



## Rental and purchase of electric vehicles

### OesteCIM, Portugal

- 100% reduction of direct CO<sub>2</sub>-emissions and 55% reduction in total CO<sub>2</sub>-emissions
- During the duration of the contract (12 years) savings of 88 t of CO<sub>2</sub>e
- During the duration of the contract (12 years) savings of 38 toe of used energy



Image source: OesteCIM

#### Benchmark Diesel vehicles

- 159 t CO<sub>2</sub>-emissions
- 50 toe energy consumption

#### GPP 2020 tender Electric vehicles

- 71 t CO<sub>2</sub>-emissions
- 12 toe energy consumption

#### Results

- 38 toe energy savings
- 88 t CO<sub>2</sub>-savings

## Contract tendered

- Tender for long term rental and subsequent purchase of electric vehicles by the municipalities of OesteCIM.
- 12 electric vehicles of L7e class purchased for urban travel in substitution of old diesel vehicles.
- 6 months lease contract, with subsequent purchase by the municipalities.
- Total cost: 74 800 € (excluding VAT)

## Procurement approach

Tendering followed the direct agreement procedure.

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### 12 L7e electric vehicles

#### Technical specifications

- Maximum direct emissions of CO<sub>2</sub>:  
0 g/km
- Fuel: Electricity
- Maximum torque: 33 Nm
- Maximum power: 5 hp (4 kW)
- Automatic gearbox
- Minimum range: 50 km

**Verification:** All information available in standard test documentation

#### Award criteria

- Lowest price

### Contract clauses

- Mandatory repair and maintenance according to the manufacturer's instructions.
- Battery rental with a maximum of 12 000 km/year.

## Criteria development

Since the previous car fleet was composed by 12 diesel cars, criteria were simply defined in order to obtain the most efficient vehicles (with an affordable price) in this class.

## Results

	CO <sub>2</sub> emissions (t CO <sub>2</sub> e/lifetime)	Energy consumption (toe/lifetime)
(Low Carbon Solution)	71	12
(Benchmark)	159	50
Savings	88 t CO <sub>2</sub> e/lifetime	38 toe/lifetime

### Calculation basis

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Estimations were made using the GPP 2020 Vehicles calculator.

- 12 vehicles were purchased to substitute 12 diesel vehicles (Benchmark) in urban travel;
- OesteCIM estimates that the vehicles will travel 144 000 km during their lifetime. This is 50 km a day, 5 days a week, 48 weeks per year for a total of 12 years.
- The Benchmark vehicles were modelled based on a diesel Renault Clio. Fuel consumption of the Renault Clio was taken as an average of the values supplied available at clean vehicles portal ([www.cleanvehicles.com](http://www.cleanvehicles.com)) and assumed to be 3.4 l/100 km, emitting 94 g CO<sub>2</sub>/km (direct and indirect emissions according to GPP 2020 vehicles calculator).
- The Low Carbon Solution purchased by OesteCIM was a Renault Twizy with a fuel consumption of 8.2 kWh/100 km, indirectly emitting 41 g/km.
- CO<sub>2</sub> emission factors for electricity generation in Portugal assumed as 0.506 kg/kWh

## Lessons learned

Electric vehicles are nowadays the best mobility solution to address important issues of our times, such as global warming, air pollution and fossil fuels dependency.

There are two main factors that are turning electric vehicles into a more viable solution: on one side, the technological evolution of batteries, with less recharge time, more autonomy and more power; on the other side, the price, which is becoming more affordable.

Electric vehicles are the only solution which is 100% Zero-emissions during the use. Zero-emissions include zero greenhouse gases emissions, zero noise emissions and zero air pollutants (like VOCs and particulate matter) emissions.

Despite the improving technological features of the batteries, the autonomy is still low if compared to a fuel vehicle. Therefore, the purchase of electric vehicles must be accompanied by the purchase and installation of charging stations in the city, in order to facilitate the movement of the vehicles.

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## About GPP 2020



GPP 2020 aims to mainstream low-carbon procurement across Europe in support of the EU's goals to achieve a 20% reduction in greenhouse gas emissions, a 20% increase in the share of renewable energy and a 20% increase in energy efficiency by 2020.

To this end, GPP 2020 will implement more than 100 low-carbon tenders, which will directly result in substantial CO<sub>2</sub> savings. Moreover, GPP 2020 is running a capacity building programme that includes trainings and exchange. – [www.gpp2020.eu](http://www.gpp2020.eu)

## About PRIMES



Across six countries in Europe; Denmark, Sweden, Latvia, Croatia, France and Italy, PRIMES project seeks to help municipalities overcome barriers in GPP processes, many of which lack capacity and knowledge.

PRIMES aims to develop basic skills and provide hands-on support for public purchasing organisations in order to overcome barriers and implement Green Public Purchasing. This will consequently result in energy savings and CO<sub>2</sub> reductions. – [www.primes-eu.net](http://www.primes-eu.net)



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