European Strategic Energy Technology Plan (SET-Plan)

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The challenges:
- *Worsening climate change and emissions…*

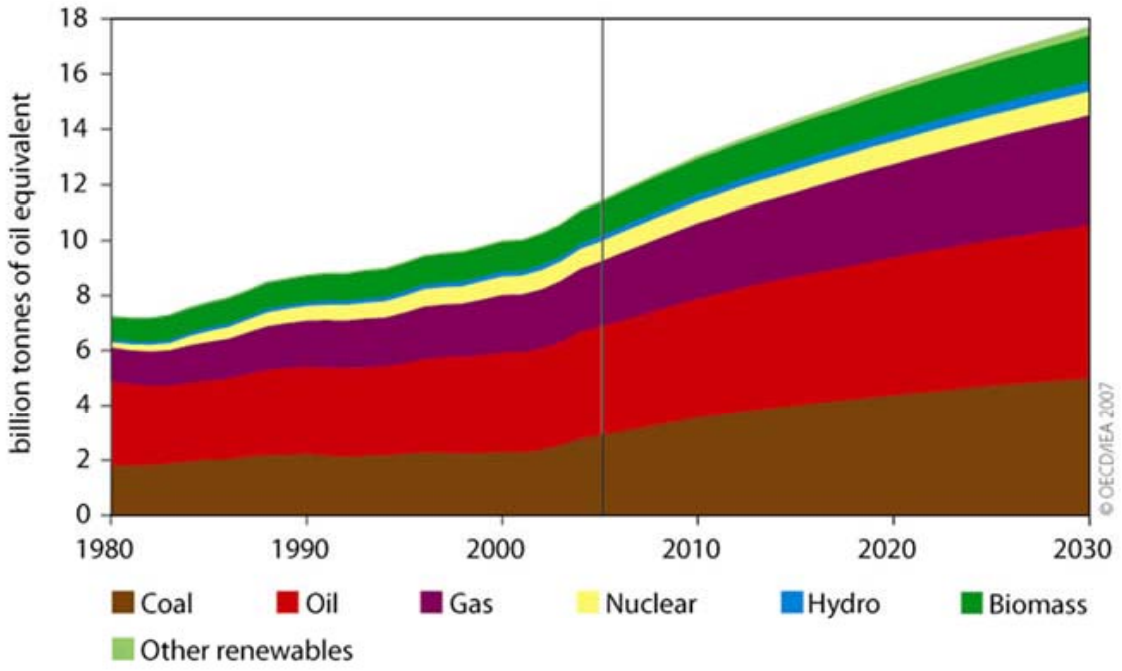
- *Increasing dependence on imported oil and other fossil fuels…*


•Rising energy costs
and falling competitiveness


So sustainability, security of supply and competitiveness are the goals of EU energy policy

Indicators are worrying …

World Primary Energy Demand in the Reference Scenario



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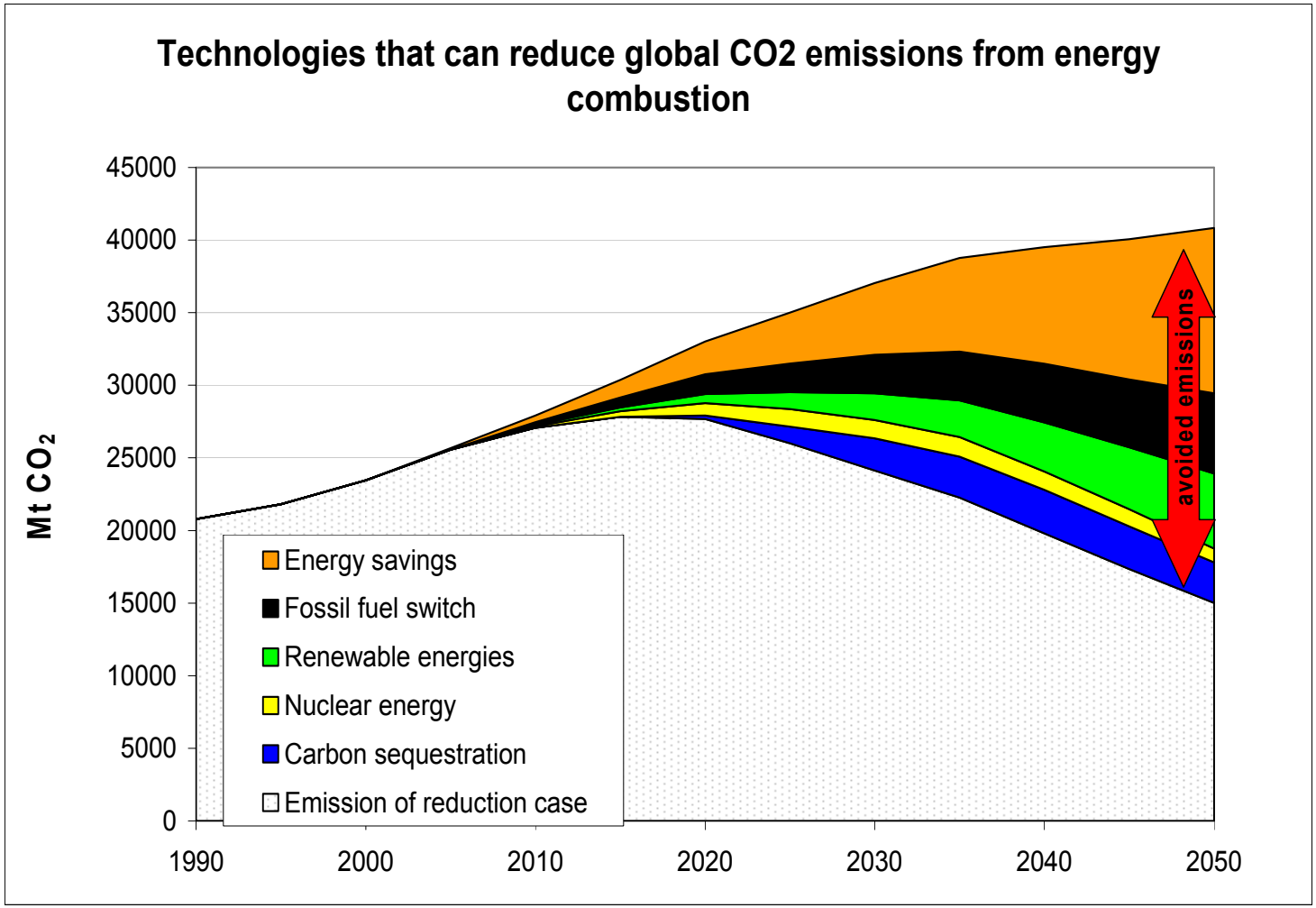
Possible, in theory …



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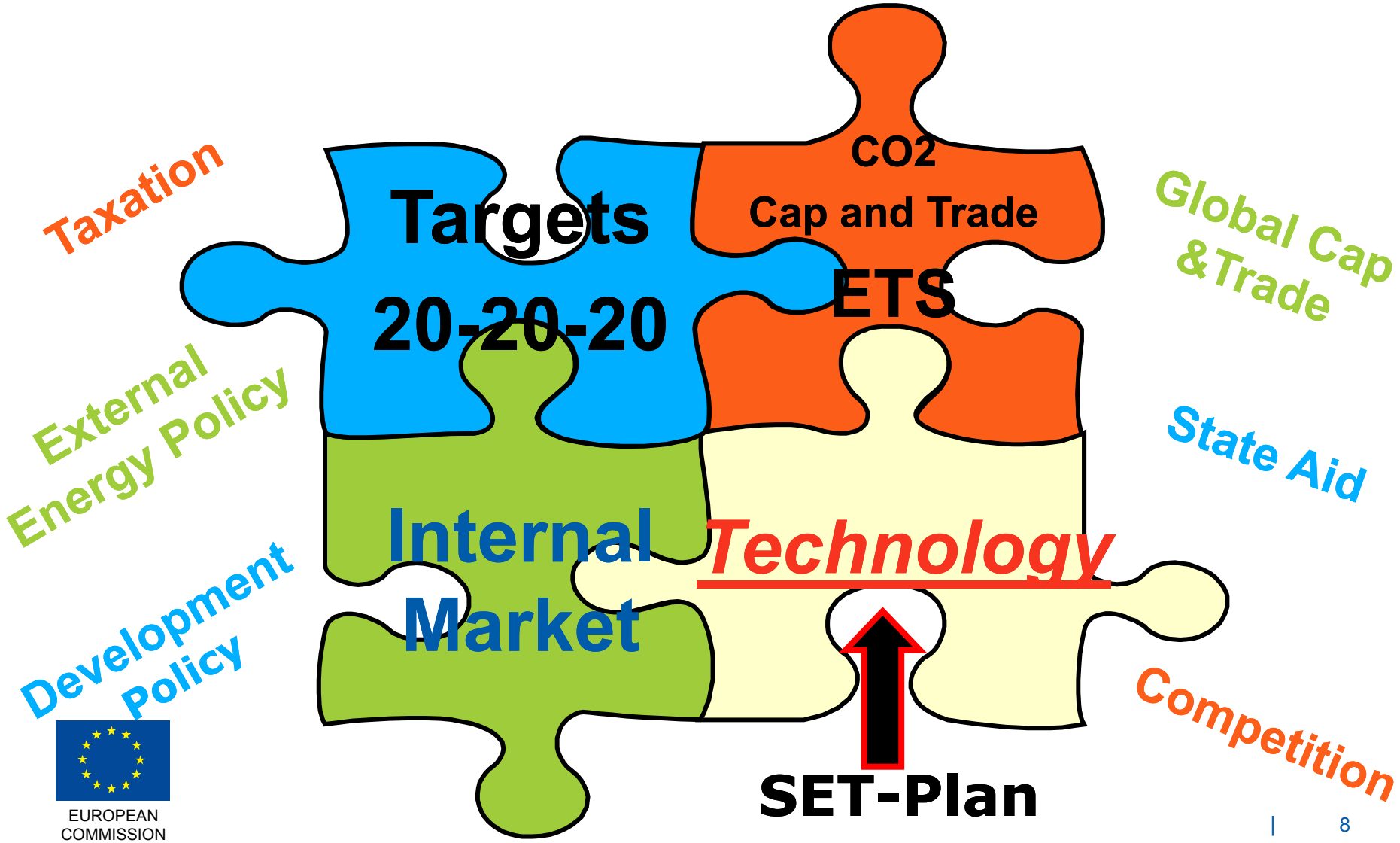
Source: JRC-IPTS

The European energy policy jigsaw



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Why we need a SET-Plan (1)

- **Technology is vital to achieve our policy objectives**
- **Today we are falling short**
- **Intrinsic weakness in energy innovation**
  - long lead times, incumbent technologies, system inertia
  - no natural market appetite for new energy technologies
  - social acceptance issues and up-front integration costs

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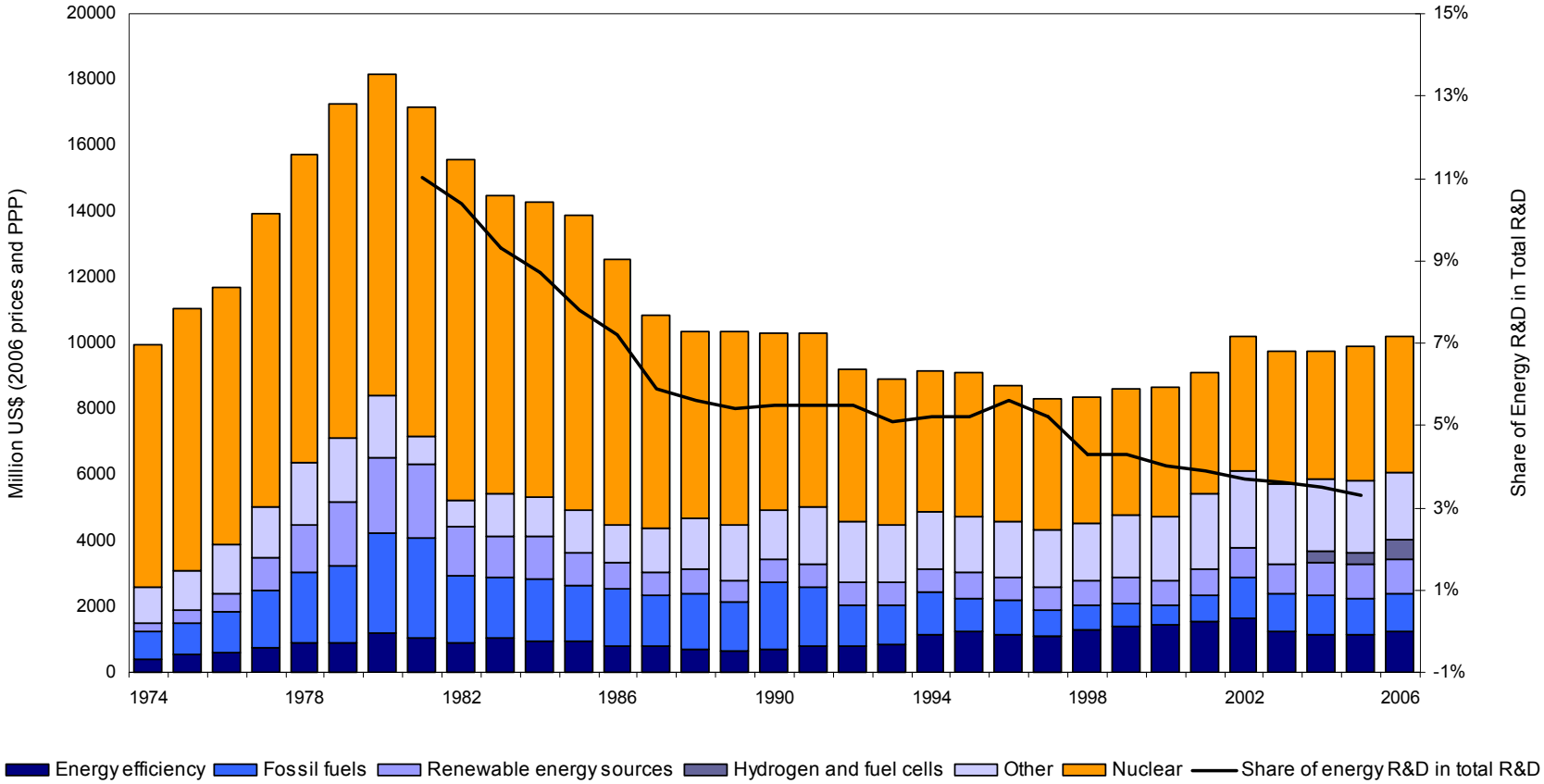
Investment trends …



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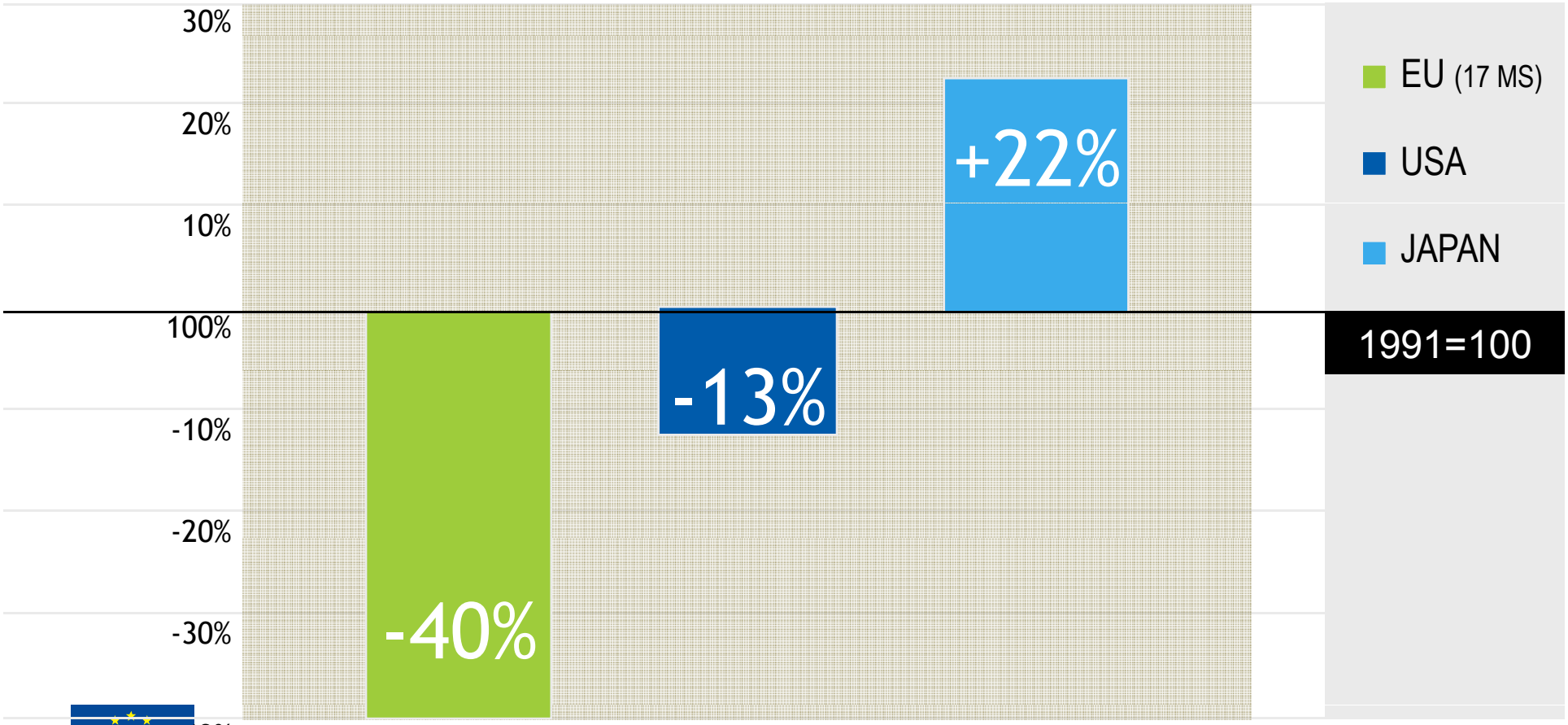
Source: OECD/ IEA, 2008

Evolution of public energy R&D EU, USA and Japan 1991-2005



Source: International Energy Agency (IEA) and own calculations

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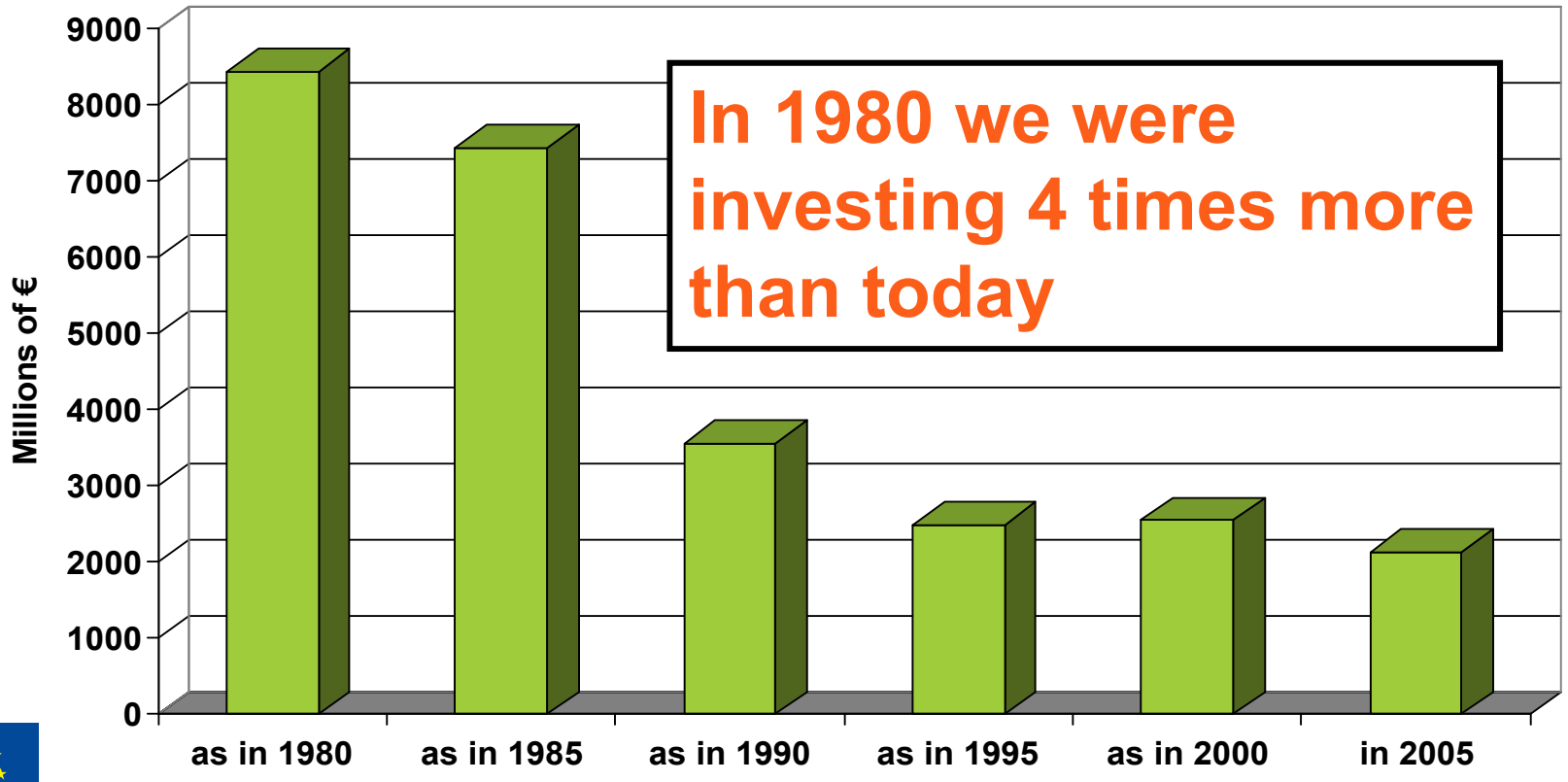
Energy RTD investment in the EU in 2005, if we were investing at the same rate as in ...



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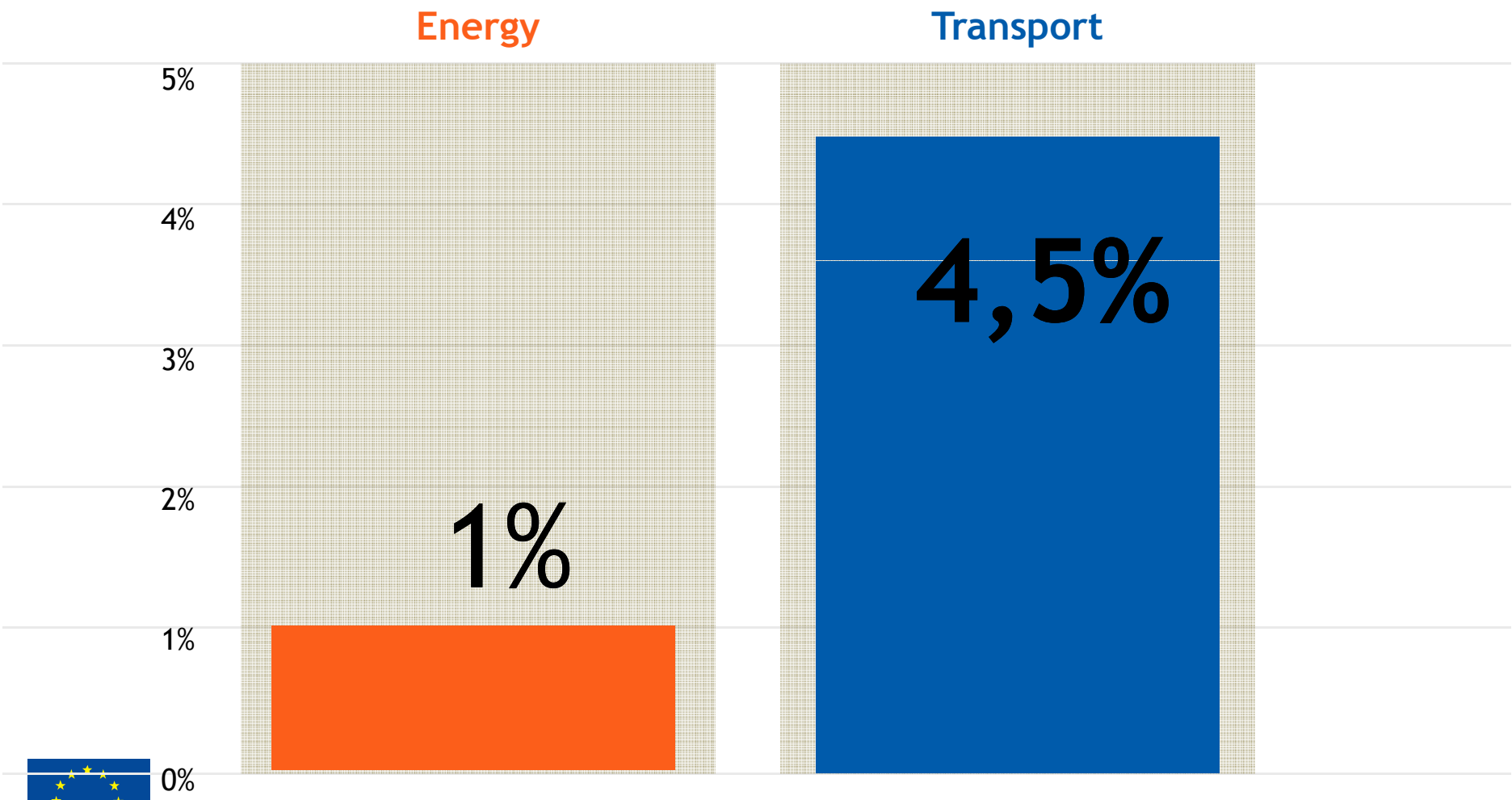
EU industry investments in R&D



Percentage of net sales

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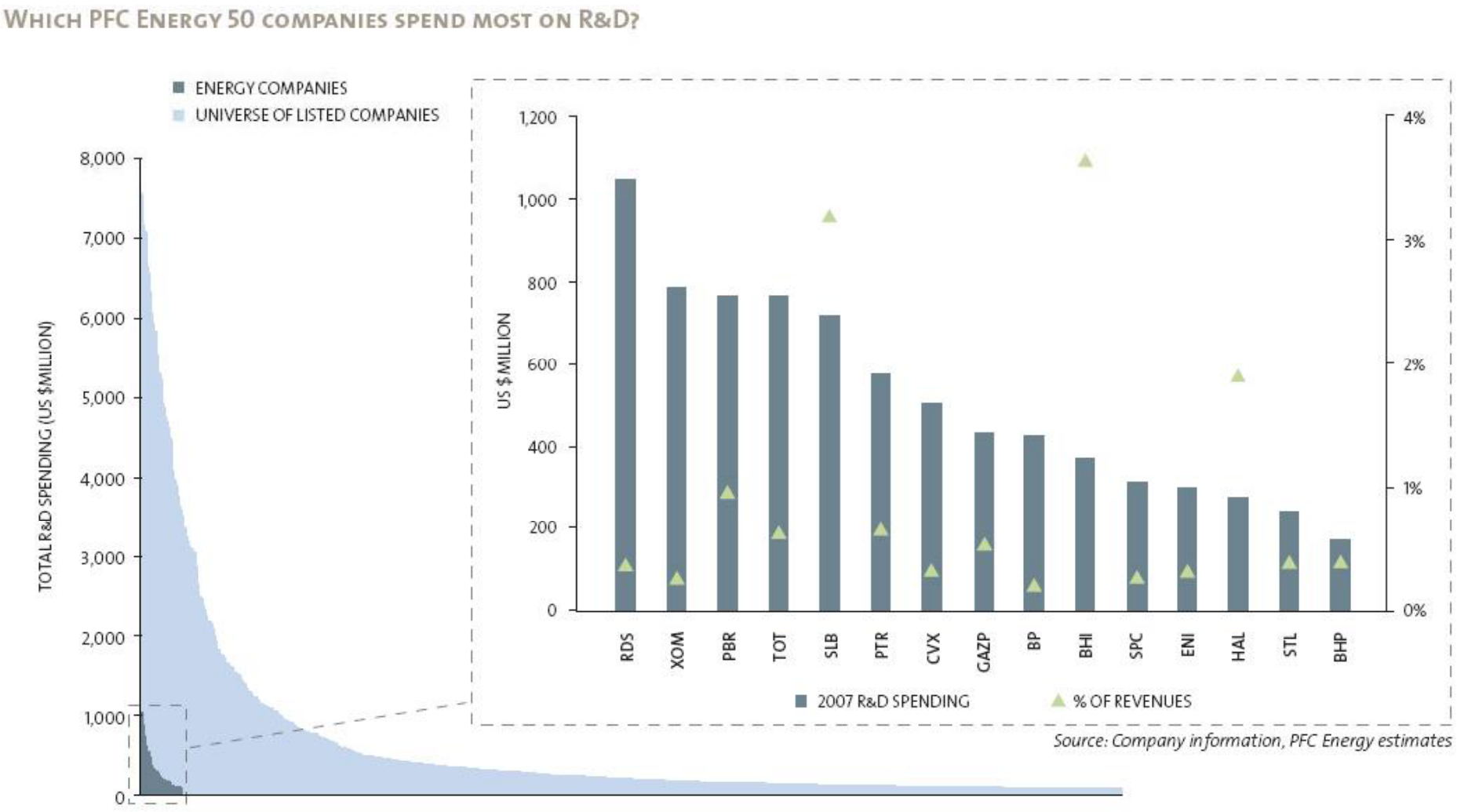
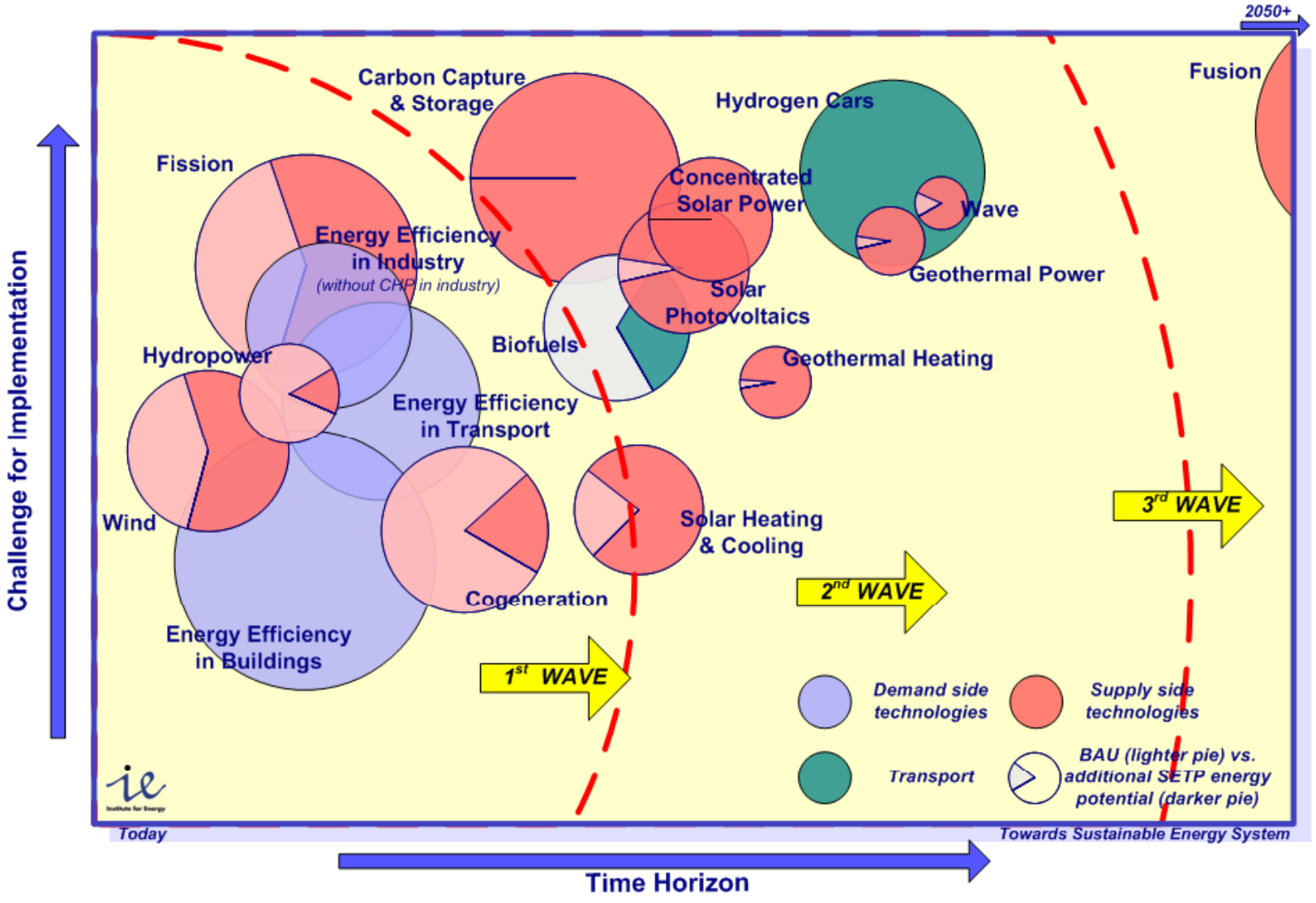
Oil and gas industry investment in R&D



Potential of the technologies



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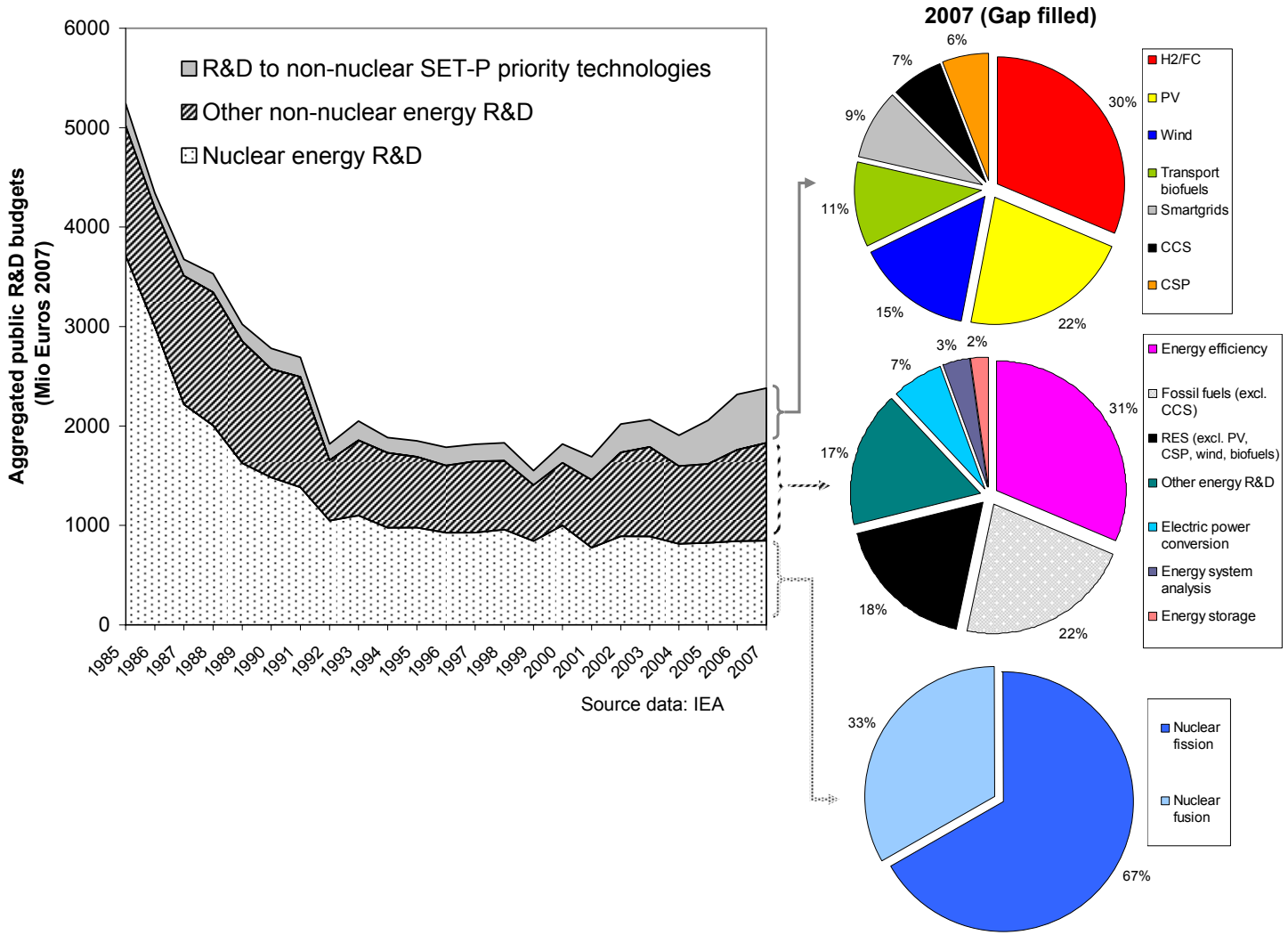
EU investment trends



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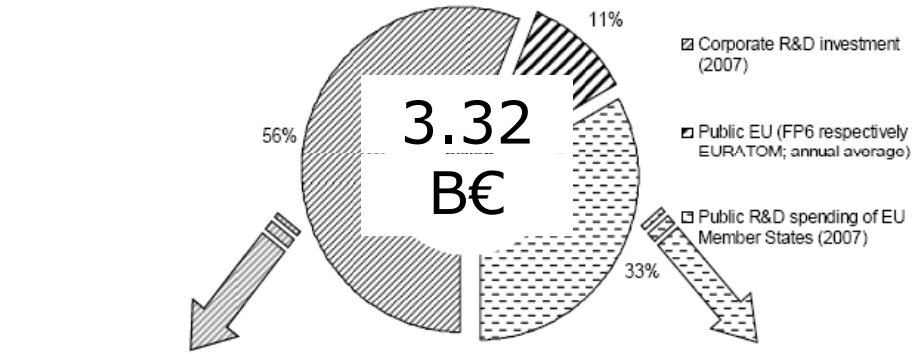
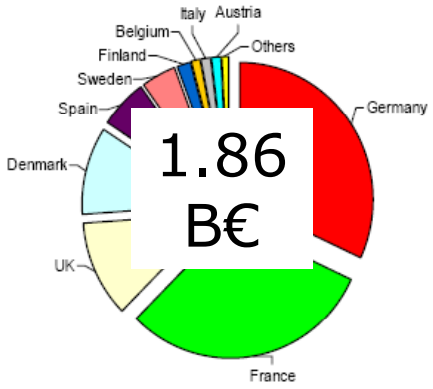
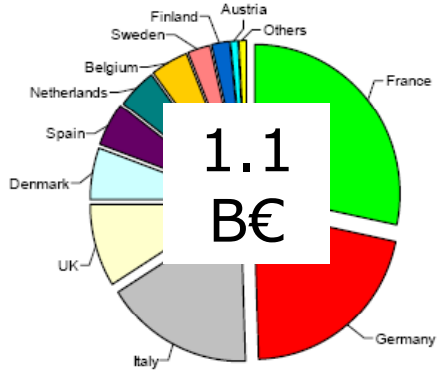
RTD investment in low-carbon technologies in the EU (2007)



Private



Public, MS



Approximate R&D investment in SET-Plan priority technologies (nuclear and non-nuclear) by Member State

Source: JRC-IPTS, rounded numbers

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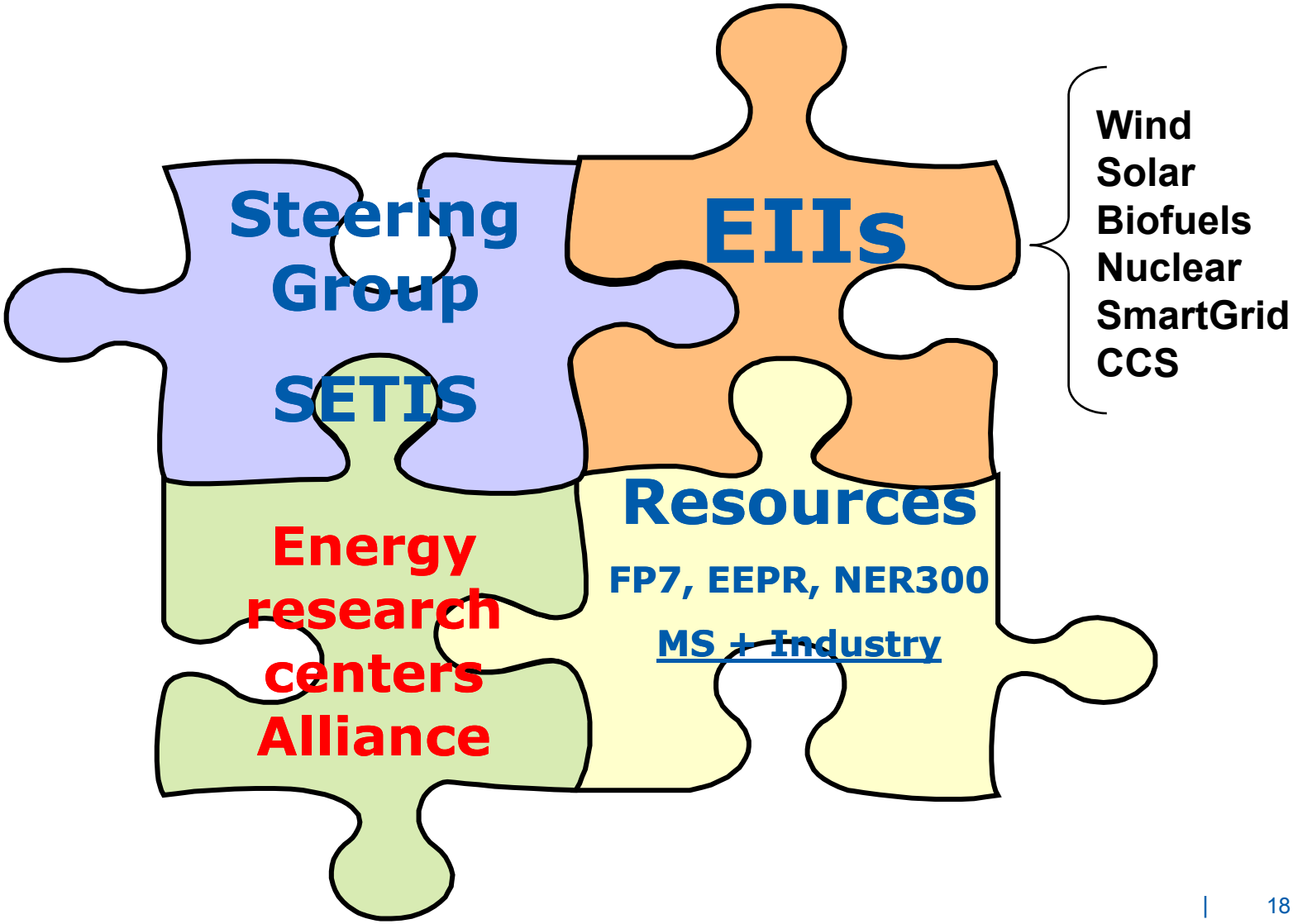
SET-Plan lines of action



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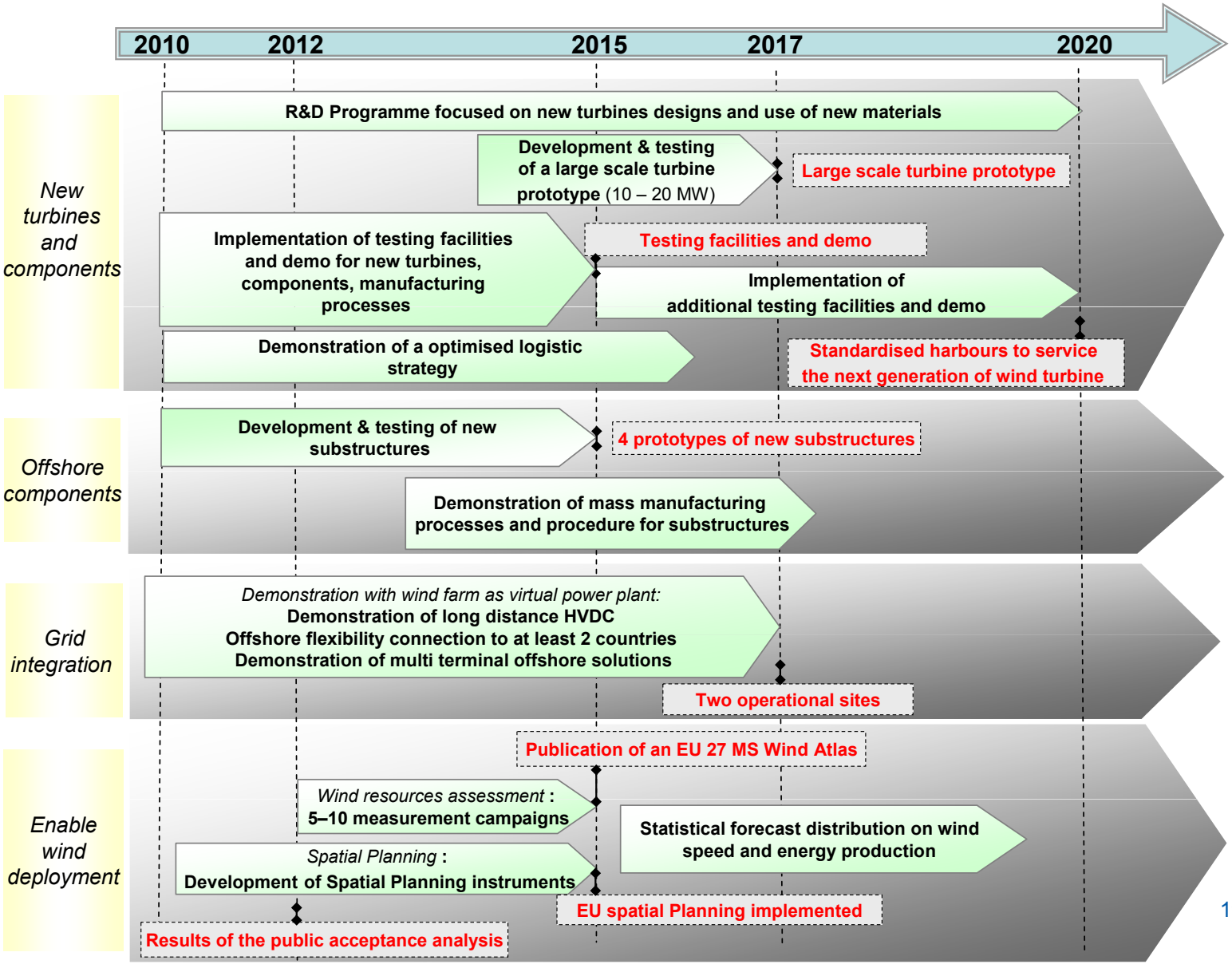
WIND - Technology Roadmap 2010-2020



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Investment has to increase

Need for a step change in investment - from 3b€ to 8b€ per year (public and private)

= an additional investment of 50b€ over the next 10 years

[IEA World Energy Outlook 2009: additional 10.5 trillion $ over baseline up to 2030]

Translates into huge global market opportunity

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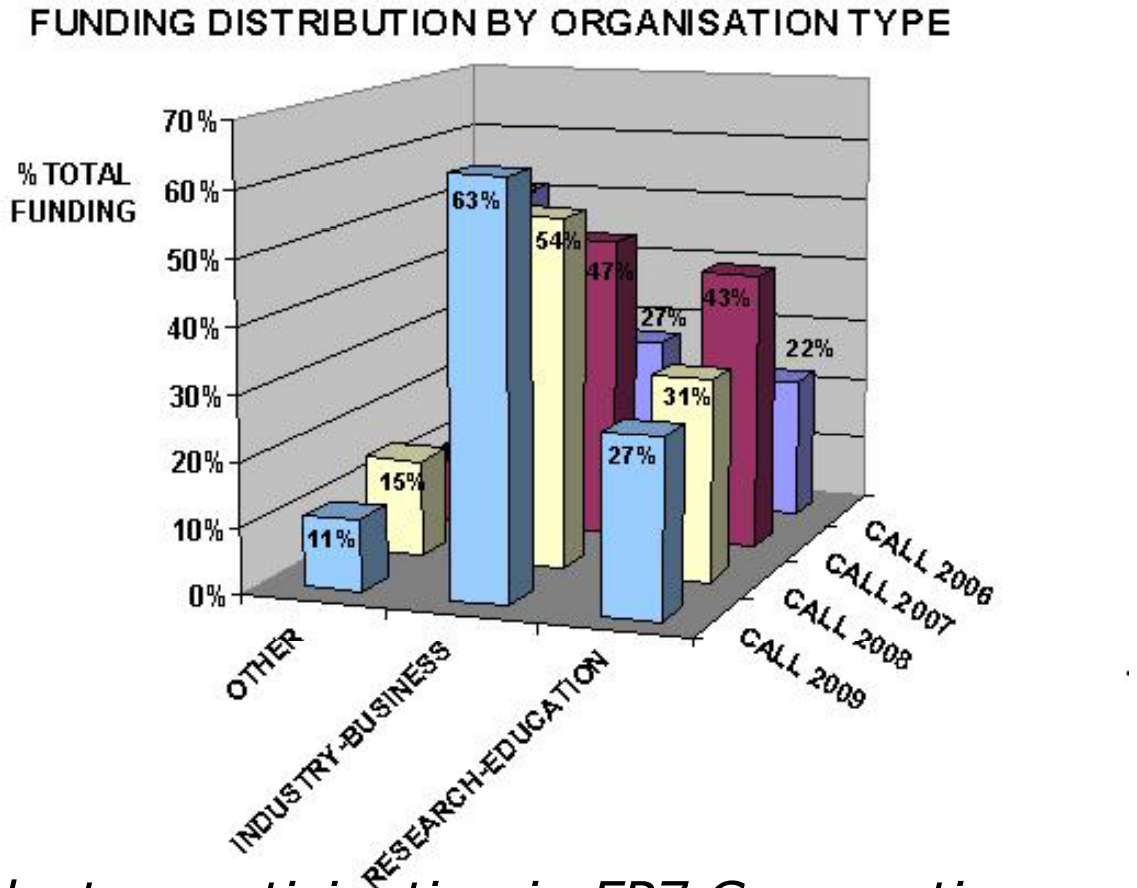
Implementation trends (1)

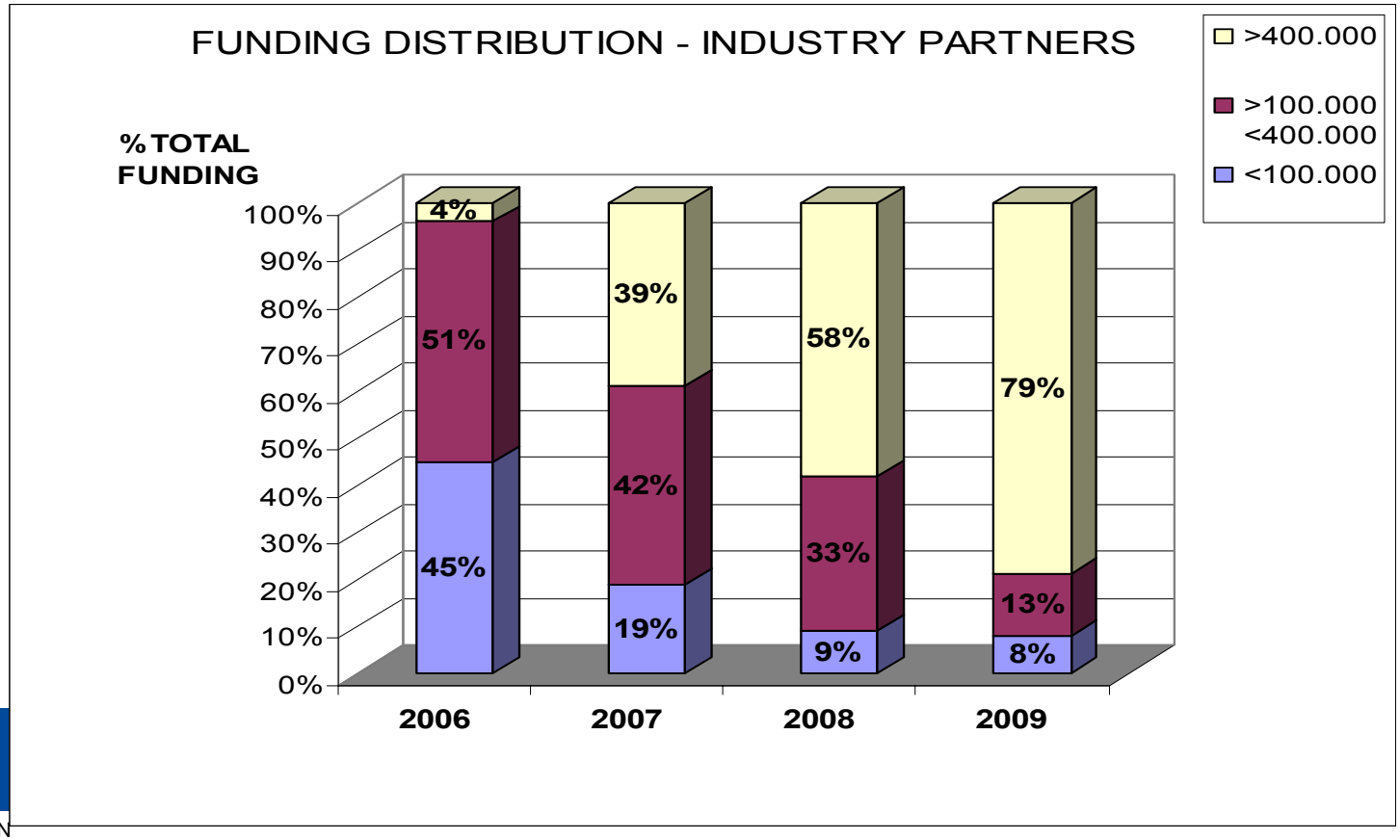
Towards more industrial relevance



Overall industry participation in FP7 Cooperation programme:24%

Implementation trends (2)

Towards more industrial commitment



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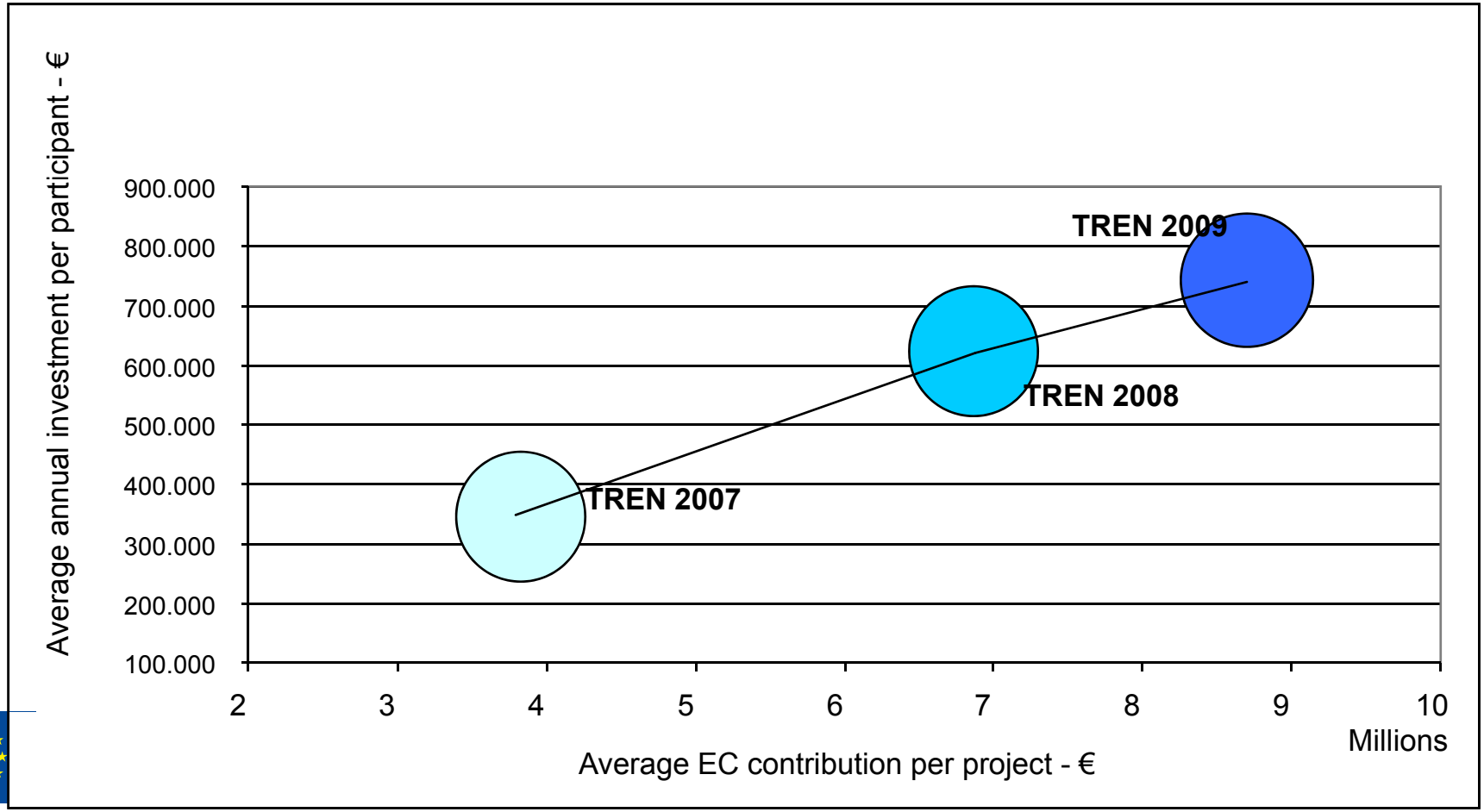
Implementation trends (3)

Less projects, more impact



Success stories

Downvind project
Off-shore wind park with 5 MW turbines

Scotland, North Sea, 2009

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Ongoing EU Project:

first 7 MW **wind turbine**

in the world

Estinnes, Mons, Belgium, onshore Dec. 2009

Ongoing EU Project:
2nd Generation bio-fuels plant

Choren Plant in Germany, 2009

Ongoing EU Project : Solar Power Plant - first commercial tower in the world

Sevilla, Spain, 2009

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Thank you for your attention!

http://ec.europa.eu/energy/technology/set_plan/set_plan_en.htm

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