Recommendations for the environmentally friendly procurement of notebooks

Guideline

Version 1.0

BITKOM

Umwelt Bundes Amt

Für Mensch und Umwelt

BESCHAFFUNGSAMT
des Bundesministeriums des Innern

Recommendations for the environmentally friendly procurement of notebooks

Content

Introduction

This guideline has been created by a workgroup made up of members from the Beschaffungsamt des Bundesministerium 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], the Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (BMU) [Federal Ministry for the Environment, Nature Conservation and Nuclear Safety] 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 CO_2 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. The commencement of the "Allgemeine Verwaltungsvorschrift zur Beschaffung energieeffizienter Produkte und Dienstleistungen"[1] [general administrative order for the procurement of energy efficient products] on January 24, 2008 and the revised version of the Energy-Star-Verordnung[2] [Energy-Star directive] on March 4, 2008 give cause to anticipate a tremendous demand from personnel in procuring offices for additional information and consultation.

BeschA, BITKOM, BMU 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.

The most recent version of these guidelines can be found online at www.ict-procurement.org.

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1   http://www.bmwi.de/BMWi/Redaktion/PDF/A/aav-zur-beschaffung-energieeffizienter-produkte, property=pdf,bereich=bmwi,sprache=de,rwb=true.pdf
2   http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:039:0001:0007:DE:PDF

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:	Verification:
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:	Verification:
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:	Verification:
Exclusion	Manufacturer declaration

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

1.4 Free-of-charge return of old ITC equipment

Criteria:	Verification:
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 ElektroG § 10 Abs.2 [electrical law, section10, paragraph 2]. 2.

2 Energy

From the lifecycle perspective of a notebook, its energy efficient operation is the most important aspect with the greatest potential for savings. Energy efficient equipment lowers operating cost and reduces CO_2 emissions.

■ 2.1 Energy Star

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

Criteria:	Verification:
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) ■ Verification of compliance with requirements according to 2.1 Test report or document only on demand prior to bid award

Current requirements of Energy Star V4.0 Level 1 for notebooks (valid until June 2009):

- Off mode, e.g. ACPI S5 mode: ≤ 1.0 W - Wake on LAN disabled
- Off mode, e.g. ACPI S5 mode: ≤ 1.7 W - Wake on LAN enabled

- so-called Sleep mode, e.g. ACPI S3 mode: ≤ 1.7 W - Wake on LAN disabled
- so-called Sleep mode, e.g. ACPI S3 mode: ≤ 2.4 W - Wake on LAN enabled

Idle state, e.g. ACPI S0 Idle mode:

- category A: ≤ 14 W
- category B: ≤ 22 W

Current requirements of Energy Star V5.0 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 4GB
- 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 management.

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

Criteria:	Verification:
Exclusion	Manufacturer declaration

Current requirements of Energy Star for notebooks (same for V4.0 and V5.0): When idle: < 30 min Sleep mode, e.g. ACPI S3 and < 15 min switch off monitor

2.3 On and Off switches

Criteria:	Verification:
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).

2.4 Batteries

Criteria:	Verification:
Exclusion	Manufacturer declaration

Batteries must comply with current EU guidelines for batteries.

3 Acoustic noise emissions[3]

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 7779:2001 in conjunction with ISO 9296:1998, is to be specified in dB(A). (alternatively, since 1B(A) = 10 db(A), specification in B(A) is also permissible when accuracy to two decimal digits is specified).

■ 3.1 Limitation for acoustic noise level per ITI TC6

Criteria:	Verification:
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 Test report or document only on demand prior to bid award

A limit of 45 dB(A) in idle mode and 48 db(A) in operation (activation of the hard disk drive) shall not be exceeded.

■ 3.2 Limitation for acoustic noise level per Blue Angel

Criteria:	Verification:
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 reviewing 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 Test report or document only on demand prior to bid award

In notebooks, a limit of 40 dB(A) in idle mode and 44 db(A) in operation (activation of the hard disk drive) shall not be exceeded.

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[3] There is a need for further clarification with regard to noise measurements in the event of increased CPU load. The required analyses are currently being carried out by UBA and BITKOM.

4 Material characteristics / substance-related requirements

Computers are made of a myriad of individual components and different substances. Their impact upon introduction into the environment, as well as burdens to health at the workplace can be reduced by excluding problematic and hazardous substances.

4.1 Exclusion of certain halogen compounds

Criteria:	Verification:
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:	Verification:
Exclusion	Manufacturer declaration

Substances classified by Appendix 4 of EU Guideline 67/548/EWG as having the following hazardous properties may not be added to plastic materials in computer enclosures (parts > 25g):

- Carcinogens in EU categories 1, 2 or 3
  - R 40 suspicion of carcinogenic effect
  - R 45 can cause cancer
- Mutagens in EU categories 1, 2 or 3
  - R 46 can cause inheritable damage
  - R 68 irreversible damage possible

- Reproduction endangering substance per EU categories 1, 2 or 3
  - R 60 can impair fertility
  - R 61 can harm the fetus
  - R 62 can potentially impair fertility
  - R 63 can potentially harm the fetus

4.3 Packaging

Criteria:	Verification:
Award	Manufacturer declaration

Plastics containing halogen are not to be used.

4.4 Exclusion of certain substances in liquid crystal mixtures

Criteria:	Verification:
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 flat screens

The mercury content in the bulbs for the background illumination of flat screens may not exceed an average of 3 milligrams per bulb.

Criteria:	Verification:
Exclusion	Manufacturer declaration

5 Additional notebook flat screen requirements

■ 5.1 Ergonomic characteristics

Criteria:	Verification:
Award	Manufacturer declaration or proof of compliance via a third party (such as GS certificate, for example)

The device shall at least comply with pixel error category 2 and the reflection category according to ISO 9241-307.

6 Manufacturer declarations, test reports and user information

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.

■ 6.1 Manufacturer declarations, test reports and user information

Criteria:
Exclusion

Products awarded with the eco label Blue Angel (basic criteria document version March 2008) are certified to fulfill all criteria listed here until June 2009. For these products, other verification of compliance is not necessary. Manufacturer declarations (e.g. Eco Declaration ECMA-370) and test reports per Energy Star, Blue Angel or equivalent may be provided in German or English language.

Acknowledgements

The German Association for Information Technology, Telecommunications and New Media (BITKOM) represents more than 1,300 companies. Its 950 direct members generate a sales volume of 135 billion euros annually and employ 700,000 people. They include providers of software, IT and telecommunication services, manufacturers of hardware and consumer electronics as well as digital media 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 1,200 persons distributed among a total of eleven 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.

The Beschaffungsamt des Bundesministerium des Innern [German Federal Ministry of the Interior's Procurement Office] purchases goods and services for 26 federal agencies, for federally funded foundations and for internationally active organizations. Our product portfolio ranges from A to Z, includes complex hardware like helicopters as well as a myriad of services. In 2007 we awarded 1,256 orders for a total volume of € 546 million Further information can be found online at www.beschaffungsamt.de

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