Contracting Medical Transport (MT) Services in Catalonia

Catalan Health Service, Government of Catalonia

- Reduction in energy consumption by 13% in urgent MT and by 4% in non-urgent MT
- Reduction in CO₂ emissions by 16% in urgent MT and by 4% in non-urgent MT
- Annual savings of 120,000 l of petrol in urgent MT and 26,000 l in non-urgent MT

Benchmark vehicles
- Urgent MT: 7,807.2 toe and 27,478.6 t of CO₂
- Non-urgent MT: 5,474.6 toe and 17,537.9 t of CO₂

Vehicles from the awarded companies
- Urgent MT: 6,770.7 toe and 23,105.5 t of CO₂
- Non-urgent MT: 5,249.0 toe and 16,815.2 t of CO₂

Results during contract period (10 years)
- 1,036.5 and 225.6 toe of energy savings respectively
- 4,373.1 and 722.8 t of total CO₂ saved respectively

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Contract tendered

- Contract tendered by the Catalan Health Service (Government of Catalonia) for the management of health transportation services in Catalonia (except for the Aran Valley) for urgent medical transport (UMT) and non-urgent medical transport (NUMT).
- The contract is divided into 13 lots according to territory, with different numbers of vehicles according to service needs.
- Duration: 6 years, with annual extensions up until a maximum of 10 years.
- Procurement budget: 1,286,312,284 € (without VAT) over six years.

Procurement approach

It should be stated that this was the first time that both services were tendered together. Until now, they were two separate contracts. Nevertheless, the characteristics are very different for each type of service: the UMT contract involves structure (the supply of vehicles), while the NUMT contract involves providing services (instead of supplying vehicles, services are provided by the tenderers using their own fleet). This means that the specifications for each type of service are very different: UMT directly involves the vehicles and their equipment, while NUMT involves the service and the fleet in a more general way.

The contract was tendered through an open procurement procedure, and involved a large number of criteria, including the following environmental aspects.

<table>
<thead>
<tr>
<th>Environmental criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UMT Criteria</strong> (Environmental: 3.5/100)</td>
</tr>
<tr>
<td>- Vehicles with technology that respects the environment, as well as the estimated consumption and the estimated reduction in CO2 emissions for the proposed vehicles (up to 2 points)</td>
</tr>
<tr>
<td>- These include vehicles with alternative energy sources: electrical, hybrid or gas (up to 1.5 points)</td>
</tr>
<tr>
<td><strong>NUMT Criteria</strong> (Environmental: 2.75/100)</td>
</tr>
</tbody>
</table>
| - Use of vehicles with (fleet average):
  - Reduced CO2 emissions (up to 0.5 points)
  - A superior EURO level (up to 0.5 points)
  - Reduced consumption (up to 0.25 points)
  - Alternative motorization: electric, hybrid or gas (up to 0.25 points)
| - A plan for training in efficient driving (up to 0.75 points)
| - Environmental management practices followed at the facilities used for executing the contracted services (up to 0.5 points) |

Bidders must provide the information for the vehicles (UMT) and for the fleet (NUMT). For each criterion, the most environmentally friendly offer receives the maximum points, and the other offers are assigned points in inverse proportion. UMT and NUMT are evaluated
independently, and in the end the contract for each lot is awarded to the company with the best evaluation overall.

The points awarded for environmental criteria may seem low, but it’s important to understand them as part of a contract where many different elements are in play. For example, for NUMT, the criteria were: 1) the availability, age and number of vehicles dedicated to the service; 2) the availability, age and number of additional vehicles that could be dedicated to the service; 3) the facilities used to house and maintain vehicles; 4) the annual program for training personnel; 5) the organization, operational systems, the system for managing complaints and suggestions and the planning of the use and distribution of vehicles; 6) the environmental improvement of the vehicles as far as CO₂ emissions, EURO standards, consumption and the use of alternative vehicles are concerned; 7) improvement in the adaptations to vehicles so that they can carry electric wheelchairs, especially large individuals and child-restraint systems; 8) improvements to mechanical revision and the safety of individuals, interior cleaning and disinfection and exterior cleaning; 9) additional training for personnel in the use of automated external defibrillators, efficient driving, workplace safety and qualification of technicians for medical emergencies; 10) improvements to the coordination centre as far as both technological systems and environmental measures are concerned; and 11) a study of customer satisfaction involving planning, a survey of satisfaction, the organization of results and the application of improvements.

Criteria development

- Environmental criteria are based on the Government of Catalonia’s “Guide for green public procurement of vehicles” (Guia per la compra verda de vehicles). These criteria were adapted taking into consideration the complexity of the medical transport service and the lack of information on the capabilities of the bidding companies.

- Reflections were also made on the best way to diversify the energy sources for the fleet. Nevertheless, because of an insufficient offer of electric or hybrid vehicles appropriate for urgent transport and the limitations of the network of natural gas stations for refilling gas-powered vehicles, the decision was made to simply consider alternative energy sources an award criterion. This allows for the identification of other options unknown to our technical services, especially as far as urgent transport vehicles were concerned.

- Because of the complexity of the procurement documents, it was decided to include a specific section on award criteria for the vehicles. Other environmental criteria on training or good environmental practice were added to the sections where other aspects were considered, to treat environmental considerations as normal technical specifications.
Results

The estimated environmental savings are presented below, broken down into urgent transport (UMT) and non-urgent transport (NUMT) because of the different methodology used in each case. This difference in methods is a result of the different types of information available in each case for the establishment of the benchmark used to estimate environmental savings.

UMT Results

The estimated savings for UMT were calculated with the previously used vehicles as benchmark and comparing them with the new vehicles offered by the awarded bidder. The results are the following:

<table>
<thead>
<tr>
<th></th>
<th>Direct CO₂ emissions*</th>
<th>Total CO₂ emissions**</th>
<th>Energy consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMT – Awarded offers</td>
<td>2,057.0 t CO₂/year</td>
<td>2,310.5 t CO₂/year</td>
<td>677.1 toe/year</td>
</tr>
<tr>
<td>UMT – Previous situation</td>
<td>2,455.5 t CO₂/year</td>
<td>2,747.9 t CO₂/year</td>
<td>780.7 toe/year</td>
</tr>
<tr>
<td>Annual savings</td>
<td>398.5 t CO₂/year</td>
<td>437.3 t CO₂/year</td>
<td>103.7 toe/year</td>
</tr>
<tr>
<td>Total savings (over the 6 years of duration of the contract)</td>
<td>3,985.0 t CO₂</td>
<td>4,373.1 t CO₂</td>
<td>1,036.5 toe</td>
</tr>
</tbody>
</table>

* Direct emissions correspond with those generated from the use of fuel in driving the vehicle.
** Total emissions take into account both direct and indirect emissions (in this case, corresponding with the processing of the fuel).

Calculation basis for UMT

To estimate the reduction in consumption and CO₂ emissions associated with UMT, we used the “GPP 2020 vehicles calculator” and the following data:

- Environmental benefits are estimated by comparing, for each lot, the vehicles from the awarded offers with the vehicles used previously which they substitute.
- In each lot, there are 3 types of possible services: basic assistance (SVB), advanced assistance (SVA) and rapid intervention (VIR). Depending on the type of service, the vehicles used differ. As a result, in each lot of UMT there are 3 different types of vehicles.
- For each of the different types of vehicles, we gather the following information: data on consumption and CO₂ emissions of existing vehicles and of those offered by the awarded bidders for each lot; and the average kilometres driven for each lot (over the last 9.5 years, nearly the duration of the previous contract).
- The data was taken from the technical files for the different vehicles (consumption, CO₂ emissions) before their transformation. Transformed vehicles
will have a higher total consumption, but since the transformation is independent of the base model, we consider that the savings will be equivalent.

- Service life is calculated to be 10 years, the maximum duration of the contract with extensions.
- Since the number of vehicles in the new tender is slightly higher than the existing fleet, the data on the total consumption and emissions have been corrected to make the total number of kilometres driven equivalent (with a correction factor of 0.98).
- The results obtained for each lot are added to calculate the total savings for UMT.

In comparison with the previous contract, the results are as follows:

- Energy savings of 13.3% and 15.9% savings in CO₂ emissions (see table).
- Savings of 120,546 litres of fuel a year, with the resulting economic savings.
- Calculations do not take into account other improvements, such as the aerodynamic integration of top lights or the incorporation of solar panels, that will result in energy savings and that may, as a result, further reduce emissions.

**NUMT results**

Because of a lack of information on the existing fleet, savings were not calculated against the current situation. Rather, the worst offer presented was compared with the awarded offer. The results are as follows:

<table>
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<th>Direct CO₂ emissions*</th>
<th>Total CO₂ emissions**</th>
<th>Energy consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMT – Awarded offers</td>
<td>1,484.7 t CO₂/year</td>
<td>1,681.5 t CO₂/year</td>
<td>524.9 toe/year</td>
</tr>
<tr>
<td>NUMT – Worst offers</td>
<td>1,548.6 t CO₂/year</td>
<td>1,753.8 t CO₂/year</td>
<td>547.5 toe/year</td>
</tr>
<tr>
<td>presented</td>
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<tr>
<td>Annual savings</td>
<td>63.8 t CO₂/year</td>
<td>72.3 t CO₂/year</td>
<td>22.6 toe/year</td>
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<tr>
<td>Total savings (over</td>
<td></td>
<td></td>
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<tr>
<td>the 6 years of</td>
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<td>duration of the</td>
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<tr>
<td>contract)</td>
<td>638.2 t CO₂</td>
<td>722.8 t CO₂</td>
<td>225.6 toe</td>
</tr>
</tbody>
</table>

* Direct emissions correspond with those generated from the use of fuel in driving the vehicle.
** Total emissions take into account both direct and indirect emissions (in this case, corresponding with the processing of the fuel).
Calculation basis for NUMT

To estimate the reduction in consumption and in CO₂ emissions for NUMT, we used the “GPP 2020 vehicles calculator” and the data from the contract awarding report, as is described below:

- Environmental benefits were calculated by comparing the awarded offers with the worst offers presented for each lot.
- For the initial values, the average values of the proposed fleets were used. These values can be found in the contract awarding report, and they go from 8.2-11.5 l/100km for the worst offers, to 7.4-10.2 l/100km for the awarded offers, excluding the rejected offers.
- Consumption was transformed into CO₂ emissions using the conversion factors from the GPP2020 calculator, assuming that all vehicles are diesel (the factors are: 2,432 and 2,755 kg of CO₂/l for direct and total emissions, respectively).
- Service life is calculated at 10 years, equivalent to the maximum duration of the contract, with extensions.
- Because other information was lacking, for the annual number of kilometres driven, the figures from UMT were used as a reference.
- The results obtained for each lot were added to obtain the total savings for the NUMT service.

According to the method followed, the results for the tender were the following:

- 4.1% energy savings and reduction in CO₂ emissions (see table).
- Savings of 26,240 litres of fuel a year.
- Calculations do not take into account other improvements, such as training in efficient driving and other examples of good practice that can result in energy savings and, as a result, can further reduce emissions.
Lessons learned

If we take into account the experience of introducing environmental criteria into the tender, the response of bidders and the evaluation of their offers, we can draw the following conclusions:

- The complexity of the contract and the large number of aspects to be taken into account means that very few points are assigned for each aspect. On the other hand, because of the characteristics of the service, there are certain criteria that must be given more weight. Because of these aspects, the environmental criteria do not hold an especially significant weight, and in some cases the most environmentally-friendly offer is not the winner.

- Possibly because this was the first time we requested information on consumption and emissions, some offers did not include this information. As a result, in some lots there might be deviations in the estimations and in others it was not possible to calculate them. Nevertheless, we feel that progress has been made in improving the environmental quality of our fleet of medical transport vehicles.

- On the other hand, incorporating a fairly open criteria such as the “proposal for the use of environmentally-friendly technology” has resulted in bidders proposing a series of different improvements – the use of LEDs for interior illumination, improved aerodynamics, the use of solar panels to recharge support batteries, the installation of sirens with different volume levels to reduce noise pollution, the use of 100% recycled plastic in interiors, etc. – that can be taken into account in future tenders.

- We feel that the response was very diverse and in some cases surprising, and that the different companies understood the importance given by the public administration to environmental improvements in the services and products offered.

- We feel that any opportunity to share our results is positive, because it helps other establish strategies to help them achieve environmental improvements in their services and products.

- We believe that these requirements will improve in the future, and that in future tenders we take into consideration how to positively evaluate the environmental efforts that companies make in their offers.

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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 CO₂ savings. Moreover, GPP 2020 is running a capacity building programme that includes trainings and exchange. – 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 CO₂ reductions. – www.primes-eu.net

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