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# **FUNDETEC Project**

## **Public Sector Finance Seminar**

### **Berlin, 31 May 2007**

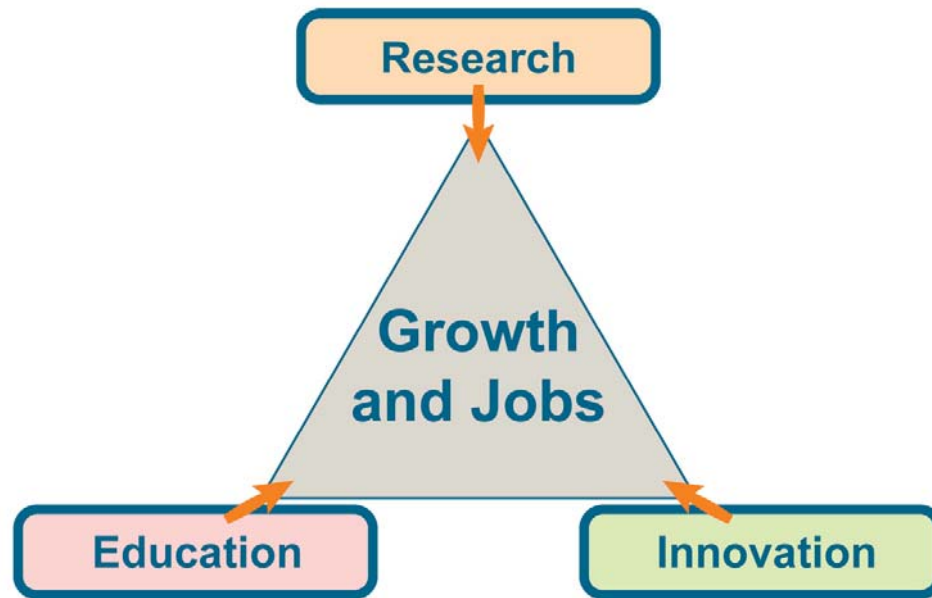
# **Lisbon agenda and beyond: challenges for sustainability in industry**

**European Commission - DG Research**  
**Directorate Environment**

**Unit I.3 « Environmental Technologies and Pollution Prevention »**

**Michele GALATOLA**

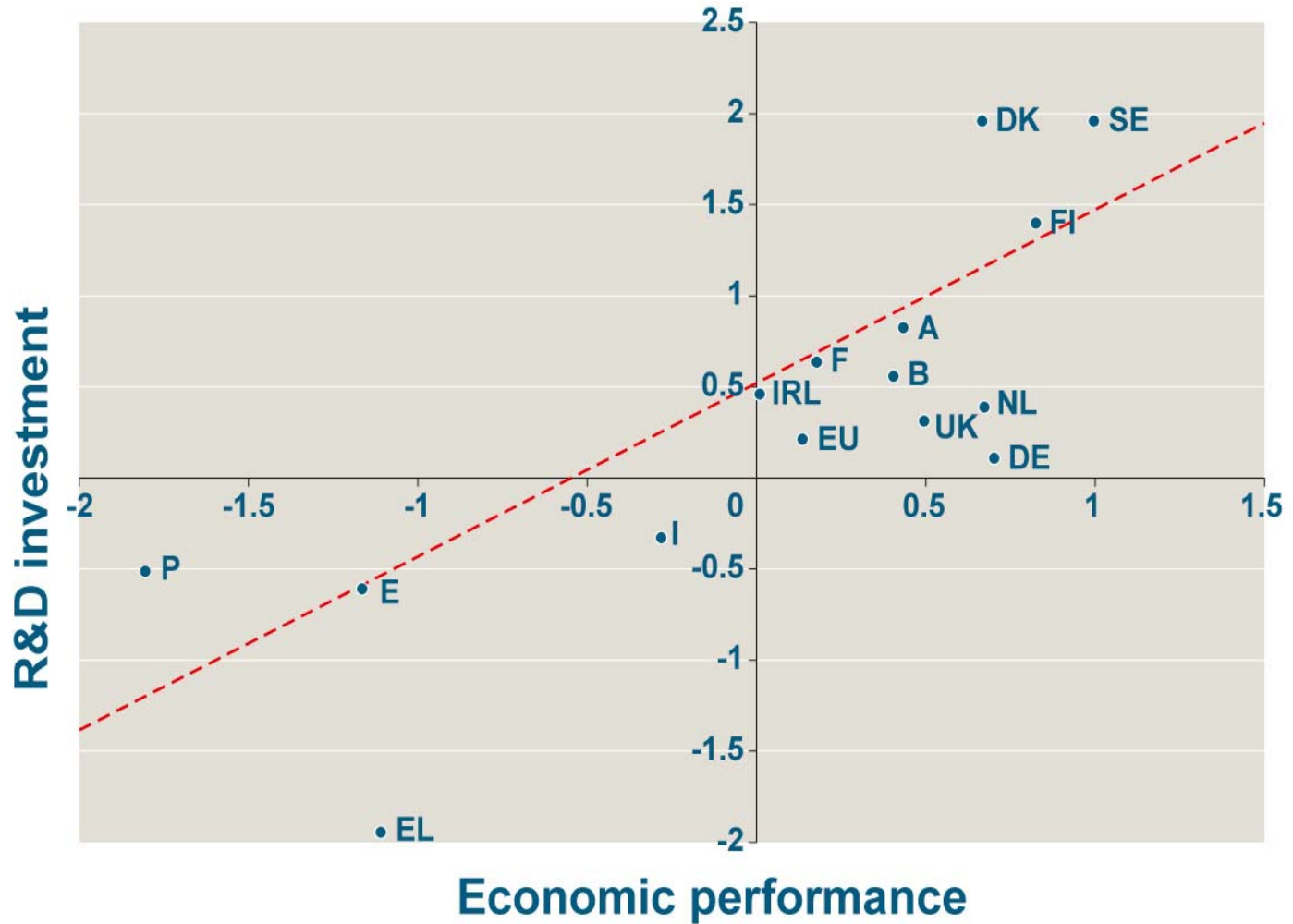




S&T contributes to the **Lisbon** objectives: economic **growth**, **employment** creation, **environmental** protection, **social** challenges



# Research and economic development

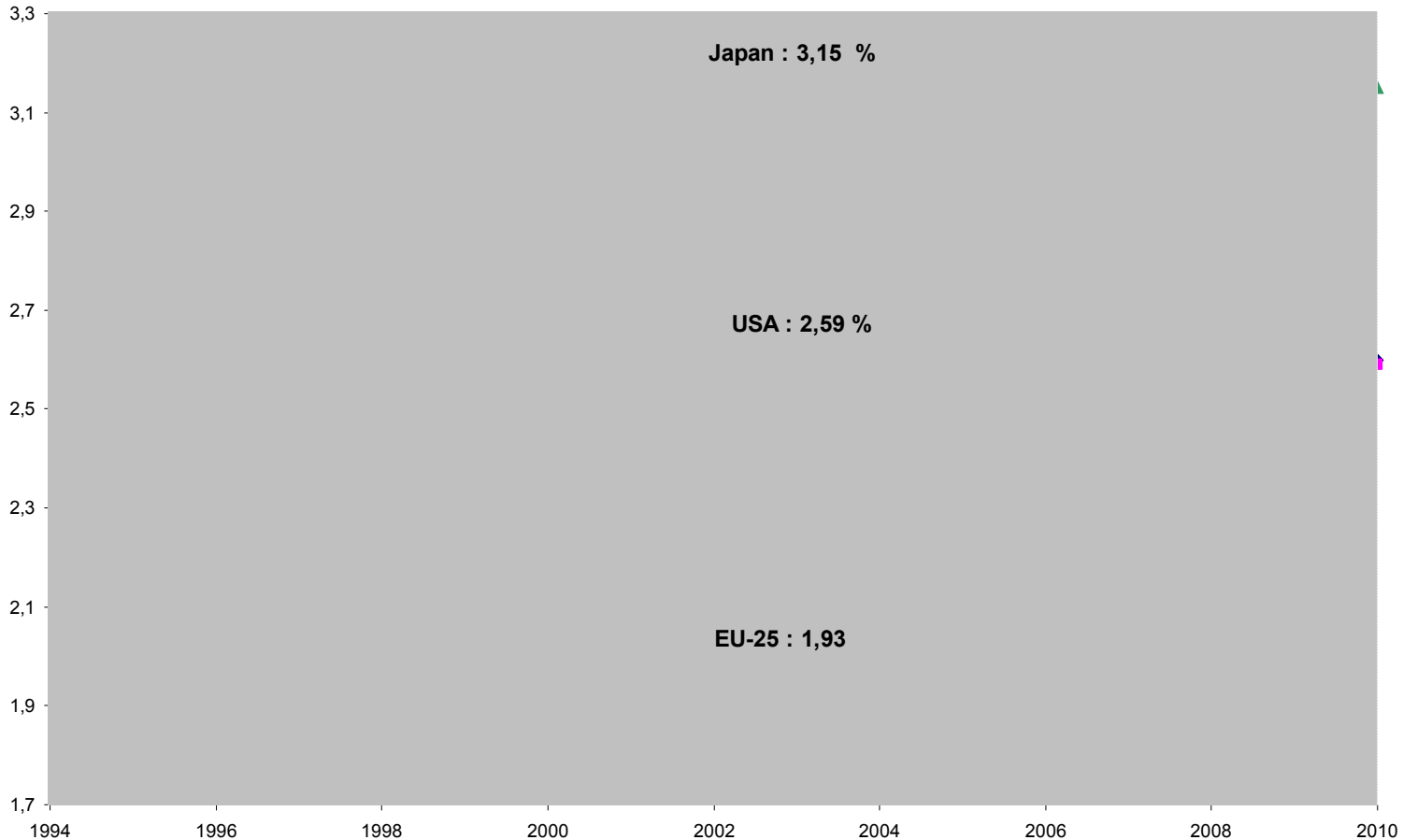




# Research: filling the gap

## Total expenditure on R&D, % of GDP

(EU-25 extrapolation based on R&D intensity targets put forward by Member States in their respective National Reform Programmes)



- **33%** of the global market
- a total expenditure of €200 billion (which is over **2%** of the EU's GDP)
- the sector has experienced annual growth of around **5%**
- exports in 2005 grew by **8%** and there was a trade surplus of over €600 million

# The role of different Countries worldwide

**China**



“Workbench of the world”

**India**



“Global service provider”

**Russia**



“Petroleum pump of the world”

**Brazil**



“Global farmer”

**Europe**



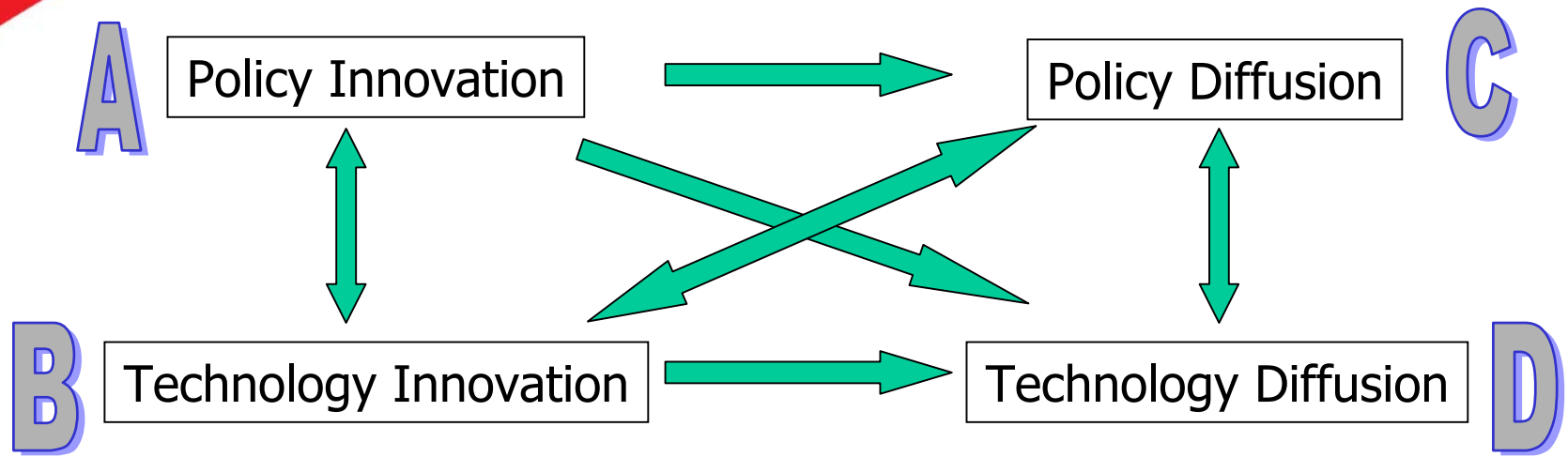
“Environmental engineer”

- ✧ Lisbon Agenda
- ✧ Stern Report
- ✧ IPPC Report
- ✧ Lead Market Initiative
- ✧ Greening of Industrial Policies
- ✧ German Ecological Industrial Policy Initiative
- ✧ Environmental Technologies Action Plan (ETAP)
- ✧ Revision of the EMAS and Eco-Label Regulations
- ✧ Green Public Procurement (GPP)
- ✧ Sustainable Consumption and Production Action Plan (SCP)



- Energy generation and power station technologies
- Energy efficiency technologies
- Recycling and waste management technologies
- Mobility and transport technologies
- Water and wastewater technologies
- White biotechnologies and green chemistry
- Nanotechnologies
- Eco-design
- Bioplastics/Biorefineries

# Diffusion patterns of Environmental Innovation (Jänicke 2000)



## Policy induced Diffusion

## Technology induced Diffusion

**Technology forcing:** (A⇒B⇒C⇒D):  
e.g. US-Car Emission Standards (1970)

**Political Initiative:** (A⇒B⇒D⇒C):  
e.g. Pollutants substitution

**Political Dominance:** (A⇒C⇒B⇒D):  
e.g. ??

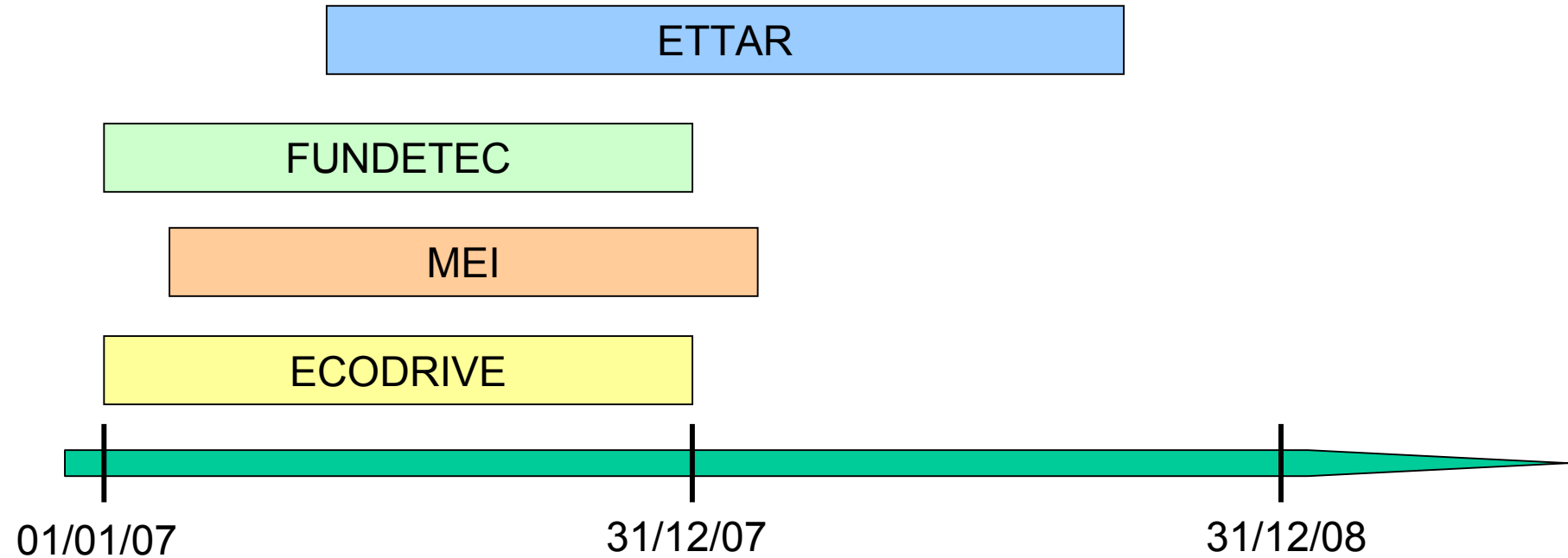
**Technology Initiative:** (B⇒A⇒C⇒D):  
e.g. wind energy

**Technological Dominance:** (B⇒A⇒D⇒C):  
e.g. CHP Technologies

**Autonomous Diffusion:** (B⇒D): rare,  
e.g. energy efficiency in industry



# Eco-innovation RTD Projects in Directorate Environment



# Environmental Technologies Action Plan (ETAP)

Environmental Technologies have the **potential** to reduce pressures on natural resources and contribute to EU competitiveness and growth (the Lisbon process)

"Effective action on the scale required to tackle climate change requires a **widespread shift to new or improved technology** in key sectors such as power generation, transport and energy use " (*the Stern Report*)

- potential is **not fully used** – and EU action is needed
- fields of action:
  - getting from **research** to markets
  - **improving market** conditions
  - acting globally



# Environmental Technologies Action Plan (ETAP)

Actions foreseen in the Second Report on the implementation of ETAP (May 2007):

✓ **Demand** side:

- Further Green Procurement
- **Mobilise greater financial investments**
- Establish Technology Verification and Performance Targets systems
- Build on promising practice of Member States
- Focus on sectors with high gains

✓ **Support** side:

- Ensure a strategic knowledge resource on eco-innovation
- Promote awareness and active participation
- Harnessing Research (including **Assessment of Technologies**)



# Potential benefits of a Sustainability Assessment of Technologies (SAT) method

The potential *benefits* of a common framework for *ex-ante* technology assessment (especially for “**pervasive**” technologies):

- Identification of opportunities, new markets and new customers
- Anticipation of technologies risks (avoid negative impacts on company reputation, identify real or perceived vulnerabilities, minimising risk to develop the "wrong" technology, lower long term risks)
- More successful technology innovation (holistic view, better understanding of consumers' requirements, long-term consumer needs and societal changes)
- Proactive response to more demanding legislation and external technology assessments and ratings/labeling.
- Policy-making decisions supported by commonly agreed and transparently derived indicators



# Conclusions

- ✓ The way to trigger eco-innovation in Europe pass through a mix of different actions, both on the demand and the supply side.
- ✓ Our vision of becoming **World leaders in Environmental Technologies and Engineering** inevitably passes trough more and better research.

- ✓ The promotion of **eco-efficient innovations** has to be taken into account into planning policies and become a central issues of the ex ante Impact Assessment procedure. The **Sustainability Assessment of Technologies (SAT)** could represent an important reference in this direction
- ✓ Existing and new policies should be more coordinated in order to support effective and consistent ways of promoting eco-technologies and system innovations. In this context **revised and new tailor-made public and/or private funding schemes** can play a pivotal role.



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***Thank you for your attention!***

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