



A: Buses

1 Key environmental impacts

Impact	Approach
Local health problems caused by particulate matter and ground level ozone	Purchase buses with low emissions
Environmental damage caused by acidification, eutrophication and ground level ozone	Purchase buses with low emissions
Generation of greenhouse gases through consumption of fossil fuels	Improve efficiency of driving style
Considerable noise pollution	Purchase buses with low noise emissions

Other approaches to reducing environmental impacts include considering the use of alternative fuels such as biofuels, and considering the disposal of the vehicles at the end of their useful life.

2 Procura⁺ Key Criteria – Buses

Direct bus purchases

The Procura⁺ Key Criteria for direct bus purchases focus on three aspects:

- **Emission standards:** The easiest approach to ensuring good emission standards for the buses purchased is to use the EURO standards. All new buses must currently meet the EURO IV standards. Given the market availability and competitive costing, the approach taken in the criteria is to demand EEV standard buses. Through this, it can be hoped that a real market shift is produced.
- **Driving style:** Installing driving-style meters costs little and, if combined with appropriate training, is an effective way to reduce fuel consumption.

- **Noise emissions:** A large variety of buses are now available with very low noise emissions, without hindering performance or raising costs substantially. The standards targeted here are based on suggestions by the German Environment Agency, and go beyond the definition of low noise heavy vehicles specified in European Directives

Direct bus purchases

Subject matter: *Purchase of low emission buses*

Specifications:

- *Vehicle engines must be certified as meeting the EEV standard for emissions, according to EC Directive 1999/96/EC*
- *All vehicles are to be fitted with driving-style meters to monitor fuel usage*
- *Vehicle noise emissions must not be higher than 75 dB (A) for vehicles with an engine power between 75–150 kW and 77 dB (A) for vehicles with an engine power above 150 kW ^[1]*

Implementation notes:

- 📎 **Verification (emissions):** All buses meeting the EEV standards when produced will be certified as such. The related information is included in the technical documents of the vehicle.
- 📎 **Verification (noise):** Noise emissions are documented in the technical papers of the vehicles and can therefore easily be checked by procurers.

Tendered public bus services

The Procura+ Key Criteria for tendered public bus services are similar to those for direct purchases, but with a slightly adapted and expanded approach:

- **Emission standards:** It is unrealistic to think that operators will currently have a high number of EEV vehicles, neither can it be expected that the entire fleet will be renewed. A partial renewal of the fleet should however be aimed at, and therefore a certain percentage of vehicles complying with EEV standard should be encouraged. An increase in the amount of EEV buses used over the duration of the contract should also be targeted. Finally it is important that the whole fleet meets a certain minimum environmental standard. As such several criteria are suggested:
 - Minimum environmental standard for buses used in carrying out the service (EURO III)
 - Extra points for the number of EEV vehicles in the award phase of tendering
 - Contract provisions allowing the contracting authority to keep track of how much the EEV buses are being used, and encourage an ever increasing use.
- **Driving style:** Although the retrofitting of old buses with driving style metres is rather expensive, it must be made sure in the tender documents that at least the newly purchased vehicles are equipped with them. Appropriate training is also necessary to ensure the full potential efficiency gains are realised, and can easily be included in tendering.
- **Good quality service:** Encouraging people to use public transport instead of cars entails clear environmental benefits. Of course in order to increase public transport use, the service provided needs to be attractive. Contract provisions can be used to take advantage of the opportunities offered by the private contracting of services to ensure a good quality service is provided.

^[1] Umweltbundesamt: Handbuch für umweltfreundliche Beschaffung, München 1999
(see also: VCD Fakten, Umweltstandards im ÖPNV e.V., Bonn 2001)

Tendered public bus services

Subject matter: *Contract for the provision of bus services in an environmentally friendly manner*

Specifications:

a) Emission standards:

- *All buses used in carrying out the service must have engines meeting EURO III standards, according to EC Directive 1999/96/EC. Where buses are not certified as EURO III, but technical after-treatment has achieved the same standard, this should be documented in the tender application, and approved by a credible third party. To be accepted as such, documentation must be provided that this third party has the appropriate technical expertise in vehicle technology and is fully independent of the bidder.*

b) Driving style:

- *All buses newly purchased after the award of the contract and used in carrying out the service must be fitted with driving-style meters to monitor fuel usage.*

Award criteria:

a) Emission standards:

The contract will be awarded to the tender applicant with the highest score of points, to be allocated according to the following scheme:

- *Engine EURO standard: 10 points (out of 100) – 1 point awarded for every 10% of buses to be used in carrying out the service meeting the EEV standard.*
- *Other: 90 points (out of 100)*

Contract provisions:

a) Emission standards:

- *The number of kilometres driven per year by EEV buses must be reported annually. This number must increase by 10% per year.*






b) Driving style:

- *All bus drivers involved in carrying out the service must be trained in a locally recognised institution on environmentally-conscious driving on a regular basis to increase fuel efficiency.*

c) Good quality service:

- *The operator must achieve a “good quality service”, as evaluated by an independent market research company at the supplier’s expense every year. The supplier must provide details of an appropriate market research company in the tender application*

Implementation notes:

-  **Verification (emissions):** All buses meeting the EURO III, IV, V or EEV standards when produced will be certified as such. The related information is included in the technical documents of the vehicle. As stated in the criteria, for those buses where technical after-treatment has achieved EURO III standard the measures must be documented and included in the tender application, and this must be approved by a credible third party.
-  **Award scheme:** The exact point scheme used and the aspects considered will depend on the authority.
-  **Contract clauses (tender documents):** These special contract clauses must be made clear to potential bidders in the tender documents.
-  **Contract clause (good quality service):** Assessment should be carried out one year after the commencement of the contract. Specific targets and goals must be set and agreed upon during contract negotiations. Three indicators should be used in judging the quality of service: passenger numbers, ticket prices and passenger satisfaction (assessed through a survey), with passenger numbers being of most importance. However, it has to be considered that operators are limited in their ability to influence passenger numbers, whereas local policies and other framework conditions have a big influence. The exact method for carrying out the assessment and analysing the results will be the task of the independent market research company contracted by the service provider.
-  **Contract clauses (penalties for non-compliance):** To ensure effectiveness, appropriate penalties must be included in the contract for non-compliance, for example withholding payment until compliance is achieved.

3 Further ideas

- Take a **different approach to reducing emissions** – for tendered services consider setting limit values for emissions for the fleet as a whole, which get progressively stricter throughout the contract period. This allows flexibility in how the contractor meets the standards, and encourages continuous improvement
- Think about using **alternative fuels**, such as fuel cells or biofuels
- **Joint procurement** can be very suited to bus purchases - as a high-technology sector with single standardised units of a generally high value
- Ask suppliers to provide an environmentally and socially acceptable approach to the **disposal of buses** at the end of their useful life – recycling where possible, and not simply selling on to countries with laxer environmental laws

4 Relevant product labels



German Eco-label (Blauer Engel)

RAL-UZ 59
 Low-noise and low-pollutant municipal vehicles and buses

www.blauer-engel.de

