



# Estándares horizontales, directiva de Ecodiseño y Economía circular: ¿qué se hace en la Comisión Europea?

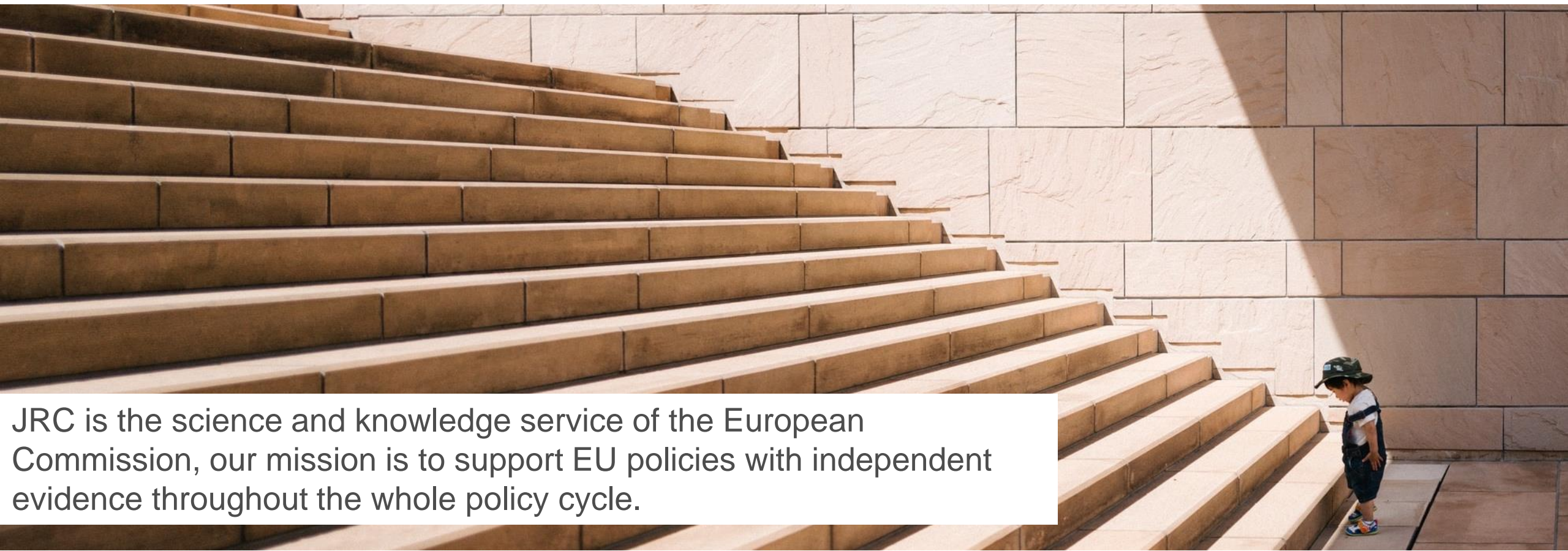
## JUEVES DE ECOEFICIENCIA - EKOSTEGUNA:

¿Cómo evaluar los aspectos de Economía Circular en el diseño de productos? Nuevos requisitos en el marco de la directiva ErP de Ecodiseño  
IHOBE

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*November 25, 2021*

# What is the European Commission doing



JRC is the science and knowledge service of the European Commission, our mission is to support EU policies with independent evidence throughout the whole policy cycle.

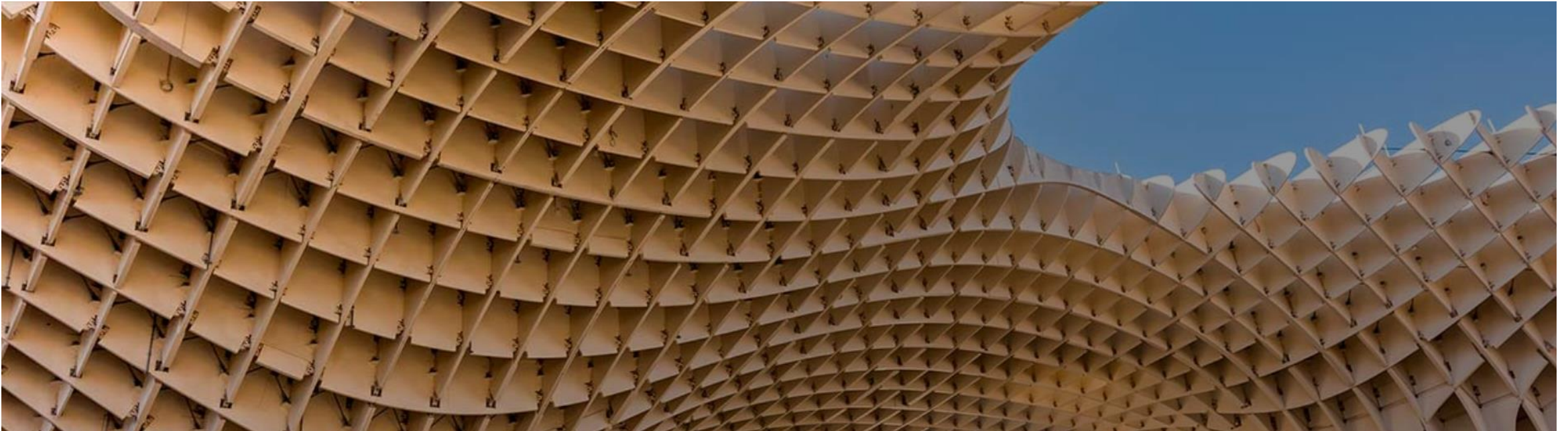
# JRC sites

Headquarters in **Brussels**  
and research facilities located  
in **5 Member States:**

- Belgium (Geel)
- Germany (Karlsruhe)
- Italy (Ispra)
- The Netherlands (Petten)
- Spain (Seville)



# Evidence-based and participatory decision making: Seville process



# Ecodesign & energy labelling

- **Ecodesign (ED):** setting **minimum efficiency (and other) requirements** for *energy-related products*

Current Legal basis: Directive 2009/125/EC, based on article 114 TFEU (internal market harmonisation)

- **Energy labelling (EL):** providing information on energy efficiency and other key performance criteria to consumers

Current Legal basis: Regulation (EU) 2017/1369, based on article 194 (energy)  
(Tyres: Regulation (EU) 2020/740)

- Both frameworks are based on the concept of « **placing on the market** », relying on what can be verified at that moment, either through testing on products or technical documentation (incl. design specifications)



# The Ecodesign Directive

What is ecodesign?

'Ecodesign' means the integration of environmental aspects into product design with the aim of improving the environmental performance of the product throughout its whole life cycle;



Photo by [Edho Pratama](#) on [Unsplash](#)

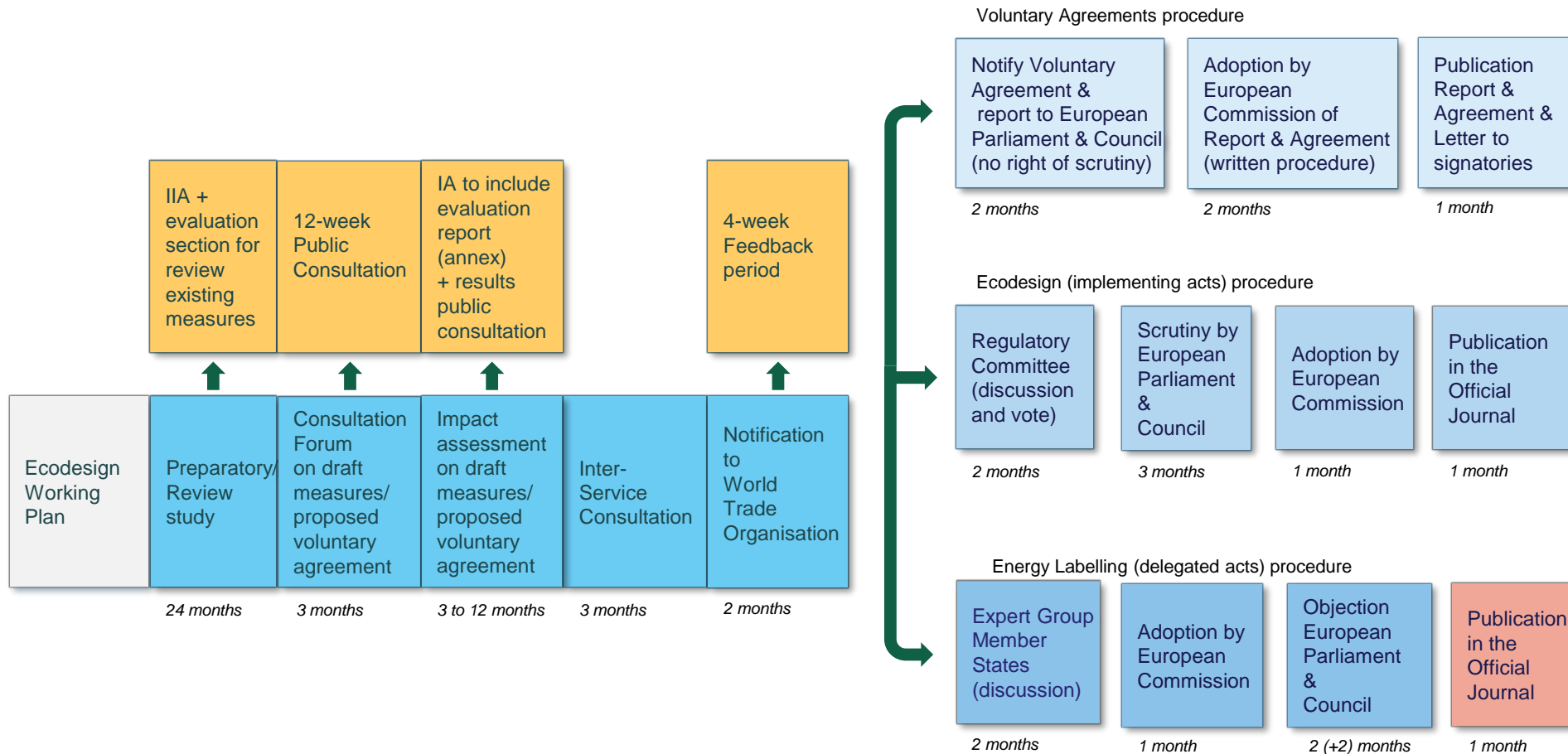
Some definitions...

'Environmental impact' means any change to the environment wholly or partially resulting from a product during its life cycle;

'Environmental aspect' means an element or function of a product that can interact with the environment during its life cycle;

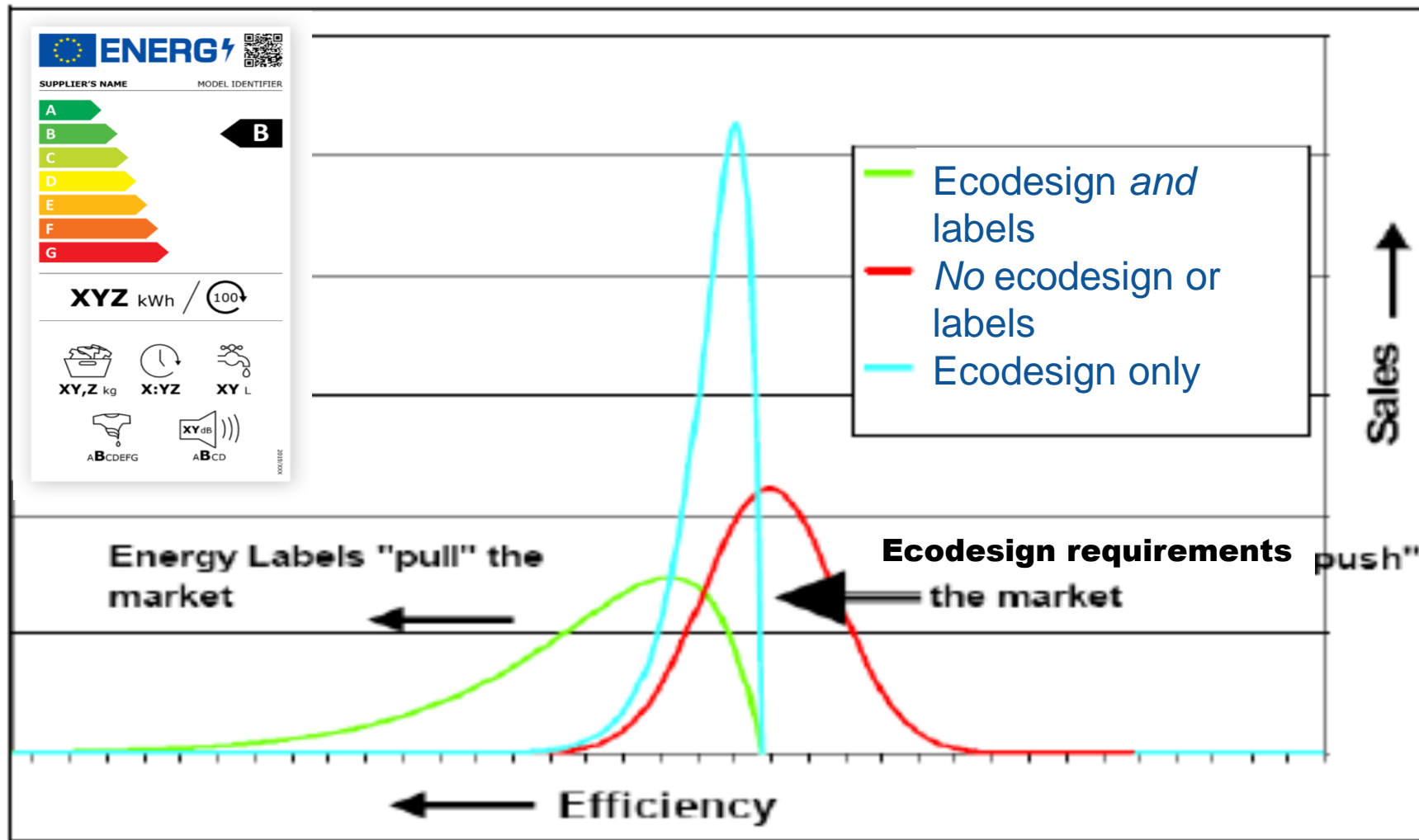
'Life cycle' means the consecutive and interlinked stages of a product from raw material use to final disposal;

# The policy implementation process



40 – 42 months – IDEALLY. Reality: can be very different.  
Ex: Displays >90 months

# Ecodesign & Energy Labelling: Combining market push and pull



# Around 50 Measures in place

## 32 Ecodesign regulations

1275/2008	Electric power consumption standby and off mode
107/2009	Simple set-top boxes
244/2009	Non-directional household lamps (=> 2019/2020 on 1.9.2021)
245/2009	Fluorescent lamps for high intensity discharge lamps (=> 2019/2020 on 1/9/2021)
640/2009	Electric motors (=> 2019/1781 on 1.7.2021)
641/2009	Circulators
327/2011	Industrial fans
206/2012	Air-conditioning products and comfort fans
547/2012	Water pumps
932/2012	Household tumble driers
1194/2012	Directional lamps (=> 2019/2020 on 1.9.2021)
617/2013	Computers and servers
666/2013	Vacuum cleaners
801/2013	Networked standby
813/2013	Space heaters
814/2013	Water heaters & storage tanks
66/2014	Domestic ovens, hobs and range hoods
548/2014	Power transformers
1253/2014	Ventilation units
2015/1095	Professional refrigeration
2015/1185	Solid fuel local space heaters
2015/1188	Local space heaters
2015/1189	Solid fuel boilers
2016/2281	Air heating and cooling products, process chillers
2019/424	Servers and data storage products
2019/1782	External power supplies
2019/1784	Welding equipment
2019/2019	Household refrigerating appliances
2019/2021	Electronic displays (televisions)
2019/2022	Household dishwashers
2019/2023	Household washing machines / washer-dryers
2019/2024	Commercial fridges

## 16 Energy labelling Regulations

626/2011	Air conditioners
392/2012	Household tumble driers
874/2012	Electrical lamps and luminaires (=> 2019/2015 on 1.9.2021)
811/2013	Space heaters
812/2013	Water heaters & storage tanks
65/2014	Domestic ovens, hobs and range hoods
1254/2014	Residential ventilation units
2015/1094	Professional refrigeration
2015/1186	Local space heaters
2015/1187	Solid fuel boilers
2019/2013	Electronic displays (televisions)
2019/2014	Household washing machines/ washer-dryers
2019/2016	Household refrigerating appliances
2019/2017	Household dishwashers
2019/2018	Commercial fridges
2020/740	Tyres labelling

## 2 Voluntary agreements

COM (2012) 684	Complex set top boxes (discontinued 2020)
COM (2013) 23	Imaging equipment
COM (2015) 178	Game consoles

[Note: Check our web page for more up-to-date info](https://ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign_en)

[https://ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign\\_en](https://ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign_en)

# What are the benefits?

- 153 Mtoe primary **energy savings** per year
  - equivalent to the annual primary energy consumption of Italy
- 311 Mt CO<sub>2</sub> equivalent **less greenhouse gas emissions** (~7% of EU total in 2018)
- € 64 billion/year **net saving on consumer expenditure**
- € 64 billion **extra revenue for industry**, wholesale and retail sector;
- Hundreds of 1000s extra direct **jobs** for industry, wholesale, retail and installation sectors
- energy savings but also “**circular economy**” benefits (materials savings, reparability, availability of spare parts, less waste etc) are increasingly being added

(Estimates up to 2020)

# Market surveillance = cornerstone of the Ecodesign and Energy labelling framework

- Incentive for manufacturers to comply
- Level playing field for industry
- Allows the energy savings to materialise



## How ?

- **Member States are responsible** & must designate Market Surveillance Authorities (MSAs).
- **Horizontal legislation** on market surveillance (EU) 2019/1020 (GROW CdF)
- Manufacturers issue **Declaration of Conformity + "CE marking" + technical documentation** proving compliance (alternatives exist e.g. 3rd party certif.)
- Compliance verified by MSAs through: sampling in shops, borders checks, ordering on line, web crawlers, documentation checks, products testing in laboratory, etc.
- **EU support:** Overall coordination and support from COM via different fora, joint actions, IT tools (ICSMS, EPREL,...), guidance etc ...**proactive MSA action often depends on COM's active involvement, assistance & initiative**

# What has Ecodesign delivered so far on Circular Economy aspects?

Requirement Product	Durability	Repairability/ Refurbishment	Recyclability	Reusability of components	Consumables
Commercial refrigerators		spare parts minimum availability + spare parts replaceable with the use of commonly available tools + access to repair and maintenance information + Maximum delivery time for spare parts	Removability of components + product specific provisions	Removability of parts with the use of commonly available tools without causing permanent damage	
Dishwashers					
Domestic refrigerators					
Electronic displays					
Washing machines					
Welding equipment					Info on use of welding wire/filler & shield gas
Light sources	L70B50 lifetime for LED and OLED light sources		Removability of components		
Vacuum cleaners	Hose durability and operational motor lifetime	information for non-destructive disassembly	information relevant for dismantling/ end-of-life	information for non-destructive disassembly	
Servers and data storage products		- firmware - disassemblability of key components	Weight range of cobalt in the batteries and Neodymium in the hard disks	availability of a functionality for secure data deletion	

# Material efficiency standards

- Mandate 543 → CEN/CENELEC JTC10 developing general standard methods on material efficiency aspects of ErP under ED
- Six working groups:
  - WG1: Terminology
  - WG2: Durability
  - WG3: Reparability, upgradability and reusability
  - WG4: Ability to Remanufacture
  - WG5: Recyclability, recoverability and recycled content (including critical raw materials)
  - WG6: Provision of information (including critical raw materials).
- JRC B5 responsible for
  - representation of the EC (DG ENV and DG GROW)
  - provision of technical input

# CEN/CENELEC JTC10 activities on material efficiency

- Key dates:
  - KOM in Sep 2016
  - 1<sup>st</sup> drafts in Autumn 2017
  - 2<sup>nd</sup> drafts in 2018
  - Extension request in 2018
  - Publications in 2019-2020
- Very intensive schedules of meetings to start-up the work
- All standards delivered
- To be followed by vertical implementation, already useful reference for product policy implementation

# Final Deliverables

Title	Resp.
EN 45552:2020 - General method for the assessment of the durability of energy related products	WG2
EN 45553:2020 - General method for the assessment of the ability to re-manufacture energy related products	WG4
EN 45554:2020 - General method for the assessment of the ability to repair reuse and upgrade energy related products	WG3
EN 45555:2019 - Methods for assessing the recyclability and recoverability of energy related products	WG5
EN 45556:2010 - General method for assessing the proportion of re-used components in an energy related product	WG4
EN 45557:2020 - General method for assessing the proportion of recycled material content in an energy related products	WG5
EN 45558:2019 - General method to declare the use of critical raw materials in energy related products	WG6
EN 45559:2019 - Methods for providing information relating to material efficiency aspects of energy related products	WG6

# Proposed draft requirements for mobile phones and tablets

Requirements	Smart phones	Feature Phones	Cordless phones	Tablets
Reparability	Y	Y	Y	Y
Disassemblabil.	Y	Y	Y	Y
Prep. for reuse	Y	y	y	Y
Reliability-phys	Y	Y	-	Y
Reliability-SW/FW	Y	Y	-	Y
Recyclability	Y	Y	Y	Y
Info on Env. imp.	Y	Y	Y	Y
Energy Label	Y	-	(but req on low pwr)	Y

# Disassembly req. for smartphones + tablets

## ❑ battery replacement (...UNLESS DURABLE):

- Fasteners and connectors: Reusable (Class A)
- Tools: Feasible with the use of no tool, or a tool or set of tools that is supplied with the product or spare part, or basic tools as listed in Table A.3 of EN 45554 (Class A)
- Working environment: Use environment (Class A)
- Skill level: Layman (Class A)

or shall ensure that the battery endurance in cycles achieves a minimum of 1000 full charge cycles, and after 1000 full charge cycles the battery must, in addition, have in a fully charged state, a remaining capacity of at least 80 percent of the rated capacity and the device is at least IP67 rated according to IEC 60529.

## ❑ display assembly criteria:

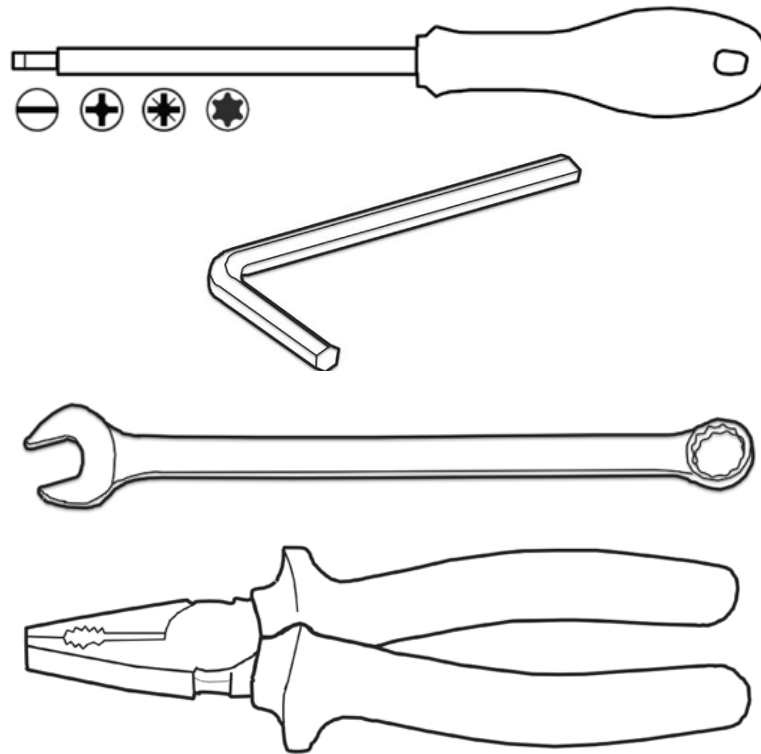
- Fasteners and connectors: Removable (Class B)
- Tools: Feasible with commercially available tools (Class C)
- Working environment: Workshop environment (Class B)
- Skill level: Generalist (Class B)

# Disassembly requirements

- Fastener types - Classification according to EN 45554:
  - **Reusable (class A):** An original fastening system that can be completely reused, or any elements of the fastening system that cannot be reused are supplied with the new part for the repair, reuse or upgrade process.
  - **Removable (class B):** An original fastening system that is not reusable, but can be removed without causing damage or leaving residue which precludes reassembly (in case of repair or upgrade) or reuse of the removed part (in case of reuse) for the repair, reuse or upgrade process.

# Disassembly requirements

- Basic tools - as listed in Table A.3 of EN 45554, examples:



# Disassembly requirements

- Working environment - Classification according to EN 45554:
  - **Use environment (Class A):** If a repair, reuse or upgrade process can be carried out in the environment where the product is in use without any working environment requirements
  - **Workshop environment (Class B):** If a repair, reuse or upgrade process cannot be carried out in the environment where the product is in use (class A) but does not require a production-equivalent environment
  - **Production-equivalent environment (Class C):** If a repair, reuse or upgrade process can only be carried out in an environment that is comparable with the environment in which the product was manufactured

# Disassembly requirements

- Skill level - Classification according to EN 45554:
  - **Layman (Class A):** person without any specific repair, reuse or upgrade experience or related qualifications
  - **Generalist (Class B):** repair, reuse or upgrade process cannot be carried out by layman (class A) but can be carried out by a person with a general knowledge of basic repair, reuse or upgrade techniques and safety precautions
  - **Expert (Class C):** person with specific training and/or experience related to the product category concerned

# Thank you

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