UNDP Practice Series

Environmental Procurement Practice Guide –

Environmental Specifications

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Environmental procurement guidelines for products, services and works – Product /services fact sheets

This part of the UNDP sustainable procurement practice guide strives to outline environmental criteria that need to taken into consideration when procuring specific products, services and works. As with the rest of this guide sustainable procurement is constantly undergoing development, therefore this listing of common user item categories will be amended and added to as new information becomes available. This of course also includes the feedback that is received from UNDP business unit from all over the globe.

These fact sheets structured to feature the following components:

Needs Analysis
This section describes the analysis that should take place before the process of procuring a particular product/service even starts. It highlights important questions that procurement officers should ask before setting out to draw up specifications and going to market for a particular product or service category.

Environmental Aspects
Here the typical impacts that a products or service has upon the environment are discussed, these typically focus upon the production, use and disposal/waste stage of the life cycle. These impacts reflect the aspects that must be addressed in the environmental specification and evaluation criteria that are to be required of the suppliers in the solicitation documents.

Cost Aspects
As with the aspects, the cost aspects identify where the majority of the associated costs lie with a particular product or service category. It is these costs that must also be factored into acquisition consideration as in most cost these are in addition to the actual purchase costs and if addressed correctly can represent substantial savings both in environmental and financial terms for the organisation.

Relevant Eco-labels
This section identifies the existing eco-labels for a particular product or service category. These labels can represent an enormous assistance to procurement officers as they not only identify environmental issues associated with the products or services, but their criteria can be used as a basis for or even as the environmental specifications to used in the solicitation documents. Please note though, bidder can not be asked to be registered with a label only that they comply with the requirement, in an evaluation all forms of proof of this must be accepted.
The Eco-labels, where applicable, have been marked with the star system to indicate the UNDP minimum or preferred environmental standard for that particular product or service category. In this making it easier to ascertain where the ecolabel fits into the UNDP continuum of environmental procurement.

Relevant Criteria for the inclusion in bidding documents
This section represent a summary of the most relevant criteria that should included the solicitation documents to ensure that the end results of the procurement process is one that ensures an improved environmental performance in compared to that of a comparable standard product of service.

Sample environmental technical specifications
This sections highlights sample technical specifications for the particular product service category and can be used a specification or adapted to suit the business units requirements. In addition, where applicable the sample specifications are rated according to the UNDP preferred or minimum specification, in this way enabling easy identification of where the specification fits into the UNDP continuum of environmental procurement.

Product Categories

- ICT equipment (PC, Notebooks, Monitors)
- Office equipment (Printers, photocopiers, multifunctional devices and fax machines)
- Office Equipment consumables (toner cartridges)
- Paper, printed matter and cardboard
- Packaging *(to be added)*
- Furniture and other manufactured goods *(to be added)*
- Batteries *(to be added)*
- Cleaning Products *(to be added)*
- Vehicles *(to be added)*

Service Categories

- Printing services *(to be added)*
- Cleaning services *(to be added)*
- Waste management *(to be added)*
- Building management *(to be added)*
- Transport services *(to be added)*
- Catering Services

Civil Works Categories

- Construction work

ICT Equipment (PC's, Notebooks, Monitors)

Needs analysis
Preliminary decision : Questions to be asked before buying new computers : • Are there any used ones inside the organisation, which can be reused (and upgraded)? • Is buying used computers a viable option? This depends, of course, on the required specification and usage. In order to buy it is important to: • determine exactly the essential/necessary capacity needed for each computer • determine exactly what kind of hardware is essential for the computers • decide what kind of monitors you want to buy (LCD or CRT, choose the latter only if it is unavoidable) Alternative system : Lean Client System according to local networks: consider buying a central server on which the programmes run and only supplying users with a monitor and a keyboard (less energy, less materials required, etc.)

Environmental Aspects	
Production	They are produced from many materials in a complex way. Important points are : • The use of non-renewable natural resources (plastic parts; their recyclability is important) • The use of harmful chemicals for flame retardants and other harmful substances (there could be cadmium in CRT monitors and there is mercury in LCD monitors).
Use	Despite the relatively short life cycle, the most important environmental effect emerges during the usage phase, in the form of energy expended. Besides energy there are effects on the users' health, these include: • radiation from CRT monitors • noise pollution
Waste	The many different materials used cause a severe problem of wastage. Most of the materials can be recycled. A (free of charge) take-back system for recycling should be taken into account when procuring computers and monitors.
Cost Aspects	
Life Cycle Costs	The majority of costs lie in the energy utilized: using energy management programs can make savings. Less important costs relate to maintenance and the costs of disposal A useful tool for the calculation of financial savings can be found at http://www.eu-energystar.org/en/en_calculator.shtml

Relevant Product Labels (not exhaustive)			
There are different types of labels. Multi-criteria labels are based on a number of pass/fail criteria for the product group in question. The criteria concerned will normally define the environmental performance that the product must reach and may also set standards ensuring that the product is fit for use. Single-issue labels are ones that relate to a particular environmental issue like energy use or emission levels.			
Eco Label / country of origin	Description	Website	UNDP
Electronic Product Environmental Assessment Tool United States	EPEAT is a multi-criteria label that provides a clear and consistent set of performance criteria for **desktop computers, notebooks and monitors**. Products are evaluated over 51 criteria covering the environmental impacts across the products lifecycle. Products are ranked according to three tiers of environmental performance. Energy efficiency criteria based on Energy Star rating 4 (please refer to Annex XX for the full Criteria list)	Home page: http://www.epeat.net/ List of Manufactures and product models with EPEAT certification. http://www.epeat.net/Companies.aspx	Recommended as UNDP preferred standard. ★ ★
Energy Star United States	Energy Star is a single-issue label that focusing on energy efficiency wide range of products including; computers and monitors.	Procurement page: http://www.energystar.gov/index.cfm?c=bulk_purchasing.bus_purchasing	Recommended as UNDP minimum standard. ★
European Flower European Union	The EU-label is a multi-criteria label. The criteria for computers and monitors include; • energy efficiency • harmful substances • natural resource use • durability • packaging • electromagnetic emissions • Take back and disposal	Homepage: http://ec.europa.eu/environment/ecolabel/product/pg_personalcomputers_en.htm	
Nordic Swan Nordic Countries	The Nordic Swan label is a multi-criteria label. The criteria for computers and monitors include; • energy efficiency • design (upgradeability/disassembly) • material input • heavy metals • noise/electromagnetic emissions • take back and disposal	Homepage: http://www.svanen.nu/Default.aspx?tabName=StartPage&menuItemID=7055	

Eco Label / country of origin	Description	Website	UNDP
Blue Angel Germany	The Blue Angel label is a multi-criteria label. The criteria for computers, monitors and keyboards include; • energy efficiency • design (upgradeability/disassembly) • harmful substances • durability • material input • noise/electromagnetic emissions • take back and disposal	Homepage; http://www.blauer-engel.de/englisch/navigation/body_blauer_engel.htm	
TCO05	TheTCO'05 label is a multi-criteria label. The criteria for computers, monitors, keyboards include; • energy efficiency • noise/electromagnetic emissions • natural resource use • harmful substances • ergonomics • Recycling	Homepage: http://www.tcodevelopment.se/	
Group for Energy Efficient Appliances (GEEA) European (Denmark, the Netherlands, Sweden and Switzerland)	The GEEA label is a single issue label. The criteria for energy efficiency for computers, monitors, and workstations use the energy star criteria as a basis.	Homepage: http://www.efficient-appliances.org/Home.htm	

Relevant criteria for to be included in solicitation documents
For computers and monitors environmental criteria should be included in solicitation, which prescribe: • The energy consumption of the products • Potential longevity of the systems, expandability and a recyclable design as well as the possibilities of reuse and recycling of used products or product components. • The use of environmentally burdening substances (such as (halogenated) flame-proofing agents) during the production phase • Noise emission during operation • Take-back and recycling policies

Sample environmental technical specifications		
Sample 1 – Using **EPEAT** as a basis		
Product	Desktop Computers, laptops and monitors	
Environmental Technical Specification	All desktops, laptops, and computer monitors provided under this contract are required to have achieved Bronze registration or higher under the Electronic Products Environmental Assessment Tool (EPEAT) **or equivalent**. *(EPEAT is a procurement tool designed to help large volume purchasers evaluate, compare, and select desktop computers, laptops, and monitors based upon their environmental attributes as specified in the consensus-based IEEE Standard for the Environmental Assessment of Personal Computer Products (1680).)* Additional consideration will be provided for products that have achieved EPEAT Silver or EPEAT Gold registration **or equivalent**. The registration criteria and a list of all registered equipment are provided at http://www.epeat.net .	Recommended as UNDP preferred Specification ★★
Sample 2 – Using **Energy Star** as a basis		
Product	Desktop Computers, laptops and monitors	
Environmental Technical Specification	Provide new computers, monitors, that earn the ENERGY STAR **or equivalent** and are configured properly for automatic energy-saving features, as per current ENERGY STAR specifications **or equivalent**. The vendor shall provide customer support with respect to power management features, such that these features remain properly enabled and repaired if a malfunction occurs. The vendor is encouraged to visit www.energystar.gov for complete product specifications and an updated list of qualifying products.	Recommended as UNDP minimum standard. ★
	Product Type / Requirements	
	Desktops, Integrated Computers, Desktop-Derived Servers: Standby (Off Mode): ≤ 2.0 W Sleep Mode: ≤ 4.0 W Idle State: Category A: ≤ 50.0 W Category B: ≤ 65.0 W Category C: ≤ 95.0 W *Note: Desktop-derived servers (as defined in section 1. F) are exempt from the Sleep level above.*	
	Notebooks and Tablets: Standby (Off Mode): ≤ 1.0 W Sleep Mode: ≤ 1.7 W Idle State: Category A: ≤ 14.0 W Category B: ≤ 22.0 W	

Sample environmental technical specifications (cont)			
Sample 2 – Using **Energy Star** as a basis (cont.)			
Product	Monitors		
Environmental Technical Specification	Efficient power supply requirements	Power Management	
	Internal power supplies: 80% minimum efficiency at 20%, 50%, and 100% of rated output and minimum Power Factor 0.9	Monitor Sleep Mode: within 15 minutes of user inactivity	
	External power supplies: either ENERGY STAR qualified or meet the no-load and active mode efficiency levels provided in the ENERGY STAR External Power Supply (EPS) specification.	System Sleep Mode: within 30 minutes of user inactivity	
Sample 3 – Using Eco-label criteria (EU Flower & Blue Angel) as a basis			
Product	Computer hardware		
Environmental Technical Specification	With the selection of the products, the following criteria play a role regarding environmental friendliness: • Economic energy consumption • Low level of noise generation • Small subsequent costs • Long-term availability of spare parts • Low emissions and pollution • Economical waste criteria (longevity, reusability, usability and reparability) This is to be proven by carrying the symbol for environmental protection ("Blue Angel" or "European flower") **or equivalent**. **Packaging** Packaging materials are to be selected and used regarding their environmental compatibility and reusability. Environmentally-harmful materials, e.g. glue, polystyrene, PU foam etc. have to be substituted as much as possible. Taking-back and disposal according the environmental regulations of the country of delivery.		

Office equipment (Printers, copiers, multifunctional devices and fax machines)

Needs analysis
The preliminary questions are: • Do you need the printer at all? Can you reduce the number of printers? • Are there any older ones inside the organisation that can be refurbished? • Can you buy printing and/or copying services instead of installing equipment? Important: 1. Always determine the necessary capacity and function of each device (How many people will use it? How many pages are printed or copied on average? Do they need colour printing and copying? etc.) 2. Use central printers and copiers wherever possible, instead of the principle of "a printer for every computer" and "a copier for every room". Use multifunctional-devices.

Environmental Aspects	
Production	Printers and copying machines are produced from many materials in a complex process. Important points are: • The use of non-renewable natural resources (plastic parts; their recyclability is important) • The use of harmful chemicals for flame retardants and other harmful substances • The use of resources for packaging
Use	Despite the relatively short life-cycle, the most important environmental effect emerges during the usage phase in the form of energy used, the use of inks and consumables, etc. Additionally, there are effects on the health of users, these are: • Ozone, styrene and dust emissions • Noise
Waste	The many different materials used cause a severe problem of wastage. Most of the materials can be recycled. A (free of charge) take-back system for recycling should be taken into account when procuring printers, fax machines and multi function devices. Printer consumables (toners and cartridges) also create waste throughout the life of the machine.
Cost Aspects	
Life Cycle Costs	Savings in energy costs can be made by using energy management programs. The use of consumables: toners and cartridges for inks and paper. Here, savings can be made by, for example, printing draft versions of documents in the economy mode. A device for double-sided printing/copying also saves paper. A smaller part of the life-cycle cost relates to maintenance and disposal. A useful tool for the calculation of financial savings can be found at http://www.eu-energystar.org/en/en_009b.shtml

Relevant Product Labels (not exhaustive)			
There are different types of labels. Multi-criteria labels are based on a number of pass/fail criteria for the product group in question. The criteria concerned will normally define the environmental performance that the product must reach and may also set standards ensuring that the product is fit for use. Single-issue labels are ones that relate to a particular environmental issue like energy use or emission levels.			
Eco Label / country of origin	Description	Website	UNDP
Energy Star United States	Energy Star is a single-issue label that focusing on energy efficiency wide range of products including; printers, Fax machines, scanners, copiers, multifunction devices and water coolers	Procurement page: http://www.energystar.gov/index.cfm?c=bulk_purchasing.bus_purchasing	Recommended as UNDP single-issue standard.
Blue Angel Germany	The Blue Angel label is a multi-criteria label. The criteria for printers, copiers and multifunction devices include; • energy efficiency • design (upgradeability/disassembly) • harmful substances • toner/ink modules reusable & returnable • durability • duplex printing capability • noise/dust/ozone emissions • capable of processing 100% recycled paper • take back and disposal	Homepage; http://www.blauer-engel.de/englisch/navigation/body_blauer_engel.htm	
TCO05	TheTCO'05 label is a multi-criteria label. The criteria for printers include; • energy efficiency • noise/electromagnetic emissions • harmful substances • ergonomics • Recycling	Homepage: http://www.tcodevelopment.se/	
Group for Energy Efficient Appliances (GEEA) European (Denmark, the Netherlands, Sweden and Switzerland)	The GEEA label is a single issue label. The criteria for energy efficiency for copiers, digital duplicators, fax machines and printers use the energy star criteria as a basis.	Homepage: http://www.efficient-appliances.org/Home.htm	

Relevant criteria for to be included in solicitation documents
For printers and copiers, these concern criteria which prescribe, for instance: • The energy consumption of the products • The potential longevity of the systems, expandability and a recyclable design as well as the possibilities of reuse and recycling of used products or product components. • The use of environmentally burdening substances (such as (halogenated) flame proofing agents) • The noise emission during operation • The ability to duplex print as a default • The fact that the equipment accepts recycled paper without negatively affecting the warranty • The fact that the equipment accepts re-manufactured/re-filled ink cartridges without negatively affecting the warranty

Sample environmental technical specifications	
Sample 1[i]	
Product	Office Machines (not computers)
Environmental Technical Specification	All printers, copiers and multifunction devices provided under this contract are required Compliant with the current Energy Star or Energy standard or equivalent. The following limits have to be met by the toner cartridge for printers and copiers: Contents — Limit (mg/kg) cadmium — 5,0 cobalt — 25 nickel — 70 lead — 25 mercury — 2,0 chrome — 1,0 chromate — 1,0 tin-organic connection — 5,0
Sample 2 – Using **Energy Star** as a basis	
Product	Printers, Fax Machines
Environmental Technical Specification	Provide new Printers, Fax machines, Mailing machines that earn the ENERGY STAR **or equivalent** and are configured properly for automatic energy-saving features, as per current ENERGY STAR specifications **or equivalent**. **The Offeror Must:** Provide printers, fax machines, and mailing machines that earn the ENERGY STAR and meet the ENERGY STAR Specifications **or equivalent** for energy efficiency as outlined below. The offeror is encouraged to visit energystar.gov for complete product specifications and an updated list of qualifying products.

Sample Environmental Specifications
Sample 2 – Using **Energy Star** as a basis (cont.)

Stand Alone Fax Machines (designed to accommodate primarily A4 or 8.5" x 11" sized paper)

Product Speed In Pages Per Minute (ppm)	Sleep Mode (Watts)	Default Time To Sleep Mode
0 < ppm ≤ 10	≤ 10	≤ 5 minutes
10 < ppm	≤ 15	≤ 5 minutes

Mailing Machines

Product Speed In Mail Pieces Per Minute (mppm)	Sleep Mode (Watts)	Default Time To Sleep Mode
0 < mppm ≤ 50 mppm	≤ 10	≤ 20 minutes
50 < mppm ≤ 100 mppm	≤ 30	≤ 30 minutes
100 < mppm ≤ 150 mppm	≤ 50	≤ 40 minutes
150 < mppm	≤ 85	≤ 60 minutes

Standard Size Printers and Printer/Fax Combinations
(designed to accommodate primarily A3, A4, or 8.5" x 11" sized paper; includes monochrome electro-photography, monochrome thermal transfer, and monochrome and colour ink jet)

Product Speed In Pages Per Minute (ppm)	Sleep Mode (Watts)	Default Time To Sleep Mode
0 < ppm ≤ 10	≤ 10	≤ 5 minutes
10 < ppm ≤ 20	≤ 20	≤ 15 minutes
20 < ppm ≤ 30	≤ 30	≤ 30 minutes
30 < ppm ≤ 44	≤ 40	≤ 60 minutes
44 < ppm	≤ 75	≤ 60 minutes

Colour Printers
(designed to accommodate primarily A3, A4, or 8.5" x 11" sized paper; includes colour electro-photography and colour thermal transfer)

Product Speed In Colour Pages Per Minute (ppm)	Sleep Mode (Watts)	Default Time To Sleep Mode
0 < ppm ≤ 10	≤ 35	≤ 30 minutes
10 < ppm ≤ 20	≤ 45	≤ 60 minutes
20 < ppm	≤ 70	≤ 60 minutes

Product	Copiers
Environmental Technical Specification	Provide new Copiers that earn the ENERGY STAR **or equivalent** and are configured properly for automatic energy-saving features, as per current ENERGY STAR specifications **or equivalent**. **The Offeror must:** Provide copiers that earn the ENERGY STAR and meet the ENERGY STAR specifications **or equivalent** for energy efficiency as outlined below. The vendor is encouraged to visit energystar.gov for complete product specifications and an updated list of qualifying products.

Sample Environmental Specifications
Sample 2 – Using **Energy Star** as a basis (cont.)

Standard-sized Copiers

Copier Speed (copies per minute)	Low-Power Mode (watts)	Low-Power Default Time	Recovery Time 30 Seconds	Off Mode (watts)	Off Mode Default Time	Automatic Duplex Mode
0 < cpm ≤ 20	None	NA	NA	≤ 5	≤ 30 min	No
20 < cpm ≤ 44	3.85 x cpm + 5	15 min.	Yes	≤ 15	≤ 60 min.	Optional
44 < cpm	3.85 x cpm + 5	15 min.	Recommended	≤ 20	≤ 90 min.	Optional

Large Format Copiers

Copier Speed (copies per minute)	Low-Power Mode (watts)	Low-Power Default Time	Recovery Time 30 Seconds	Off Mode (watts)	Off Mode Default Time	Automatic Duplex Mode
0 < cpm ≤ 40	NA	NA	NA	≤ 10	≤ 30 min.	No
40 < cpm	3.85 x cpm +5	15 min.	Recommended	≤ 20	≤ 90 min.	No

Product: Multifunction Devices

Provide new Multifunction Devices that earn the ENERGY STAR **or equivalent** and are configured properly for automatic energy-saving features, as per current ENERGY STAR specifications **or equivalent**.
Provide multifunction devices that earn the ENERGY STAR and meet the ENERGY STAR specifications **or equivalent** for energy efficiency as outlined below. The vendor is encouraged to visit energystar.gov for complete product specifications and an updated list of qualifying products.

Standard-sized Multifunction Devices

Multifunction Device Speed (images per minute)	Low-power Mode (Watts)	Recovery Time 30 seconds	Sleep Mode (Watts)	Sleep Mode Default Time	Automatic Duplex Mode
0 < ipm ≤ 10	NA	NA	≤ 25	≤ 15 min	No
10 < ipm ≤ 20	NA	NA	≤ 70	≤ 30 min	No
20 < ipm ≤ 44	3.85 x ipm + 50	Yes	≤ 80	≤ 60 min	Optional
44 < ipm ≤ 100	3.85 x ipm + 50	Recommended	≤ 95	≤ 90 min	Default for both copying and printing/fax receipt
100 < ipm	3.85 x ipm + 50	Recommended	≤ 105	≤ 120 min	Default for both copying and printing/fax receipt

Sample Environmental Specifications
Sample 3 – Using Eco-label criteria (EU Flower and Energy star) as a basis

Large Format Multifunction Devices

Multifunction Device Speed (images per minute)	Low-power Mode (Watts)	Recovery Time 30 seconds	Sleep Mode (Watts)	Sleep Mode Default Time	Automatic Duplex Mode
0 < ipm ≤ 40	NA	NA	≤ 70	≤30	No
40 < ipm	4.85 x ipm + 50	Recommended	≤ 105	≤90	No

Sample 3 – Using Eco-label criteria (EU Flower and Energy star) as a basis[ii]

Product	Office Equipment	
Environmental Technical Specification	With the selection of the products, Printers, Fax Machine, Copiers and Multifunctional Devices the following criteria play a role regarding environmental performance: **Energy consumption** All products offered must meet the latest Energy Star standards for energy performance, available at www.energystar.gov ,or equivalent. The Energy Star label will be accepted as proof of compliance, as will reliable technical documentation provided by the supplier that the criteria are met.	
	Take-back and disposal "The manufacturer shall offer free of charge the take-back for refurbishment or recycling of the product, and for any component being replaced. In addition, the product shall meet the following criteria: (a) one qualified person alone shall be able to dismantle it; (b) the manufacturer shall check the disassembly of the product and provide a disassembly report that shall be made available to third parties on request. Amongst other items, the report shall confirm that: • connections are easy to find and accessible, • connections are as standardised as possible, • connections are accessible with commonly available tools, • the background lighting lamps of LCD monitors are easily separable; (c) hazardous materials shall be separable; (d) 90 % (by weight) of the plastic and metal materials in the housing and chassis shall be technically recyclable; (e) if labels are required, they shall be easily separable or inherent; (f) plastic parts shall: • be of one polymer or compatible polymers, except for the cover, which shall consist of no more than two types of polymers which are separable and uncoated with, for example, paint, • contain no metal inlays that cannot be separated by a single person using simple tools;"	

Sample Environmental Specifications **Sample 3** – Using Eco-label criteria (EU Flower and Energy star) as a basis		
	Packaging and information "Packaging shall meet the following requirements: (a) all packaging components shall be easily separable by hand into individual materials to facilitate recycling. (b) where used, cardboard packaging shall consist of at least 80 % recycled material."	

Paper, printed matter and cardboard

Needs analysis
The need for paper can be diminished by the following management measures: • avoiding printing and making the maximum use of electronic documents and electronic filing protocols • installing multifunctional devices or printers with duplex function • centralising printing • using corporate stationery as electronic templates • making users aware of the amounts of papers used and the possible savings

Environmental Aspects	
Production	In the production phase, the following environmental aspects are relevant: • Air emissions of sulphur and greenhouse gases. • Emissions to water of chlorine compounds and organic wastes. • Energy consumption. • Use of virgin fibres. • Use of metal complex dye stuffs or pigments • Packaging
Use	In this phase, the delivery of paper is relevant. By centralising demands, the environmental impacts of transport can be reduced. The need for paper can be reduced by the management measures mentioned in the section on needs analysis.
Waste	Packaging. Paper can easily be recycled when a separate collection system is operating.
Cost Aspects	
Life Cycle Costs	Depending on the local situation, costs for collection of waste paper and recycling/disposal should be taken into account.

Relevant Product Labels (not exhaustive)			
Eco Label / country of origin	Description	Website	UNDP
European Flower European Union	The EU-label is a multi-criteria label. The criteria for paper (printing, writing, copying and drawing) include; • Reduction of air emissions of sulphur and greenhouse gases during manufacturing • Decreased emissions to water of chlorine compounds and organic wastes during production • Limitation of energy consumption during production • Use only recycled fibres or virgin fibres from sustainably managed forests	Homepage: http://ec.europa.eu/environment/ecolabel/product/pg_copyingpaper_en.htm#revision	
Nordic Swan Nordic Countries	The Nordic Swan label is a multi-criteria label. The criteria for copy and printing paper include; • Reduction of air emissions of sulphur and greenhouse gases during manufacturing • Decreased emissions to water of chlorine compounds and organic wastes during production • Limitation of energy consumption during production • Use only recycled fibres or virgin fibres from sustainably managed forests •	Homepage: http://www.svanen.nu/Default.aspx?tabName=CriteriaDetailEng&menuItemID=7056&pgr=44	
Blue Angel Germany	The Blue Angel label is a multi-criteria label. The criteria for computers, monitors and keyboards include; • Reduction of air emissions of sulphur and greenhouse gases during manufacturing • Decreased emissions to water of chlorine compounds and organic wastes during production • Limitation of energy consumption during production • Use only recycled fibres or virgin fibres from sustainably managed forests	Homepage; http://www.blauer-engel.de/englisch/navigation/body_blauer_engel.htm	

Relevant criteria for to be included in solicitation documents
For paper, these concern criteria which prescribe, for instance: • The origin of the fibre raw material • The used chemicals • The emissions to water and air caused by the production process

Sample environmental technical specifications		
Sample 1 – Using **Blue Angel** as a basis		
Product	Paper and Cardboard	
Environmental Technical Specification	**Paper and cardboard:** 100% from waste paper (exclusive secondary fibres), marked with the eco-label for environmental protection after RAL UZ 14/56 (German eco-labelling scheme Blue Angel) or fulfilling the criteria of the eco-label (self-declaration of the bidder). (See annex 1) Annex 1: Declaration of the cardboard manufacturer *We, the company _____ in _____ declare, as a Paper / cardboard manufacturer, the following: The recycling cardboard with the trade name_____, which can be supplied by us, is produced from 100% waste paper* *_ and fulfils the criteria of the eco-label and after RAL-UZ 56 (Blaue Engel).* *_ We are entitled, via a valid RAL contract, to use the eco-label symbol for this paper.* *(please mark applicable option)*	
Performance Contract Clauses	**Environmental protection** *For the packaging, environmentally-friendly, recyclable materials have to be used.* *From an environmental perspective, pallet packing with cover and wraps is preferred.* **Disposal of the packaging** *Pallets/one-way pallets/pallet covers/wraps or any foil wrapping – all have to be taken back at delivery of the products upon the request of the customer.*	

Annex 1

Choosing Office Paper

Recycled Printing and Paper - The Facts

The cost of recycled paper has plummeted in recent years, the quality is stunning and the production and use of recycled paper is more eco friendly than using virgin paper.

A recent survey by A Local Printer found that 36% of business owners discount using recycled paper due to outdated reasoning. So, to dispel some "urban myths" please read on!

Defining Recycled Papers

There are varying definitions of genuine recycled paper. General thinking is to encourage the highest post-consumer recycled content whenever possible, providing that 'fitness for purpose' and performance criteria are taken into consideration.
NAPM - National Association of Paper Merchants
Recycled paper should contain a minimum of 75% genuine waste, which is:
1. Convertors waste: waste which has left the mill and is waste from a cutting or slitting operation undertaken to meet a commercial order.
2. Printers waste: printed or unprinted - waste collected from a printing operation and may be either 'trimmings' (guillotine waste), 'overs', 'rejects' or any other similar waste received direct from a printer.
3. Domestic, household or office waste: waste collected from either of these places which may be printed or unprinted.
Any combination of 1, 2, or 3 can go towards the 75% genuine waste fibre minimum.
Under no circumstances can mill broke contribute to genuine waste.

Printing on Recycled Paper - FAQ

What about Quality and Performance?
Improvements in the quality of the recycled paper grades now available mean that their quality and performance is equal to that of virgin paper, particularly if choosing top of the range recycled papers made from 100% de-inked waste, such as the 9lives and Revive brands we use.
Recycled Paper is More Expensive - Right?
Wrong! Recycled paper has aligned with conventional paper prices in recent years due to increase in demand, refinement of the papermaking process and the significant reduction in energy and water needed to make recyled paper compared to conventional paper.
What is Post-Consumer Waste?
This is paper that has been used by the consumer and returned for recycling, thus keeping it out of a landfill. The more post-consumer waste that is incorporated into recycled material the better!
What is Virgin Fibre?
Virgin fibre is new fibre that has never been used by a manufacturer before to make paper or other products.
What is Pre-Consumer Waste?
Pre-consumer waste is the material that occurs as a by-product to the printing process, such as printers trim, make-ready and overs. We segregate all of our pre-consumer waste and have it collected each week for recycling.
What is Mill Broke and Recovered Fibre?

Mill broke occurs during the paper making process e.g. trimmings and faulty paper which goes straight back into the pulping process. Since it has never been used in a product, it does not count as recycled fibre but is defined as recovered fibre.

How is Ink removed from Paper for Recycling?

Sometimes the ink is not removed from the paper when it is processed but allowed to disperse into the pulp, discolouring it slightly - which is why some recycled paper can have a greyish tinge.

However, all of the recycled papers we recommend for printing are de-inked and of a conventional whiteness. If the paper is to be de-inked, this can be done in one of two ways, by washing, flotation or a combination of both methods:

1. Washing - As the paper is pulped, soaps are added which separate the ink from the paper and allow it to be washed away in water which can then be cleaned and re-used.
2. Flotation - Air is passed through the pulp, producing foam which will hold at least half of the ink and can be skimmed off.

Sometimes the pulp is also bleached; hydrogen peroxide is most commonly used as it breaks down into water and oxygen on disposal, although chlorine bleach is sometimes still used.

Although the de-inking process uses water and chemicals, it is still less harmful to the environment than the manufacturing process of making new paper.

What happens to the Ink?

Ink that is removed from recycled pulp can be burned to generate energy to run the paper mill, or sold to make useful materials such as compost or gravel for roads.

What are ECF and TCF Papers?

ECF (Elemental Chlorine Free) and TCF (Totally Chlorine Free) papers are made from pulp which has been bleached using hydrogen peroxide instead of harmful chlorine.

Recycled papers are de-inked and if necessary are brightened with hydrogen peroxide or inert, harmless brightening compounds.

What is Acid Free Paper?

Acid free paper has had the acid removed from the pulp leaving it with a neutral pH of 7.

Should I choose Recycled Papers?

Choosing to use recycled paper is an ethical issue and down to either personal or company attitudes towards CSR - Corporate Social Responsibility. However, using recycled paper will:-

1. Reduce landfill - using recycled paper diverts waste paper from entering landfills. Landfills are a source of methane emissions, which are a contributor to global warming. What is equally important is that landfills are rapidly becoming full, and fewer new sites are available.
2. Continue the demand for recycled materials - recycling is only viable if end-markets are created for the products made from recovered waste paper.
3. Place less strain on global forest resources - paper recycling optimises the use of a valuable material and reduces the amount of virgin pulp required. Although forests are increasingly managed in a sustainable way there is a need to reduce wastage by using more recycled content.

Some Sobering Thoughts:

1. Nearly 80% of the world's original old growth forests have been logged or severely degraded. 40% of the world's industrial logging goes into making paper and this is expected to reach 50% in the near future.
2. Worldwide, the pulp and paper industry is the 5th largest industrial consumer of energy. Producing recycled paper uses up to 70% less energy than virgin paper*, as well as using far less water. According to the environmental charity Waste Watch, for every tonne (about 2 pallets) of 100% post-consumer recycled paper purchased instead of virgin fibre paper, we save:

1. At least 30,000 litres of water.
2. 3000 - 4000 KWh electricity - enough power for an average 3 bedroom house for one year.

Annex 2

What is a green claim

A 'claim' is information appearing on a product, its packaging, or in related literature or advertising material, which can be taken as saying something about its environmental aspects. It can take the form of text, symbols, or graphics. A straight piece of advice to consumers of the product – for example, about care in its use or disposal – is *not* regarded as a claim. But such advice should still give consumers relevant information on which they can realistically act.

A Green claim should…

- **Truthful, accurate, and able to be substantiated.**

Businesses can be more certain of meeting these general principles of fairness in advertising and trade descriptions if they observe the other principles covered in this code. The ISO standard provides further information on how the detail can be got right in practice.

There is no requirement for a business to get an independent verifier to check a claim before it is made. But it is prudent to be sure, in advance, that the claim would be truthful and accurate, and that it could be substantiated. ISO 14021 goes through the recommended steps to take. These include:

- ♦ checking that the claim is fair and truthful, whether by testing the product or otherwise;
- ♦ keeping adequate records of these checks;being prepared to give the relevant information to anyone who asks for the claim to be substantiated. (If the information is too confidential to disclose, it's unwise to make a claim.)

- **Relevant to the product in question and the environmental issues connected with it.**

For example, a fair claim could be that 'this paper comprises 75% post-consumer waste'. On the other hand, it would be misleading to claim that it 'contains no tropical hardwood', as this is not a material used in making paper.

- **Clear about what environmental issue or aspect of the product the claim refers to.**

For example, environmental information about the packaging of a product – such as its recycled content – can be relevant and helpful. But it would be misleading to give the impression that the product as a whole was 'recycled', if that was not the case.

- **Explicit about the meaning of any symbol used in the claim** – unless the symbol is required by law, or is backed up by regulations or standards, or is part of an independent certification scheme.

The use by a company of its own 'green' symbol or logo to give some form of reassurance to consumers is potentially misleading unless it is accompanied by a clear statement, in line with the Code, of just what the image means.

The Mobius loop should only be used for claims of recyclability and recycled content. Where it is used for claims of recycled content, the percentage of recycled content should be clearly stated.

A Green claim should not…

• **Be vague or ambiguous**, for instance by simply trying to give a good impression about general concern for the environment.

Claims should always avoid the vague use of terms such as 'sustainable', 'green', 'non-polluting' and so on. Likewise, they should avoid linking vague descriptions, such as 'friendly' or 'kind', with words like 'earth', 'nature', 'environment', 'eco' and 'ozone'. Symbols should not feature natural objects such as trees, flowers, butterflies, or globes, unless there is a direct link between the product, the object and the environmental benefit being claimed. This link should be clearly explained.

• **Imply that it commands universal acceptance** if there is actually some significant doubt or division of scientific opinion over the issue in question.

• **Imply more than it actually covers,** if the claim is only about limited aspects of a product or its production, or does not deal with a significant issue for that type of product To take a technical example, it would be misleading to claim that a product is 'made with a chlorine-free whitening process' if that process, while free from elemental chlorine, still involved the use of chlorine compounds.

More generally, care should be taken not to concentrate on something which is literally true about a product, but which misses the main issue. For example, it may be literally true to say that a product is 'recyclable' - most products are, in theory! But in any case, if the main environmental issues about a particular product are not to do with its disposal or recycling, but with its manufacture or its effects in use, it is those issues which a good claim should try to address.

• **Make comparisons**, unless the comparison is relevant, clear and specific.

For example, it would be wrong to claim that a product is 'now even better for the environment', or 'uses less energy', without further qualification. But it could be fair to say that the product 'uses 20% less electricity in normal use than our previous model'.

• I**mply that a product or service is exceptional** if the claim is based on what is standard practice anyway.

For example, it is unhelpful to claim that a product is biodegradable, if all products used for that purpose share that characteristic. Equally, it is misleading to claim credit for a product not containing a particular harmful substance, if no products of that kind on the market actually contain it any more – or if they are legally forbidden to contain it. One such example is lead in paints, which has been banned in the UK since the 1970s. In this case, it would be more helpful to provide advice for consumers about stripping old paintwork, which might contain lead.

• **Use language that exaggerates** the advantages of the environmental feature the claim refers to.

For example, it is misleading to say 'contains twice as much recycled content than before', if the original amount of recycled material was very small.

• **Imply that the product or service is endorsed or certified** by another organisation when it has not been.

Endorsements or official-looking symbols should make clear the organisation setting the standards, the nature of the standards and the certification process involved. Where a symbol appears on a product because the manufacturer has sponsored the organisation whose symbol it is, this too should be made clear.

Annex 3

EPEAT Criteria

EPEAT evaluates electronic products in relation to 51 total environmental criteria, identified in the Criteria Table below and contained in IEEE 1680 -– 23 required criteria and 28 optional criteria. To qualify for registration as an EPEAT product, the product must conform to all the required criteria.

Products are also ranked in EPEAT according to three tiers of environmental performance - Bronze, Silver, and Gold. All registered products must meet the required criteria, and achieve Bronze status. Manufacturers may then achieve a higher level EPEAT "rating" for products by meeting additional optional criteria, as follows:

BRONZE	SILVER	GOLD
Meets all 23 required criteria	Meets all 23 required criteria plus at least 50% of the optional criteria	Meets all 23 required criteria plus at least 75% of the optional criteria

Most EPEAT criteria refer to environmental performance characteristics of the specific product, and must be declared for each product registered. Some criteria relate to general corporate programs, such as a Corporate Environmental Policy or Environmental Management System. These Corporate Criteria apply to all of a given manufacturer's EPEAT registered products and participating manufacturers declare to these criteria annually.

The following table contains only the title of each of the 51 criteria for easy reference. For a more detailed summary of the standard, please click here.

4.1 Reduction/elimination of environmentally sensitive materials

R 4.1.1.1 Compliance with provisions of European RoHS Directive upon its effective date
O 4.1.2.1 Elimination of intentionally added cadmium
R 4.1.3.1 Reporting on amount of mercury used in light sources (mg)
O 4.1.3.2 Low threshold for amount of mercury used in light sources
O 4.1.3.3 Elimination of intentionally added mercury used in light sources
O 4.1.4.1 Elimination of intentionally added lead in certain applications
O 4.1.5.1 Elimination of intentionally added hexavalent chromium
R 4.1.6.1 Elimination of intentionally added SCCP flame retardants and plasticizers in certain applications
O 4.1.6.2 Large plastic parts free of certain flame retardants classified under European Council Directive 67/548/EEC
O 4.1.7.1 Batteries free of lead, cadmium and mercury
O 4.1.8.1 Large plastic parts free of PVC

4.2 Materials selection

R 4.2.1.1 Declaration of post-consumer recycled plastic content (%)
O 4.2.1.2 Minimum content of post-consumer recycled plastic

O 4.2.1.3 Higher content of post-consumer recycled plastic
R 4.2.2.1 Declaration of renewable/bio-based plastic materials content (%)
O 4.2.2.2 Minimum content of renewable/bio-based plastic material
R 4.2.3.1 Declaration of product weight (lbs)

4.3 Design for end of life
R 4.3.1.1 Identification of materials with special handling needs
R 4.3.1.2 Elimination of paints or coatings that are not compatible with recycling or reuse
R 4.3.1.3 Easy disassembly of external enclosure
R 4.3.1.4 Marking of plastic components
R 4.3.1.5 Identification and removal of components containing hazardous materials
O 4.3.1.6 Reduced number of plastic material types
O 4.3.1.7 Moulded/glued in metal eliminated or removable
R 4.3.1.8 Minimum 65 percent reusable/recyclable
O 4.3.1.9 Minimum 90 percent reusable/recyclable
O 4.3.2.1 Manual separation of plastics
O 4.3.2.2 Marking of plastics

4.4 Product longevity/life cycle extension
R 4.4.1.1 Availability of additional three year warranty or service agreement
R 4.4.2.1 Upgradeable with common tools
O 4.4.2.2 Modular design
O 4.4.3.1 Availability of replacement parts

4.5 Energy conservation
R 4.5.1.1 ENERGY STAR®
O 4.5.1.2 Early adoption of new ENERGY STAR® specification
O 4.5.2.1 Renewable energy accessory available
O 4.5.2.2 Renewable energy accessory standard

4.6 End of life management
R 4.6.1.1 Provision of product take-back service
O 4.6.1.2 Auditing of recycling vendors
R 4.6.2.1 Provision of rechargeable battery take-back service

4.7 Corporate performance
R 4.7.1.1 Demonstration of corporate environmental policy consistent with ISO 14001
R 4.7.2.1 Self-certified environmental management system for design and manufacturing organizations
O 4.7.2.2 Third-party certified environmental management system for design and manufacturing organizations
R 4.7.3.1 Corporate report consistent with Performance Track or GRI
O 4.7.3.2 Corporate report based on GRI

4.8 Packaging
R 4.8.1.1 Reduction/elimination of intentionally added toxics in packaging
R 4.8.2.1 Separable packing materials
O 4.8.2.2 Packaging 90% recyclable and plastics labeled
R 4.8.3.1 Declaration of recycled content
O 4.8.3.2 Minimum post-consumer content guidelines
O 4.8.4.1 Provision of take-back program for packaging
O 4.8.5.1 Documentation of reusable packaging

References

[i] European Commission: Green Public Procurement Website, Sample specifications at http://ec.europa.eu/environment/gpp/office_machinery_en.htm

[ii] IT Equipment: Procura+ Key Criteria – Extended version at: http://www.procuraplus.org/index.php?id=4625