

# Overview & General Findings of the ENS POL project

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# Project Overview



- ❖ **Title:** Energy Saving Policies and Energy Efficiency Obligation Scheme
- ❖ **Co-Funded by:** Intelligent Energy Europe Programme of the European Union
- ❖ **Started:** March 2014
- ❖ **Expected Completion:** August 2016
- ❖ **Coordinator:** Joint Implementation Network
- ❖ **Contract number:** IEE/13/824/SI2.675067

# The Consortium



JIN - Joint Implementation Network	Netherlands
CRES - Center for Renewable Energy Sources and Saving	Greece
FIRE - Italian Federation for Rational Use of Energy	Italy
VITO - Vlaamse Instelling voor Technologisch Onderzoek	Belgium
KAPE - Polish National Energy Conservation Agency	Poland
EST - Energy Saving Trust	UK
AEA - Austrian Energy Agency	Austria
OUC - University of Oxford	UK
UPRC - University of Piraeus Research Center	Greece
SEI - Stockholm Environment Institute/ University of York	UK
ABEA - Association of Bulgarian Energy Agencies	Bulgaria
DEA - Danish Energy Association	Denmark
ADEME - French Environment and Energy Management Agency	France

Who we are?



# ENSPOL Objectives



**Assess** the relative **strengths** and **weaknesses** of EEOs and alternative measures based on the existing experiences and plans of MS.



**Complement** and **enhance** the work of **existing EU** and **MS initiatives** concerned with the implementation of Article 7 EED.



**Improve knowledge** and **capabilities** of MS outside of the project consortium with the guidance developed when designing and implementing new schemes and/or alternative measures for implementation of Article 7.



**Strengthen cooperation** and **facilitate dialogue** across the EU with regards to policy development and implementation relating to Article 7 EED.



# ENSPOL Storyline



## Status quo of Article 7 implementation in the EU

- Existing Energy Efficiency Obligation (EEO) schemes in the EU
- Planned/New EEO schemes & Alternative measures of EU Member states
- EEO schemes outside the EU

## National and EU level Stakeholder Engagement

- EU Observatories
- National Observatories, Capacity Building Workshops, National training Courses on implementation issues of Article 7.

## Effectiveness of the energy efficiency policy mix

- Policy interaction analysis for each instrument type with respect to the effectiveness from the consumers' perspective

## Policy guidelines at a Member State level

- Guidelines for implementing effective and efficient EEOs and alternative policies

# Interest from policymakers



"If in the future the Netherlands will implement an EEO, it will owe its design and acceptance in more than a small part to the efforts of ENSPOL"

**Ministry of Economic Affairs, the Netherlands**

"Thanks ENSPOL! We've really valued the support provided to UK Government throughout the project – in particular exchanges with peers in other MS and shared resources – which have been invaluable and have informed our thinking as we plan the next phase of the GB Supplier Obligation."

**UK Department for Energy and Industrial Strategy (BEIS), UK**

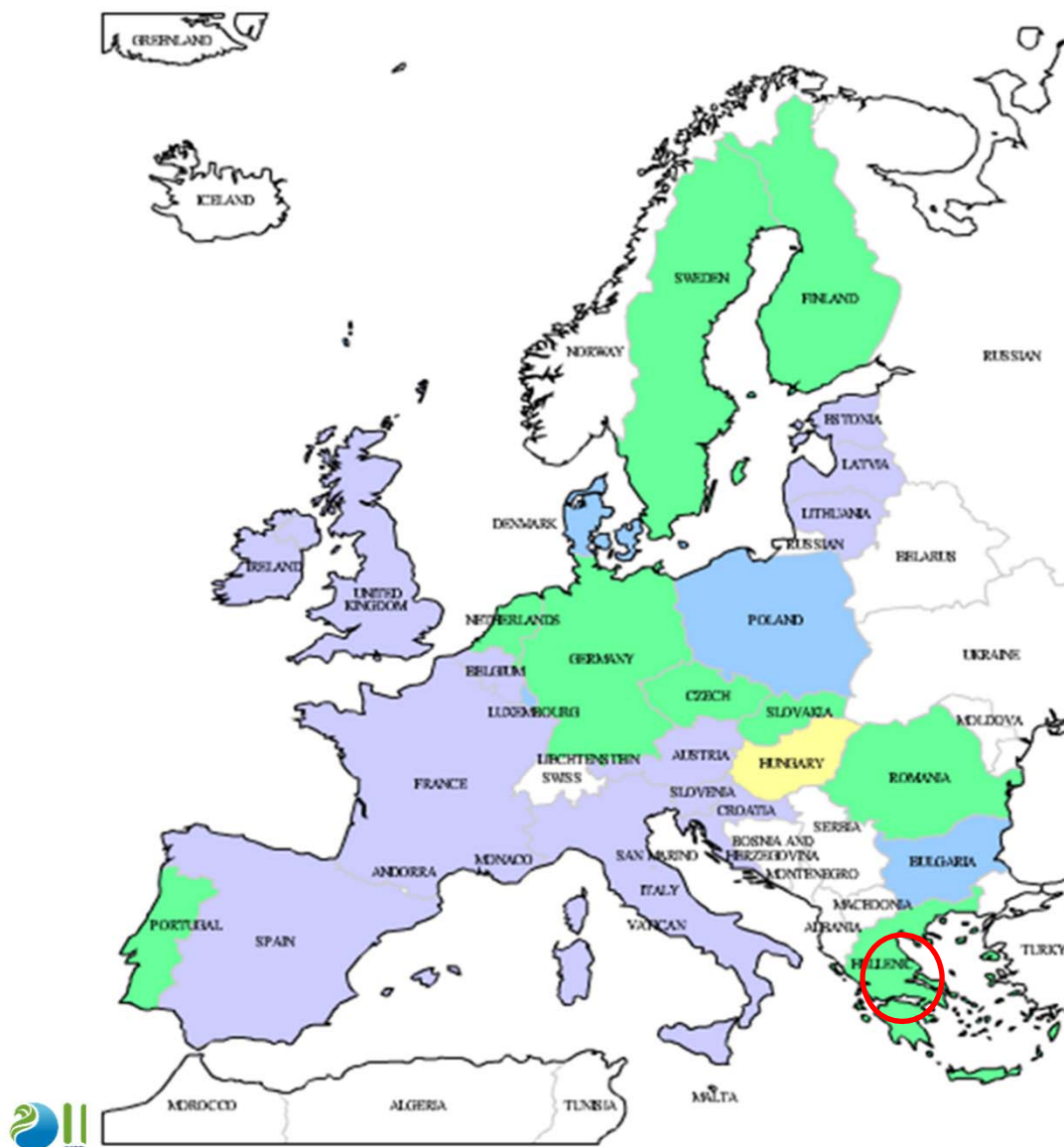
"The Presentation of ENSPOL has really astonished the representatives of the Ministry of with the changing approach of Members States to the EEO. Before the presentation a broader development of voluntary agreements was considered as a difficult to spread out (not EEO!). Thank for opening the debate in the Czech Republic. I think such participation was at the right time in the right place"

**SEVEN, Czech Republic**





"The Belgian and Dutch policy makers consider that now is the time to try to extract best practices and (try to establish consensus between EU MS on which EE accounting methods can be used in the future in all EU countries)"

**Ministry of Economic Affairs, Belgium**

# EEOs and Art. 7: An EU Overview



- Compliance with Article 7 requirements is proposed through either:
  - **EEO scheme** (4 countries: Bulgaria, Denmark, Luxembourg, Poland)
  - **Combination of EEO schemes & Alternative measures** (13 countries: Austria, Belgium, Croatia, Estonia, France, Ireland, Italy, Latvia, Lithuania, Malta, Slovenia, Spain, UK)
  - **Alternative measures** (10 countries: Czech Rep., Cyprus, Finland, Germany, Greece, Netherlands, Portugal, Romania, Slovakia, Sweden).

-  Alternative measures
-  Combination (EEO schemes & Alternatives Measures)
-  EEO schemes
-  Not specified yet

# Overview of alternatives

## Overview of alternative measures in the EU

COUNTRY/ Types of Alternative measures	EEOs	Energy/CO2 Taxes	Financial grants & Loans	Fiscal (tax rebate)	EE Fund	Regulation & Standards	Information, Education & Training	Vol. Agreement	Other measures	Sum (of alternatives)
Austria	(N)	(2)	(5)						(1)	8
Italy	(E)		(1)	(1)						2
France	(E)	(2)	(2)	(1)	(1)		(1)			7
Germany		(4)	(7)			(3)	(2)			16
Greece			(14)	(1)		(2)	(1)			18
Sweden		(1)								1
Spain	(N)	(1)	(6)		(1)		(2)			10
The Netherlands		(2)	(8)	(4)		(3)	(4)	(10)		30
UK	(E)	(2)	(6)			(7)		(2)		17

- ✓ Most countries have decided that alternative policies outside the remit of utilities are necessary (e.g. standards, taxation and support for infrastructure and human systems) to meet energy savings' target.
- ✓ In case of multiple alternatives measures, MS have **to ensure** that, when there are overlaps among measures, **no double counting will occur**
- ✓ EEO should perhaps address mainly nonsubsidized areas/sectors (large industries, municipalities, transport).



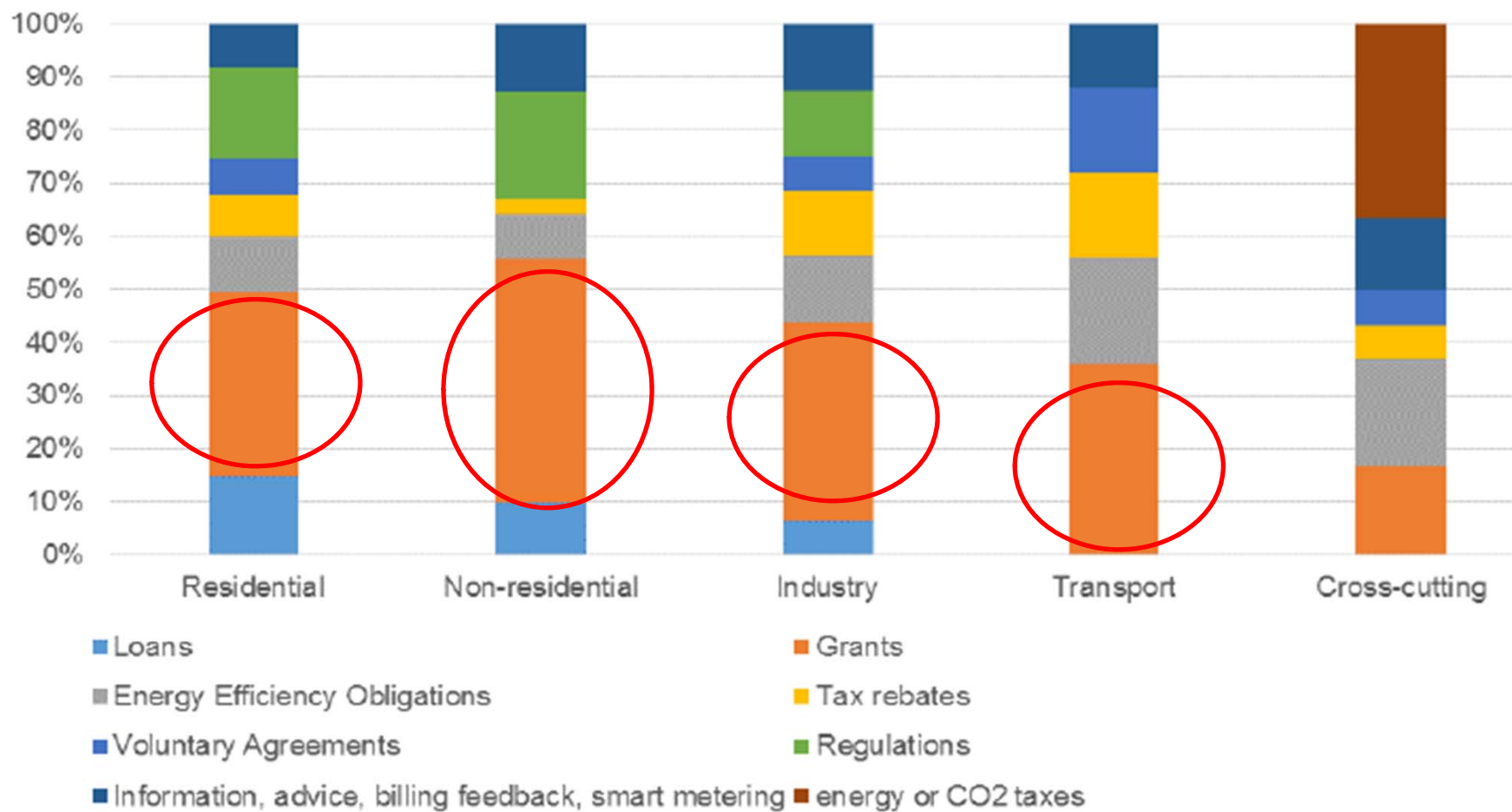
# Alternatives to EEOs

## Overview of alternative measures in the EU

### General points

- Almost all EU MS countries (apart from 5) have adopted alternative measures to comply with Article 7 requirements.
- Higher cost measures (e.g. whole house renovation, solid wall insulation) seem to be the main focus of alternative measures proposed in the residential sector, usually in the form of soft loans and grants.

# Types of Article 7 policies per sector



# Existing EEOs: Lessons learned

- No two EEOs are the same!
  - ⇒ Number and type of obliged parties (distributors or retailers; type of energy supplied), eligible sectors/projects, monitoring, fund raising mechanism, metrics for target setting...
- EEO delivered substantial improvements in energy efficiency
  - ⇒ Now **important components of the national policy mix.**
- EEOs developed incrementally: start with low target, and growing targets over the years, allowing a "learning" period for subject under the obligation.
- Majority of savings from cost effective savings reaching large numbers of beneficiaries.
  - ⇒ **Flexibility of EEO as a policy instrument,**
  - ⇒ **Adaptability to national circumstances and policy priorities.**

# Existing EEOs: Challenges

- Continue to deliver savings,



**Move focus from the buildings sector**

- Ensure a proper communication towards all potential beneficiaries
- Limit impacts on energy prices while removing economic risk from obligated parties.
- Increase the scheme efficiency:
- Achieve a balance between rules and procedures





# Shift towards EEOs

- Uncertainty in achieving targets with existing instruments
- New realities in energy markets, difficult to capture with existing schemes
- Lack of public finances, leaving more power to the market to self-finance

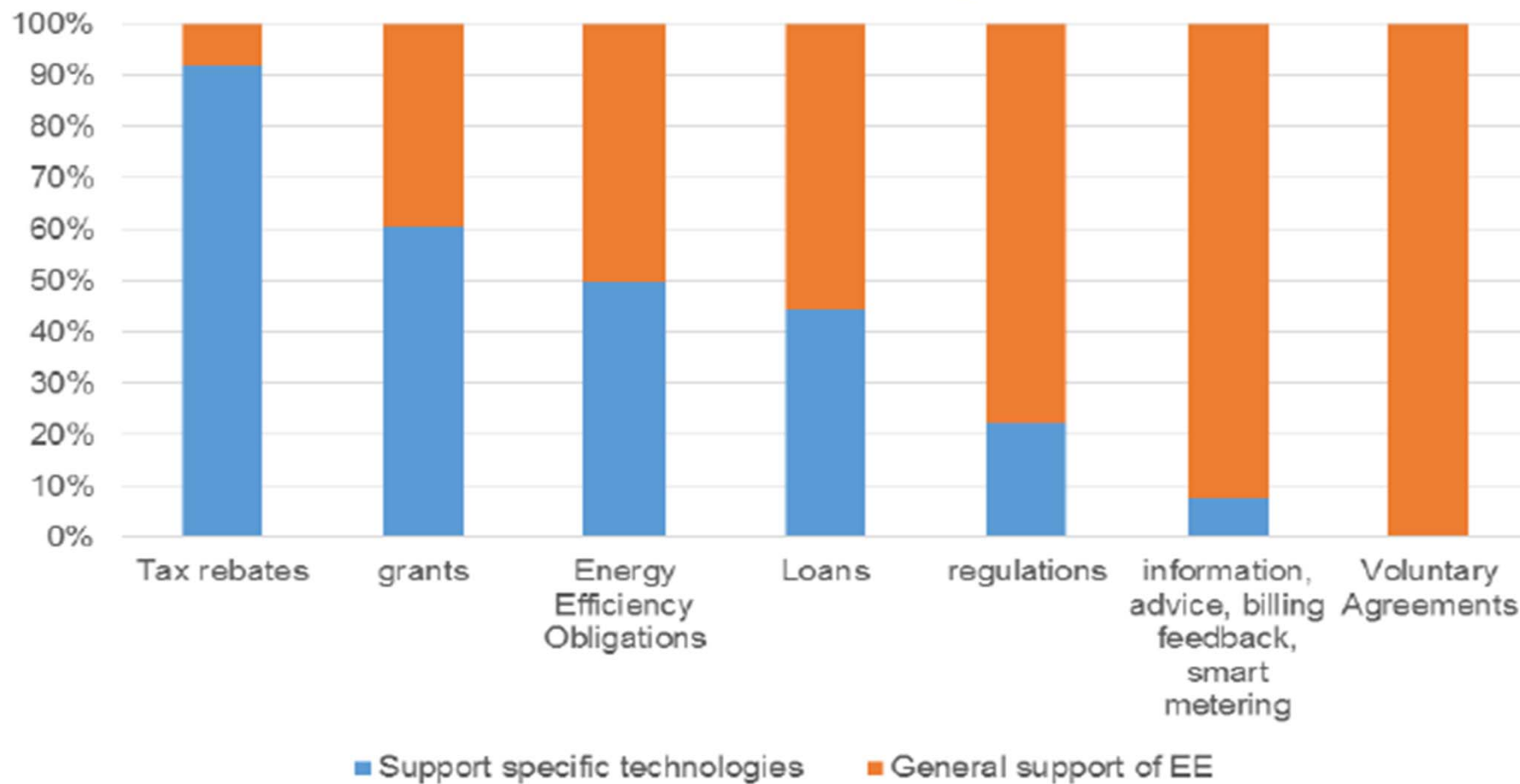
## General findings of new EEOs

- Actual design of the EEO scheme: limited described in MS notifications – with pilots things are clearer BUT policy uncertainty (e.g. election period).
- Improving energy efficiency is main driver of new EEO schemes
- Residential sector is preferred sector
- Growing interest for the ESCO market, especially in markets in infancy
- *MS need more clarity and support when being challenged legally by market parties*

## The EU can learn from abroad...

- Analysis of EEOs in USA, Australia, Canada, India, Brazil, China, South Korea
- Metric of saving (final energy, primary energy, peak demand, carbon etc) determines the target
- Different players, from utilities (regulated or not) to industrial producers
- No restrictions on technologies, but with a cost-effectiveness criterion
- In all schemes in average the saving is aprx 1% demand reduction annually, making it consistent with the EU
- Low hanging fruits gone.. Effect on energy prices?

# Specificity of policy instruments





# Combinations of policies

	energy or CO <sub>2</sub> taxes	grants	loans	tax rebates	regulations	voluntary agreements	information, advice, billing feedback, smart metering
Energy Efficiency Obligations	2	7	2	1	1		3
energy or CO <sub>2</sub> taxes		1		1		2	2
grants			4	8	10	3	4
loans				2	4	1	2
tax rebates					2	5	
regulations						3	6
voluntary agreements							2

## Conclusions from Article 7 plans mixes

- Purchase subsidies are used a lot and combined with other policies
- Regulations are combined with other instrument types
- The same applies to voluntary agreements
- Standards and norms are set at EU level and therefore do not appear
- Taxation is not used in most countries
- Article 7 design does not encourage policies that mainly support early stage innovation
- The overall policy mix is more than just Article 7 policies – it also includes EU level policies
- Effectiveness is not the only criterion
- Taxation, in particular, is limited by political acceptability
- Subsidies, including EEOs, are used more

# Policy guidelines at a Member State level

Aims of guidelines (national level):

- Facilitate implementation of Energy Efficiency Policies under Article 7
- Provide lessons for new-starters of EEOs
- Provide a basis for discussion with national stakeholders in order to agree

## Effectiveness

On Measurements of energy savings:

- The deemed savings can be applied mainly to **homogeneous target groups** (for instance household appliances, highly standardized and replicable technologies)
- Declare for each measures whether the **average consumption** of the market or of the **installed stock** has been considered for deemed savings estimates
- Use **autonomous improvements** (estimated in number of years and compared to market and technologies autonomous developments) and **update baselines periodically** (for instance with energy price effects, disposable income, technology costs, penetration rate, awareness trends)



# Effectiveness

- Technology list to be **technologically neutral** and to avoid producing deemed savings that may favour very few technologies manufacturers - involve a broad range of stakeholders in developing the data, as it will increase the level of detail and the processes of ongoing revisions of the technologies in the list.
- Verification needs update with **free-riders and rebound effects**

## Adaptation

- Use **EEF for cost recovery** options to suppliers with a low ceiling price
- EEOs not competitive to eventual ESCOs, but rather cover financing part

# Efficiency

## Adaptations

- Start with modest levels of savings, **increasing in ambition level over time**, learning from early phases and re-designing the EEOS to be more efficient and effective
- **Trial period** with low savings targets, so that obligated parties can get used to the target idea
- Since there are no steps for shortening the learning period in most countries starting with such schemes, EEOs should act as **supportive instrument** to target delivery

# Efficiency

## On costs

- majority of savings will originate from low cost energy measures in the residential sector, **no retrofitting**
- Opening the scope (as for instance Industry for Denmark, or fuel suppliers in France) can help achieving a more ambitious objective
- introducing tools and incentives to support third party financing, among which there is the guaranteed fund introduced in the transposition of the EED directive
- Address fuel poverty via the EEF

# Additionality/Materiality

## Additionality

*“Only savings that go beyond the minimum requirements originating from EU legislation can count.”*

*“Only if the nationally established levels are more ambitious than those required at EU level can the savings above the minimum level be counted.”*

## Materiality

*“the activities of the obligated, participating or entrusted party must be demonstrably material to the achievement of the claimed savings”.*

*“The term 'material' means that the party in question must have contributed to the realization of the specific individual action in question, and that the subsidy or involvement of the obligated, participating or entrusted party must not have had what is clearly only a minimal effect in the end user's decision to undertake the energy efficiency investment. The term 'demonstrably' means that the Member State must be able to show that this is so.”*



# Additionality/Materiality

- Different interpretations, no real blueprint at this stage
- Avoid as much as possible overlapping instruments in terms of sector targeting
- Ex-post combined with ex-ante measurements (for free-riders) to be able to demonstrate materiality
- *So far... MRV is rather inconsistent and often quite 'poor'- guarantees further work!!*

# Additionality/Materiality methods

Make use of the various verification methods with less administrative requirements, such as in Denmark or Germany, given also the inexperience with monitoring and verification with the forthcoming EEOs that most countries face.

Make use and collaborate for the development of successful tools (such as the MultEE project platform)

# Hints on additionality

- Focus on those measures that are most robust in terms of monitoring, reporting and verification, like subsidies, voluntary agreements
- Mixture of instruments is often used to realize savings in the building sector. Double counting can be managed by assigning all savings to one particular instrument.
- In a business-as-usual scenario (without article 7), less savings than the EPBD are expected.
- Article 7 measures could generate savings that fill the EPBD compliance gap.
- The savings of behavioural measures last only for 3 to 5 years, it is not likely that the savings still count by 2020. Therefore, use only behavioural measures, if really needed.
- Strong need for harmonized, simple accounting rules & uniform process to estimate savings from valid measures.

# Baseline questions? Hints..

- Disposable income and revenues affecting energy consumption trends (*linked to market sales*)
- Heating/cooling degree days (*different baselines assessed*)
- Trends on awareness raising
- Technology costs, performance and quality of savings

# Cost recovery

Country	Cost recovery
Belgium	Regulator approves cost recovery through tariffs
Canada/Ontario	Collected from all ratepayers based on energy use or contribution to peak demand
China	City utility surcharge, revenue from differential electricity prices, and other funding sources
Denmark	Cost recovery through tariffs
France	Cost recovery through tariffs is possible but has yet to be allowed
Italy	Fixed contribution to cost recovery through a tariff contribution; transport measures not eligible for cost recovery
US Minesotta	Energy efficiency cost-recovery charge determined in rate cases
US New York	System benefits charges, and funding from carbon market
US Texas	Obligated utilities recover program costs through base rates or cost recovery tariffs



# DSOs?

## PROs and CONs of assigning targets to DSOs

### PROs:

- Are not subject to switch by clients and then have a **stable market share**
- Targets are real obligations **legally related to their network**:  
selling part of network = transferring part of the energy saving target
- Their **revenues** are not affected by energy savings

### CONs:

- In an unbundled market DSOs have **no direct relationship** with the end-users (only retailers have)
- **Antitrust regulation** prevents DSOs to work «post-meter» because this could imply unfair competition with other businesses (ESCOs, craftsmen, etc.)

- For Italy, DSOs look like a very **convenient** obliged party for an EEO scheme...
- ...but in fact, most of the time, they only play a **financial role** and have nothing to do with energy efficiency measures.

# Why Retailers?

## UK scheme

- Minimize costs
- Allow flexibility
- Delivery through third parties
- Carry over costs to energy bills
- Measures delivered to domestic premises
- Pre-existing relationship ('route to market')
- Familiar demographic to target
- Generators on previous scheme struggled

## French scheme

- Direct contact with all final consumers
- They already offered energy services to their customers and are legitimate to do so
- Because making them switch from an energy supply business model to an energy service supply model is the way forward

# Thresholds of obligations

**UK:** 250,000 customers and supply 2000 GWh gas / 400 GWh electricity

**Denmark:** Grid and distribution companies for electricity, gas, district heating and oil

**France:** 400 GWh electricity, gas, 100GWh heating LPG, 500 m<sup>3</sup> domestic heating oil, 7,000 tonnes of autogas, 7,000 m<sup>3</sup> automotive fuel annually (Gas/diesel)

**Italy:** All DSOs with > 50,000 clients (before it was with 100,000 clients)

**Poland:** All suppliers (electricity, natural gas)

**Austria:** Retailers >25GWh sales (electricity, natural gas, biomass, coal, mineral oil, district heating, transport fuels)

# Cost of EEO schemes

Figures out of early evaluation (capital and administrative costs)..

- France: 0.4 Eurocent / kWh
- Denmark: 0.45 Eurocent / kWh
- Italy: 1.7 Eurocent / kWh
- UK: 0.7 Eurocent / kWh

*(Lees 2012, Rosenow and Galvin 2013)*

BELOW energy price so **highly cost effective!**



# Types of penalties

- **UK:** 10% of annual turnover (*implemented very few times*)
- **France:** 0.02 E for each missing kWh cumac (20 E/MWh cumac, so with 13.4 average lifetime around 268 E/MWh)
- **Italy:** On a case by case basis relevant to cost recovery level (if DSO fulfills <60% of target)
- **Poland:** Max 750,000 E
- **Austria:** 0.2 E per missing kWh
- **Denmark:** No penalty but higher targets yearly for non compliance

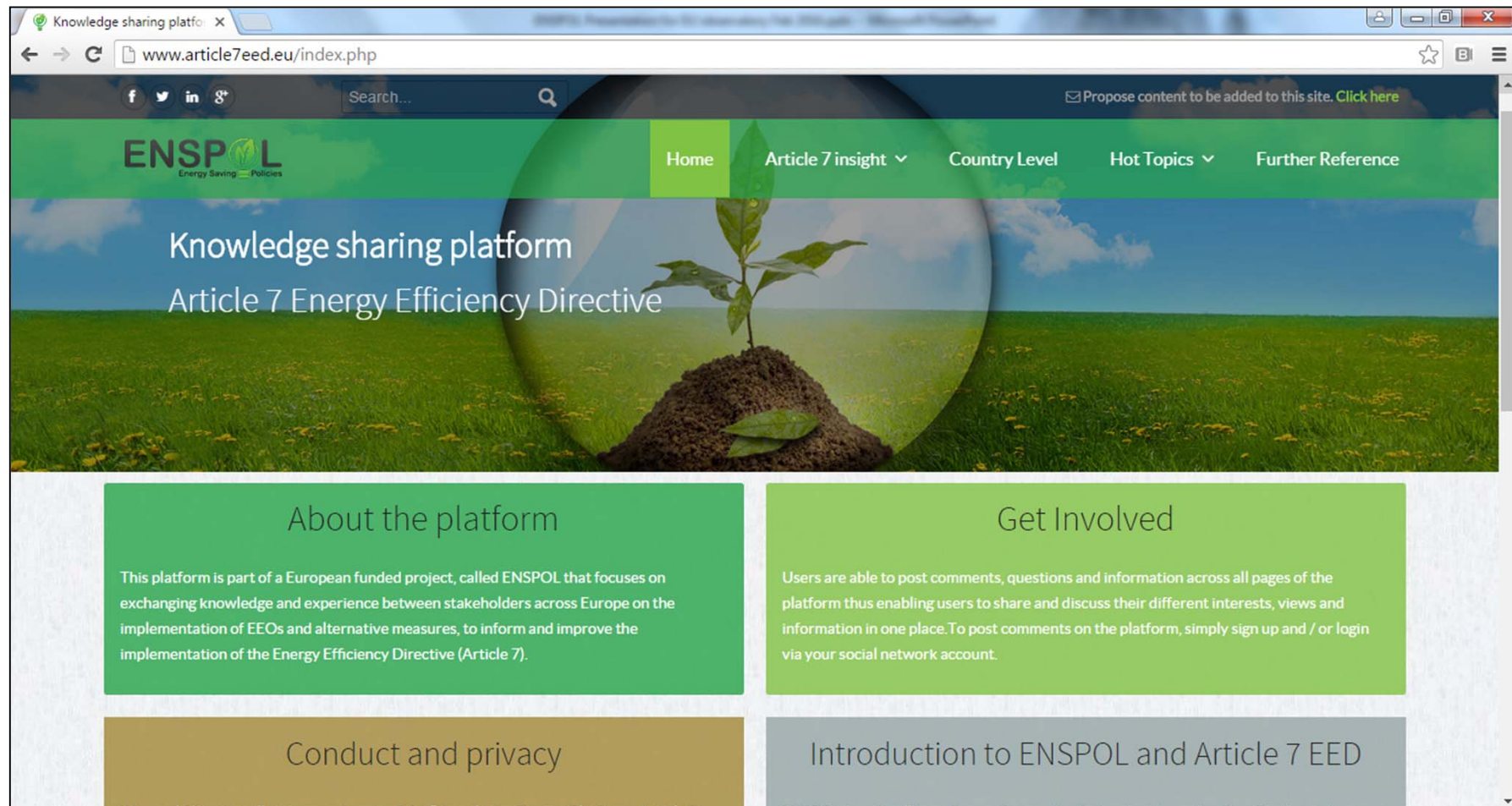


# About best practices..

## NO BLUEPRINT

**Key Factors:** Enough time for learning!!  
Involve stakeholders right from the  
beginning!!

<http://www.article7eed.eu>



# *Energy Saving Policies and Energy Efficiency Obligation Scheme*



*For further information, please contact us*

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**Thank you for your attendance**



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