



IEA workshop

The use of economic instruments to renovate Europe

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Summary:

- Main barriers for increasing energy efficiency in the EU buildings
- The EU framework: policies and funding
- Economic instruments within MSs
- Best practice: few examples
- Conclusions

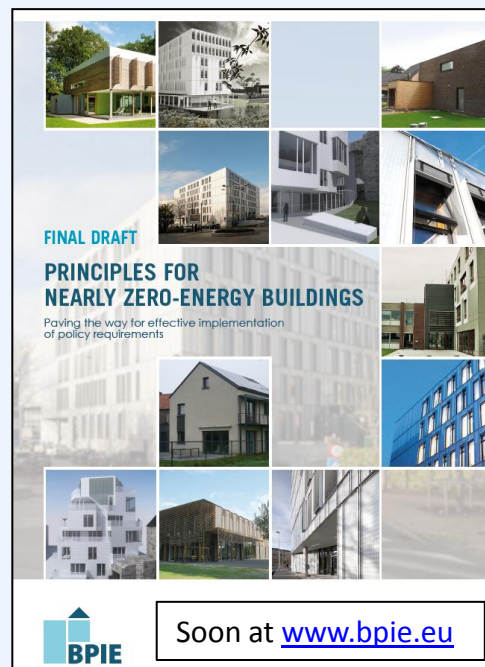


EUROPE'S BUILDINGS UNDER THE MICROSCOPE

A country-by-country review of the energy performance of buildings



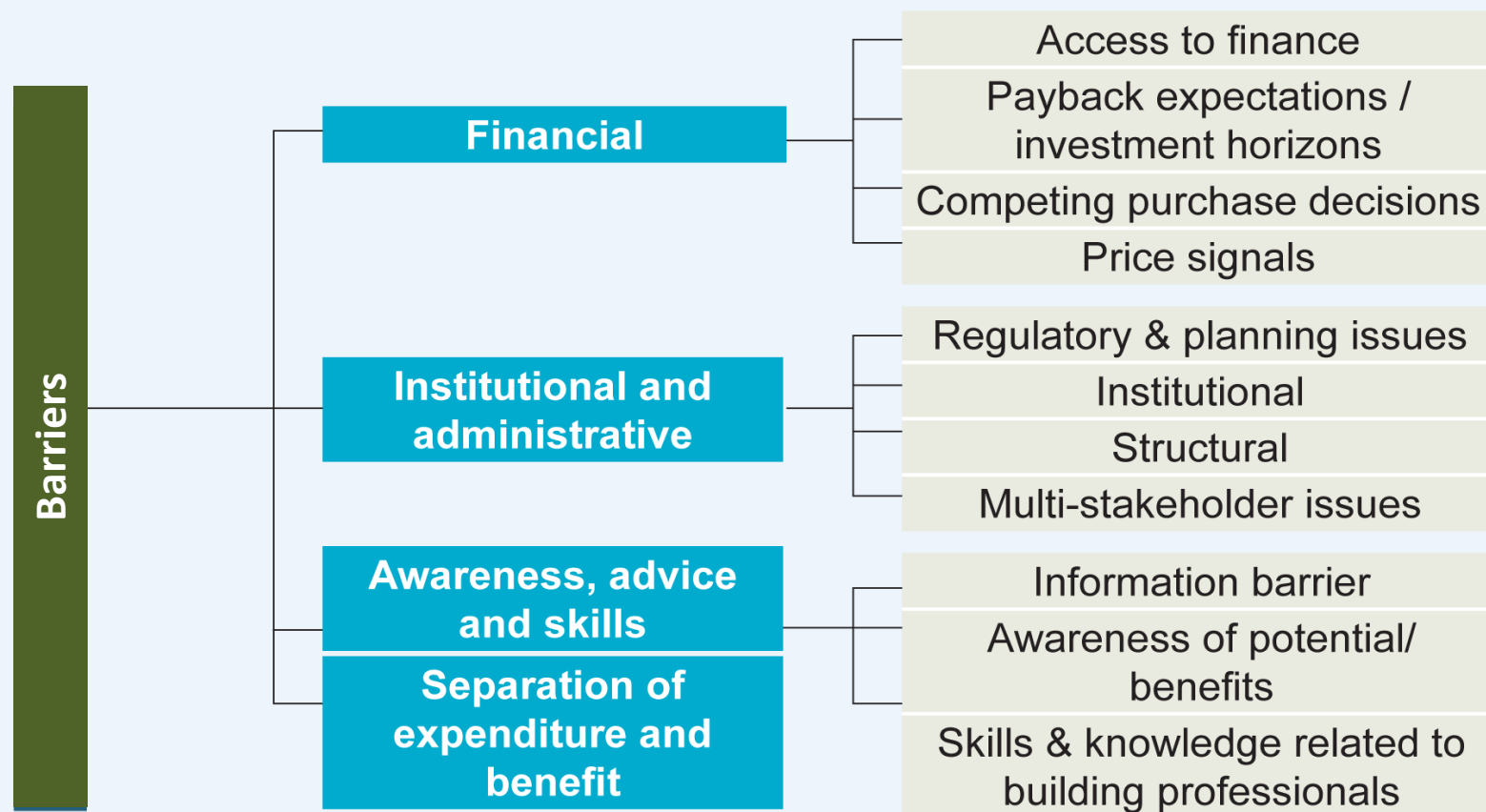
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Identified barriers for energy efficiency in buildings



EU legislation on EE & RES in buildings

Overarching

- Energy end-use efficiency and energy services Directive (2006/32/EC, under recast into Energy Efficiency Directive - merge with the CHP Directive)
- CHP Directive (2004/8/EC)

Buildings

- Energy performance of buildings Directive (recast 2010/31/EU, 2002/91/EC)
- Renewable energy Directive (2009/28/EC, repealing Directive 2001/77/EC)
- Construction products regulation

Products

- Ecodesign Framework Directive (recast 2009/125/EC, 2005/32/EC)
- Energy Labelling Framework Directive (recast 2010/31/EU)
- Energy Star EU-US agreement for labelling the office equipment

Instruments for Energy Efficiency in buildings in the EU

- Energy tax (at EU and national level)
- Taxation (reduced VAT, accelerated depreciation, tax deductions);
- Incentives and financing for energy efficiency investments (national)
- Public procurement;
- White certificates/Energy savings obligations (national level);
- Promotion of energy services (ESCOs) (national action, but not enough!)
- Energy Audits (at national level)
- Demand side management (not many, at national/regional)
- Minimum Efficiency Requirements-MEPS (at EU level)
- Buildings Codes/standards (at national level but also driven by EPBD)
- Buildings certification and equipment Labelling (national and EU level)
- Voluntary programmes (mainly in the industrial sector at national level, but also for equipment at EU level)
- Information/awareness (mainly national)

EU and carbon financing for energy efficiency in buildings

EU Financing

Structural Funds

2007-2013
 € 347bn. out of
 which:
 € 9,4bn en.
 eff.&RES
 € 86bn R&D,
 € 27,4bn SMEs,
 € 105,3bn
 environment,
 € 48,1bn climate
 change

EIB-EIF Loans

European Local ENergy
 Assistance - ELENA
 -technical assistance facility
 -min leverage factor: 25

JESSICA: Sustainable development
 for urban areas

JEREMIE: Improved access to
 finance for micro business and
 SMEs in the EU regions

European Energy Efficiency Fund (EEE-F)

- 3,7% of the EEPR/ € 275 mn in total
- -DB (De), EIP, CDP (It)

Carbon financing

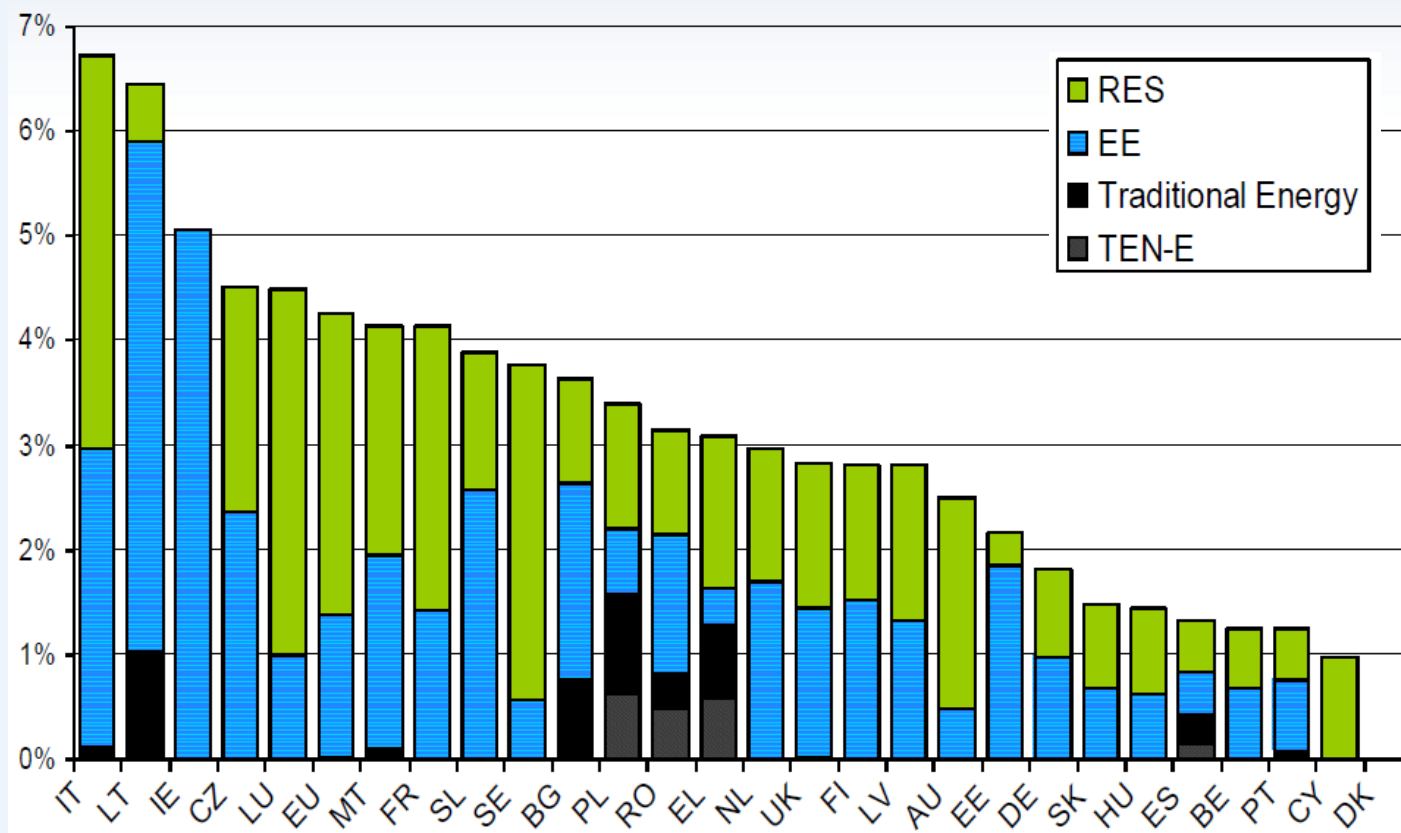
AAU trade under Kyoto and GIS schemes

- some countries use it for
financing EE in buildings

EU ETS Phase 3 (2013-2020)

- up to € 300mn allowances
for demo CCS and RES but
there are initiatives for
including also EE

EU Funds allocations to energy Sector as % of total per MS 2007-2013



Source: Maud SKÄRINGER, DG Regio: 'Cohesion Policy support for Sustainable Energy 2007-2013. Energy efficiency investments in buildings', September 2011, Délégation Conseil National de l'Habitat

Economic instruments for EE in buildings within the EU MSs

- About 333 national schemes have been screened
- Wide range of economic instruments (not comprehensive):



Financial instruments for EE in buildings

	Grants, Subsidies, Funds	Loans	Tax Incentives, Levies Etc	Obligations, white certificates	Audits	3rd Party finance, ESCOs	Other
AT	All		Households			Existing bldgs	
BE	All		Households & Business	Flanders region			
BG	Existing bldgs	Residential and Public bldgs	Class A or B new build				
CR	All	Public bldgs				Existing residential bldgs	
CY	All						
DK	Existing bldgs						
ES	Residential	Residential					
FI	All		Households		Existing non-residential		
FR	All	All	Households & Business	Existing buildings	Private sector		Feed-in tariff; training scheme
DE	All	Residential				Public buildings	Feed-in tariff
GR	Existing bldgs		Private sector				
HU	Existing bldgs		Planned				
IE	Residential		Business	Imminent			
Italy	Existing bldgs	Existing bldgs	Households & Business	All		Yes	Feed-in tariff
LT	Existing bldgs						household renewable grants
LI	All						
LU	All	New homes					
MT	All						
NL	Residential	New private non-residential	Private sector				All
NO	All					All	
PL	Public sector	Existing bldgs		Planned			
PT	All		All				
RO	Residential bldgs						
SK	Existing bldgs	Existing bldgs					
SL	Private residential and Public non-residential	Private homes				Public residential	
ES	All	All	Households			Public sector	
SE	All		Households & Business				Technology procurement
CH	All		Households & Business				
UK	Existing bldgs	Residential	Households & Business	Residential		Public sector	Feed-in tariff

- Most of the schemes:
 - Grants, subsidies
 - Preferential loans
 - Tax incentives and levies
- White certificates schemes in UK, France, Italy, Belgium-Flanders and Denmark
- ESCO/TPF and audits for buildings are less used

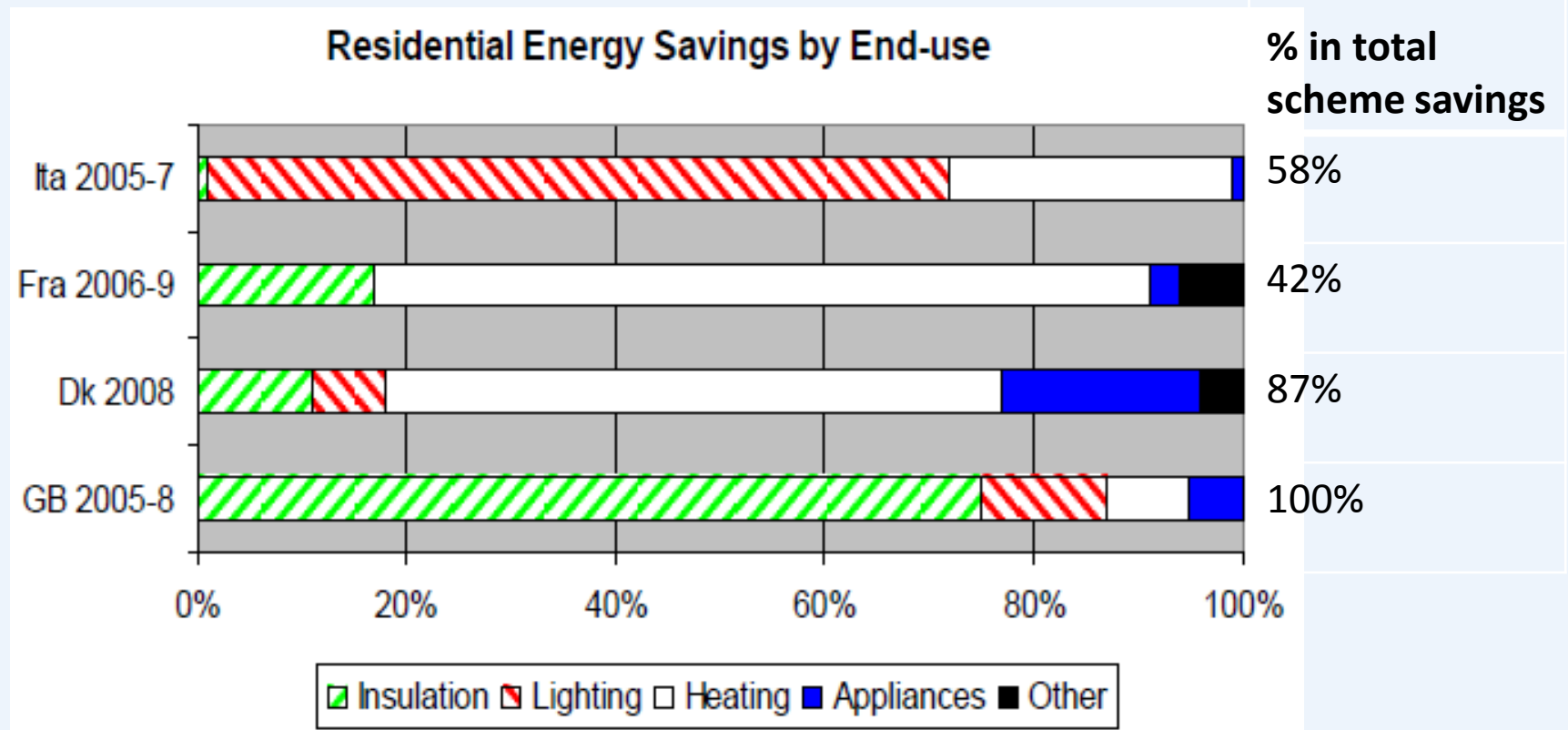
Few examples of financing schemes for energy efficiency in buildings in the EU

Ex. 1: White certificates / Energy savings obligations (1)

Country	Obligation for	Eligible customers	Current size of obligation	Estimated annual expenditure (euro/capita)
Be (Fl)	Electricity distributors	residential and non energy intensive industry and service	0,6TWh annual	26 mn Euro (4)
Fr	All energy suppliers	All (including transport) except EU ETS	54 TWh over 3 yrs	180 mn Euro (3)
It	Electricity&gas distributors	All including transport	2,2 Mtoe in 2008	190 mn Euro (3)
UK	Electricity&gas suppliers	Residential only	185 MtCO ₂ 3 yrs to 2011	900 mn Euro (15)
Dk	Electricity,gas & heat distributors	All except transport or covered by EU ETS	0,82TWh annual	25 mn Euro (5)

Source: Eoin Lees, eceee: 'Experience of EU Energy Efficiency Obligations – Diverse but Delivering', 30 Sept 2011, Bucharest Forum

Ex. 1: White certificates / Energy savings obligations (2)



Source: Eoin Lees, eceee: 'Experience of EU Energy Efficiency Obligations – Diverse but Delivering', 30 Sept 2011, Bucharest Forum

Ex 2: Germany's KfW loans

- Promotional loans for both for new and existing buildings

New buildings	Existing buildings
max. 50.000 EUR per housing unit	max. 75.000 EUR per housing unit
KfW-Efficiency House standard (KfW-100, 94-55kWh/m2/yr)	
partial debt relief possible	
-three promotional stages	-grants as an alternative for owners of single and two family houses -additional special support available
Higher energy efficiency means better conditions	

Results by 2009:

Subsidies for aprox. 3,1 mn homes

CO2 reduction of 3,9 m tons per yr.

Aprox. 200.000 jobs/year

Cumulative savings (heating costs): 950 mn euros

2009: 10,6 bn Euro en eff and 6,3 bn Euro RES



Lesson learned:

Open to all investor groups

Focus on long term loans

A brand for energy efficiency

Higher energy efficiency is rewarded

Distributional network and Funding

Source: Gudrun Gumb, KfW: 'Supporting the energy efficient rehabilitation of the building stock – The German experience', November 2010, BPIE Roundtable

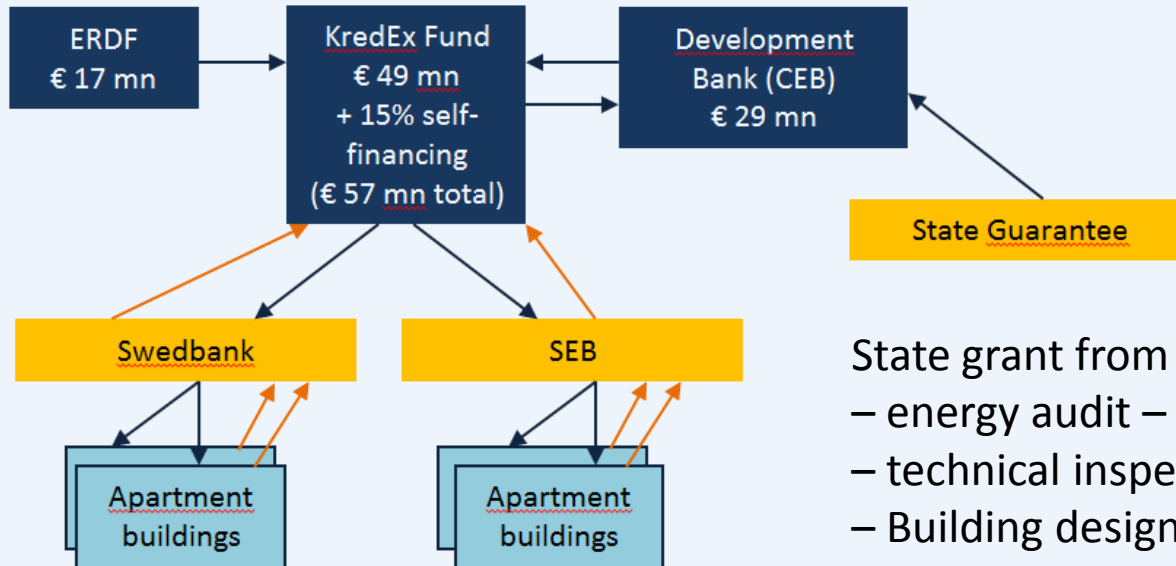


Ex 3: Estonia - Revolving fund for housing

- Switch from grants (2003-2007) to a revolving fund
- KredEx (Credit and Export Guarantee Fund of the State) supports this
- Why revolving fund?
 - Opportunity for re-usage of the funds
 - Loan is needed for reconstruction anyway
 - Easier to administrate, lower administrative costs
 - End-beneficiary is used to take loan
 - Innovative scheme, help from KfW
- 03/2011: 231 contracts with multi-apartment buildings, total €18,4 million (average €81100, saving 33%)



Ex 3: Estonia - Revolving fund for housing



State grant from KredEx for:

- energy audit – 50%, max € 640
- technical inspection – 50%, max € 640
- Building design documents - 50%, max € 3195

- To save at least 20% of energy in buildings up to 2000 m²
- To save at least 30% of energy in buildings more than 2000 m²
- Self-financing 15% (includes works from 01.01.2008)
- Energy audit is obligatory
- Renovation according to energy audit (by priorities)
- Loan period: up to 20 years
- Interest rate: up to 4,8% (first tranche) fixed 10 years

Ex 4: Czech Republic - Green Savings Programme (GIS)

- Financed from the trade of the Assigned Amount Units (AAU) under Kyoto ETS.
- Aprox € 800 mn, by 30 June 2012
- By 2010: 72000 applications for subsidies (of which 6000 housing blocks/168000 flats)

Measure	Subsidy
A.1 Complex insulation (decrease of the need of energy for heating by - at least - 40%)	
Complex insulation (specific heat requirement) <30 kWh.m⁻²a⁻¹)	58 EUR /per m²
Complex insulation (specific heat requirement) <55 kWh.m⁻²a⁻¹)	40 EUR /per m²
A.2 Partial thermal insulation	
Partial thermal insulation– (decrease of the need of energy for heating by - at least 30%)	23 EUR /per m ²
Partial thermal insulation- (decrease of the need of energy for heating by - at least - 20%)	17 EUR /per m ²
B Construction in the passive energy standard	
block of flats <u>in the passive energy standard</u>	5770 EUR / per unit
C Use of renewable energy sources for heating and hot water preparation	
Sources of biomass	Max. 960 EUR / per unit
Installation of low-emission biomass-fired sources and efficient heat pumps in new buildings	Max. 770 EUR / per unit
Installation of solar-thermal collectors for the preparation of hot water	Max. 960 EUR / per unit

Source: Vit Vanicek, CECODHAS: 'Green Savings Programme. Using ETS (AAU in Czech Republic) funds for building renovation, BPIE Roundtable, March 2011, Bucharest

Conclusion 1: Lesson learned

- Varied financing instruments and policies among the EU MSs
- Ambition level is imposed by country's specific conditions such as:
 - Perceived importance of energy efficiency
 - Country's economic potential (purchase power, existence of related industry)
 - Ability to address and integrate the existing financing opportunities
 - Ability to integrate the macro-economic benefits (job creation, tax rebates, indirect benefits of en eff. etc.)
 - Ability to introduce tailored policies and measures (on building and people categories)
 - Maturity of energy efficiency market (ESCOs, willingness of banks, accompanied measures such as training for professionals, awareness and information among all stakeholders etc)

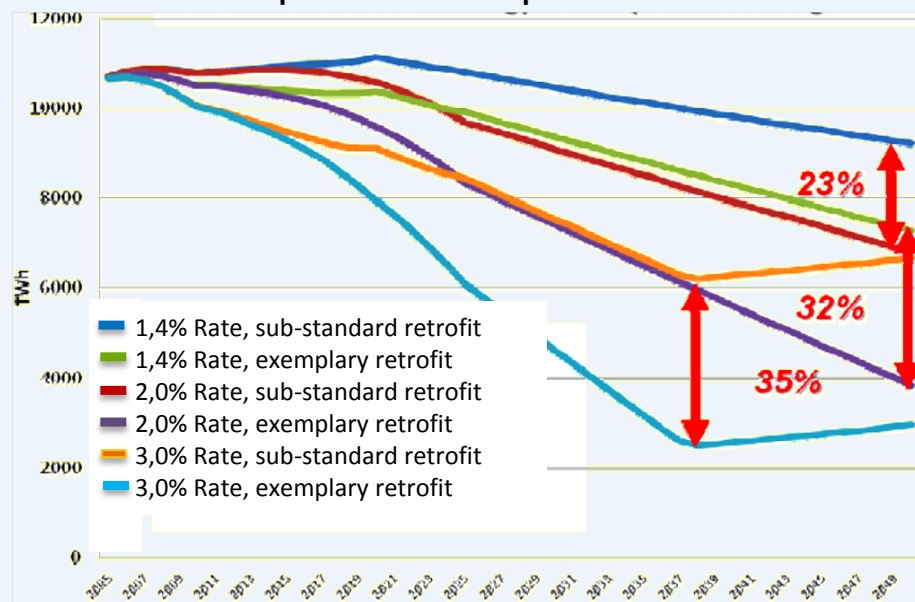


Conclusion 2: We have to do more

- However, the actual efforts are far behind the savings potential. The EU MSs will fall short on 2020 target of 20% energy savings (est. indicate up to 10%)!
- Reaching the EU 2050 climate and energy goals implies:
 - To renovate the existing building stock
 - To build at very high energy performance standards (BPIE nZEB study launched last week, soon on the website)
- Need to reduce/eliminate the actual barriers
- Need for more and innovative financing
- Need for more holistic policies with tailored measures & financing, awareness and information, training and education of professionals, RTD support
- Implementation is a key issue!

Conclusion 2': Proper renovation and market upscale

Renovation speed and depth make the difference!



Market development and capacity building needed!

Technology	Required growth factor	Current market size
Insulation materials	2-3	2,010 Mio Euro
Ventilation systems with heat recovery	8-10	130,000 units
Triple glazed windows	>10	1,500,000 m ²
Heat pumps	2-3	185,000 units
Pellet boilers	2-3	43,000 units
Solar thermal systems	2-3	3,700,000 m ²

Conclusion 3: Key recommendations in BPIE study

At the EU level:

- Renovation roadmap with binding milestones and measures
- EU Deep Renovation Fund (EIB)
- Minimum requirements for allocation the EU Funds on buildings
- Guidance to the MSs for setting policies and financing
- Training and education roadmaps
- RTD support for new technologies

At MSs level:

- Predictable policies and measures (national roadmaps)
- Gradual tightening of building codes and standards by 2020
- Better financing and market conditions
- Increase awareness and confidence of consumers and investors
- Involvement of all stakeholders in developing policies
- Training and education
- RTD support

Buildings Performance Institute Europe

- Started to operate in February 2010
- Non-profit association based in Brussels
- Founding partners: European Climate Foundation, ClimateWorks (US) and eceee
- Focus on energy efficiency in buildings throughout Europe
- Centre of technical expertise in buildings
- European Partner of Global Building Performance Network
- Targeted research, policy analysis & evaluation, support policy implementation, dissemination of information

Thank you!

www.bpie.eu

