



Did we miss the crossroad?

Georg Zachmann



Agenda

- 1. Status of the single market**
- 2. The big picture**
- 3. Role of active competition policy**



Status of the single market

- ETS
- Wholesale market
- Capacity mechanisms
- **Technology specific support**
- Taxation
- **Network management and extension**
- System planning
- Regulated energy tariffs
- Market power exercise



ETS

EEX Carbon Emission Allowance Settlement Price



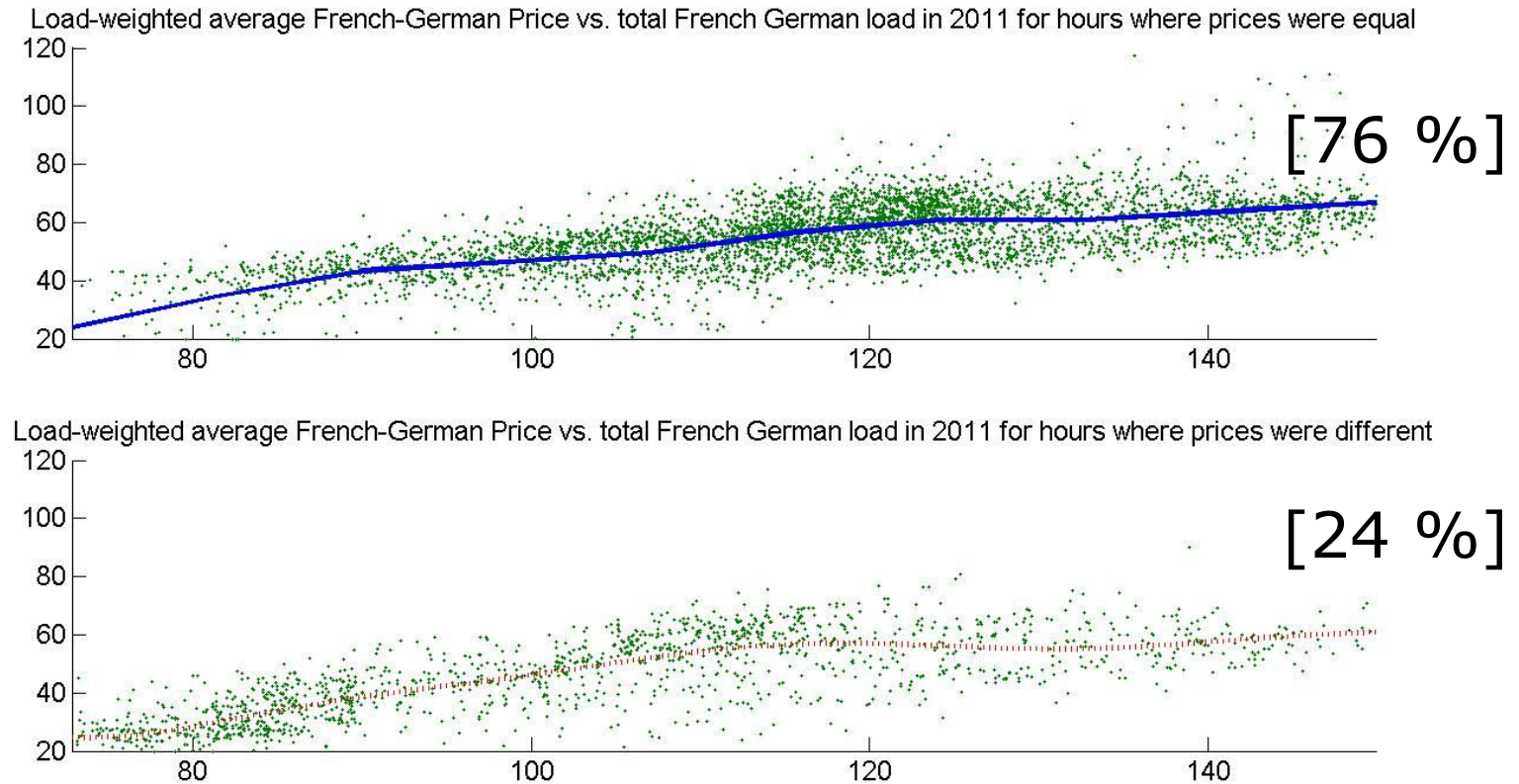
Source: Datastream

- ⇒ **European price signal without teeth**
- ⇒ **National carbon pricing attempts are worrying**



Wholesale market

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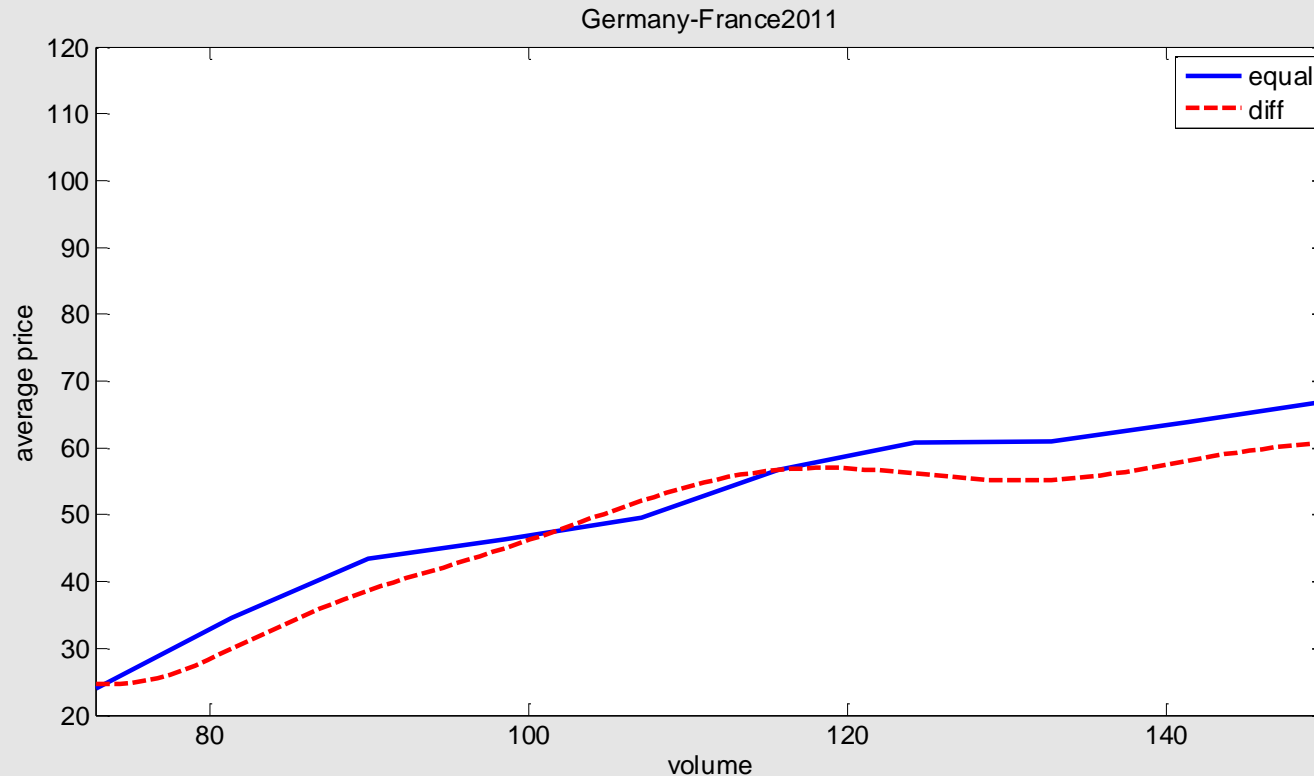


- **Coupling occurs in many hours**



Wholesale market

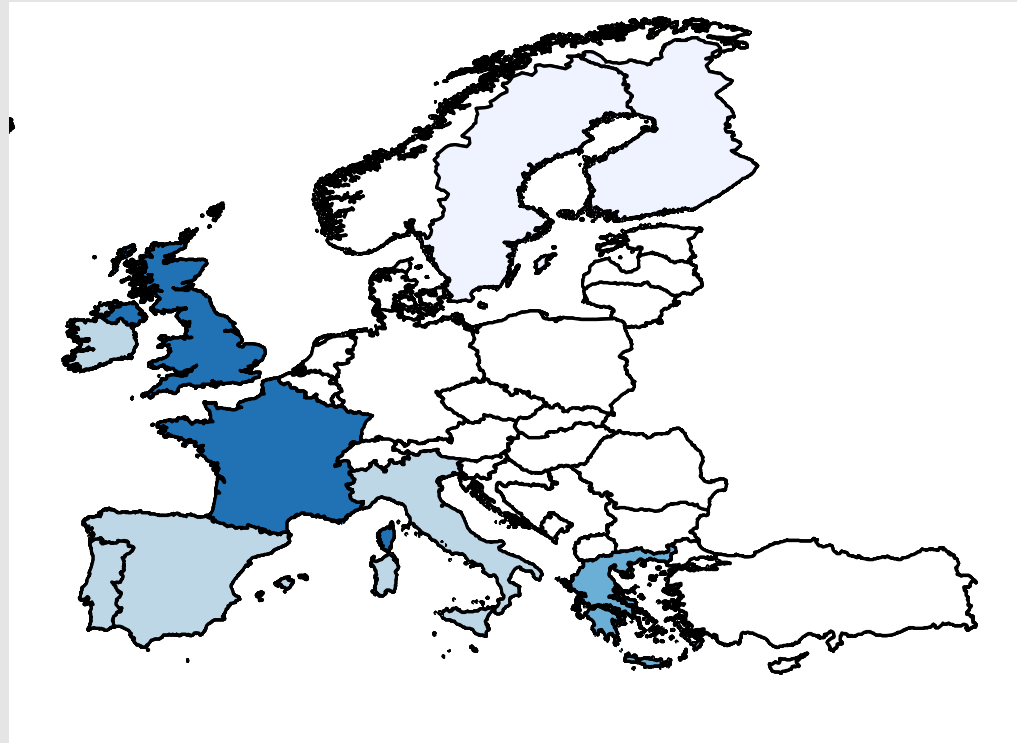
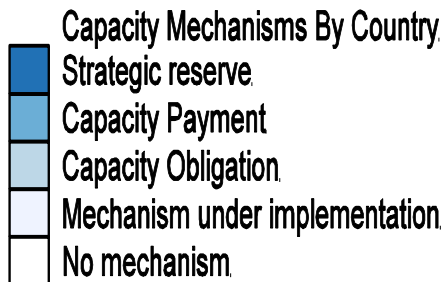
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- But, coupling does not coincide with lower prices
 - Reason is partly RES
- => Value of market coupling is difficult to show



Capacity mechanisms



=> Fast moving member states risk to necessitate a decade of re-harmonisation



Technology specific support

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- **support schemes exist for virtually all technologies**
 - renewables
 - Combined-heat and power
 - Distributed generation
 - Smart grids
 - Nuclear
 - Coal

- **To come:**
 - Storage
 - Gas fired



Technology specific support Green Innovation policies

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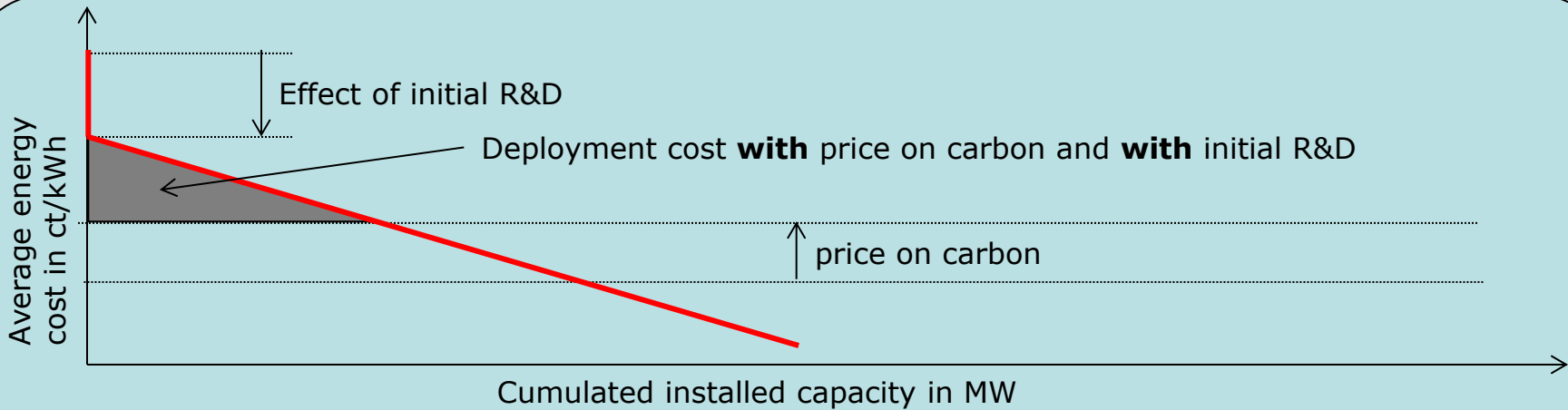
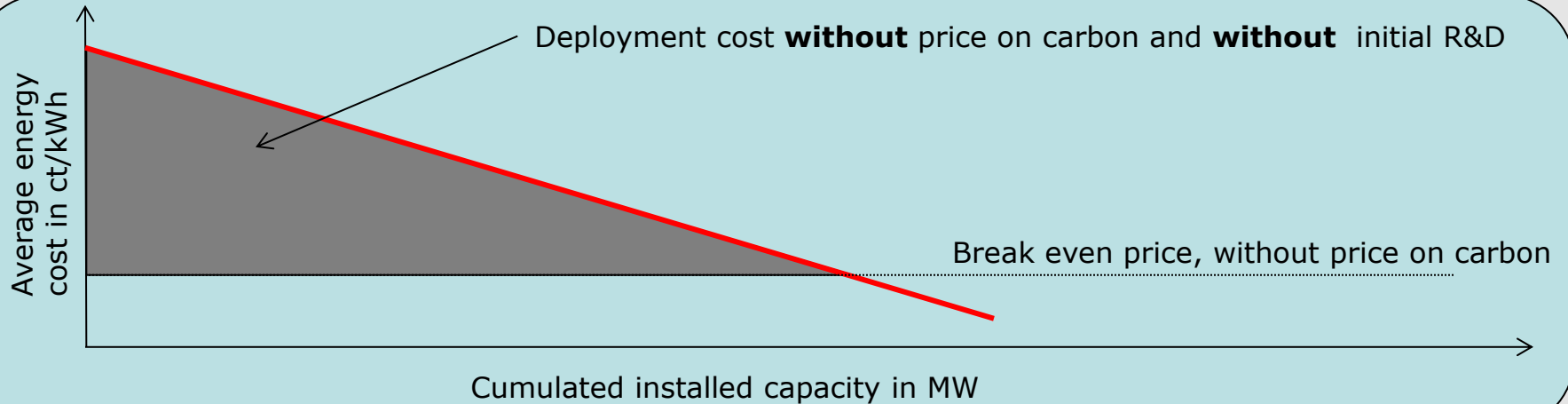
- **Supporting green R&D: „technology push“**
 - Tax breaks
 - Public private partnerships
 - Public R&D
 - ...
- **Increasing demand for green technology: „market pull“**
 - Emission pricing
 - Renewables support (feed-in, quota, ...)
 - Regulation (fuel emission standards, light bulb, ...)
 - Public procurement
 - ...



Technology specific support

Push-vs-Pull

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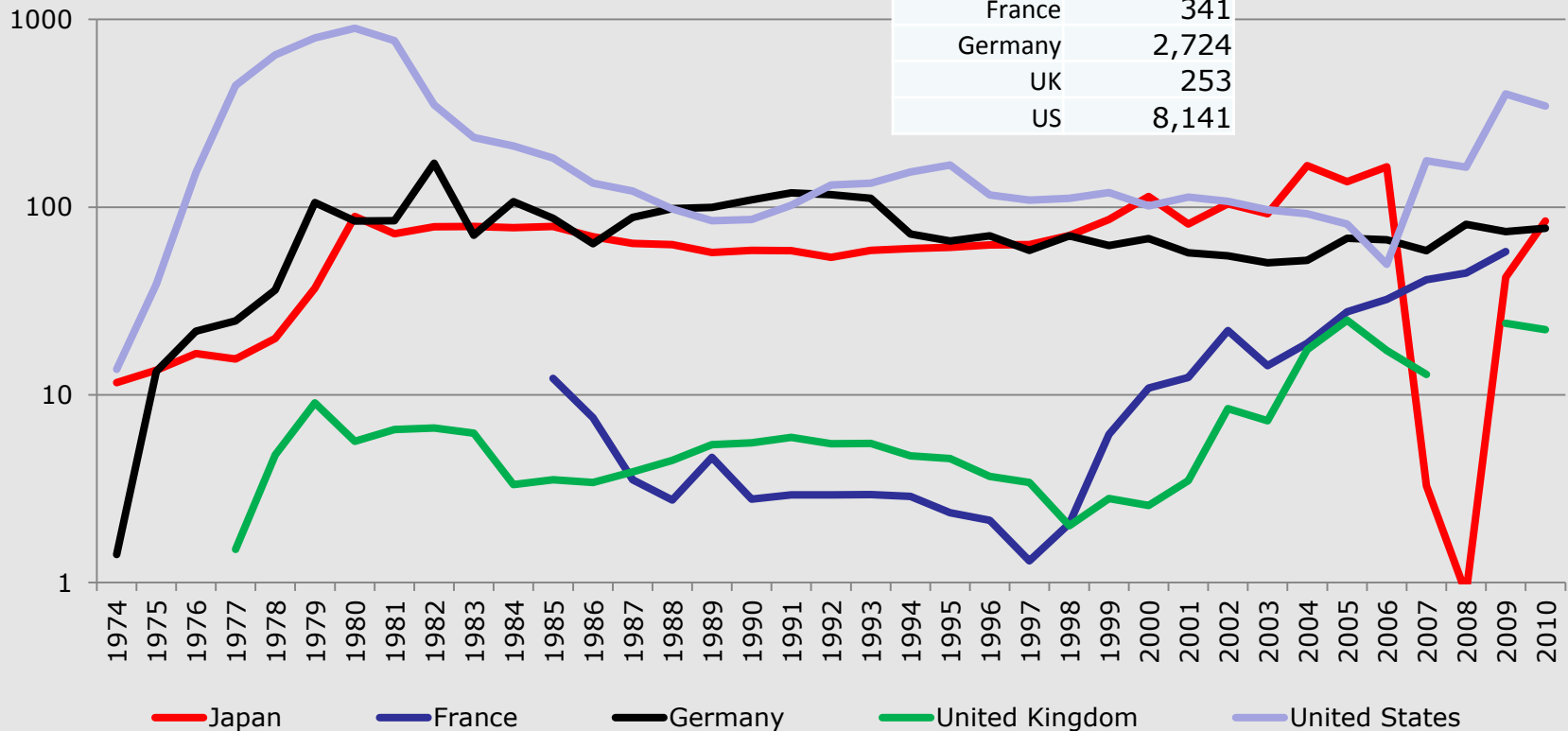


Technology specific support

Push: Solar R&D

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	Total
Japan	2,466
France	341
Germany	2,724
UK	253
US	8,141



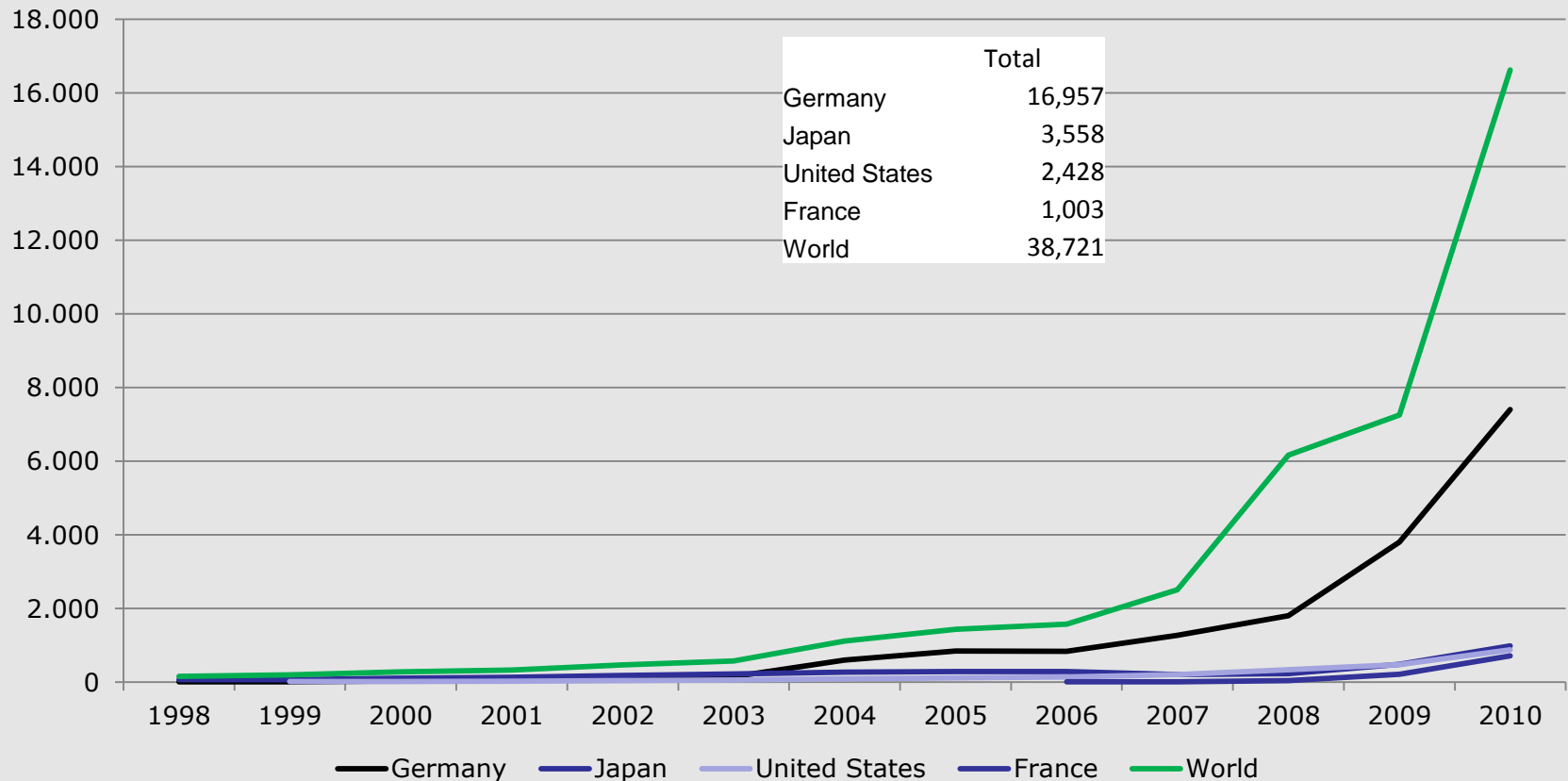
=> Risk of focusing on domestic players



Technology specific support

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Pull: Annual Photovoltaic Installed Capacity



in Megawatts

Source: Earth Policy Institute Data Center. Retrieved from

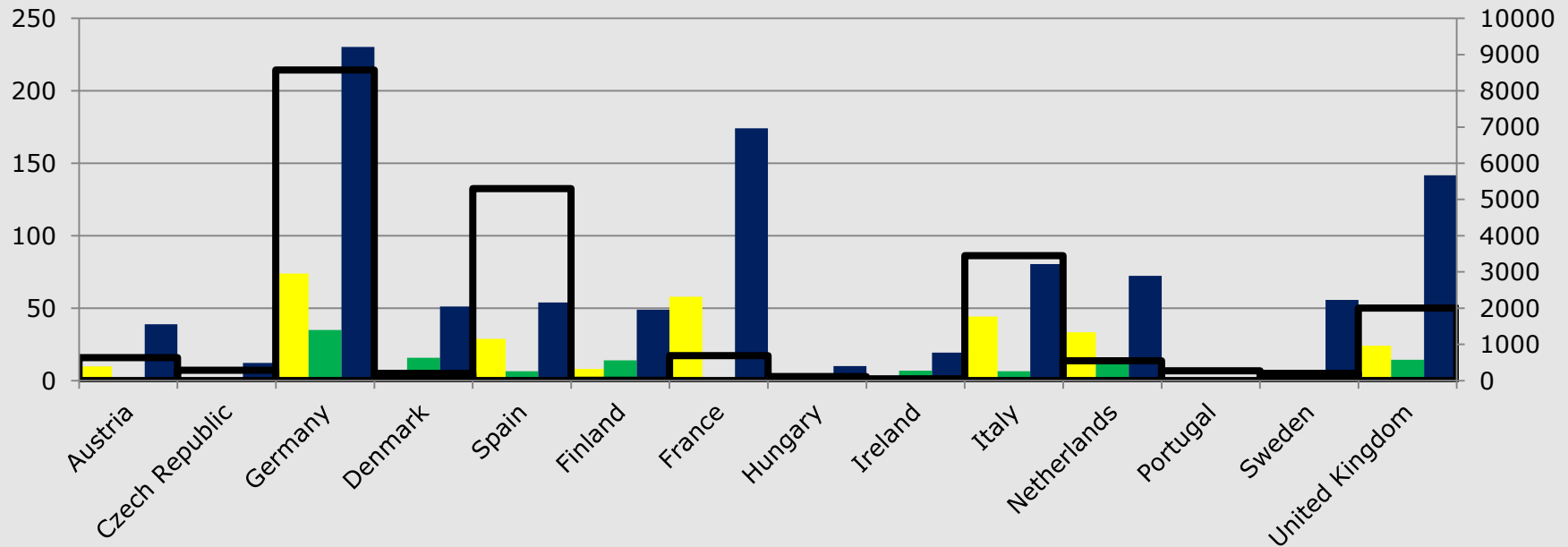
http://www.earth-policy.org/data_center/C23 on April 17, 2012

=> Only covers domestic installations



Technology specific support 2009 Net Support Costs vs RD&D

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■ Solar RD&D for 2009 (in million USD [2010 prices and PPP])

■ Wind RD&D for 2009 (in million USD [2010 prices and PPP])

■ Renewables RD&D for 2009 (in million USD [2010 prices and PPP])

Source: IEA 2012; EcoFys, Fraunhofer ISI, TU Vienna EEG, and Ernst & Young Report: "Financing Renewable Energy in the European Energy Market"

Push is dwarfed by pull => It is a big experiment without any experimental design and evaluation

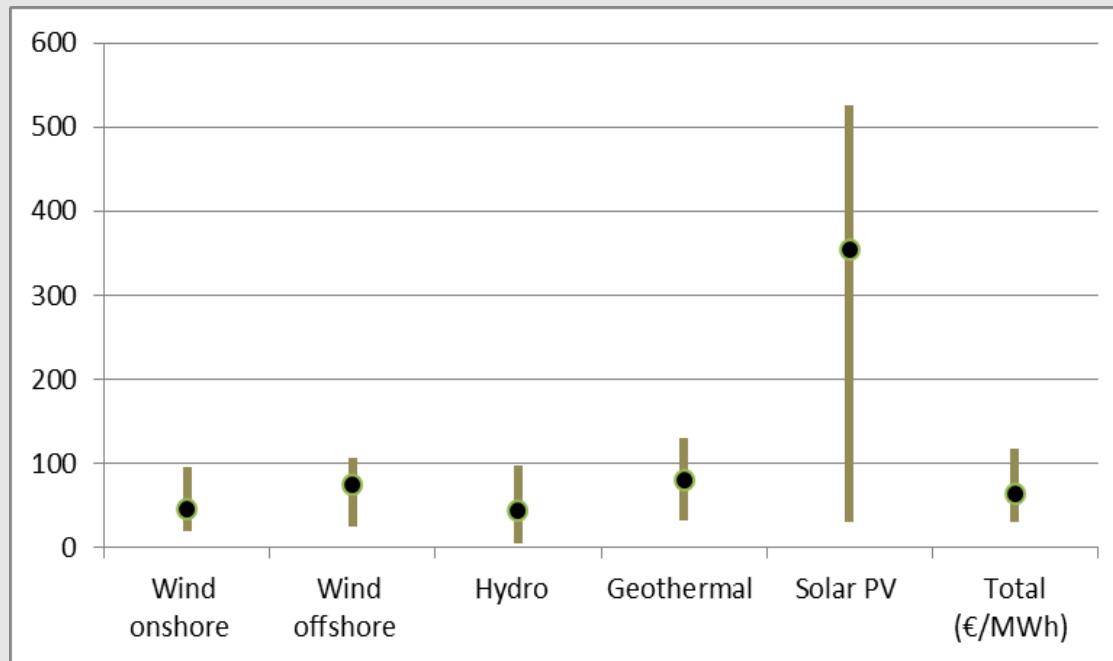


Technology specific support

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- **Current designs are very inefficient: German PV panels would produce additional electricity worth €1bn when installed in Greece**

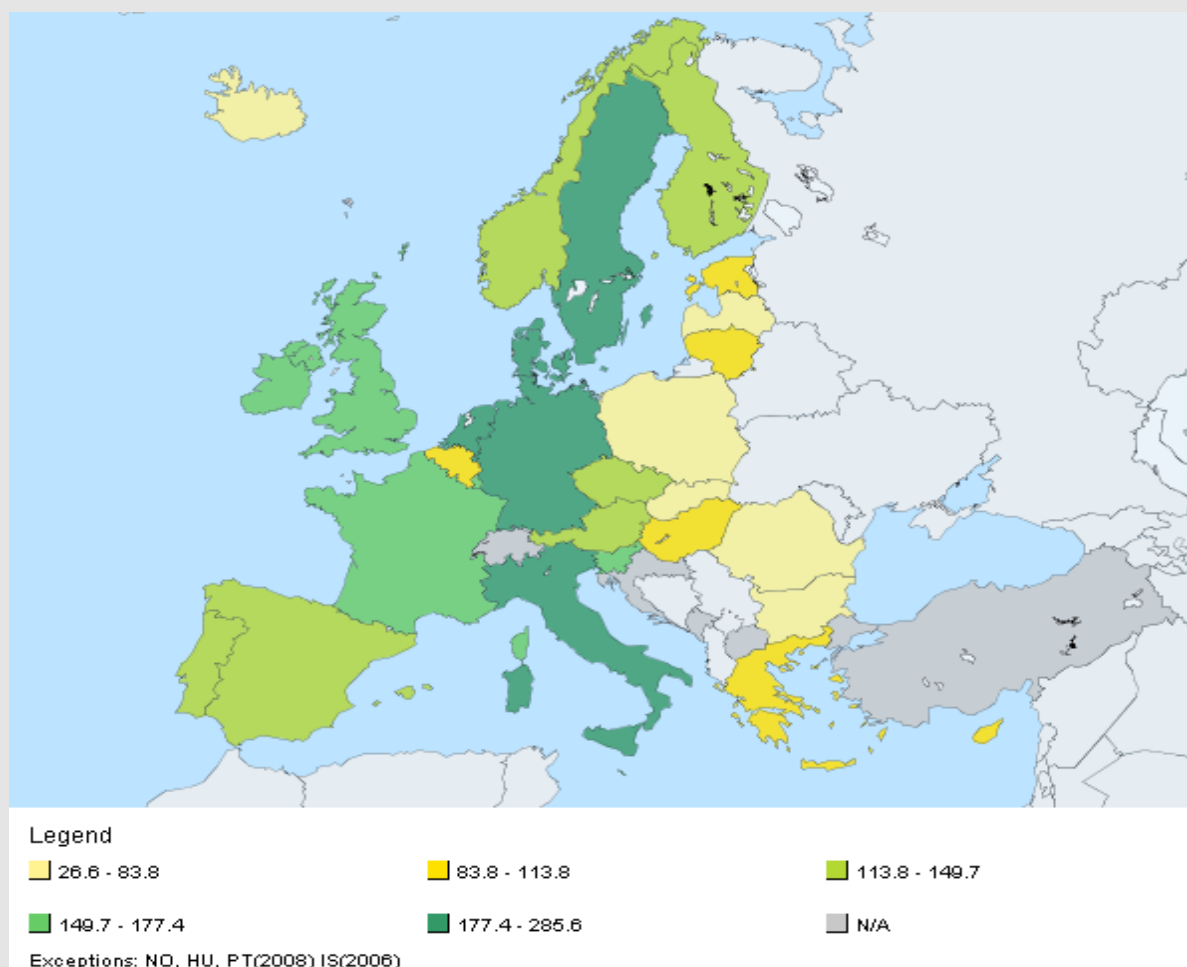
RES support levels in a cross-section of EU countries (low,mean,high in €/MWh)



Source: CEER 2011



Table Implicit tax rate on energy (2009)



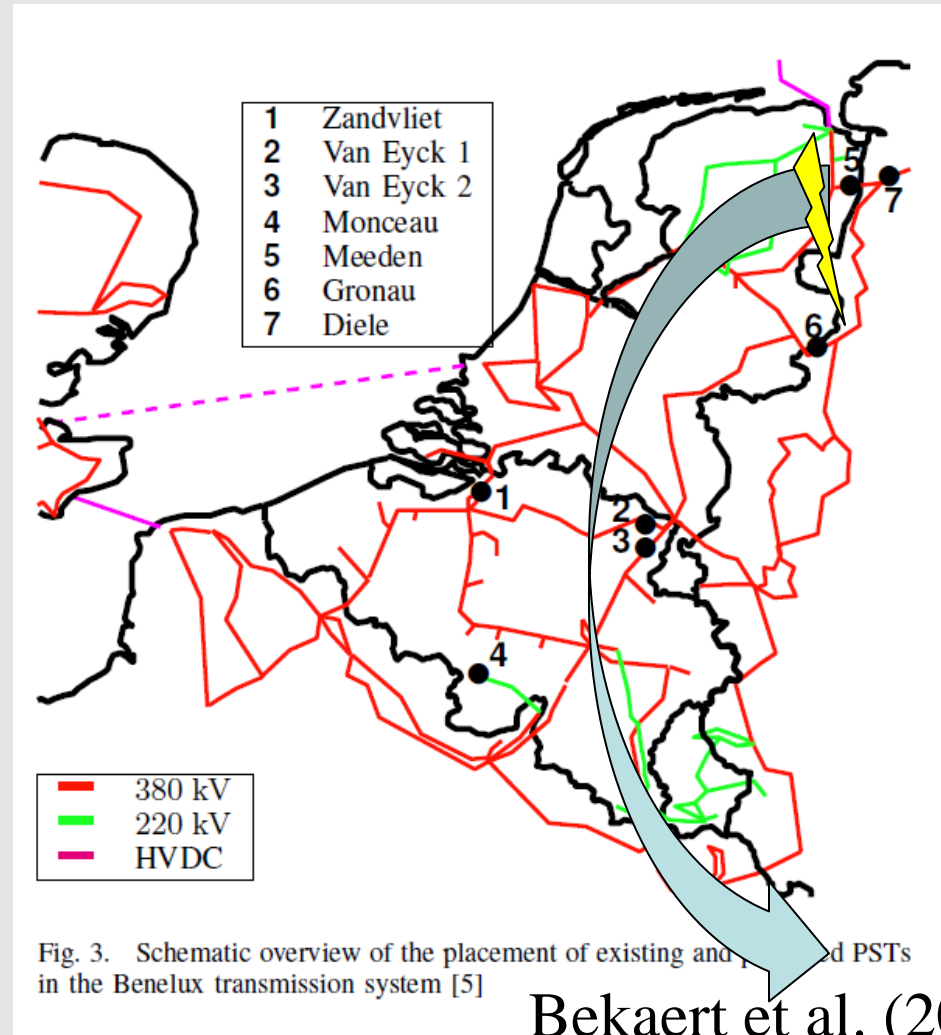
Source: Eurostat



Network management and extension

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- Electricity loop flows caused by internal imbalances
- Introduction of **phase shifting transformers** in neighbouring countries to prevent cross-border flows
- Fragmentation of the single market



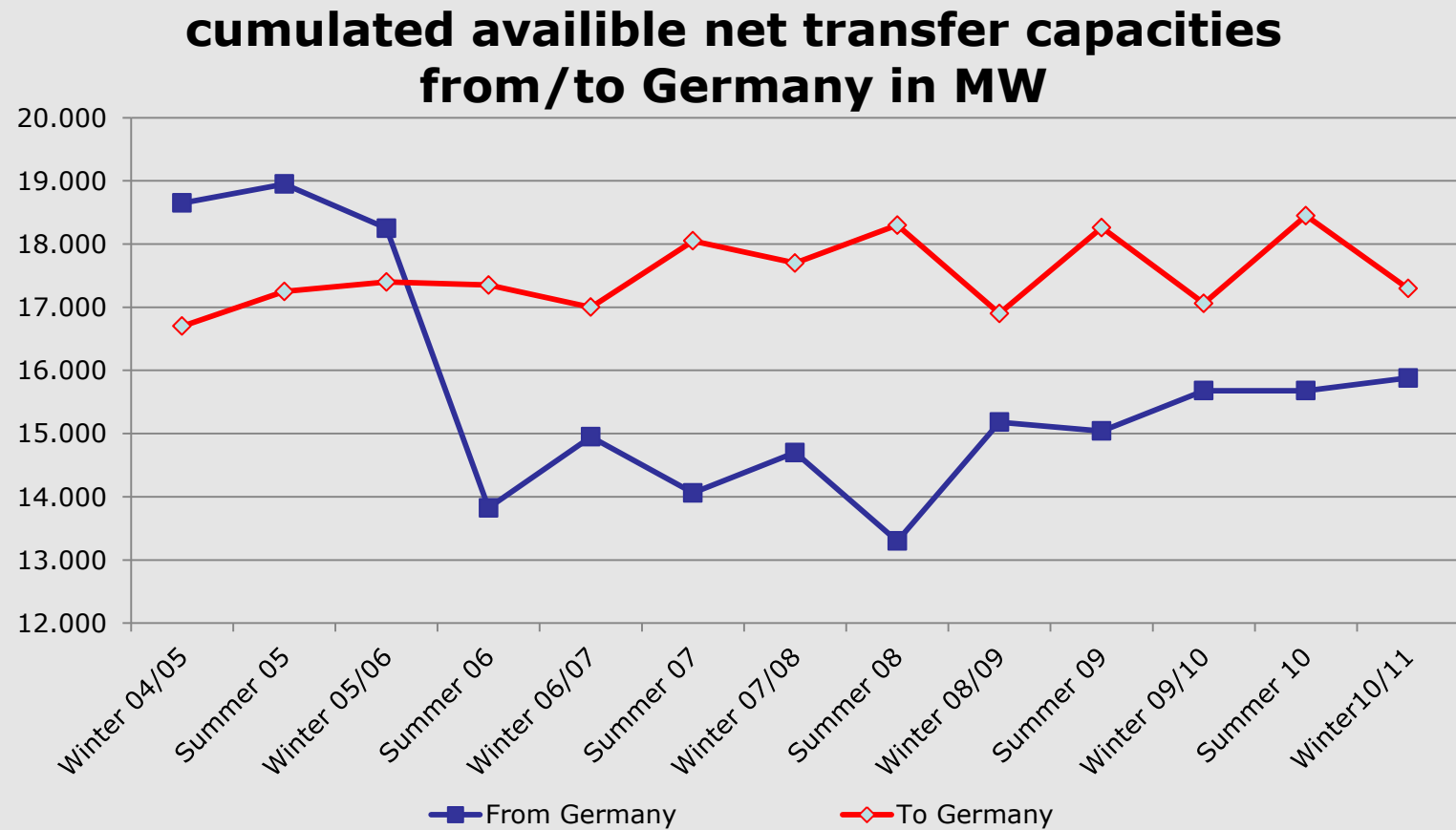
Bekaert et al. (2009)



Network management and extension

No increase in transmission capacity

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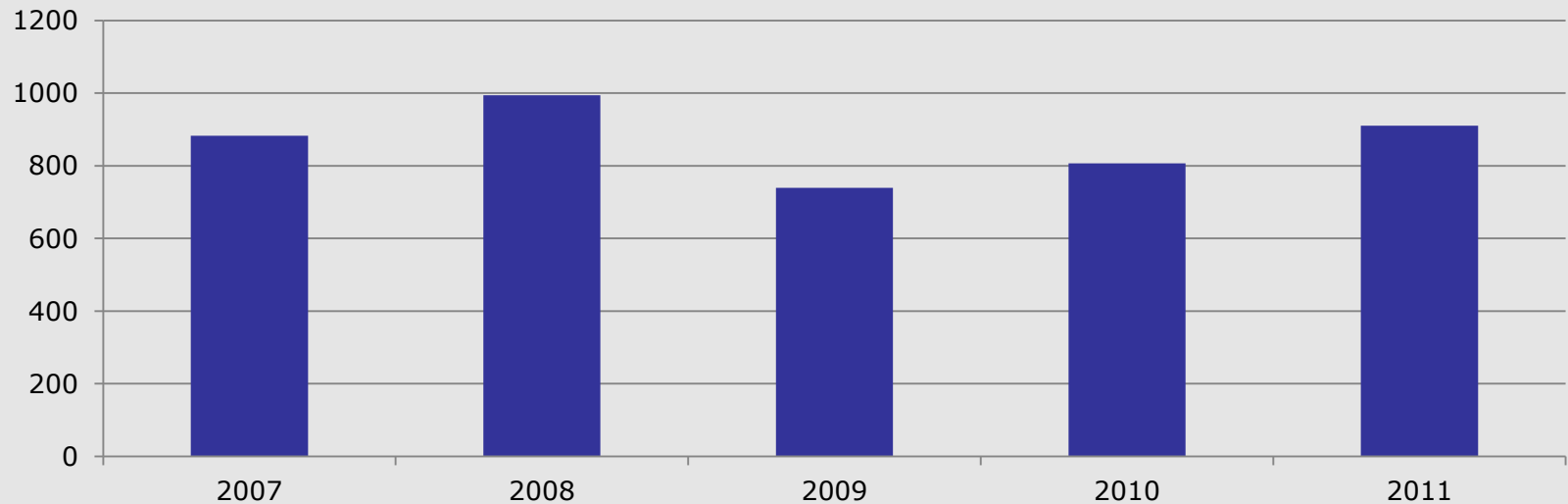


Network management and extension

Investments: not much change

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German transmission investment in Mio €



Source: BNetzA(2012)

Is investment withholding a justiciable infringement of the single market?



System planning

- **Regional energy plans**
- **National energy plans**
- **EU Energy roadmap, TYNDP**

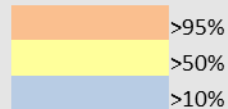
- **Lack of compatibility**



Regulated tariffs

Country	Households	Small Businesses	Medium to Large Businesses	Energy Intensive Industry
Bulgaria	100%	100%	98%	
Croatia	100%			
Cyprus	100%	100%	100%	100%
Denmark	94%	95%	NA	NA
Estonia	Deregulation	Deregulation	100%	100%
France	96%	83%	94%	82%
Greece	100%	100%	100%	
Hungary	100%	NA		
Ireland	80%	52%	28%	
Italy	91%	78%		
Latvia	99%	99%		
Lithuania	100%	NA		
Netherlands	100%	100%		
Poland	100%			
Portugal	92%	88%	39%	62%
Romania	100%	NA	NA	
Slovakia	100%	100%		
Spain	91%			

% of customers with regulated prices



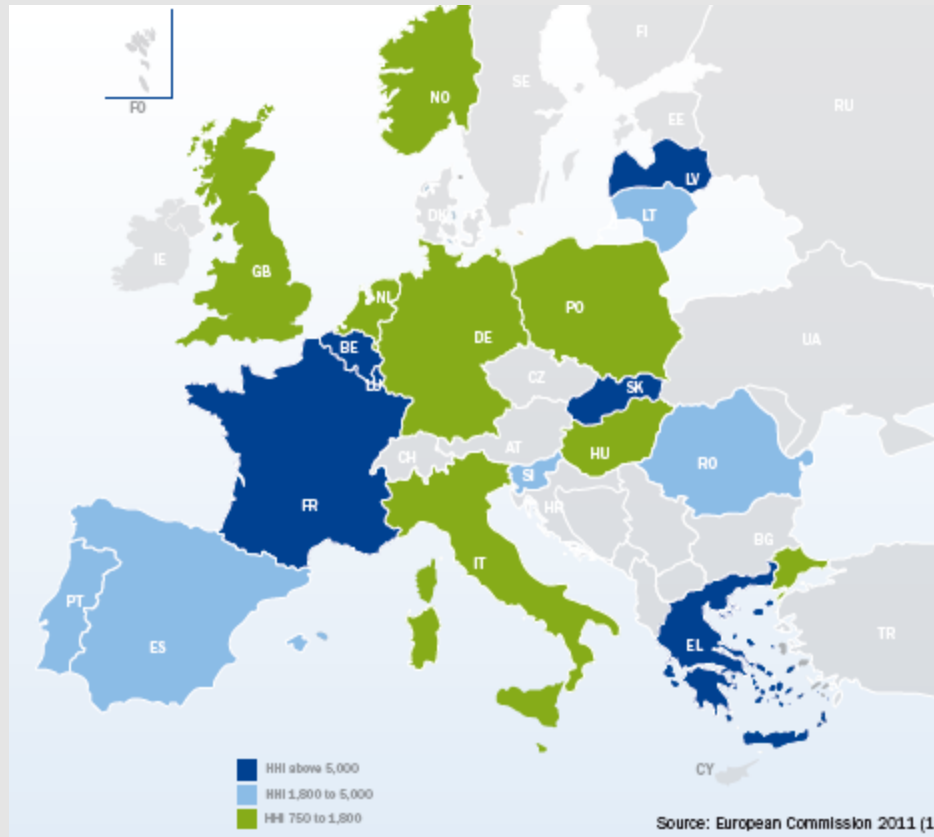
Source: The Market Observatory for Energy from ERGERG, April 2012

- On top, other consumer specific subsidies exist: e.g., German FIT and grid cost exceptions (18% -> 0.3%)

=> Regulated tariffs and consumer group specific exemptions did not vanish



Market power



Slide from EWEA (2012)

⇒ **Market concentration remains an issue**

⇒ **Discussion about implicit capacity mechanism**



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Investment signals for power plants: the role of National Signals

- **National support schemes**
- **National ancillary service prices**
- **National capacity mechanisms**
- **National taxation regimes**
- **National regulated tariffs**
- **National system planning**

Development of the Importance of the signal





Investment signals for power plants: the role of European Signals

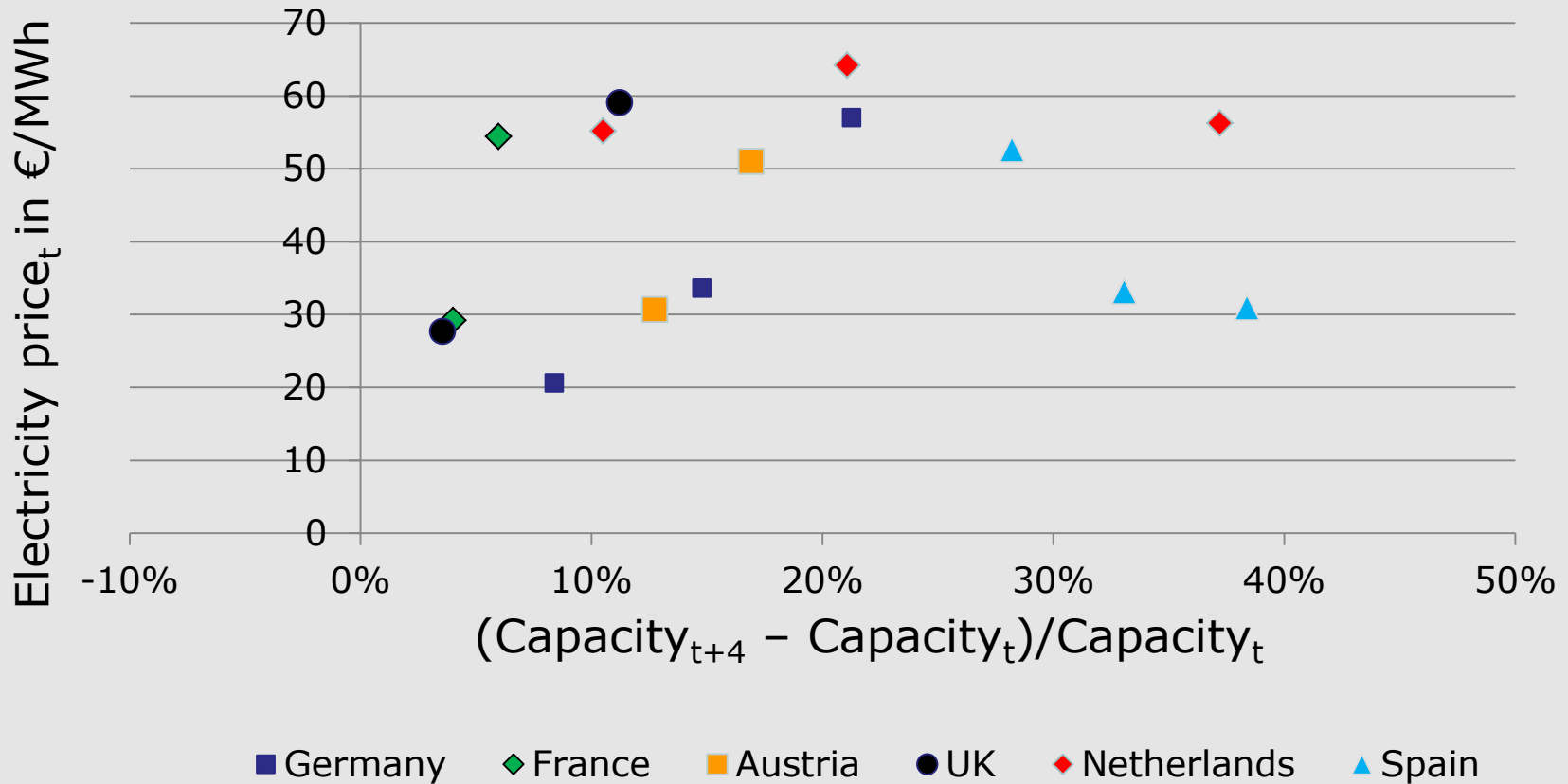
- Expected wholesale electricity prices
- Expected carbon cost
- EU environmental & security standards
- Coordinated network planning

Development of the
Importance of the
signal





Power plant investments do not occur where wholesale prices are highest

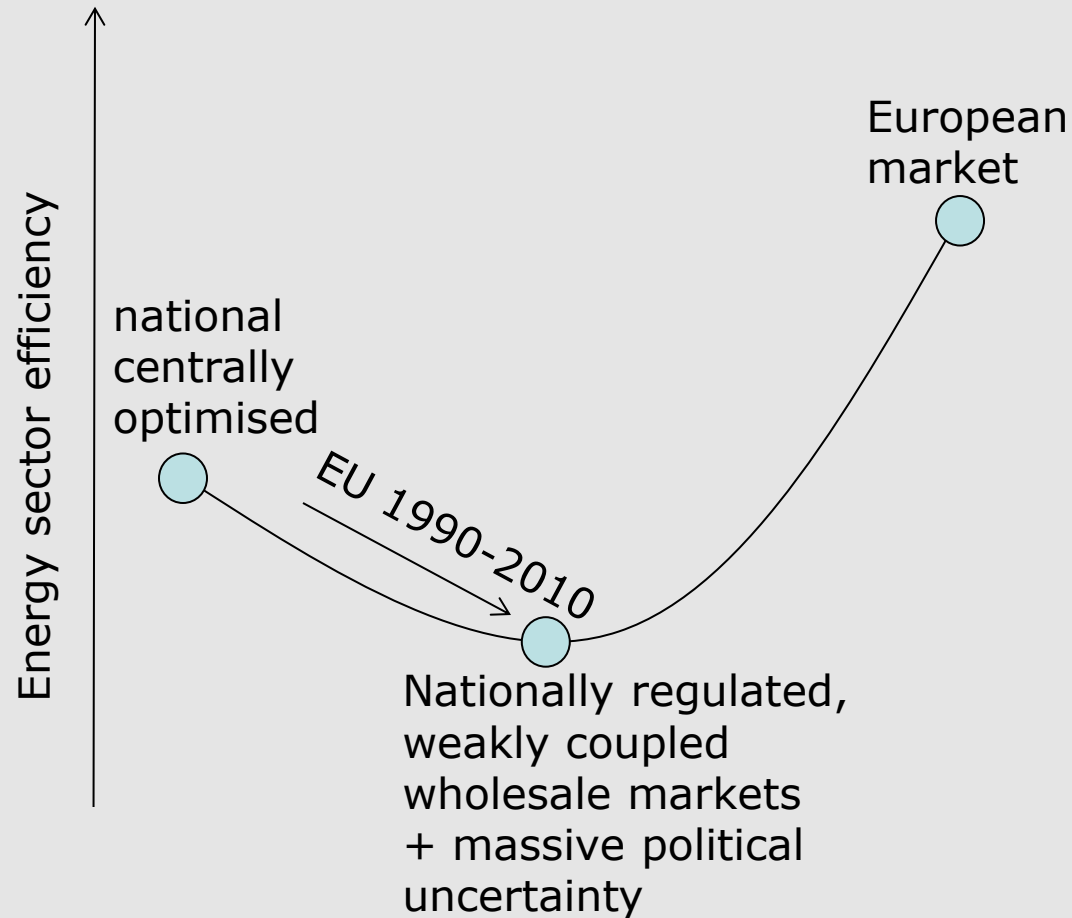


Sources: ENTSO-E, Datastream, Macrobond, DECC

Note: the dots represent the periods 2000-2004, 2003-2007 and 2006-2010

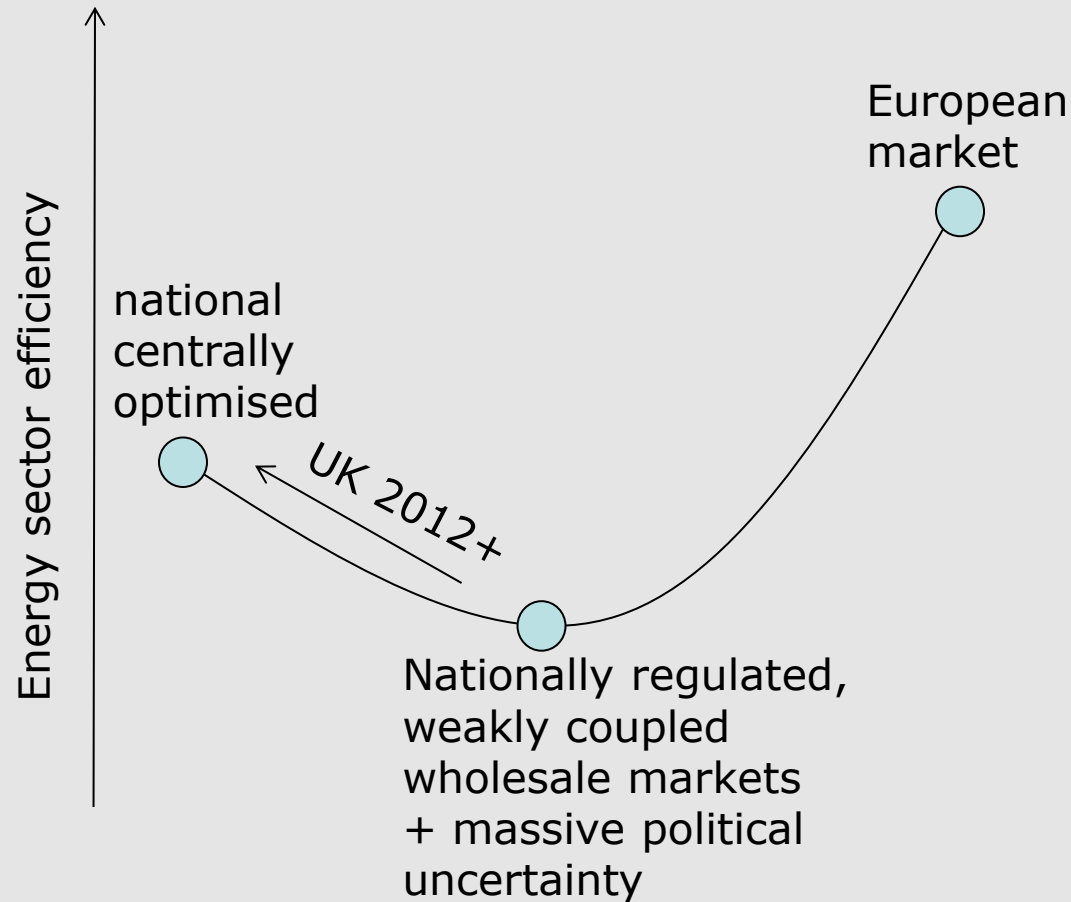


Where to go?





Will France and Germany follow?





Role of active competition policy

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Role of active competition policy

- **A test case on network extensions**
- **Delay premature national market designs**
- **Strict rules on tech specific support**
 - Main criterion: technology learning
 - Comprehensive ex ante and ex post evaluation of policies
- **Investigation into tariff schemes**
- **Data transparency**
- **Splitting price zones**
- ...

The screenshot shows a web interface for downloading data. At the top, there's a 'Views' section with three icons: a bar chart, a table, and a download arrow. Below this, it says 'Download data as excel-file'. There are two radio buttons: 'Current view (list)' which is selected, and 'Day'. Next to 'Day' is a date input field showing '2012/10/02' and a calendar icon. Below the date field, there's a text input field with the instruction 'Enter all characters from picture in text field.' and a CAPTCHA image showing the characters '46c67'. At the bottom right of the form is a 'Start download' button.

EEX transparency website