



ENERGY EFFICIENCY WATCH

 **Wuppertal Institute**
for Climate, Environment
and Energy

ECOFYS

sustainable energy for everyone



Feedback from the markets: Successes and failures of efficiency policies in EU Member States

Findings from a NEEAP Screening and Expert Survey

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Hellenic Parliament, Athens

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Overview

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Energy Consumption and Energy Efficiency Potentials in the EU

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The EEW challenge: promotion and independent analysis

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Findings (1): Results from the NEEAP screening and expert survey

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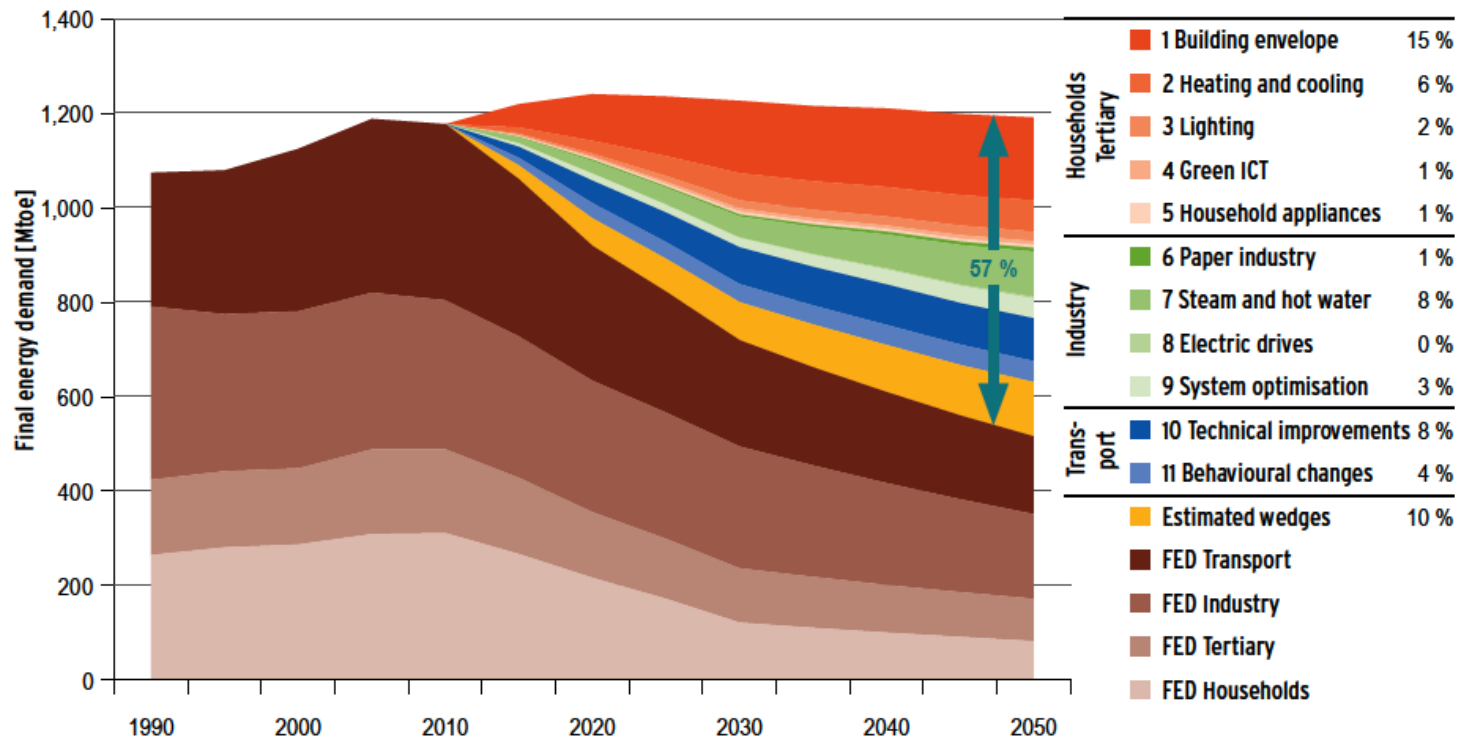
**Findings (2):
The Greek NEEAP**

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Conclusions

Energy efficiency improvement is key for mitigating climate change and securing energy supply

**Energy Demand and saving potentials in EU by 2050:
57% on final energy
=> worth €500 bn per year in 2050**



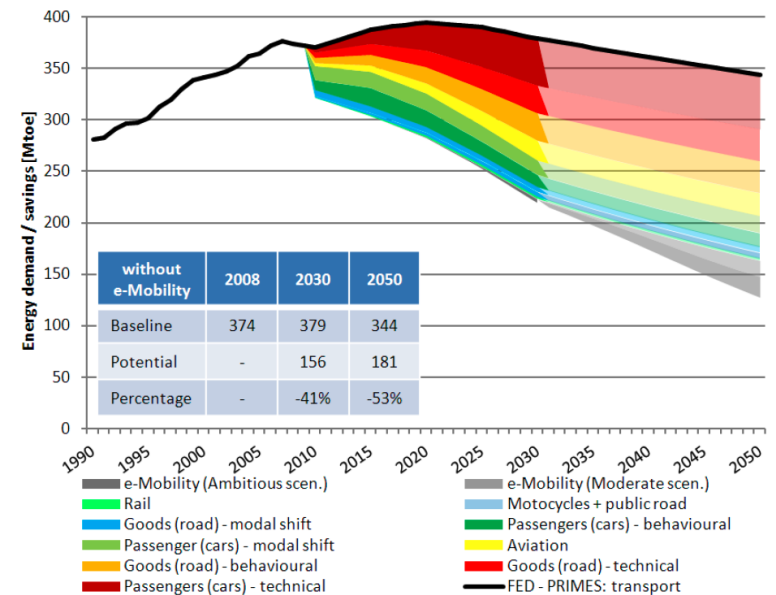
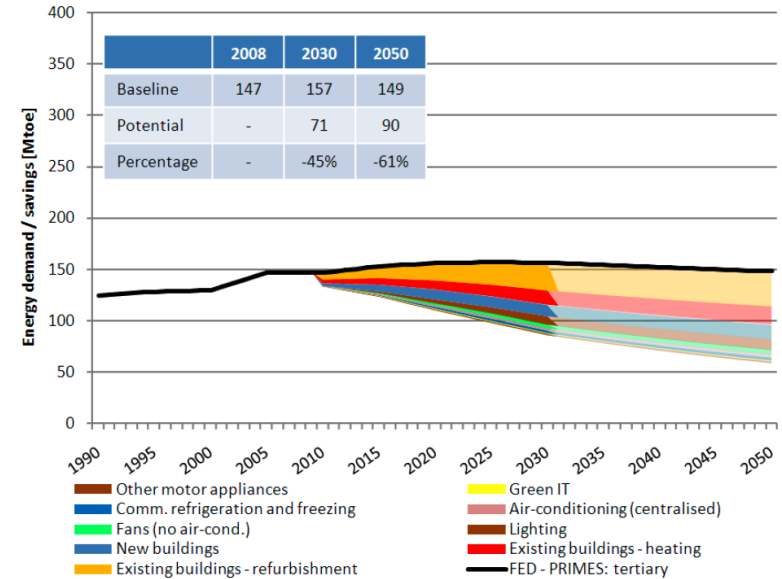
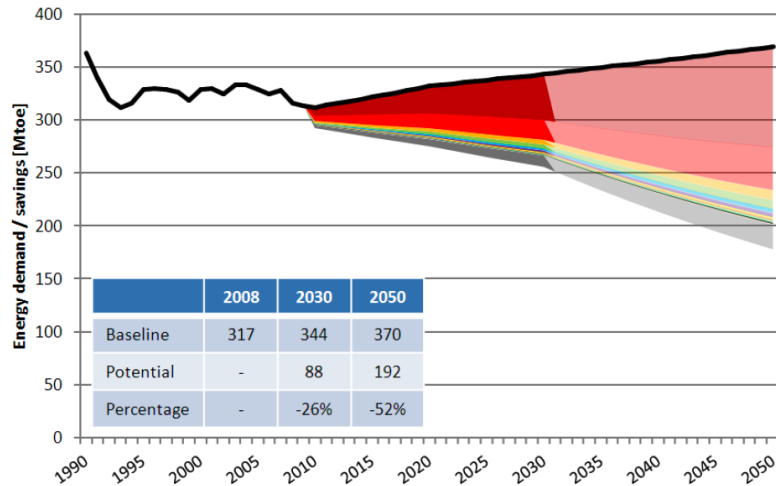
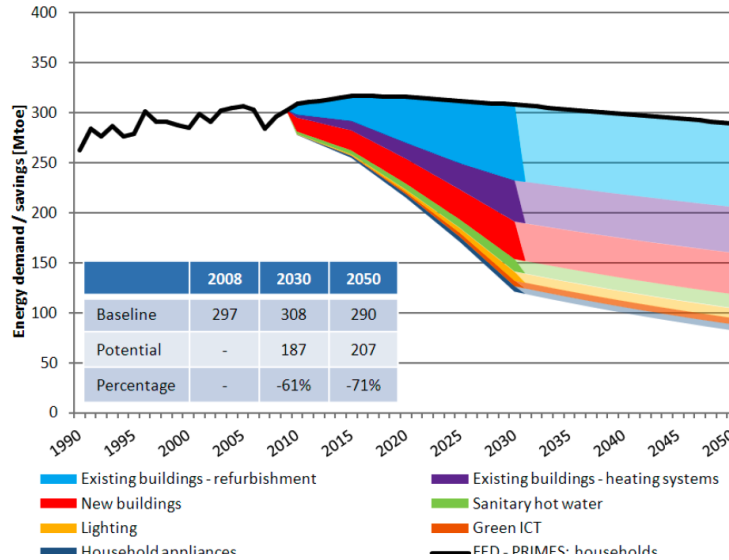
Source: Fraunhofer ISI

Source: Fraunhofer ISI (2012)

Energy efficiency improvement is key for mitigating climate change and securing energy supply

Source: Fraunhofer ISI (2012)

Total final energy saving potentials in the EU27 until 2050



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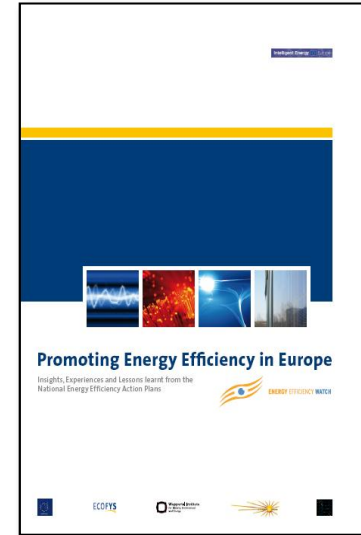
Conclusions

What is the context?

The Energy Efficiency Watch (EEW) project



- Initiated in 2006: **Parliamentarian initiative** for “making Europe the most energy-efficient economy in the world“, now: European cross-party network
- EEW **aims to support EE**, especially by facilitating implementation of Energy Services Directive (ESD) at the national level
- **Target groups:** parliamentarians (EU, national, regional), civil servants & experts involved in designing and implementing EE policy
- **Objectives:** raise awareness, disseminate knowledge & foster exchange of experiences and good practices
- But also: gain feedback from the field via survey/interviews
- **Project consortium** includes **EE networks** (EUFORES, eceee, Fedarene, EnergyCities), **research** (Wuppertal Institute, Ecofys) and **policy implementers** (Upper Austrian Energy Agency)



What is our task?

Our task in EEW – Integrating NEEAP analysis and market feedback

One key product of the EEW project: **27 National Reports** on **EE policy progress** in each MS (to be released in late 2012)

Objectives:

- Highlight **strengths and weaknesses** of national EE policy/ESD implementation (**good practice examples, implementation deficits**)
- Identify **policy gaps** and give policy **recommendations**

Sources of information:

- **NEEAP-based policy screening**
- Broad **survey** among experts/practitioners on their perception of EE policy progress (n=655)
- In-depth **interviews** with selected national experts (3 per MS)

What to be analysed?

Typical contents of a NEEAP

- ESD requires MS to submit three NEEAPs (2007, **2011**, 2014)
- Guidance provided by EC, but no obligation to use the template
- large **differences in structure, contents, and level of detail** (from 14 to >300 pages)
- **Typical contents**
 - National energy saving **targets for 2010 and 2016** (usually 9%)
 - Calculation of **achieved and expected savings**
 - **Evaluation methods** used
 - **Policies and measures per sector** (described in more or less detail)
 - Reporting on specific ESD requirements: role of **public sector**, advice and **information**, contributions from **energy companies**, market for **energy services**
- Comprehensive plan of all national EE efforts, i.e. **strategic tool?** or merely **ESD reporting tool?**

How to be assessed?

Sectors covered, rating scheme, other data sources

Sectors/end-use areas analysed:

- (Governance Framework)
- Public Sector
- Buildings
- Appliances
- Industry/Tertiary
- Transport

Rating scheme applied:

Each criterion/element of governance framework/sectoral policy packages is rated on a scale from 0 to 2 points (with half point ratings allowed): 2 = fully implemented, 1 = partly implemented, 0 = not (sufficiently) implemented

Qualitative indicators for achieving different ratings defined (but allowing some flexibility to consider MS-specific circumstances)

Other data sources used:

- MURE database (EE policies of EU 27 plus NO, CR) www.muredatabase.org
- Plus few other sources covering EU-27 (e.g. on taxation, energy agencies)

Why? NEEAPs do not always mention all existing measures or do not give enough detail → goal was to provide more realistic & complete picture of MS' policy portfolios

What was the focus?

No doubling of Commission's official assessment

No checking of target achievement / correct calculation of savings

Instead focus of NEEAP screening on following selected aspects:

- **Effective sectoral policy packages** –
Comprehensive? Adequate and well-balanced? Well-implemented?
(quality of implementation often impossible to assess due to lack of
detailed information → therefore market feedback/ interviews
needed)
- **Governance framework** (i.e. institutions / structures / mechanisms
that facilitate a smooth implementation of sectoral EE policies) –
Long-term targets and strategies? Energy agencies? EE (financing)
mechanisms? Involvement of other actors? Favourable conditions
for energy services? Effective MRV?
- In the **survey**: e.g. **ambition, implementation and additionality**

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Cross-country analysis (selection)

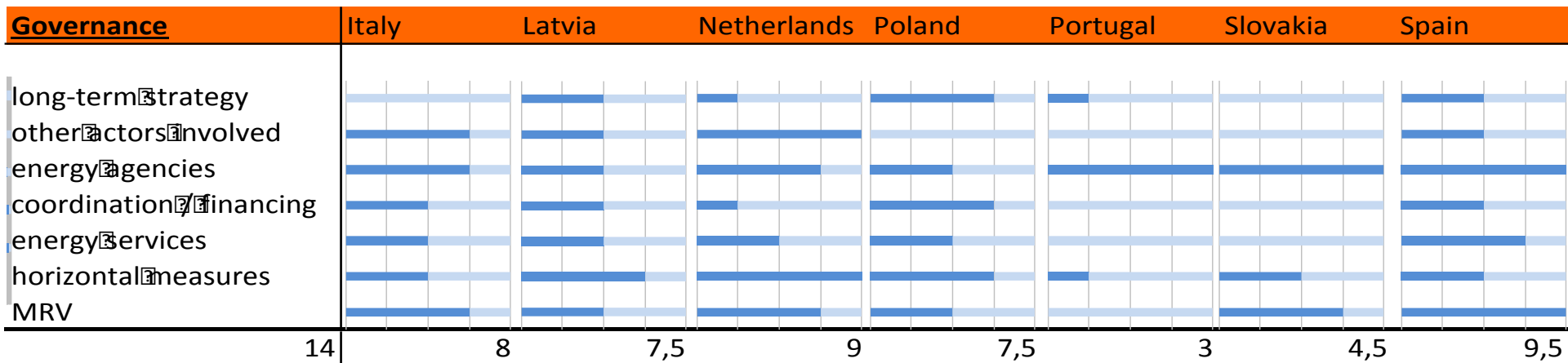
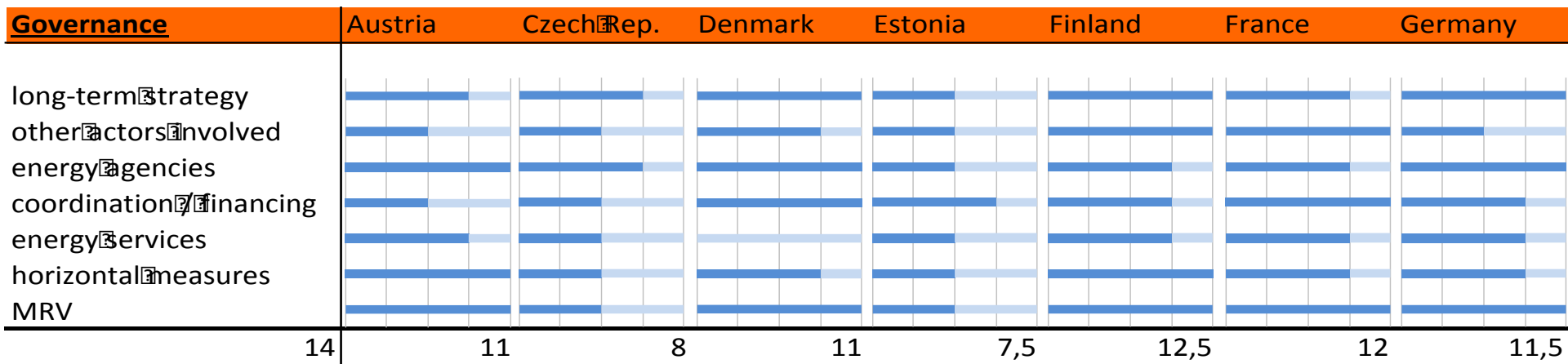
Governance	Austria	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Italy	Latvia	Netherlands	Poland	Portugal	Slovakia	Spain
long-term strategy														
other actors involved														
energy agencies														
coordination / financing														
energy services														
horizontal measures														
MRV														
Public	Austria	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Italy	Latvia	Netherlands	Poland	Portugal	Slovakia	Spain
public sector strategy														
role modal														
mobility management														
public procurement														
public buildings														
adequacy of package														
Buildings	Austria	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Italy	Latvia	Netherlands	Poland	Portugal	Slovakia	Spain
MEPS														
other regulations														
economic incentives														
financing instruments														
EPCs														
advice and audits														
information														
demonstration														
education and training														
adequacy of package														
Appliances	Austria	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Italy	Latvia	Netherlands	Poland	Portugal	Slovakia	Spain
MEPS														
economic incentives														
energy labels														
information tools														
education and training														
adequacy of package														
Industry	Austria	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Italy	Latvia	Netherlands	Poland	Portugal	Slovakia	Spain
standards														
ES&A targets														
obligations														
economic incentives														
tradable permits														
energy taxation														
energy labelling														
other measures														
adequacy of package														
Transport	Austria	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Italy	Latvia	Netherlands	Poland	Portugal	Slovakia	Spain
planning instruments														
regulatory instruments														
economic incentives														
information														
R&D support														
adequacy of package														

Main findings

- The sectoral policy packages (e.g. appliances, buildings) of some MS are to a very large extent based on EU legislation
- The majority of MS have not (yet) adopted long term strategies and targets
- The economic downturn has had significant consequences on EE policy in several MS (e.g. Greece, Romania)
- Target achievement, if measured with top-down methods, is in many cases also due to economic recession

Cross-country analysis

Governance Framework

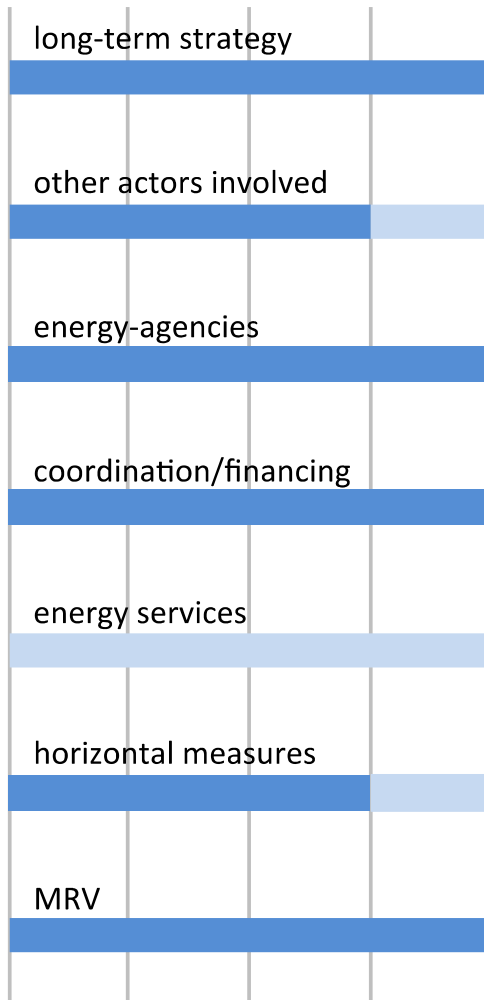


+ Energy agencies widely established

- Framework conditions for energy services mostly weak

Good practice

Governance Framework (Denmark)

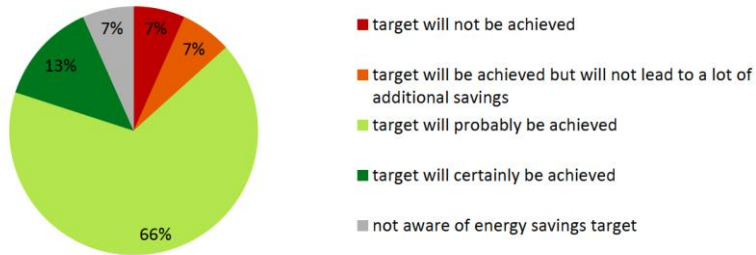


- Target and measures to be independent from fossil fuel (2050)
- Energy companies involved via saving obligations
- regions and local authorities involved
- Danish Energy Agency
 - strong link to regional activities
 - coordinating energy saving obligations and energy saving trust
- Agreement on national target and savings obligations
- top-down and bottom-up methods used for calculations
- companies report energy savings to energy agency
- but: no mention of energy services in NEEAP

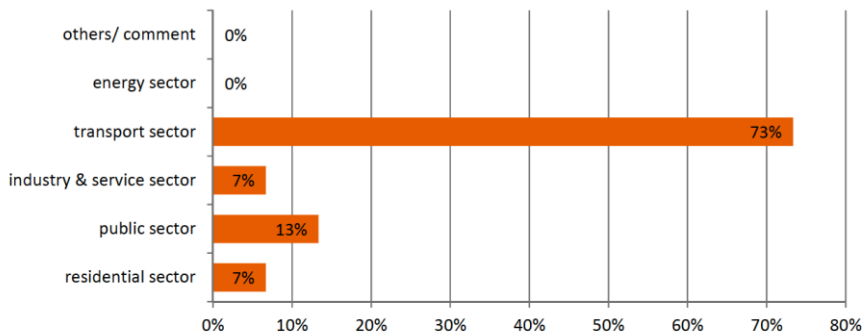
Survey results

(Denmark)

Denmark: achievement of national energy savings target



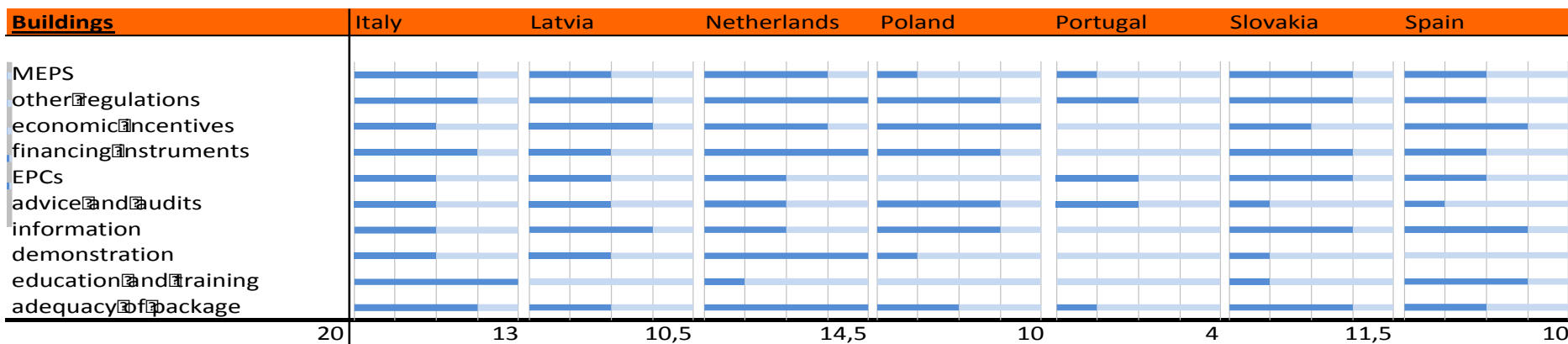
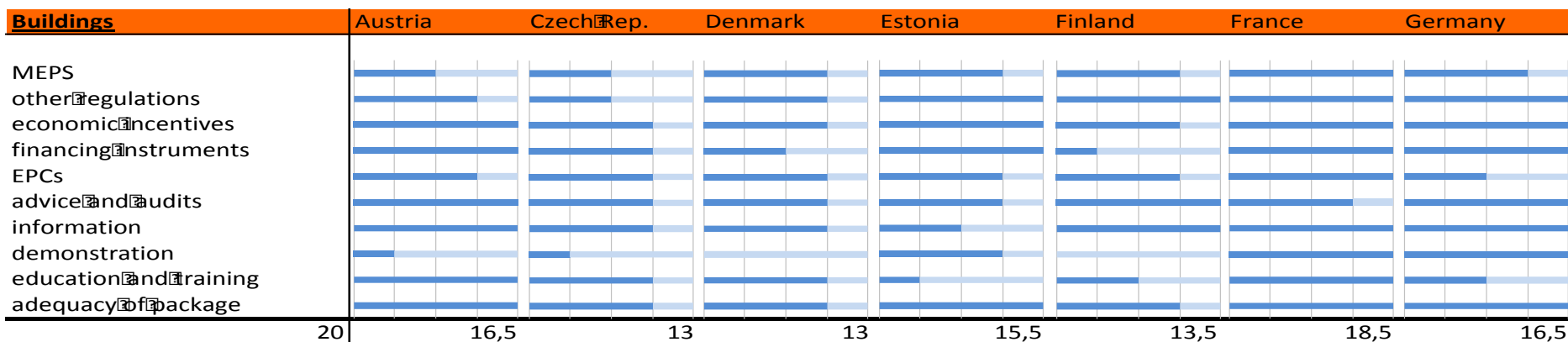
Denmark: the most important gap in energy efficiency policies



- According to the Danish experts, energy efficiency policies have progressed very well since the first NEEAP
- More than 50 % believe that the overall ambition of the energy efficiency policy is generally rather high (highest indicator of all countries).
- Opinions on the progress in the last 3 years are more mixed: a third sees many additional policies, another third only a few additional policies.
- Nearly 80 % believe that the energy efficiency target is very likely to be achieved (second highest indicator of all countries)
- Experts agree that the biggest challenge for Danish policy lies in energy efficiency in the transport sector.

Cross-country analysis

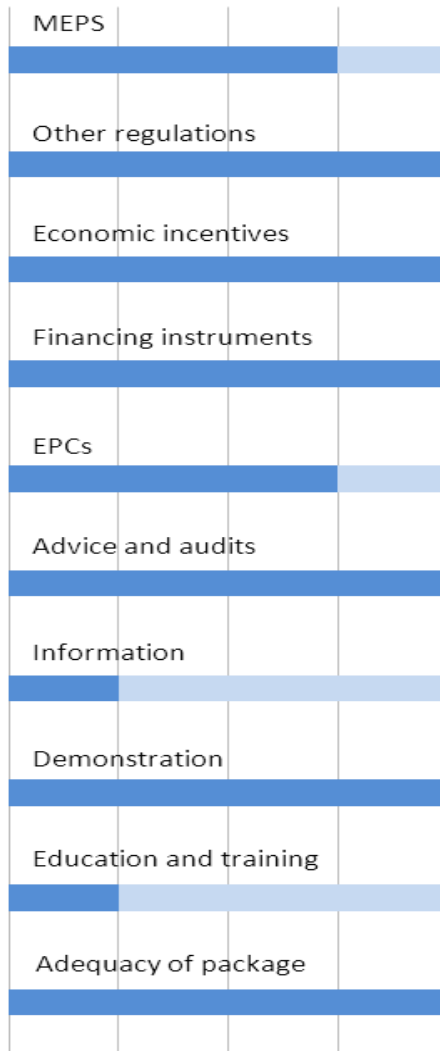
Buildings



- + **Economic incentives** for EE in buildings & relatively advanced packages
(→ large potentials recognised & EPBD effect)
- Gap regarding **education & training** for professionals
(exceptions: e.g. AT, LU)

Good practice

Buildings (France)



- EPBD-oriented MEPS in place since 2008 & regular tightening foreseen
- Control and enforcement strategy unclear
- Spatial planning for district heating regions
- Subsidies for EE renovation of apartment buildings, incentives for audits
- Tax incentives to foster EE renovation
- Large soft loan programmes for EE renovation (funded through EU structural funds)
- EPCs in place since 2009, Publication of EPCs required
- Assistance during design and construction for apartment associations
- €5 million funding for demonstration buildings
- Nothing implemented yet on education and training of building professionals, but need recognised

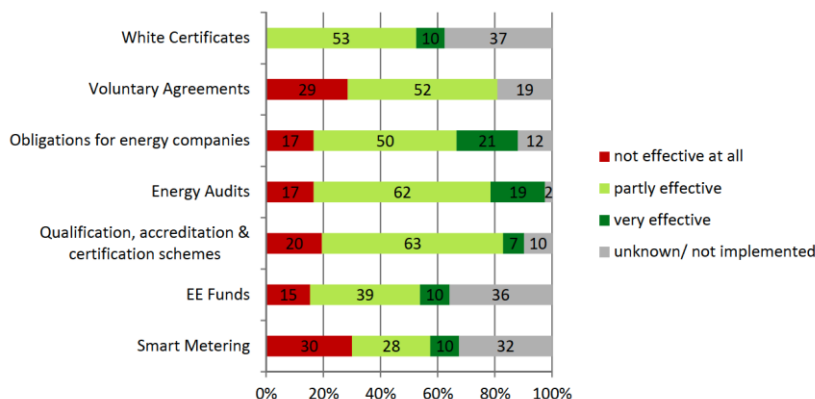
Survey results

(France)

France: achievement of national energy savings target



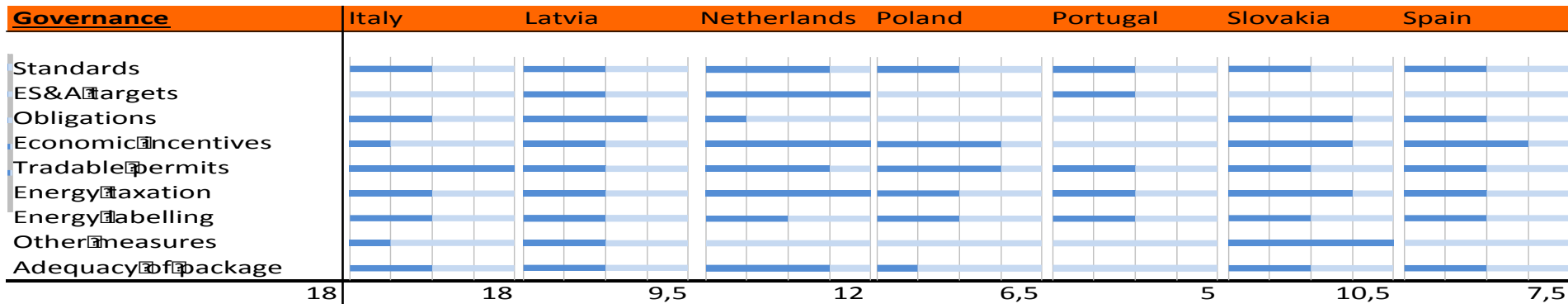
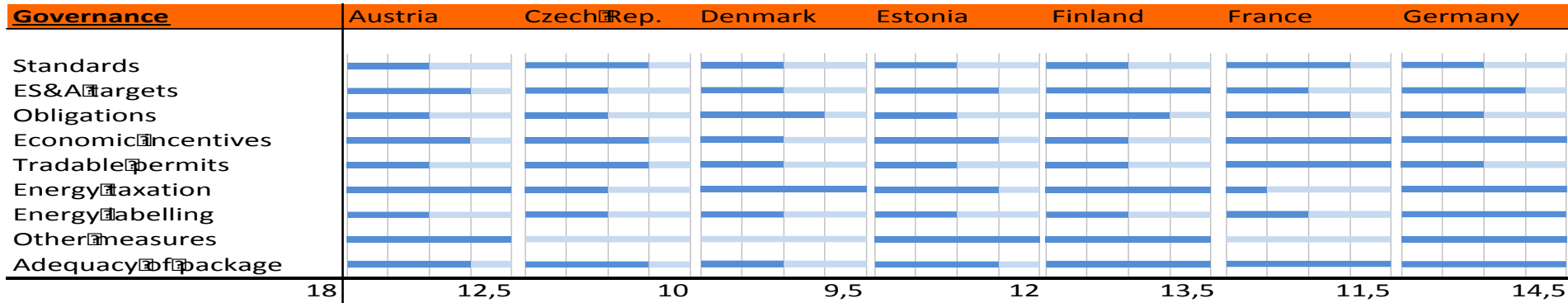
France: degree of effectiveness of different policy instruments



- France is among the Member States that has made comparatively medium progress in energy efficiency policies since the first NEEAPs.
- Opinions are divided on the ambition of energy efficiency policies: half of the experts see policies as ambitious whereas the other half believes that policy ambitions are rather low.
- Progress in the last 3 years was seen relatively positive: 55 % think that a range or even many additional policies were introduced.
- Experts are concerned that the ambitious targets for building renovation will not be reached
- It might be easier to find political support for RES than for energy efficiency.

Cross-country analysis

Industry/Tertiary



+/- No clear trends regarding strengths and weaknesses

- Many MS mostly relying on **EU regulation** (ETS, Ecodesign, Label)

+ Several MS good in terms of „other measures“

(e.g. education and outreach, data collection and energy accounting, capacity building, EE networks, etc.)

Good practice

Industry/Tertiary (UK)

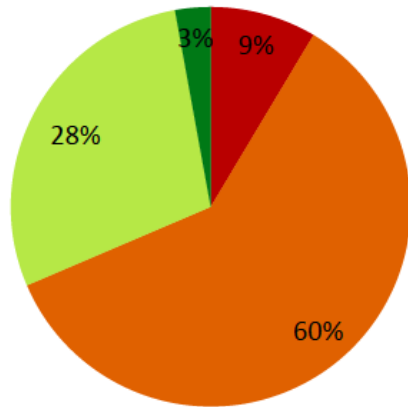
Standards			
ES&A targets			
Obligations			
Economic incentives			
Tradable permits			
Energy taxation			
Energy labelling			
Adequacy of package			

- Obligation to use advanced meters at medium-sized non-domestic sites
- The Enhanced Capital Allowance, the energy efficiency loan scheme as well as rebates on the climate change levy payments provide economic incentives
- The CRC scheme is a mandatory trading scheme for large electricity users that covers 10% of the UK Emissions: EU ETS
- A climate change levy has been established; The excise duty for natural gas and electricity is at the minimum rate
- The policy package comprises economic incentives, tradable permits and taxation; Carbon Trust to provide information

Survey results

(UK)

UK: progress of energy efficiency policies in the last 3 years



- no or very little progress
- a few additional policies
- a range of additional policies
- many additional policies

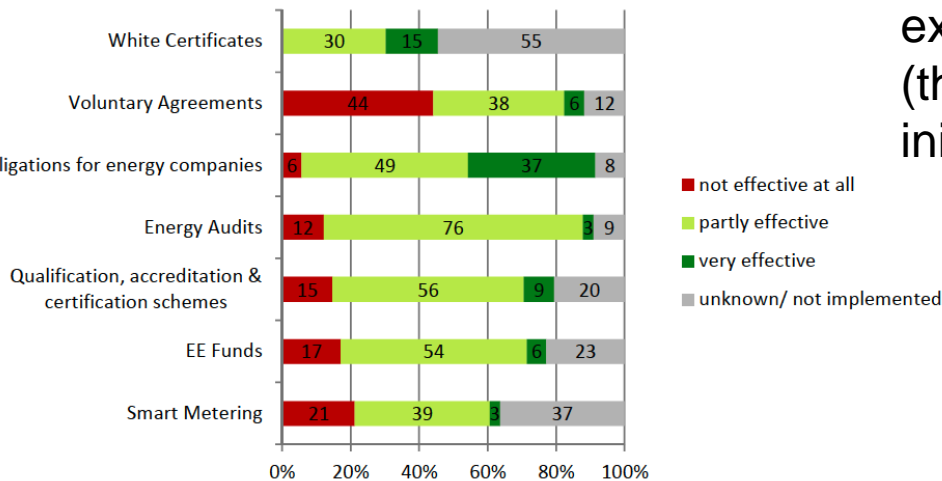
- The UK is among the Member States that has made medium progress in energy efficiency policies since the first NEEAPs
- About half see an ambition in at least a range of sectors or that it is generally rather high, whereas the other half believes that ambition is limited to a few sectors
- Around 70 % think that only a few additional policies were introduced or no or very little progress was made, nearly 50 % believe that the energy efficiency target will not be achieved

Survey results

(UK)

- Critical issues reported include an ageing housing stock with low renovation rates
- Experts say, effective programmes to advise end consumers and also businesses have recently been reduced or abolished, start of new programmes and initiatives has been delayed in several instances, creating market uncertainties
- There is significant concern among the experts about the planned "green deal" (the UK government's energy efficiency initiative)

UK: degree of effectiveness of different policy instruments



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The Greek NEEAP

Residential Sector: Buildings

MEPS			
Other regulations			
Economic incentives			
Financing instruments			
EPCs			
Advice and audits			
Information			
Demonstration			
Education and training			
Adequacy of package			

Comprehensiveness of policy package	
Minimum Energy Performance Standards (MEPS)	MEPS have been established; No roadmap for tightening of MEPS
Other regulations	The issuance of a buildings permit is linked to the requirement that 60% of the needs for domestic hot water is covered by solar thermal systems
Economic incentives	Financial support is available for energy saving measures in old buildings; Support is granted for central solar thermal systems and the replacement of old air-conditioners
Financing instruments	Low interest loans, reduced VAT and grants are available for the installation of central solar thermal systems
Energy performance certificates (EPCs)	Energy performance certificates are mandatory for all buildings (>50m²) that undergo a complete renovation; Energy performance certificates are also mandatory for existing buildings when they are sold or leased, and for all buildings of the public sector
Energy advice and audits	Not mentioned
Information tools	Several information and education campaigns are mentioned; Not clear whether these address the buildings sector
Demonstration projects	Innovative systems in buildings are planned to be demonstrated on the basis of voluntary agreements; Upgrading of four industrial buildings to nearly zero energy buildings
Education and training for stakeholders	Not mentioned
Adequacy of policy package	Potentials are considered; Policy mix is rather balanced

The Greek NEEAP (excourse):

Transport

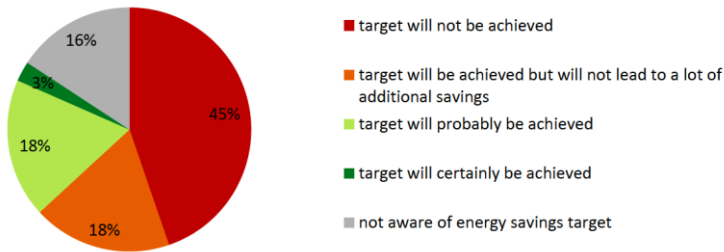
Planning instruments			
Regulatory instruments			
Economic incentives			
Information			
R&D support			
Adequacy of package			

Comprehensiveness of policy package	
Planning instruments	Concrete measures to support public transport and non-motorized transport (e.g. urban mobility plans) have been set up
Regulatory instruments	Only public procurement mentioned
Economic incentives	Tax incentives are available
Information and advice	Information campaigns and trainings promote eco-driving
R&D support	Not mentioned
Adequacy of policy package	Potentials considered; The policy mix has a strong focus on road vehicles e.g. no awareness campaign on PT

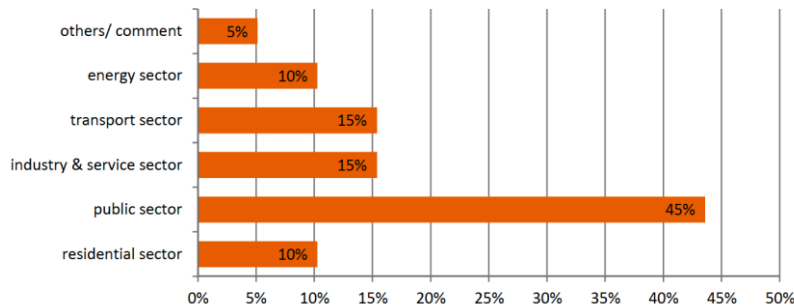
Survey results

(Greece)

Greece: achievement of national energy savings target



Greece: the most important gap in energy efficiency policies



- According to the Greek experts, Greece is among the countries that has made medium progress in energy efficiency policies since the first NEEAP.
- Opinions among the experts are divided: about half see good progress (a range or even many additional policies), the other half sees little or no progress.
- 45 % believe that the energy savings target will not be achieved.
- Economic crisis - with the related reduction in services and industries as well as a need for cost reduction - leads to a decrease in energy consumption.
- Significant dependency on fossil fuels which needs to be addressed by energy efficiency and renewable energy measures.
- CRES, the national energy agency, has seen important budget cuts.

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Lessons learned from 2nd round of NEEAPs

- NEEAPs bieten z.T. nur einen Ausschnitt aus der Effizienzrealität der betreffenden Länder
- nicht alle dargestellten Maßnahmen unbedingt erfolgreich in der Umsetzung
- nicht unbedingt alle Maßnahmen dargestellt (Vergleich mit MURE, Survey Report)
- Im Screening Zugang über Governance Framework und Sektoren. Eine gute Gesamtpunktzahl heißt nicht zwangsläufig eine gute Gesamtperformance, da keine Gewichtung der einzelnen Kriterien vorgenommen wurde

Conclusions

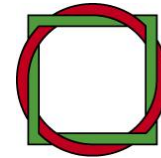
Lessons learned from 2nd round of NEEAPs

- In general, NEEAPs have improved (more structured, more comprehensive), but still many have gaps and insufficiently detailed measure descriptions
 - often impossible to assess quality of implementation and effectiveness of policies
 - NEEAPs cannot replace independent evaluations of strategies, potentials and progress of implementation
 - MURE database as additional source of more in-depth information partly very useful
 - EEW market feedback provides helpful insight here
- Biggest achievement of NEEAP process (or even of ESD as such): Induced - in many MS for the first time – a comprehensive planning process for EE policies, addressing the most important sectors and potentials, and monitoring & evaluation of energy savings

Conclusions

Lessons learned from 2nd round of NEEAPs

- EC's non-binding template has guided (most) MS towards using NEEAPs as strategic document (not mere reporting tool), but left freedom to structure plans acc. to MS-specific needs/circumstances
 - No mandatory template needed, but binding requirements to meet quality criteria regarding types and level of detail of information provided (for reporting on overall strategy, individual P&Ms, and evaluation of impacts)
- Good plans are very important but we shouldn't forget that what counts is their implementation
 - needs funding & skilled actors (both on EE markets and in policy implementation)
 - increase share of structural funds dedicated to energy efficiency as a „green economic recovery programme“ to support Member States affected by economic downturn?



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Many thanks for your attention!

See also: www.energy-efficiency-watch.org



For further information
please visit our website:

www.wupperinst.org