

Thursday, 5 November 2009

Representation of the State of Baden-Württemberg to the European Union, Brussels

Green Transformation towards a Sustainable Industrial Policy for Europe

**Workshop I
Designing Effective Policy Instruments
The case for renewable energy policy**

Designing Effective Policy Instruments: The Case for Renewable Energy Policy



Introduction to Workshop I of the Conference
“Green Transformation towards a Sustainable Industrial Policy for Europe”

Brussels, 5 November 2009

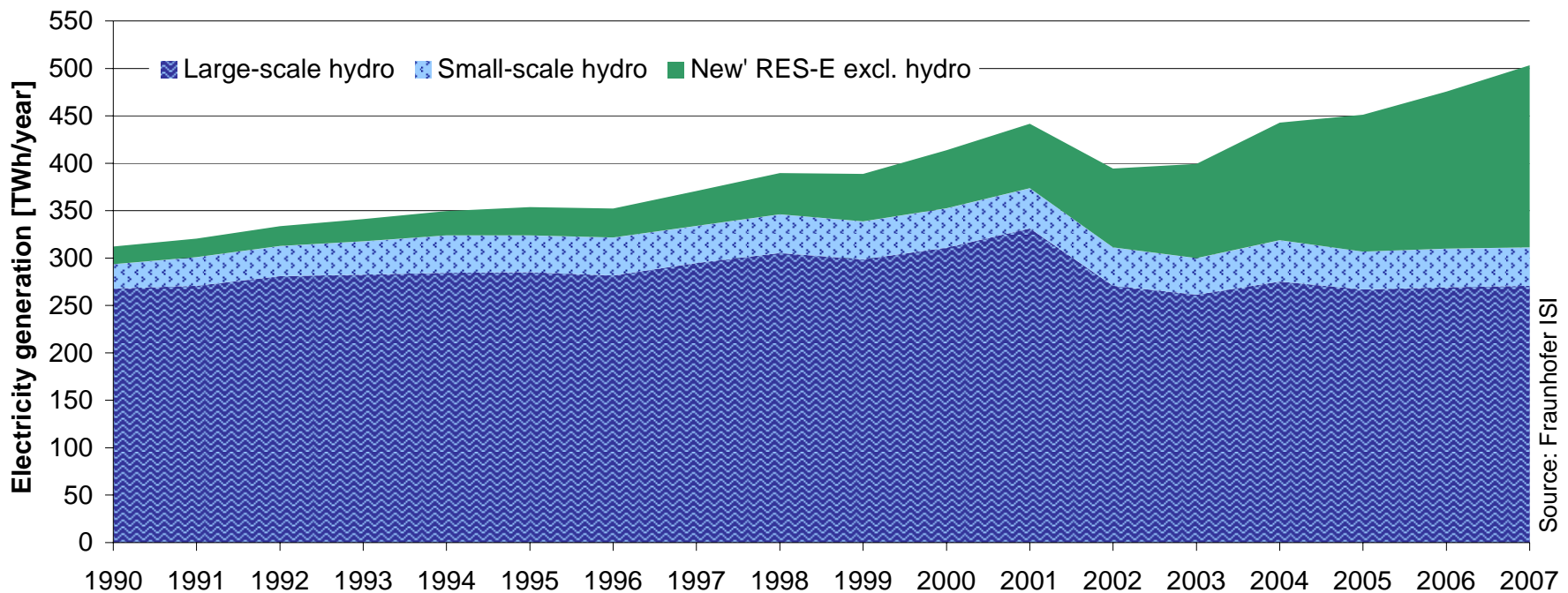
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Content

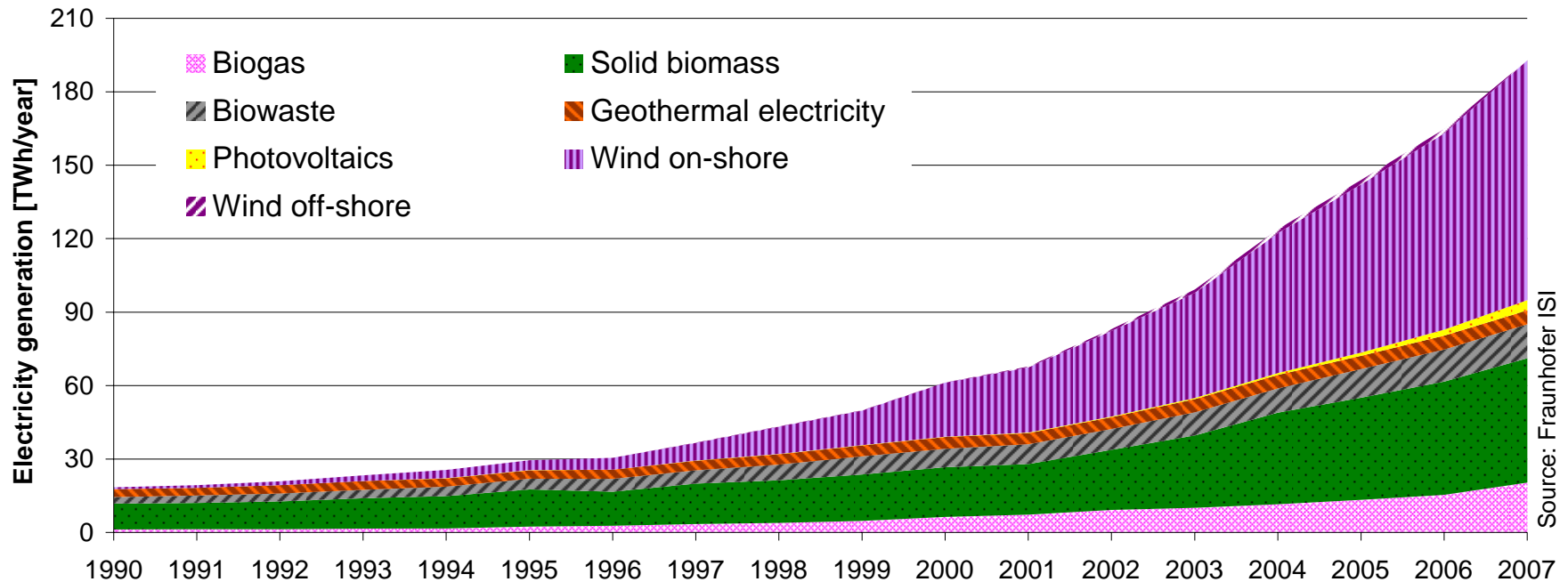
- Achievements of the EU in Developing RES Electricity
- EU's RES Targets for 2020
- New Challenges: RES for Heating & Cooling and in Transport
- The RES Industry as a Pioneer for a Future Green Industry
- Theses for Discussion

Development of RES-E in EU-27



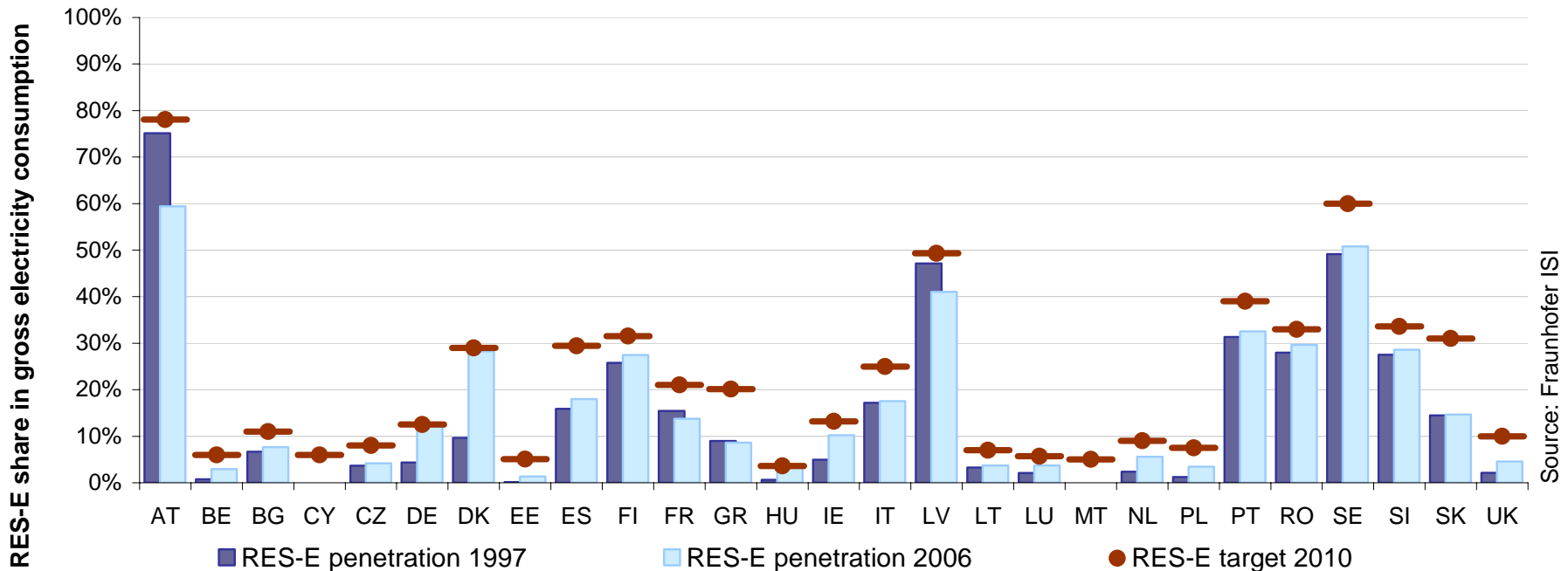
- Hydropower development is stagnating in EU15.
- In the recent years, “new” renewables show a significant growth.

Development of New RES-E in EU-27



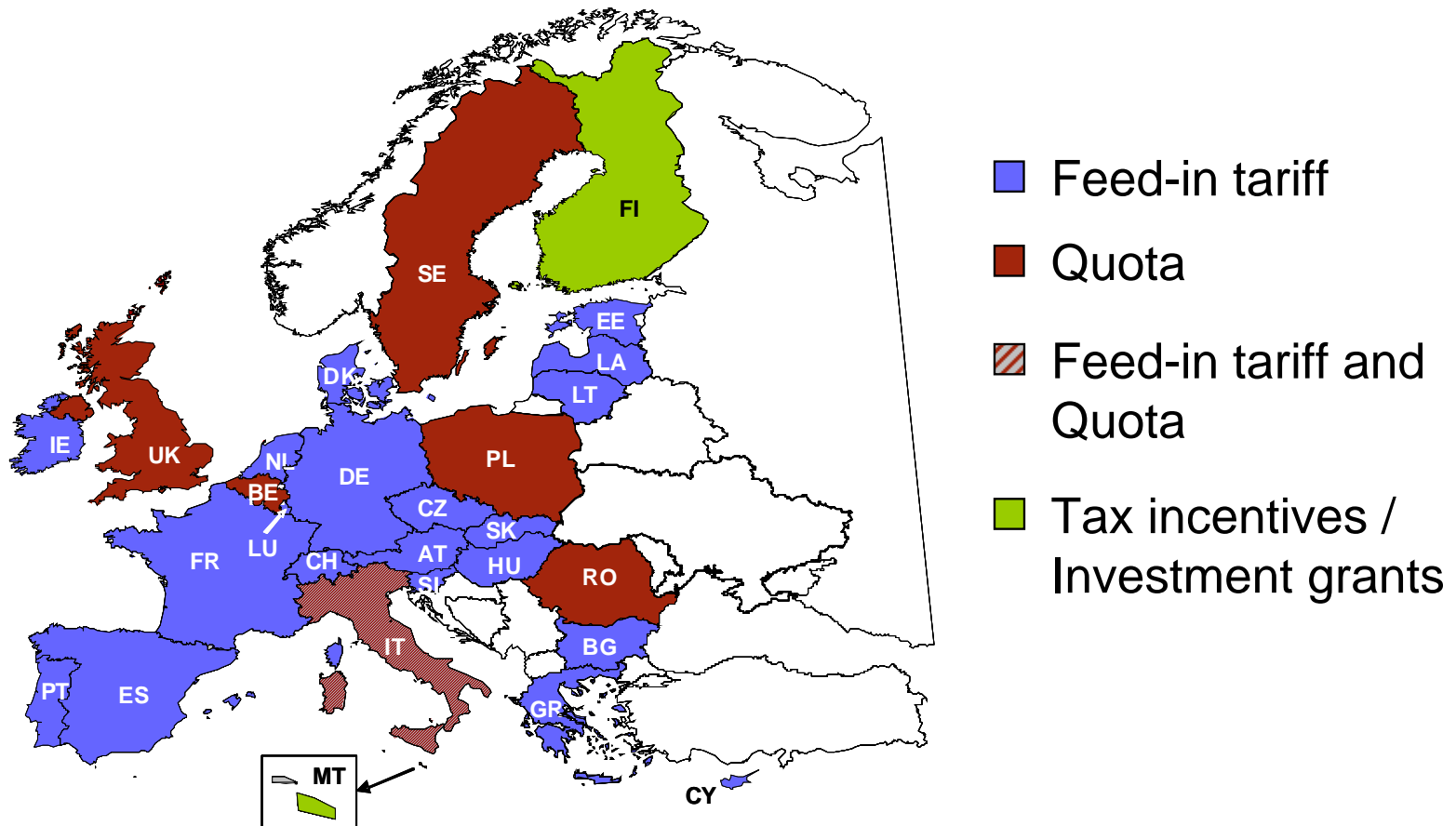
- EU-15: Wind power is the dominating new resource.
- EU-12: Bioenergy has a leading role.

Very few Member States will reach the 2010 Targets



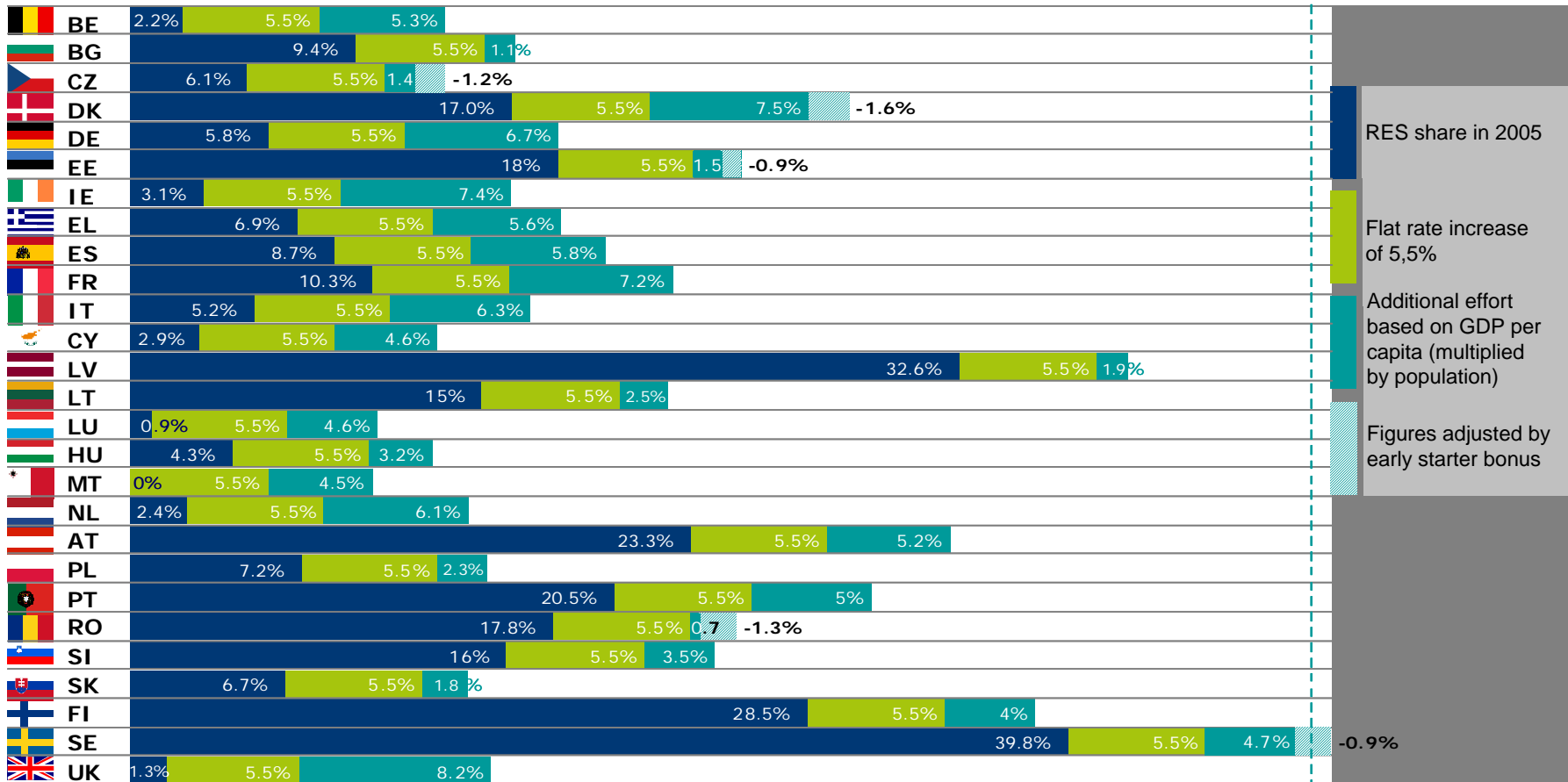
- DE, HU, DK and NL are among the countries which might reach the 2010 targets. For some countries the RES-E share has been **de**creasing.
- The Commission expects EU-27 to reach ~19% of RES-E instead of 21%.

Major Support Systems for RES-E in EU-27



Source: Fraunhofer ISI

Binding Overall Targets for RES in Directive 2009/28/EC



Source: EU Commission

RES-Heating/Cooling – The Sleeping Giant

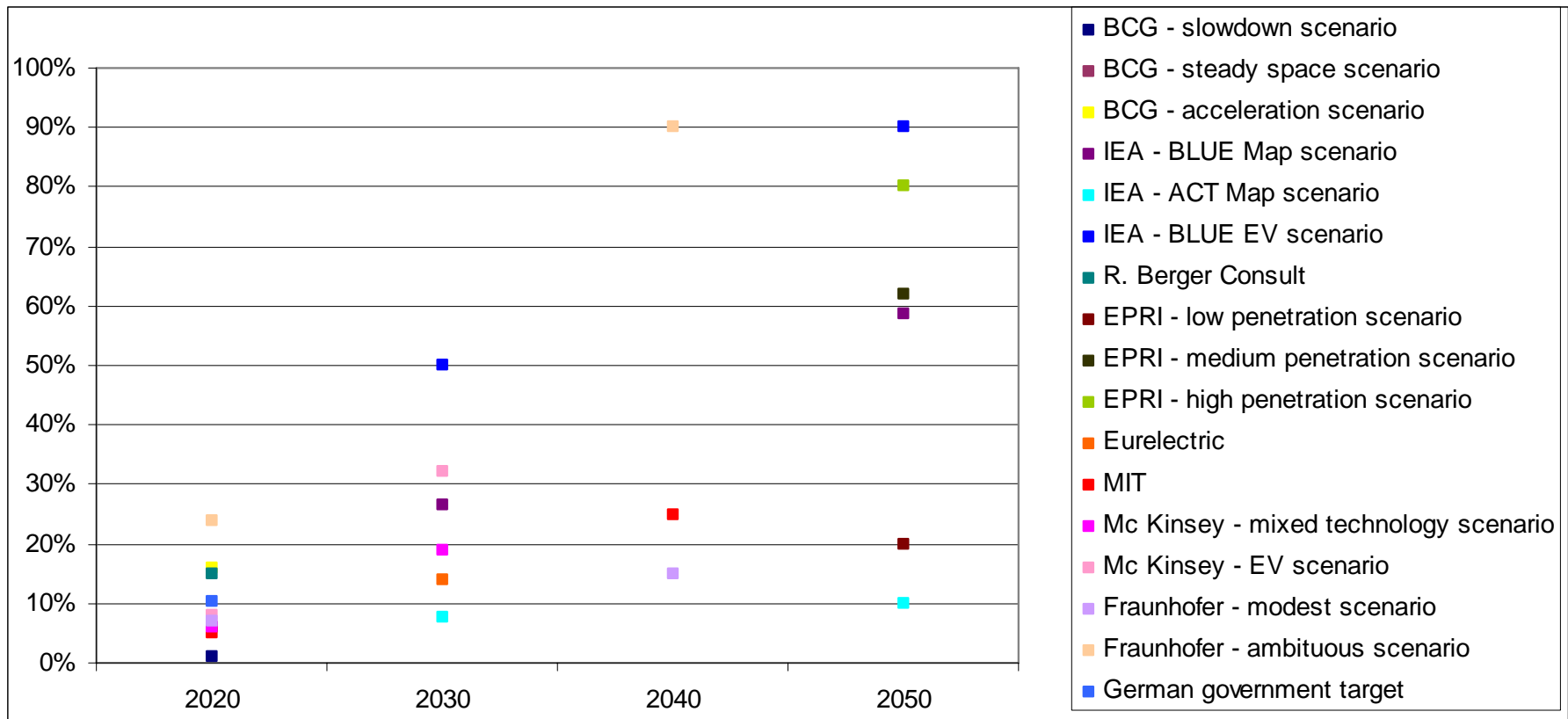
- A successful stimulation of RES-H/C potential requires:
 - Securing stable and reliable **support conditions**
 - Incentivising RES-H penetration in the **building stock**
 - Stimulating **structural changes** in the heat market (e.g. developing local/district heating systems)
- Most MS which already promote RES-H/C give **direct financial support** (e.g. grants, tax exemptions, low interest loans).
- Recently, **installation obligations** have been introduced in DE, ES, PT, IT on the national, regional or local level (in some cases limited to new buildings).
- We need more creativity in developing **more ambitious support frameworks** for RES H/C, e.g. bonus or quota mechanisms.

Biofuels – A Mixed Picture

- Biofuels can have positive impacts:
 - GHG reduction (through substitution of fossil fuels);
 - More agro-biodiversity, soil carbon increase, less erosion, more rural employment and trade income ...
- But their impacts can also be negative:
 - GHG emissions from cultivation, soil carbon, life-cycle, direct + indirect land-use changes (LUC)
 - Loss of biodiversity
 - Social disturbances (food security, land rights ...)
- **Directive 2009/28/EC** requires a minimum GHG reduction of 35% from 2011 and 50% from 2017 onwards (incl. CO₂ from LUC).
- In the longer term, biofuels certification should also include CO₂ from indirect land-use changes. Strong global conventions are needed in order to ensure such certification.

The Contribution of Electric Vehicles to the 2020 Target for RES in Transport will Remain Limited

Expected market shares of plug-in hybrid and battery electric vehicles in % of new cars.



The RES Industry as a Pioneer for the Green Industry of the Future

- Already in 2005, the RES industry employed some **1,4 million** people in the EU and contributed to about **0,6%** of the total GDP and employment in Europe.
- This positive effect is based on the European demand for RES technologies and on exports to other parts of the world.
- It is expected that the realisation of the 2020 targets will bring about a net effect of some **410.000 additional jobs** and an increase in the total GDP of EU-27 of about **0,24%**.
- It is vital that public support schemes for RES create a **stable investment environment** while at the same time helping to exploit learning curves in **cost reduction** for RES technologies.

Theses (1): Elements of a Successful Industry Policy

- The EU and its Member States have already set many of the elements which are required for a **successful industry policy** in the field of renewable energy:
 - Clear political, medium and longer-term **targets** for RES and their development in the energy sector
 - Strategies and budgets for **R&D** of RES technologies
 - Support schemes for the **market introduction** of RES technologies
 - **Education and training** programmes in the field of RES technologies

Theses (2): Electricity from RES

- Member States show quite **diverging degrees of success** in promoting RES electricity.
 - Only a few MS will actually reach the indicative targets for 2010, many others will miss them by far.
 - In order to support RES electricity successfully, a well designed major **support instrument** should be combined with good **framework conditions** for investments.
 - In the future we need a better **coordination** of support instruments in Europe. However, a full harmonisation towards a single type of support instrument would be counter-productive.

Theses (3): RES for Heating/Cooling and in Transport

- **Effective and innovative support** instruments for RES heat and cooling need to be developed. Due to long investment cycles it is important to avoid “lost opportunities” in the building stock.
- Achieving 10% of RES in transport by 2020 in all MS will largely depend on the successful implementation of the sustainability requirements for **biofuels** (European and imported).
 - A potential massive market introduction of hybrid and battery-electric vehicles will have relevant impact only after 2020.
- Sustainability standards for **other bioenergy** are also highly required.
- It is important that the Commission supports the **development of RES policies** in Member States and closely monitors their performance compared to the **target trajectory** up to 2020.

Theses (4): The Relevance of the RES Industry for Europe

- The expansion of RES in the recent years has helped Europe to create **new jobs** in a sustainable industry branch.
- The efforts for reaching the 2020 targets will further increase the net benefit of Europe's industry and job market.
- These benefits will be highest in those countries which succeed in developing a **sound industrial basis** in RES technologies, and/or produce significant volumes of biomass.
- Europe will be faced with **competing RES industries** in China, India, the US and other countries. Europe needs to act strategically in order to maintain its position as a sustainable **technology leader**.
 - Targeting EU RTD funding to promising resources
 - Intensified economic cooperation with e.g. Central/Eastern Europe, Russia, and Central Asia in RES deployment
 - ...

Many thanks for your attention!

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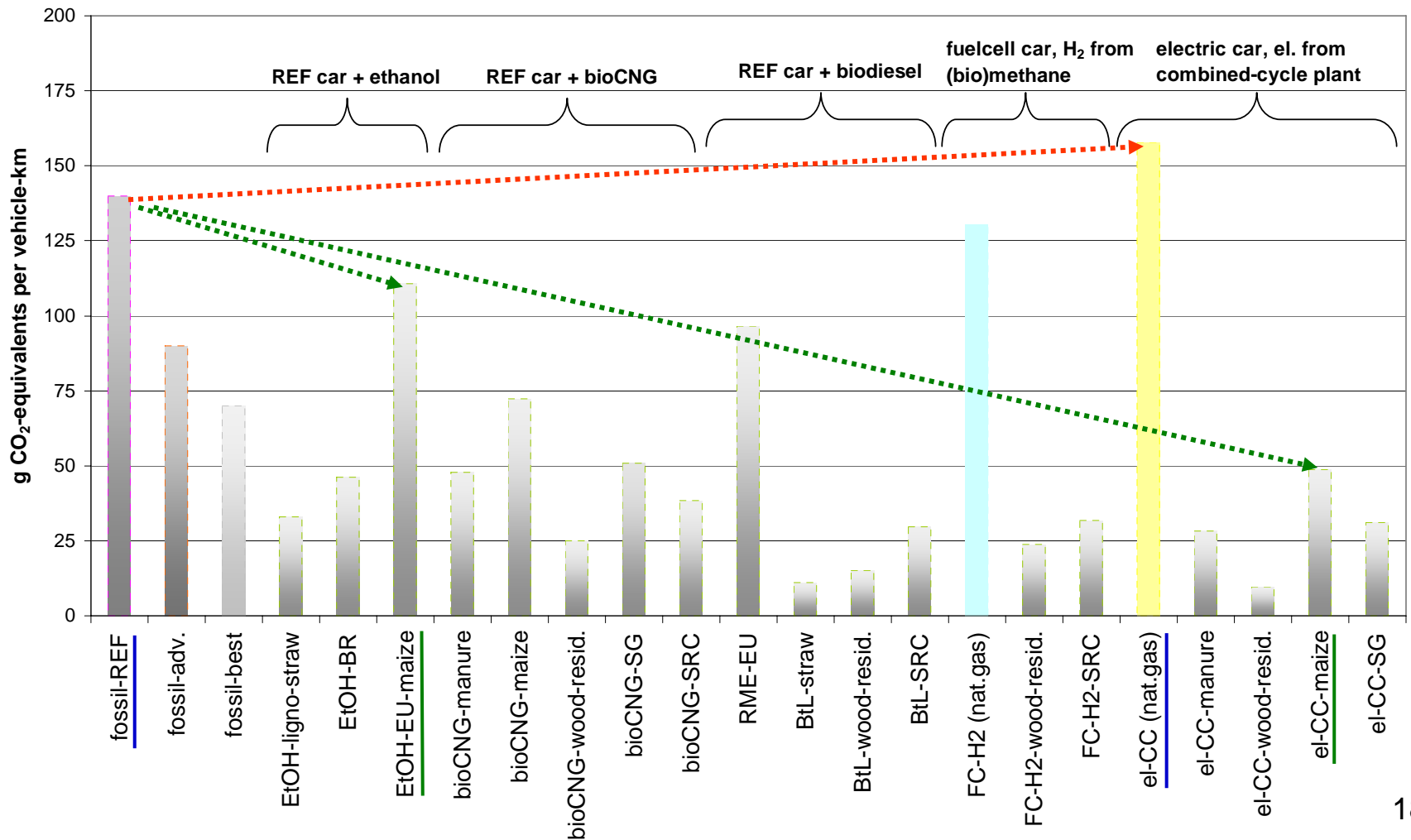
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Reserve Slides

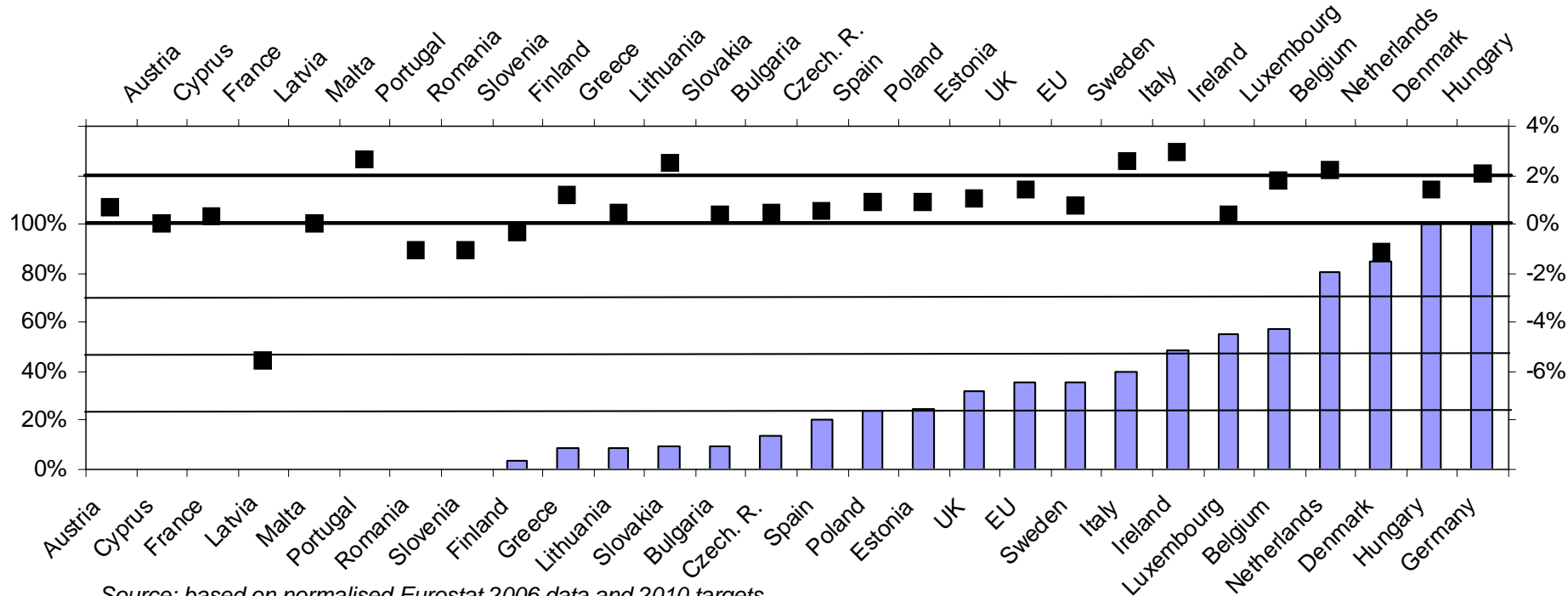
GHG Emissions from New Passenger Cars (Use Phase)



Source: Fritsche/Wiegmann 2009

Note: Life-cycle GHG emissions exclude LUC!

Progress in the electricity sector



Source: based on normalised Eurostat 2006 data and 2010 targets

The progress made towards the 2010 target (columns and left hand axis)

the change in Member State's renewable electricity shares 2004-2006 (points, right hand axis).

Progress towards the 2010 targets - patchy

	Electricity		Transport (biofuels)			Electricity		Transport (biofuels)	
	2004-2006 growth	progress towards targets	2005-2007 growth	progress towards targets		2004-2006 growth	progress towards targets	2005-2007 growth	progress towards targets
AT	☺	☹	☺	☺	LV	☹	☹	☹	☹
BE	☺	☺	☺	☹	LT	☺	☹	☺	☺
BU	☺	☹	☺	☺	LU	☺	☺	☺	☺
CY	☹	☹	☹	☹	MT	☹	☹	☺	☺
CZ	☺	☹	☺	☹	NL	☺	☺	☺	☺
DK	☹	☺	☺	☹	PO	☺	☹	☺	☹
EE	☺	☹	☺	☹	PT	☺	☹	☺	☺
FI	☹	☹	☺	☹	RO	☹	☹	☺	☹
FR	☺	☹	☺	☺	SK	☺	☹	☺	☺
DE	☺	☺	☺	☺	SI	☹	☹	☺	☹
GR	☺	☹	☺	☹	ES	☺	☹	☺	☹
HU	☺	☺	☺	☹	SW	☺	☺	☺	☺
IE	☺	☺	☺	☹	UK	☺	☹	☺	☹
IT	☺	☺	☹	☹	EU	☺	☺	☺	☺

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Renewables: part of the solution

Renewables play an essential role
in the definition of a sustainable model....

Advantages	Environment	<ul style="list-style-type: none"> ➤ No emissions ➤ Key driver to reaching Kyoto commitments (2002), Bali (2007), Copenhaguen (2009)
	Energy security	<ul style="list-style-type: none"> ➤ Indigenous energy, inexhaustible resource ➤ Reduces dependence from risky markets ➤ Volatile prices and likely to be higher
	Economy	<ul style="list-style-type: none"> ➤ More than 2.2 million jobs exist today. Positive rural impact ➤ Certainty: no fuel cost ➤ Low variable costs, lower investment costs expected.

Availability: renewables are ready to face the challenges of the current global energy context

Policy drivers

Context

- Market targets
- Social consensus
- Political compromise

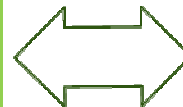


Investment Flow



Regulatory framework

- **Predictability:** remuneration defined for the entire life of the asset
- **Stability:** the legal framework must be based on criteria of non retroactivity.
- **Profitability:** defining a sufficiency scenario



Natural and technical conditions

- **Sufficient resource**
*wind: intermittent resource,
predictable*
- **Suitable grid conditions**

Policy mechanisms to encourage renewables

1. **National/regional Targets**
2. **Grid connection and access priority**
3. **Guaranteed purchase of all production**

4. **Economic support: 4 main systems**

- based in tariff, *feed in tariff*
- based in premiums, *feed in premium*
- based in the market, *certificates trading*
- **Based in fiscal policy: production or investment tax reliefs** (\approx feed in premium)

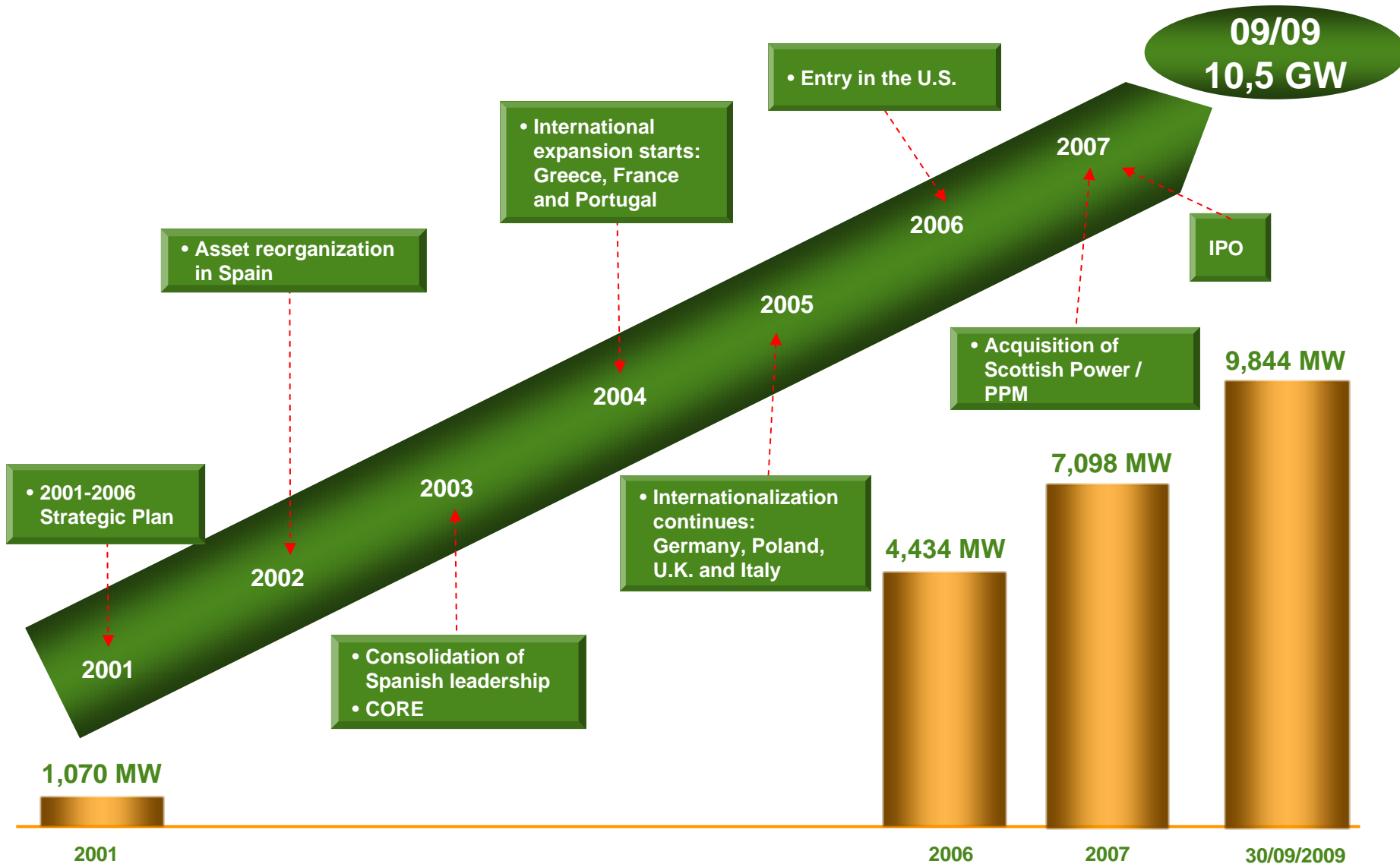
4. **Other forms of economic support:**

- Financial support for investment (grants, soft loans...)
- Indirect systems: Carbon markets (EU and UN), Clean Development Mechanism (CDM)

Challenges

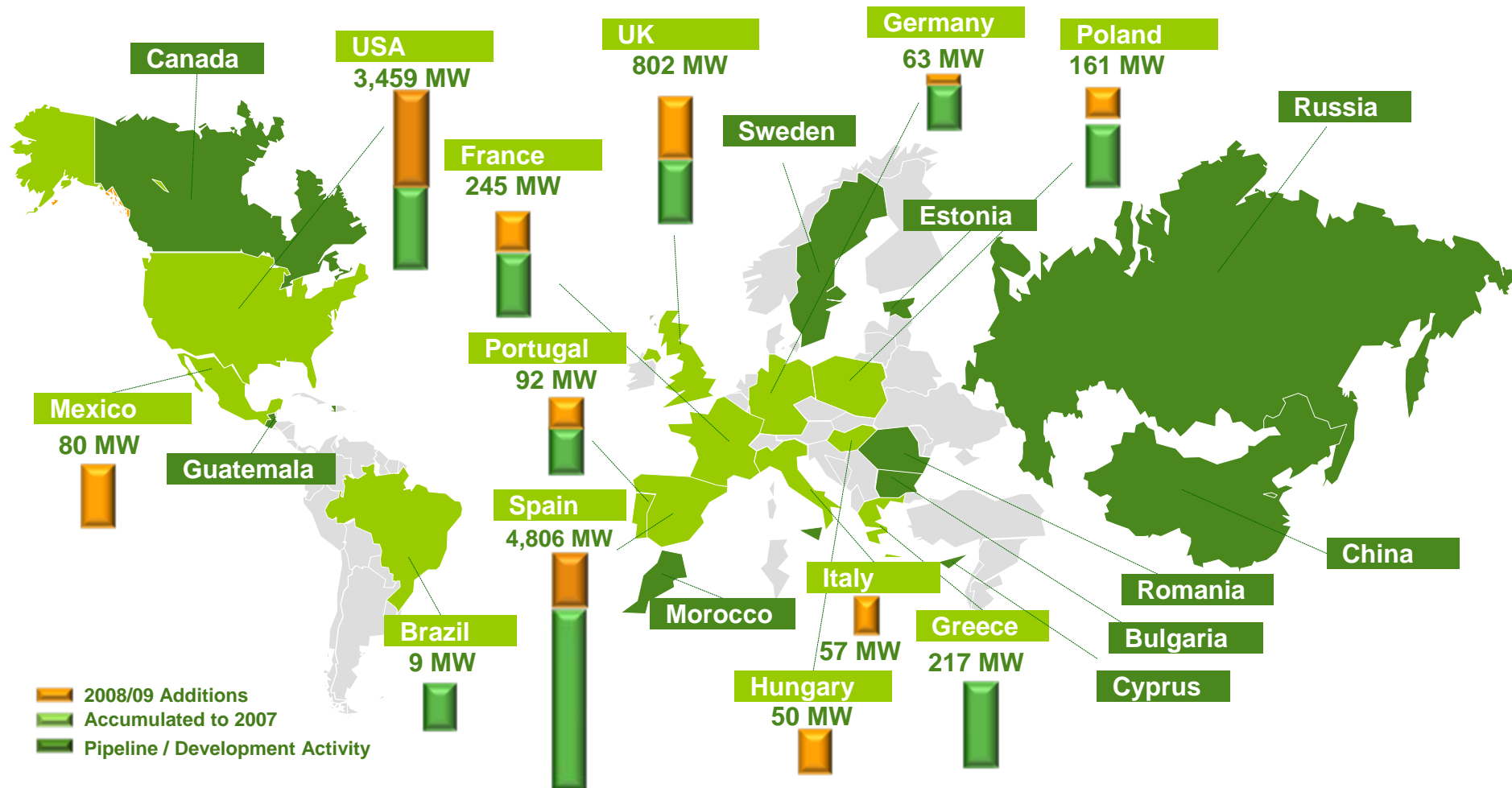
- **Regulatory frameworks: Europe, United States**
- **Competitiveness:**
 - ✓ reduce energy generation costs (€/MWh)
- **Integration into the grid and the system:**
 - ✓ Variability: back up power
 - ✓ Grid to accommodate new generation
 - ✓ Interconnections development
- **R&D:**
 - ✓ Further development of technologies with potential:
Wind offshore, solar, marine

Iberdrola Renewables



We have a large international diversification

1,900 people present in 23 countries worldwide



... with assets in operation in 11 markets

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