



Purchase of Low Emission Buses for Municipal Public Transport

Municipality of Maribor

- Renewing the bus fleet with EURO VI standard for the municipal public transport
- 30 % CO₂ emission reduction achieved



Benchmark

Average bus on the market

- 5 509 t CO₂e life cycle (direct and indirect emissions)
- 1 720 toe

GPP 2020 tender

Energy efficient bus

- 3 845 t CO₂e/life cycle (direct and indirect emissions)
- 1 200 toe

Results

- Energy savings: 519 toe
- CO₂e emission savings: 1 664 t (30% reduction)

Green Public Tender

- Green public tender for the purchase of buses, published by the Municipality of Maribor on 19th November 2015.
- Purchase of 5 buses for municipal public transport with the length from 9,4 m to 10,9 m.
- Municipality received 3 bids. Decision of the selection was final on 1st of April 2016.
- Delivery period is 150 days from the signing of the contract.
- Purchase of the buses is compliant with the detailed program of measures annexed to the Ordinance of the plan for air quality in the territory of the Municipality of Maribor (Official Gazette of the Republic of Slovenia, No. 108/13)

Procurement approach

Type of procurement procedure: Open procedure

Subject matter: Purchase of low carbon emission buses – emission standard EURO VI.

Selection criteria: Providing a proof of acknowledgement of technical and human resource capabilities as well as a list of references of the bidder or provider in their joint approach for the last three years before filing the bid. In meeting these requirements the bidder must state, that the supplier or producer of the offered buses had produced in the last three years at least five buses for the urban bus transport with low emissions, which are used exclusively for the carriage of passengers in the city transport.

Technical specifications:

- Offered vehicle models must comply with certain technical requirements (engine, gear shift, tires, brake system, fuel tank volume (for 320 km) etc.).
- Vehicle must comply with exhaust gas standard EURO VI (bidder must provide technical documentation of the manufacturer or approval certificate).
- Along with the bid, the bidder must provide complete SORT 2 test with all data evident (who conducted the test, where, measurement results etc.).
- Approval certificate for the vehicle category M3, class 1 must be provided.
- Minimum required warranty duration must be three years from the first registration of the bus. The contractor provides a guarantee for powertrains of the bus (engine, gear shift, differential, ...) with a warranty period of up to 200,000 kilometres / bus; minimum eight year anti-corrosion warranty for a bus carrying construction; minimum eight-year warranty for the capacity of the carrying construction of the bus for the static and dynamic loads. All additional warranties are starting from the date of the first registration of the bus.

Award criteria:

Estimated Life cycle costs (LCC) of the bus**	75 points
Use of renewable energy sources	15 points
Lower noise emissions	10 points
TOTAL:	100 points

*Lower noise emissions are one of the award criteria contained in the Slovene Regulation on Green Public Procurement; vehicle noise emissions lower than 70 dB(A) are scored additional points.

**An estimate of the cost over the lifetime of a vehicle is one of the criteria laid down in this Regulation (with a method provided). The data for the calculation of LCC have been required by providers in a specific form 6/2 of tender documentation: energy consumption, emissions of CO₂, NO_x, NMHC and PM and had to be evident also in the accompanied technical dossier.

Renewable energy:	Points
Electricity	5 points
Diesel, natural gas (CNG)	0 points
Emission class EURO VI	10 points
TOTAL	15 points

The noise level during the driving	Points
Lower than 70 dB(A)	10 points
Higher than 70 dB(A)	0 points

Provisions of the contract performance clauses:

- Contractor commits to train at least 3 (three) drivers of the city buses in optimal (efficient and safe) driving techniques. Contractor will do this free of charge and no later than within 7 (seven) days after the final delivery of the buses.
- Contractor provides training for the drivers in a form of lecture (for all drivers - 2 (two) school hours) at the seat of the municipal public transport company and practical driving (1 (one) school hour per driver).
- After the final delivery of the buses the contractor must, within no later than 20 work days, organize a training for the head of the mechanical service, mechanics and electricians in order to be able to provide minor maintenance and repairs on buses that can be done in the workshop of the municipal public transport company (fluid replacement, solving minor technical errors, etc.). Training program of the mechanical service employees must be conducted in the range, which is necessary for smooth maintenance of the buses.
- All training must be held in Slovenian language or must be provided simultaneous translation (free of charge) into Slovene. At the end of the training participants receive a certificate of competency.
- The contractor must provide regular maintenance services and repairs of the buses according to the instructions and requirements of the manufacturer.
- The contractor must inform the client about changes or improvements on the buses and provide all necessary after-sales service in the Slovenian language, including the provision of original spare parts and providing driving directions, instructions for vehicle maintenance, instructions for diagnostics, education and service information fifteen years from the date of the final delivery of the buses.

Criteria development

Green public tender was carried out in accordance with the legislation governing the field of public procurement, public finances and the field that was the subject of the tender. Tender was compliant with the provisions of the Regulation on Green Public Procurement (Official Gazette of the Republic of Slovenia, Np. 102/2011 and changes) and comprehensive

environmental requirements from Annex 10 of the Regulation on Green Public Procurement.

Results

Energy savings and CO₂e reductions are calculated on the base of GPP 2020 methodology (it includes the direct CO₂e-emissions (from driving) and the indirect CO₂e-emissions from the production of the fuel). Calculation included 5 new buses with lengths 10 meters. Vehicles run on diesel fuel. Buses can drive 800,000 km in their life cycle. Fuel consumption for the new vehicles is 0.349 l/km (34,9 l/100 km). Data on the average fuel consumption in l/100 km is mentioned in the document "Fuel Consumption Tests According to the 2009 SORT Cycle", under the SORT 2 test. This documentation is an integral part of the offer.

The benchmark is average bus currently available on the market.

	T CO ₂ e emissions (direct and indirect emissions)	energy consumption (TOE)
Low Carbon Tender: energy efficient buses	3,845 t CO ₂ e	1,200 TOE
Benchmark	5,509 t CO ₂ e	1,720 TOE
Savings	1,664 t CO ₂ e	519 TOE

Calculation basis

- Low Carbon Tender: average fuel consumption is 34,9 l/100 km
- Benchmark tender: average fuel consumption is 50 l/100 km
- Vehicle life cycle millage: 800,000 km

Lessons learned

In carrying out green procurement we followed all the provisions of the Regulation on green public procurement. With this particular purchase we had fewer problems as we have already gained some experience with the previous tender.

Unfortunately, in our law is not clearly defined what are renewable energy sources. Besides, the LCC calculation is largely depending on the purchase price and not on emissions; therefore lower price still favours the lead diesel vehicles.



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<http://www.maribor.si/povezava.aspx?pid=11543>

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 CO₂ savings. Moreover, GPP 2020 is running a capacity building programme that includes trainings and exchange. – www.gpp2020.eu



PRIMES
Green Public Procurement

About PRIMES

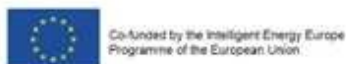
Across six countries in Europe; Denmark, Sweden, Latvia, Croatia, France and Italy, PRIMES project seeks to help municipalities overcome barriers in GPP processes, many of which lack capacity and knowledge.

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



Co-funded by the Intelligent Energy Europe Programme of the European Union

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