



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
- Remarkable 51 % CO₂ emission reduction achieved



Image source: Municipality of Maribor

Last tender = benchmark

- Emission standard EURO II
- Emissions of 6611 t CO₂e/life cycle (= use phase)

GPP 2020 tender

- Emission standard EURO VI
- Emissions of 3,266 t CO₂e/life cycle (= use phase)

Results

- Energy savings of 1,044 toe
- CO₂ emission savings of 3,345 t (51% reduction)

Green Public Tender

- Green public tender for the purchase of buses, published by the Municipality of Maribor in June 2015.
- Divided into three lots which included 11 buses for municipal public transport.
 - Lot B1 (9,4 m – 10,4 m) – 5 buses
 - Lot B2 (10,5 m – 11 m) – 4 buses
 - Lot C (7,5 m – 9,3 m) – 2 buses
- Municipality received 5 bids. Bids for lot B1 were incomplete, thus the public procurement procedure for this section had to be repeated. In sections B2 and C, the most favorable bidders were chosen on the bases set out by the GPP criteria and contracts were signed on 26th of November 2015. 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, Nr. 108/13)

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Procurement approach

Type of procurement procedure: Open procedure

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

Specifications: Provided proof of acknowledgement of technical and human resource capabilities as well as list of references of the bidder or provider in their joint approach in the last three years before filing the bid.

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...)
- Approval certificate for the vehicle category M3, class 1 must be provided together with the bid.
- Minimum required warranty duration must be three years since the first registration of the bus. Additional warranties are required for certain bus parts.

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.

Provisions of the contract performance clauses:

- Contractor commits to train at least 11 (eleven) drivers of the city buses (number will be set according to the number of vehicles in each section) 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 form of lectures (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, organise training for the head of the mechanical service, mechanics and electricians in order for them 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 difficulties, etc.). Training program of the mechanical service employees must be conducted in the frame that is necessary for smooth maintenance of the buses.
- The contractor must provide regular maintenance services and repairs of the buses according to the instructions and requirements of the manufacturer.



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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 Decree on Green Public Procurement (Official Gazette of the Republic of Slovenia, Nr. 102/2011 and changes) and comprehensive environmental requirements from Annex 10 of the Decree on Green Public Procurement.

Results

Energy savings and CO₂ reductions are calculated on the base of GPP 2020 methodology. Calculation included 6 new buses, four of which were of lengths between 10.5 and 11 meters, and two of which were of lengths between 7.5 and 9.3 meters. Vehicles fulfil the requirements of exhaust gas emission standard EURO VI and run on diesel fuel. Life cycle: 800,000 km. Fuel consumption for vehicles in section B2 is 0.319 l/km and for section C2 0.1037 l/km. New buses will replace old ones which have emission standard EURO II. Calculation takes in account average fuel consumption per 100 km for all six vehicles which is 24.7 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. That documentation is an integral part of the offer.

	CO ₂ emissions (t CO ₂ e/ life cycle)	Volume of energy released in the life cycle of the vehicle (TOE/ life cycle)
Low Carbon Tender: emission standard EURO VI	3266 t CO ₂ e/ life cycle	1019 TOE/ life cycle
Last tender (Benchmark): emission standard EURO II	6611 t CO ₂ e/ life cycle	2064 TOE/ life cycle
Savings	3345 t CO ₂ e/ life cycle (= use phase)	1044 TOE/ life cycle (= use phase)

Calculation basis

- Low Carbon Tender: average fuel consumption for 6 vehicles is 0.274 l/km
- Last tender: average fuel consumption for 6 vehicles is 0,5 l/km
- Vehicle life cycle: 800,000 km

Lessons learned

When carrying out the green public procurement we followed all the provisions of the Decree on Green Public Procurement, but we had some difficulties due to wording errors that occur in the Annex 10: Basic Environmental Requirements for Passenger Cars, Light-duty and Heavy-duty Vehicles and Buses. In addition to this the Decree specifies the emission standard EURO V, but in Slovenia it is not possible to buy vehicles with the standard lower than EURO VI. We also see it as a shortcoming that the Decree does not specify what exactly are “renewable energy sources” that could be used as energy sources for buses.

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Public tender was published at:

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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 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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