



Sustainable buildings

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Scope (1)

- **Environmental aspects of sustainability, i.e. "green buildings"**

- **Provide a holistic approach regarding resources and life-cycle impact of the sector.**

Scope (2)

- **Resources to be looked at:**
 - materials (including waste)
 - water
 - embedded energy
- **Type of buildings covered:**
 - residential
 - non-residential
 - (excluding industrial buildings and infrastructure)



Resource use

40% of our final energy consumption

35% of our greenhouse gas emissions

50% of all extracted materials

30% of our water consumption

33% of total generated waste

Environmental impacts

Different resource use in different life cycle stages give rise to different negative environmental impacts.

An important part in many environmental categories are made up of aspects other than energy efficiency.

Example of embedded energy

An investment of 100.000 Euros...

- **..in a photovoltaic panel would save 75 tonnes of CO₂ over 30 years**
- **..in low carbon concrete would save 663 tonnes of CO₂ immediately**

Which investment will be made?

Why this initiative now?

- **Resource efficiency roadmap, 2011**
 - Existing policies, mainly on energy efficiency, need to be complemented with policies for resource efficiency looking at a wider range of resource use and environmental impacts, across the life-cycle of buildings.
- **Strategy for the sustainable competitiveness of the construction sector, 2012**
 - Resource efficiency is a main challenge. Highlights areas for future development such as the assessment of the environmental performance of buildings.

What actions are already taken?

■ Energy efficiency

- Energy Performance of Buildings Directive
- Energy Efficiency Directive
- Energy Labelling and Eco-design Directives

■ Waste Framework Directive

- Review targets related to waste management

■ Member States

- I.a. regulate the calculation and reporting of environmental impacts

Barriers to green buildings (1)

- **Demand for green buildings impacted by:**
 - **Low awareness among consumers**
 - **Low level of green procurement of buildings**
- **Transparent and comparable data needed to:**
 - **Define green buildings**
 - **Inform consumers as well as the supply chain**
 - **Link to future incentives**

Barriers to green buildings (2)

- **Fragmentation of the single market**
 - **National reporting requirements vary or do not exist**
 - **Proliferation of commercial assessment schemes**

- **Moreover, markets for waste management face split incentives between waste generator and user of secondary construction materials.**

Objectives

■ Overall:

- **Reduce environmental impacts by improving overall resource efficiency and, as a consequence, improve the related competitiveness**

■ Specific:

- **Raise awareness and demand among private consumers, developers and public purchasers**
- **Improve knowledge and information on resource use**
- **Remove barriers created by different sets of requirements on environmental performance**
- **Improve material efficiency, including prevention and management of waste**

Areas to be considered for future work

- **Establish and promote an assessment framework for the environmental performance of buildings, taking into account the building as a system, building components and construction products**
- **Provide information on the environmental performance of buildings to supply chain and clients**
- **Recommend reporting requirements for buildings and components**

Areas to be considered for future work

- **Establish comprehensive GPP criteria for different categories of buildings**
- **Advice MS in developing/reforming financial incentives for green buildings, including linking to the existing/emerging incentives for improved energy efficiency**
- **Promote efficient material management, in particular support markets for secondary construction materials**

Benefit of Initiative on Sustainable Buildings

- **Broaden the understanding, beyond energy efficiency, among stake holders both on supply and demand side. Provide transparent and comparable information on environmental performance to be used:**
 - **in decision making throughout the value chain**
 - **for future policy to better target most important aspects of resource use**

Public Consultation

- **Open since the 9th of July, until the 1st of October.**
 - **Relevant concepts for environmental performance**
 - **Main problems and at what levels they should be tackled**
 - **Possible solutions and their impacts**

http://ec.europa.eu/yourvoice/consultations/index_en.htm

How to define green buildings?

- **Why do we need a definition?**
- **What aspects of resource use, beyond energy efficiency, should be taken into account?**
- **What knowledge do we need to develop a definition?**
 - **Do we have this knowledge or how could we get it?**

Assessment approaches?

- **How can the environmental assessment of a building be done in practice?**
- **What are the areas to be covered/indicators to be used?**
 - **Should this depend on local conditions?**
- **What could performance levels, once known, be used for?**
- **Do cost-effective assessment schemes exist for the majority of buildings in Europe?**

Incentives?

- **How to tackle split incentives in the supply chain, i.e. uneven distribution of costs and benefits?**
- **Are incentives needed for green buildings?**
 - Demand side? Supply side?
- **What kind of incentives would be most cost-effective? At what level?**