ENERGY EFFICIENCY

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Buildings Energy Efficiency Policies
The European Policy Package

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Why are Buildings Energy Efficiency Policies important for the EU?

Buildings are responsible for:

- ~40 % of EU-Energy use
- ~36 % of the EU CO_2-emissions

Buildings represent:

- 9% of EU 27 GDP
- 8% of EU-employees

What are the main challenges for the EU?

- **Existing buildings:**
  - How to ensure buildings are deeply renovated?
  - How to increase the renovation rate of existing building stock?
  - How to overcome up-front investment needs?
  - How to train buildings stakeholders at scale?

- **New buildings:**
  - How to ensure that new buildings are low energy?

What is included in the EU policy framework for buildings?

Demand side

- **Building Envelope:**
  - Directive 2010/31/EU on Energy Performance of Buildings, recast of EPBD 2002/32/EC
- **Appliances and Equipment**
  - Directive 2005/32/EC establishing a framework for setting Eco design requirements for energy using products
- **Buildings components**
  - Directive 2010/31/EC establishing a framework for setting Eco design requirements for energy related products
- **Buildings, Building Components, Appliances & Equipment**
  - Directive 2010/30/EC on labeling and standard product information on energy and other resources consumption by energy related products, recast of labeling directive 2002/40/EC

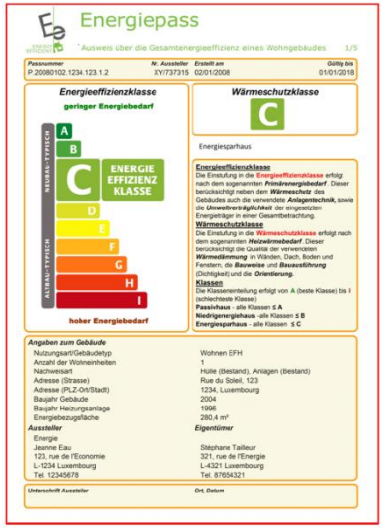
What is included the EU policy framework for buildings?

Supply side

- Directive 2006/32/EC on Energy end-use efficiency and energy services
- Directive 2004/8/EC on the promotion of cogeneration, CHP
- Energy Efficiency Directive (Delegated act adopted by the EC and send to the EU parliament & Council to accept/reject) It will repeal Directives 2006/32/EC and 2004/8/EC.

What is included in the Energy Performance of Buildings Directive, EPBD 2002/91/EC?

- A methodology to calculate and rate the overall energy performance of building (heating, cooling, ventilation, lighting and hot water)
- Minimum energy performance requirements for new and existing buildings that undergo major renovation
- Energy Performance Certificate (EPC)
- Regular inspections of heating and air conditioning systems



EPBD recast (Directive 2010/31/EC)

- Enactment: July 2010
- Implementation by Member States: July 2012
- EPBD recast gives instruction on how to set minimum energy requirements
- The aim is:
  - To have equivalent level of ambition but no harmonization
  - Shift focus from upfront investment cost to life cycle costs (cost-optimum methodology)
  - MS complete framework with national parameters and report calculations and input data to the EC
  - Comparison of results with current requirements and adjust building energy code (set at national level) when needed

What is new in EPBD recast (2010/31/EU) compared to EPBD (2002/91/EC)?

Requirements	2002	2010
Minimum energy requirements	Y	Y
Extension of minimum energy requirements for all building segments	N	Y
Methodology for calculating the cost-optimum level	N	Y
Energy performance Certificate	Y	Y
Publication of EPCs in all commercial announcements	N	Y
Extension of display of EPCs to buildings with more than 500 m2 by 2012 now an those with more than 250 m2 in 2015	N	Y
Independent control system for EPCs	N	Y
Introduction of “nearly zero energy buildings” by 2021 for all buildings and 2019 for public buildings	N	Y

What are the new policy concepts in the Energy Efficiency Directive for the buildings sector?

- Public sector: lead by example, with annual renovation works covering at least 3% of the total floor area of their buildings
- Consumers: individual metering for better energy management
- Energy Efficiency obligation: Member States have to make sure that an equivalent of 1.5% of annual energy sales are saved through energy efficiency measures. Renovation of existing building stock will play a major role on meeting the EE obligation

What are the supporting measures at the EU level to EPBD implementation?

- JESSICA: since 2010 for EE/RES in retrofitting, replaces ERDF
- ELENA: since 2009 grant for technical assistance for EE/RES on regional und local level
- EEE-F: New European Energy Efficiency Facility
  - ~200 Mio.€ in cooperation with EIB for technical assistance, investment facilitation, contracting
  - Impact assessment: financing instruments for EE
  - Analysis of the appropriateness of EU funding for the EPBD as requested by the EPBD

What is included in the Eco design and labeling Directives?

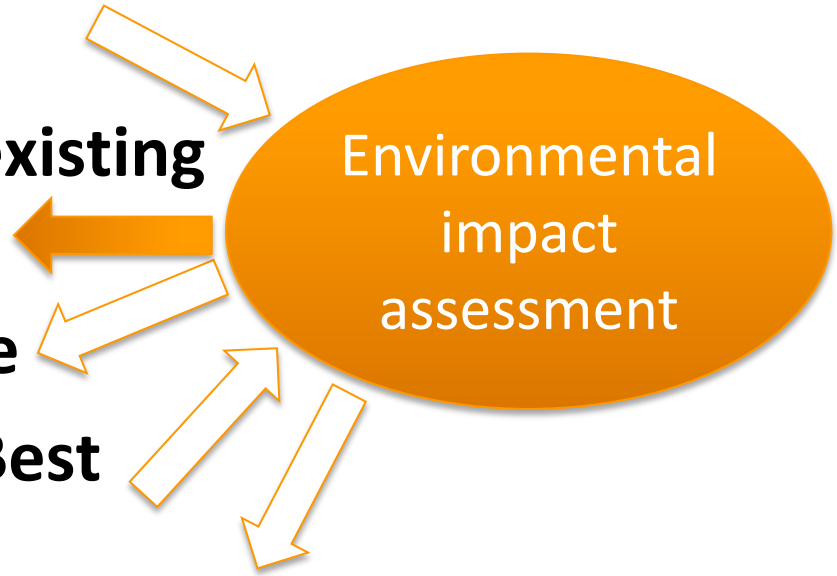
- The Eco design directive allows setting minimum energy requirements (MEPs) for energy using products (43 products included).
- The Eco design recast Directive allows setting minimum energy requirements for energy related products (final list of products to be included under discussion)
- Requirements are set at the EU level
- Member States are in charge of enforcement
- The labelling directives establish labelling requirements for energy related products

Which criteria to consider in the selection of products to be regulated

- Significant volume of sales and trade (200.000 units per year)
- Significant environmental impact
- Significant potential for improvement without entailing excessive costs

How the energy requirements are set?

1. Product definition, standards and legislation
2. Economic ad market analysis
3. Consumer analysis and local infrastructure
4. Technical analysis of existing products
5. Definition of base case
6. Technical analysis of Best Available Technology
7. Improvement potential



Which energy related products are regulated in the EU?

Product	Entry into force of Eco design requirements
Domestic refrigerators and freezers	August 2009 but labelling in force in December 2010
Domestic washing machines	December 2010 at the same time for the labelling one
Domestic dishwashers	December 2010 at the same time for the labelling one
TVs	August 2009 but labelling in force in December 2010
Electric motors	August 2009
Domestic lighting	April 2009 with amendments in September 2009
Tertiary lighting	April 2009
Simple set-top boxes	February 2009

Which energy related products are regulated in the EU?

Product	Entry into force of Eco design requirements
Standby and off-modes losses of EuP	January 2009
Ventilation fans	April 2011
Circulators in buildings	August 2009 but amendments proposed in April 2011
Battery chargers and external power suppliers	April 2009
Room air conditioners	Regulation adopted in May 2011
Boilers	On-going study since 2006
Water heaters	On-going study since 2006
Computers	On-going study

To learn more about the European Buildings Energy efficiency policies, please visit:

http://ec.europa.eu/energy/efficiency/buildings/buildings_en.htm

Thank you for your attention

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