



BUILD WITH CaRe. ENERGY SAVING BUILDINGS.

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# **ENERGY EFFICIENT BUILDINGS POLICIES EUROPEAN PERSPECTIVE**

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- 1/ What is an Energy Efficient Buildings Policy?
- 2/ The European Union policy
- 3/ The French « Grenelle de l'Environnement »  
example
- 4/ Links to five European countries policies aspects



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An Energy Efficient Buildings Policy can be specified through:

- **Objective(s)** of the improvement of Energy Efficiency of Buildings (new and existing) within a defined period,
- **Instruments** used to meet the objectives,
- **Concerned actors**: actors backing the policy, opponents of the policy,
- Energy consumption, economic and social **impact**,
- **Cost-effectiveness**



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Energy efficiency is linked to **two planetary strategic challenges:**

- Climate change:** CO2 emissions, renewable energy to be developed
- Energy supply security:** countries energy independency to be reinforced

So, Energy Efficiency Buildings Policies get **three aims:**

- To diminish **energy consumption**
- To reduce **CO2 emissions**
- To increase the part of **renewable energy**



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In Europe, an Energy Efficient Buildings Policy can be specified and implemented on **three levels**:

- **Continental** level: European Union Policy, General objectives, instruments framework
- **Country** level: Objectives, national framework
- **Local authority** (Region, County, City) level: Objectives, practical work with property and construction actors



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On continental, state and local levels, policies are a mix of **four kinds of instruments**:

–1/ **Control and regulatory instruments which can be:**

- Normative: Appliance standards , Building codes, Procurement regulations, Energy efficiency obligations and quotas
- Informative: Mandatory audits, Utility Demand-side management (DSM) programs, Mandatory labelling and certification programs

–2/ **Fiscal instruments and incentives:** Taxes, Tax exemptions / reductions, Public benefit charges, Capital subsidies, grants, subsidized loans



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- 3/ **Economic and market-based instruments:** Energy performance contracting, Cooperative procurement, Energy efficiency certificate schemes, Kyoto Protocol flexible mechanisms
  
- 4/ **Support, information and voluntary action:** Voluntary certification and labelling, Voluntary and negotiated agreements, Public leadership programs, Initial and continuous training programmes for property and construction professionals, awareness raising, education, information campaigns, Detailed billing and disclosure programs

*see UNEP Central European University “Assessment of policy instruments for reducing greenhouse gas emissions from buildings” typology on*

*[http://www.unepsbci.org/SBCIResources/ReportsStudies/documents/Assessment\\_of\\_Policy\\_Instruments\\_for\\_Reducing\\_Greenhouse\\_Gas\\_Emissions\\_from\\_Buil/SBCI\\_CEU\\_Policy\\_Tool\\_Report.pdf](http://www.unepsbci.org/SBCIResources/ReportsStudies/documents/Assessment_of_Policy_Instruments_for_Reducing_Greenhouse_Gas_Emissions_from_Buil/SBCI_CEU_Policy_Tool_Report.pdf)*





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According to UNEP Report, what is in average the **cost-effectiveness** of each instrument?

- **High:** Appliance standards, Energy efficiency obligations and quotas, Utility Demand-side management (DSM) programs, Tax exemptions / reductions, Public benefit charges, Voluntary certification and labelling
- **High/medium:** Procurement regulations, Energy efficiency certificate schemes
- **Medium/high:** Initial and continuous training programmes for property and construction professionals, awareness raising, education, information campaigns, Cooperative procurement



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- **Medium:** Building codes, Mandatory audits, Voluntary and negotiated agreements, Detailed billing and disclosure programs, Energy performance contracting
- **Low:** Taxes, Capital subsidies, grants, subsidized loans, Kyoto Protocol flexible mechanisms

Actually, cost-effectiveness depends on national and local **context** and on **compliance/control** of the implementation of instruments



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## The **20-20-20** European Union Policy by 2020

- Minus **20 % Green House Gas** levels,
- Minus **20 % Energy consumption**,
- **20 % Renewable Energy** in total energy consumption (8,5 % today)



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- **Generation:**
  - Directive on the promotion of cogeneration
  - Directive on the promotion of the use of energy from renewable sources
- **Products:**
  - Directives for domestic appliances
  - Regulation of Energy Star labelling for office equipment
  - Directive establishing a framework for the setting of eco-design requirements for energy-using
  - Construction products Directive (Proposal for a regulation laying down harmonised conditions for the marketing of the construction products)



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- **Buildings**
  - Energy Performance of Buildings Directive (EPBD)  
*Buildings: 40 % of EU's energy use and 36 % of EU's CO2 emissions*
- **Services**
  - Energy end-use efficiency and energy services
- **Taxation**
  - Directive for the taxation of energy products and electricity



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## Energy Performance of Building Directive (EPBD) 2002 version:

- Thermal **calculation method**
- Improved **regulations for new and existing** buildings every 5 years
- **Energy certificates** for new and existing buildings
- **Energy faisability studies** for projects of more than 1000 m<sup>2</sup>
- Substantial thermal improvement for **refurbished projects** of more than 1000 m<sup>2</sup>
- **Boilers and climatisation** equipment inspections



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### Energy Performance of Building Directive (EPBD) 2010 version:

- **Nearly zero carbon and energy new buildings in 2020 (2018 for new public buildings)**
- **Display of Energy Performance Certificates in public buildings** (compulsory in 500 m<sup>2</sup> buildings, 250 m<sup>2</sup> in five years)
- **Minimum energy performance requirements for new buildings and major renovations**, with lowering of the 1000 m<sup>2</sup> threshold for existing buildings when they undergo a major renovation





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## Energy Performance of Building Directive (EPBD) 2010 version (continued):

- Lowering of the threshold for **assessment on installation of alternative systems** in new buildings
- Benchmarking to achieve **cost-optimal levels**
- Strengthening the role and the quality of **energy performance certificates, quality** checks and use of the performance, and **use as indicators in advertisements** for sale or rent
- Strengthening the role and the quality of **inspections** (HVAC)
- Clarification/simplification of provisions and definitions



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- **EPBD implementation support:**
  - EPBD Concerted Action,
  - CEN EPBD standards,
  - Build up portal: [www.buildup.eu](http://www.buildup.eu)
- **Programmes:**
  - Intelligent Energy Europe
  - R&D FP7 projects (including Concerto)
  - Smart Cities
- **Networks:**
  - Covenant of Mayors
  - Sustainable Energy Europe Campaign
  - ManagEnergy



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Before 2007, France was **late on environmental topics**

- 1997: Kyoto agreement
- 2000: Climate Change National Program, Energy Efficiency National Program,
- 2004: Climate Plan,
- 2005: Energy Policy Program Law - “Factor 4 Policy”-

**But no actual Action Plan**



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**Low motivation:**

- **2005: not a single text to implement the 2002 European Energy Performance of Buildings Directive (EPBD).**
- **First text, 2005 Thermal Regulation (May 2006) : not very ambitious (2000 Thermal Regulation energy consumption minus 15%)**



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In **2007**, after Presidential election, “Grenelle de l’Environnement” was an **original national negotiation**:

- between five bodies: **Government, Local authorities, Employers, Unions and Environmental associations**,
- about four topics: **Climate change** (including Energy Efficient Buildings Policy), **Biodiversity, Environmental risks, Health risks**.

**= Mobilization of main national bodies**



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First results:

- **“Grenelle One” Law** and Finance law (2009)
- A lot of ambitious **policy instruments** between 2007 and 2009 for the property and construction industry
- **“Grenelle Two” Law**, soon finalized in Parliament

= **A coordinated Action Plan**



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***In red:  
Grenelle  
Property &  
Construction  
Industry  
Policy  
Instruments***

Control and regulatory instruments		Economic and market-based instruments	Fiscal instruments and incentives	Support, information and voluntary action
Normative	Informative			
<ul style="list-style-type: none"> <li>- <b>Appliance standards</b></li> <li>- <b>Building codes</b></li> <li>- Procurement regulations</li> <li>- Energy efficiency obligations and quotas</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Mandatory audits</b></li> <li>- Utility Demand-side management programs</li> <li>- Mandatory labelling and certification programs</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Energy performance contracting</b></li> <li>- Cooperative procurement</li> <li>- <b>Energy efficiency certificate schemes</b></li> <li>- Kyoto Proto-col flexible mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Taxes</b></li> <li>- <b>Tax exemptions / reductions</b></li> <li>- Public benefit charges</li> <li>- <b>Capital subsidies, grants, subsidized loans</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Voluntary certification and labelling</b></li> <li>- <b>Voluntary and negotiated agreements</b></li> <li>- <b>Public leadership programs</b></li> <li>- <b>Awareness raising, education, information campaigns</b></li> <li>- Detailed billing and disclosure programs</li> </ul>





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**A huge quantitative (and qualitative) jump** for Property and Construction Sector:

**☐ New buildings**

- . **2012** Thermal Regulation = 2005 Thermal Regulation energy consumption **minus 50 %**
- . **2020** Thermal Regulation = 2005 Thermal Regulation **minus 100 %** (“Positive Energy Buildings”) = minus 70 % + 30 % renewable energy produced by the building

**☐ Existing buildings**

- . **2020** stock consumption = 2009 stock energy consumption **minus 38 %** (from 240 KWh/m<sup>2</sup>/y to 150 KWh/m<sup>2</sup>/y primary energy)



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- **International Council for Building Research (CIB) Task Group 66**  
dedicated to "The Implementation of Energy Efficient Buildings Policies in 5 Continents".
- **First Internet Session: « The Implementation of Energy Efficient Buildings Policies in Europe»** (2010 February 24)
  - Five presentations: Netherlands, France, Belgium, Germany, Poland
  - About one hundred participants, 80 % from 19 different European countries, 20 % from 7 other countries (USA, Brazil, China, Japan...)



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**Five countries, five aspects** of Energy Efficient Buildings Policies, with links to registered conferences:

– Introduction

<https://inive.webex.com/inive/lsr.php?AT=pb&SP=EC&rID=26698307&rKey=060B0FB0923695BF>

– Netherlands (Marleen Spiekman): **Comparing Energy Performance Requirements, be cautious**

<https://inive.webex.com/inive/lsr.php?AT=pb&SP=EC&rID=26698317&rKey=850C656E99A8380D>

– France (Frédéric Bougrain, Jean Carassus): **Regulation, a strong mean to promote innovation**

<https://inive.webex.com/inive/lsr.php?AT=pb&SP=EC&rID=26698327&rKey=8EA5EF1B0348E06E>



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- Belgium (Peter Wouters): **Necessity of assessing policies impact and controlling policies implementation**  
<https://inive.webex.com/inive/lsr.php?AT=pb&SP=EC&rID=26698337&rKey=51A5AE7402E1C4F5>
- Germany (Andreas Koch, Lioba Markl-Hummel): **Active regulation, incentives and support for existing buildings renovation**  
<https://inive.webex.com/inive/lsr.php?AT=pb&SP=EC&rID=26698347&rKey=D72D0966FE9BFACC>
- Poland (Krzysztof Kasperkiewicz): **Regulation, incentives, support in a Eastern European country, the cost issue.**  
<https://inive.webex.com/inive/lsr.php?AT=pb&SP=EC&rID=26698357&rKey=1DB2EF9EFBD8FC35>
- Conclusion  
<https://inive.webex.com/inive/lsr.php?AT=pb&SP=EC&rID=26698367&rKey=98F619DC785AFC55>



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Thank you for your attention

**More information on bilingual  
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Any question?