aven
Agencia Valenciana
de la Energía

The vision of the Regions EGCI

Antonio Cejalvo Lapeña

Director General of Energy
Valencia Regional Government

Valencia, April 14, 2010

GENERALITAT VALENCIANA
CONSELLERIA D'INFRAESTRUCTURES I TRANSPORT

ENERGY POLICY

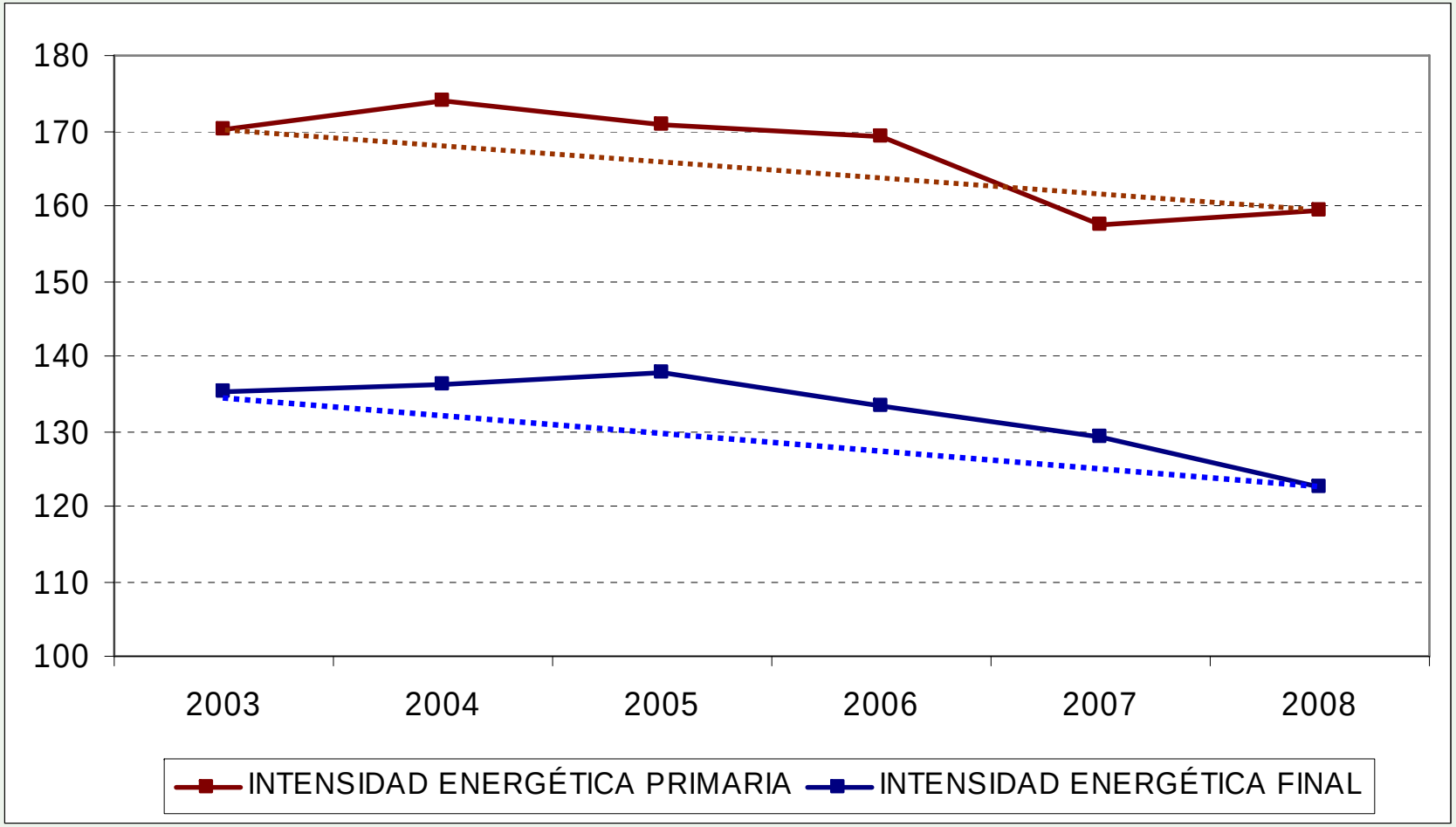
The GENERALITAT VALENCIANA (Regional Government of Valencia) develops an energy policy based on its own energy model, COMMITTED TO SUSTAINABLE DEVELOPMENT

ENERGY POLICY

SAVINGS AND ENERGY EFFICIENCY	RENEWABLE ENERGY	RESEARCH AND DEVELOPMENT (R & D + i)
Better use of energy resources, reducing energy consumption	**Use of clean energy sources in all sectors**	**Using the most advanced technologies in the energy field and promote their development**

SAVING & EFFICIENCY

Units: tep/M€ $_{cte\ 00}$



Interannual evolution period 2003-2008:

Primary energy intensity: -1,3%

Final energy intensity : -1,9%

SAVING & EFFICIENCY

ACTIONS

- ***GRANTS TO INVESTMENT***
- ***TRAINING ENERGY COURSES***
- ***STUDIES AND AUDITS***
- ***INVESTMENTS, ETC.***

SECTORS

- **INDUSTRY**
- **TRANSPORT**
- **BUILDING**
- **PUBLIC SERVICES**
- **EQUIPMENT**
- **FARMING AND FISHING**
- **COMBINED HEAT AND POWER**
- **R & D + i**

BUDGET: 26,3 Millions of euros

ENERGY CONSUMPTION

Transport sector is the largest consumer of energy in the Comunitat Valenciana

TRANSPORT	INDUSTRY	HOUSING	SERVICE	FARMING AND FISHING
Oil	Natural Gas	Electricity	Electricity	Oil
99%	61%	60%	85%	89%

Energy source most used by sector

TRANSPORT SECTOR

PROMOTING SUSTAINABLE MOBILITY

- Sustainable Urban Mobility Plans
- Promotion of Public Transport Cycling
- Business Travel Plans

FLEET MANAGEMENT AND BOOSTING ALTERNATIVE FUELS

- Audits transport fleets
- Investment in fleet management systems
- Renewal of road transport fleets
- Programa CO_2TXE 2010
- Investment in electricity supply stations, Natural Gas, LPG, Fuel Cell and Hydrogen stations
- Promoting biofuels

TRAINING COURSES

- Efficient Driving Courses cars

- Training courses for mobility managers

Why to boost Green Cars?

Energy Efficiency :

- Improving the energy efficiency of engines

Environment:

- Improving life in the cities due to the absence of emissions (CO_2, NO_X, SO_2,...) and its lower noise.

Energy dependence:

- Reduces the need for petroleum-based fuels and thus in the Spanish case reduces imports.

Industry:

- These vehicles offer new possibilities and opportunities for the industrial sector, especially for the automotive sector.

REGIONAL STRATEGY

Promotion of demand

Charging Stations Infrastructure

R&D+i

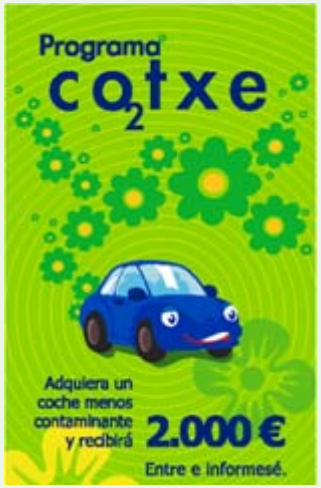
1. PROMOTION OF DEMAND

Grants for the purchase of vehicles → ***"PROGRAMA CO_2TXE"***

The grants are managed through car dealers adhered to program

Eligible Vehicles and the grants amount

• Plug-in hybrids, electric or hydrogen:	max 7.000 €
• Full Hybrid	max 2.300 €
• Mild Hybrid	max 2.000 €
• Natural gas and liquefied petroleum gas (LPG)	max 2.000 €
• Pure electric motorcycles, hybrid, hydrogen or fuel cell power greater than 4 kW:	max 750 €



Maximum grant: 20% of vehicle price

Annual budget € 1.1 million

2. CREATION OF CHARGE STATIONS INFRASTRUCTURE

A) Support for the establishment of refueling stations:

- Natural gas
- LPG
- Hydrogen
- Electrical

- Grants up to 30%, generally

- For electric charging stations, 40% maximum grant

2. CREATION OF INFRASTRUCTURE CHARGE

B) Promotion of biofuels

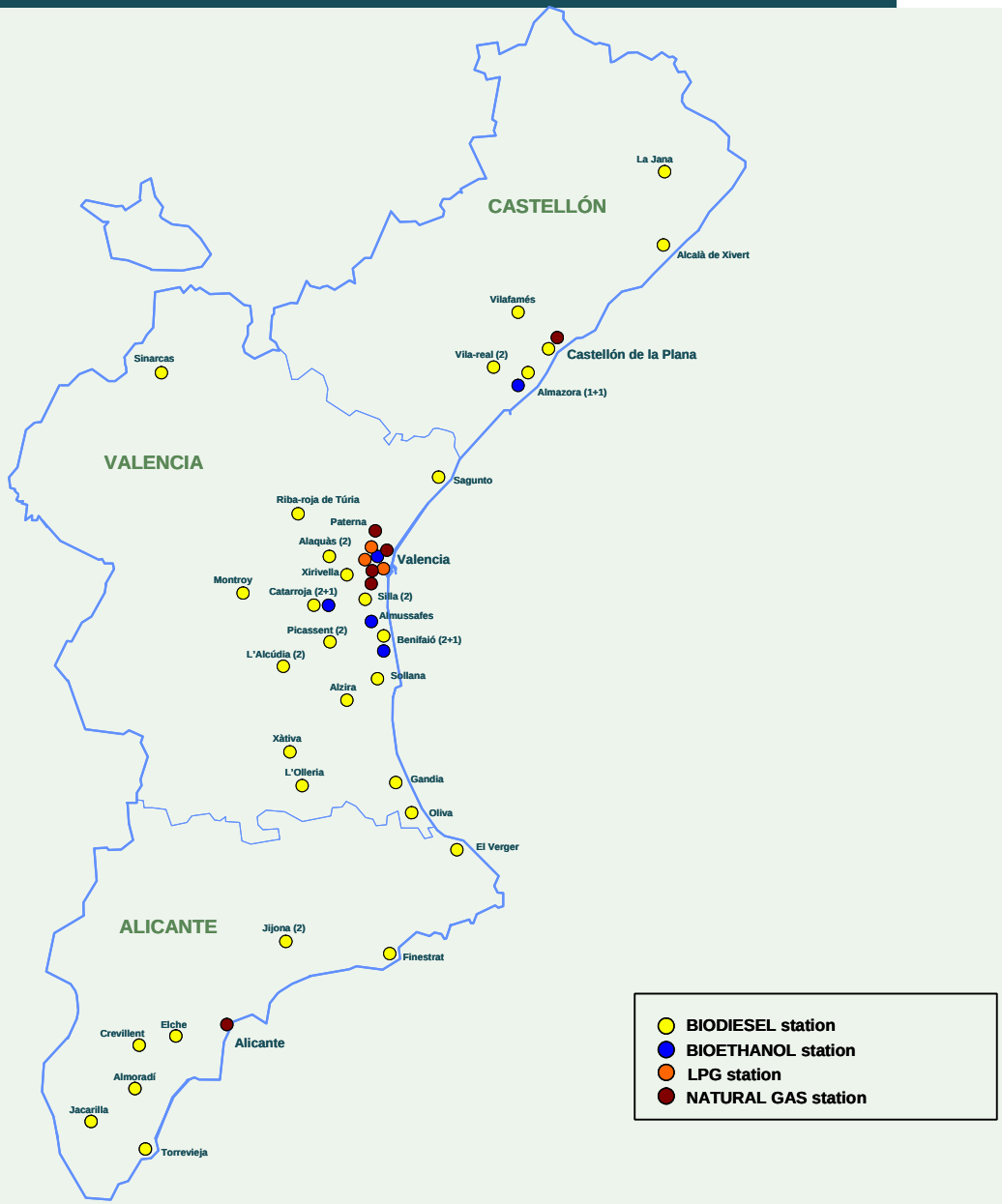
Creating network supply points and biofuel production plants

- Installing or adjusting pumps.
- Biodiesel or bioethanol production plants
- Warehousing

Maximum Grant of 45%

PROCESS TO IMPLEMENT G.C.

NETWORK BIODIESEL, BIOETHANOL, LPG AND NATURAL GAS STATIONS FROM THE REGION OF VALENCIA (Forecast 2011)



3. R & D + i

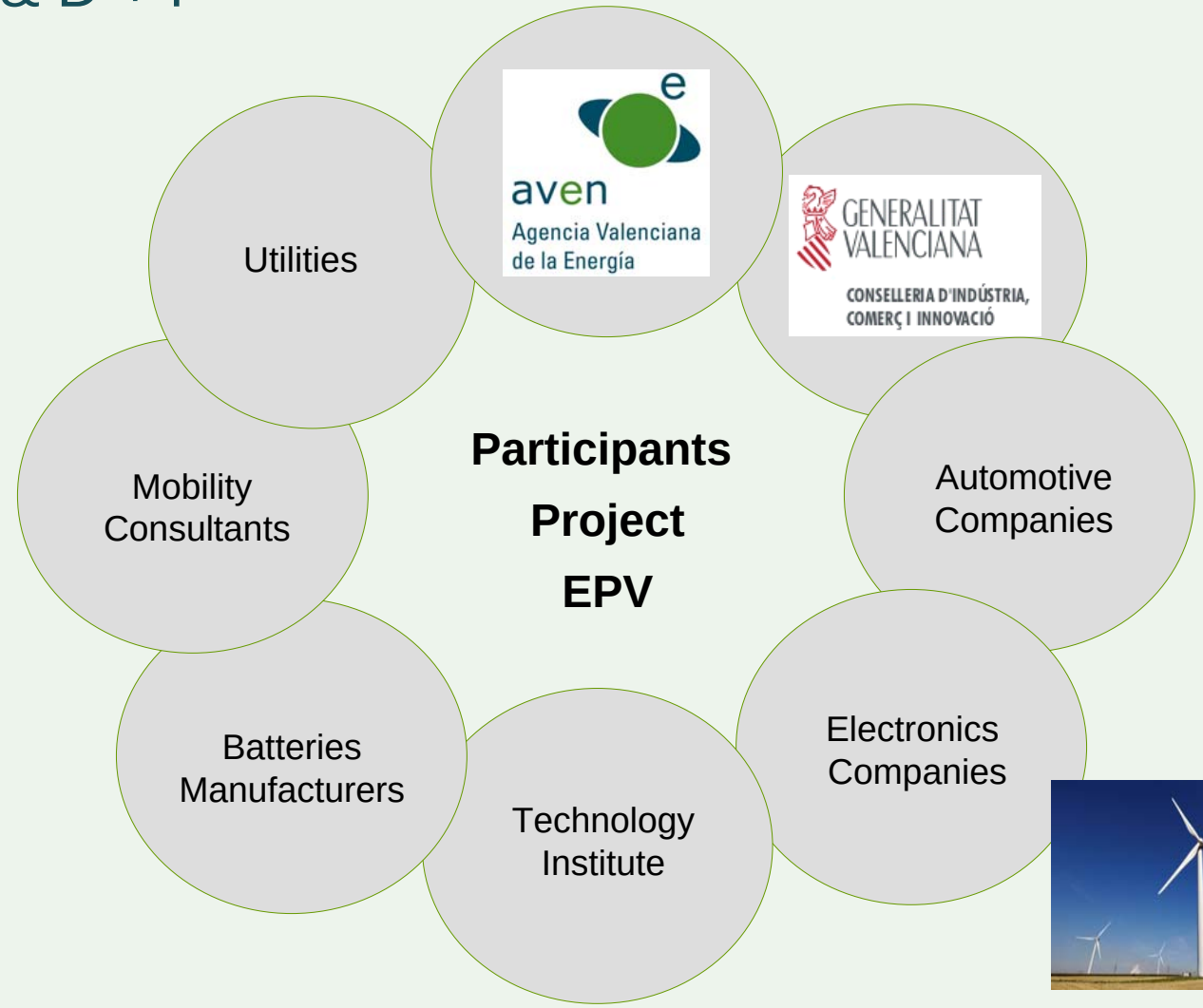
EPV Project: urban transport based on the use of electric vehicles integrated into the power grid and using electricity produced by Renewable Energies

Objectives:

- Development of an intelligent network model of distribution for the integration of the electric vehicle as a load manageable.
- Methodology for optimum planning of location of refueling stations and vehicle recharging process.
- System Design Specification Vehicle-to-Grid (V2G):
    - Storage system and energy management in the vehicle
    - Communication between intelligent charging station, vehicle and control center
    - Identification system and management of users, etc.
- New business models and regulatory framework to promote the introduction of EV.
- Development and implementation of a prototype to evaluate the project results

PROCESS TO IMPLEMENT G.C.

3. R & D + i



3. R & D + i

EPV Results:

- Selection and / or battery design
- Design fast battery charger
- Development of energy management software monitoring demand, associated generation and control users to the project.
- Establish communication standard specifications V2G
- Designing an appropriate envelope to profile users.
- Design and development of automation functionality associated with smart charging station

3. R & D + i

Other projects to boost Green Cars

• Car sharing pilot project in Valencia with electric vehicles

Advantages:

1. To avoid having a car owned
2. Rationalise car use (reduction car mileage)
3. Using the most appropriate means of transport for each trip
4. Using more energy efficient vehicles.

Other experience in this estimate **savings** of approximately **4.5 times the cost** per km for private vehicles.

Maximum grant 60%

Generalitat Objective → To Boost Electric Mobility

BARRIERS:

- **Technology:**

  The required batteries for these vehicles are still having some difficulties such as the size and weight, autonomy and recycling

- **Infrastructure:**

  It is necessary to develop the required infrastructure to recharge the batteries for these vehicles. This recharge has to be comfortable, fast and accessible to the user.

- **Economic:**

  A remarkable additional costs for the electric vehicle regarding to conventional vehicle

ELECTRIC MOBILITY

GENERALITAT VALENCIANA
CONSELLERIA D'INFRAESTRUCTURES I TRANSPORT

aven
Agencia Valenciana de la Energía

TO LEAD

Electric Vehicle

Electric Mobility Development

PHASE 1

- To involve MAJOR CITIES OF THE CV FOR THE CREATION OF A VEHICLE CHARGING INFRASTRUCTURE (approximately 1 point for every 10,000 inhabitants).
- To involve City Councils and THE UTILITY SECTOR in the introduction of electric vehicles in our cities
- To identify and to promote policy measures that encourage the use of these vehicles
- To ANALIZE THE RESULTS for further generalization in Valencia

PHASE 2

- EXTENSION OF THE POINTS OF CHARGING TO MORE TOWNS OF THE REGION AND TO DIFFERENT TYPE OF OTHER LOCATIONS as public roads, private garages, shopping centers, etc.
- ADAPTATION and / or introduction of the required legislation to facilitate the development of electric mobility.
- INTRODUCTION OF ELECTRIC MOBILITY CRITERIA IN PUBLIC TENDERS involving vehicle fleets.
- TO EXTEND THE STUDY OF THE CREATION OF INFRASTRUCTURE FOR CHARGING OF VEHICLES IN THE LOCAL AREA, in the Sustainable Urban Mobility Plans (PMUS).

aven
Agencia Valenciana
de la Energía

The vision of the Regions EGCI

Antonio Cejalvo Lapeña

Director General of Energy
Valencia Regional Government

Valencia, April 14, 2010

GENERALITAT VALENCIANA
CONSELLERIA D'INFRAESTRUCTURES I TRANSPORT