

The RES and the EPBD Directives

An Important Step towards
the 20/20/20 Targets

Bucharest, 25 November 2010

Pedro Dias- ESTIF Deputy Secretary General



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Introducing ESTIF

- **European Solar Thermal Industry Federation**
 - the voice of the solar thermal industry, actively promoting the use of solar thermal technology for renewable heating and cooling in Europe
- **Representing the solar heating and cooling sector at EU level**
 - Around 100 members from 19 European countries representing the entire supply chain, from manufacturing to installation and components, including also research and test institutes, consultants, and national solar thermal associations



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Introducing ESTIF

- Coordinating efforts to promote solar thermal in Europe
 - coordinates European policy, communications, research and analysis, cooperating with solar thermal key players on a number of market development projects
- Providing support to the solar thermal sector in Europe
 - provides regular, relevant and up-to-date industry information as well as various services to support members' requirements, acting among others as the official Solar Keymark Secretariat



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Proposed agenda

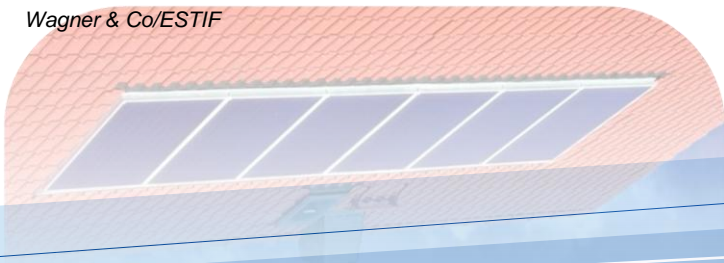
- Why do we need more renewable energy?
- What should be done?
- RES Directive
- EPB Directive
- RES-D implementation
 - *National Renewable Energy Action Plans (NREAPs)*



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Wagner & Co/ESTIF



Why do we need more renewable energy?



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Why do we need more renewables?

- Reduction of CO2 emissions
 - Act against climate change
- Energy Security
 - Now (ex: gas conflict Russia-Ukraine)
 - Future (scarcity of fossil fuels)
- Reduction of energy imports
 - Impact on balance of payments
- Creation of local jobs
 - With decentralised energy production

ex: solar thermal: over ½ of the jobs are local
(installation, design, commercial)



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Potential of Renewables

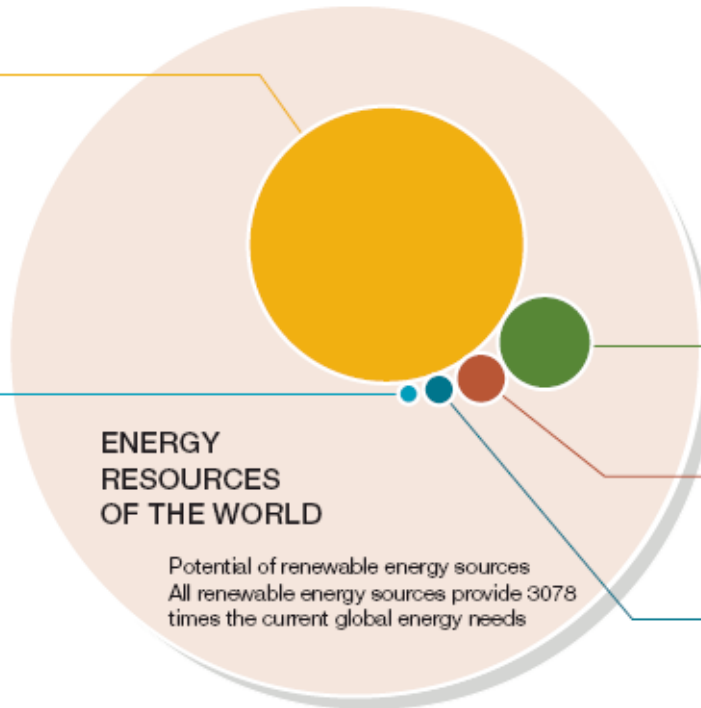
Solar Energy
2850 times

Hydropower
1 times

Biomass
20 times

Geothermal energy
5 times

Wave-tidal energy
2 times



Source: WBGU 2008 (Greenpeace/EREC 2008)



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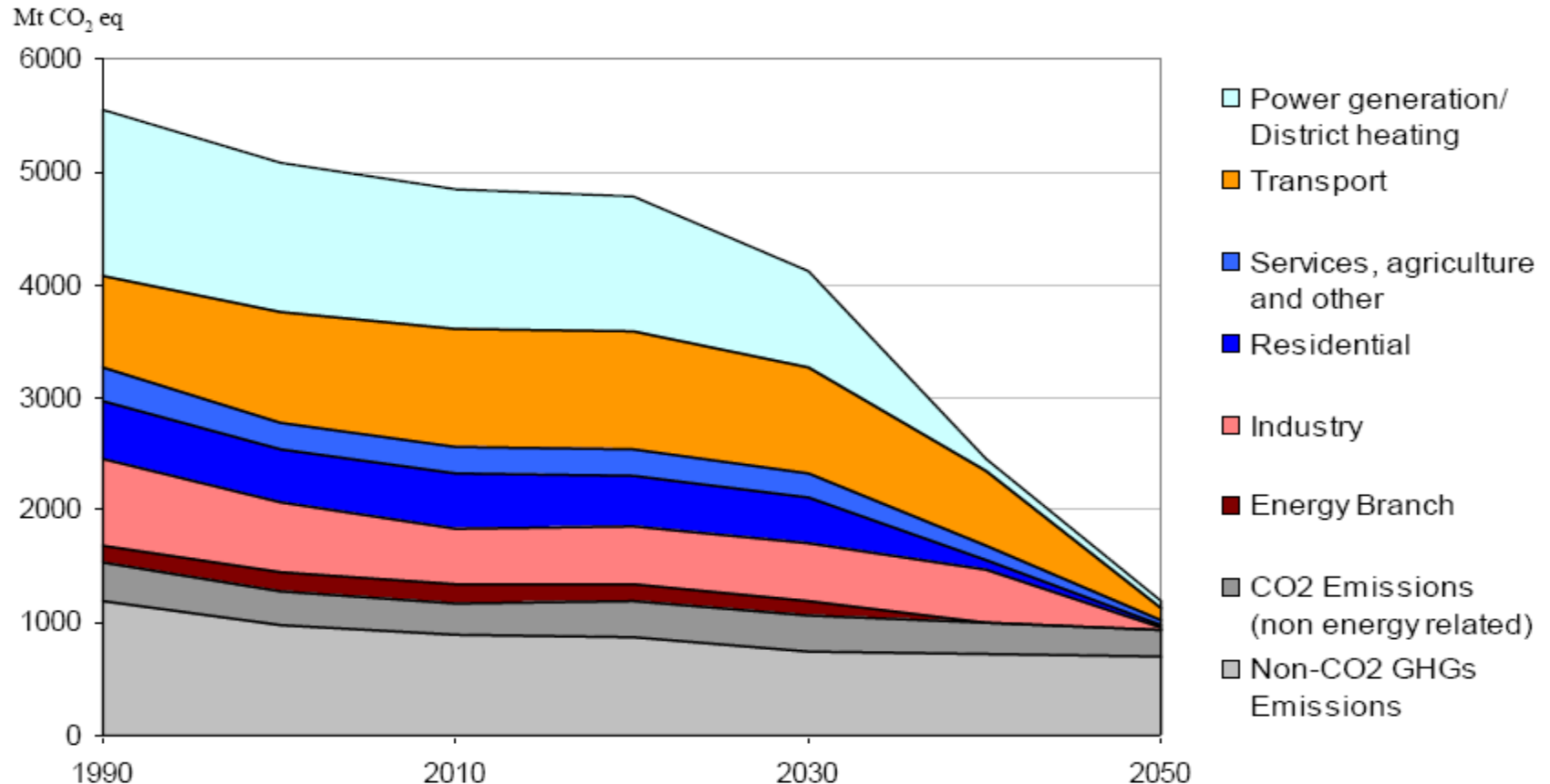
STA/Viridian Solar

What should be done?



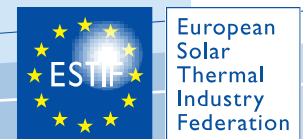
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Impact of EU policies in GHG emissions



Required development of EU27 total GHG emissions per sector to reach "80%" reduction target

Source: Jones, 2009



What should be done?

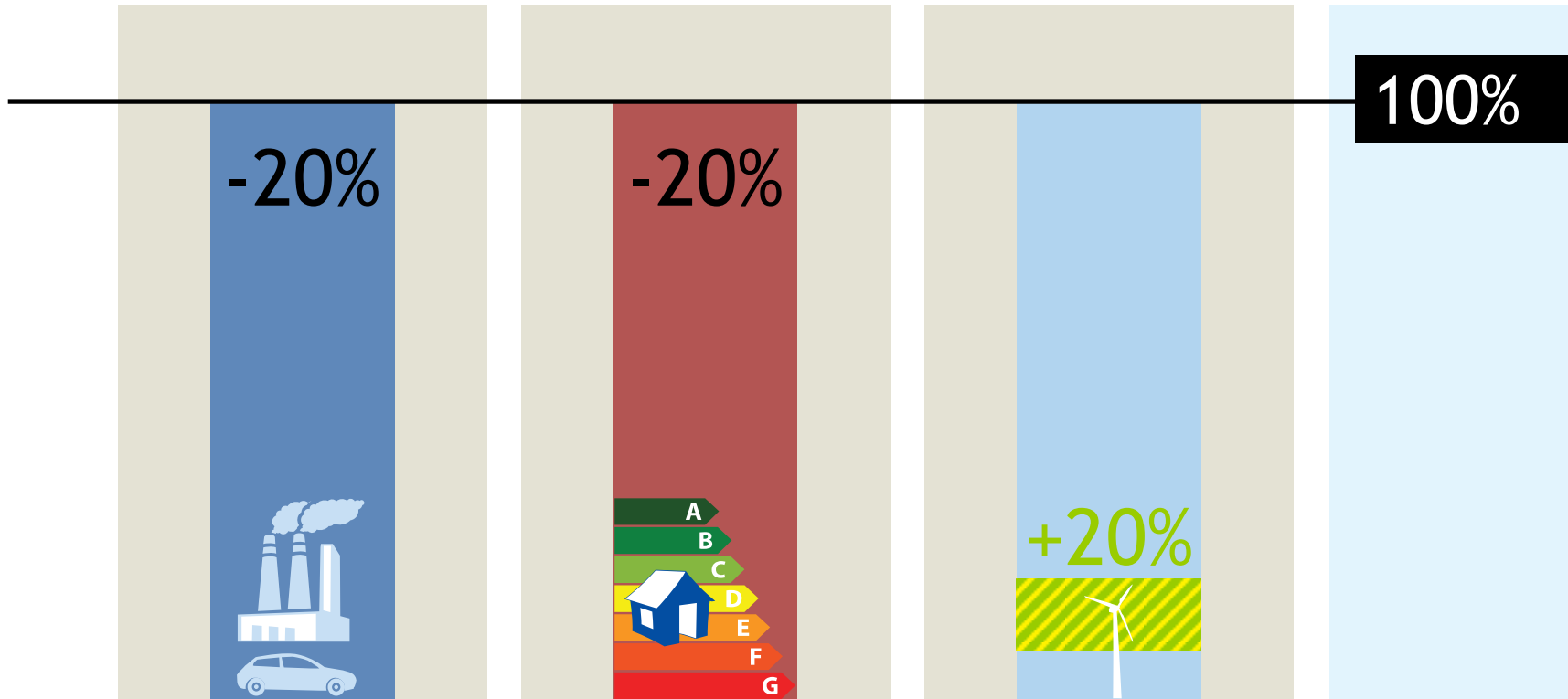
- Reduce energy consumption
- Reduce CO2 emissions
- Increase RES (renewable energy sources) in the energy mix

The Renewables Directive (2009/28/EC)



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The 20-20-20 EU policy by 2020



Greenhouse gas levels

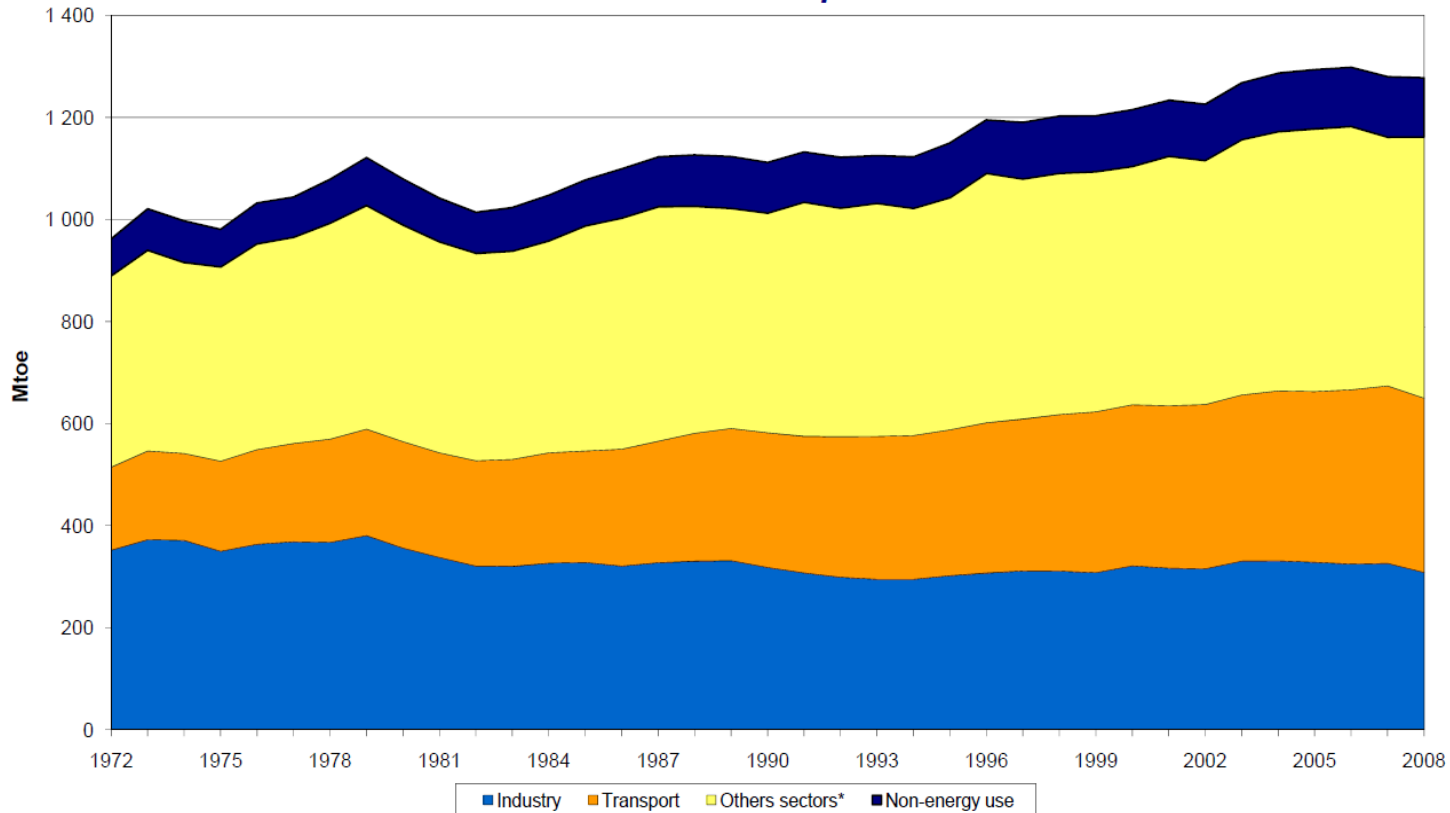
Energy consumption

Renewables in energy mix



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Energy Consumption by sector



* Includes residential, commercial and public services, agriculture/forestry, fishing and non-specified.

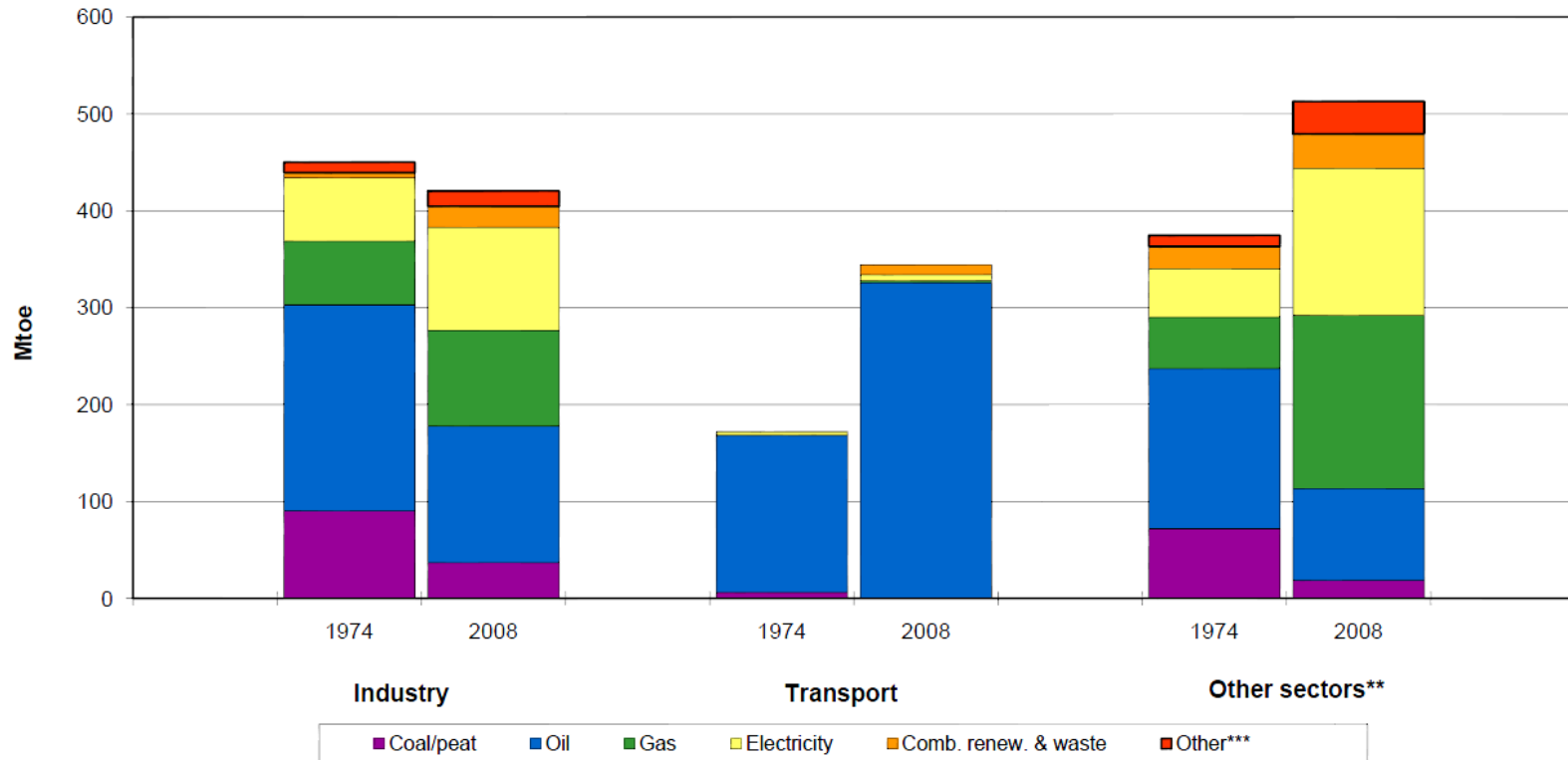
Energy Consumption by sector in Europe, 1972 to 2008

Source: IEA, 2010



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Energy Consumption by source



* Includes non-energy use.

** Includes residential, commercial and public services, agriculture/forestry, fishing and non-specified.

*** Includes direct use of geothermal/solar thermal and heat produced in CHP/heat plants.

Breakdown of sectoral final consumption by source*, 1974 and 2008

Source: IEA, 2010



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What should be done?

- Important focus on residential sector
 - Reduce consumption
 - Energy efficiency measures
 - Increase the use of clean energy
 - Promote more RES in energy mix
 - Promote decentralised energy production
 - In the buildings or nearby

Energy Performance of Buildings Directive (recast)



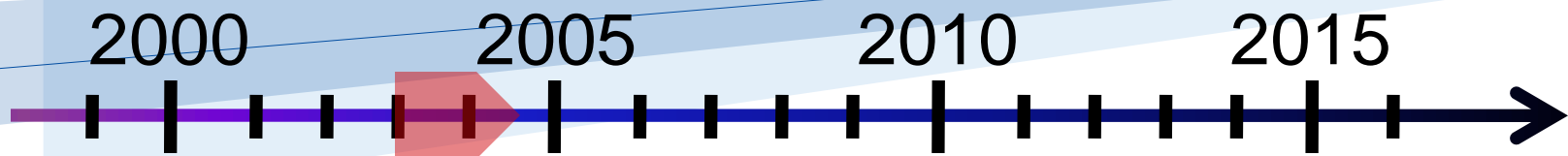
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RES Directive



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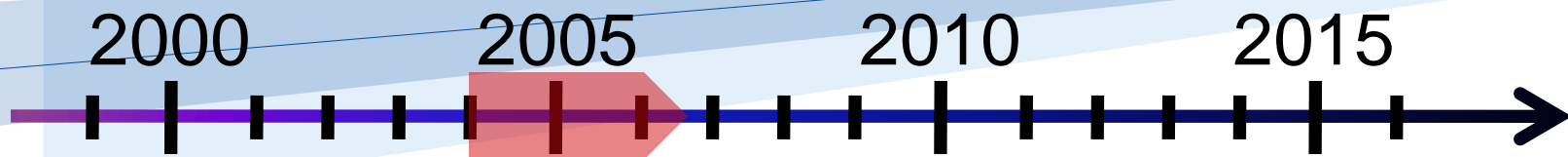


The RES-Directive: Process

- RES-E Directive (2001)
- Biofuels (RES-T) Directive (2003)
- In 2003, ESTIF starts campaign for RES-H Directive
- 2004/2005: Joint Declarations
 - specific target(s) + monitoring (reliable statistics)
 - coherent support policies
 - removal of administrative barriers
 - R&D



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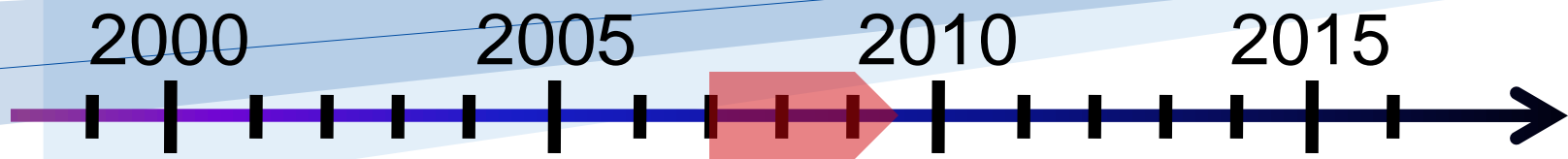


The RES-Directive: Process

- 2004: Supporting arguments from European Commission – “extra action needed in [the heating and cooling] sector”
- 2006: Support from European Parliament (Rothe-Report) – call for a RES-H Directive
- Commission works out draft (unpublished)
- Member States against separate Directive



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The RES-Directive: Process

- 2007: Commission and Member States agree on overall RES-Directive
- Heads of States of MS agree on binding 20% RES target for 2020
- 2008: Commission publishes RES-Directive proposal
- 2009: Adoption of RES-Directive
- 06/2009: Commission agrees National Action Plan templates



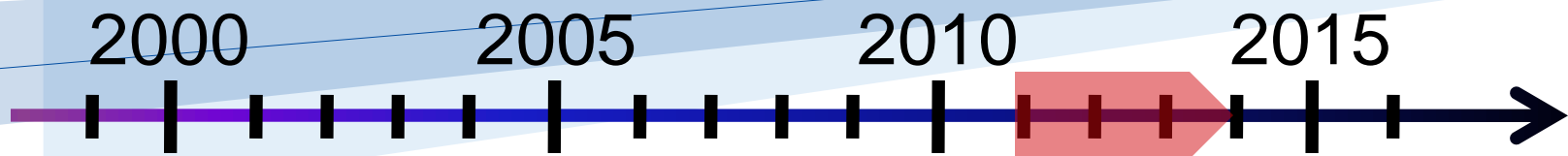
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RES-Directive: Main goals

- 20% RES-target by 2020
- Mandatory national targets; indicative trajectory
- national Renewable Energy Action Plans:
„shall set out Member States' national targets for the shares of energy from renewable sources in transport, electricity and heating and cooling in 2020” ... “adequate measures to be taken to achieve these national overall targets”



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The RES-Directive: Next steps

- 06/2010: Member States publish National Action Plans
 - Some countries missing: Belgium, Estonia, Hungary and Poland
 - Some reports incomplete: **Romania**
- 12/2011: Member States report on progress



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The RES-Directive: Main concepts

- Binding targets/effective measures
- Reporting about progress
- RES obligation in buildings
- Exemplary role of public bodies
- European standards & certification
- Information on support measures
- Training/certification of installers



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Binding targets/effective measures

- Article 3

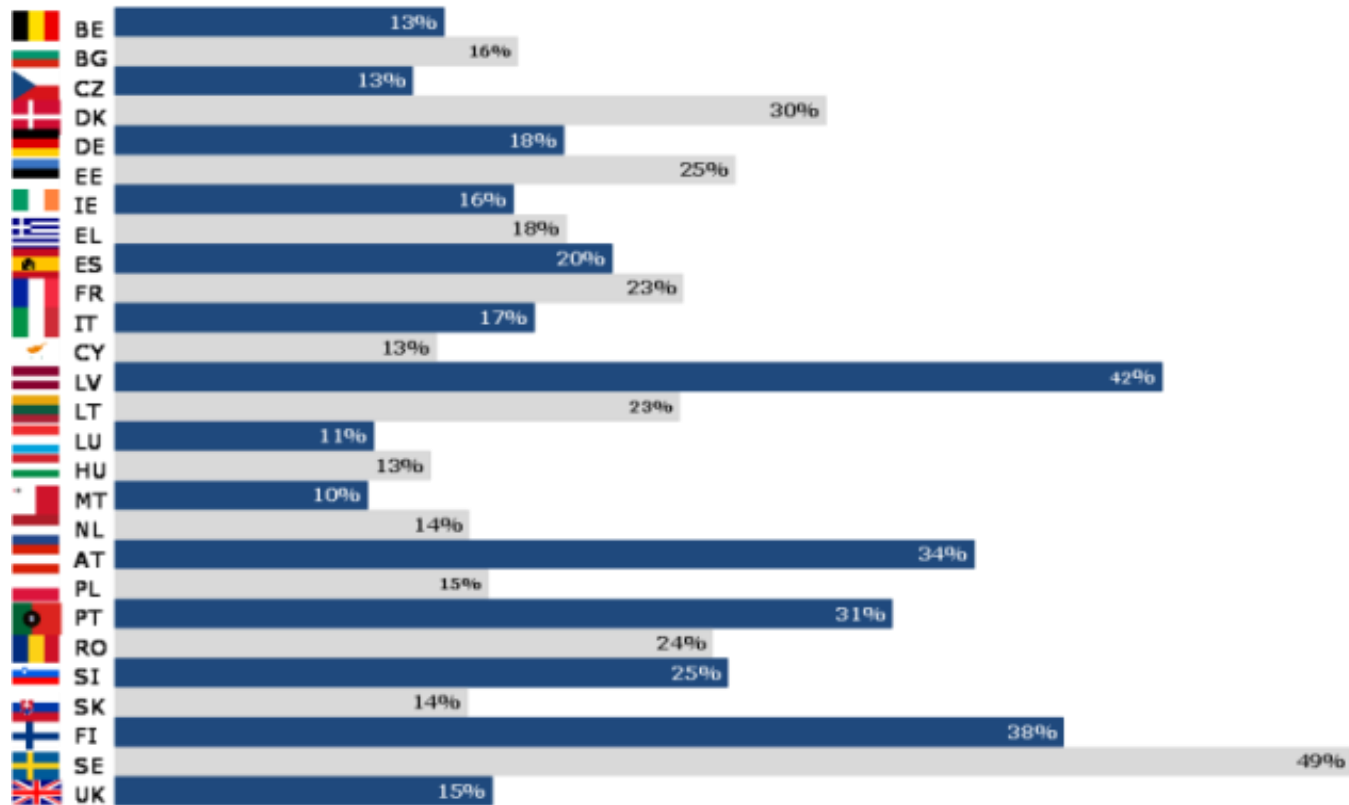
“Each Member State shall **ensure that the share of energy from renewable sources** [...] in gross final consumption of energy in 2020 is **at least its national overall target** for the share of energy from renewable sources [...].”

“Member States shall **introduce measures effectively designed** to ensure that the share of energy from renewable sources equals or exceeds that shown in the indicative trajectory.”



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Binding targets/effective measures



Targets set by EU Member States for 2020



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Binding targets/effective measures

A. National overall targets

	Share of energy from renewable sources in gross final consumption of energy, 2005 (S_{2005})	Target for share of energy from renewable sources in gross final consumption of energy, 2020 (S_{2020})
Belgium	2,2 %	13 %
Bulgaria	9,4 %	16 %
(...)	---	---
Portugal	20,5 %	31 %
Romania	17,8 %	24 %
Slovenia	16,0 %	25 %



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Reporting about progress

- Article 22
“Each Member State shall submit a **report to the Commission** on progress in the promotion and use of energy from renewable sources by 31 December 2011, and **every 2 years** thereafter.”



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RES obligation in buildings

- Article 13.4
“By 31 December 2014, Member States shall, in their building regulations and codes or by other means with equivalent effect, where appropriate, **require the use of minimum levels of energy from renewable sources in new buildings and in existing buildings** that are subject to major renovation.”
- Addressed with EPBD recast



Exemplary role of public bodies

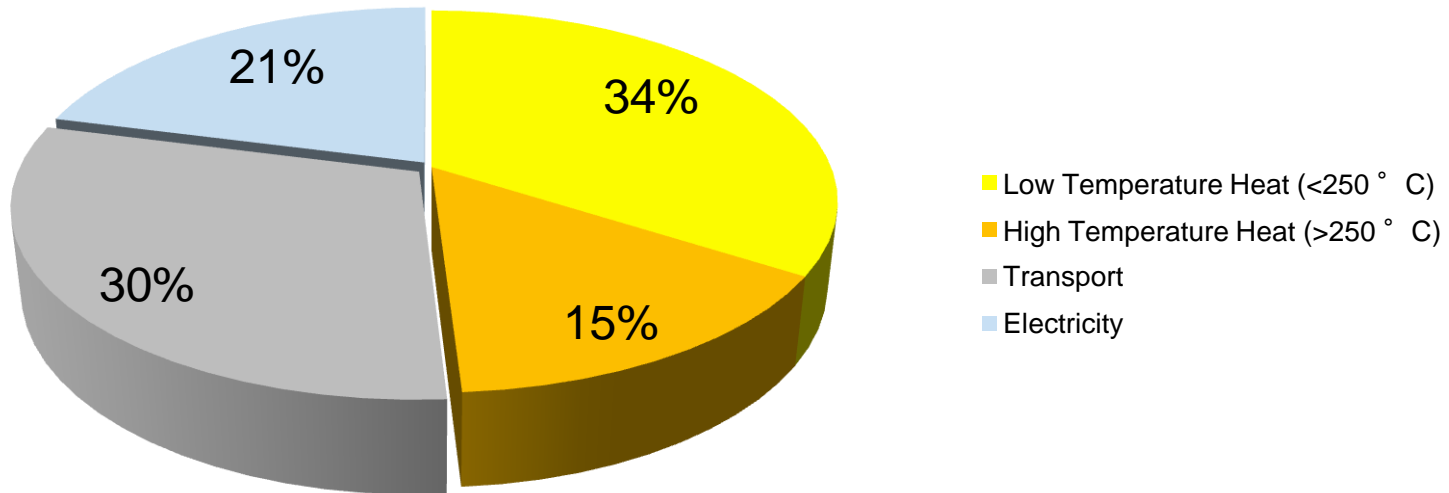
- Article 13.5:
"Member States shall ensure that new **public buildings**, and existing public buildings that are subject to major renovation, at national, regional and local level **fulfil an exemplary role** in the context of this Directive from 1 January 2012 onwards. "
- Article 13.3:
"Member States shall, in particular, encourage local and regional administrative bodies to **include heating and cooling from renewable energy sources** in the planning of city infrastructure, where appropriate."



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Total Final Energy Consumption EU 27 – Eurostat 2006

[Total: 13.609 TWh]



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European standards & certification

- Article 13.2:
“Where **European standards** exist, **including eco-labels, energy labels** and other technical reference systems established by the European standardisation bodies, such technical specifications shall be expressed in terms of those standards. Such technical specifications shall not prescribe where the equipment and systems are to be certified and **should not constitute a barrier to the operation of the internal market.**”



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European standards & certification

- Best practice:

Solar Keymark (solar thermal)

- pan-European voluntary third-party certification mark, demonstrating to users and consumers that a product is in conformity with the relevant European Standard
 - EN 12975 for collectors
 - EN 12976 for factory made systems



www.solarkeymark.org



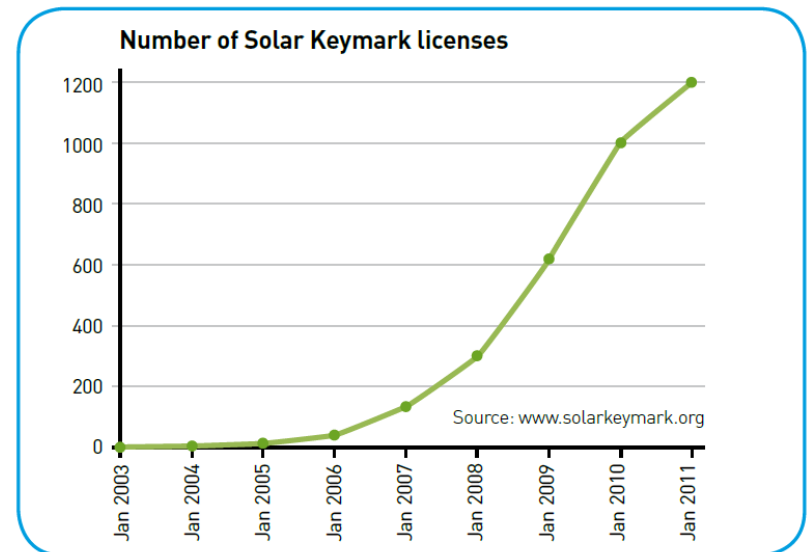
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European standards & certification

- Best practice:

Solar Keymark

- Reduce the wild growth of testing requirements, establishment of certificates in order to reduce the trade barriers and open the European market for solar thermal products



Information on support measures

- Article 14.1:
"Member States shall ensure that **information on support measures is made available to all relevant actors**, such as consumers, builders, installers, architects, and suppliers of heating, cooling and electricity equipment and systems and of vehicles compatible with the use of energy from renewable sources."



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Training/certification of installers

- Article 14.3:
“Member States shall ensure that **certification schemes or equivalent qualification schemes** become or are available by 31 December 2012 for **installers of small-scale** biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps.”



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Training/certification of installers

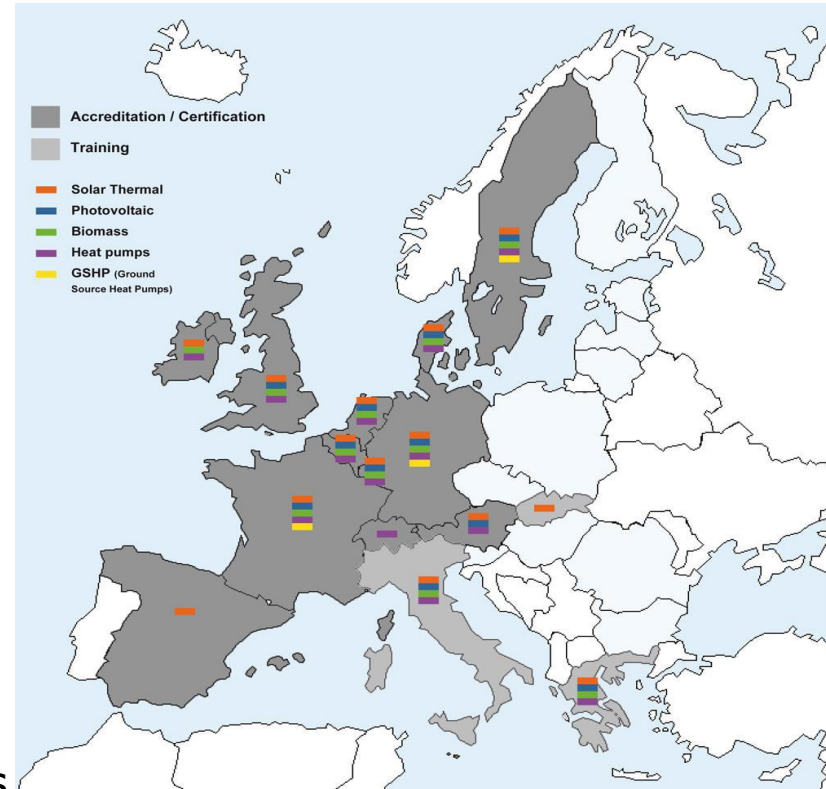
- Topic being addressed within:

- QualiCert project

www.qualicert-project.eu

- Concerted action

WG on Training & information, GOs



Source: QualiCert project, 2010

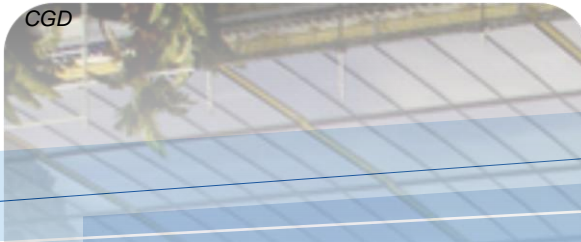


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Energy Performance of Buildings Directive

CGD



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EPBD: Main concepts

- Enforcing "nearly zero-energy buildings" by 2020 for new buildings
- decentralised RES supply
- public sector set example for new and refurbished buildings
- develop policies and take measures to stimulate the transformation of buildings that are refurbished into nearly zero-energy



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EPBD: requirements

- framework for a methodology for calculating the integrated energy performance of buildings and building units
- application of minimum requirements to the energy performance of
 - new buildings and new building units,
 - existing buildings, building units and building elements that are subject to major renovation
 - (...)



EPBD: requirements

- national plans for increasing the number of nearly zero- energy buildings
- energy certification of buildings or building units
- regular inspection of heating and air-conditioning systems in buildings
- independent control systems for energy performance certificates and inspection reports



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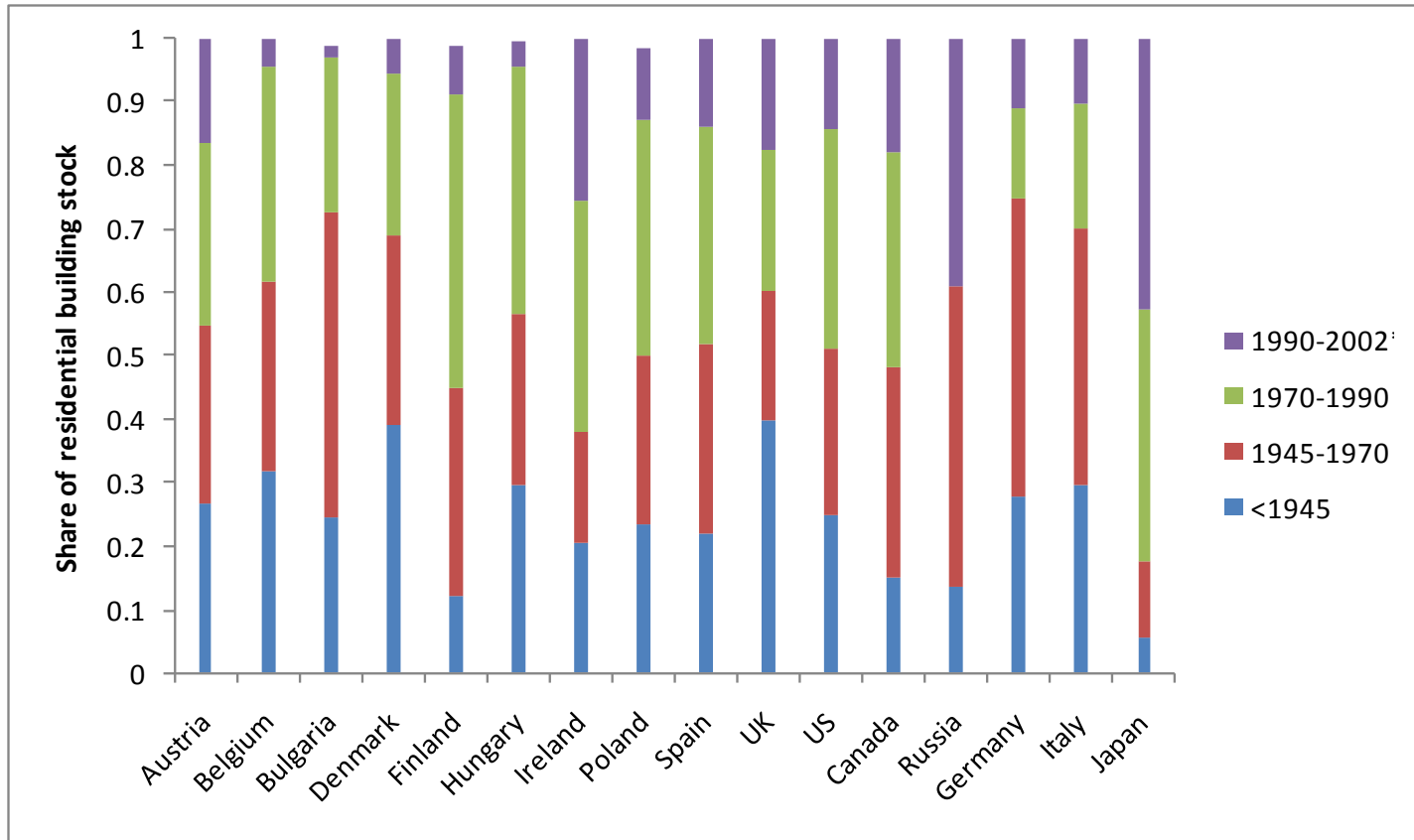
Nearly-zero energy buildings

- Article 2.2:
'nearly zero-energy building' means a building that has a **very high energy performance**, as determined in accordance with Annex I. The nearly zero or very low amount of energy required should be covered to a very significant extent by **energy from renewable sources**, including energy from renewable sources **produced on-site or nearby**



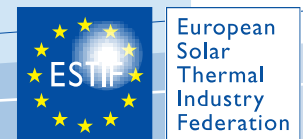
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Existing Buildings Stock (OECD countries)



Age Distribution of Housing Stock in Selected Countries

Source: Norris and Shiels, 2004



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EPBD: Existing building stock

- Major shortcoming of EPBD
 - Not enforcing "nearly zero-energy" concept for buildings undergoing major refurbishment
- Optional for national governments
 - Achieve a real impact on the reduction of energy consumption on the residential sector
 - New market for construction sector
 - Overcome crisis on housing market



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Energy Performance of Buildings

- **A European Definition for Nearly Zero Energy Buildings**
 - different definitions for low energy/plus energy or zero carbon buildings
 - *“The nearly zero or very low amount of energy required should to a very significant extent be covered by energy from renewable source, including renewable energy produced on-site or nearby”*
 - instrumental in decreasing EU import dependency as about 40% of the EU’s energy is consumed in buildings



Energy Performance of Buildings

- **All New Buildings to become Nearly Zero Energy by 2020**

- All new buildings have to be nearly zero by 31 December 2020 with public buildings having to fulfill this standard already by 31 December 2018.
- Member States will set intermediate targets for 2015 for achieving the nearly-zero energy standards

- **Existing buildings stock**

- Recommendation for retrofitting
- Existing buildings represent about 99% of the buildings stock
- Poor renovation rates (about 1.2% - 1.4% annually)





TiSUN/ESTIF

RES-D implementation

*National Renewable
Energy Action Plans
(NREAPs)*



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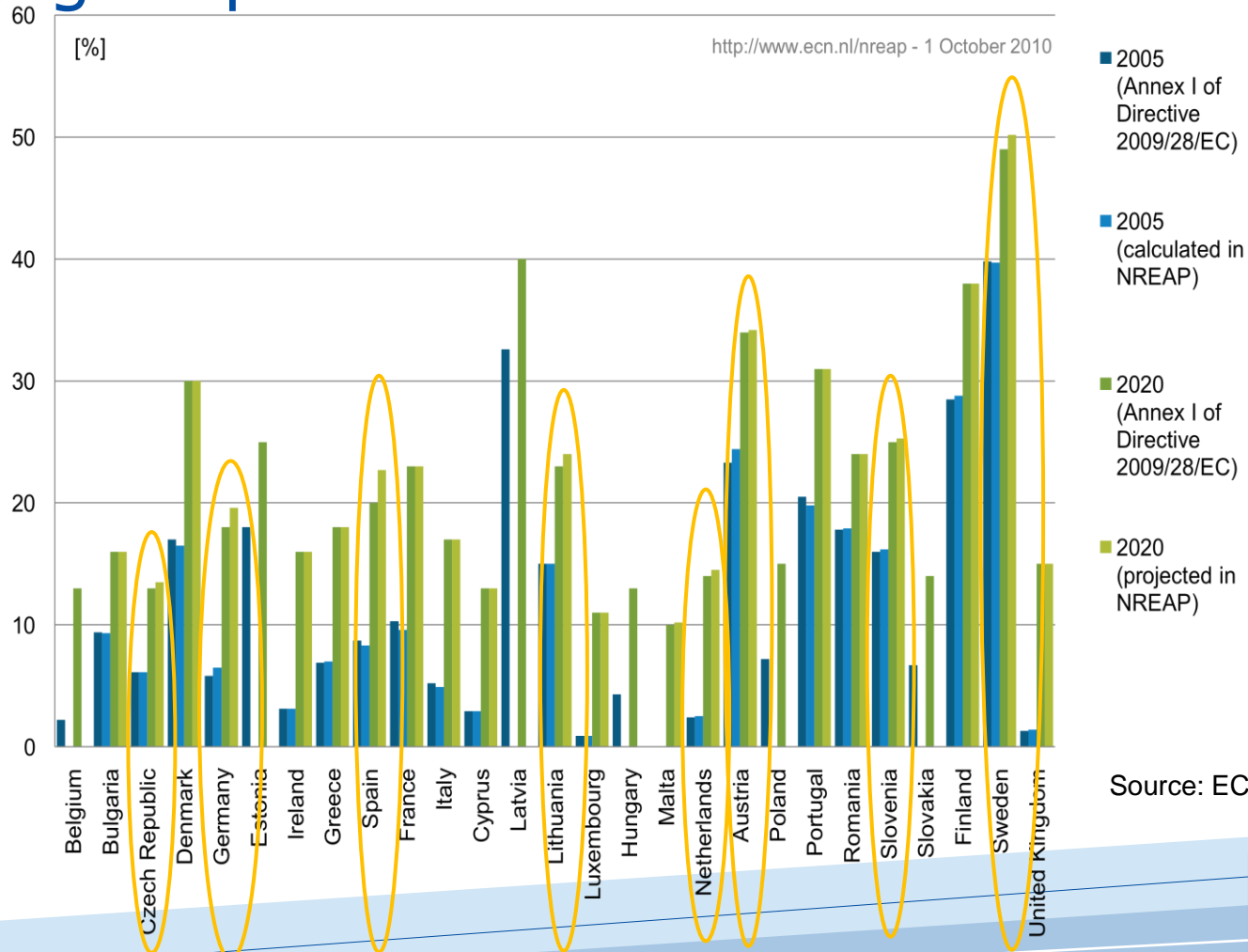
The role of the NREAPs

- Setting out the pathway towards the 2020 national target for each Member State
- Critical for:
 - the necessary stability / predictability for investors
 - the Commission's ability to effectively enforce the Directive and keep Member States on track
 - transparency of RES developments in the EU



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Targets planned in RNEAPs



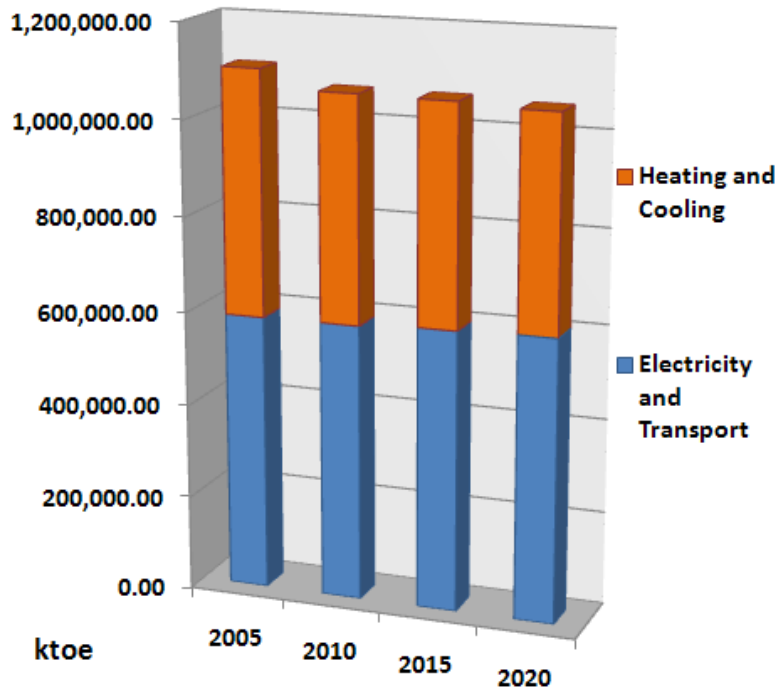
Source: ECN, 2010



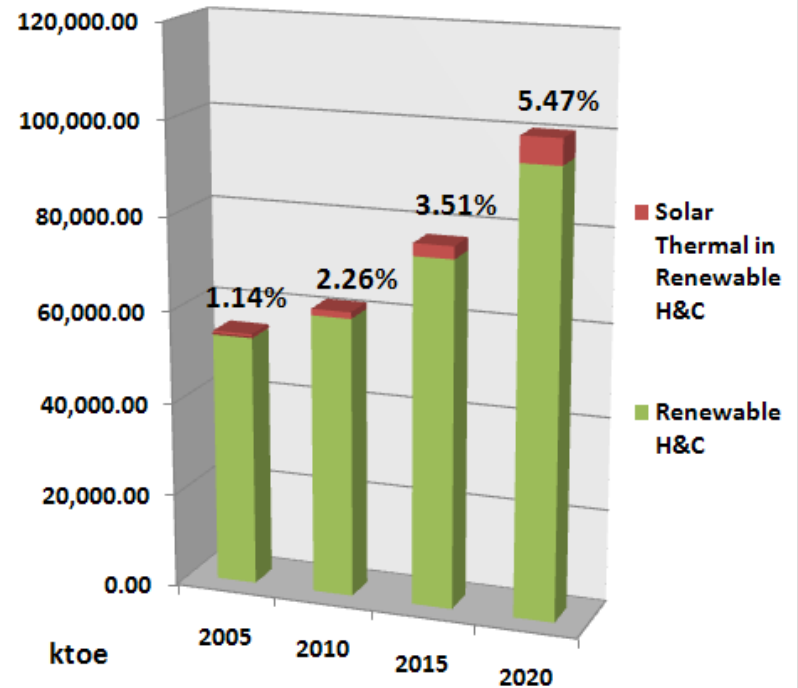
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European Union

EU27 Gross Final Energy Consumption



Share of Solar Thermal in Renewable Heating and Cooling (EU27)

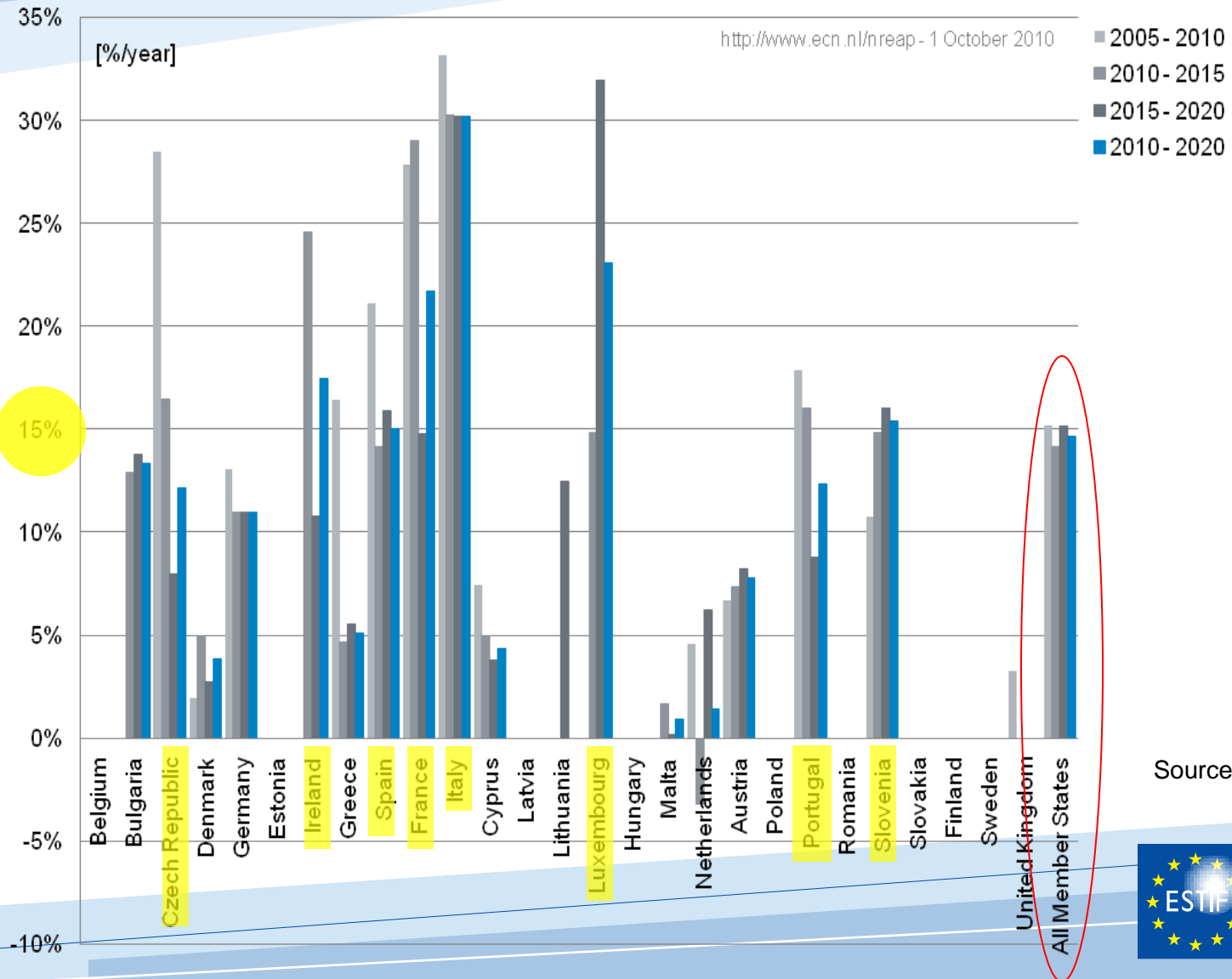


EU27 except BE, EE, HU, PL

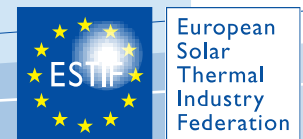


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Forecast of solar thermal growth (yearly rate)



Source: ECN, 2010



Transparency Platform

The Commission established an online public transparency platform which will feature:

- The 27 National Action Plans
- offers to cooperate on statistical transfers or joint projects
- Commission's reports under this Directive

http://ec.europa.eu/energy/renewables/transparency_platform_en.htm



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Implementation at national level

NREAP Template – Mandatory questions:

- Promotion of use of renewable (awareness/info)
- Renewable in buildings (*renewable obligations*)
- Certification of installers
- Quality of products
- Support schemes to promote the use of energy from renewable resources in heating and cooling applied by the Member State or a group of Member States



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Ambitious Targets & Coherent Measures



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Outcome

- In general, the NREAPs do not include very detailed answers for renewable heating & cooling (more detailed for electricity)
- Often less ambitious objectives for H&C compared with electricity
- *Some existing/planned measures are not incorporated*
 - *Ex: Renewable Heat Incentive in the UK*



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Next steps: use the leverage!

- At EU level

- Informing the EU on quality of the NREAPs
- Assessment of NREAPs, commenting on targets & proposed measures
- Stronger focus on RHC
 - An European Action Plan for renewable heat?



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Next steps: use the leverage!

- At national level
 - Organise and structure the industry at national level
 - RES &/or Solar Thermal industry associations)
 - Raise awareness on renewable energy and in particular on the RH&C potential
 - Almost 50% of energy consumption
 - Mature & competitive technologies
 - Disseminate best practices on cost effective policies



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Please do not hesitate to contact me:

- European Solar Thermal Industry Federation (ESTIF)
Renewable Energy House
Rue d'Arlon 63-67
B-1040 Brussels

Tel: +32 2 546 19 38

Fax: +32 2 546 19 39

Email: pedro.dias@estif.org

Website: www.estif.org



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