Z.E. at a price of 26,000 Euros, taxes included, without fiscal incentives, with a range of 185 km, NEDC cycle, and standard charging time of 6-8 hours, 1 hour accelerated and fast 30 minutes, respectively Quickdrop 3 min.
- Renault Kangoo Z.E. at a price of 20,000 Euros, taxes and fiscal incentives excluded, with a range of 170 km in NEDC combined cycle and standard charging times between 6 and 8 hours, 1 hour accelerated and 30 minutes fast.
- and promoted future models under construction, Twizzy and Zoe, stylish designs and innovative models, prefect suited for safe urban travel. The Twizzy will cost 6,990 Euro, taxes included, without fiscal incentives and will have a range of 100 km, with a charging time of 3 hours and 30 minutes from a regular plug.
Currently, the EV market in Romania has not yet started because EVs are not included in the marketing and communication strategies of producers and traders, without introducing legislative measures of impact and without implementing fiscal and non-fiscal incentives, which depend especially on the central authorities. But locally, throughout the EVUE project, a communication strategy through multiple channels was conducted: mass media, Internet, brochures, regular briefings and the Local Support Group members, who reached their target, sending data to possible natural and legal persons interested in innovative technologies meant to the lower the costs of urban mobility and increase environmental benefits associated with a better quality of life in the city.
The psychological impact can not be ignored because any newly introduced element brings fears related to operational aspects, feasibility, lifetime, cost price vs. benefits. Therefore, public actors must be involved in designing government policies and then people will become interested in using EVs in the urban areas, in public and private sector. In its opinion, it is very important that the selling price would also include maintenance throughout the life of the EV, in order to provide credibility and confidence to potential buyers. For this to be possible, a new market can be born in which the main players would be companies providing maintenance and management services for EVs.
ESTIMATED BUDGET: 350.000 euro

Activity 6.4 Initiate a Local Council's Decision for the introduction of tax incentives (tax / fees exemption) which would encourage the acquisition of EVs			
Action leader	Suceava Municipality		
Organization type	Local public authority		
Main Partners	Suceava Police Inspectorate, Suceava County Council, Environmental Protection Agency of Suceava, Environmental Authority of Suceava, "Stefan cel Mare" University of Suceava		
Expected results	Legislative proposals and programmes initiatives achieved through public consultation		
		Period	Sources
Estimated indicators	1 Local Council's Decision with legislation imposing special restrictions regarding environmental issues: access fees, low and zero emission areas, parking lots, granting access on routes and lanes dedicated to buses	2016-2020	-

	and cyclists 1 Local Council's Decision with legislation granting local tax reductions or exemptions for the purchase of EVs		
In order to overcome the major impediment, that is the purchase price, the need to promote favourable fiscal measures was emphasized (free access, exemption of local taxes, even national lobby for reduction of the value added tax), providing non-financial facilities and financial incentives by allocating preferential parking spaces, free of charge, reducing the cost of purchasing electricity (in Romania it would only be possible to arrange for obtaining night tariff for unit selling price), ensure higher visibility of EVs and a continuous information regarding the advantages of electric engines in road traffic compared to combustion engines. The use of positive discrimination in this area benefits all community members, including those who are directly affected by discriminatory measures imposed. These measures can bring unpopularity to those who promote them, without a previous preparation of civic awareness and minimum specific conditions for an unhindered use of electric mobility.			

Activity 6.5 Promote EVs nationally by initiating projects and legislative proposals			
Action leader	Suceava Municipality		
Organization type	Local public authority		
Main Partners	Suceava County Council, Environmental Protection Agency of Suceava, Suceava Environmental Authority		
Expected results	Legislative proposals and programmes initiatives achieved through public consultation programs		
		Period	Sources
Estimated indicators	Special laws dedicated to the implementation of the specific framework for EV introduction and operation	2016-2020	-
	Programmes meant to support the emergence of specialized auto services for EVs	2015-2016	Cohesion grants Local budget
Revolutionizing technology that provides the means of urban mobility can not be done without major involvement at the governmental level, without an appropriate legislation and without financial allocations for investments in new technological models, so it is necessary to launch national programs that provide a coherent and favourable framework for EVs introduction, emergence of auto garages that provide EV repair and maintenance services, introduction of tax cuts (VAT and first registration fee) and other measures to give EV holder priority before the Romanian Register of Road Vehicles or when paying the road tax. Although it is known that such measures can lead to serious imbalances at the national budget, given the country's economic situation and the need to invest in other strategic and priority areas, however, as an EU member state, Romania has undertaken to fulfil certain environmental targets and achieve specific targets, which will make lobbying measures and proposals coming from local politicians to be accepted and implemented in nationally applicable laws.			

Specific objective 7: Support public and private investments in sustainable energy to create EV charging facilities in the public sector from renewable energy sources

<table>
<tr><th colspan="4">Activity 7.1 Promote green energy sources nationally and locally by legislative initiatives and projects</th></tr>
<tr><td>Action leader</td><td colspan="3">Suceava Municipality</td></tr>
<tr><td>Organization type</td><td colspan="3">Local public authority</td></tr>
<tr><td>Main Partners</td><td colspan="3">NGO Bucovina Environmental Group, schools and urban high schools especially those part of the LSG, “Stefan cel Mare” University of Suceava - Faculty of Electrical Engineering, Environmental Protection Agency of Suceava, Suceava Environmental Authority, Suceava County Council</td></tr>
<tr><td>Expected results</td><td colspan="3">Projects meant to ensure energy efficiency locally</td></tr>
<tr><td colspan="2"></td><td>Period</td><td>Sources</td></tr>
<tr><td rowspan="2">Estimated indicators</td><td>Programmes meant to support the purchase and installation of charging points on private areas</td><td>2013-2020</td><td>Cohesion grants
Local budget</td></tr>
<tr><td>Partnerships meant to promote green energy</td><td>2016-2020</td><td>Own market research and data existing in the records of Suceava Municipality</td></tr>
<tr><td colspan="4">The Romanian electricity production / transport / distribution / sale system does not encourage investment in green energy production and distribution, to the detriment of conventional energy. The fact that electricity, no matter the source, can be distributed only through the National Energy System (and not supplied directly to consumers) which imposes a single selling price is an unfavourable aspect for green energy that must be approached in a different framework: first require a grant and then provide facilities to manufacturers / distributors / buyers. The presence of intermediaries who are just players on the energy market is particularly harmful for the promotion of green energy and the use of its selling price as an advertising tool.
To ensure a balance favourable for clean energy, three directions to ease should be approached:
• ease the assignment of approvals for charging places, existence of public spaces for networks and stations,
• electricity pricing (ease of access to the intermittent charging places, impose preferential tariffs and even funding), card meters and pre-pay facilities - in hypermarkets and restaurants
• produce electricity from wind sources (so that at least 5% of the energy consumed by EVs would come from renewable sources) and condition the use of EVs.
Suceava Municipality is currently preparing an Action Plan for Sustainable Energy and there is political willingness to join and become active members of the Covenant of Mayors and join the group of European cities wishing to enrol their names on the list of green cities. This planning document of specific measures to reduce energy consumption by 40% promoted by local government proposes at least 3 investment projects concerning passive energy efficiency by modernizing the commercial premises owned, public lighting and introducing EVs in the Municipality’s fleet; we are talking about passenger vehicles, goods transport vehicles and the</td></tr>
</table>

fleet of mini-vans for fitting-out and maintaining the public space.
The Sustainable Energy Action Plan is funded by the Swiss Government through the preparation facility - Romanian-Swiss Cooperation Programme to reduce economic and social disparities within the enlarged European Union, Objective 1, Area of concentration 4 – "Improving the environment" and the project proposal on energy efficiency promoted by Suceava Municipality is supported by a European accredited consultant on clean energy.
Besides these three project proposals that will be implemented based on grants, this strategy will also mention other project proposals part of a medium and long-term list and efforts will be made to find financing for them.
At the same time, we are in the second stage of project preparation to improve energy efficiency of residential buildings by reducing energy consumption while increasing comfort. The first step was possible with national co-financing from the Ministry of Environment and Forests, and for the second stage (after having already acquired valuable experience) grants will be attracted and they will be provided by the EU as part of the Cohesion Policy.
The implementation of a clean public transport in Suceava will have a strong impact on the local community.
With these permanent initiatives and ongoing projects, green energy is expected to become more widely used, not only for purely economic reasons but also for reducing emissions and conserving the environment.

<table>
<tr><th colspan="4">Activity 7.2 Achieving and maintaining a monitoring system for the electricity sold / consumed by EVs and electricity produced from renewable resources in the City Suceava, to ensure an equilibrium favourable to clean energy</th></tr>
<tr><td>Action leader</td><td colspan="3">Suceava Municipality</td></tr>
<tr><td>Organization type</td><td colspan="3">Local public authority</td></tr>
<tr><td>Main Partners</td><td colspan="3">Environmental Protection Agency of Suceava, Suceava Environmental Authority, local energy supplier - E.On Moldova Distribuţie SA Suceava, suppliers of alternative energy transmitted in the National Energy System</td></tr>
<tr><td rowspan="2">Expected results</td><td colspan="3">Ensure a minimum 5% share clean energy source in the total energy consumption for EV operation</td></tr>
<tr><td colspan="3">Continuous monitoring of energy consumed in charging infrastructure</td></tr>
<tr><td colspan="2"></td><td>Period</td><td>Sources</td></tr>
<tr><td>Estimated indicators</td><td>1 energy management system and a specific training team for recorded data operation</td><td>2019-2020</td><td>Grants from cohesion funds
Local budget</td></tr>
<tr><td colspan="4">The IT market has developed information systems for energy management by centralized recording of electricity consumption for a large number of consumers counted, spread geographically, by monitoring the quality of the power supplied to consumers, identifying defect network sections and automatic connection of the sound sections, making diagnosis, management of energy and clients.
Total CO_2 emissions due to EVS must be seen globally, from “well-to-wheel energy” and not only as emissions from the tailpipe. If for producing the electricity for EVs, conventional fuels are used (oil, gas, coal), CO_2 emission reduction can be insignificant and therefore the investment in research and innovation inefficient. In this case, the only source of CO_2 is transferred from the vehicle to energy production technologies, and Europe will not be able to reach its targets to reduce the consumption of energy from conventional sources and lower emissions.
To remove the danger of increasing CO_2 footprint due to an increased demand for electricity to operate the EVs, we must keep in mind that the share of renewable energy (mainly wind in this region) in total energy consumption should be significant. In this respect, we must seek intelligent solutions for monitoring and analyzing energy consumption in charging systems and renewable energy production facilities in the region.
ESTIMATED BUDGET: 25.000 euro</td></tr>
</table>

Specific objective 8: Public information of citizens on environmental education and use of EVs, alternative transport means, e.g. roller skates, bicycles, electric bicycles

<table>
<tr><th colspan="4">Activity 8.1 Ecological education of youth through promotion campaigns, invention project initiation and preparation of a course curriculum during school hours</th></tr>
<tr><td>Action leader</td><td colspan="3">“Petru Rares” National High School, “Samuil Isopescu” Technical High School, other schools and high schools in the city
“Stefan cel Mare” University of Suceava – Faculty of Electrical Engineering</td></tr>
<tr><td>Organization type</td><td colspan="3">Educational institutions</td></tr>
<tr><td>Main Partners</td><td colspan="3">Local scientific organizations, NGOs</td></tr>
<tr><td rowspan="2">Expected results</td><td colspan="3">Preparing young people in innovative technical fields targeting clean technology</td></tr>
<tr><td colspan="3">Raising awareness and increasing imagination and inventiveness</td></tr>
<tr><td colspan="2"></td><td>Period</td><td>Sources</td></tr>
<tr><td rowspan="2">Estimated indicators</td><td>School projects guiding young people to alternative mobility</td><td>2014-2016</td><td>Local budget and funds from sponsorship</td></tr>
<tr><td>Number of young people who are informed and understand the benefits of EVs</td><td>2017</td><td>Qualitative marketing research</td></tr>
<tr><td colspan="4">The presentation model of clean transport means was the object of the “ELECTRIC CAR” SCHOOL PROJECT, held at the “Petru Rares” Technical High School within the School of Invention, where a very interesting presentation was made and it consisted in a project covering all current phases of an invention: basic scientific research, applied research, preparation of a prototype, its development and verification. A final product corresponds to the first 3 stages.
Organization and development stages:
• Selection of human resources (team of 6 students, 9th grade, 15 years old)
• Brainstorming to choose the research argument … the electric vehicle
• Preliminary, individual and group research
• Preliminary meeting to share information and decide how to work
• Session for the presentation of final products per subgroups -3 products:
1. one ppt presentation meant to induce self learning to students regarding the fundamental concepts of electricity: electrical capacitor, electric motor, motor power supply, controller and its role, security issues concerning the exploitation of the electric vehicle, environmental pollution and costs
2. a movie in order to familiarize students with electric car market (the film is structured as a marketing presentations for the purchase of a car, including the technical characteristics of the models INOVATIVE CITROEN, INVENTI PEUGEOT, MITHUBISHI CREATIVITY, and the C2+Car model - prototype variant in testing condition. The models presented include the changed names of cars by including terms related to domains such as creativity, innovation, etc., on the one hand not to make free advertising to those brands, and on the other hand to check the understanding of the meanings of the terms used in the spirit of innovation and creativity course. The movie is in English.
3. the C2+Car prototype, a car designed by students. The prototype has a handmade design,</td></tr>
</table>

does not belong to any company and includes elements of absolute novelty: dual power supply: one based on a "classic" battery and another on a continuously charged capacitor.
- Improvement of final products

Skills acquired by students:
- teamwork
- individual and group documentation
- achievement of communicable final products
- development of their creative spirit, especially the technical spirit, but also the artistic one
- learning the stages of an invention (for the current period)

On this prototype, other future projects dedicated to e-mobility can be operated.
Also, the introduction of a curriculla for a high school course is foreseen "WE LIVE IN THE FUTURE" including information and didactic materials revealing the urgent need to introduce the basics about:
- green energy, pollution, sources of pollution, possible sources of green energy (wind, solar, geothermal and associated fuel gas, biomass, biogas, landfill gas, sludge digester gas from wastewater treatment plants supplied to the energy system, water, wave energy), short and long term effects, impact on nature and the environment, examples of good practices (green house, electric car)
- sustainable development, globalization of the problem, law harmonization, carbon license sale, conclusions,
- design and draft an environmental project,
- submit projects made by students.

ESTIMATED BUDGET: max. 20% of the identified and proposed projects value

Activity 8.2 Promoting EVs locally by organizing a visible local event – distribution of advertising materials			
Action leader	Suceava Municipality		
Organization type	Local Public Authority		
Main Partners	"Petru Rares" National High School, "Samuil Isopescu" Technical High School, other schools and high schools from Suceava in the same field "Stefan cel Mare" University of Suceava – Faculty of Electrical Engineering		
Expected results	Increase awareness by organizing a visible local event – distribution of advertising materials and caravans for promoting EVs locally		
	Ensure large participation by attracting volunteers and motivate them by prizes consisting of trips to model cities where sustainable mobility is implemented and other equipment and materials characteristic for electromobility		
		Period	Sources
Estimated indicators	Number of distributed flyers	2014	Local budget Grants
	Number of volunteer students taking part to the campaign	2014	Own market research and

			data existing in the records of Suceava Municipality
	Number of prizes given	2014	Local budget Grants
	Number of citizens who are informed on EVs and understand their benefits	2020	Qualitative marketing research
Promoting EVS locally by organizing a visible local event - advertising materials distribution - can be done by organizing a thematic event "Green Energy Day" including an information caravan and a number of volunteers who promote the institutions through leaflets; electric bicycles contests, roller skates and environmental projects with prizes (visits to technical museums of Vienna, Frankfurt, Paris, Bucharest and Iasi, electric scooters, electric bicycles, bicycle parking rack, helmets and other accessories needed for bicycles); collecting used batteries, bulbs; PET collection for cash. ESTIMATED BUDGET: 2.000 euro			

Activity 8.3 Promoting the project by mass media			
Action leader	Suceava Municipality		
Organization type	Local public authority		
Main Partners	Monitorul de Suceava, Obiectiv de Suceava, Crai Nou (newspapers)		
Expected results	Public information by local and national mass media		
		Period	Sources
Estimated indicators	Number of citizens who are informed on EVs and recognize the benefits	2020	Qualitative marketing research
	1 brochure containing information about the created electromobility market	2020	Local budget Grants under the cohesion policy
	1 press conference dedicated to the measures implemented in the field of electromobility	2019	Local budget
	1 press release published in local newspapers and in InfoMunicipium magazine edited by the Romanian Association of Municipalities	2019	Local budget
The proposal consists in creating a centre for information, film, advertising in local media and, as final product, creating a brochure with information of interest. A press conference will be organized and the most important achievements of the investments in electromobility will be presented. ESTIMATED BUDGET: 2.500 euro			

5. CONCLUSIONS

The transition to EVs in Suceava has been analysed by the ULSG EVUE and planned with the activities foreseen here.

ULSG EVUE process and its members have provided a clear direction on the opportunities available for which we can now seek to deliver.

The Local Action Plan is a document that determines the main directions of actions to be taken up by the city of Suceava regarding the electric mobility. The document will be further developed. It is planned also to continue the cooperation in this field with the entities included in the URBACT EVUE Local Support Group, and in European projects, such as the Swiss - Romanian Cooperation Programme, for implementing sustainable energy strategy. The city plans also to continue the actions specified in the Local Action Plan by joining other projects and initiatives.

Participation in the URBACT EVUE network has helped Suceava to develop a better understanding of how electric mobility can support its sustainable transport. The Local Action Plan reflects the first steps for the city towards this goal.

Managing Authority is planning to support the electro mobility in the Regional Operating Programme for the next programming period i.e.2014-2020 (through the Integrated Territorial Investments). It is assumed that these activities should be part of broader projects on integrated urban transport. Such projects should combine several elements: reconstruction of city centre as a hub, modern walking and cycling trails, electro mobility infrastructure as well as replacement of public transport fleet with an electric fleet.

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URBACT is a European exchange and learning programme promoting sustainable urban development.
It enables cities to work together to develop solutions to major urban challenges, reaffirming the key role they play in facing increasingly complex societal challenges. It helps them to develop pragmatic solutions that are new and sustainable, and that integrate economic, social and environmental dimensions. It enables cities to share good practices and lessons learned with all professionals involved in urban policy throughout Europe. URBACT is 181 cities, 29 countries, and 5,000 active participants

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