

# Harmonisation options for renewable heating policies in Europe

Final conference of the *RES-H Policy* Project  
Brussels, 14 April 2011

*Mario Ragwitz, Jan Steinbach*  
*Fraunhofer ISI*



## The challenge:

- Capacities of solar thermal / geothermal / grid-based biomass RES-H have to increase by a factor of ~ 9 / 6 / 3 until 2020 to reach targets of Directive 2009/28/EC
- Long reinvestment cycles in the building sector limit diffusion rate of RES-H/C – many currently installed boilers in the building sector will still be operating in 2020.
- Large share of high temperature heat demand in the industry sector, which cannot easily be penetrated by RES-H as well as strong barriers to integrate RES-H in sensitive industrial processes limit diffusion rate of RES-H/C
- A very high share of all potential RES-H/C investments needs to be actually realised!

## General questions:

- Which **level of harmonisation** is already resulting from the **Directive 2009/28/EC**?
- Which **instruments and design features** can be recommended from a national viewpoint?
- Which **implications** can derive from the use of **cooperation mechanisms**?
- Which **lessons regarding harmonisation of RES-H/C** policy can be learned from efforts to harmonise **RES-E** policy at the European level and the likely efforts of Member States to subscribe to the harmonisation process?
  - Do not make any immature choices of the harmonised instrument but make use of empirical experience.

## General scopes of RES-H/C policy harmonisation addressed by the Renewable Directive 2009/28/EC

### Policy instruments

- Postulating support mechanisms (use obligation) which should be introduced in the Member States

### Technology

- Technology-specific design criteria to comply with support mechanisms

### Standardisation

- Determination of joint standards in terms of the efficiency for RES technologies

### Information and training

- Provision of information, training of professionals and minimum requirements for qualification system

### Cooperation mechanism

- Options for statistical transfer, joint projects and joint support schemes

## Harmonisation resulting from the new Renewable Directive 2009/28/EC

Policy instruments

Technology

Standardisation

Information and training

- Directive introduces a “use obligation” as a harmonised policy instrument
- Building sector
  - Use of minimum levels of energy from RES in all new and majorly renovated building from 2014 onwards
  - Exemplary role of public buildings → use obligation from 2012 onwards
- District heating sector
  - Indirectly addressed
  - District heating as a possibility to comply with the use obligation
- Industry sector (process heat/ cooling)  
Not addressed in terms of policy harmonisation

## Harmonisation resulting from the new Renewable Directive 2009/28/EC

**Policy instruments**

**Technology**

**Standardisation**

**Information and training**

- General definition of technologies considered as RES installations through the definition of “energy from renewable sources”
- Directive does not specify the RES installations which have to be applied in order to meet the use obligation

## Harmonisation resulting from the new Renewable Directive 2009/28/EC

Policy instruments

Technology

Standardisation

Information and training

- General standardisation
  - MS should set clearly defined technical specification for all RES installations which are subject to a support scheme
  - Existing European Standards (eco-labels, energy labels) must be considered
- Technology-specific standardisation
  - Biomass: Minimum conversion efficiencies are set by Directive
  - Heat pumps: Minimum ecological criteria by referring to the Community eco-label
  - Solar thermal: Referring to European eco-labels

## Harmonisation resulting from the new Renewable Directive 2009/28/EC

Policy instruments

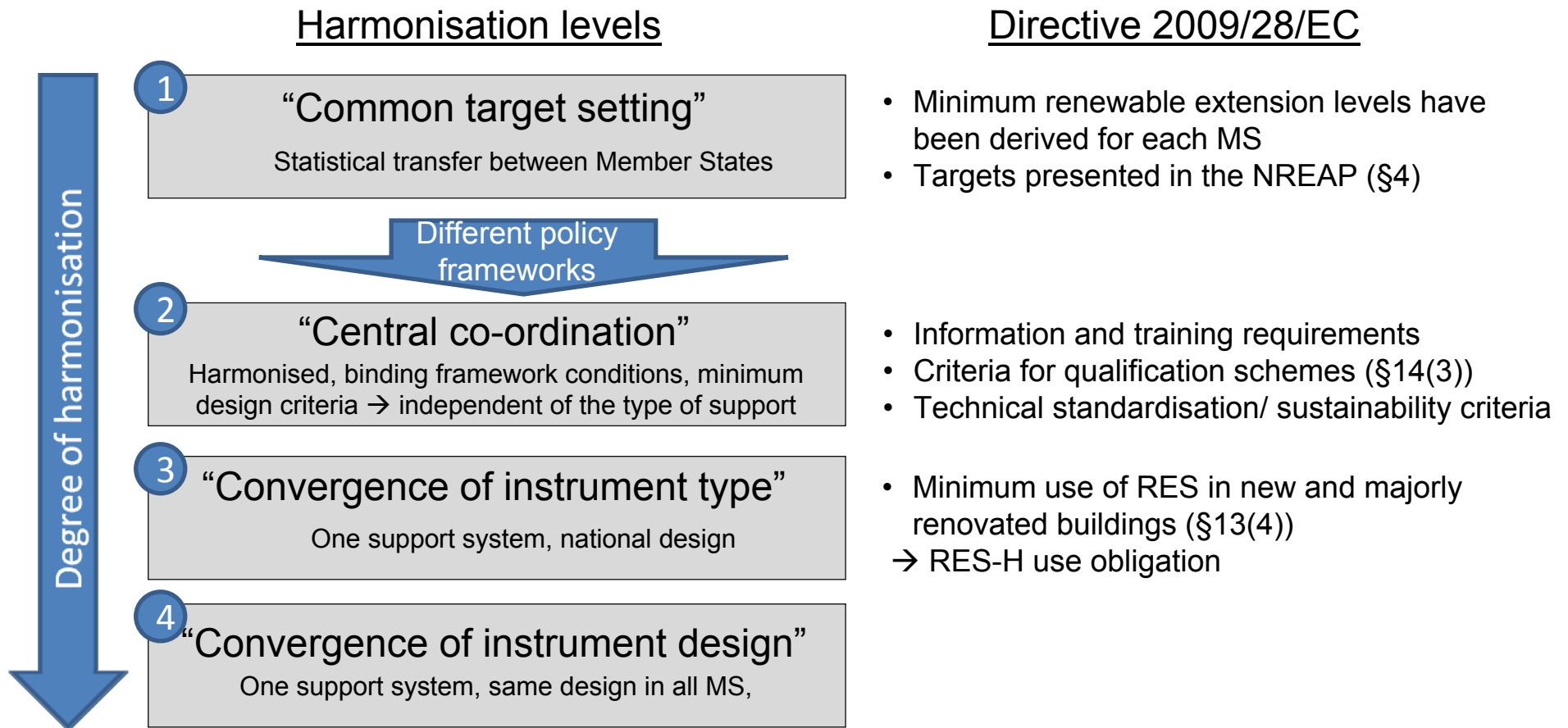
Technology

Standardisation

Information and training

- Transparent information on the efficiency and cost associated with RES installations shall be provided by public authorities or suppliers
- Qualification – and certification schemes for installers or RES technologies must be introduced
- Binding criteria of these qualification and certification schemes are defined

# Implications of Directive 2009/28/EC on different levels of RES-H/C policy harmonisation



## General evaluation of RES-H/C policy harmonisation

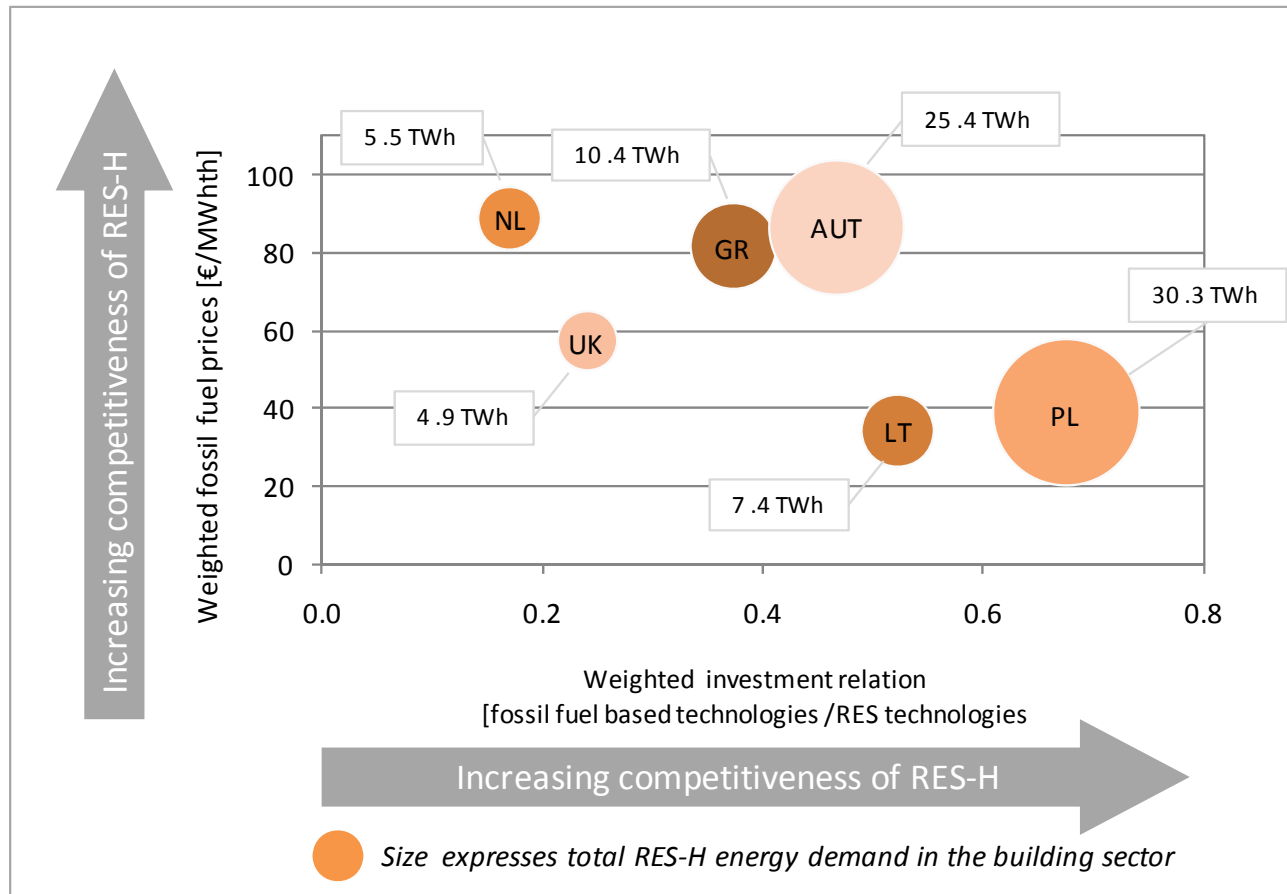
### Main issue

*Is a more coordinated or fully harmonised policy framework able to address the main barriers to an expansion of RES-H/C more effectively and economically efficient than an uncoordinated policy?*

### Main criteria to evaluate potential cost & benefits of RES-H/C policy harmonisation

- 1. Enforced target compliance**
  - Without a harmonised policy framework, Member State may only continue the current policy mix
- 2. Cost optimal instrument design and resource allocation**
  - Maximisation of economic benefits by leading investments to where it is most profitable
3. Minimisation of transaction costs
4. Avoidance of market distortions

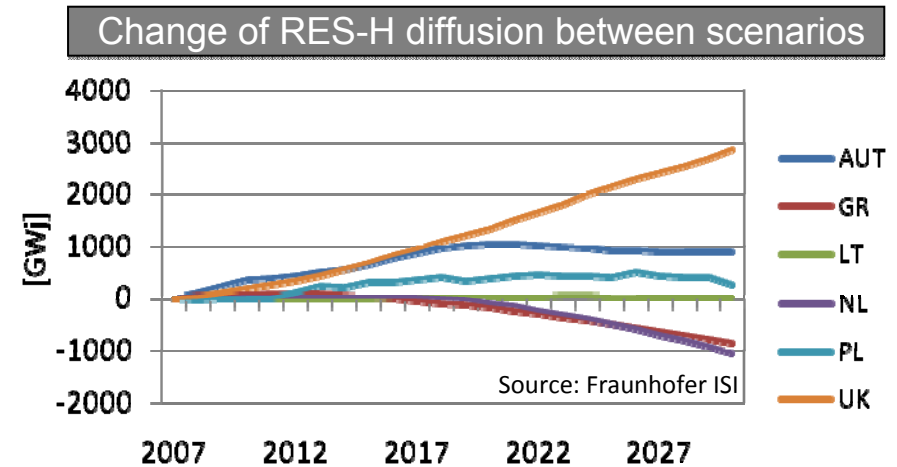
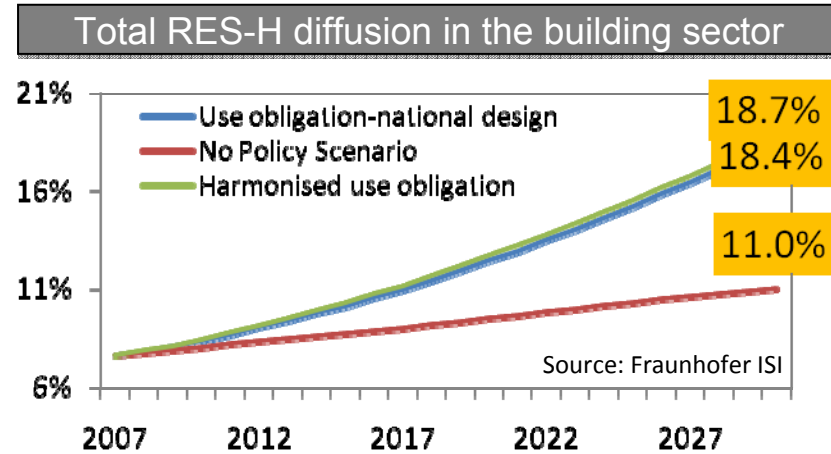
## Comparison of the current situation in the selected Member States with regard to RES-H



Source: Fraunhofer ISI

## Consequences of a harmonised obligation design

- National design compared to harmonised use obligation
- Harmonised use obligation with uniform design elements in all countries
- Approach minimising generation costs under the constraint of same overall RES-H share in both design variants
- Change of RES-H diffusion among Member States due to harmonised use obligation
- Shift of technology portfolio in target countries and reduction in total generation costs of 0.2% of up to 2030



## Conclusions

- Currently too little empirical information on the impact of novel (budget neutral) RES-H/C policy instruments to select the best practice candidate for harmonisation
- Besides the use obligation there exist other budget neutral instruments, which may be more appropriate for RES-H/C support in certain countries
- Use obligation is already favoured by RES Directive – therefore a certain degree of harmonisation currently existing → legal interpretation of the acceptability of alternative instruments important
- Effects of RES-H policy harmonisation exist in terms of
  - Enforced target compliance
  - Cost optimal resource allocation
- Design features of harmonised / national instruments substantially more important than harmonisation as such
- Any type of harmonisation should take into account the long-term objectives of the energy / heating sector and climate mitigation targets

**Thank you for your attention!**

**Final conference of the *RES-H Policy* Project**

**Brussels, 14 April 2011**

Mario Ragwitz

Fraunhofer Institute for Systems and Innovation Research

ISI, Germany

[Mario.Ragwitz@isi.fraunhofer.de](mailto:Mario.Ragwitz@isi.fraunhofer.de)

---