



Recommendations for the environmentally friendly procurement of notebooks

Guidelines Version 2.0

■ Legal Notices

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Introduction

This guideline has been created by a workgroup made up of members from the Beschaffungsamt des Bundesministeriums des Innern (BeschA) [German Federal Ministry of the Interior's Procurement Office], the Bundesverband Informationswirtschaft, Telekommunikation und neue Medien e.V. (BITKOM) [German Association for Information Technology, Telecommunications and New Media] and the Umweltbundesamt (UBA) [Federal Environment Agency].

The goal of this document is to provide public, order-awarding and procurement agencies at federal, state and municipal levels – as well as company purchasers and institutional procurers, such as churches and associations – with a reliable and comprehensible aid for observance of environmental aspects in the procurement of notebooks.

Protection of the environment is one of the most important tasks of our time. Information and telecommunications technology (ICT) can make a significant contribution to this task. Aside from matters of energy consumption and emission of greenhouse gases, there are also other aspects to be addressed from an environmental perspective such as the conservation of natural resources by increasing material efficiency, improving health protection by lowering acoustic emissions, and the reduction of substances which can have negative effects on the environment.

In this context, the following is requested of both the manufacturer and the purchaser of ICT equipment: The manufacturer is challenged to develop and offer energy and resource efficient products, the purchaser to actually request environmentally friendly products so that they can gain widespread market acceptance. Both sides make an essential contribution towards achieving sustained supply and demand market patterns; they are directly interrelated.

These guidelines are an attempt to influence the demand side. Public order-awarding and procurement agencies play a key role here. Because the combined total of federal, state and municipal expenditures amount to about € 250 billion annually (€ 17 billion of this for ITC products), these agencies exert enormous market influence. This market influence should be aimed at demand for environmentally friendly products in order to stimulate technical and systematic innovation and achieve environmentally positive effects like reductions in CO₂ emissions, energy or resource consumption. In the framework of the national sustainability strategy, the German federal government has acknowledged its leadership position in public procurement.

However, the observance of these objectives in daily procurement practice is often coupled with difficulties. There is general uncertainty about how relatively abstract environmental goals are to be “translated” into specific requirements founded on target values and certification regulations.

Beschaffungsamt, BITKOM and UBA have therefore joined together under the umbrella of the national dialog process for promoting sustainable supply / demand behavior to establish joint recommendations for environmentally-friendly procurement of selected ICT equipment product groups. These recommendations are oriented on five basic principles which are summarized on page 11.

The most recent version of these guidelines can be found online at www.itk-beschaffung.de.

1 Prolonging service life, return and recycling

Environmentally sound product design is a decisive element for the long-term utilization of products. Modular construction permits function and performance enhancements to be added readily and also simplifies repair when necessary. Modular construction also ensures a high rate of product recycling.

■ 1.1 Modular structure

Criteria	Proof
Award	Manufacturer declaration with reference to technical specification (pursuant to guideline “Product Neutral Bidding Procedure”, Chapter 4)

The system unit is built in modules so that components can be replaced, or the system can be upgraded, without need of special tools, in particular:

- working memory (i.e. RAM)
- hard disk/s
- other disk drives
- any of various expansion cards (graphic, sound, network etc.) and CPU

■ 1.2 Replacement parts stock

Criteria	Proof
Award	Manufacturer declaration

Mechanical replacement parts which may become necessary because of normal usage (e. g. HDD, DVD) are available for at least 5 years after delivery date. Components or parts which routinely outlast the average service life of the product need not be stocked as replacement parts.

■ 1.3 Marking of plastic parts > 25g

Criteria	Proof
Award	Manufacturer declaration

Plastic parts having a mass in excess of 25 grams are to be permanently marked per ISO 11469:2000.

■ 1.4 return of old ITC equipment

Criteria	Proof
Exclusion	Manufacturer declaration

The customer must be able to turn in old equipment without charge to a recycling location named by the supplier which is compliant with Electrical and Electronic Equipment Act – “ElektroG” [electrical law, section 10, paragraph 2].

2 Energy

From the lifecycle perspective of a notebook, its operation is the most important aspect with the greatest potential for savings. Energy efficient equipment lowers operating cost and reduces CO₂ emissions.

■ 2.1 ENERGY STAR

Criteria	Proof
Exclusion	Manufacturer declaration and test report per Energy Star test procedure or a document containing the following information: ■ Name of the test laboratory (external or company-internal testing institute) ■ Signature of authorized laboratory person (e. g. laboratory manager) ■ Proof of compliance with requirements according to 3.1 Test report or document only on demand prior to bid award

The device should comply in full with the requirements of the given valid stage of the Energy-Star Program for Computers.

The device complies in full with the requirements of the latest valid ENERGY STAR program for notebooks (www.eu-energystar.org).

Current requirements of the ENERGY STAR 5.0 for notebooks (valid from July 2009):

Typical Energy Consumption (TEC):

- Category A: ≤ 40,0 kWh
- Category B: ≤ 53,0 kWh
- Category C: ≤ 88,5 kWh

The TEC value represents the typical annual electricity consumption of the respective device. This is measured in kilowatt hours (kWh) using an accepted typical working cycle.

The following can be added to the TEC as an option:

- 0.4 kWh for every GB of memory exceeding 4 GB
- 3kWh for additional internal memory
- 3kWh for "Premium Graphics" (category B only)

The current criteria can be found online at www.energystar.gov.

■ 2.2 Energy requirements according to the Blue Angel

Criteria	Proof
Award	Manufacturer declaration

The device complies in full with the latest valid criteria for awarding public contracts in accordance with the Blue Angel for portable computers (notebooks).

Current requirements of the Blue Angel for Portable Computers RAL-ZUZ 78d (version from March 2013):

Typical energy consumption (BE-TEC):

- Category A: ≤ 30,0 kWh
- Category B: ≤ 39,79 kWh
- Category C: ≤ 66,38 kWh

The current requirements of the Blue Angel can be viewed at www.blauer-engel.de.

■ 2.3 Energy management

Criteria	Proof
Exclusion	Manufacturer declaration

The device is to be delivered with energy management activated per the respective valid Energy Star program.

Current requirements of ENERGY STAR V.5: When idle:

- < 30 min Sleep mode, e. g. ACPI S3 and < 15 min switch off monitor

■ 2.4 Information on energy consumption

Criteria	Proof
Exclusion	Manufacturer declaration

The TEC value must be specified in kilowatt hours (kWh) as prescribed by VgV Section 4(6)¹ (German regulations on the awarding of public contracts).

■ 2.5 On and Off switches

Criteria	Proof
Exclusion	Manufacturer declaration

The device must support an ACPI compliant operating system. It requires an on/off switch. When the device is switched off, by activating the switch the device must at least be put into its off mode state (ACPI S5 or equivalent).

■ 2.6 Requirements for batteries

Criteria	Proof
Award	Manufacturer declaration

The option of replacing the battery serves to ensure the longest possible operating lifetime, preserving resources and preventing waste as a result. Furthermore, when devices can be used for longer periods by replacing the battery, there are also economic advantages for the user.

Batteries must comply with current EU guidelines for batteries.

3 Acoustic noise emissions

It is very important that devices located in the immediate vicinity of the workplace should operate as quietly as possible. Low-noise devices make a contribution to health protection.

Guaranteed acoustic noise level, as determined on the basis of EN ISO 7779 in conjunction with ISO 9296, is to be specified in Bel (B).

■ 3.1 Limitation for acoustic noise level per ITI TC6

Criteria	Proof
Exclusion	Manufacturer declaration and test report per ISO 7779 from an organisation accredited per ISO 17025 or a document containing the following information: ■ Name of the test laboratory (external or company-internal testing institute) ■ Accreditation certificate of the test laboratory per ISO 17025 for measurements per ISO 7779. ■ Signature of authorized laboratory person (e. g. laboratory manager) ■ Acoustic noise emission values in Bel (B) Test report or document only on demand prior to bid award

The noise emission (LWAd) should not exceed 4.50 B in idle mode and 4.80 B when in operation (activation of the hard drive)

■ 3.2 Limitation for acoustic noise level per Blue Angel

Criteria	Proof
Award	Manufacturer declaration

The acoustic noise level does not exceed 3.50 B in idle mode and 4.00 B when in operation (activation of the hard drive).

4 Material characteristics / substance-related requirements

Portable computers contain many different components and substances. The exclusion of certain substances reduces the risk of environmentally harmful substances entering the environment. This contributes significantly to protecting the environment and health as a result.

■ 4.1 Exclusion of certain halogen compounds

Criteria	Proof
Exclusion	Manufacturer declaration

Plastic enclosure substances are not to be made of polymers with halogen content (e. g. PVC). Furthermore, no flame retarding agents containing chlorine or bromine are to be added to plastic enclosure parts > 25g.

■ 4.2 Exclusion of certain substances

Criteria	Proof
Exclusion	Manufacturer declaration

Substances classified by EC regulation no. 1272/2008 Annex VI as having the following hazardous properties may not be added to plastic materials in computer enclosures (parts > 25g):

- Carcinogenic substances of category 1A, 1B
- Germ cell mutagenic substances from categories 1A, 1B
- Reproductive toxic substances from categories 1A, 1B

■ 4.3 Packaging

Criteria	Proof
Exclusion	Manufacturer declaration

Plastics used in device packaging must not contain halogenated polymers (e. g. PVC).

■ 4.4 Exclusion of certain substances in liquid crystal mixtures

Criteria	Proof
Exclusion	Manufacturer declaration

Liquid crystal mixtures should not contain any substances that are classified as carcinogenic, mutagenic or reproduction endangering in categories 1, 2 or 3 or as toxic or highly toxic in accordance with the current Appendix I of EU Guideline 67/548/EWG and/or must be labeled accordingly pursuant to Appendix VI of the Guideline.

■ 4.5 Mercury content in notebook screens

Criteria	Proof
Exclusion	Manufacturer declaration

The screen backlight may not contain any mercury.
The background illumination of screens may not contain mercury.

5 Manufacturer declarations, test reports and user information

Criteria	Proof
Exclusion	Manufacturer declarations, test reports, manuals

Proof of compliance with the criteria indicated may be provided through manufacturer declarations or test reports depending on the respective criterion. Technical, environmental and health-relevant user information supports the user in ways that include the correct handling of notebooks with respect to matters of the environment and health.

In the case of products bearing the Blue Angel environmental label, it may be assumed, pursuant to Section 8 (5) VOL/A-EC (accordingly for the sub-threshold values), that they demonstrably fulfil all criteria indicated here. No separate Proof of compliance is required for such products. Please note that although the Blue Angel may be admitted as Proof (in addition to other suitable proof), it is no substitute for the inclusion of the aforementioned technical criteria in the product specification.

This could be formulated as follows:

- Manufacturer declarations (e. g. Eco Declaration ECMA-370) and test reports per ENERGY STAR, Blue Angel or the like may be submitted in German or English.
- Manuals containing technical, environmental and health-relevant user information are available electronically in German e. g. as a CD or for download.

6 Appendix

The recommendations are oriented on five fundamental principles:

- **Steering effect:** Use of the procurement portal should induce suppliers (industry) and enquirers (procurement officers for public entities, companies and organizations) to improve the environmental friendliness of ITC devices. When enquirers increasingly purchase the most environmentally friendly devices, this will generate incentives in industry to further promote efforts with respect to environmentally friendly devices
- **Environmentally sound friendliness:** PCs which meet the criteria listed here can be counted among those which are currently the most environmentally sound. The principle to be followed in a procurement decision is to choose the most ecologically efficient system solution.
- **Ambitious and accomplishable requirements:** The goals must be ambitious in order to reflect the most environmentally sound devices on the market (status quo) and simultaneously stimulate trends (development potential). At the same time, the requirements should not be too challenging so that only a marginal share of market participants could fulfill them. This present guideline solves this challenge with the use of exclusion and award criteria.

- **Comprehensibility:** Procurers should be able to understand the significance of the criteria. The selection and formulation of criteria is therefore organized according to the following principles:

- decisive environmental criteria ("quality")
- manageable number ("quantity")
- unambiguous presentation ("legibility")

- **Verifiability:** Procurers should be able to check whether devices truly meet the values provided in the "self-declarations". The guideline therefore calls for standardized test procedures that yield measurement values which can be reproduced (verified) and repeated (for example, by an "accredited testing laboratory" or "third-party audit certification").

The criteria established in this present guideline can be used directly in the tender documents. The incorporation of environmental aspects in the tender documents is not critical with respect to the legal aspects of bidding procedures. German contracting rules (VOL/A, VOB/A and VOF) explicitly state that environmental aspects may be a part of technical requirements and that environmental characteristics represent permissible award criteria.

A general introduction to the subject of green procurement as well as notices about special requirements for various different stages of the bidding process can be found, for example, in the "Handbook on environmental public procurement" published by the European Commission.

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The German Association for Information Technology, Telecommunications and New Media (BITKOM) represents more than 2,100 companies in Germany. Its 1,300 direct members generate an annual turnover of more than 140 billion Euros and employ 700,000 people. They include more than 900 small and medium-sized enterprises, over 100 start-ups as well as nearly all global players. BITKOM represents providers of software and IT, telecommunications and Internet services, manufacturers of hardware and consumer electronics, as well as digital media and Internet economy businesses.

The Umweltbundesamt [Federal Environment Agency] is the scientific environmental agency belonging to the business branch of the Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (BMU) [Federal Ministry for the Environment, Nature Conservation and Nuclear Safety] which has a personnel roster of 1,500 persons distributed among a total of 13 locations. Its most important responsibilities involve the scientific support of the federal government, the execution of important environment laws and providing the public with information.

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