



EU- regulations of HVAC equipment based on Eco-design directive

Directorate-General
for Energy

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DG Energy Unit C3
Energy efficiency of products & Intelligent Energy - Europe
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- Energy efficiency policy – recent past
 - Energy and climate packages in the past years
 - Link with Lisbon strategy, Kyoto
 - Energy Efficiency Action Plan (EEAP)
 - Legislative initiatives and recasts (ERP, EPBD, ...)
 - Covenant of Mayors, Intelligent Europe

● Energy efficiency policy – near future

- Activities from the past being continued: new ecodesign and energy labelling measures, recasts, studies
- New Energy Strategy
- Efficiency Plans required from Member States by 30 June 2011
- Transposition of the EPBD
- Ongoing pressure from EP, with increased powers after the entering into force of the Lisbon Treaty (TFEU).

● Energy efficiency policy - main instruments

- **Ecodesign Directive** 2009/125/EC (former 2005/32/EC)
- **Energy Labelling Directive** 2010/30/EU (former 92/75/EEC)
- **Energy Star** programme for office equipment
- **Ecolabel Regulation** (EC) No 1980/2000 (voluntary endorsement label for top performers)
- Energy performance of **Buildings Directive** 2002/91/EC (recast 2010/31/EU)
- **End use energy efficiency and energy services directive** 2006/32/EC
- **CHP Directive** 2004/8/EC

- Non-legislative instruments
 - **Intelligent Energy Europe Programme (2007-2013)**
 - **Covenant of mayors**and
 - **Structural funds**
 - **Research projects**

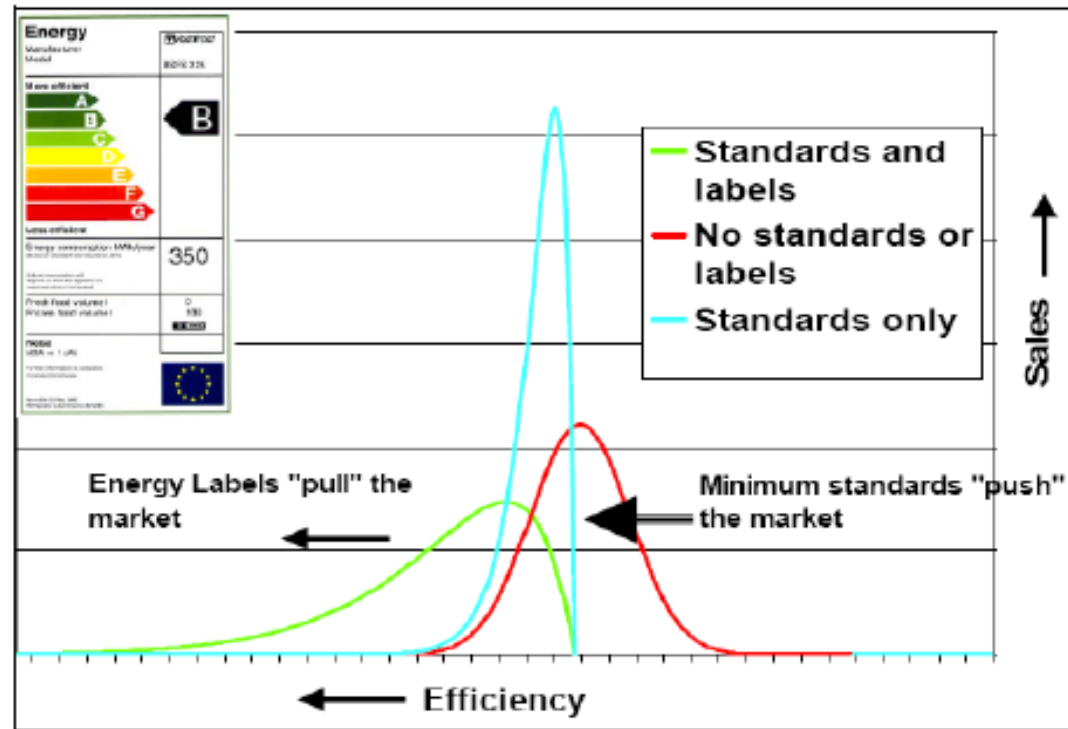
● Integrated product policy

- The **production phase** is addressed by the **RoHS Directive 2002/95/EC** on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment
 - The **use phase** is addressed by the **Ecodesign Directive** and by the **Energy Labelling Directive**
 - The **end-of-life phase** is addressed in the Waste Electrical and Electronic Equipment Directive 2002/96/EC (the WEEE Directive)
- Life cycle analysis show most environmental impact occurs during **the use phase** – energy (related) products

● The use phase

The Ecodesign Directive addresses the **supply side** while the Energy Labelling Directive addresses the **demand side**.

It is the **combined** effect of both measures which ensures a dynamic improvement of the market.



Source: IEA, P. Waide, International use of policy instruments, Copenhagen, 05 April 2006

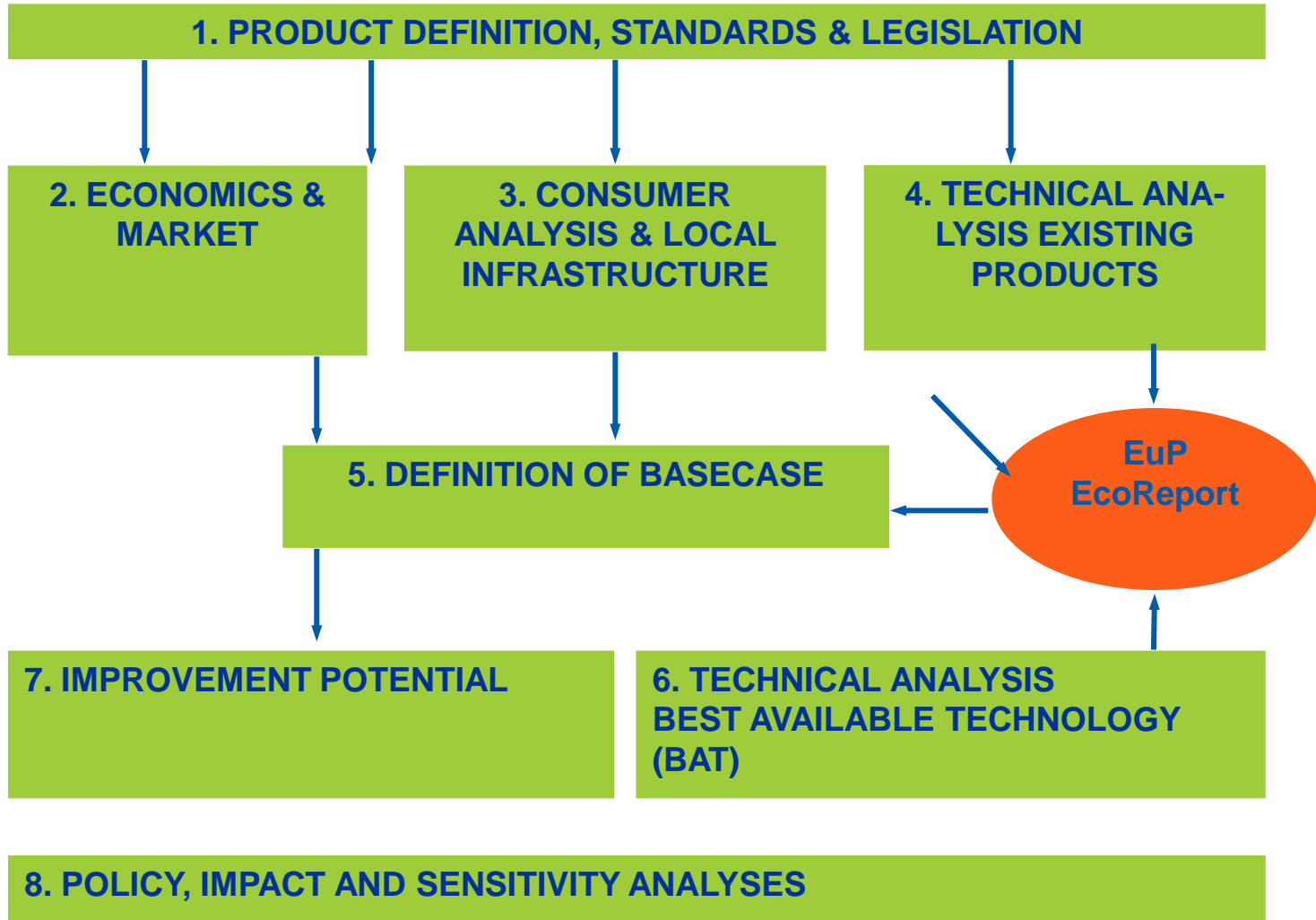
● Ecodesign Directive 2009/125/EC

- EU's main legal instrument to improve the environmental performance of **energy-related products**
 - » Revision in 2014
 - » Exemption for the automotive sector regulated in the type-approval legislation
- **Framework Directive** → requirements on product-by-product basis via:
 - » **Implementing measures**, or
 - » **Voluntary agreements**
- Implementing measures only for products with:
 - » Significant environmental aspects
 - » Significant potential for improvement
 - » Significant trade and sales volume
(indicative threshold: 200 000 units per year)
- Based on **Life-cycle approach**

Comitology procedure

- **Preparatory studies** : technical, environmental and economic analysis of product groups done by a Consultant with input from stakeholders around the world (published on dedicated websites)
 - » Functionality of the product
 - » Health and safety
 - » Competitiveness of the industry
- **Consultation Forum**: discuss suggestions for ecodesign requirements (Commission)
- **Impact assessment and interservice consultation**
- **WTO notification** (Technical Barrier to Trade agreement)
- Vote in **Regulatory Committee** (EU Member States)
- **Scrutiny** of the European Parliament and Council
 - » PRAC, article 5(a) of Decision 1999/468/EC
 - » New procedure of the Lisbon Treaty set out in Article 290
- **Adoption** by Commission: Regulations directly applicable in EU Member States

Methodology of Preparatory studies (“MEEuP”)



● Methodology of Preparatory studies revision

- State of play: MEErP study preparing review ongoing. New methodology to be applied in preparatory studies for which calls for tenders will be published after the adoption of the final report of the MEErP study.
- Expected results of the review:
 - - no significant changes in the methodology, as it has served well in developing the adopted and draft ecodesign regulations
 - - extension of the methodology to energy-related products
 - - integration of the extended product approach applied in recent ecodesign measures (electric motors, boilers)
 - - bringing the LCA analysis in the methodology up-to-date with the European Life Cycle Database developed by JRC
 - - enhanced consideration of Article 15 criteria for ecodesign implementing measures (functionality, affordability, health etc.)
 - - better complementarity with waste and hazardous substances legislation in the improvement options for the end of life

● Impact of Ecodesign IM

Examples of some adopted implementing measures:

Product	Reference	Estimated savings (annual by 2020)
Standby	OJ L 339, 18.12.08, p. 45	35 TWh
Simple set-top boxes	OJ L 36, 5.2.09, p. 8	6 TWh
Street & Office lighting	OJ L 76, 24.3.09, p. 17	38 TWh
External power supplies	OJ L 93, 7.4.09, p. 3	9 TWh
Domestic Lighting	OJ L 76, 7.4.09, p. 3	37 TWh

Total (125 TWh) → exceeds by 15 TWh the annual household electricity consumption of Portugal, Spain and Sweden combined

● Ecodesign – adopted measures

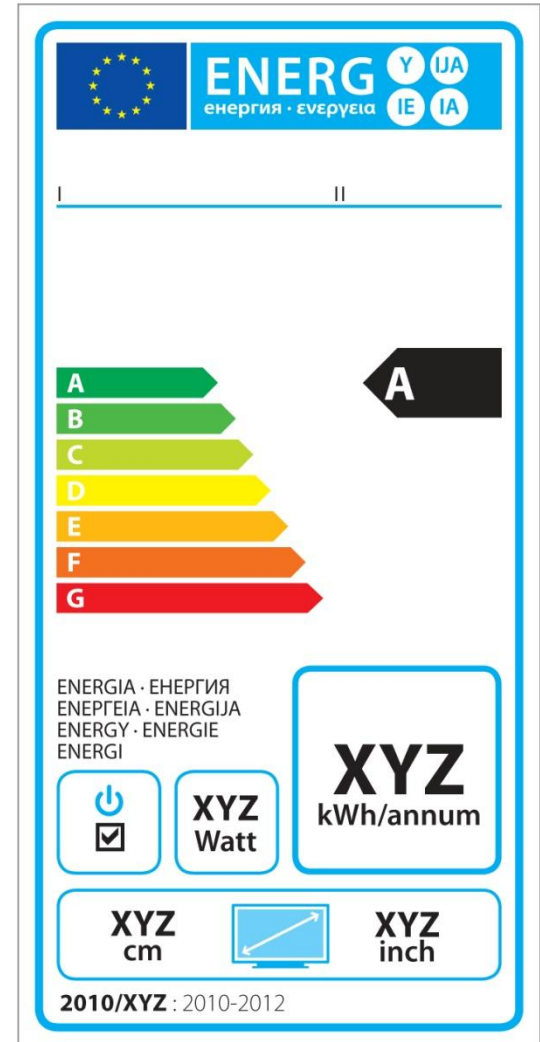
- **Measures adopted** (Regulations) on circulators, electric motors, household refrigerating appliances, televisions, fans
- **Measures under preparation:** Boilers, commercial refrigerators, computers, imaging equipment, pumps, room air-conditioners, domestic fans, complex set-top boxes, laundry driers, vacuum cleaners, domestic lighting products II (reflector lamps and luminaires), solid-fuel boilers, transformers, sound and imaging equipment, other refrigerating & freezing equipment.
- Ecodesign Work Plan 2009-2011

● Ecodesign – measures in progress

- Ecodesign Work Plan 2009-2011 COM(2008) 660
 - » Air-conditioning and ventilation systems
 - » Electric and fossil-fuelled heating equipment
 - » Food-preparing equipment
 - » Industrial and laboratory furnaces and ovens
 - » Machine tools
 - » Network, data processing and data storing equipment
 - » Refrigerating and freezing equipment
 - » Sound and imaging equipment
 - » Transformers
 - » Water-using equipment

Energy Labelling Directive 2010/30/EU

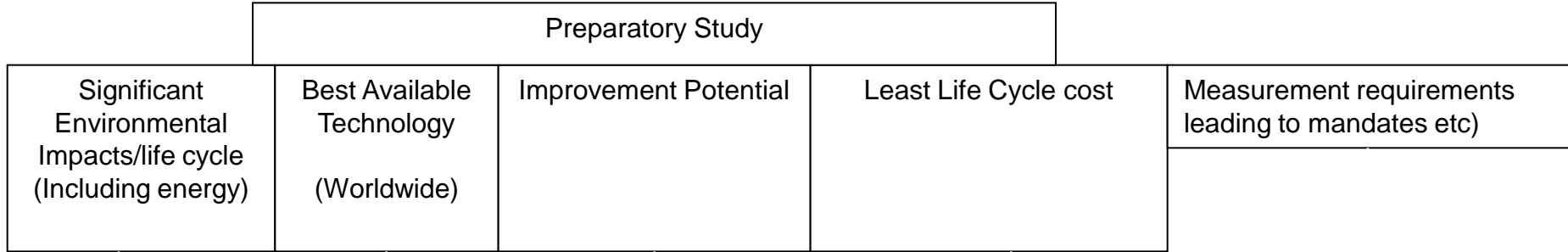
- **Information requirements** on the consumption of energy and essential resources
- **Target: end-users** (public and private demand)
- Label design and layout decided in DAs
- Lisbon Treaty: consultation of stakeholders but no Committee with a vote by Member States
- EP and Council scrutiny




● Energy Labelling Directive

- Energy-related products (as in the revised Ecodesign Directive)
- Fiscal incentives and public procurement
- Simplification - delegated acts (Regulations)
- Role for manufacturers, retailers, installers
- A-G and A+++ -D scales

Integration of product labelling and ecodesign



Specific Eco-Design Requirements



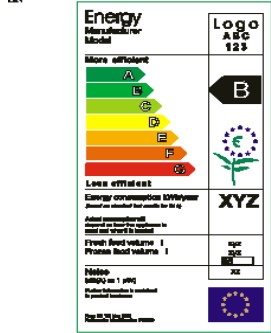
Maximum levels tolerated for "CE" marking

Eco-Label

top of the class



Energy Label



Voluntary Agreements

when ambitious compared with Business as usual and significant share of the market

EN Measurement Standards

Revision

- **5-10** years depending on product group and progress of technology but staged requirements possible
- **Dynamic** but predictable to encourage improvement products while providing clarity on investments for Industry
- **Consistent**
 - Thresholds to be maintained (A becomes D etc.)
 - Reward Development of 'good' products, compatibility of incentives

● Some Ecodesign studies per sector of appliance particularly relevant for the building sector

Ventilation

Lot 11 on fans 125-500kW

Lot 10 domestic ventilation < 125W

Lot ENTR 6 on large ventilation appliances

Air conditioning

Lot 10 up to 12 kW

Lot ENTR 6 on large air conditioners

Heating appliances

Lots 1 and 2 on boilers and water heaters

Lot 20 on local room heaters

Lot 21 on central heating products using hot air to distribute heat

● Tenders underway

- ENER Lot 27: Uninterruptible power supplies
- ENER Lot 28-29 on pumps for swimming pools, waste water and fluids with high solids content (extended product approach including motors, VSD and controls, where appropriate)
- ENER Lot 30-31 on motors and compressors (extended product approach including motors, VSD and controls, where appropriate)

● More information available on:

DG Energy

- http://ec.europa.eu/energy/efficiency/ecodesign/ecodesign_en.htm
- <http://www.ecomotors.org>
- Email: tren-ecodesign@ec.europa.eu

DG Enterprise and Industry

- http://ec.europa.eu/enterprise/eco_design/index_en.htm
- Email: entr-ecodesign@ec.europa.eu

Energy Star

- <http://www.eu-energystar.org/>

● Ecodesign legislation and EU policies

Thank you for your attention !