

Telefonica



ITU Green standards week

Innovating today for
a sustainable tomorrow_

*Eco-design and the impact in
ICT assets End Of Life.*

Javier González



Introduction

1.-Ecodesign and Information and Communication Technologies (ICT) assets

2.- Eco design life-cycle and strategies overview.

3.- Eco design, paying more attention to reuse and recycle; the environmental impact with everyday examples from DS activity:

Reusing and recycling – EEE and WEEE

3.- 1 Strategies to manage and extend the life cycle. The impact of eco-design on the environment: Win-Win strategies, Redeployment, Trade IN, Cash back, Remarketing.

3.- 2 Recycling procedures, dismantling, downstream, Examples and Product photos






EOL instructions, Product material information, Product disassembly instructions

4.- Conclusions. Useful links

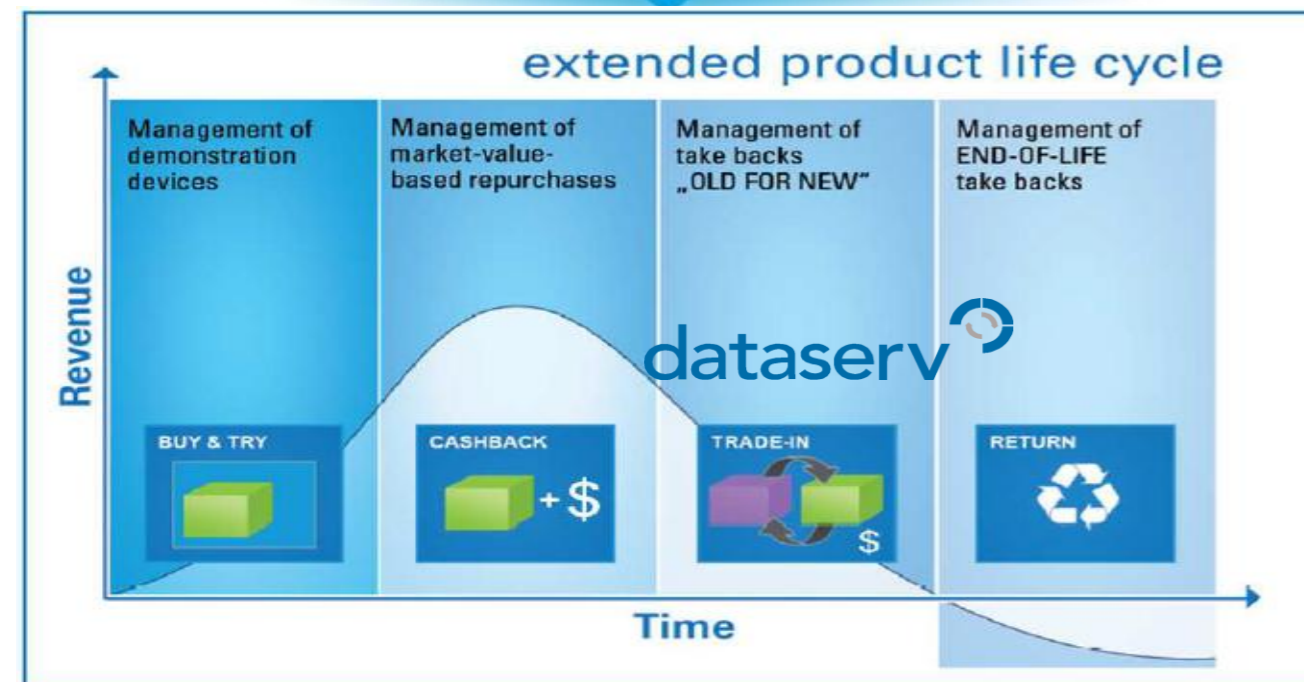
1.- Eco design of ICT

80% of product-related environmental impact is defined during the design phase.

2.- Eco design of ICT, life cycle and strategies

eco - design life cycle				
				
Raw materials MMPP	Manufacturing	Logistics	Using	EOL
Environmentally oriented selection of materials. RoHS, REACH.	Reducing amount of materials	Reducing packaging weight	Product design to last longer: Upgrades and durability	Reusing instead recycling
New mining: Recycled materials	Local providers	Shipments efficiency	Energy saving	Minimal glues and adhesives to help disassembly
Recyclable materials	Reducing amount of procedures	Recyclable packaging: Mushrooms.		Reductions on paints and coatings
		Reusing packaging. ARS		Labeling, information, recyclable materials

3.1 Extending the product life cycle



- **EEE Vs WEEE. Reusing before recycling :Win-win strategy**

- **ARS. Asset recovery services**

Redeployment within the company should be an option. Case study.

Buyback, remarketing projects.
Employees purchase plans (EPP)
Donations

- **Take back solutions**

Global, ICT-assisted take-back solutions for various applications create added value for end users, sales and revenue boost for companies.

Data security is a priority.

A secure handling of all sensitive data is guaranteed and the

highest national and international security standards are met.

- 
Cash Back Programmes
 Create a positive customer experience during the pre-purchase phase – offer additional incentives to buy and establish relationships with your customers from the start.
- 
Trade-in Programmes
 Offer purchase programmes for used electronic equipment. Increase the purchasing power of your customers and thus achieve a shortening of sales cycles.
- 
Return Programmes
 Provide your customers with a secure and fully compliant return option for redundant electronic equipment.

3.1 EOL programs to extend life cycle. Examples

Computer Reuse and Recycling

Select your computer's manufacturer and model to begin.
This service is provided by Dataserv*

Select Category
Select Manufacturer
Select Series
Select Model

Back Continue

dataserv

Apple Reuse Programme
Receive a credit payment for the value of your old computer – Mac or PC.
More information

Apple Recycling Programme
Recycle your computer, phone or iPod.
Learn more

Need support?
In case of any questions concerning the return of your equipment please contact us by email:
reuse_uk@dataserv-recycling.com

When contacting us please provide your name and the quote number of your item.

Status track
Quote number
Sign in

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Dell Trade to Save

Country: Great Britain

Get Up to £150 cash back
Recycling your IT equipment couldn't be easier. We offer a generous reward depending upon the new Dell Qualifying Product you purchase.
Learn more

1 2 3

Get up to £150 cash back reward when you purchase a qualifying Dell IT product and trade in an equivalent product*

- Buy a qualifying Dell product (Learn more)
- Complete the simple claim form
- Send your claim form, trade in product and a copy of the invoice or receipt for your new Dell product to us within 21 days from the date on the invoice, along with your bank details for payment of the reward

Learn how it works

Get Cash Back now Login
Check your transactions

We'll accept most brands of old equipment (depending upon the type of product you wish to trade in and in line with the promotion terms and conditions) and even give you a pre-paid postage label to return your trade in product to us.

See our qualifying products to identify the reward you could receive. Please note the reward you receive is dependent upon the qualifying Dell product purchased, e.g. printer purchases will qualify for specific rewards on the basis of trade in of an old printer product, monitor purchases will qualify for specific rewards on the basis of trade in of an old monitor purchase, PC or tablet purchases will qualify for specific rewards on the basis of trade in of an old laptop, desktop or tablet and so on.

*Some traded in equipment is subject to conditions, including that it should be functional and undamaged (normal wear and tear is acceptable) with original power cables. Age restrictions apply to IT equipment traded in. Cash reward is payable as cash back further to submission of a claim in accordance with the promotion terms. Cash reward amount is determined per Qualifying Product model, as set out herein and subject to the promotion terms. This promotion and specifically the processing of traded in equipment and reward payment is managed by Optia. Please see terms and conditions for more information.

Learn how it works

Qualifying Products

- Printers
Replace your used printer with a new Dell printer
- Monitors
Replace your used monitor with a new Dell monitor
- Laptops
Replace your used laptop with a new Dell laptop
- Desktop PC's
Replace your used desktop PC with a new Dell desktop PC
- Tablets
Replace your used tablet PC with a new Dell tablet PC

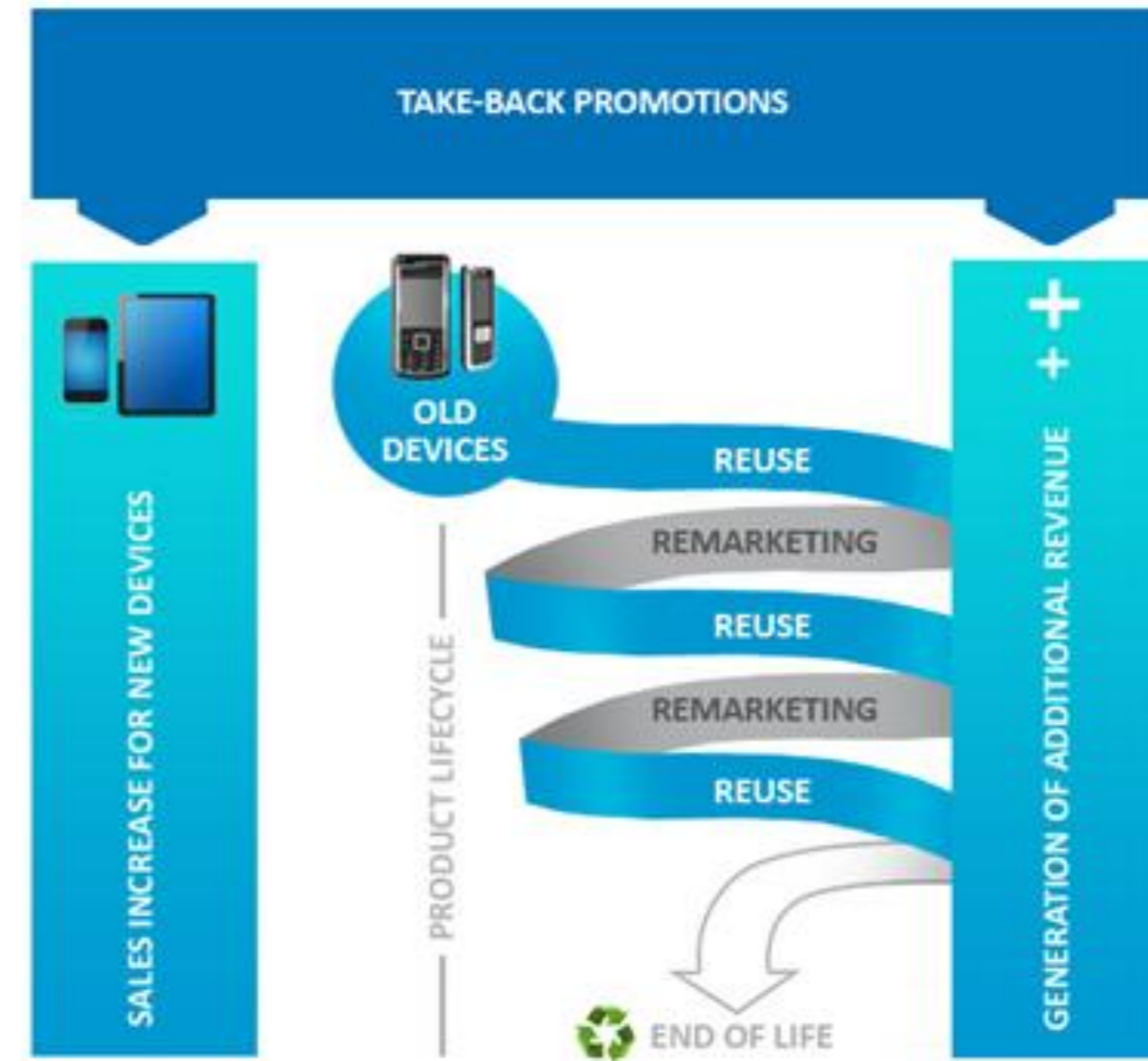
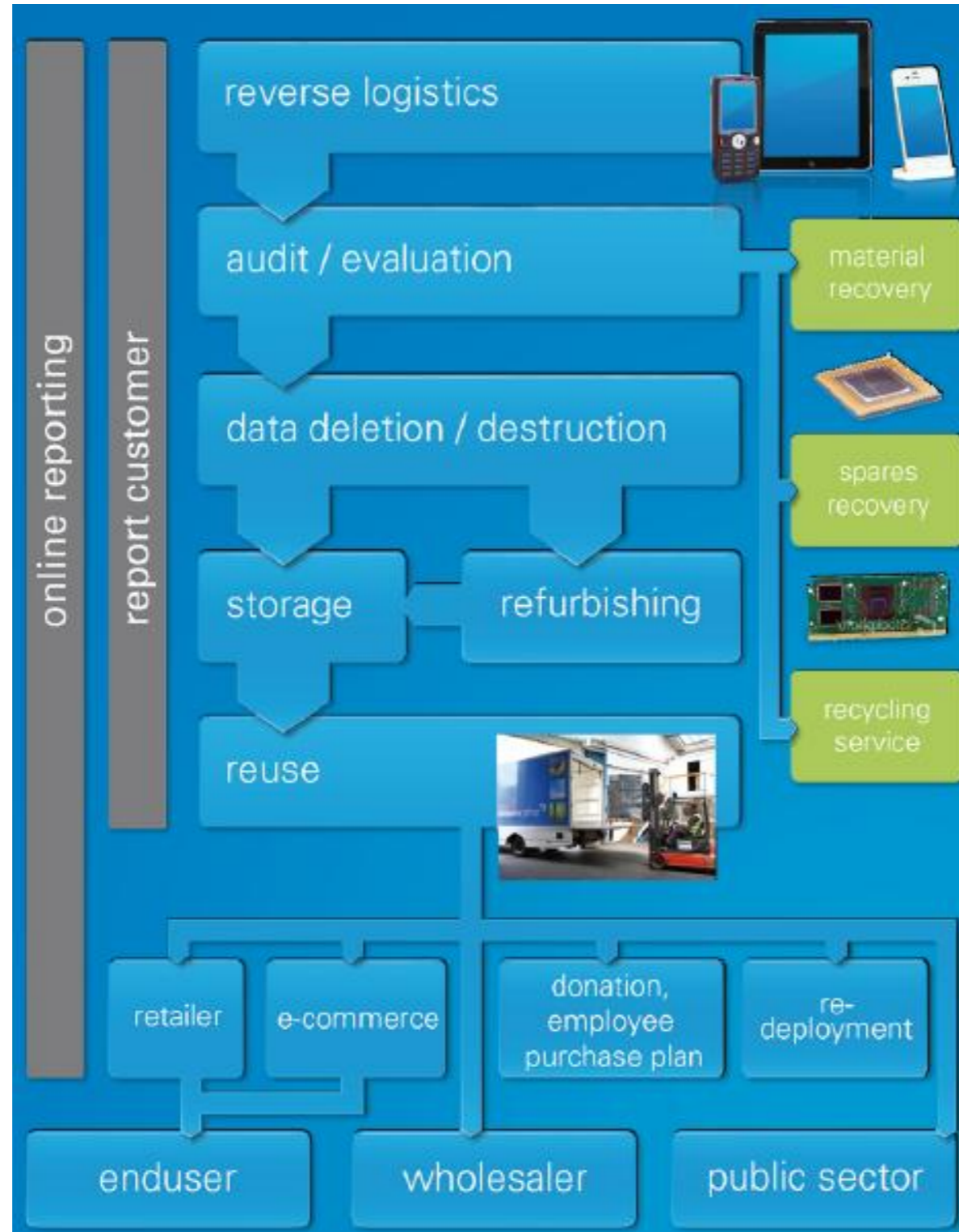
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3.1 EOL programs to extend life cycle. Back office



3.2 EOL Recycling. Eco-design Impact.

Some recycling challenges and best practices

- Recycling components – Reusing at component level.
- Audited downstream
- Heavy pollutants: From CRT screens to LCD display with fluorescent tubes; with mercury fluorescent tubes and mercury free LED backlight.

Example. CRT glass downstream tracking: from re-manufacturing to tiles factories

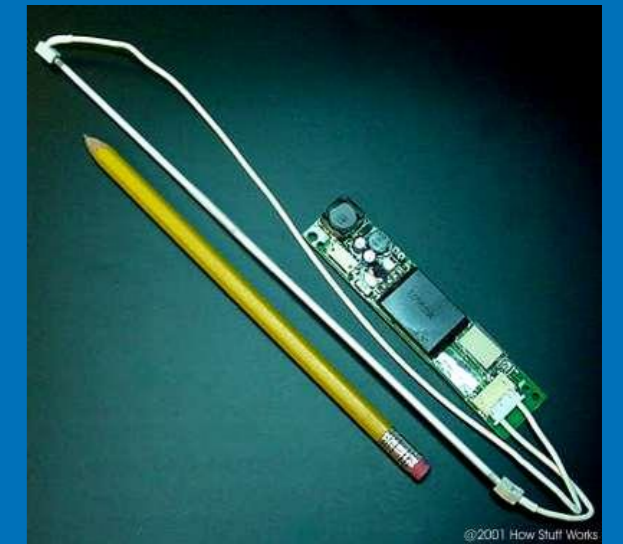









Tabla 27: Códigos de Identificación y Abreviaturas

 1 PET	 2 HDPE
 3 PVC	 4 LDPE
 5 PP	 6 PS
 07-19 OTROS	

- Plastics recycling:
 - Issues: Different kinds, additives, hard to mix.
 - Best practices: labeling, reduction of paints and coatings.

3.2 Recycling. Product EOL Instructions. Example



DELL
Product End-of-Life Instructions Dell Inc.

PRODUCT FAMILY
Optiplex Desktop Family

PURPOSE
The intent of this document is to provide guidance to recyclers on the presence of materials and components at the product / family level, as required by the EU WEEE Directive 2002/96/EC. This document should also help direct recyclers to proper methods for removing parts and general product disassembly instructions.

PRODUCT DISASSEMBLY INSTRUCTIONS
Most parts can be removed easily by hand. In some cases common household tools such as Philips and/or flat-head screw drivers may be necessary. To remove discrete components such as the electrolytic capacitors, needle-nose pliers may be helpful. Instructions for removing parts in each product can be found in the User Documentation originally provided with the product. This documentation can be found online: <http://support.dell.com/support/systemsinfo/documentation.aspx?c=us&cs=19&l=en&s=dhs&~cat=12&~subcat=88>.

PRODUCT MATERIAL INFORMATION
The following substances, preparations, or components should be disposed of or recovered separately from other WEEE in compliance with Article 4 of EU Council Directive 75/442/EEC.

Batteries	Mercury	Dell does not use internal batteries based on Mercury (Hg) and its compounds.
	Cadmium	Dell does not use internal batteries based on Cadmium (Cd) and its compounds.
	Lead	Dell does not use internal batteries based on Lead (Pb) and its compounds.
	Other	This product uses a Lithium Primary Coin Cell Battery.
Mercury	Lamps, Bulbs, and other Lighting Applications	Product does not contain a Mercury based lamp or bulb.
	Other Uses	Other parts used in Dell products can not contain intentionally added Mercury.
Liquid Crystal Displays (LCD) - > 100 cm ²		Product does not contain an LCD greater than 100 cm ² .

DELL

Plastic containing Brominated flame retardants other than in PCB / PCA	<p>This product may contain plastic parts greater than 25 grams. Many of these parts are bromine free. Regardless, these parts are labeled (usually molded directly into the plastic) per ISO 11469:2000(E).</p> <p>A typical label would look like: > Polymer Abbreviation - FR(#) < i.e. > PC + ABS FR(40) <</p> <p>Flame retardant codes (FR(#)) are given in ISO 1043-4. Codes for some Brominated flame retardants: 14 aliphatic/alicyclic Brominated compounds 15 aliphatic/alicyclic Brominated compounds in combination with antimony compounds 16 aromatic Brominated compounds (excluding Brominated diphenyl ether and biphenyls) 17 aromatic Brominated compounds (excluding Brominated diphenyl ether and biphenyls) in combination with antimony compounds 22 aliphatic/alicyclic chlorinated and Brominated compounds 42 Brominated organic phosphorus compounds</p>
Capacitors with PCB's	Dell does not use capacitors with PCB.
Electrolyte capacitors (height > 25mm, diameter > 25mm)	Electrolytic capacitors (height and/or diameter greater than 25mm) are not used on Dell motherboards. However, these capacitors are often present in power supply units (silver box).
Asbestos and its compounds	Parts used in Dell products cannot contain asbestos or its compounds.
Refractory ceramic fibers	Parts used in Dell products cannot contain refractory ceramic fibers.
Radio-active substances	Parts used in Dell products cannot contain Radio-active substances.
Beryllium and its compounds (including Beryllium Oxide)	Beryllium may be present in electronic components as a copper beryllium alloy, which contains less than 2% beryllium. CuBe alloys may be used in various components such as connectors, switches, relays, current carrying springs, integrated circuit sockets, and RF shielding.
Gasses - which fall under Regulation (EC) 2037/2000 and all hydrocarbons (HC)	Parts used in Dell products do not contain gasses which fall under Regulation (EC 2037/2000) and all hydrocarbons (HC).
Components with pressurized gas which need special attention (Pressure > 1,5bar)	Product does not contain parts with pressurized gas.
Liquids	This product may contain a heatsink heat pipe. Heat pipes contain a very small amount of very pure water.

3.2 EOL Recycling. Product disassembly Instructions. Examples



Easy disassembly
Alternatives to glues and adhesives
Requirements for tools are reduced or eliminated: snap-fits.

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Cover Dell™ OptiPlex™ 780 Service Manual—Desktop



WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Cover

NOTE: You may need to install Adobe Flash Player from Adobe.com to view the following illustrations.

1. Follow the procedures in [Before Working Inside Your Computer](#).
2. Pull back the cover release latch.



3. Tilt the cover outward from the top, and then remove the cover from the computer.



Removing the Primary Hard Drive

1. Follow the procedures in [Before Working Inside Your Computer](#).
2. Remove the [optical drive](#) from the computer.
3. If present, remove the [secondary hard drive](#) from the computer.
4. Disconnect the hard-drive data cable.



5. Disconnect the hard-drive power cable.

6. Press in on the blue securing tabs on each side of the drive, and then slide the drive towards the back of the computer.



7. Lift the hard drive and remove it from the system.



3.2 EOL Recycling. Environmental product report. Example



iPad 2

Environmental Report



Models:
 Wi-Fi: MC709, MC979
 Wi-Fi + 3G: MC773, MC982
 Wi-Fi + 3G for Verizon: MC793, MC985

Date:
 March 7, 2012

Environmental Status Report

iPad 2 is designed with the following features to reduce environmental impact:

- Mercury-free LED-backlit display
- Arsenic-free display glass
- BFR-free
- PVC-free
- Recyclable aluminum enclosure
- Power adapter that outperforms strictest global energy-efficiency standards

Apple and the Environment

Apple believes that improving the environmental performance of our business starts with our products. The careful environmental management of our products throughout their life cycles includes controlling the quantity and types of materials used in their manufacture, improving their energy efficiency, and designing them for better recyclability. The information below details the environmental performance of iPad 2 as it relates to climate change, energy efficiency, material efficiency, and restricted substances.

Climate Change

Greenhouse gas emissions have an impact on the planet's balance of land, ocean, and air temperature. Most of Apple's corporate greenhouse gas emissions come from the production, transport, use, and recycling of its products. Apple seeks to minimize greenhouse gas emissions by setting stringent design-related goals for material and energy efficiency. The chart below provides the estimated life-cycle greenhouse gas emissions for iPad 2.

Greenhouse Gas Emissions for iPad 2 (Wi-Fi + 3G)



Total greenhouse gas emissions: 120 kg CO₂e

Energy Efficiency

iPad 2 uses power-efficient components and software that intelligently manage power consumption. In addition, the iPad 10W USB Power Adapter outperforms the stringent requirements of the ENERGY STAR specification for external power supplies. The following table details the power consumed by iPad 2 in different use modes.

Power Consumption for iPad 2 (Wi-Fi + 3G)

Mode	100V	115V	230V
Sleep	0.46W	0.41W	0.45W
Idle—Display on	2.10W	2.05W	2.16W
Power adapter, no-load	0.07W	0.07W	0.09W
Power adapter efficiency	90.9%	90.9%	79.9%



iPad 2 retail packaging consumes 15 percent less material and allows up to 52 percent more units than the original iPad to fit in each airline shipping container.

Packaging

The packaging for iPad 2 is highly recyclable. It uses corrugated cardboard made from a minimum of 28 percent post-consumer recycled content and molded fiber made entirely from recycled content. In addition, its packaging is extremely material efficient, allowing up to 52 percent more units to be transported in an airline shipping container compared with the original iPad. The following table details the materials used in iPad 2 packaging.

Packaging Breakdown for iPad 2 (U.S. Configurations)

Material	Retail box	Retail and shipping box
Paper (corrugate, molded fiber)	207g	440g
High-impact polystyrene	68g	68g
Other plastics	9g	9g

Restricted Substances

Apple has long taken a leadership role in restricting harmful substances from its products and packaging. As part of this strategy, all Apple products comply with the strict European Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, also known as the RoHS Directive. Examples of materials restricted by RoHS include lead, mercury, cadmium, hexavalent chromium, and the brominated flame retardants (BFRs) PBB and PBDE. iPad 2 goes even further than the requirements of the RoHS Directive by incorporating the following more aggressive restrictions:

- Mercury-free LED-backlit display
- Arsenic-free display glass
- BFR-free
- Polyvinyl chloride (PVC)-free

4 Conclusions

- Eco design, a powerful tool to reduce environmental impact
- Reusing is good for environment and cost effective
- In the near future will we see Eco-design Vs design?

<http://www.dataservspain.es/>

[www.dell.com/environment.](http://www.dell.com/environment)

www.apple.com/environment/

http://ec.europa.eu/energy/efficiency/ecodesign/eco_design_en.htm

http://ec.europa.eu/environment/waste/rohs_eee/

http://ec.europa.eu/environment/chemicals/reach/reach_intro.htm

Links

Thank you

