



**Core projects and scientific studies as background
for the NREAPs**

**9th Inter-Parliamentary Meeting on Renewable
Energy and Energy Efficiency**

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*Background studies for NREAPS
Brussels, November 18th 2009*

Questions to be assessed by studies

- Monitoring and evaluation of present support schemes
- Potentials and Costs of renewable energy sources by MS
- Scenarios of future RES deployment – costs and benefits
- Macro-economic impacts of RES
- Strategies to integrate RES into electricity grids
- Implementation of cooperation mechanisms of RES Directive
- Assessment of biomass availability
- Consequences for the development of national support schemes
- Assessment of options to reduce non-economic barriers

Some core projects and scientific studies

Implementation of 2020 RES-Directive

- REPAP2020: Renewable Energy Policy Action - Paving the Way towards 2020
- RE-Shaping: Shaping an effective and efficient European renewable energy market
- Concerted action for the implementation of RES Directive

General studies on RES targets, impacts and monitoring

- FORRES 2020: Analysis of the renewable energy sources' evolution up to 2020
- EMPLOY-RES: The impact of renewable energy policy on economic growth and employment in the European Union
- RES2020: Monitoring and Evaluation of the RES directives implementation in EU27 and policy recommendations for 2020
- PROGRESS: promotion and growth of renewable energy sources and systems
- ...

Some core projects and scientific studies

RES electricity:

- Green-X: Deriving optimal promotion strategies to increase the share of RES-E in a dynamic European electricity market
- OPTRES: Assessment and optimisation of renewable support schemes in the European electricity market
- FUTURES-e: Deriving a future European Policy for Renewable Electricity
- RES-Legal: current legislation on electricity in all 27 Members states, (promotion schemes, grid access, ...): <http://res-legal.eu/en/>

Grid integration:

- Green-Net Incentives: Guiding a Least Cost Grid Integration of RES-Electricity in an extended Europe
- EWIS: European Wind Integration Study
- ...

Some core projects and scientific studies

RES heat:

- K4RES-H: Key issues for Renewable Heat in Europe
- RES-H Policy: Policy development for improving RES-H/C penetration in European Member States

Bioenergy

- BAP Driver: European Best Practice Report- Comparative assessment of national bioenergy strategies & biomass action plans in 12 EU countries.
- Sustainability Criteria and Certification Systems for Biomass Production

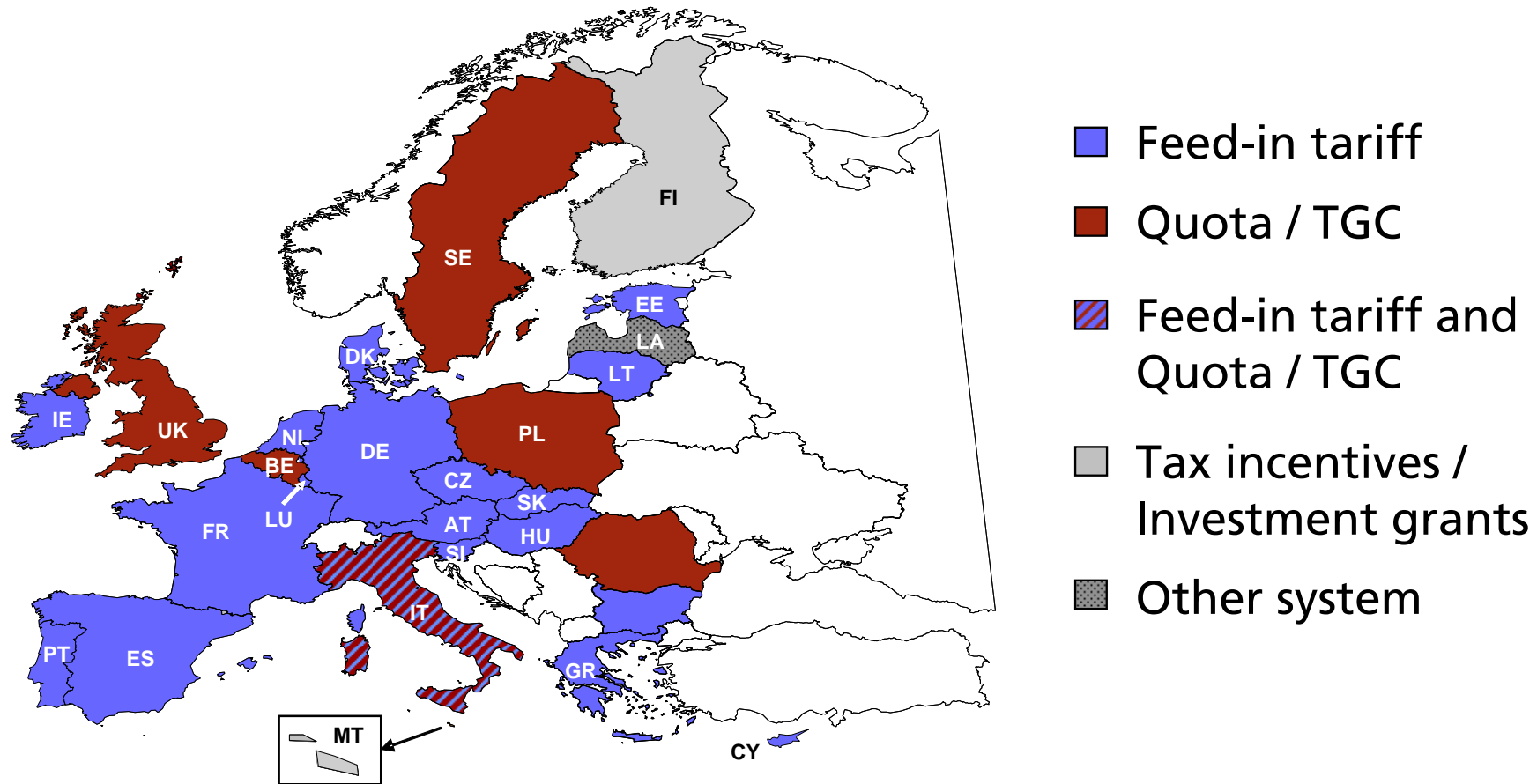
Administrative Barriers

- WIND-BARRIERS: Analysis of administrative and grid access barriers affecting wind energy development in the EU27 – A toolkit for policy makers
- Non-Cost-Barriers: Assessment of non-economic barriers for RES in the EU-27
- ...

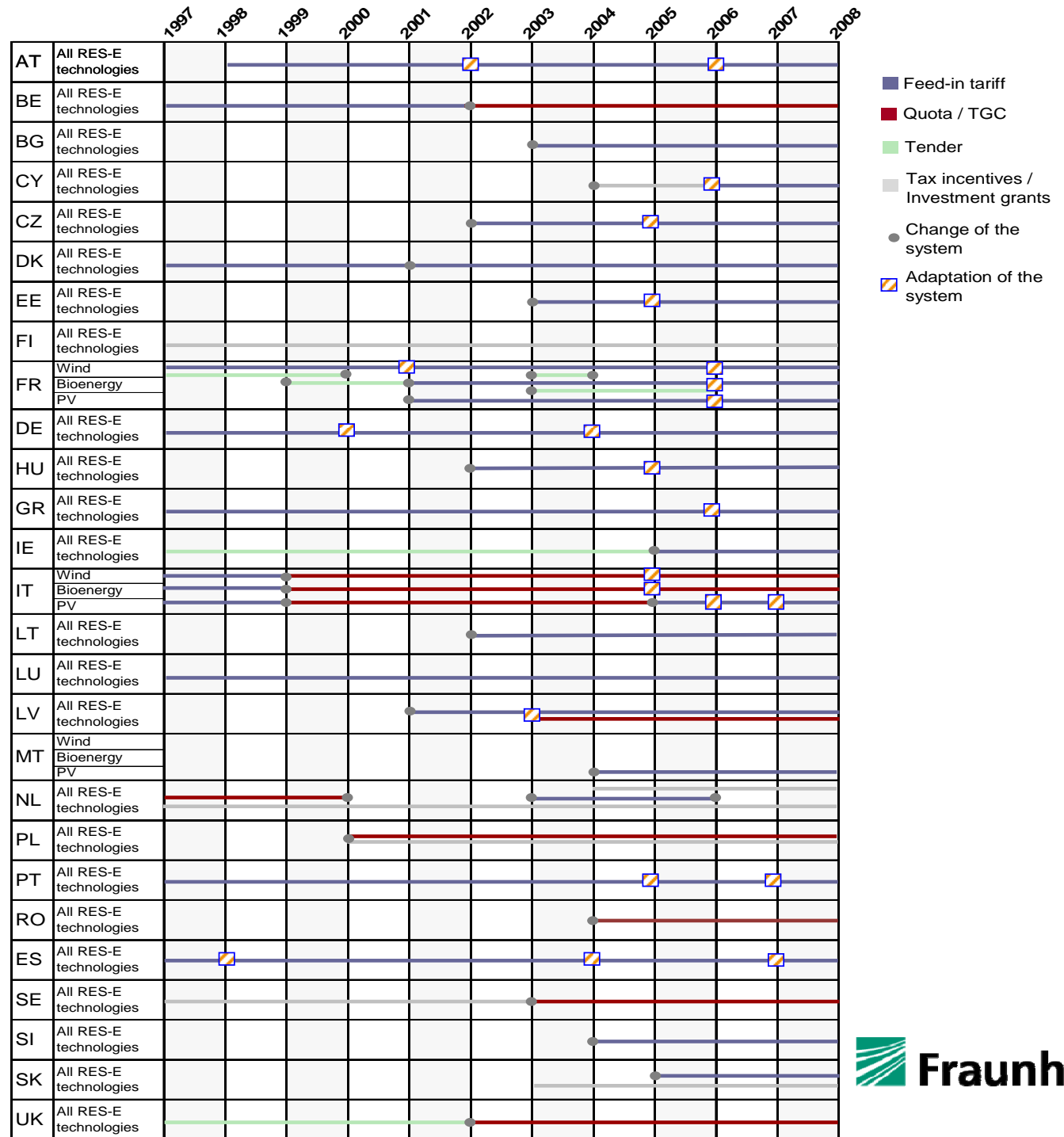
Examples of selected results

Monitoring

Monitor support schemes for RES-E in the EU

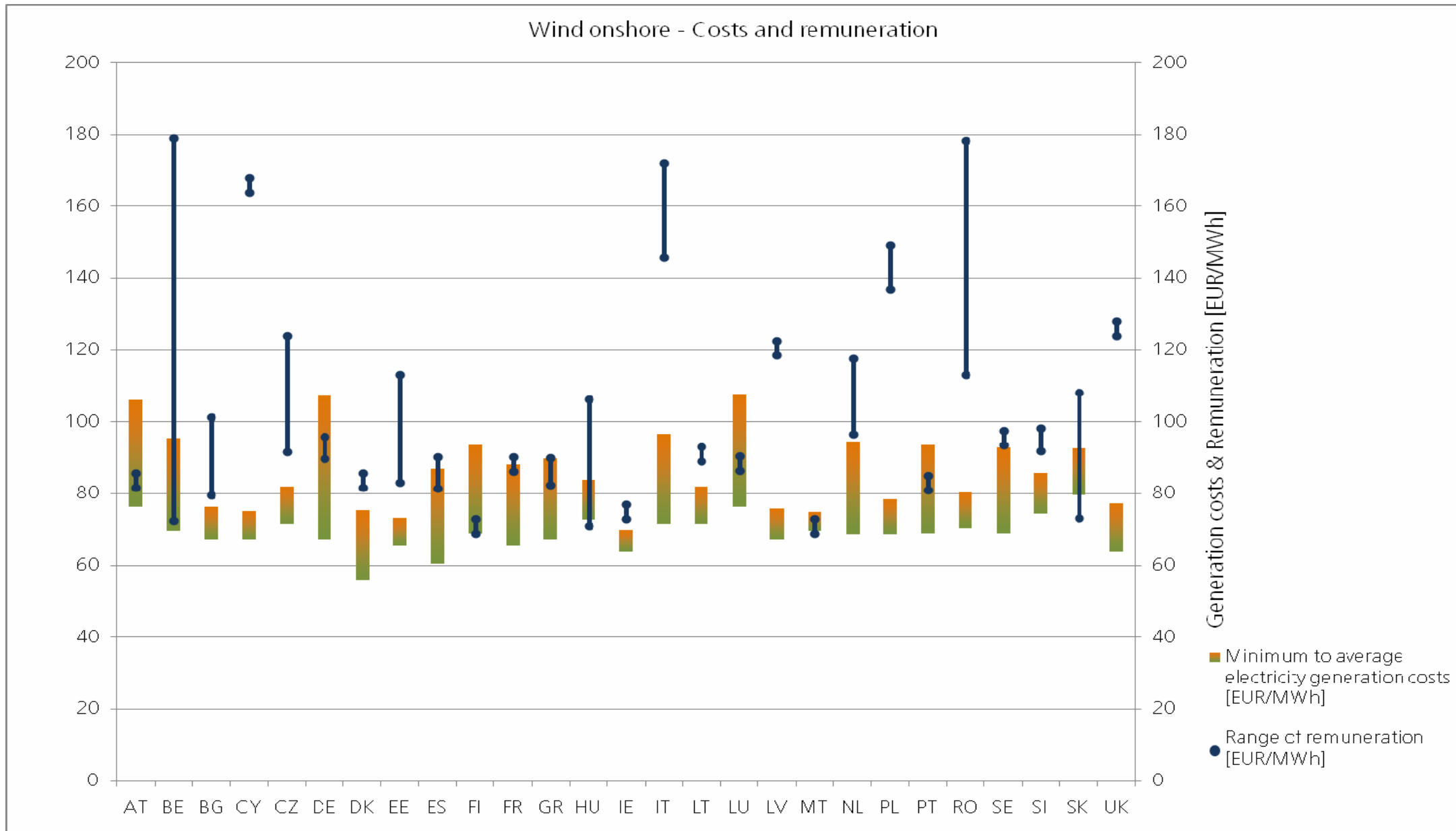


A clear majority of EU countries uses feed-in tariffs as main instrument
6 countries have implemented a quota obligation with TGCs



Current level of support and costs per Member State

Example of wind onshore - Sept. 2009



Main policy developments on MS level

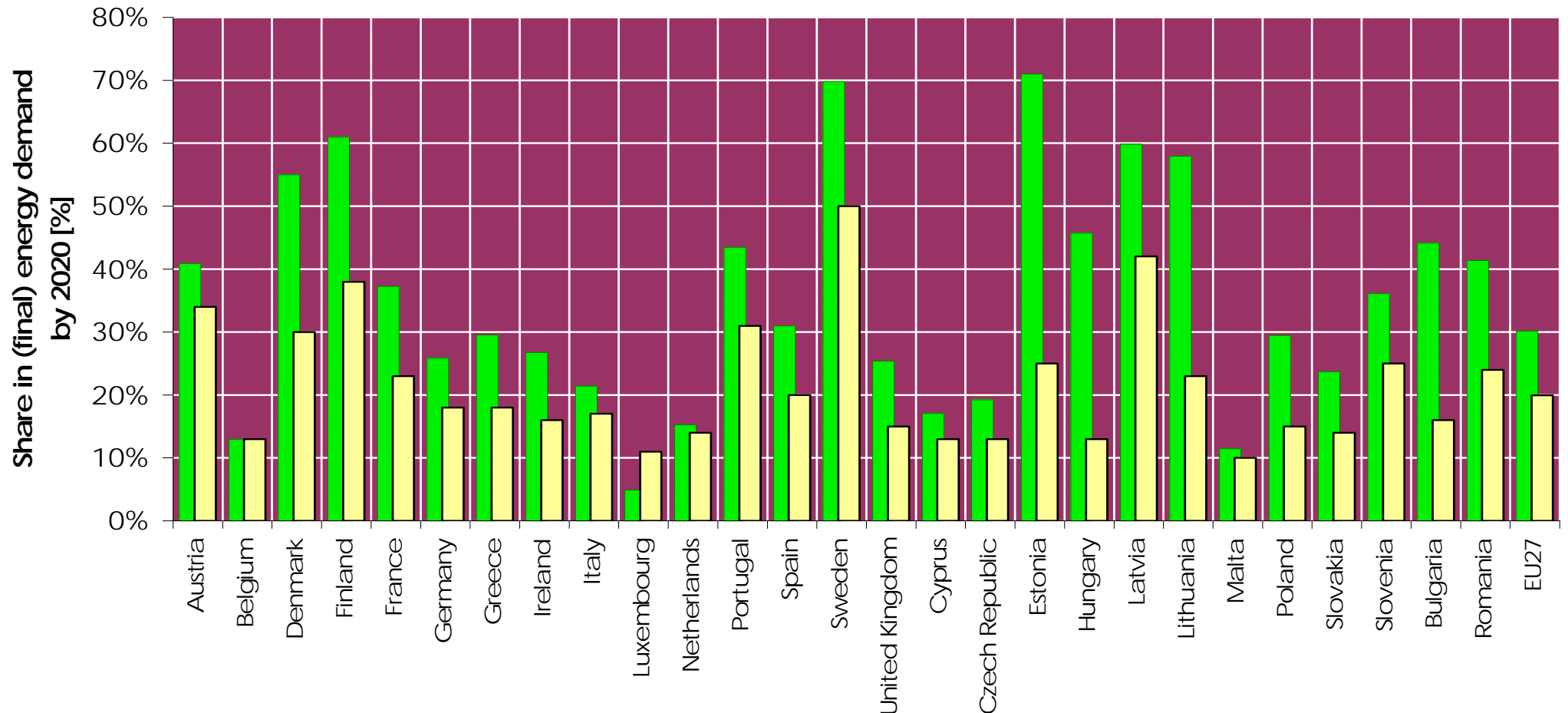
- Member States adapt ambition level of their policies to target level, e.g. banding of quota system in IT, RO and UK, new tariff levels for RES-E in DE, NL, SI, ..., UK feed-in system for RES-H and small scale RES-E
- MSs start to analyse the impact of specific flexibility measures on their renewable energy sector, first talks between different MSs and between MSs and third countries
- Too little progress on the reduction of non-economic barriers
- Financing constraints have been significant during last year and are not resolved for many technologies
- Currently the forecast documents and National Renewable Energy Action Plans under development in all Member States

Potentials

Potentials by 2020 as compared to the targets of the Directive

20% RES by 2020
- proposed national RES targets

■ Total realisable RES potential up to 2020
■ Proposed RES targets for 2020



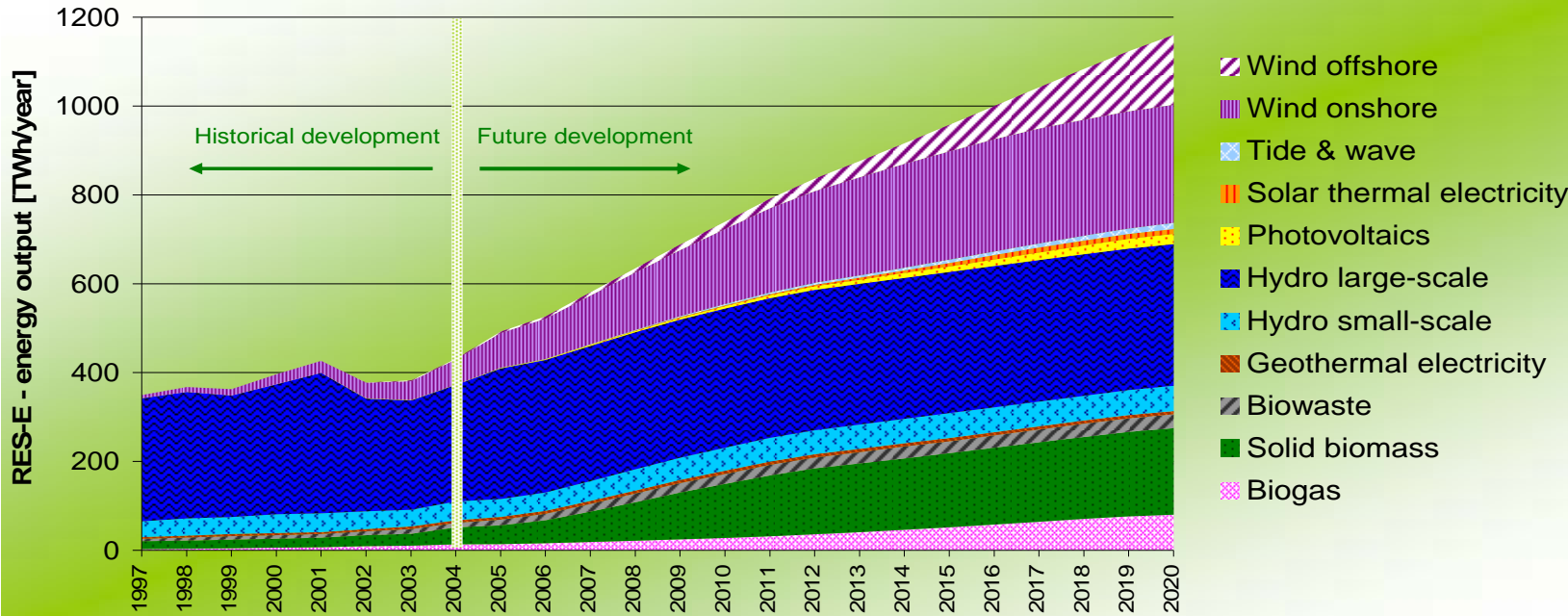
How the European Commission set the targets ... „FLAT RATE“ & „GDP-Variation“

... i.e.: $RES\text{-target}_{2020} = RES_{2005\%} + 50\% * RES_{NEW\%} + 50\% * "RES_{NEW\%} \text{ GDP-weighting}" - "first mover bonus"$

Modelling costs and benefits

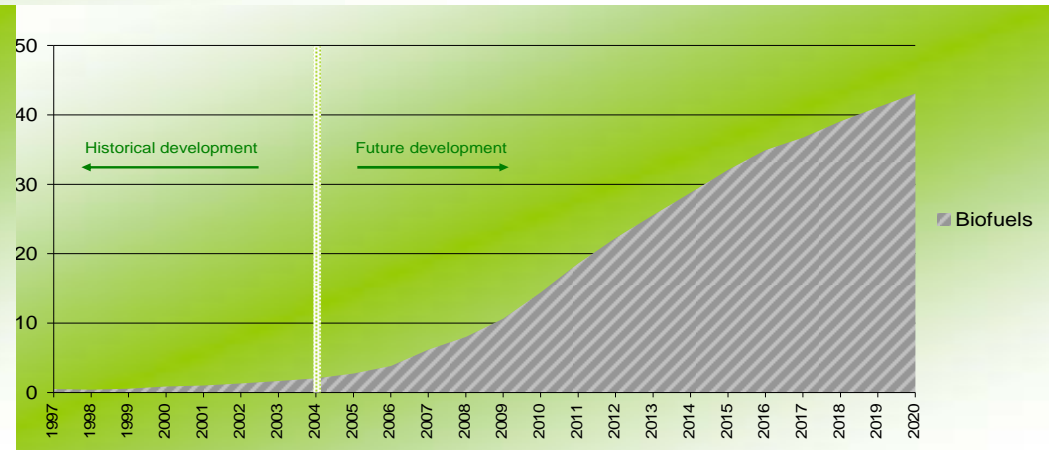
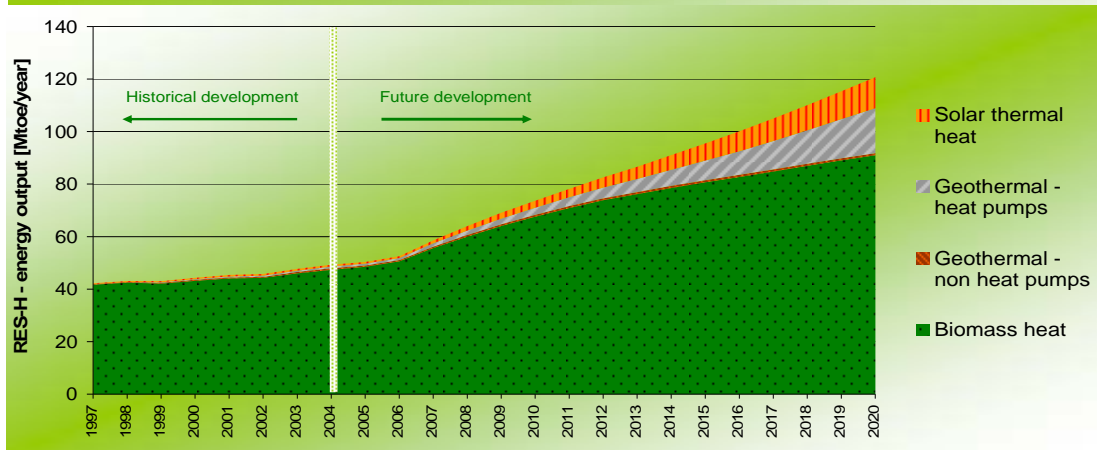
Future perspectives: a scenario on how to meet the challenge

Green-X balanced scenario



Renewable Energy Roadmap
(European Commission, January 2007)
European Union

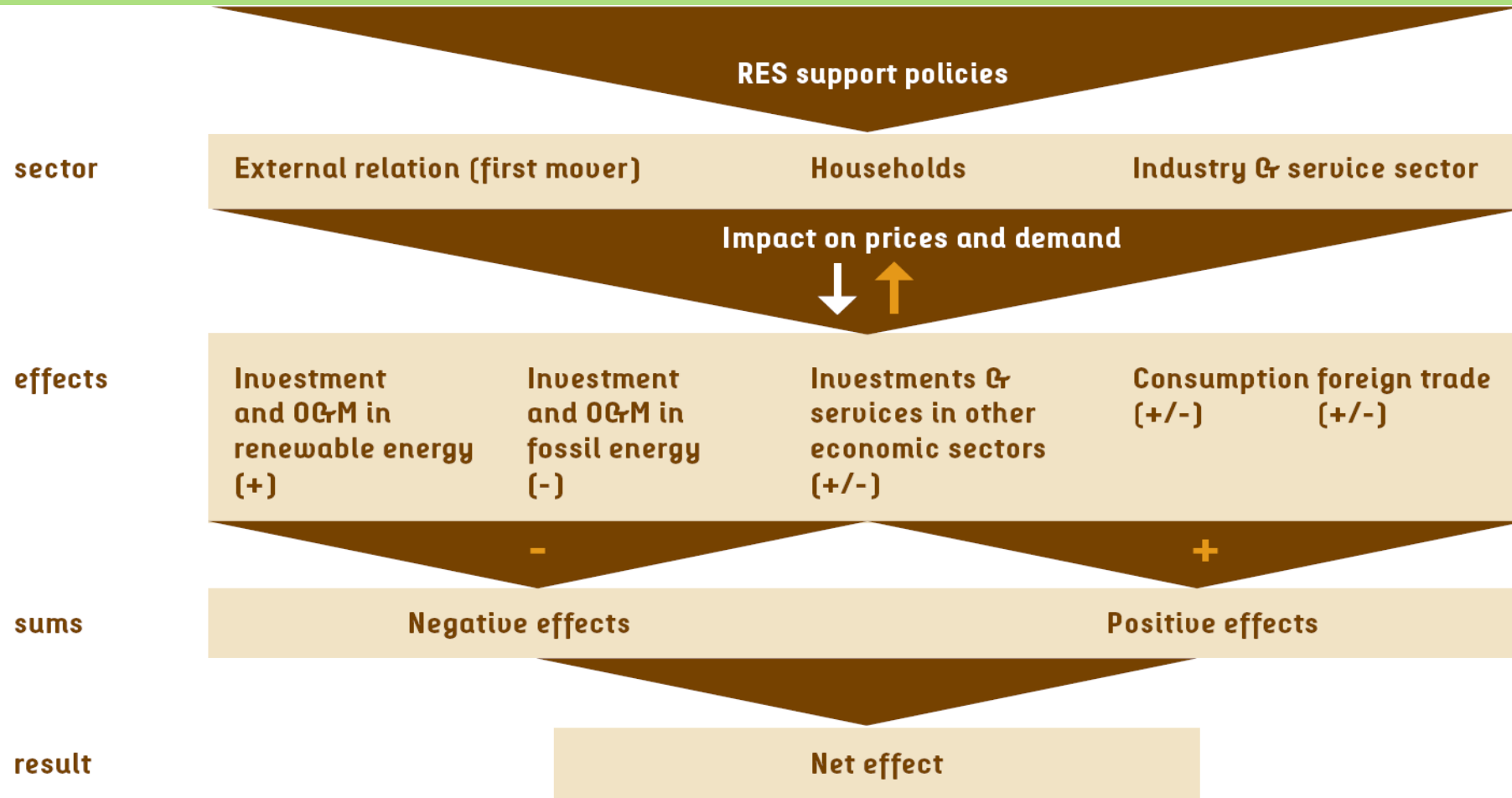
20% Renewable Energies by 2020



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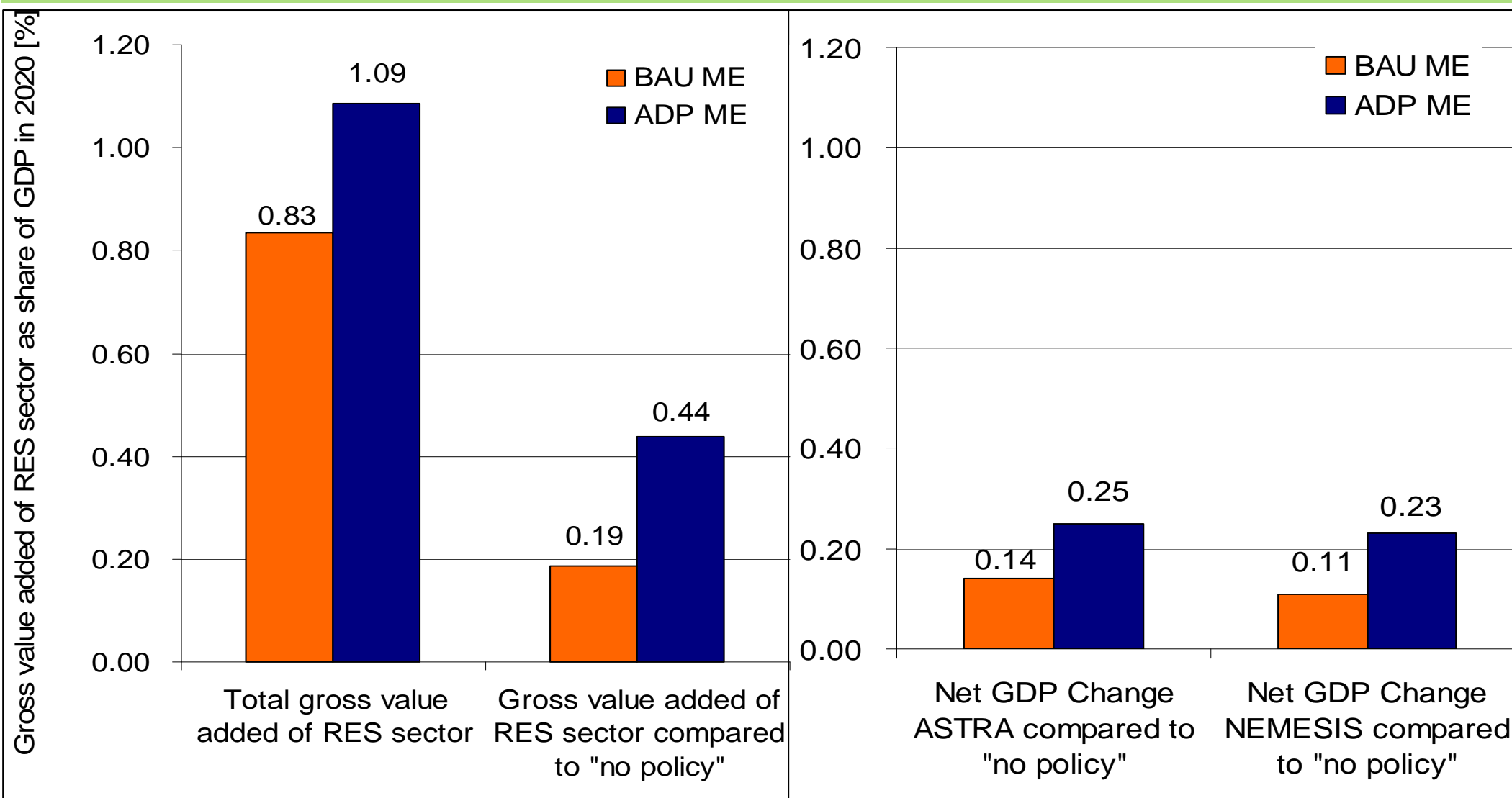
Macroeconomic impacts

Impact on RES policies on economic growth and employment

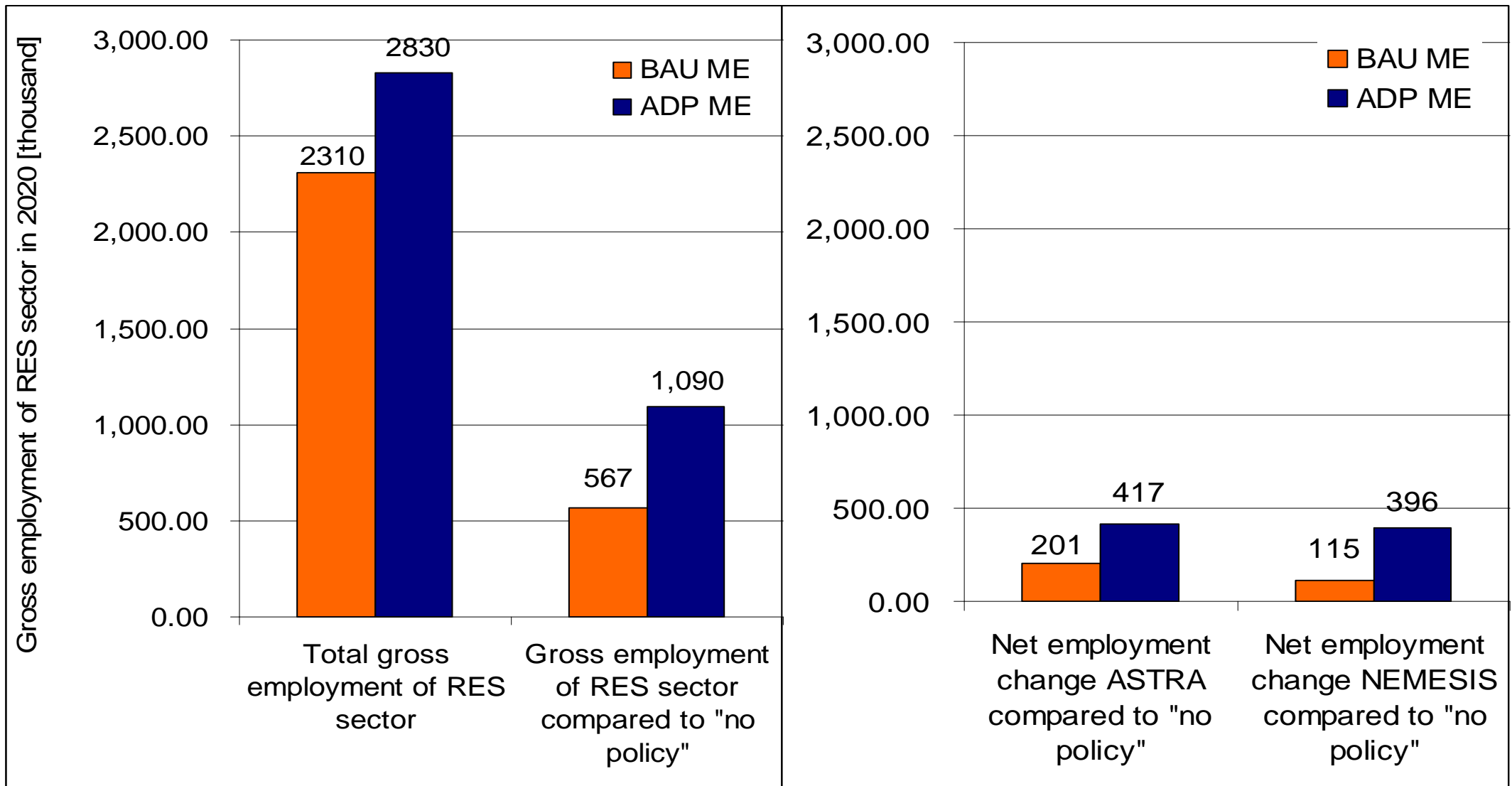


Note: O&M = Operation and Maintenance

GDP effects of RES policies by 2020

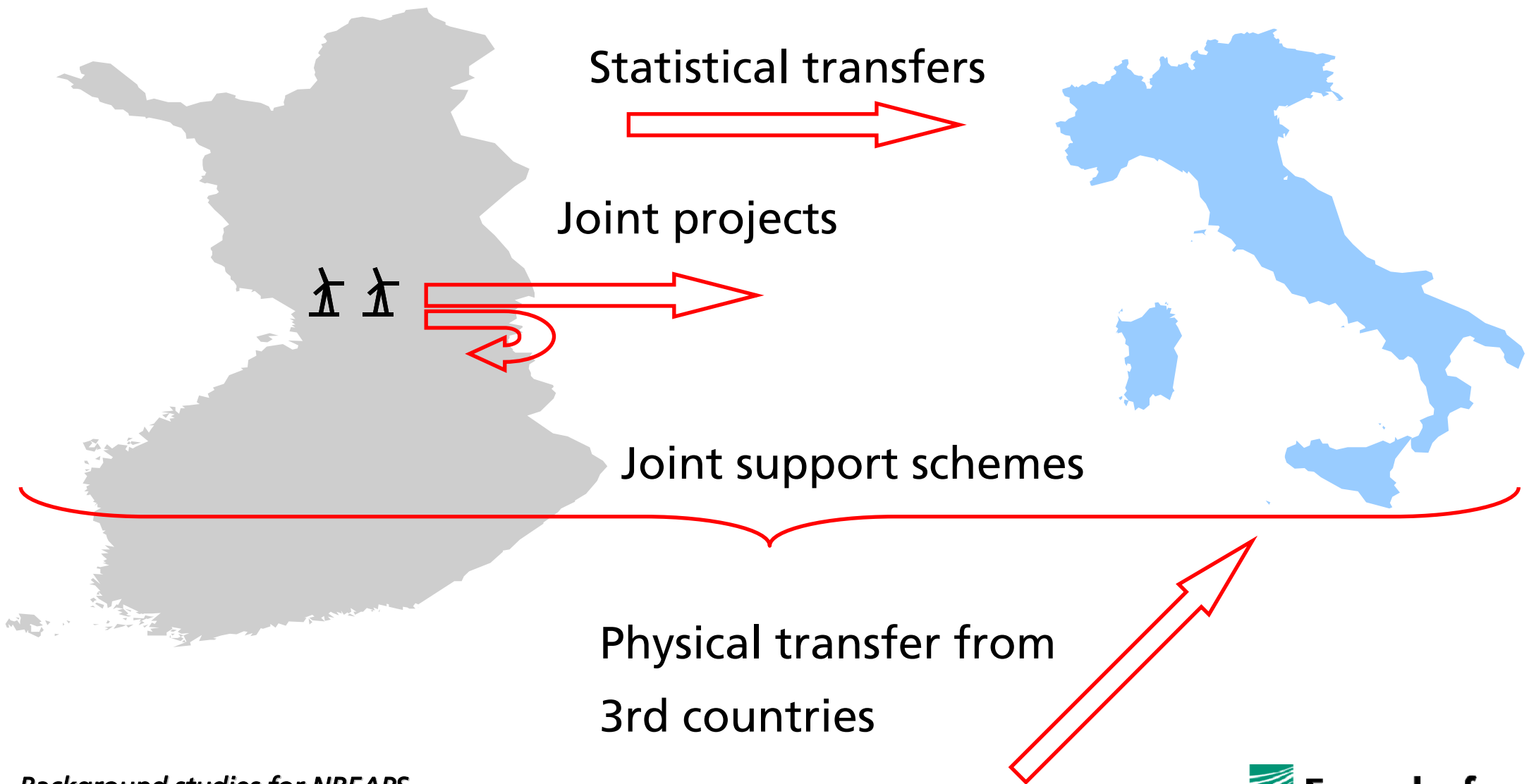


Employment effects of RES policies by 2020



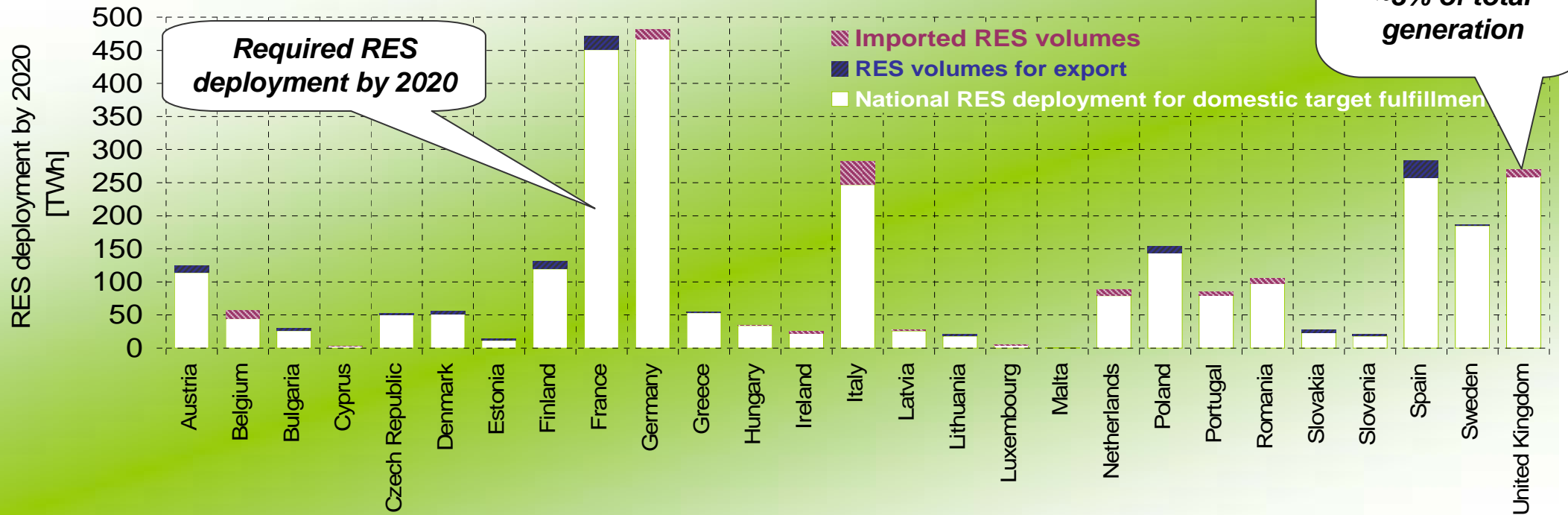
Cooperation Measures

Designing and analysing different cooperation measures



Analysing future RES deployment

► Country-specific contributions to achieve 20% RES by 2020?



... the required flexibility to reach proposed national RES targets ...

... Deployment of RES in total (in absolute terms by 2020 at country level) (incl. *biofuel trade*) and the required statistical transfer between MS (i.e. imports / exports) (according to the "strengthened national policies" scenario using the Green-X model) Source: EEG, TU Vienna

Main studies on NREAPs in detail

Examples of ongoing studies in the area

- EU Projects analysing the implementation of the 2020 RES Directive at European and national level, e.g.
 - RE-SHAPING: Shaping an effective and efficient European renewable energy market
 - REPAP2020: Renewable Energy Policy Action Paving the way towards 2020
- National studies to implement 2020 RES Directive
- Studies with international organisations assessing the options for cooperation with 3rd countries

Detailed objectives of the studies

- Ex-ante design of national road maps / action plans and ex-post evaluation of the national renewable action plans
- Evaluation of the effectiveness and efficiency of present national RES policies
- Design of improved policy schemes and cooperation mechanisms
- Assisting MS to derive the forecast documents, incl. surplus & deficit of domestic generation compared to national target
- Assessment of interactions of RES policies with overall climate, energy and innovation policy and with the (liberalised) energy markets
- Analyse the impact of financing instruments on RES development

Drafting national roadmaps in the REPAP2020 project

- Main task: develop roadmaps for each of the 27 MS including the sectors electricity, heat and transport
- Involve the viewpoint of national stakeholders
- Compiling the 27 national roadmaps to one European RES industry roadmap
- Roadmaps will contain the current status, future potentials, detailed deployment scenarios per technology and sector as well as the necessary policies and framework conditions until 2020.
- Roadmaps will serve as a basis for the drafting of the National Action Plans.

Main objectives of the RE-Shaping project

- Development of a comprehensive policy background for RES support instruments
- Assisting Member State governments in setting up sector specific RES targets and action plans for 2020 (and 2030) as required by the proposed RES Directive
- Deriving best practice RES policy options, including guarantee of origin trading to allow the achievement of national 2020 targets at lowest costs for European consumers
- Producing a sound analysis of an improved integration of RES policies with emission trading, the internal energy market and innovation policy.
- Providing Member State governments detailed and scientifically based input on diverse support policy options for RES; in this respect assisting Member State governments in developing sound policies to foster RES market penetration as required by the proposed RES Directive.

Main objectives of the RE-Shaping project

- Providing the European Commission and Member States with scientifically based and statistically robust indicators to measure the success of currently implemented policies.
- Proposing innovative financing schemes, which allow for lower costs and better capital availability in RES financing.
- Initiation of National Policy Processes which attempt to stimulate debate and offer a meeting place for key stakeholders aiming to discuss drawing up and implementing RES targets as well as options to improve national policies to foster RES market penetration.
- Assessing options to implement cooperation measures of the Directive

Please contact the RE-Shaping consortium to arrange for expert talks on the implementation of the RES Directive in your country

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