



Lease to buy contract for low carbon emission cars

Ministry of Home Affairs, Catalan Government

- 29% reduction in CO₂ emissions
- 39% energy savings



Vehicles supplied in the previous tender

- 6,870 t CO₂ emissions
- 2,416 toe energy consumption

GPP 2020 Tender

- 5,273 t CO₂ emissions
- 1,720 toe energy consumption

Results

- 1,597 t CO₂ saved
- 696 toe energy savings

Contract tendered

- Tender for cars by the Ministry of Home Affairs, Catalan Government, including vehicles for renewal and replacement of the fleet of the Directorate General of Police, the Directorate General of Fire Prevention, Fire Fighting and Rescue Services, the Directorate General of Civil Protection and the General Secretary's Office of the Ministry.
- Division in lots and sub-lots depending on the vehicle characteristics (fuel type, engine power, customization, etc.) and recipient agencies (in the different Catalan provinces).
- Duration: 48 to 84 months or 72 months depending on the lot, extendable, for a maximum of the half of the initial period of each lot or sub-lot.
- Budget: €8,169,615.99 excluding VAT

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Procurement approach

The tender was carried out through an open procedure, with technical specifications and environmental award criteria set for each vehicle category¹:

Technical specifications			Medium car	Small cargo van	Large Off-road 4x4
Euro V	All vehicles				
CO2 emissions (g/km)	Petrol	max.	180	170	270
	Diesel	max.	160	150	250
Fuel consumption (l/100 km)	Petrol	max.	7.8	7	12
	Diesel	max.	6.2	6	9.5

Award criteria			Medium car	Small cargo van	Large Off-road 4x4	Points
Euro VI	All vehicles					1
CO ₂ emissions (g/km)	Petrol	<=	160	----	----	1
	Petrol	<=	140	----	----	1.5
	Diesel	<=	140	140	210	1
	Diesel	<=	120	120	190	1.5
Fuel consumption (l/100 km)	Petrol	<=	7	----	----	1
	Petrol	<=	6	----	----	1.5
	Diesel	<=	5.5	5.5	8	1
	Diesel	<=	4.6	4.6	7.2	1.5
EU tyre label: class <=B in fuel savings, for 4x4 class <= C						0.5
Automatic tyre pressure monitoring system						0.25
Stop & Start system						0.25
Maximum points						5

¹ Applicable verification systems: EURO emissions regulation (EC Regulation no. 715/2007) and CO₂ emissions and fuel consumption (including voluntary label) in accordance with Directive 1999/94/CE (replaced by RD 837/2002).

Criteria development

The previous tender (2008), that already specified emissions and consumption limits and environmental award criteria (including lower emissions and consumption values), has been taken as the reference point. In 2008 significant reductions of emissions and energy savings were already obtained. In 2013 part of the work is done in the pre-tendering phase, focusing on adjusting vehicle characteristics and when possible their powers to lower values based on real needs and uses, a technical criterion with great environmental relevance, given that it implies a reduction in emissions and consumption.

Furthermore, the environmental specifications were defined:

- Adjusting consumption and emission values following the recommendations of the Government of Catalonia's Guide for Green Procurement of Vehicles (*Guia per la compra verda de vehicles de la Generalitat de Catalunya*) from 2011.
- Reviewing the environmental award criteria based on the results of the previous tender (2008) and market changes.



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Results

By redefining the characteristics to lighter vehicles, it has been possible to achieve a significant reduction of engine power (-13.5% in average). This has made it possible to obtain vehicles with significant reductions in consumption and emissions compared to the previous vehicles available, in some cases coming below the more stringent values established in the award criteria.

	CO ₂ Emissions	Energy Consumption
Low carbon solution	5273 t	1720 toe
Previous tender	6870 t	2416 toe
Savings	1597 t	696 toe

The following results have been achieved in comparison to the previous tender (thanks to the estimated reduction of 809,855 litres of fuel during the contract duration):

- 29% reduction in CO₂-emissions
- 39% energy savings

The calculations are carried out based on the technical specifications of the vehicles, and using the GPP 2020 calculator for vehicles.

Calculation basis

- 175 diesel vehicles purchased (6 different car models)
- Fuel consumption of vehicles from previous tender almost all in the range of 7.1 - 9.3 l/100km. In the new tender all vehicles were in the range 4.9 - 8.5 l/100km.
- CO₂ emissions of vehicles from previous tender almost all in the range 190 - 238 gCO₂/km. In the new tender all vehicles were in the range 119 - 224 gCO₂/km.
- Fuel consumption during the overall contract duration dropped from 2,810,024 l to 2,000,169 l.
- Overall CO₂ emissions dropped from 6,870 tCO₂ to 5,273 tCO₂.

Lessons learned

- Defining the vehicle type upfront and adjusting its technical characteristics to real needs avoids over-sizing and provides a significant potential for environmental improvements. This requires not only technical work before the tendering, but also negotiation skills, e.g. with the users of the cars.
- If the experience with the currently leased vehicles proves positive, in the future, the consumption and emissions limits could be brought down or they could be given more weight in the award criteria.

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