
ARE THE ENERGY SAVINGS SUFFICIENT? IMPACT OF ENERGY EFFICIENCY POLICIES INCLUDED IN THE 2011 NEEAPS

INTERNATIONAL ENERGY PROGRAM EVALUATION CONFERENCE
(IEPEC)

12–14 JUNE 2012 — ROME, ITALY

Barbara Schlomann, Fraunhofer ISI
Karlsruhe, Germany



Outline

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- Policy Measures in MURE addressing the building sector
- Quantitative impact of policy measures
- Conclusions

Background

- Indicative energy saving target of the EU: reduction of primary energy consumption by 20% (= 16 000 PJ) compared to a trend
→ gap of around 8 500 PJ to achieve the target in 2020
- Proposal for a new EU Energy Efficiency Directive (EED) from June 2011 including several additional energy saving policies
→ very difficult negotiation process (esp. on the introduction of energy efficiency obligations in all EU MS, mandatory energy audits in large firms and building renovation)
- Final energy saving target in the current Directive on Energy Efficiency and Energy Services (ESD): 9 % in a 9-year-period until 2016
→ the 2nd NEEAPs shall include results with regard to the fulfillment of this target, thereby using a combination of top-down (TD) and bottom-up (BU) calculation methods

Objectives

- Analysis of energy efficiency policies included in the 2011 NEEAPs of the Member States with regard to qualitative measure characteristics and the quantitative measure impact
- Main focus on policies addressing the building sector
- Analysis of the remaining gap between expected results and initial objectives for 2020



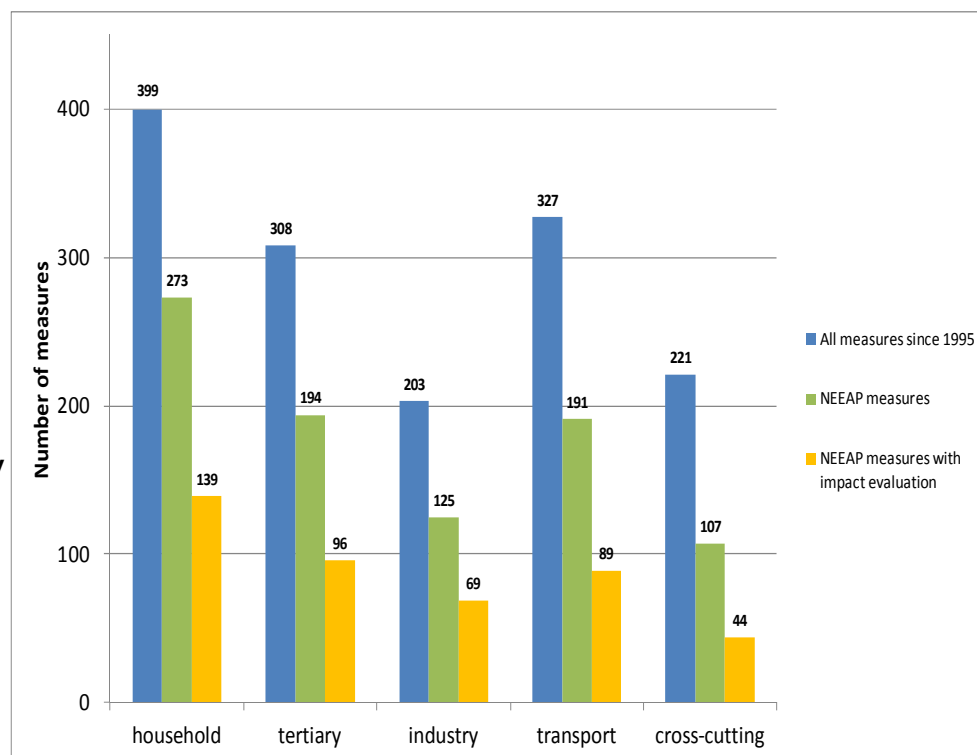
This completes previous and ongoing work on the NEEAPs by the EU Commission and within the “Energy Efficiency Watch (EEW)” project by making use of a new database established in the frame of the “ODYSSEE-MURE” project.



Methodology – MURE Measure Database



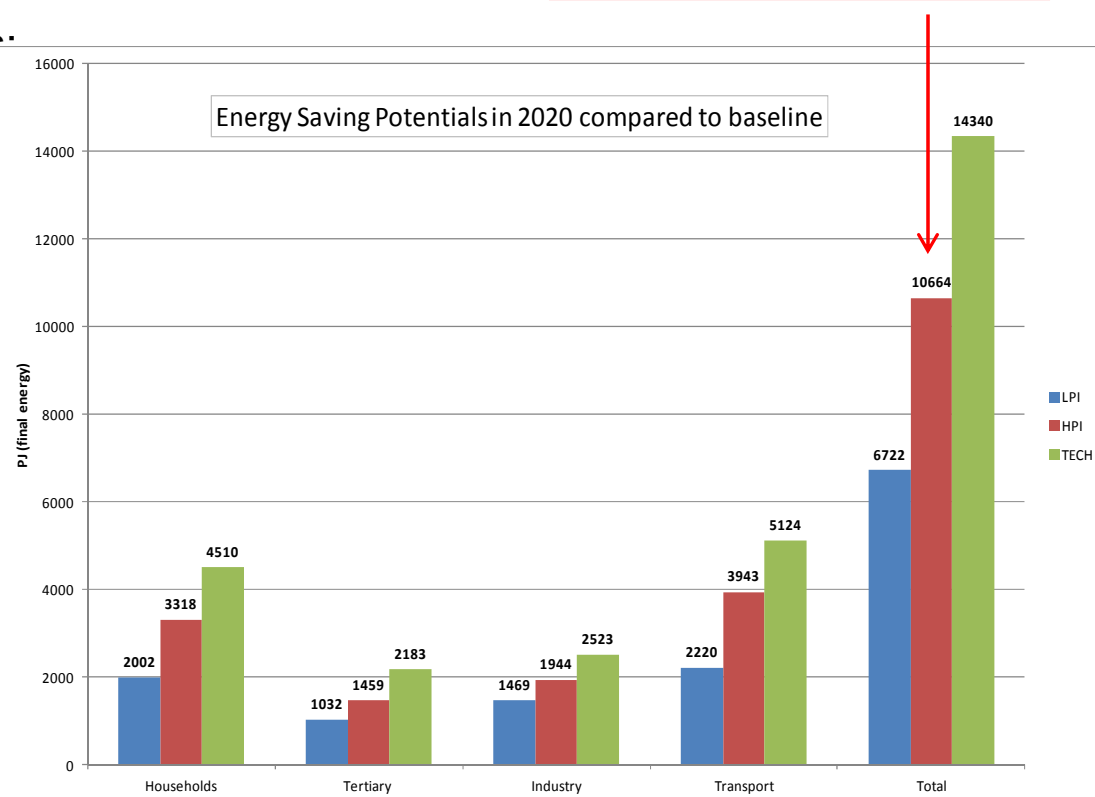
- Free online database on energy efficiency policies in the EU, EU MS, Norway and Croatia:
<http://www.muredatabase.org/>
- Structuring of the policy measure by final energy consumption sectors
- Classifiers: measure type, actor, targeted audience, end-uses involved, quantitative energy saving impact
- New features for the analysis of energy efficiency measures in the NEEAPs:
 - ✓ Flag to identify “NEEAP” measures
 - ✓ Detailed classification and description
 - ✓ Systematic compilation of the quantitative measure impact if available in the NEEAPs (only BU methods)



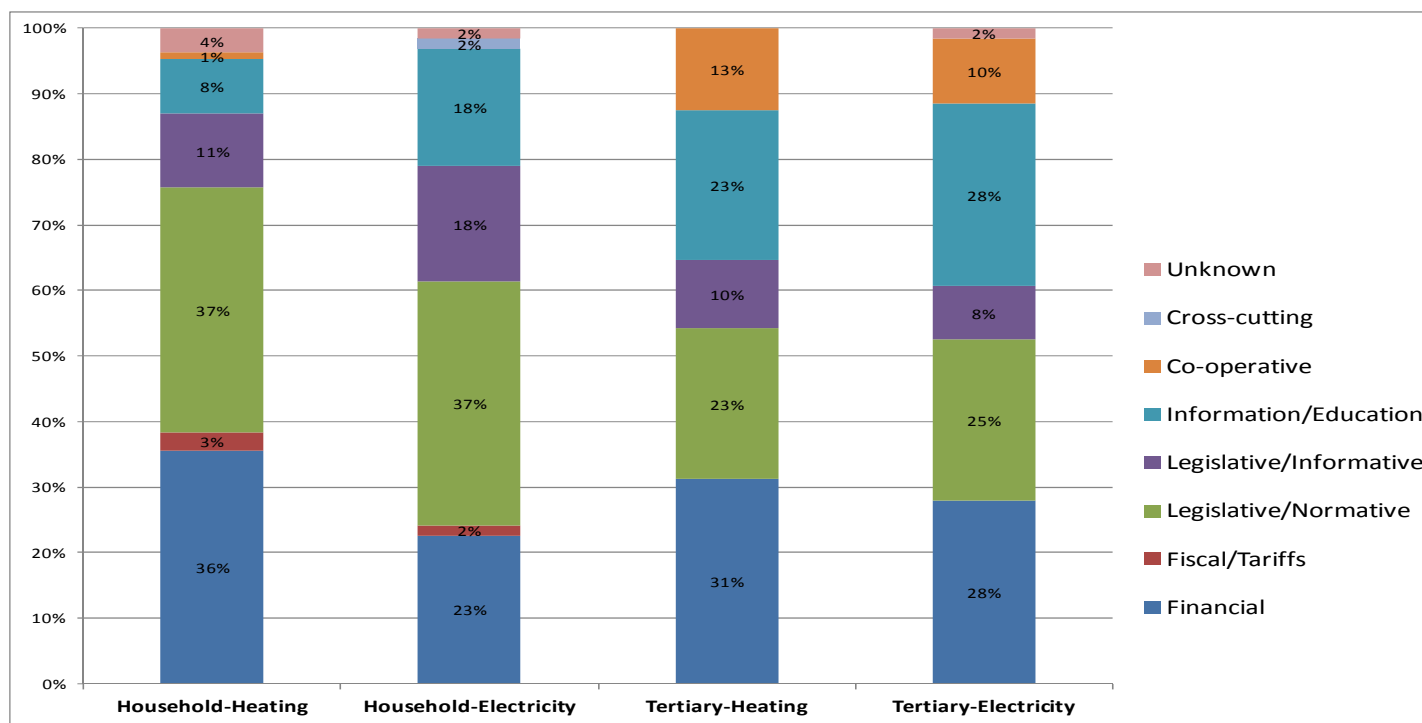
Methodology – MURE Simulation Tool

- MURE simulation tool to carry out calculations of **final** energy saving potentials
- 4 scenarios resulting in 3 potentials:
 - ✓ Low policy scenario (LPI)
 - ✓ **High policy scenario (HPI)**
 - ✓ Technical scenario (TECH)
- Biggest saving potentials in the household and transport sector
- No direct comparison with the EU 20% **primary** energy saving target possible, since conversion sector and renewable potentials not incl.

High policy scenario (HPI):
22% final energy savings in
2020 compared to a baseline



Policy measures addressing energy consumption in residential and tertiary buildings



- Dominating measure types:
 - ✓ Legislative measures (mainly national transposition of EU regulations (EPBD, Ecodesign, Labellir
 - ✓ Financial measures (more national variety, often referring to existing buildings)
- Voluntary informative and educational programs and co-operative measures are more important in the tertiary sector.

Quantitative impact of NEEAP measures addressing residential and tertiary buildings

Unit	Residential sector			Tertiary (incl. Public) sector			Total Building Sector		
	Heating	Electricity	Total	Heating	Electricity	Total	Heating	Electricity	Total
MURE: NEEAP measures	Based on information from 15 EU Member States			Based on information from 12 EU Member States					
2016	1031	149	1180	202	89	290	1232	238	1470
2020 (projection)	1443	209	1652	282	124	407	1725	333	2059
NEEAPs: only BU	Based on information from 19 EU Member States			Based on information from 18 EU Member States					
2016			1427			313			1740
2020 (projection)			1997			438			2435
Saving Potentials (HPI)	All EU Member States (EU-27)			All EU Member States (EU-27)					
2016	2138	219	2357	740	283	1023	2878	502	3380
2020	3030	288	3318	991	468	1459	4021	756	4777

Total gap to 20% primary energy saving target for 2020 **8 500 PJ**

- Most bottom-up (BU) calculated savings for residential heating (though separation of residential and tertiary buildings and by end-uses not always possible in the NEEAPs)
- MURE covers around 85% of the BU-calculated savings in the NEEAPs for buildings (03/12)
- The BU NEEAP savings cover around 50% of the saving potentials calculated for buildings (though BU savings also include some “Early Actions” and some parts of the baseline savings)

Methodological and data constraints

- Actual variety of the use of impact evaluation methods by the Member States in their NEEAPs limits a fully harmonized analysis of the quantitative measure impact based on the information included in the MURE database.
- A strong limitation is the complete missing of bottom-up evaluated policy measures if a Member State only uses top-down methods for the reporting (case of 4 MS). If a combination of top-down and bottom-up methods was used, this information may at least be missing for some sectors or end-uses.
- If bottom-up methods were used for the reporting, this does not ensure that the quantitative impact information is available at the level of single policy measures, as they are described in MURE. A considerable number of NEEAPs only reports on measure packages including a certain number of policy measures.
- A few NEEAPs did not report estimated savings until 2016, but only for 2010 or 2013.
- The updating status of MURE is variable since the database can be continuously updated.

Conclusions

- The MURE Measure Database allows a detailed analysis of energy efficiency measures by sector and end-use reported in the NEEAPs, both including qualitative and quantitative features. But data constraints limit the actual use.
- The current mix of policy measures addressing energy efficiency in buildings is rather “conservative” in most of the countries: legislation (mainly EU-based) + financial incentives (mainly financed from public budget) → need for stable funding systems; energy efficiency obligations as one solution?
- There is a remaining energy saving potential in the building sector, which is not tapped by the measures already reported in the NEEAPs, amounting to around 50% if only taken into account BU savings (30% if also including TD savings).
- But even if the total saving potential in the building sector can be tapped by additional measures, there is still a gap of around 4 000 PJ in order to achieve the 20 % primary energy saving target until 2020. The remaining savings have to be achieved by savings in other final consumption sectors (transport, industry) and in the conversion sector, which were not analyzed here.

Contact

Thank you for your attention

Barbara Schlomann

Fraunhofer Institute for Systems and Innovation Research ISI

Breslauer Str. 48, 76139 Karlsruhe, Germany

Phone +49 721 6809-136

barbara.schlomann@isi.fraunhofer.de

www.isi.fraunhofer.de