



- The EU's cost optimal methodology framework

framing Member State's future energy  
requirement setting

*Michaela Holl, the European Commission, DG Energy*

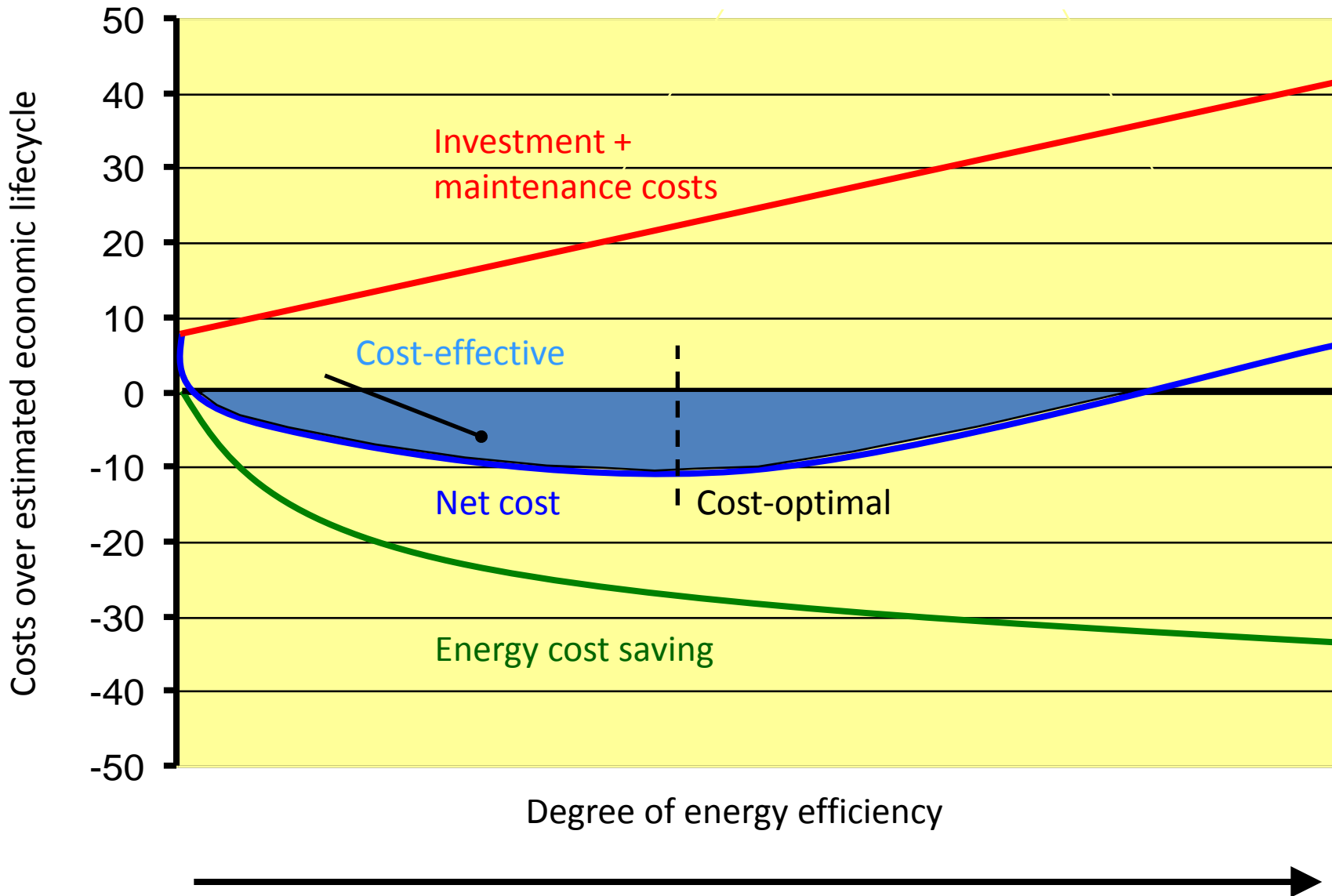
**REHVA Seminar 27 October 2011, Brussels**

# Background and rationale

---

- **EPBD recast instructs Member States on how to set energy performance requirements:** “*with a view to achieving cost optimal levels*”
- **Cost optimal = “the energy performance that leads to the lowest cost during the estimated economic lifecycle” (the latter determined by MS) Art 2 (14) EPBD**
- **Purpose: establishing the cost optimal benchmark for every MS through calculation and using this to assess the current requirements of that MS. Purpose is NOT: To compare across MS**
- **The framework is to be used by MS authorities, not the market!**
- **Rationale: Equivalent level of ambition in all MS, but no harmonisation of requirements**
- **Cost optimality also to become the reference point for EU funding (EEE-F, ERDF)**

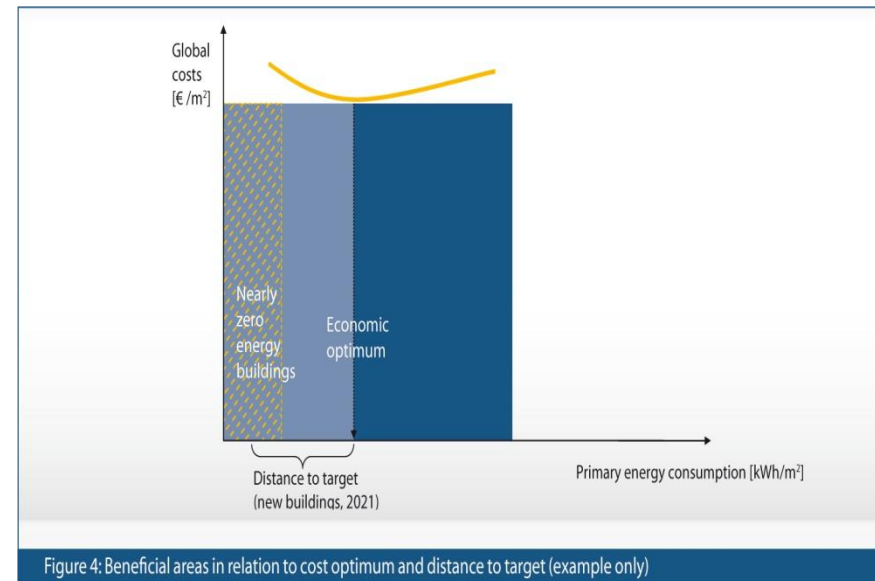
# Cost effective vs. cost optimal



# Cost optimal and *nearly zero*

- **EPBD also established *nearly zero energy target (Art 9)***
- **Article 2(2) defines *nearly zero energy building as “building with a very high energy performance (...) and a very significant share of RES”***
- **But also: Art 4 and Art 9(6): MS may not be obliged to set not cost effective requirements over the estimated economic lifecycle**

→ **Method. needs to ensure phase in of NZEB and its technologies**  
→ **need to adjust boundary Definition in CEN standard so that active RES can be accounted for**  
→ **priority for EE?**



# Timeline and procedure

---

- Consultation of national technical experts and other stakeholders in two meetings on 30 March and 6 May 2011
- Format of Commission proposal: Delegated regulation plus non-binding guidance document and non-binding reporting template
- Inter service consultation closed on 3 August 2011
- Adoption by Commission within next weeks
- After adoption by the Commission, notification of co-legislators
- EP and Council can object for 2 (+2) months (EP majority, Council qualified majority)
- After objection period, publication in Official Journal

# The CO framework

---

- Based on net present value in EN 15459 for cost calculation and CEN standards for energy performance calculation
- national energy performance calculation may be based on national standards (provided they are in line with Annex I of EPBD)
- **Commission determines:** starting year, cost categories, calculation period, need for sensitivity analysis for energy prices and discount rate, defines term reference building and sets rules for selecting measures/packages
- **MS determine:** primary energy factors, estimated economic lifecycle, cost input data, discount rate, establish reference buildings and select measures/packages, climate data decide on whether to include disposal costs/earnings from RES

# Steps of the cost optimal methodology

---

1. Selection of **reference buildings/systems**
2. Establishment of sets of **energy efficiency measures**
3. **calculation of the energy performance**
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/(m<sup>2</sup>,a)

5. **Report to Commission on calculations and input data used**
6. **Comparison of results with current building codes**  
→if need be adjustment !

# Cost optimality – applying it in practice

---

- Commission's Joint Research Centre Ispra performed quick test runs of interservice draft in September, main lessons:
  - Proposed approach and guidance given can work, but cost optimal methodology as iterative process with need to revisit input data/ref buildings/definition of measures
  - Cost curves seem to be relatively flat
  - Key importance of quality of cost input data and well defined measures and reference buildings
  - For AT: cost optimal requirements quite close to current thermal and system requ., add on through manually controlled shading and activation of thermal mass; bigger gap for IT



Many thanks for your attention!

[Michaela.holl@ec.europa.eu](mailto:Michaela.holl@ec.europa.eu)

[http://ec.europa.eu/energy/efficiency/buildings/buildings\\_en.htm](http://ec.europa.eu/energy/efficiency/buildings/buildings_en.htm)

