



## ODYSSEE-MURE Workshop

"MONITORING ENERGY EFFICIENCY IN THE EU NEW MEMBER COUNTRIES AND IN THE EE 25: EEE-NMC"

# Lessons from Energy Efficiency

## Measures Evaluations

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Bukarest 24/25 May 2007



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## Overview

- ✔ **MURE Database on Energy Efficiency Measures and the EU Directive on Energy Efficiency**
- ✔ **Role of EU-related Energy Efficiency Measures in the New Member Countries (NMC) = EU11 except Romania**
- ✔ **Energy Efficiency Measures with Quantitative Evaluations (important for Early Actions under ESD)**
- ✔ **Semi-quantitative Impacts of Energy Efficiency Measures**
- ✔ **Prevailing Energy Efficiency Measure Types by Sector in the NMC**
- ✔ **Some details from the MURE database on NMC**



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# MURE Database on Energy Efficiency Measures

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## EU Directive Energy Efficiency & Energy Services

L 114/64

EN

Official Journal of the European Union

27.4.2006

### DIRECTIVE 2006/32/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 5 April 2006

on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND  
THE EUROPEAN UNION,

Having regard to the Treaty on  
the Functioning of the European  
Community, and in particular Article  
17(1) thereof,

Having regard to the proposal from  
the Commission,

Having regard to the opinion of the  
Economic and Social Committee (1),

Having regard to the opinion of the  
Committee of the Regions (2),

#### CHAPTER II

#### ENERGY SAVINGS TARGETS

##### Article 4

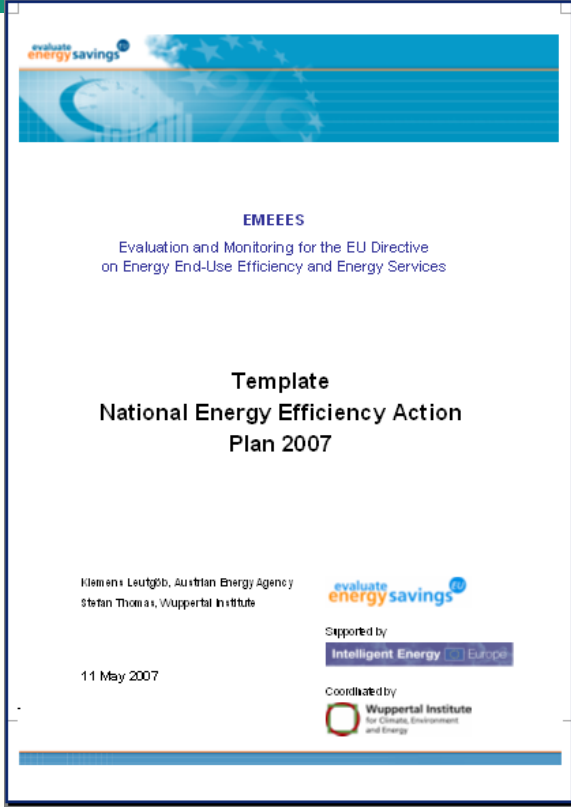
##### General target

1. Member States shall adopt and aim to achieve an overall national indicative energy savings target of 9 % for the ninth year of application of this Directive, to be reached by way of energy services and other energy efficiency improvement measures. Member States shall take cost-effective, practicable and reasonable measures designed to contribute towards achieving this target.

...ult to meet the Kyoto commitments.  
...tributed to the energy sector cause as  
...the Community greenhouse gas  
...n Community Environment Action  
...n by Decision N° 1600/2002/EC of  
...ment and of the Council (4), envisages  
...ns are required to achieve the United  
...Convention on Climate Change  
...of stabilising greenhouse gas con-  
...atmosphere at a level that would  
...anthropogenic interference with the  
...efore, concrete policies and measures

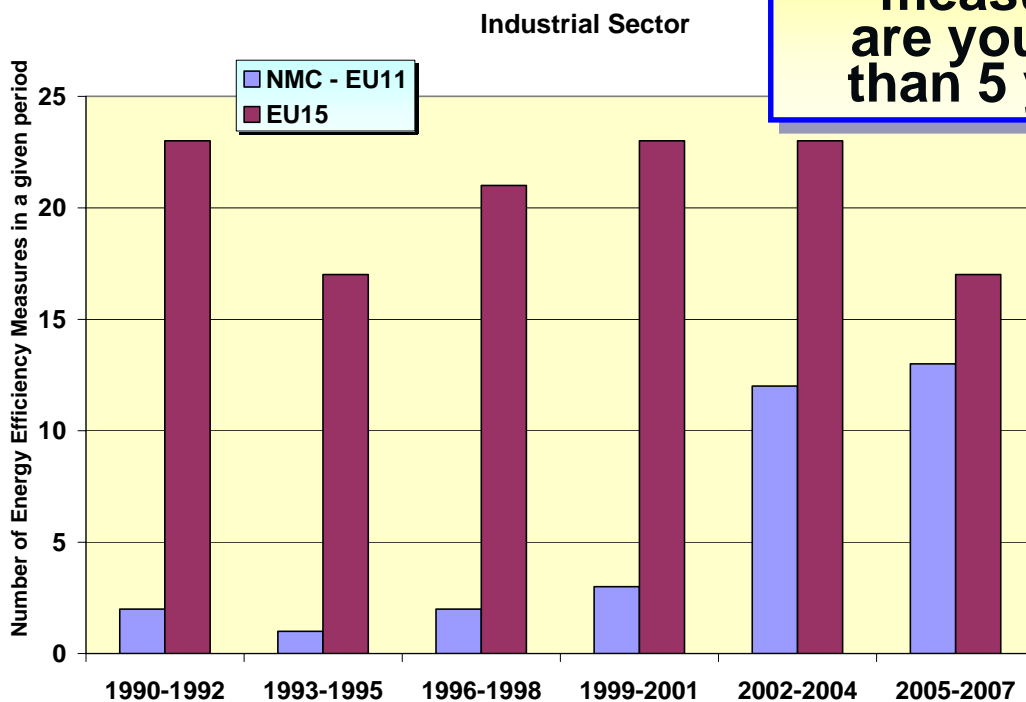
...l-use efficiency will make it possible  
...cost-effective energy savings in an  
...economically efficient way. Energy efficiency improve-  
...ment measures could realise these energy savings and

# National Energy Efficiency Action Plans (NEEAP)



National indicative annual energy savings target adopted for 2016 (GWh)		
National intermediate indicative annual energy savings target adopted for 2010 (GWh)		
Energy efficiency improvement programmes, energy services, and other measures to improve energy efficiency planned for achieving the target	Annual energy savings expected by end of 2010 (GWh)	Annual energy savings expected by end of 2016 (GWh)
Measures in the residential sector:		
1)	1)	1)
2)	2)	2)
...	...	...
Measures in the tertiary sector:		
1)	1)	1)
2)	2)	2)
...	...	...
Measures in the industrial sector (ESD scope):		
1)	1)	1)
2)	2)	2)
...	...	...
Measures in the transport sector:		
1)	1)	1)
2)	2)	2)
...	...	...
Horizontal and cross-sectoral measures:		
1)	1)	1)

## Energy Efficiency Measure Dynamics NMC



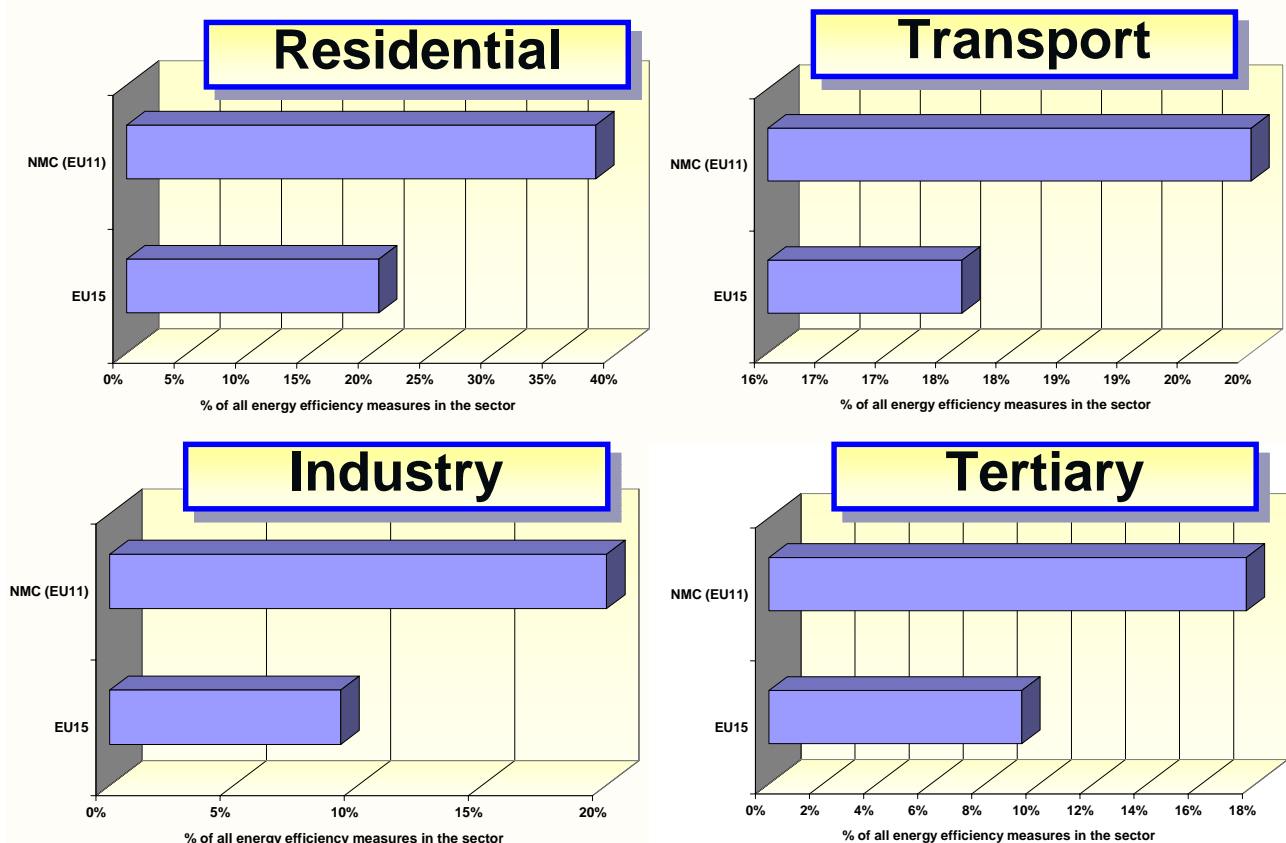
**Most measures are younger than 5 years**

Which role play measures which are directly related to European Union legislation in the NMC as compared to the EU15 ?



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EU-related energy efficiency measures (NMC-EU11 compared to EU15)



How well evaluated are the existing energy efficiency measures with respect to their quantitative impacts in terms of energy savings (NMC as compared to the EU15) ?

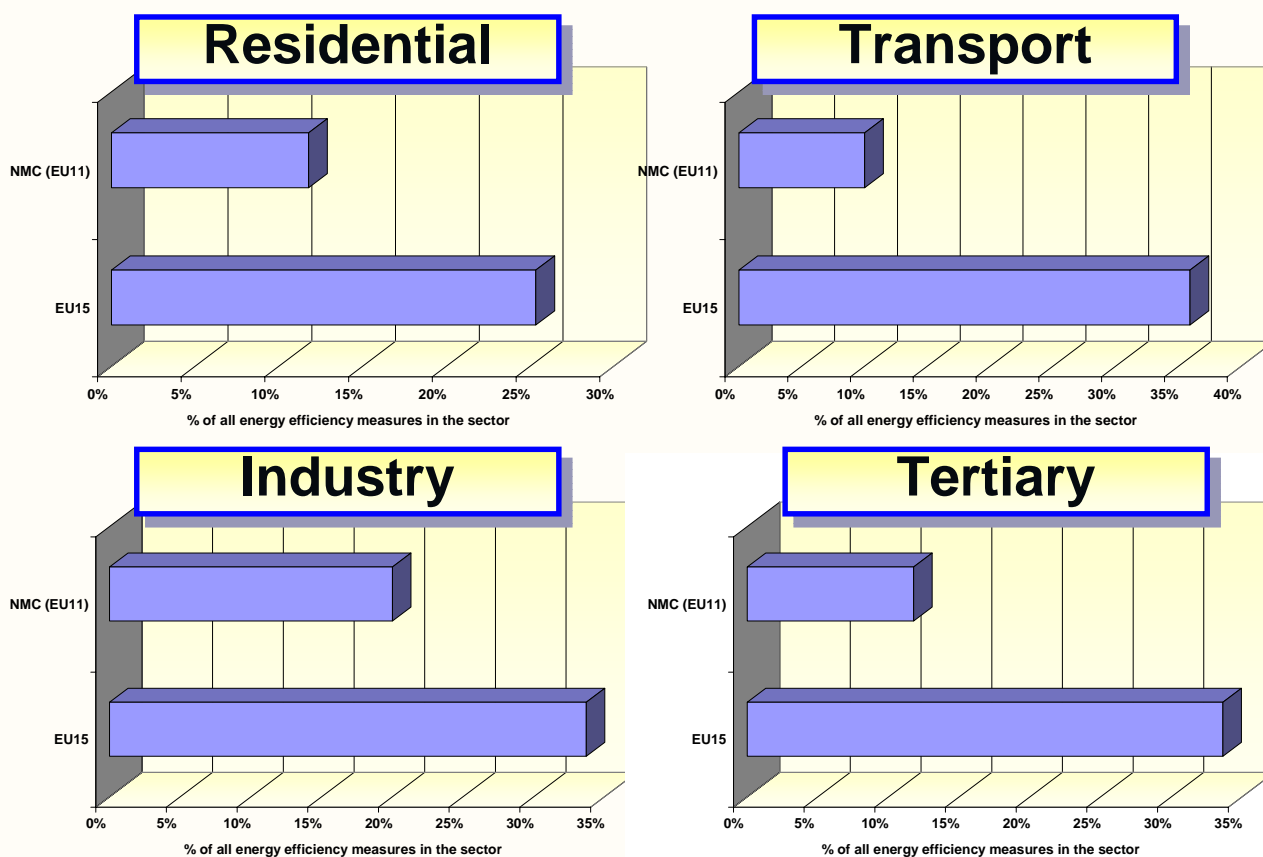


Reporting in the frame of the Energy Service Directive (Early Action)



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Energy Efficiency Measures with Quantitative Evaluations (NMC-EU11 compared to EU15)



How important is the share of high or medium impact measures in the different sectors (NMC as compared to the EU15) ?

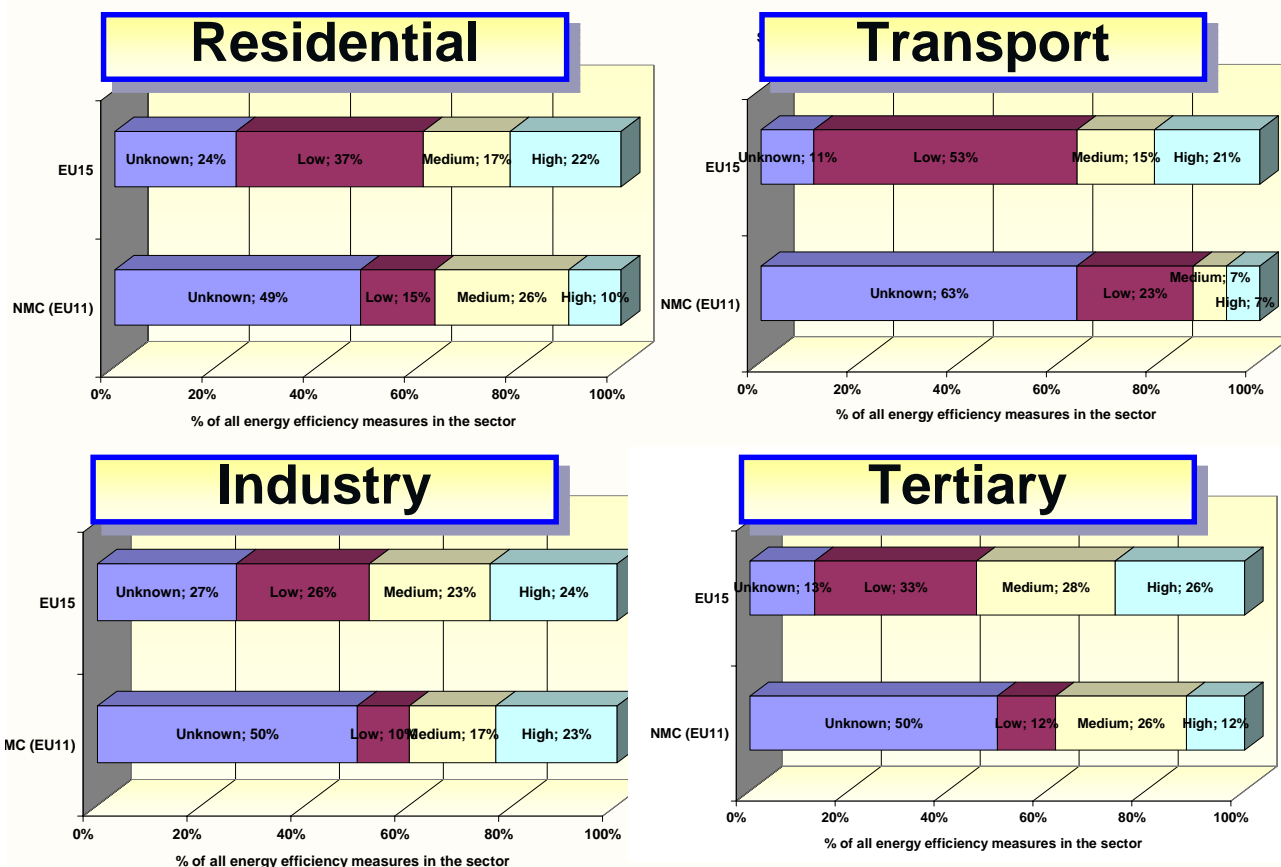


## Energy Service Directive (Target achievement)



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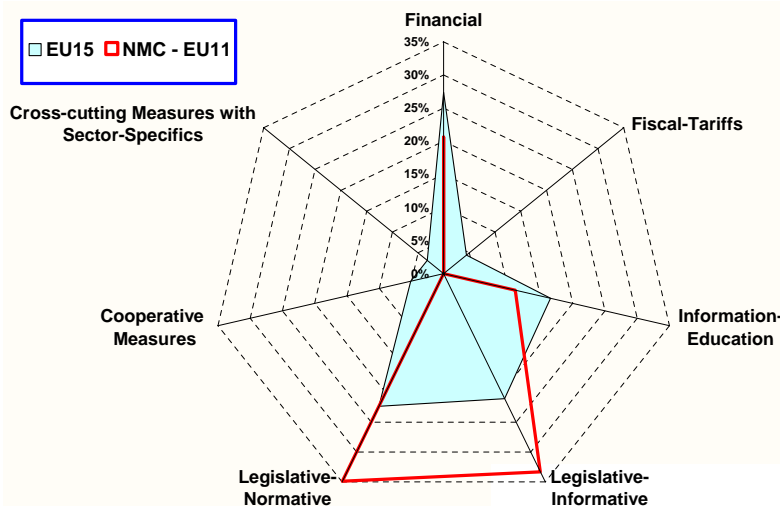
### Semi-quantitative Impacts of Energy Efficiency Measures (NMC-EU11 compared to EU15)



# What type of measures are prevailing in the different sectors (NMC as compared to the EU15) ?



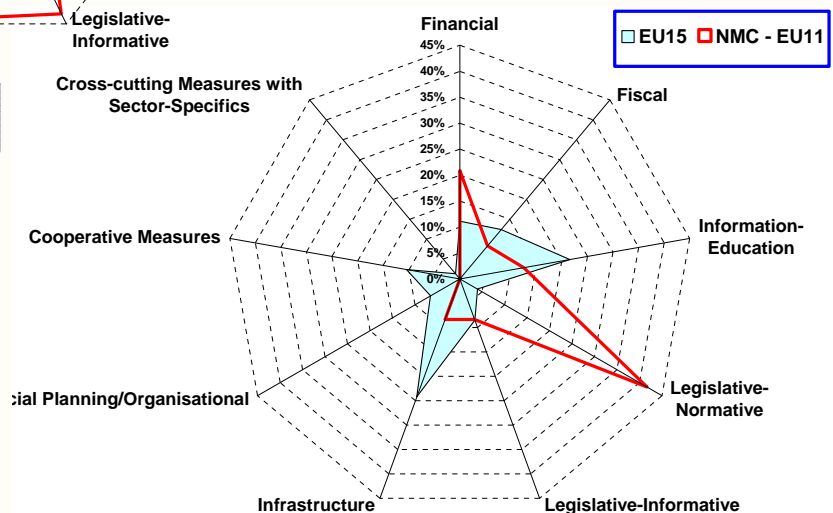
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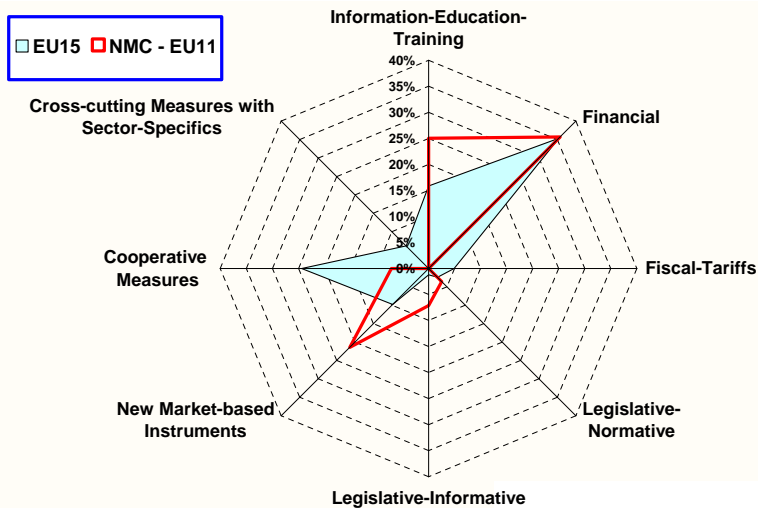


**Residential**

Prevailing energy efficiency measure types by sector (NMC-EU11 compared to EU15)

**Transport**

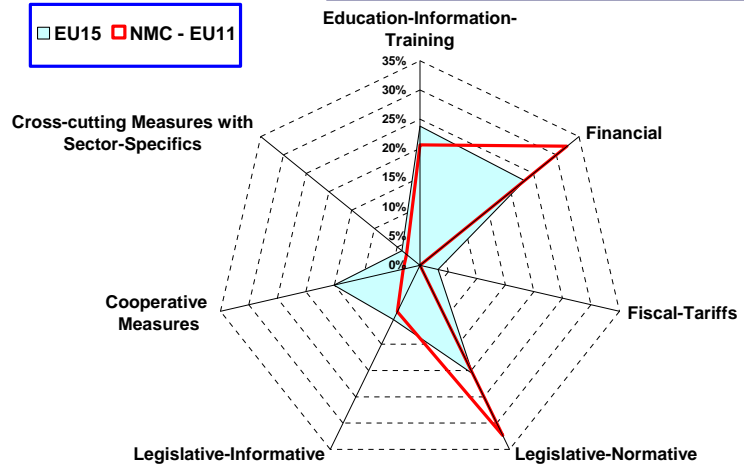




## Industry

## Prevailing energy efficiency measure types by sector (NMC-EU11 compared to EU15)

## Tertiary



## Conclusions on measure types (NMC-EU11 compared to EU15)

- Residential:** Similar to the EU15 legislative/normative, legislative/informative and financial measures prevailing. Stronger importance of legislative measures (due to stronger role of EU legislation). No cooperative measures for the sector.
- Transport:** Legislative normative measures more important (due in particular to late introduction of technical inspection schemes). Financial measures comparatively more important (clean cars). Absence of cooperative measures.
- Industry:** Comparatively stronger accent on new market-based instruments. Absence of cooperative measures. More importance of information/education/training measures
- Tertiary:** Similar to the EU15 legislative/normative, financial measures and information/education/training prevailing. Absence of cooperative measures.
- EU related measures:** Stronger importance in the NMC in the national measure mix as in the EU15.

## Conclusions on measure impacts (NMC-EU11 compared to EU15)

- ☛ **Quantitative impact evaluations:** Roughly only one third to one half of the measures have quantitative evaluations as compared to the EU15. Important to keep in mind the very recent measure dynamics in the NMC. But: makes monitoring in the frame of the Energy Service Directive (ESD) more difficult (Early Action).
- ☛ **Semi-quantitative impact evaluations:** Share of measures with unknown impacts generally exceeding 50%. Only industrial sector characterized by a certain number of high impact measures. Especially transport lower impact measures are prevailing even more than in the EU15. Difficult to achieve target under the ESD



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## Some details



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**Status:** ■ = OnGoing ■ = Completed ■ = Proposed ■ = Unknown **Impact:** L = Low, M = Medium, H = High, U = Unknown

		BG	CY	CZ	EST	HUN	LT	LV	MAL	PL	SK	SLO
<b>Legislative/Normative</b>		<b>NMC – EU11</b>										
<b>Mandatory Standards for Buildings</b>												
1	Energy Performance Standards		H					U	M		H	U
2	Minimum thermal insulation standards		H	UU		M	UU	U		H	H	U

**Status:** ■ = OnGoing ■ = Completed ■ = Proposed ■ = Unknown **Impact:** L = Low, M = Medium, H = High, U = Unknown

		AU	BEL	DK	EU	FIN	FRA	GER	GRE	IRL	ITA	LUX	NLD	NOR	POR	SPA	SWE	UK
<b>Legislative/Normative</b>		<b>EU15</b>																
<b>Mandatory Standards for Buildings</b>																		
1	Energy Performance Standards			UU	H	HH	HH	H	L	HH	ML	UU	HH	MM	H			HH
2	Minimum thermal insulation standards	H	L	U	UU	L		HHH	HL	H				MM	HH	HH	H	HH

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**Status:** ■ = OnGoing ■ = Completed ■ = Proposed ■ = Unknown **Impact:** L = Low, M = Medium, H = High, U = Unknown

		BG	CY	CZ	EST	HUN	LT	LV	MAL	PL	SK	SLO
<b>Co-operative Measures</b>		<b>NMC – EU11</b>										
21	VANA to reduce energy cons./CO2 emiss. of industrial processes				U			UU				
22	VANA for cross-cutting technologies (e.g. industrial motors)											
23	Technology procurement for energy efficient equipment											

**Status:** ■ = OnGoing ■ = Completed ■ = Proposed ■ = Unknown **Impact:** L = Low, M = Medium, H = High, U = Unknown

		AU	BEL	DK	EU	FIN	FRA	GER	GRE	IRL	ITA	LUX	NLD	NOR	POR	SPA	SWE	UK
<b>Co-operative Measures</b>		<b>EU15</b>																
21	VANA to reduce energy cons./CO2 emiss. of industrial processes		H	M		MM	LUU	HM		H	L		HHH			M	M	H
22	VANA for cross-cutting technologies (e.g. industrial motors)			M	L	MM	LUU	HM			L		HHH			M	M	H
23	Technology procurement for energy efficient equipment					L												LM

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## High-impact Energy Efficiency Measures (EU11)

<b>BG3</b>	Residential Energy Efficiency Credit Facility	<b>Residential</b>
<b>CY3</b>	Governmental grants/subsidies scheme for the promotion and encouragement of RES, energy saving and the creation of a special fund for financing or subsidising of these investments	
<b>HUN10</b>	Energy efficient renovation of residential buildings built with industrialised technology	
<b>MAL1</b>	Rebates on investments in energy efficiency by domestic consumers	
<b>PL5</b>	Technical Requirements for Buildings and their Location	
<b>SLO11</b>	Energy Labelling of Household Electric Refrigerators, Freezers and their Combinations	
<b>SLO6</b>	Energy Labelling of Household Lamps	
<b>BG2</b>	Excise tax relief for biofuels and other clean fuels	<b>Transport</b>
<b>BG3</b>	Mandatory inspections of vehicles	
<b>BG1</b>	Energy Efficiency Act (ĀĀĀ) – Mandatory Industrial Audits for Energy Efficiency	<b>Industry</b>
<b>BG2</b>	Grants for energy audits in SME	
<b>CY3</b>	Governmental grants/subsidies scheme for the promotion and encouragement of RES, energy saving and the creation of a special fund for financing or subsidising of these investments	
<b>CY5</b>	Information Campaign for Energy Efficiency, RES, RUE	
<b>CZ5</b>	Emission trading scheme and National Allocation Plan of the Czech Republic	
<b>LV4</b>	Law on Electricity Market	
<b>LV6</b>	Law on energy	
<b>SK5</b>	Income Tax Exemption for renewable energy and CHP	
<b>CY1</b>	governmental grants, subsidies scheme for the promotion of RES, energy saving investments	<b>Tertiary</b>
<b>CY2</b>	Energy performance buildings regulations	
<b>CY6</b>	Information, awareness, training campaigns for energy saving technologies, practices, methods and policies/incentives of government	
<b>PL2</b>	Technical Requirements for Buildings and their Location	
<b>SK1</b>	Thermal Insulation Standards in Buildings	

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## Evolution of Lithuanian Thermal Building Regulation

Table 2: Comparison U – values of some exterior building elements in dwellings and public houses

	External walls		Windows		Roof	
	Dwellings	Public houses	Dwellings	Public houses	Dwellings	Public houses
Standards in the former USSR	0,9		2,6-3,0		0,8-1,0	
RSN 143-92	0,3		1,9		0,31	
STR 2.05.01:1999	0,26·κ	0,30·κ	1,9·κ	1,9·κ	0,18·κ	0,20·κ
STR 2.05.01:2005	0,20·κ	0,25·κ	1,6κ	1,6·κ	0,16·κ	0,20·κ

### References

<http://www.am.lt/VI/index.php#a/2986>

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