
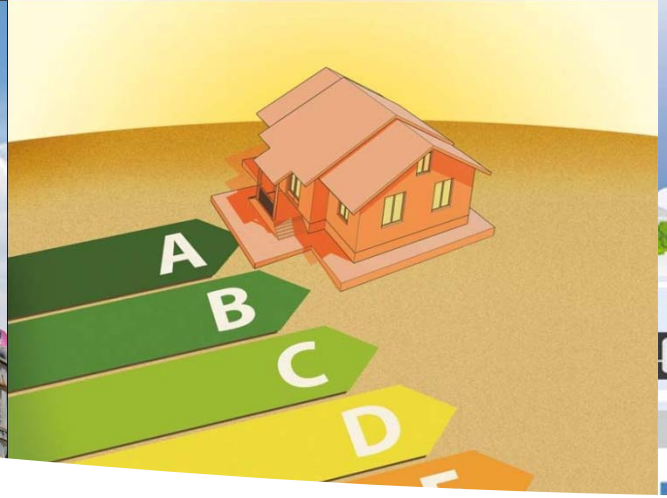

The EU Commission's upcoming proposal on the cost optimal framework methodology

Wels, Sustainable Energy Days 2011

Michaela Holl

European Commission
Directorate-General for Energy

Directorate-General for Energy

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Broader EU policy framework for EE in buildings

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EE in the 4th February Council Conclusions

- *The 2020 20% energy efficiency target as agreed by the June 2010 European Council, which is presently* ***not on track,*** *must be delivered. (..)* ***As of 1 January 2012, all Member States should include energy efficiency standards taking account of the EU headline target in public procurement for relevant public buildings and services.*** *The Council (…) will review the implementation of the EU energy efficiency target by 2013 and consider further measures if necessary.*

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EE in the new EU Energy strategy (COM (2010)639

- *(…)"Special attention should be given to the sectors with the largest potential to make energy efficiency gains, namely the* ***existing building stock*** *and transport sector.* (…)"
- *(…)"Measures need to be developed to* ***speed up significantly the rate of refurbishment using energy-efficient products and technologies.*** *In the* ***residential sector, the issue of divided incentives between owners and tenants*** *needs to be addressed. (…)"*
- *(…)"The* ***public sector needs to lead by example****. Ambitious objectives ought to be set for public sector consumption. (….)"*

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Next: EU Energy Efficiency Plan

- To be adopted by the Commission on 8 March
- Presents more details to the issues outlined in Energy Strategy of Nov 2010
- Council Conclusions in June 2011
- To be followed up by legislative proposal e.g. recast of Energy Services Directive

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Key policy areas in the new EE plan

- Energy saving objectives
- Energy efficiency in the energy supply side
- Competitive Industry
- Rational energy use for mobility
- More efficiency projects, more buildings' renovation
- Exemplary role of the public sector and public spending

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The Energy Performance in Buildings Directive and its recast (2010/31/EU)

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New Buildings Directive (recast EPBD)

- **Published in OJ: June 2010, Transposition July 2012, Application by Jan/July 2013**
- **Holistic approach as regards energy use in new and existing buildings**
- **Framework legislation**
- **Follow-up work ongoing:**
  - -cost-optimal comparative framework methodology (by 30/6/2011)
  - -new mandate to CEN/CENELEC for revision
  - -voluntary EU labelling scheme for the non-residential sector (by end 2011)

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New Buildings Directive (recastEPBD)

- EPBD recast can bring additional 5-6 % final energy consumption by 2020
- Initiates transformation of the building sector towards „*nearly zero energy buildings*“
- Introduces cost effectiveness thinking for the first time
- Subsidiarity principle respected

- Continuity with 2002 Directive: Main prin ples are kept, but made more effective
- BUT crucial for that : effective implementation!

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The EU methodology framework on cost-optimality in support of the EPBD

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Rationale for cost optimality framework

- For the first time, the EPBD instructs Member States on how to set energy performance requirements
- Rationale: Equivalent level of ambition in all MS, but no harmonisation of requirements
- Aim: Shift focus from upfront investment costs to global life cycle costs (incudling energy costs)
- Approach is compatible with methodology used for Eco-design

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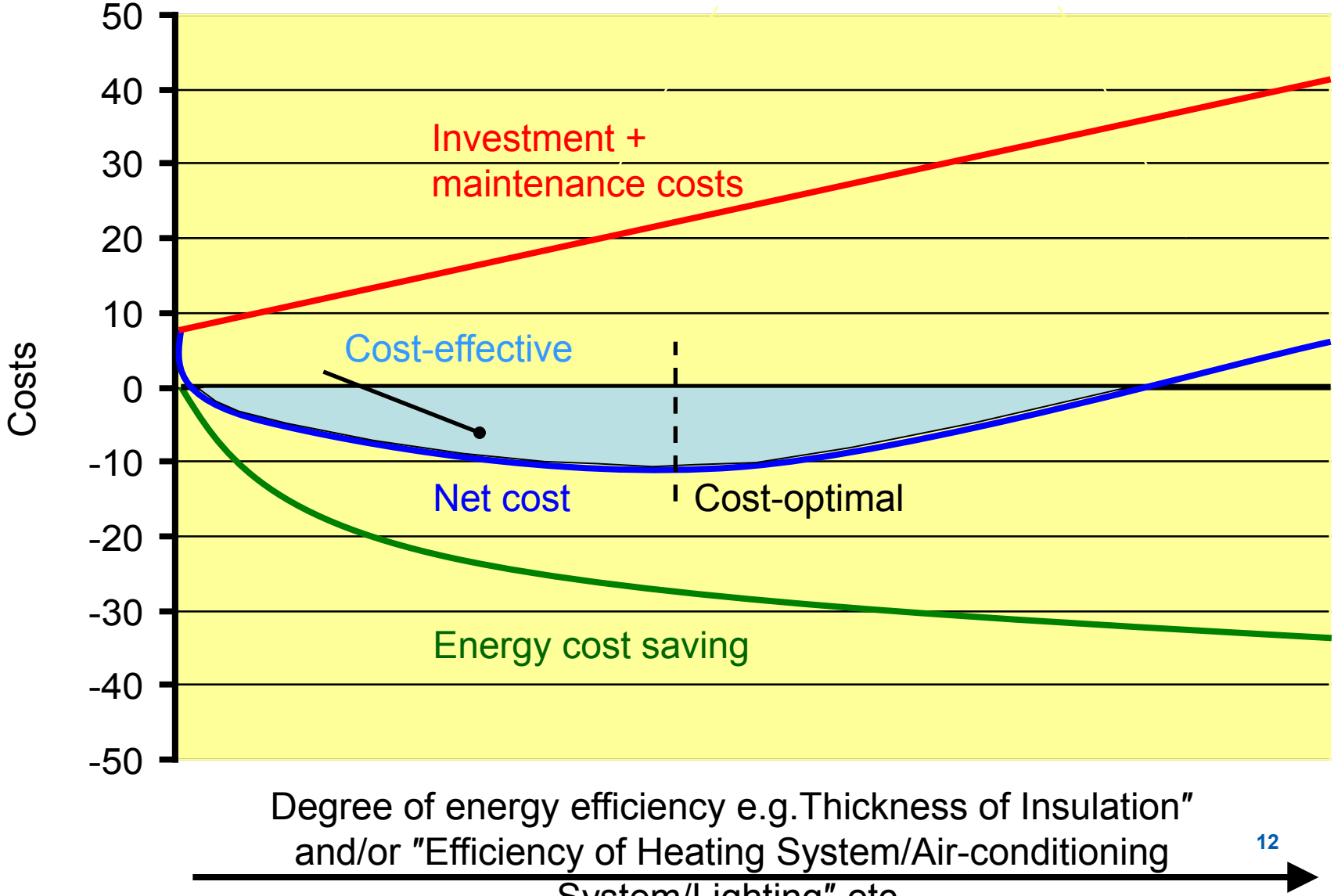
Comparative methodology framework for cost-optimal levels of minimum energy performance requirements



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Timeline and Procedure

- **Delegated Act procedure Art 290 TFEU**, a new procedure introduced with the Lisbon Treaty

- Public expert and stakeholder meeting on 16 March 2011 in Brussels

- Adoption by Commission 30 June 2011, then: EP and Council have 4 months to oppose, publication in Official Journal around October 2011

- MS adopt national methodologies based on framework by 30 July 2012
- Cost optimal levels applicable in MS from 9 Jan 2013 for public buildings, from 9 July 2013 for all

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The CO framework methodology

- Will be the basic framework on which MS develop national methodologies and calculate cost optimal minimum requirements

- Framework will be based on calculating energy performance (based on or equivalent to CEN standards) and for cost calculation (based on net present value in EN 15459)

- Member States complete framework with national parameters (discount rate, labour cost etc.) and apply packages of energy efficiency measures to reference buildings
- EU Commission gives long-term energy price developments for all EU

- MS report their calculations plus input data to Commission

- MS compare result of calculations with current requirements and adjust their building codes if need be

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The CO framework

Steps:

1. Selection of **reference buildings/systems**
2. Establishment of sets **of energy efficiency measures**
3. **calculation of final and primary energy demand**
4. **calculation of the life cycle costs using net present valuation**

result: Cost optimal set of measures for optimising energy performance of a reference building in a given MS, in kWh/(m² ,a)

5. **Report to Commission on calculations and input data used**
6. **Comparison of results with current building codes**

→if need be adjustment !

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Recast EPBD: Nearly zero energy buildings by 2019/2021

- NZB target has to be seen in the context of the **cost optimal approach** (minimal life cycle cost over the lifetime), this means first exploring all cost effective energy savings, then top up with renewables in buildings as defined by the MS in Dir 2009/28/EC)
- The cost optimal approach will apply to both new and existing buildings, but as of 2020/2018: phase in of the NZB for new built
- RES solutions generally more costly than EE

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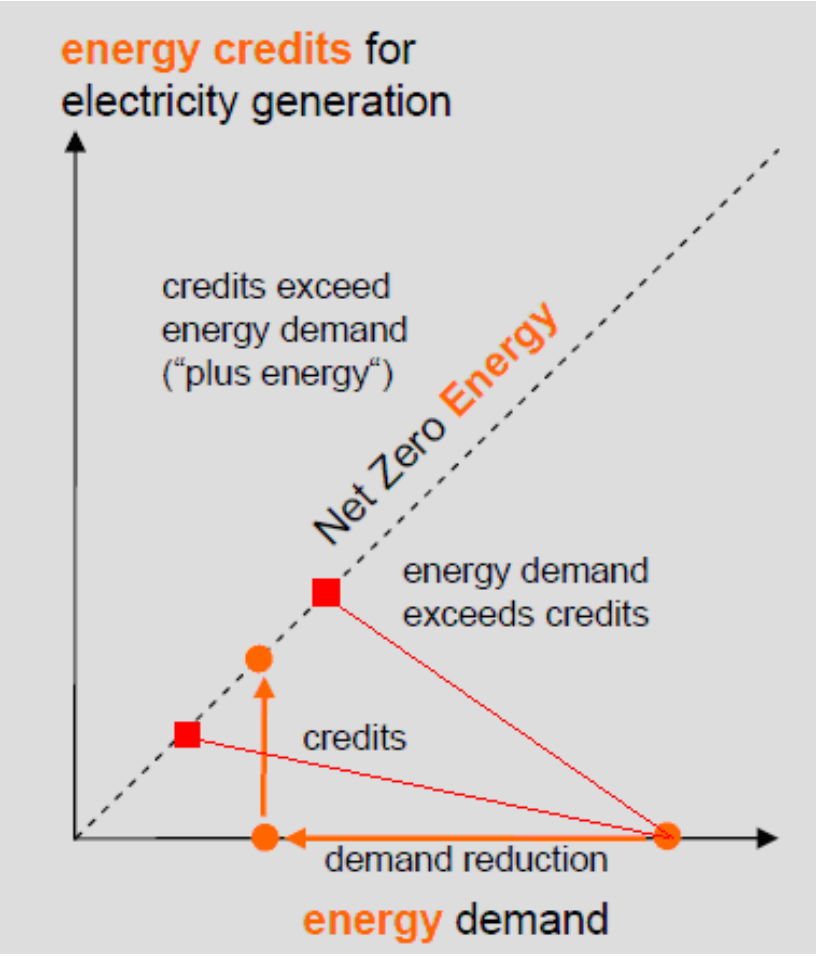
Recast EPBD and NZEB

- EE first, then RES (Recital 15: "*alternative supply systems should be considered for new buildings (…) first ensuring that energy needs for heating and cooling are reduced*")
- **At national level (example DK):** building requirements at the moment include only EE options, standards for 2015 phase in solar thermal, long term objectives for 2020 add PV.



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NZEB and cost optimal- cost situation

Danish building codes show:

- Current building code **45 kwh/m2/a** gross energy used for heating and hot water cooling and ventilation; = 25 % reduction compared to 2008 can be fully met with only EE. No RES appliance yet needed.
- For the 2015 standard (**30 kwh/m2/a** = 50 % reduction to 2008) technologies needed are: 40 cm insulation, triple glazed windows tight building envelope and ventilation with heat recovery and some solar heating. This is expected to be cost optimal by 2015.
- Beyond 2015, you have reached the boundaries of the building only and have to go beyond (=**RES off-site)** (offshore wind etc).
- Buildings standard 2020 (**20 kwh/m²/a** = 75 % reduction to 2008) needs PV installation and/or similar RES. Is not expected to be fully cost effective by 2020.

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Sum up

- Energy Efficiency on top of agenda in Brussels
- New EU Energy Efficiency Plan next week
- Cost optimal Framework methodology to be presented by EU Commission by 30 June 201 And becomes applicable by 2013
- NZEB definition to be built up on cost optimal methodology for the energy demand side and RES for the supply side

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