

Energy Performance of Buildings in Europe

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Legal Basis

□ EU-Directive

- Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings 2002
- Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (recast) 2010
- EC-Proposal for a Directive 2010/31/EU of the European Parliament and of the Council amending Directive 2010/31/EU on the energy performance of buildings 2017?

□ National Laws

- Transposing the EU-Directive

Requirements

□ Method

- Common general framework for a methodology for calculating the integrated energy performance of buildings and building units
- To be specified at national level on the basis of Annex I of the Directive

□ Minimum requirements

- Application of minimum requirements to the energy performance for
 - new buildings and new building units
 - existing buildings, building units and building elements that are subject to major renovation
 - relevant parts of the building envelope when they are retrofitted or replaced

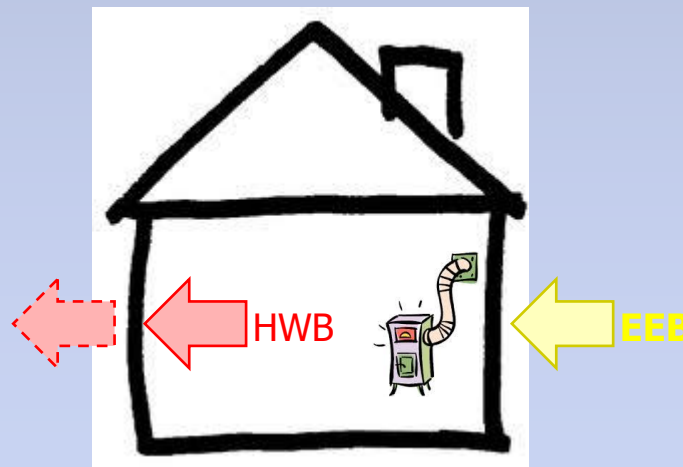
Requirements

□ Indicators for the minimum requirements in Austria

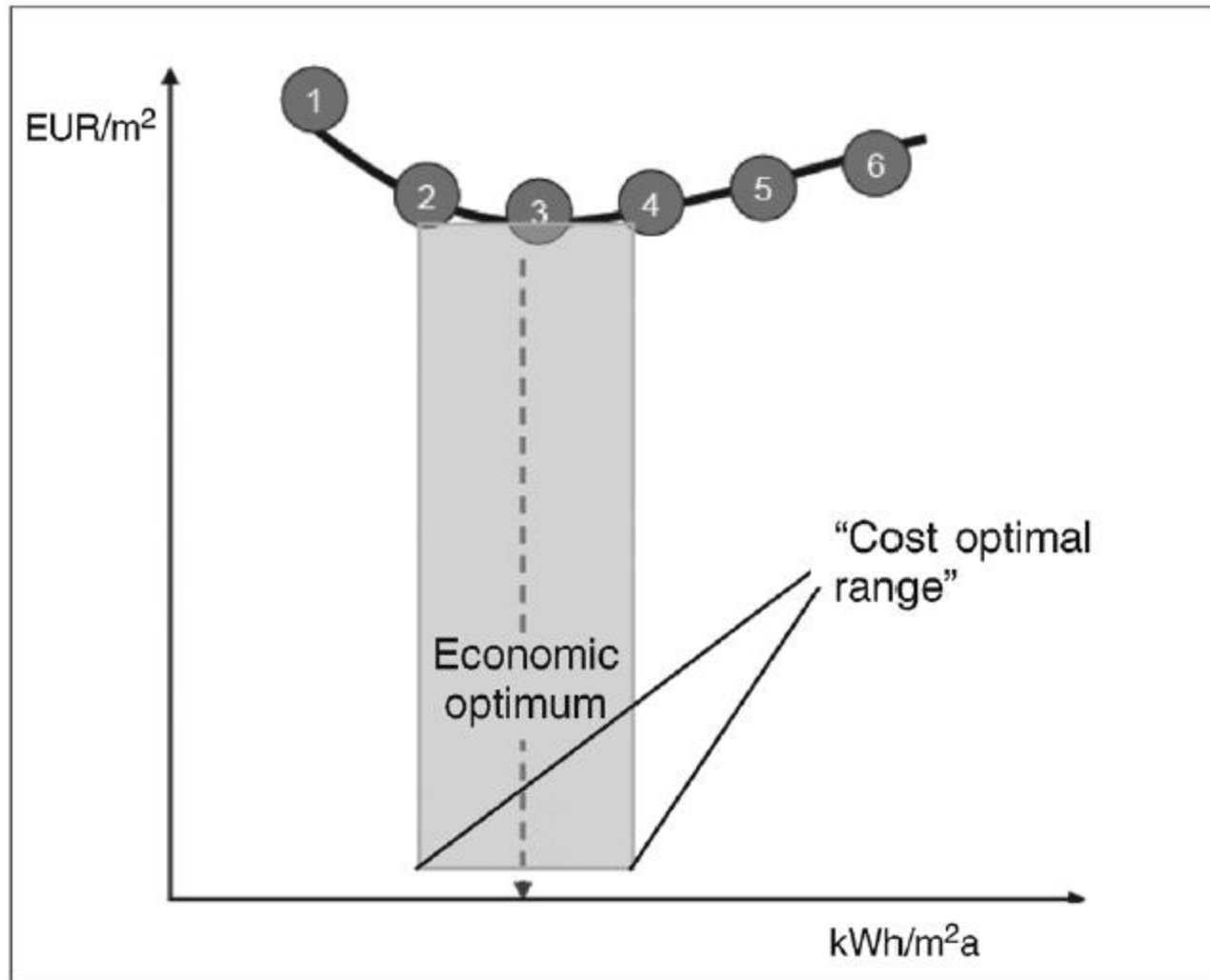
- HWB Heat demand [kWh/m²a]
- EEB Final energy demand [kWh/m²a]
- f_{GEE} Energy efficiency factor [-]
- PEB Primary energy demand [kWh/m²a]
- CO₂ Carbon dioxide emissions [kg/m²a]

In addition for non-residential buildings:

- KB* (External induced cooling demand)



Different variants within the graph and position of the cost-optimal range ⁽¹⁾



Requirements

□ Nearly zero-energy buildings

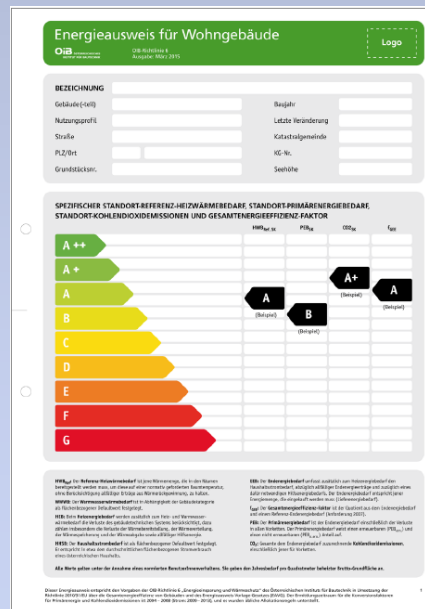
- To be defined at national level
- National plan for increasing the number of nearly zero-energy buildings

	HWB _{max} [kWh/m ² a]	EEB _{max} [kWh/m ² a]	f _{GEE,max} [-]	PEB _{max} [kWh/m ² a]	CO _{2,max} [kg/m ² a]
2014	$16 \times (1 + 3,0 / \ell_c)$	mittels HTEB _{Ref}	0,90	190	30
2016	$14 \times (1 + 3,0 / \ell_c)$	mittels HTEB _{Ref}		180	28
		oder			
2018	$16 \times (1 + 3,0 / \ell_c)$		0,85	170	26
	$12 \times (1 + 3,0 / \ell_c)$	mittels HTEB _{Ref}			
		oder			
2020	$16 \times (1 + 3,0 / \ell_c)$		0,80	160	24
	$10 \times (1 + 3,0 / \ell_c)$	mittels HTEB _{Ref}			
		oder			
	$16 \times (1 + 3,0 / \ell_c)$		0,75		

Requirements

Energy certificate

- To be defined at national level
- For new buildings or building units
- For existing buildings or building units which are sold or rented out to a new tenant



Requirements

□ Qualification

- Regular inspection of heating systems
- Regular inspection of air-conditioning systems
- To be performed in an independent manner by qualified and/or accredited experts



Control

□ Independent control system

- To be applied
 - for energy performance certificates
 - for reports on the inspection of heating systems
 - for reports on the inspection of air-conditioning systems
- Based on random samples
- Also for energy certificates issued for existing buildings which are sold or rented out to a new tenant

Further relevant EU-Legislation

- ❑ **Directive 2002/91/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources**
 - Member States are obliged to introduce in their building regulations
 - appropriate measures in order to increase the share of all kinds of energy from renewable sources in the building sector
 - require the use of minimum levels of energy from renewable sources in new buildings and in existing buildings that are subject to major renovation

Further relevant EU-Legislation

- ❑ **Directive 2002/91/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources**
 - Member States shall establish a long-term strategy for mobilising investment in the renovation of the national stock of residential and commercial buildings, both public and private
 - A first version of the strategy had to be published by 30 April 2014 and shall be updated every three years thereafter

Further relevant EU-Legislation

- ❑ **Directive 2002/91/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (recast)**
 - Establishes a framework for the setting of Community ecodesign requirements for energy-related products
 - Delegated acts (EC Regulations), e.g. for
 - Roomheaters
 - Water boilers
 - Ventilation systems
 - Windows (under preparation)

Thank you very much for your Attention!