Electric vehicle and urban transport. Perspectives
INDEX

1. The transport sector in the Basque Country
2. Advantages and challenges of the EV
3. Strategy in the Basque Country: OBJECTIVES
4. Strategy in the Basque Country: STRATEGIC AXES
5. ICT4EVEU: interoperability
6. Successful cases
7. Conclusions
1

The transport sector in the Basque Country
1. The transport sector in the Basque Country

- Modernization in vehicles
- Better infrastructures
- Strengthening of public transport

- Number of vehicles has increased
- Number of km per vehicle has increased

It is necessary to TAKE ACTION

Energy Consumption
- Industry (45.3%)
- Transport (32.9%)
Advantages and challenges of the EV
✓ OPPORTUNITY: environmental, technological, advancement and consolidation of Basque companies and cambio de mentalidad
✓ NO acustic pollution. NO local emissions
✓ Lower mechanical losses, greater energy performance.
✓ Lower maintenance costs.
✓ Possibility of recovering braking energy.
✓ Possibility of optimizing the charging curve of the electric system
✓ Infrastructure of charging stations

✗ Decrease in price.
✗ Increase the autonomy of the electric vehicle
✗ Adaptation of legislation /applicable regulations.
✗ Boost social awareness of sustainable mobility; and increase knowledge and trust in the electric vehicle.
Strategy in the Basque Country: OBJECTIVES
3. Strategy in the Basque Country: OBJECTIVES

To promote introduction of electric vehicles in the Basque Country as a means of improving energy efficiency in transport and encouraging new business opportunities in the Basque industrial sector.

TARGET SCENARIO

The target scenario of this strategy is that, by the year 2020, 10% of all vehicles sold be EV (pure or chargeable hybrid).
The Target Scenario for this strategy is that by 2020

10% of all vehicles sold will be electric (pure or plug-in hybrids)

41.000 EVs in circulation

43.000 operating recharging points
Strategy for the Basque Country: strategic AXES

1. Boost to the motor industry.
To promote and encourage the manufacture of electric vehicles and components for this new type of transport in the Basque Country.

2. Development of infrastructure of charging points.
To ensure mobility of electric vehicle within the Basque Country.

3. Creation of critical mass.
To ensure launch of a critical mass of electric vehicles in order to bring forward the market take-off point.
   - to reduce the additional cost currently involved in using an electric vehicle as opposed to a conventional one
   - to make this new mobility solution more accessible to the public.

4. Adaptation of the regulatory framework.
To create a framework that will facilitate the viability of the electric vehicle in issues of standardisation, maintenance, technical inspection, guarantees, safety and marketing of electricity.
1. Boost to the motor industry.

Mercedes-Benz commitments:

- To adapt its installations at its factory in Vitoria-Gasteiz and begin manufacturing the E-Vito electric vehicle from 2010.

- To carry out key common projects with the Basque automotive industry, oriented towards developing components for use in electric vehicles.

- Vito E-Cell and Smart ED in Basque fleets, selected by EVE, and including monitorization and data analysis.
2. Development of infrastructure of charging points

EVE and REPSOL have created a join venture for the construction and operation of a network of recharging electric vehicles in the Basque Country

IBIL: example of public-private partnership (PPP)

Mission:
Launching initially in Euskadi, and increasingly in the rest of Spain, a charging infrastructure for electric vehicles in the private and public areas and offer some additional services to achieve the development and use of such vehicles on sustainability criteria.

Vision:
To be a technological reference in the national market regarding electric vehicle charging technologies.

IBIL is a charge manager
IBIL supplies its customers 100% renewable energy
### Public charging points in the Basque Country

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| TOTAL CAV | 62 |

**Fast charging points**

- Barakaldo (Bizkaia)
- Vitoria-Gasteiz
- Donostia-San Sebastián

**Total: 3**

*Fast charging point in Vitoria-Gasteiz*
3. Creation of critical mass

- **Agreements with key actors**
  - EV manufacturers to include the Basque Country in the commercial strategy
  - Owners of fleets, to introduce EV in fleets (EROSKI, leader of retail sell and supermarkets in the Basque Country)
  - City Halls, to promote EV in cities

- **Grants**
  - Acquisition of EVs
  - Installation of charging points (public and private area)

- **EV mobility center in Vitoria (European Green Capital 2012)**
  - Exhibition space to showcase EVs
  - Charging stations
  - Carsharing logistic base
  - Projection room
  - Attention to the public at the electromobility centre
    - Advice to private individuals on electric transport
    - Information on electric vehicles on the market
  - Organisation of talks including a practical demonstration on charging and operating EVs.
3. Creation of critical mass

- EV mobility center in Vitoria (European Green Capital 2012)
3. Creation of critical mass

- EV mobility center in Vitoria (European Green Capital 2012)
4. Adaptation of the regulatory framework

- Participation in **working groups** to analyze development of necessary regulation,
  
  ✓ National Energy Commission (CNE) **taskforce to analyse** 
  **Complementary Technical Instruction** ITC-052 of the Low Voltage Electrotechnical Regulations (Reglamento Electrotécnico de Baja Tensión - REBT)
  ✓ European **taskforce to define Open Charge Point Protocol** (OCPP)
  ✓ Special interest **group on Interoperability** of EV charging services

- **Monitorization** of standards committees

- Promotion, with City Halls, of **new municipal ordinances** (or modification or existing ordinances) in order to promote the use of the EV
Project ICT4EVEU: Interoperability
OBJECTIVES

- The general objective of ICT4EVEU is to **deploy a set of ICT-based services for electric vehicles (EVs)**, focused on the integration of innovative technologies that will improve the practical support systems for users.

- The project will contribute to the European goal of **creating a sustainable transport system** with lower carbon emissions.

SERVICES

- **Integration of heterogeneous technologies** into a common and **general management system** managed by a designated provider.

- **Accessible by users**: information concerning the charging network across the cities or areas.
SERVICES

✓ To make drivers **aware of remaining energy** – enabling them to make choices about vehicle range and comfort.

✓ To **book a charging point** in advance

✓ **Simplify the payment procedure** with different charging point providers

✓ **Receive notifications** (email, SMS, other) when the EV has been charged.

✓ To **provide users information** about their own charging history, events and charging stations they have used.

✓ Making use of **innovative tools for communication** with the vehicle-infrastructure-control centre
Technologies included in the project

- **ELECTRIC VEHICLE**: User commands
- **ONBOARD EQUIPMENT**: Graphics and navigation information
- **I2V COMMUNICATION**: Battery status and recharging needs
- **MANAGEMENT SYSTEM**: Grid status and availability
- **CHARGING STATION**: Search for stations

Optimal choice for customer’s needs
Pilots

Pamplona – Vitoria (Spain)

Bristol (UK)

Ljubljana – Maribor (Slovenia) with Austrian partners as observers
Successful cases
TRANSPORT

- **DHL LOGROÑO:** 1
- **TNT MADRID:** 1

*Use: delivery*
Use:
Veterinary Services
EMPRESA REPARTO DE EROSKI (SD 2000):
AMARA, SALBURUA, OÑATI, MEGAPARK, BOLUETA, INDAUTXU Y GERENCIA.

EROSKI:
AMARA, SALBURUA, OÑATI, MEGAPARK, BOLUETA, INDAUTXU, MURCIA, ABAÑINO, UROLA, ZALLA, EIBAR, ARRASATE, LEIOA, TARRASA, ZARAUZ, HONDARRIBIA, PAMPLONA, SEGOVIA, TUDELA Y ZAMORA.

CAPRABO:

Use: delivery
SEAPORTS and AIRPORTS

- Puerto de BILBAO: 1
- Puerto de BARCELONA: 1
- Aeropuerto de MÁLAGA: 2

Uses:
- Internal mobility
- Waste collection
Other Fleets

- **ALECHE PASCUAL:**
  - 1 vehicle
  - 1 charging station

- **ACAN CET:**
  - 1 vehicle
  - 1 charging station

- **TUNEL SOLER:**
  - 1 vehicle
  - 1 charging station

Use:
- Delivery (last mile)
- Maintenance activities
HOSPITALS

DONOSTI: 6

CRUCES: 6

Use:
Health services
CITY HALLS

BERRIZ: 3

BALMASEDA: 1

AZARATAMO: 1

Use:
Technical services
CITY HALLS

ELGOIBAR: 7 ⌚️ 7

Use:
- CarSharing
- Technical services
POLICE

ÅHARO:

1

1

22 Kw

ÅLEGAZPI:

1

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Conclusions
7. Conclusions

- Measures must be taken to counter the increase in energy consumption derived from transport
- The drive to promote EV is a reality
- The EV represents an opportunity for the progress, advance and consolidation of Basque companies
- The Basque Government has designed a strategy to introduce the EV in the Basque Country as a way to improve energy efficiency in transport and as a driver of new business opportunities in the Basque industrial fabric
- The EV market penetration target scenario is that, by the year 2020, 10% of all vehicles sold be electric, which means around 41.000 vehicles.