

Sustainable Public Procurement-fiche: advanced

1) Subject matter

Monitors and flat screens produced with environmentally friendly materials that are environmentally friendly in use and waste phase.

“For <.....> (name of the public authority), the care for the environment and social aspects is important. It is stated in her <strategic policies>, <mission>, <vision>, <procurement policy>, ...”

2) Exclusion criteria

Non compliance with environmental and social legislation, which has been the subject of a final judgment or a decision having equivalent effect, may be considered an offence concerning the professional conduct of the economic operator concerned or grave misconduct, permitting to exclude the party concerned from competing for the contract

Ref:

Art. 53 and 54 of Directive 2004/17/EC and Art. 45 of Directive 2004/18/EC

3) Technical capacity

/

4) Technical specifications

Energy consumption

- Computer monitor models do not exceed the following maximum active power consumption equation:

Y is expressed in watts and rounded up to the nearest whole number and X is the number of megapixels in decimal form (e.g., 1,920,000 pixels = 1.92 megapixels).

If $X < 1$ megapixel, then $Y = 23$

if $X > 1$ megapixel, then $Y = 28X$.



For example, the maximum power consumption for a computer monitor with 1024 x 768 resolution (or .78 megapixels) would be $Y = 23$ watts.

- Maximum power consumption levels for Sleep is ≤ 2 watts and Off Modes consumption is ≤ 1 watt. Computer monitors capable of multiple Sleep Modes (i.e., Sleep and Deep Sleep) will meet the Sleep Mode requirement in all such modes.
- A Sleep Mode is not necessary if the computer monitor can proceed from On Mode/Active Power to Off Mode/Standby Power and meet the requirements in the Off Mode/Standby Power. Computer monitors that have the capability to proceed automatically from On Mode/Active Power to an Off Mode/Standby Power of 1 watt or less comply with these energy consumption requirements.
- The computer monitor's Off Mode/Standby Power is activated within 30 minutes of user inactivity. Upon resumption of user activity (e.g., user moves the mouse or presses a key on the keyboard), the computer monitor returns to full operational capability.

Evidence:

The compliance with all the criteria mentioned above can be proved with one of the following labels:



Blaue Engel



Nordic Swan



EU Ecolabel



TCO Displays



Energy Star

In case that the tendering company can present one of these labels, any further proof is not necessary. Any other suitable evidence from a recognized body can also be used.



5) Awarding the contract:

	Criterion	Weight
1	Price <i>Calculation (e.g.):</i> Lowest offered price/ stated price x 0,70	e.g. 70%
2	Environmental criteria (The public authority formulates the points it wants to assign to the below mentioned criteria) <i>Calculation (e.g.):</i> Total scored points / maximum number of points x 0,20	e.g. 20%
3	...	e.g. 5 %
4	...	e.g.

Energy consumption

If feasible (e.g., when the monitor manufacturer has a business relationship with specific computer manufacturers or if the monitor manufacturer also sells its own computers or bundled products), the monitor manufacturer should ensure that computer monitors have their Sleep Modes enabled when shipped to the customer. Further, the computer shall activate the computer monitor's Sleep Mode within 30 minutes of user inactivity. (Energy Star)

Product design

Manufacturers are strongly recommended to design products in accordance with the user interface standard IEEE P1621: Standard for User Interface Elements in Power Control of Electronic Devices Employed in Office/Consumer Environments.

- To facilitate recycling following criteria should be valid: Connections are easy to find, accessible with commonly available tools, and as standardized as possible.
- Plastic parts heavier than 25g shall have a permanent marking identifying the material, in conformity with ISO 11469: 2000. Excluded from this criterion are extruded plastic materials and the light-guide of flat panel displays.
- Plastic parts (>25 g) may contain metallic inlays provided that these can easily be separated without the use of special tools. Moulded-in or glued metal parts are prohibited.



- If labels are required they shall be easily separable or inherent. Not valid for safety labels according to CENELEC safety standard EN 60850 §1.7.2.
- Plastic parts shall be of one polymer or compatible polymers, except for the cover, which shall consist of no more than two types of polymer, which are separable
- 90 wt% of plastics and metals in the housing and chassis must be technically suitable for material recovery. Material recovery does not include the recovery of thermal energy through incineration.
- Large plastic parts (>25 g) must not be painted or metalized. Exempted from the requirement are: Fog paint with max. 1w-% paint per plastic part paint made from Base polymer

Chemical criteria

- If the amount of flame retardant exceeds 1 % by weight the coding shall be complemented in accordance with ISO 1043-4.)
- The housing and chassis do not contain chlorine or Bromine based plastics.
- Halogenated polymers are not permissible. Organic halogenated compounds as flame retardants are added to the plastic parts.
Exempted from this rule are:
 - Fluoroorganic additives (as, for example, anti-dripping agents) used to improve the physical properties of plastics, provided that they do not exceed 0.5 weight percent.
 - Fluoroplastics as, for example, PTFEs.
 - Plastic parts weighing less than 25 grams. However, they may not contain PBBs (polybrominated biphenyls), PBDEs (polybrominated diphenyl ethers) or chlorinated paraffins.
- Plastic parts heavier than 25g do not contain flame retardant substances or preparations that are assigned any of the following risk phrases as defined in Council Directive 67/548/EEC:
 - R45 (may cause cancer).
 - R46 (may cause heritable genetic damage).
 - R60 (may impair fertility).
 - R61 (may cause harm to the unborn child).(see annex)
- The background lighting of LCD monitors shall not contain more than 3.5 mg of mercury on average per lamp.
- The mercury content of the lamps for the background illumination of flat screen monitors shall not exceed 3 milligrams per lamp in average.



Noise emissions

- Visual Display Units equipped with fans and "all-in-one computers" shall fulfill the following requirements.
The declared A-weighted sound power level (LWAd) in accordance with ISO 9296 shall not exceed:
 - o Operating mode: 4.4B (equivalent to 44 dB(A))
 - o Idling mode: 3.9B (equivalent to 39 dB(A))
- If the product does not emit prominent discrete tones according to procedures specified in ECMA 74 Annex D a higher declared A-weighted sound power level (LWAd) is accepted but shall not exceed:
 - o Operating mode: 4.7B (equivalent to 47 dB(A))
 - o Idling mode: 4.2B (equivalent to 42 dB(A))

6) Performance clauses:

Packaging

Plastics used for product packaging may not contain halogen-containing polymers

Documentation

- The printed product documentation supplied along with the devices (User Manual, Product Documents) shall be printed on chlorine-free bleached paper, preferably made of recycled paper.
- The manual must be available in printed or electronic form.

Other

- The manufacturer must furnish a commercial guarantee stating that the system unit, display or the portable computer will function for at least three years. The guarantee must apply from the day on which the computer is delivered to the customer.
- The applicant undertakes to see to it that spare parts supply and necessary infrastructure for equipment repair is secured for a period of at least 5 years after





the end of production and that users are informed about the guaranteed availability of spare parts.

Parts to be replaced are those parts which typically have the potential to fail during the normal use of the product. In contrast, those parts whose life cycle usually exceeds the average usual life of the product need not be provisioned as spare parts.

References

[Information of the public authority that used these clauses in a procurement case]



Annex R-PHRASES:

(R-phrases are mentioned on product labels and in product safety datasheets. It can be a useful tool for verification-procedures.)

<u>R1:</u>	Explosive when dry.
<u>R2:</u>	Risk of explosion by shock, friction, fire or other sources of ignition.
<u>R3:</u>	Extreme risk of explosion by shock, friction, fire or other sources of ignition.
<u>R4:</u>	Forms very sensitive explosive metallic compounds.
<u>R5:</u>	Heating may cause an explosion.
<u>R6:</u>	Explosive with or without contact with air.
<u>R7:</u>	May cause fire.
<u>R8:</u>	Contact with combustible material may cause fire.
<u>R9:</u>	Explosive when mixed with combustible material.
<u>R10:</u>	Flammable
<u>R11:</u>	Highly flammable
<u>R12:</u>	Extremely flammable
<u>R13 (obsolet):</u>	<i>Extremely flammable liquid gas (This R-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)</i>
<u>R14:</u>	Reacts violently with water.
<u>R15:</u>	Contact with water liberates extremely flammable gases.
<i>Merck R15.1</i>	<i>Contact with acid liberates extremely flammable gases.</i>
<u>R16:</u>	Explosive when mixed with oxidizing substances.
<u>R17:</u>	Spontaneously flammable in air.
<u>R18:</u>	In use, may form flammable/explosive vapour-air mixture.
<u>R19:</u>	May form explosive peroxides.
<u>R20:</u>	Harmful by inhalation.
<u>R21:</u>	Harmful in contact with skin.
<u>R22:</u>	Harmful if swallowed.
<u>R23:</u>	Toxic by inhalation.
<i>Riedel-de Haen R23K:</i>	<i>Also toxic by inhalation.</i>
<u>R24:</u>	Toxic in contact with skin.
<i>Riedel-de Haen R24K:</i>	<i>Also toxic in contact with skin.</i>
<u>R25:</u>	Toxic if swallowed.
<i>Riedel-de Haen R25K:</i>	<i>Also toxic if swallowed.</i>
<u>R26:</u>	Very toxic by inhalation.
<i>Riedel-de Haen R26K:</i>	<i>Also very toxic by inhalation.</i>
<u>R27:</u>	Very toxic in contact with skin
<i>Riedel-de Haen R27A:</i>	<i>Very toxic in contact with eyes.</i>
<i>Riedel-de Haen R27K:</i>	<i>Also very toxic in contact with skin.</i>
<i>Riedel-de Haen R27AK:</i>	<i>Also very toxic in contact with eyes.</i>




<u>R28:</u>	Very toxic if swallowed.
<i>Riedel-de Haen R28K:</i>	<i>Also very toxic if swallowed.</i>
<u>R29:</u>	Contact with water liberates toxic gas.
<u>R30:</u>	Can become highly flammable in use.
<u>R31:</u>	Contact with acids liberates toxic gas.
<i>Merck R31.1</i>	<i>Contact with alkalies liberates toxic gas.</i>
<u>R32:</u>	Contact with acids liberates very toxic gas.
<u>R33:</u>	Danger of cumulative effects.
<u>R34:</u>	Causes burns.
<u>R35:</u>	Causes severe burns.
<u>R36:</u>	Irritating to eyes.
<i>Riedel-de Haen R36A:</i>	<i>Lacrimating</i>
<u>R37:</u>	Irritating to respiratory system.
<u>R38:</u>	Irritating to skin.
<u>R39:</u>	Danger of very serious irreversible effects.
<u>R40:</u>	Possible risk of cancer. <i>CAUTION: Until 2001 this R-phrase was used for possible mutagenic or teratogenic risks as well. These risks are now labelled with R68!</i>
<u>R41:</u>	Risk of serious damage to eyes.
<u>R42:</u>	May cause sensitization by inhalation.
<u>R43:</u>	May cause sensitization by skin contact.
<u>R44:</u>	Risk of explosion if heated under confinement.
<u>R45:</u>	May cause cancer.
<u>R46:</u>	May cause heritable genetic damage.
<i>R47(obsolete):</i>	<i>May cause deformities. (This R-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)</i>
<u>R48:</u>	Danger of serious damage to health by prolonged exposure.
<u>R49:</u>	May cause cancer by inhalation.
<u>R50:</u>	Very toxic to aquatic organisms.
<u>R51:</u>	Toxic to aquatic organisms.
<u>R52:</u>	Harmful to aquatic organisms.
<u>R53:</u>	May cause long-term adverse effects in the aquatic environment.
<u>R54:</u>	Toxic to flora.
<u>R55:</u>	Toxic to fauna.
<u>R56:</u>	Toxic to soil organisms.
<u>R57:</u>	Toxic to bees.
<u>R58:</u>	May cause long-term adverse effects in the environment.
<u>R59:</u>	Dangerous for the ozone layer.
<u>R60:</u>	May impair fertility.
<u>R61:</u>	May cause harm to the unborn child.
<u>R62:</u>	Possible risk of impaired fertility.
<u>R63:</u>	Possible risk of harm to the unborn child.
<u>R64:</u>	May cause harm to breastfed babies.
<u>R65:</u>	Harmful: may cause lung damage if swallowed.
<u>R66:</u>	Repeated exposure may cause skin dryness or cracking.
<u>R67:</u>	Vapours may cause drowsiness and dizziness.
<u>R68:</u>	Possible risks of irreversible effects.

COMBINATIONS OF R-PHRASES:



- R14/15: Reacts violently with water, liberating extremely flammable gases.
- R15/29: Contact with water liberates toxic, extremely flammable gas.
- R20/21: Harmful by inhalation and in contact with skin.
- R21/22: Harmful in contact with skin and if swallowed.
- R20/22: Harmful by inhalation and if swallowed.
- R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.
- R21/22: Harmful in contact with skin and if swallowed.
- R23/24: Toxic by inhalation and in contact with skin.
- R24/25: Toxic in contact with skin and if swallowed.
- R23/25: Toxic by inhalation and if swallowed.
- R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.
- R24/25: Toxic in contact with skin and if swallowed.
- R26/27: Very toxic by inhalation and in contact with skin.
- R27/28: Very toxic in contact with skin and if swallowed.
- R26/28: Very toxic by inhalation and if swallowed.
- R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed.
- R36/37: Irritating to eyes and respiratory system.
- R37/38: Irritating to respiratory system and skin.
- R36/38: Irritating to eyes and skin.
- R36/37/38: Irritating to eyes, respiratory system and skin.
- R39/23: Toxic: danger of very serious irreversible effects through inhalation.
- R39/24: Toxic: danger of very serious irreversible effects in contact with skin.
- R39/25: Toxic: danger of very serious irreversible effects if swallowed.
- R39/23/24: Toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
- R39/23/25: Toxic: danger of very serious irreversible effects through inhalation and if swallowed.
- R39/24/25: Toxic: danger of very serious irreversible effects in contact with skin and if swallowed.
- R39/23/24/25: Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
- R39/26: Very toxic: danger of very serious irreversible effects through inhalation.
- R39/27: Very toxic: danger of very serious irreversible effects in contact with skin.
- R39/28: Very toxic: danger of very serious irreversible effects if swallowed.
- R39/26/27: Very toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
- R39/26/28: Very toxic: danger of very serious irreversible effects through inhalation and if swallowed.
- R39/27/28: Very toxic: danger of very serious irreversible effects in contact with skin and if swallowed.
- R39/26/27/28: Very toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
- R42/43: May cause sensitization by inhalation and skin contact.
- R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R48/21: Harmful: danger of serious damage to health by prolonged exposure in contact with skin.
- R48/22: Harmful: danger of serious damage to health by prolonged exposure if swallowed.
- R48/20/21: Harmful: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
- R48/20/22: Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
- R48/21/22: Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
- R48/20/21/22: Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
- R48/23: Toxic: danger of serious damage to health by prolonged exposure through inhalation.
- R48/24: Toxic: danger of serious damage to health by prolonged exposure in contact with skin.
- R48/25: Toxic: danger of serious damage to health by prolonged exposure if swallowed.
- R48/23/24: Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
- R48/23/25: Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
- R48/24/25: Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
- R48/23/24/25: Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.



- 
- R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - R68/20: Harmful: possible risk of irreversible effects through inhalation.
 - R68/21: Harmful: possible risk of irreversible effects in contact with skin.
 - R68/22: Harmful: possible risk of irreversible effects if swallowed.
 - R68/20/21: Harmful: possible risk of irreversible effects through inhalation and in contact with skin.
 - R68/20/22: Harmful: possible risk of irreversible effects through inhalation and if swallowed.
 - R68/21/22: Harmful: possible risk of irreversible effects in contact with skin and if swallowed.
 - R68/20/21/22: Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

