



European  
Commission

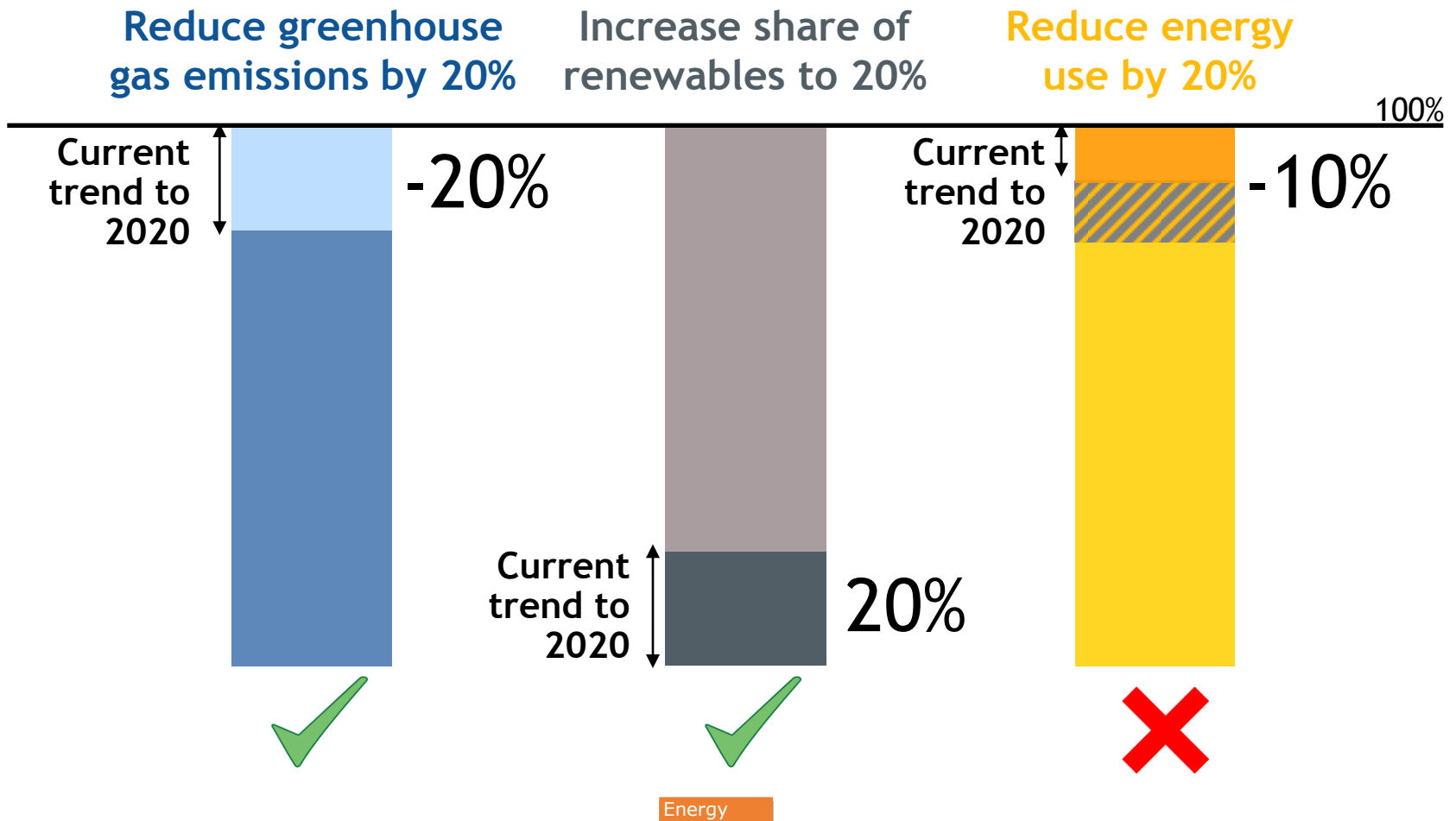


# EU energy efficiency policies and actions related to buildings

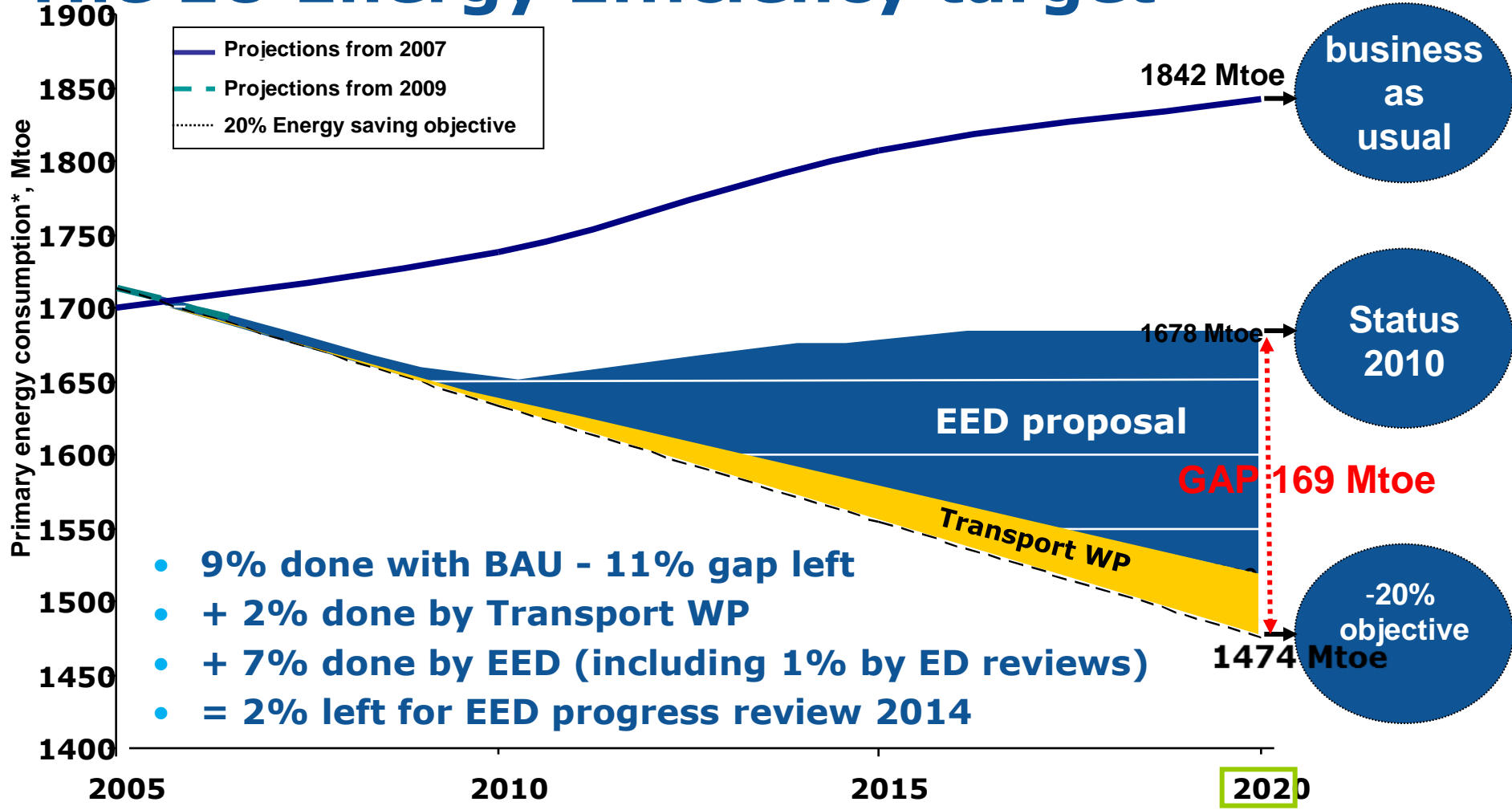
**Ismo Grönroos-Saikkala**

***Head of Sector  
Energy Efficiency Unit  
Directorate-General for  
Energy***

# The EU 20-20-20 targets by 2020



# The EU Energy Efficiency target



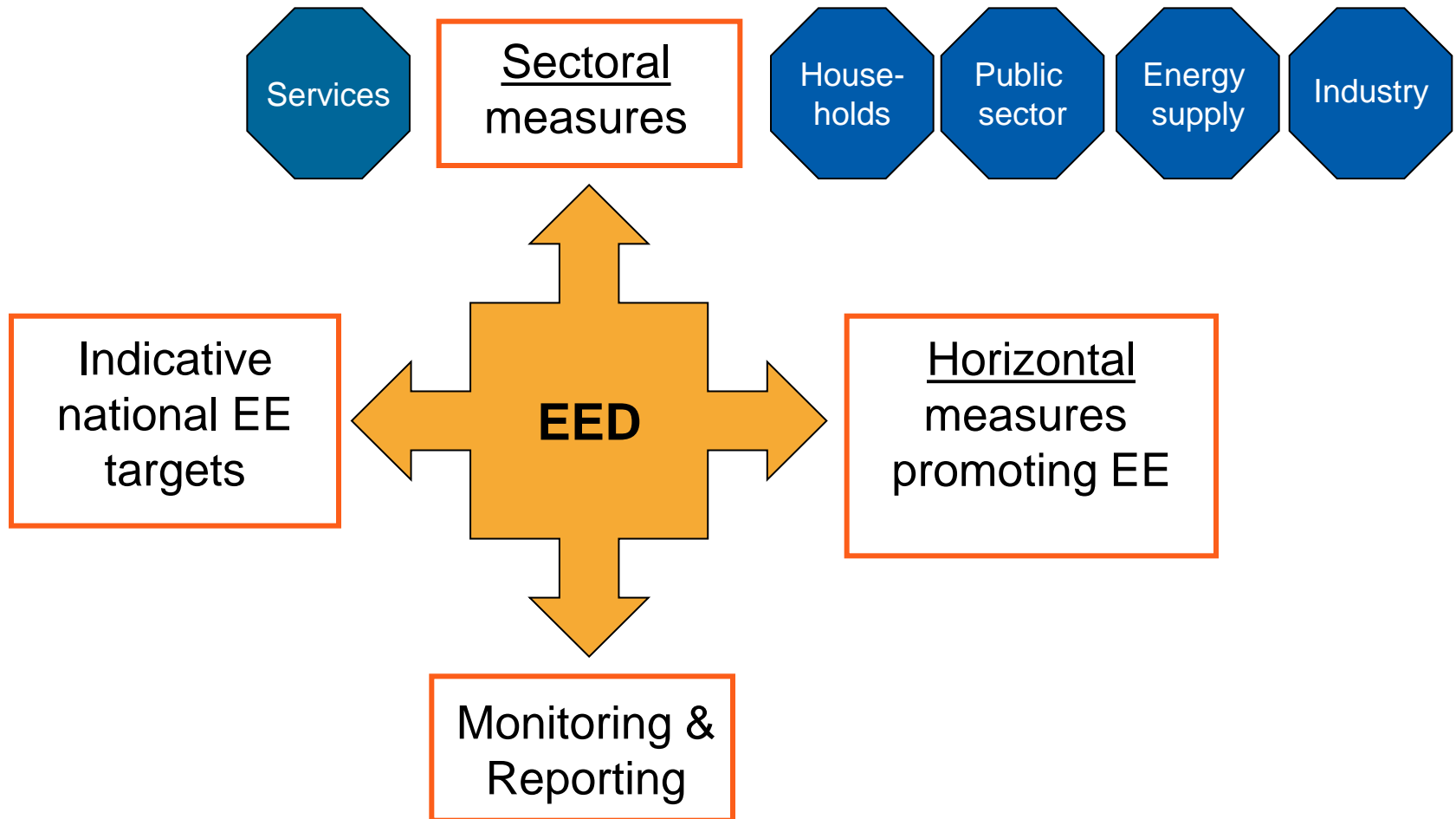
\* Gross inland consumption minus non-energy uses

# Main energy efficiency tools related to buildings

- **Energy Efficiency Directive**
- **Energy Performance of Buildings Directive**
- **Product policy: Ecodesign, Energy and Tyre Labelling, Energy Star, Ecolabel, green public procurement**
- **Financing instruments**



## ENERGY EFFICIENCY DIRECTIVE



# **Energy Efficiency Directive**

## **Main elements related to buildings**

- **Art. 4: MS building renovation Roadmaps on strategy to mobilise investments – April 2014**
- **Art. 5: 3% renovation rate per year of central government buildings (or alternative approach)**
- **Art. 7: energy savings of 1,5% per year of the volumes delivered or sold by energy suppliers/distributors to be reached over 2014-2020 (to be delivered from energy efficiency obligation schemes or alternative policies)**

# Energy Efficiency Directive

## Other relevant provisions

- **Art 8: Energy audit obligation for large companies**
- **Art. 9-11: Billing and metering**
- **Art. 16-20: Training, information, energy services, removal of barriers and financing**

**Commission interpretative documents 1 half of 2013**

# EED - TIMELINE



11 September  
2012

- European Parliament vote

26 September  
2012

- First of a series of expert meeting with Member States to discuss implementation

October  
2012

- **Council vote – 4/10**
- EP/Council signature – within **22-26/10 Plenary**

Nov. – Dec.  
2012

- Publication in OJ – end November
- **Entry into force – end 2012**

April 2013

- Member States submit National Reform Programmes with national energy efficiency objectives

first semester  
2014

- **Commission Assessment Report** of progress towards 20% saving objective

May/June  
2014

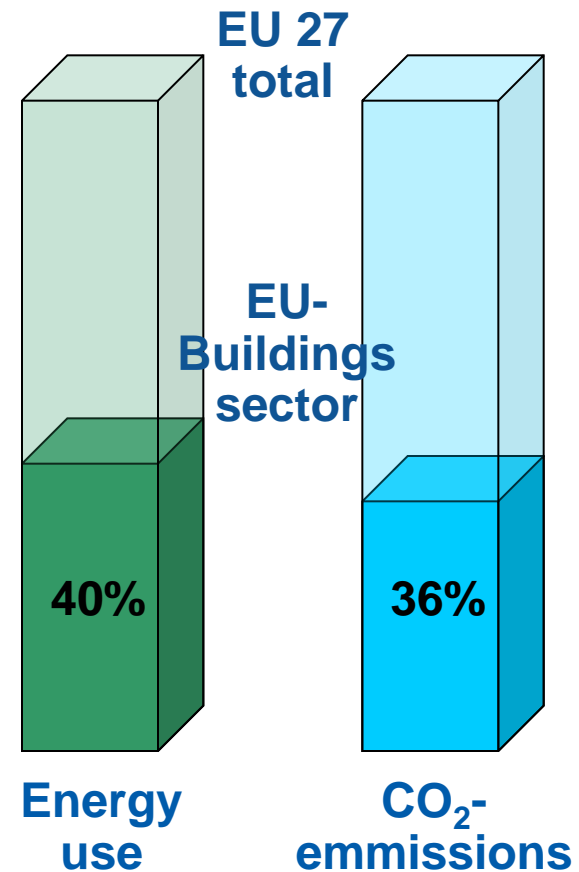
- Transposition deadline – 18 months after the entry into force (note: some Articles have earlier or later deadlines)



# EPBD I

## 2010/31/EU

- **Transposition by Member States July 2012**
- **Full transposition declared by 3 Member States**
- **Letter of formal notice to 24 MSs**
- **Reporting:**
  - - **Financing and NZEB end 2013**
  - - **Cost-optimal method end of 2014**



# EPBD

## Key elements

- Framework Directive – subsidiarity: MSs to act
- Cost-optimal minimum energy performance requirements set by MSs on all buildings – life-cycle approach
- Energy Performance Certificates
- Regular inspection of heating and cooling systems (or alternative)
- Independency of experts (on inspections and certificates)
- Exemplary role of public sector

**ENERGIEAUSWEIS** für Wohngebäude  
gemäß den §§ 16 ff. Energieeffizienzverordnung (EnEV)

Berechneter Energiebedarf des Gebäudes 2

**Energiebedarf**

CO<sub>2</sub>-Emissionen<sup>1)</sup> 51,9 kg/m<sup>2</sup>·a

↓ **Endenergiebedarf**  
228,4 kWh/m<sup>2</sup>·a

227,5 kWh/m<sup>2</sup>·a

↑ **Primärenergiebedarf "Gesamteffizienz"**

**Nachweis der Einhaltung des § 3 oder § 9 Abs. 1 EnEV<sup>2)</sup>**

Primärenergiebedarf	Energetische Qualität der Gebäudehülle
Gebäude-Wert: 227,5 kWh/m <sup>2</sup> ·a	Gebäude-Wert 1°C: 1,30 kWh/m <sup>2</sup> ·a
EnEV-Anforderungswert: 113,4 kWh/m <sup>2</sup> ·a	EnEV-Anforderungswert 1°C: 0,65 kWh/m <sup>2</sup> ·a

**Endenergiebedarf**

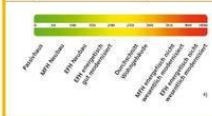
Energiezweck	Wärme	Kälte	Strom	Gas
Erden-H	151,2	18,6	0,0	142,8
Erden-K	0,0	0,0	12,3	12,3
Wärme-W	40,1	0,2	0,0	68,3

**Sonstige Angaben**

Strom durch alternative Erzeugungssysteme:  
 nach § 9 EnEV vor Auslegung geprüft  
 Alternative Erzeugungssysteme werden genutzt für:  
 Heizung  Warmwasser  Kühlung  
 Lüftung

**Kühlungenergie**  
 Die Lüftung erfolgt durch:  
 Außenluft  Schallabsorption  
 Lüftungseinheit ohne Volumenstromregelung  
 Lüftungseinheit mit Volumenstromregelung

**Vergleichswerte Endenergiebedarf**



**Erläuterungen zum Berechnungsverfahren**

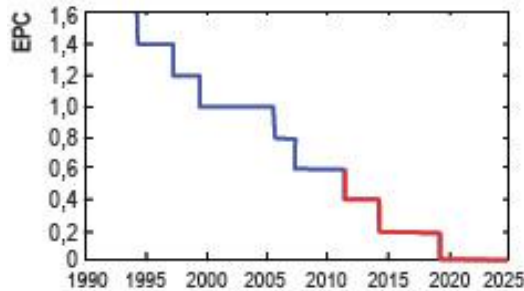
Die angegebenen Werte basieren auf den durch die Energieeffizienzverordnung vorgegebenen, insbesondere wegen standardisierter Randbedingungen erzielbaren angegebenen Werten sowie die Anhebung auf den tatsächlichen Energieverbrauch. Die angegebenen Endenergiebedarfe sind spezifische Werte nach der EnEV pro Quadratmeter Gebäudemasse (E<sub>q</sub>).

Energieeffizienz: 2 bis 3 sind überdurchschnittlich und die Mindestanforderung entspricht 3 gemäß Energieeffizienzverordnung. © 2011 Endenergieausweis, EPD, M&M Gebäudetechnik

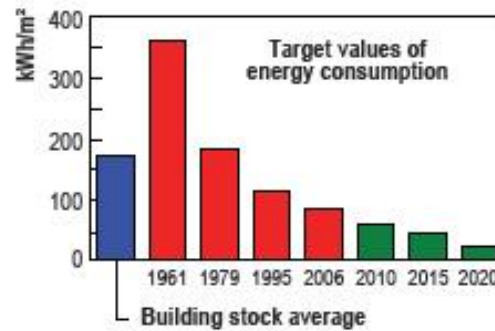
# EPBD

## Many have identified targets

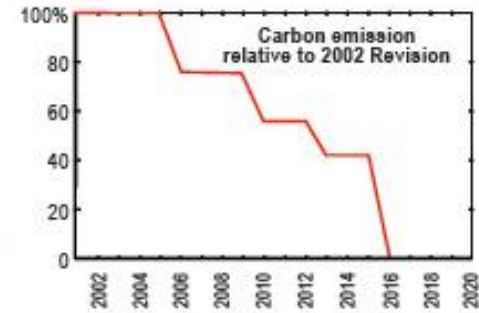
The Netherlands



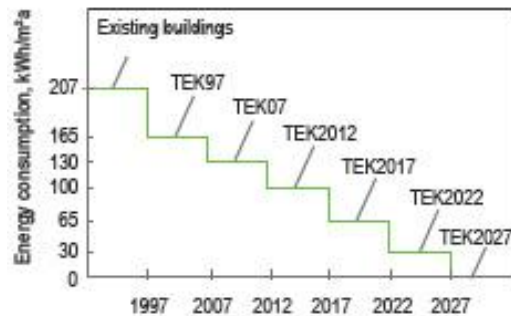
Denmark



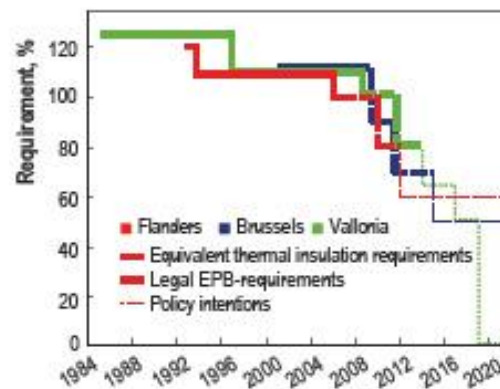
United Kingdom



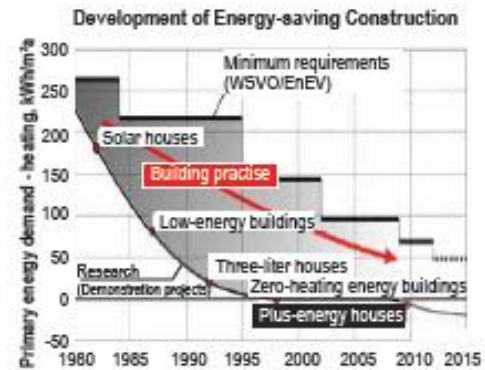
Norway



Belgium



Germany




Source: REHVA



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# Product policy Main instruments

- *Ecodesign Directive 2009/125/EC*
- *Energy Labelling Directive 2010/30/EU*
- *Energy Star*
- *Ecolabel*
- *Green public procurement and other incentives (set mainly at the level of Member States)*

Energy	
Manufacturer Model	Fridge-Freezer
<b>More efficient</b>	<b>A</b>
A	
B	
C	
D	
E	
F	
<b>Less efficient</b>	
G	
Energy consumption kWh/year (based on standard test results for 24h)	<b>325</b>
<small>Actual consumption will depend on how the appliance is used and where it is located</small>	
Fresh food volume l	190
Frozen food volume l	126
<b>Noise</b> (1/3(A) re 1 mW)	<b>44</b>
<small>Further information is contained in product brochures</small>	
<small>Norm EN 1513 May 1999 IEC 60336-2-2:2005</small>	



## **Main Ecodesign and Energy Labelling implementing measures related to buildings**

- Motors, fans, pumps and circulators
- Airconditioners and comfort fans
- Lighting products
  
- Heaters and water heaters

# Main Ecodesign and Energy Labelling implementin measures related to buildings

## Legislation to be adopted in 2013:

- Airconditioning and ventilation systems
- Local room heating products and solid fuel boilers
- Central heating products using hot air

## Legislation to be adopted in 2014:

- Waste water pumps
- Motors not covered by Reg 640/2009

## Draft Ecodesign Workplan 2012-2014

- Windows and insulation materials
- Smart appliances/meters
- Power generating equipment

## Future before 2020 – how to continue?

- Review of Energy Labelling Directive and certain parts of Ecodesign - **2014**
- Energy Efficiency Directive – Commission reports on progress- **June 2014**
- Energy Performance of Buildings Directive – **review 2017 -->**

# ...and beyond 2020

## *Roadmap 2050*

- **Explore routes towards a low-carbon energy system by 2050**
- **Give more certainty to governments and investors**
- **Energy efficiency is a 'no-regrets' option**
- **Well-functioning energy markets are key**



## More information

<http://ec.europa.eu/energy/efficiency>

<http://europa.eu/europedirect>



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# Thank you for your attention!

