Leasing low-carbon imaging equipment
Intermunicipal Waste Management of Greater Porto (LIPOR) (Portugal)

**Background**

Intermunicipal Waste Management of Greater Porto (LIPOR) is responsible for the management and treatment of around 500,000 tonnes per year of municipal solid waste produced by eight municipalities (985,000 inhabitants) in the Porto Metropolitan Area.

LIPOR has been including sustainability criteria into its public procurement procedures since 2009, and is also involved in streamlining sustainable public procurement (SPP) at a national level. For example, assisting other public authorities to implement SPP strategies, encouraging cooperation among public procurers, and promoting greater market engagement. They have also been a member of the Procura+ Network on SPP since 2013, and are certified according to the SA8000 Social Accountability Standard.

LIPOR has created a multidisciplinary team with a specific focus on implementing low carbon procurement in line with the European-funded GPP2020 project recommendations, and in contracting a new service for imaging equipment.

**Procurement objectives**

In 2016, LIPOR used the opportunity to demand greater energy efficiency from their multifunctional devices (MFDs) and printers to further their practice in sustainable procurement.

This procurement was for the provision, technical assistance and maintenance of four different types of MFDs - 14 machines in total - over a 36-month contract period.

The tender was carried out using an 'open' procedure, and the service provider selected on the basis of the ‘most economically advantageous tender’ (MEAT) model.

Minimum technical specifications were defined regarding energy performance, and award criteria were weighted significantly – 85% of total points - in favour of lowest cost based on a Life Cycle Costs (LCC) calculation.

In the preparatory stage, LIPOR consulted with potential service providers to inform them of the objectives of the upcoming procurement through informal meetings. These served to get some feedback on the ability of meeting the requirements of the tender and communicating the benefits and implications of LIPOR’s SPP policy.
Criteria used

Subject matter of the contract:
Rental of low carbon MFDs.

Technical specifications:
As a minimum requirement, bidders were asked to propose a service which used at least 10% less energy than the maximum typical energy consumption ($\text{TEC}_{\text{max}}$) allowed under the most recent Energy Star 2.0 standard for imaging equipment.

The $\text{TEC}_{\text{max}}$ was measured in kilowatt hours per week, and was calculated using the following formula:
$$\text{TEC}_{\text{max}} = \text{TEC}_{\text{Req}} + \text{Adder}_{A3}$$

Where:
- $\text{TEC}_{\text{Req}}$ is the maximum TEC requirement specified by the Energy Star requirements (Table 5) in kWh.
- $\text{Adder}_{A3}$ is a 0.3 kWh/week allowance provided for A3-capable products.

The $\text{TEC}_{\text{max}}$ was calculated at 48.5kWh/week.

The ‘base’ service was for the following number of copies per month: 25,000 black and white copies; 8,000 copies of “base” colour (up to 1.2% colour coverage); and 15,000 copies (more than 1.2% colour coverage).

Award criteria:
The most economically advantageous tender was awarded the contract based on the following:

a) Life Cycle costs (LCC): 85% of total points
b) Unit cost of additional copies to the contract: 15% of total points
   1) Black and white (no colour) - 5%
   2) Base colour (until 1.2% colour coverage) - 5%
   3) Total colour (more than 1.2% colour coverage) - 5%

The LCC (as a percentage) was calculated using the following formula:
$$\text{LCC} = \left(1 - \frac{(\text{CCV}_{\text{prop}} - \text{CCV}_{\text{min}})}{(\text{CCV}_{\text{base}} - \text{CCV}_{\text{min}})}\right) \times 100 \times 85\%$$

Where:
- $\text{CCV}_{\text{base}}$ is the maximum annual LCC (€28,483.14/year);
- $\text{CCV}_{\text{min}}$ is the minimum annual LCC (€21,693.86/year);
- $\text{CCV}_{\text{prop}}$ - LCC of bid in analysis.

The maximum score for LCC was awarded when $\text{CCV}_{\text{prop}}$ was lower than $\text{CCV}_{\text{min}}$. A maximum value was given to place a limit on the cost of the proposals provided.

Contract performance clauses:
There was a requirement for the winning contractor to follow the ‘Code of Conduct for LIPOR Suppliers’ (related to LIPOR's SA8000 certification).

Results

Publication of the Call for Tenders resulted in the submission of five tenders. The contract was awarded to one company and was priced at €64,289 for a 36-month period, which began in July 2016.

The technical specifications required a 10% improvement on the most up-to-date Energy Star criteria, but the company which was awarded the contract went far beyond this performance requirement in their tender committing to a 38% level of improvement.

“This procurement proves that the Portuguese market is ready to respond to ‘green’ criteria at competitive prices, challenging the assumptions of local authorities that GPP results in higher costs.”
The result is a predicted 45% saving in energy and CO₂ emissions compared to the most up-to-date Energy Star criteria, as well as some savings in electricity costs (€438) during the period of three years.

**Environmental Impacts**

The winning bid proposed a service which was 38% less energy intensive than the $\text{TEC}_{\text{max}}$ (1,511.9 kWh/year compared to an Energy Star 2.0 standard of 2,791.2 kWh/year, considering the total of 14 machines – more information [here](#)), which represents a significant improvement on the 10% less required by the technical specifications. This is the equivalent to an estimated 0.3 tonnes of oil equivalents (toe) over the contracted period of three years, or 1.9 tonnes in savings of CO₂-equivalents (CO₂e).

The estimated saving was calculated by comparing $\text{TEC}_{\text{max}}$ values as defined in Energy Star with the $\text{TEC}$ of the selected equipment. Energy use was converted into emissions using a CO₂ emission factor for electricity generation in Portugal of 0.596 kg/kWh, and an average electricity cost of 0.115 €/kWh.

In reality, the savings made by this procurement are likely to be higher than predicted, as calculations were made against an already energy efficient benchmark (Energy Star 2.0), as opposed to the ‘real’ energy levels consumed by the devices being replaced.

**Lessons learned**

- This procurement procedure was developed in cooperation with the [National Laboratory on Energy and Geology](#) (LNEG) and internally involved LIPOR’s Procurement Department and Energy Department, with the former being an expert in sustainable public procurement. The cooperation proved very useful particularly in the preparatory phase and in the tender analysis phase.
- This procurement proves that the Portuguese market is ready to respond to ‘green’ criteria at competitive prices, challenging the assumptions of local authorities that green public procurement (GPP) results in higher costs.
- The success of this procurement is partly related to the process of market consultation undertaken prior to launching the procurement. Involving and establishing a dialogue with suppliers right from the start was considered extremely important, not only to know what extent suppliers are prepared to respond and compete for increasingly demanding and complex procedures, but also to find out about the availability of alternative solutions on the market at the same or better price.
- As mentioned, the service provider contracted through this procurement procedure guarantees that a greater than 10% improvement on the most up-to-date Energy Star criteria will be ensured. This demonstrates that greater efficiency gains can be demanded in future tenders for this type of service.

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For related information, please see European GPP criteria for [Imaging Equipment](#) and the [Technical Background Report](#).