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Electric City Transport – Ele.C.Tra

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**Incentives and facilitations -
Barcelona**

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Abstract:

”Incentives and facilitations Report” includes the identification of the set of users’ incentives and facilitations to promote electromobility which will be and have been implemented in each pilot city (Genoa, Florence and Barcelona) and therefore that can be replicated in other cities. In further steps it will be necessary to verify the feasibility to implement these actions for each city according to their specific context and reality, and the will of own public bodies (see ”Operative Plan of sustainable mobility model application”)

The contents of this report will be completed, integrated and updated in ”Operative plan of sustainable mobility model application”, which will include the final aspects about each implementation test. Moreover, the products (e.g e-vehicles and e-columns for recharging) and services promoted by the project are included in ”Model executive planning reports”.



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1 Introduction

One of the main barriers for a wider implementation of the electric vehicles is the resistance to change of the population. Acquire an electric vehicle supposes an important initial investment and a change of habits, which are difficult to assume for most people. For this reason it's necessary to boost the electric vehicle by trying to make it more economically rentable (subsidies, tax discounts...) and by offering facilities to their users.

In Barcelona there are several services and products with the aim of promoting electric vehicle use. Some of them are local measures, incentivized by Barcelona council, while others have implemented at regional (Catalonia) or national level (Spain). Most of the measures are focused in all types of electric vehicles and few are specific to electric sharing systems or electric scooters.

From the described measures will be possible to choose and include in the “Operative plan of sustainable mobility model application” the ones that are considered to be more feasible and effective (see “Operative plan of sustainable mobility model application”).

2 Local and regional plans and services

In Barcelona **LIVE project** centralizes all issues regarding electromobility in the city. This is a public-private platform, composed of the Barcelona council, Generalitat de Catalunya (regional government), Industry Ministry and private companies as Seat (automobile), Endesa (electricity) and Siemens, with the objective to boost the electric vehicle. Among other measures, as improving infrastructures or increasing knowledge and awareness to population, LIVE is also promoting discounts and facilitations for the electric vehicle users.

As a public private partnership the major issue that LIVE project wants to overcome is to promote public and private cooperation. LIVE platform is a governance tool so it should provide a suitable democratic control of the expansion of this new technology in the city, and at the same time create new business opportunities for private companies.

2.1 Economic incentives

One of the most relevant measures is the circulation **tax discount**. In Barcelona, electric vehicles, as well other alternative vehicles (biofuel, hydrogen...), have a tax discount of 75% compared to conventional vehicles. That discount can represent more than 100€ for vehicle and year. This measure is easy implementable and a cheap option for the public sector to boost the use of electric cars and motorcycles.

Moreover there are other economic measures which can suppose important savings to electric vehicle users. Currently the **battery charge of the vehicles is free in all charging points**, as the municipality assumes this cost in the framework of LIVE project. To have a free charge it is required to obtain an identification card for electric vehicle users (**LIVE card**).

Electric vehicles, and other low emissions vehicles, also have a **30% discount in tolls of Catalonia region**. This measure is not effective to boost electric urban mobility, so tolls are located in main highways, however it could have a major impact if Barcelona had access tolls or a low emission zone in the city center. For September 2015, it's programmed that some of the tolls near Barcelona to be free for electric vehicles.

2.2 Facilities for electric vehicles users

Other measures to promote electric vehicle is to offer a preferential treatment in some public infrastructures.

The above mentioned LIVE card also allows to **park for free in the regulated zones** of the city (Green and Blue Zone), but with the same restrictions of common vehicles (parking periods, priority of residents...). Once the vehicle is parked, the user just has to go to the nearest parking meter and insert his LIVE card to get a free ticket for a determined time period, normally a maximum of 2 hours (depending on the zone). However only cars are affected by this measure, so motorbikes can park for free in public space.

Electric vehicles are **allowed to circulate in the HOV lane**. The HOV lane (High Occupation Vehicles) is used to benefit certain vehicles to enter and leave cities avoiding traffic jams and saving time. The HOV lane can only be used for some authorized vehicles, as public transports, motorcycles, high occupation vehicles or electric cars. The users have to introduce their vehicle information in a website to receive an accreditation tag that allows them to use the HOV lane.

Barcelona's Government has an agreement with Nissan to **promote the use of electric taxis** in the city. Nissan has designed the e-NV200 (electric taxi) and is developing an electric vehicle charging infrastructure in Barcelona and its metropolitan area. The stations are provided with fast charging points, in which any compatible electric vehicle can be charged. Barcelona's Government will offer specific places for taxi and for loading and unloading merchandise, where also will install charging points.

3 National plans

There also are some plans at national level to promote electric and other alternative vehicles, mainly from economic incentives.

The most important plan is **Plan Movele**, which is included in the national strategy to boost the electric vehicle in Spain (2010-2014). The plan is composed by four strategic lines: promote electric vehicle demand, support the industrialization and R&D of this technology, facilitate the adaptation of the electric infrastructure for the charging and management of demand and foment some transversal programs related to the communication and information of electric vehicle. The goal of Plan Movele is to reach 250.000 electric vehicles in Spain by the year 2014, with a yearly budget around 10 M€.

The maximum amount of the subsidy from Movele Plan varies according to the vehicle's electric category. **Grants can reach 25% of the sale price with a maximum of 6.000 Euros** for tourism vehicles, small vans, motorcycles and other four-wheel electric vehicles.

There are also other plans offerings subsidies for the purchasing of more efficient and less polluting vehicles (PIVE and PIMA Aire5 Plan). These programs are not specific for electric vehicles, but the subvention they offer is higher for this technology. The budget for these plans is renovated each year.

PIMA Aire Plan aim is to renovate old cars (vans, cars and commercial vehicles) and substitute them for more efficient vehicles. The Plan also aims to encourage the purchase of electric motorcycles, electric mopeds and bicycles. The amount of the subsidy will vary depending on the characteristics of the vehicle and if the grant is requested by the certificate of scrapping or by the permanent retire of the car from the DGT (National Department of Traffic).

In 2014 the subsidy amount regarding kind of vehicle is:

- Electric motorcycles: 400€ from the ministry and 200€ from the sale point
- Electric mopeds: 250€ from the ministry and 100€ from the sale point
- Electric bicycles: 200€



The **PIVE Plan** objective is to remove all cars more than 10 years old and light commercial vehicles with more than 7 years by replacing them for new and more efficient vehicles, like electric vehicles. There is not specific subventions for scooters or motorbikes.

4 Final remarks

In Barcelona there are several initiatives to promote electric vehicle use, impulsed by the municipal, regional or national government. However, despite the high economic incentives or preferential use of some city services, they are still comparatively more expensive than conventional ones.

Many of these measures, like the preferential use of the HOV lane, free parking on regulated areas or free charging in all charge points, are not implementable as a long term strategy, but are highly convenient in the current scenario, where the presence of electric vehicles needs to be promoted to compete with conventional technologies.

None of the initiatives currently applied in Barcelona are specific for sharing systems neither electric scooter, so the services and promotions are applicable to all types of electric vehicles. However the success of a electrical scooter sharing system also implies a greater knowledge and acceptance of the population to electric mobility, what can be achieved by all the mentioned above services and products. Also a greater implementation of electric vehicles means more infrastructures and charge points which is also a key issue for the success of an electric scooter sharing system.



ANNEX: Incentives and facilitations for EV in Barcelona

| Summary | | | |
|-----------------------------|---|----------|---|
| Name of the tool | Road tax discount | | |
| Category | Tax benefits: Road tax | | |
| Geographical Coverage | Local: Barcelona Metropolitan Area | | |
| Start date | January 2012 | End date | - |
| Nature of Promoters | Public | | |
| Name of Promoter(s) | Barcelona Government Institut Municipal d'Hisenda (Municipal Tax Office Institute) | | |
| Shared by (name of partner) | - | | |

| Tool description | |
|--|--|
| Short summary of the practice | |
| <p>The road tax has to be paid by all kind of vehicles which can circulate on public roads (cars, vans, motorbikes, trucks, trailers...). Fares are calculated according each vehicle type. Electric vehicles can benefit from a discount of 75% on the road tax. This discount is also applicable to other vehicles that don't use fossil fuels (hydrogen, biofuels...).</p> <p>This measure has an easy implementation and is a cheap way to boost the use of electric cars and motorcycles.</p> | |
| Benefits and advantages related to a scooter sharing service | |
| - | |
| Limits and Drawbacks | |
| Lack of information about the discount rate for the population. | |
| Improvement suggestions | |
| - | |
| Sources of information | |
| <p>Official website from Barcelona's Government http://www.bcn.cat/hisenda/es/principals_impuestos_ivtm_explicacio.html http://w110.bcn.cat/portal/site/Mobilitat/menuitem.cbe15a34b5efad778a738a73a2ef8a0c/?vgnextoid=51fd83c506c2c210VgnVCM10000074fea8c0RCRD&vgnnextchannel=96e867852a67b210VgnVCM10000074fea8c0RCRD&vgnnextfmt=formatDetall&lang=ca_ES</p> <p>Official website from Barcelona's Municipal Tax Office Institute http://www.bcn.cat/hisenda/es/principals_impuestos_ivtm_explicacio.html</p> | |

| Summary | | | |
|-----------------------------|---|----------|---|
| Name of the tool | Free parking or parking discount | | |
| Category | Urban facilities: Free parking or parking discounts | | |
| Geographical Coverage | Local (Barcelona) | | |
| Start date | 2011 | End date | - |
| Nature of Promoters | Public | | |
| Name of Promoter(s) | Barcelona's Government | | |
| Shared by (name of partner) | - | | |

| Tool description | |
|---|--|
| Short summary of the practice | |
| <p>Besides free parking on the street (half of the total parking on street in Barcelona) in the city there are two types of parking in public spaces: green zone and blue zone.</p> <p>The goal of the green zone is to prioritize parking for the residents of the area, duly identified, establishing a very low payment rate. Non resident vehicles can also park, but their fare is much more expensive and they are only allowed to park for a small period of time. All kind of vehicles can park there.</p> <p>Blue zones allow parking to all type of vehicles/users during few hours a day (between 1 and 4 hours depending on the zone). The tax is the same for all vehicles and users.</p> <p>Electric vehicles can park for free in green and blue zones (according to the scheduled time). To use these parking areas it's necessary to reside in Barcelona, pay ITVM in the city and obtain a specific card for electric vehicles, provided by the LIVE program. The same card allows free charging in the public charging points of the city.</p> <p>Once the vehicle is parked in the desired blue or green zone, the user has to go to the nearest parking meter and insert his LIVE card to get a ticket for the maximum parking time free of charge, this will normally be 2 hours (can be checked on a traffic signal). Although electric vehicles can park free of charge, you must still display the ticket in a visible place inside the vehicle as any other vehicle.</p> <p>Some green zones (duly identified with a traffic signal) are exclusively for residents.</p> | |
| Benefits and advantages related to a scooter sharing service | |
| - | |
| Limits and Drawbacks | |
| - | |
| Improvement suggestions | |
| <p>Motorcycles should pay parking taxes as the rest of the vehicles. This could be a good way to promote the use of electric motorcycles, so they could park for free. Now they do not have to pay parking taxes, so this measure of facilitation does not affect them.</p> | |
| Sources of information | |
| <p>Official website of Barcelona's Government</p> <p>http://www.areaverda.cat/usuaris/vehicles-electrics/</p> | |


| Summary | | | |
|-----------------------------|------------------------------|----------|---|
| Name of the tool | Toll discounts | | |
| Category | Tax benefits: Toll discounts | | |
| Geographical Coverage | Regional | | |
| Start date | December 2011 | End date | - |
| Nature of Promoters | Public | | |
| Name of Promoter(s) | Government of Catalonia | | |
| Shared by (name of partner) | - | | |

| Tool description |
|---|
| Short summary of the practice |
| Ecological vehicles like electric vehicles (and also all vehicles that emit less than 108 g CO ₂ /km) have a discount of 30% in tolls. It is expected that since September 2015 the tolls will be free for electric vehicles. |
| Benefits and advantages related to a scooter sharing service |
| In cities with a LEZ (Low Emissions Zones) this measure could also be a discount for electric and ecological vehicles that come into the city center. |
| Limits and Drawbacks |
| Sharing motorbike system is mainly designed for interurban mobility, where there are no tolls. |
| Improvement suggestions |
| The discount could be higher, at least for small vehicles like motorcycles. A toll It could be applicable for vehicles entering in the city centre, with a discount for ecological or electric vehicles. |
| Sources of information |
| Official website of “La Generalitat de Catalunya; Climate Change Catalan Office” http://www20.gencat.cat/portal/site/canviclimatic/menuitem.19a41a24dc847ece9b85ea75b0c0e1a0/?vgnextoid=df80dcc12a098210VgnVCM1000008d0c1e0aRCRD&vgnnextchannel=df80dcc12a098210VgnVCM1000008d0c1e0aRCRD&vgnnextfmt=detall&contentid=2f93c5c4bcf54310VgnVCM1000008d0c1e0aRCRD |
| Official website of “La Generalitat de Catalunya; Departament de Territori I Sostenibilitat” http://www20.gencat.cat/portal/site/territori/menuitem.45917e5022fc50a45f13ae92b0c0e1a0/?vgnextoid=d530e834b9e96210VgnVCM1000000b0c1e0aRCRD&vgnnextfmt=detall&cod_noticia=132833&vgnnextchannel=d530e834b9e96210VgnVCM1000000b0c1e0aRCRD |

| Summary | | | |
|-----------------------------|---|----------|---|
| Name of the tool | HOV lane preferential use | | |
| Category | Infrastructure service | | |
| Geographical Coverage | Local | | |
| Start date | 29 th October 2012 | End date | - |
| Nature of Promoters | Public | | |
| Name of Promoter(s) | Catalan regional government (Generalitat de Catalunya) Public company TABASA | | |
| Shared by (name of partner) | - | | |

| Tool description |
|---|
| Short summary of the practice |
| <p>The HOV lane (High Occupation Vehicles) is used to benefit certain vehicles to enter and leave cities avoiding traffic jams. The HOV lane can only be used for some authorized vehicles: public transports, motorcycles, high occupation vehicles and ecologic cars, so electric vehicles are one of their users.</p> <p>The owners of ecologic cars, who want to use the VAO lane, must introduce their vehicle information in a website to ensure that their vehicle meets all the requirements. They receive an accreditation tag that allows them to use the HOV lane.</p> <p>There is only one HOV lane in Catalonia, located in Barcelona, that covers 6,8 km of the C-58 highway. The investment of this infrastructure was about 80 million Euros.</p> |
| Benefits and advantages related to a scooter sharing service |
| Electric motorcycles can use the HOV lane. |
| Limits and Drawbacks |
| The HOV lane covers only a short and concrete route, so their use can only benefit a small amount of vehicles. |
| Improvement suggestions |
| - |
| Sources of information |
| <p>Official website of Catalonia's Government: http://www.gencat.cat/especial/carrilbusvao/cat/quees.htm</p> <p>Website to register electric vehicles for HOV lane use and other benefits http://www.ecoviat.com/</p> |

| Summary | | | |
|-----------------------------|--------------------------------------|----------|---|
| Name of the tool | Special agreements for taxis | | |
| Category | Subsidy | | |
| Geographical Coverage | Local | | |
| Start date | September 2013 | End date | - |
| Nature of Promoters | Public/Private partnership | | |
| Name of Promoter(s) | Barcelona's Government Nissan S.A | | |
| Shared by (name of partner) | - | | |

| Tool description | |
|--|--|
| Short summary of the practice | |
| <p>Agreement between Nissan and Barcelona's Government with the aim to promote the use of electric taxis in the city.</p> <p>Nissan has designed the e-NV200 (electric taxi) and is developing an electric vehicle charging infrastructure in Barcelona and its metropolitan area. The stations are provided with fast charging points, in which any compatible electric vehicle can be charged.</p> <p>Barcelona's Government will offer specific places for taxi and for loading and unloading merchandise, where also will install charging points.</p> | |
|  | |
| Benefits and advantages related to a scooter sharing service | |
| Taxi service has some similarities with a motorbike sharing system, so a vehicle is shared for several users. To electrify a service as taxis and increase the charging point infrastructure in Barcelona can boost the scooter electric sharing system. | |
| Limits and Drawbacks | |
| The agreement has been made with a single private company | |
| Improvement suggestions | |
| Barcelona's Government plans to reduce taxes to companies with electric vehicle fleets. | |
| Sources of information | |
| Official website of Barcelona's Government | |

| Summary | | | |
|-----------------------------|--|----------|------|
| Name of the tool | Plan MOVELE (Subsidies for the purchase of EV) | | |
| Category | Subsidy | | |
| Geographical Coverage | Local | | |
| Start date | 2011 | End date | 2014 |
| Nature of Promoters | Public | | |
| Name of Promoter(s) | Ministry of Industry, Tourism and Trade (Spanish Government) | | |
| Shared by (name of partner) | Technologic Institute Foundation for the Automobile Security (FITSA) | | |

| Tool description | | | |
|--|--|--|--|
| Short summary of the practice | | | |
| <p>The Ministry of Industry, Tourism and Trade (Spanish Government) and the Technologic Institute Foundation for the Automobile Security (FITSA) offer subsidies to promote the purchase of electric vehicles. The platform SITVE is the institution which processes the requests for these subsidies.</p> <p>The maximum amount of the subsidy varies according to the electric vehicle category. Grants can reach 25% of the sale price with a maximum of 6.000 Euros for tourism vehicles, small vans, motorcycles and other four-wheel electric vehicles. There are also subsidies about 25% for purchasing other electric vehicles such as buses or large vans with a maximum amount of 15.000 to 30.000 Euros according category. The total budget of the program is about 72 million Euros.</p> <p>The subsidies include all kinds of beneficiaries because they support either private or public vehicles. The application for the grant is managed through the cars sales agents who voluntarily join the plan.</p> | | | |
| Benefits and advantages related to a scooter sharing service | | | |
| <p>The main objectives of these subsidies are to boost the use of the electric vehicles and also to increase its industrialization and trade.</p> <p>In the case of the purchase of several vehicles, the support increases as the beneficiary acquires more units. This can help to boost the purchase of electric vehicles by fleets, for example the motorcycles fleet for a Scooter sharing service.</p> | | | |
| Limits and Drawbacks | | | |
| Despite the economic subsidy, electric vehicles are still much more expensive than conventional ones. | | | |
| Improvement suggestions | | | |
| - | | | |
| Sources of information | | | |
| <p>Official website of “Ministerio de Industria, energia y turismo, MOVELE PLAN”(Spain's Government):</p> <p>http://www.movele.es/index.php/mod.noticias/mem.detalle/id.16</p> | | | |

| Summary | | | |
|-----------------------------|---|----------|---|
| Name of the tool | PIMA Aire 3 Plan (Subsidies for the purchase of EV) | | |
| Category | Subsidy | | |
| Geographical Coverage | National | | |
| Start date | March 2013 | End date | Until the financial resources are exhausted |
| Nature of Promoters | Public | | |
| Name of Promoter(s) | Spanish Government by the Ministry of Agriculture, Food and Environment | | |
| Shared by (name of partner) | | | |

| Tool description | |
|--|--|
| Short summary of the practice | |
| <p>The goal of Plan PIMA Aire is to renovate old cars (vans, cars and commercial vehicles) and substitute them for more efficient vehicles. The Plan also aims to encourage the purchase of electric motorcycles, electric mopeds and bicycles. It's financed by the Ministry of Agriculture, Food and Environment and the budget is renewed each year. PIMA Aire 3 has a total budget of 5,5 million Euros.</p> <p>The amount of the subsidy will vary depending on the characteristics of the vehicle and if the grant is requested by the certificate of scrapping or by the permanent retire of the car from the DGT (National Department of Traffic). This subsidy is not compatible with other ones like the Plan PIVE or MOVELE.</p> <p>The main difference with MOVELE plan is that this one gives subsidies to buy an electric vehicle, while PIMA Aire 3 requires the official retirement of the old cars to obtain the subvention.</p> <p>The subsidy amount regarding kind of vehicle is: Electric motorcycles → 400€ from the ministry and 200€ from the sale point Electric mopeds → 250€ from the ministry and 100€ from the sale point Electric bicycles → 200€</p> | |
| Benefits and advantages related to a scooter sharing service | |
| <p>The subsidies can increase electric motorcycles demand.</p> <p>The electric scooters from the sharing service can be also subsidized, so it could be possible to offer a more competitive price for the service.</p> | |
| Limits and Drawbacks | |
| <p>Despite the economic subsidy, the electric vehicles are still more expensive than conventional ones.</p> | |
| Improvement suggestions | |
| - | |



Sources of information

Official website of Barcelona's Government :

http://www20.gencat.cat/portal/site/icaen/menuitem.71a2158dbba416fdc644968bb0c0e1a0/?vgnextoid=2ee62c208a6b4410VgnVCM2000009b0c1e0aRCRD&vgnextchannel=2ee62c208a6b4410VgnVCM2000009b0c1e0aRCRD&vgnextfmt=default&newLang=ca_ES

Official website of "Plan PIMA Aire 3"

<http://www.planpimaaire.es/index.html>

| Summary | | | |
|-----------------------------|--|----------|--|
| Name of the tool | PIVE 5 Plan (Subsidies for the purchase of EV) | | |
| Category | Subsidy | | |
| Geographical Coverage | National | | |
| Start date | 29 th January 2014 | End date | 29 th January 2015 or until financial resources are exhausted |
| Nature of Promoters | Public | | |
| Name of Promoter(s) | Spain's Government | | |
| Shared by (name of partner) | | | |

| Tool description |
|---|
| Short summary of the practice |
| <p>The PIVE Plan objective is to remove all cars more than 10 years old and light commercial vehicles with more than 7 years by replacing them for new and more efficient vehicles, like electric vehicles. The Plan is yearly removed. PIVE 5 aims to remove 175.000 vehicles with a 175 million Euros investment.</p> <p>The subsidies given by this plan represent more money than the ones in PIMA Aire 3 Plan (a minimum of 2.000€ and maximum of 3.000€ depending on the kind of vehicle to be purchased and the personal requirements of the applicant), but this plan requires that the replaced vehicles have to be old. Hybrids, plug-in hybrids, electric vehicles and pure electric extended range vehicles, can receive the maximum amount of the subsidy, depending only on the personal requirements of the applicant.</p> |
| Benefits and advantages related to a scooter sharing service |
| Even when It does not affect a scooter sharing service, the Plan will contribute to a transition towards more sustainable and efficient vehicles. |
| Limits and Drawbacks |
| - |
| Improvement suggestions |
| - |
| Sources of information |
| <p>Official website of "Plan PIVE"</p> <p>http://www.planpive.net/plan-pive-5.html</p> |