

SUGAR

Electric vehicles in Barcelona

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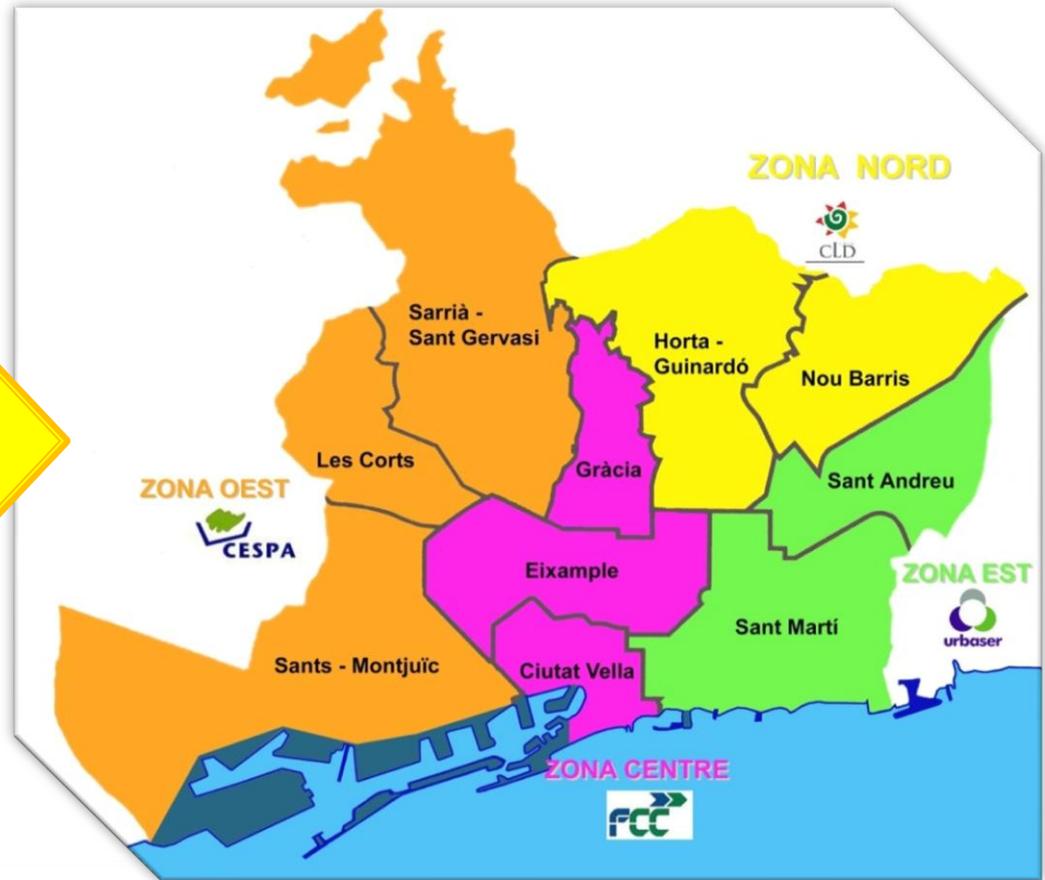
EVs in Barcelona

- **Index of the presentation:**
 - New contracts for Street Cleaning Services and Waste Treatment
 - Public recharging points for EVs in Barcelona

EVs in Barcelona

- New contracts for street cleaning services and waste treatment

*Barcelona has
73
Neighbourhoods
in 10 Districts
(Barcelona produces
900.000Tn/year of
Waste)*



EV in Barcelona

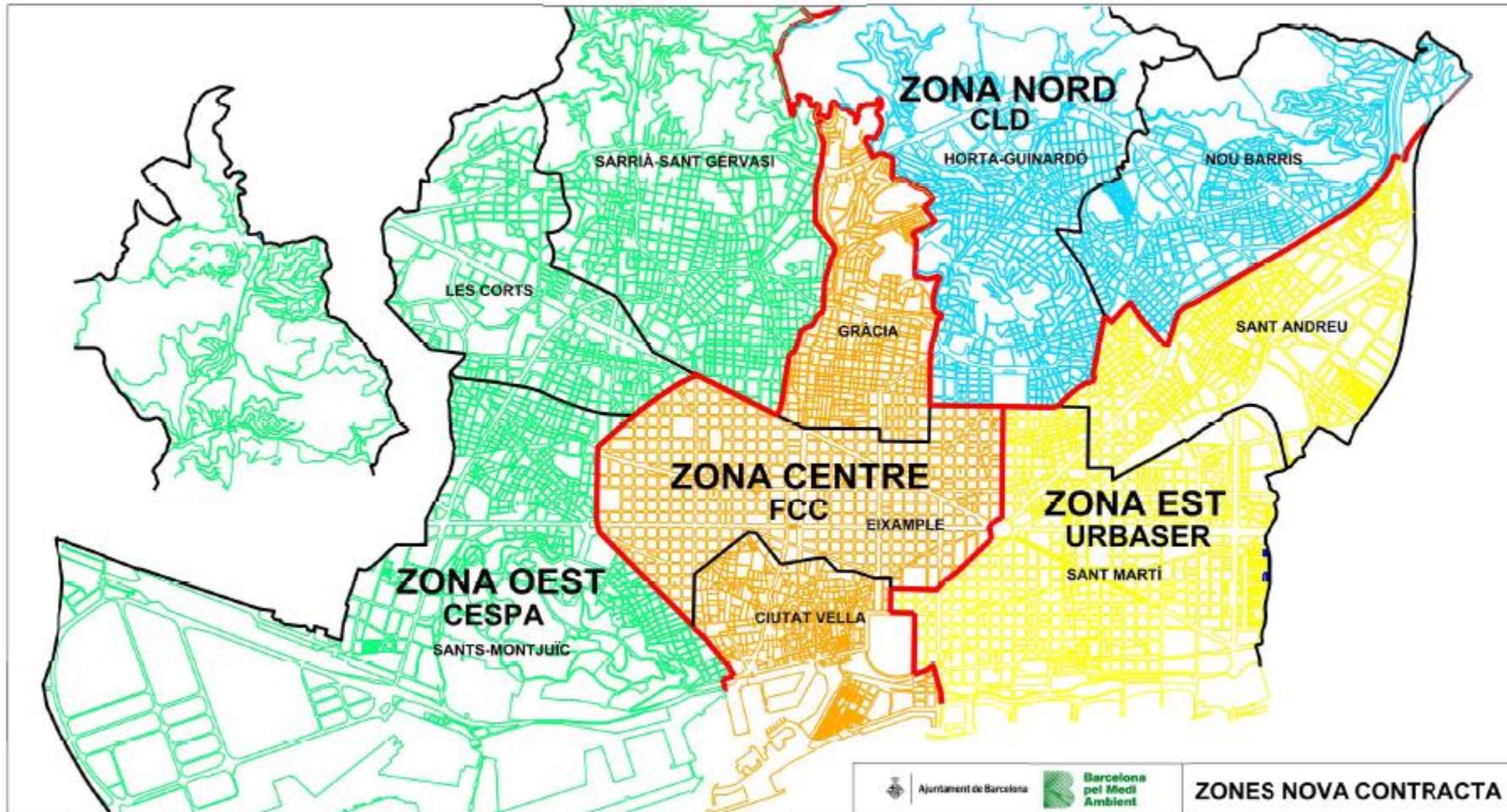
- **New contracts for street cleaning services and waste treatment**

- Requirements of the new contract: Energy of vehicles

- » Requirements that contractors are obliged to fulfill:

- Measures to guarantee some minimums of ambient parameters in vehicle fleets.
- Improvements to appraise on the part of the bidder of the tender:
 - Emissions of polluting gases (NO_x; CO) and particles → Reduction in the emissions with respect to the Euro 4*
 - Green House Gases (CO₂) for vehicles <3.500Kg and >3.500Kg → less emissions score higher in valuation

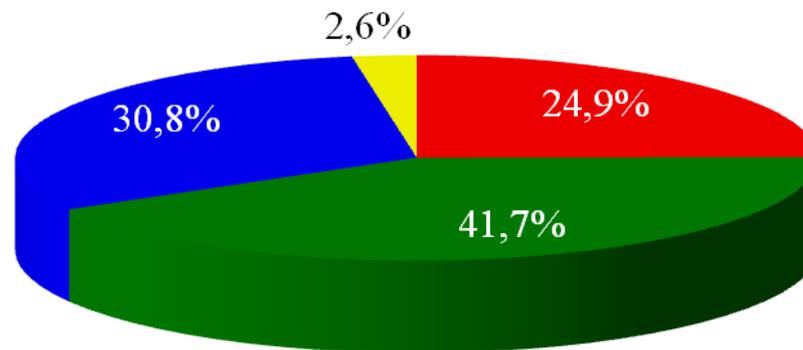
EVs in Barcelona: new contracts for 4 zones



EVs in Barcelona

Future situation (thanks to 4 contracts)

- Electric / Hybrid vehicles
- GNC Vehicles
- Biofuel Vehicles
- Ethanol-85
- Diesel

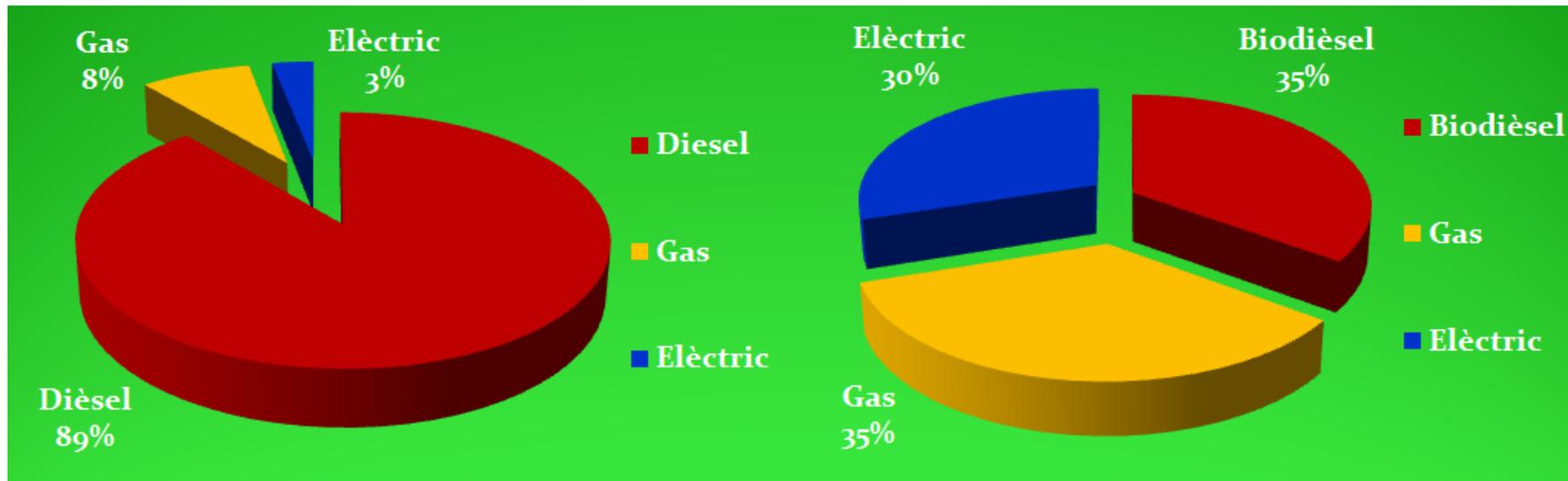


EVs in Barcelona

- **New contracts for street cleaning services and waste treatment**
 - Requirements of the new contract: Energy of vehicles

Situation before tender

Future situation



- 50 GWh/year Diesel (5 Million litres)
- 15 GWh/year GNC (1,4M Nm³)
- 8 GWh/year GNL (1,4M litres)

EVs in Barcelona

- **New contracts for street cleaning services and waste treatment**
 - Main reasons to invest in gas and electric/ hybrid vehicles and renewable fuels (biodiesel)
 - Reduce polluting gases emissions (NO_x, CO) and particles.
 - Reduce emissions of CO₂ to the atmosphere.
 - Decrease in noise levels of the engine; especially due to electrical and hybrid vehicles that produce a sound emission next to zero. Compressed Gas vehicles (GNC) produce 4-6 dBA less than diesel vehicles.

EVs in Barcelona

- **New contracts for street cleaning services and waste treatment**
 - Main reasons to invest in gas and electric/ hybrid vehicles and renewable fuels (biofuel)
 - Decrease in the noise produced during the operation by acoustic isolation of some parts of the truck, Reducers of the noise in zones of falling waste, soundproofing of small cleaning vehicles, among others...
 - Reduction in the consumption of potable water by the introduction of water saving mechanisms and the utilization of freatic water.

EVs in Barcelona

- **Recharge points for EVs in Barcelona**

- **Mobility in Barcelona:**

- » 24% of the final energy consumption of Barcelona is due to transport.

- » 95% of the consumption of the transport sector is realised with derivatives from oil.

- **Lines of action to improve mobility and urban environmental relationship:**

- » Favours technological improvements in vehicles fleet

- » Mobility demand management

- » Promoting the use of public and/or collective transport

- » Awareness campaigns and training of drivers

- » Energetic diversification of the sector

EVs in Barcelona

- **Recharge points for EVs in Barcelona**

- The Barcelona municipality initiative:

- » The purpose is to facilitate the deployment of electric vehicles in the mobility of the city of Barcelona. To do so, it is necessary to give impulse to the creation of an infrastructure of recharging points that serve to recharge the electric vehicles.
- » Designing a network of EV recharging points: **191 points, in 2010**
 - To supply the current demand
 - To facilitate their maximum use
 - To promote research and development of this technology
 - To overcome the current barriers (administrative and technological)

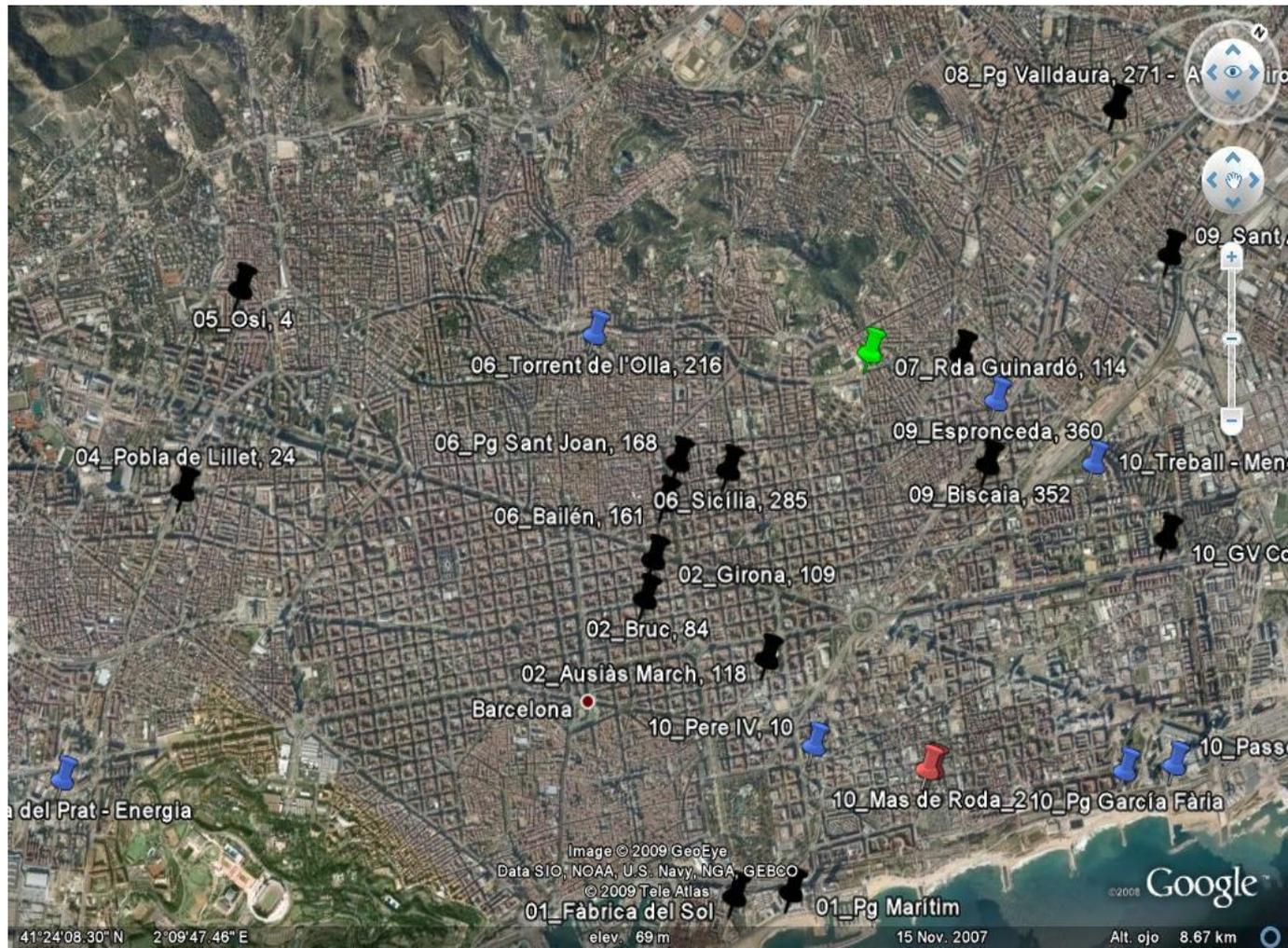
EV in Barcelona

- **Recharging points for EV in Barcelona**
 - Characteristics of the Project led by the Agency of Energy of Barcelona
 - » Implementing a network of about 10 charging stations, on-street.
 - » Each charging station will have 2 supply devices activated by prepayment card.
 - » The stations will be only be used by municipal services, for emergency recharges and by motorbikes.
 - » The recharging offers is: free electricity; priority occupation of the improved space.
 - » The budget total of the tender was of 191.999,72 euros (VAT 16% included)

EVs in Barcelona

- Recharging points for EV in Barcelona

- Location



Thank-you for your attention!

