

Support for clean fuels and introduction of clean public and private fleets in Burgos/Spain

A comprehensive strategy on the use of biofuels and CNG has been implemented in Burgos. Their use in municipal transport fleets has been researched and developed and their use in private and public vehicles widely promoted. Further additions of new custom-built vehicles running on cleaner fuels has been made to the municipal fleet.



Objectives / Innovative Aspects

This measure will develop a transitional strategy to move towards a municipal vehicle fleet in which 45% of vehicles use cleaner fuels by:

- Increasing the supply of CNG for cleaner transport.
- Purchasing a further 8 CNG vehicles for a total fleet of 18 CNG vehicles and 1 CNG police car to enforce parking regulations.
- Use of 5% biofuels in the current diesel fleet and a gradual switching to a fleet of bio diesel vehicles.
- Encouraging a greater number of private cleaner vehicles using CNG and bio diesel, including private public transport.

The most important innovative aspect of this measure is the design of a comprehensive strategy to supply new cleaner fuels (CNG and bio diesel) to public and private vehicles delivering services to the public in the city. The use of these fuels has up until the present been restricted to a limited number of public buses. This approach covers:

- Introduction of the bio diesel strategy in Burgos.
- Demonstration of urban buses running on CNG and a gradual phasing out of more-polluting buses.
- Demonstration of other private and public collective transport services, using cleaner transport with improved fuel consumption.
- Installation of new public infrastructure adapted to the structural and technical requirements of the new CNG buses.
- Modification of the refuelling facilities to the needs of private and public collective transport services.
- Installation of safe and rapid CNG refuelling systems to reduce waiting times.

The Measure

The idea of the new Municipality fleet started up in February 2005

Up to July 2007, eight new CNG buses have been acquired by the Council, as well as other 27 new bio diesel capable to use 100 % biodiesel Euro IV-V Engine.

Other fuel station was built to install bio fuel and CNG facilities. In these moments due to the cold weather in the City of Burgos the public fleet is using 25% bio diesel in summer and 17% in winter. Nevertheless because the new 27 bio diesel buses are capable to use 100% bio diesel, another station is being building to provide 100% bio diesel.

At the same time, a strategy to collect used oil was developed and some collect boxes were put in markets and clean points all over the city. A campaign to aware the citizens to recycle the used oil with TV, radio and local press advertising was developed with a big success.

Another aware campaign to promote good habits in relation with buses (not to park in front of the bus stops, leave the seat to disable people) was developed with a contest of ideas about clean transport. In the mobility week of September 2006, two clowns were promoting good habits in transport and they stressed the effort in the public transport and the use of bio fuels (as Council is doing) promotion

The good result, apart from the fact that all the public fleet is using bio fuels was also an external impact: four other bio fuels stations (apart from the municipality station) were installed for the general use of all the citizens. It means the higher number of bio fuels station per habitant (Burgos is about 180.000 inhabitants) of all Spain.

The other external result was the nomination and finally the two awards received by the IDAE (National Institute for the Energy) and ATEGRUS (National Recycling Association) for the good public transport development during 2006. In the first case, the current Energy Minister gave the prize to the Local Mobility Councillor.

Implementation Status

BUS DEPOT AND EQUIPMENT FOR CNG AND BIOFUELS
Actions undertaken

with an ambitious overall strategy put forward by the City Council to change the public transport of the city and show the public a good example to follow using only bio fuels vehicles (and extended the idea into garbage collection vehicles as well as police and fire-fight vehicles) and in the case of the buses providing also with all facilities for disabled or people with trolleys (low ramp, visual and oral notices to announce the next bus stops, information panels) and getting on that way less pollution and noise.

- Drafting of technical specifications.
- Drafting of the technical specifications for the technical study.
- Invitation to tender for the technical study.
- Adjudication of the response to the public tender.
- Public tender for the construction and start up of the installations.

Forthcoming developments

- Construction and operation of the installations.

PURCHASE OF VEHICLES RUNNING ON CNG AND BIO DIESEL Actions undertaken

- Delivery of two bio diesel vehicles - tests with bio diesel and on-going use.
- Specifications and invitation to tender for the purchase of CNG vehicles.
- Delivery and presentation of two CNG vehicles.
- Specifications and invitation to tender for the purchase of four buses.
- Budgetary allocation for two CNG buses.
- Invitation to tenders for the purchase of a CNG police vehicle.
- Adjudication of the tender offers for CNG police vehicle.
- Specifications and invitation to tender for the purchase of CNG vehicles.
- Four CNG vehicles in September 2006.
- Two CNG vehicles in January 2007.
- Delivery of the police vehicle running on CNG.

BIO DIESEL VEHICLE TESTING AND BIO DIESEL EQUIPMENT Actions undertaken

- Introduction of bio diesel in vehicles for testing purposes.
- Vehicle testing.
- Monitoring of vehicle performance and bio diesel consumption.
- Market survey for equipment to control noise and emissions.
- Specifications and invitation to tender for the purchase of equipment.
- Acquisition of equipment to control noise and emissions.
- Market research, specifications and public tender for bio diesel suppliers.
- Adaptation of diesel refuelling facilities.
- Cleaning of the diesel storage tanks prior to the introduction of bio diesel.
- Use of bio diesel in the entire urban bus fleet.
- Monitoring of noise levels, emissions and bus performances.
- Tests on vehicles with fuel mixtures of up to 40% bio diesel.

Forthcoming developments

- Tests on vehicles with mixtures of up to 70% and 100% bio diesel.

PURCHASE OF MATERIALS FOR VEHICLE INSPECTIONS, CONSUMPTION MONITORING AND MAINTENANCE OF THE MUNICIPAL FLEET OF VEHICLES

Actions undertaken

- Drafting of technical specifications.
- Market survey for suppliers and equipment.
- Approval from the Consejo de Autobuses committee.
- Purchase and delivery of material for buses and building works.
- Set-up and operation of the consumption monitoring programme.
- Consumption statistics of all municipal vehicles.
- Set-up and operation of the bus maintenance programme.
- Identification of municipal vehicles running on diesel to incorporate bio diesel.
- Purchase of materials and internal management of issues arising with municipal departments involved with diesel vehicles.
- Combined strategy to contract fuel supplies and identify fuel supply points for municipal vehicles.
- Installation of equipment in other municipal vehicles running on diesel and installation of fuel consumption monitoring software for each municipal vehicle.
- Introduction of bio diesel strategy into municipal vehicles other than buses: police and fire-fighter vehicles.

DIFFUSION OF BIO DIESEL USE

Actions undertaken

- Large-scale public information campaign to promote bio diesel.
- Stickers placed on all city buses informing the public that the bus runs on bio diesel and giving visibility to the CIVITAS programme. Subsequent extension to all municipal vehicles.
- Introduction of bio-diesel into petrol stations in the city (four).

Forthcoming developments

- Negotiations with Acciona and petrol companies such as Repsol and Cepsa.
- Introduction of bio-diesel into private vehicle fleets in the city.

RECYCLING OF USED COOKING OIL

Actions undertaken

- Development of a programme to collect used cooking oil at supermarkets and Recycling Points.
- Development of a public information campaign that includes the distribution of bins for the easy collection and the recycling of used cooking oil.
- Continuation of the programme to collect used cooking oil.
- Continuation of the delivery of bins for collection of cooking oil at recycling points. Public awareness campaign at the recycling points.

EXTERNAL GOOD RESULTS

- 27 New 100% bio diesel buses (out of CiViTAS) ERUO IV-V Engine, average age of the municipality fleet now is only two years.
- Four new petrol stations providing bio diesel
- Two prizes received thanks to CiViTAS Project

Results

- Replacement of all public fleet with CNG or bio fuel vehicles in the City.

- Average reduction of 2 KJ/vehicle kilometer in the public fleet
- Average reduction of 0,09 KJ/passenger kilometer
- Average reduction of 1,42 gr/km of CO₂ in public fleet
- Average reduction of 15,85 gr/km of NO_x in public fleet
- Average reduction of 0,61 gr/km of small particles in public fleet
- PT with an average age of two years and a half, one of the newest in Spain
- Increase of 7% of passengers of PT

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