Eco-innovation challenge: turning costs into benefits for all?

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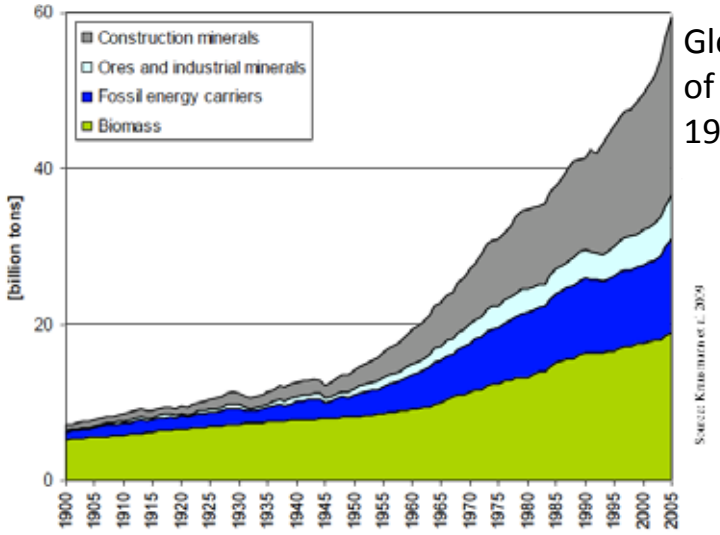
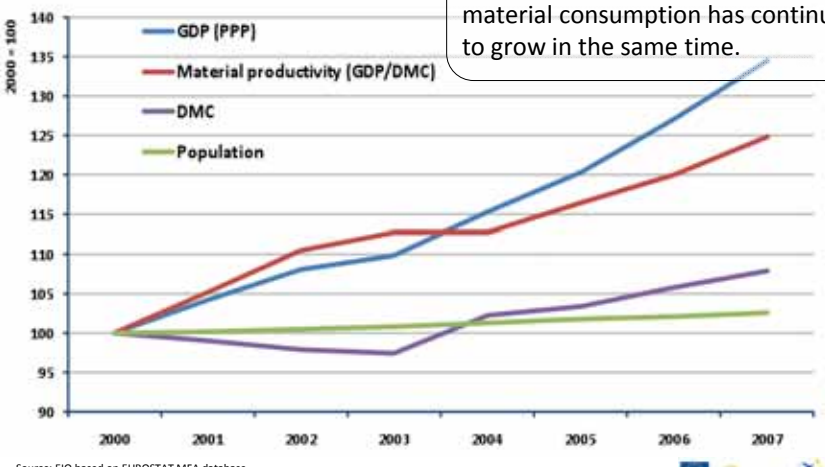
Frames: eco-innovation challenge



Global use of materials 1900-2005

The EU has achieved a relative de-coupling of GDP growth from material use. The absolute level of material consumption has continued to grow in the same time.



Source: EIO based on EUROSTAT MFA database

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1) to further improve the resource productivity
2) to ensure that eco-innovations and their benefits are widely diffused in economy and society

productivity

+

3) to ensure that the improved productivity is not offset by the growth in the total consumption of natural resources

sufficiency

Welcome to Planet Earth
Credit: Apollo 17 Crew, NASA

Why eco-innovation?

Eco-innovation is any innovation that reduces the use of natural resources (including materials, energy, water, biomass and land) and decreases the release of harmful substances across the whole life-cycle.

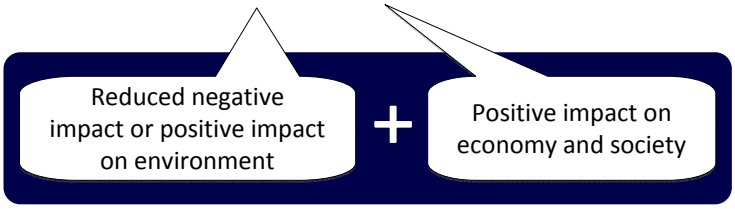
Economic dimension: innovation is a new or significantly modified solution **implemented** on the market or in the organisational practice

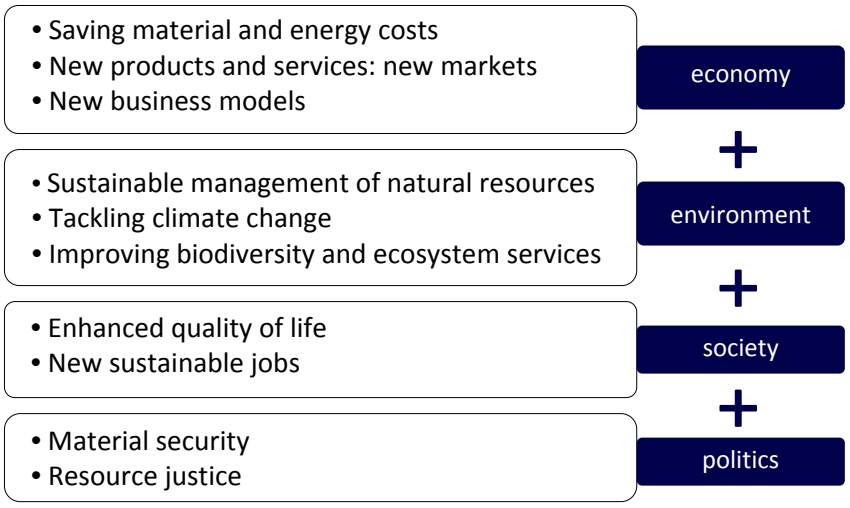
Eco-innovation is any **innovation** that reduces the use of natural resources and decreases the release of harmful substances across the whole life-cycle.

Eco-innovation is any innovation that **reduces the use of natural resources (including materials, energy, water, biomass and land) and decreases the release of harmful substances across the whole life-cycle.**

Environmental dimension:
Better (functional) use of natural resources and reduced emissions of harmful substances across the life-cycle.

Eco-innovation is any innovation that reduces the use of natural resources (including materials, energy, water, biomass and land) and decreases the release of harmful substances across the whole life-cycle.





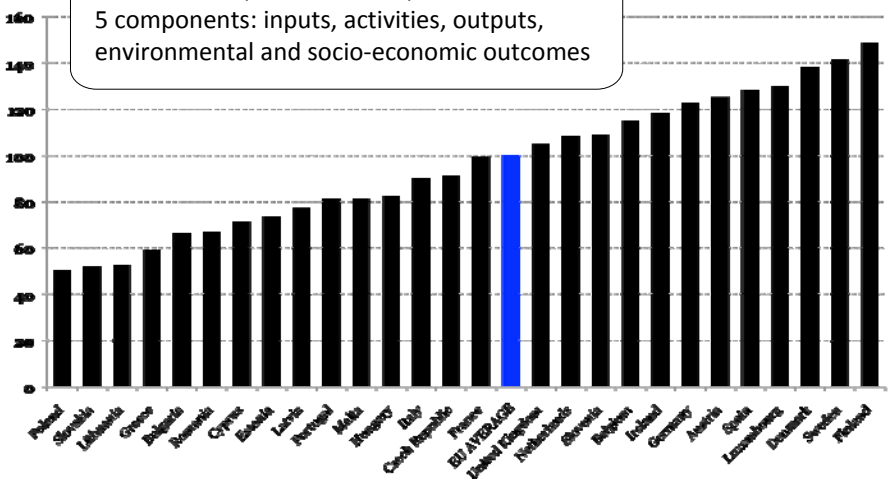
DEFRA (UK): £23bn could be saved in 2009 in the UK by making simple changes to use resources more efficiently. Savings opportunities with a payback greater than one year estimated at £33bn. This gives a total opportunity of around £55bn (Oakdene Hollins 2011)

NISP – National Industrial Symbiosis Programme (UK): €982m saved and €1027m in additional sales created in the period April 2005-March 2011; €9 in direct receipts for every €1 invested in NISP (NISP Economic Valuation Report, Manchester Economics 2011)

DEMEA (German Material Efficiency Agency) estimated about €200,000 of potential savings per company with an investment of under €10,000 in nearly half of the companies covered by the scheme (DEMEA 2010)

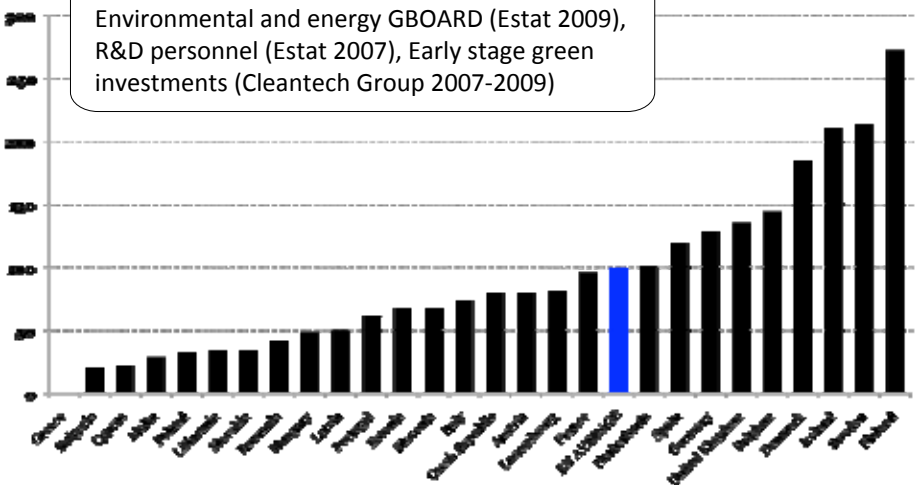
Country performance:
Eco-Innovation Scoreboard 2011

Eco-innovation scoreboard 2011
16 indicators (8 data sources)
5 components: inputs, activities, outputs, environmental and socio-economic outcomes

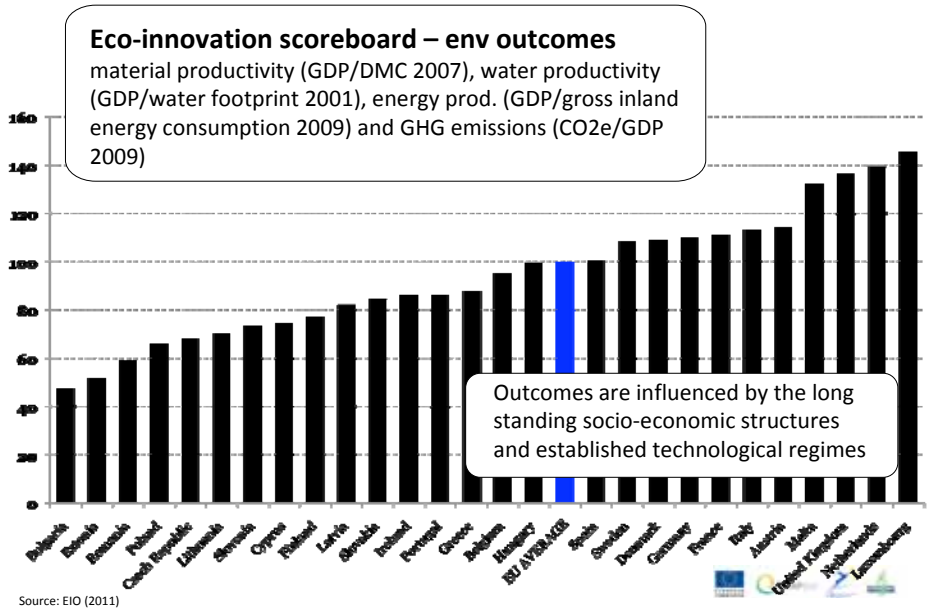


Source: EIO (2011)

Eco-innovation scoreboard – inputs
Environmental and energy GBOARD (Estat 2009), R&D personnel (Estat 2007), Early stage green investments (Cleantech Group 2007-2009)

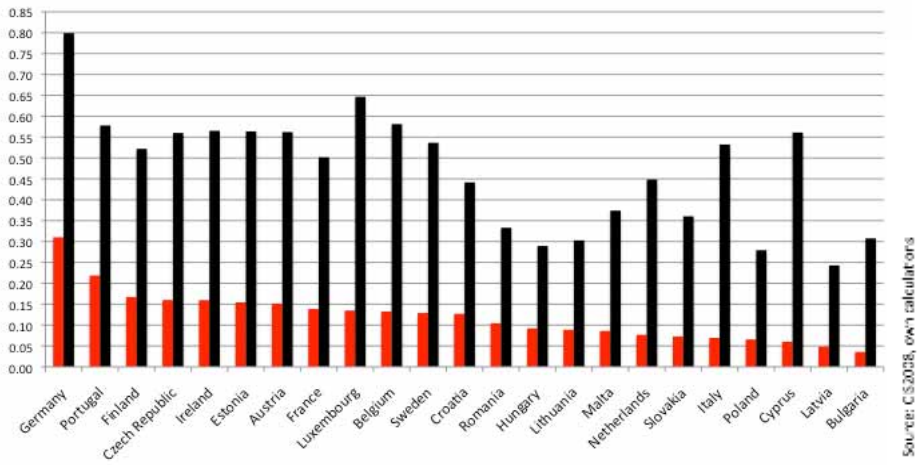


Source: EIO (2011)

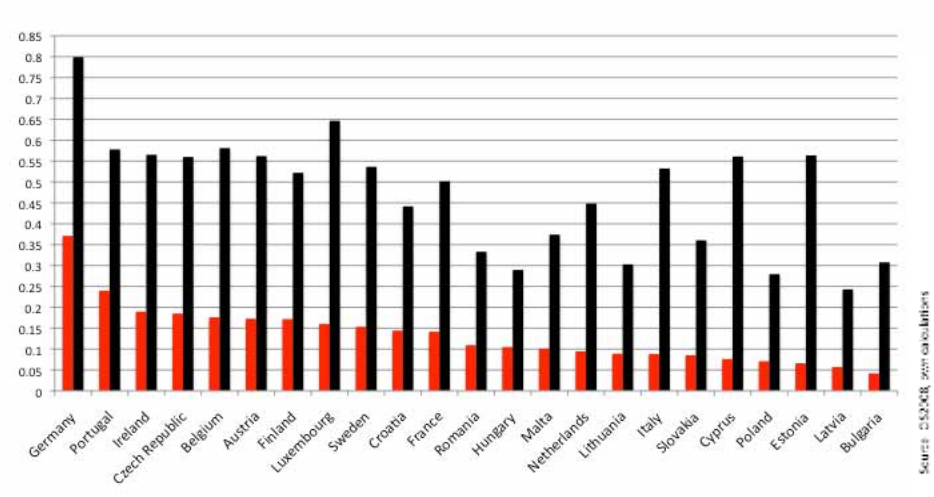


Source: EIO (2011)

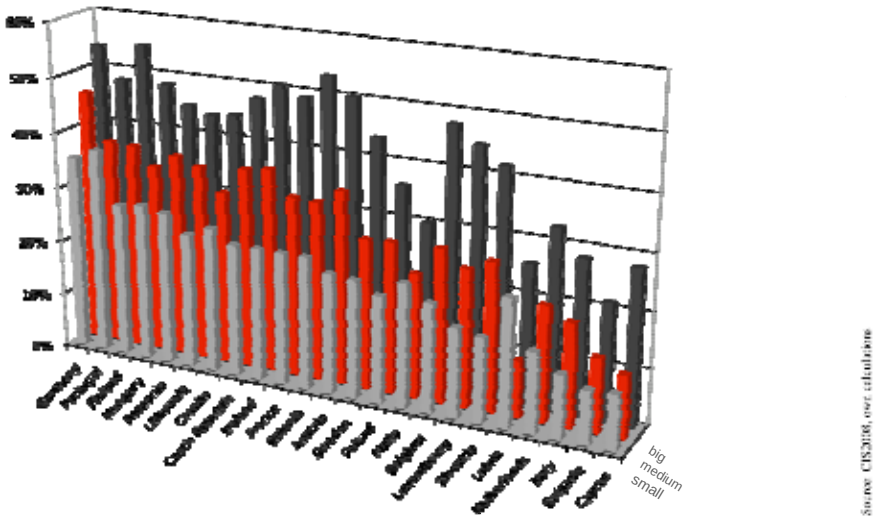
Eco-innovation in companies:
Untapped potential and systemic lock-ins?



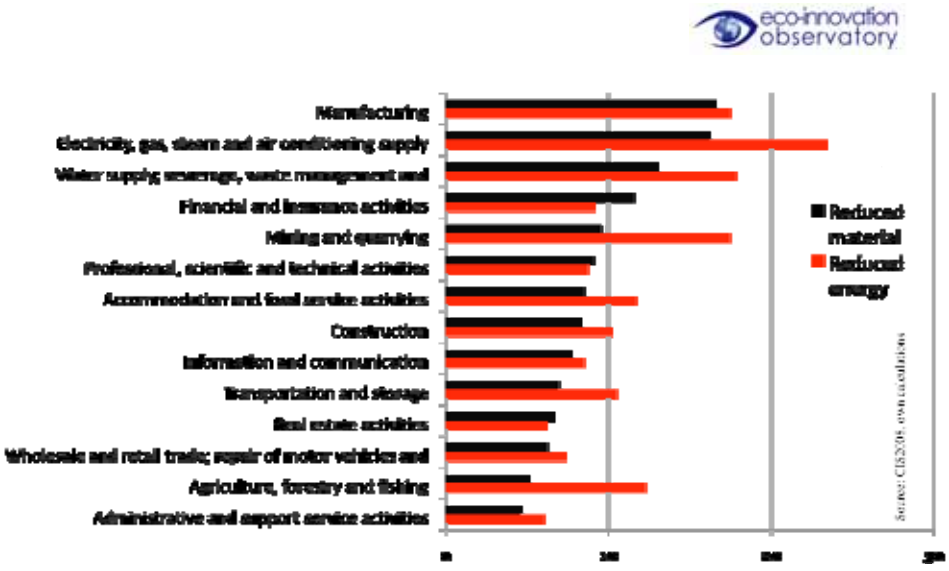
Share of firms reporting **reduced material use** per unit of output as a result of innovation (red) and firms with any innovation activity (black) (CIS 2008)



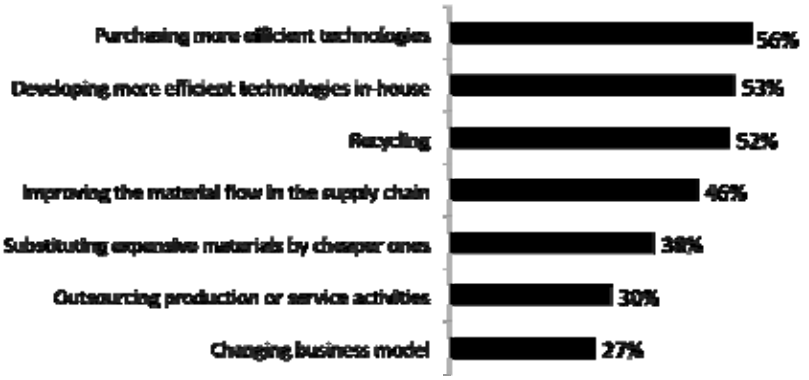
Share of firms reporting **reduced energy use** per unit of output as a result of innovation (red) and firms with innovation activity (black) (CIS 2008)



Innovating firms reporting **reduced material use** per unit of output **per company size** (CIS 2008)



Share of firms reporting **reduced material and energy use** per unit output as a result of innovation in selected sectors (CIS 2008)



Changes implemented to reduce material costs by European SMEs over last five years (2006-2010) (N=5222; sectors: manufacturing, construction, water supply and waste, agriculture, and food services)

Source: EUROBAROMETER 2011, own calculations

Transition: are we on the right track?

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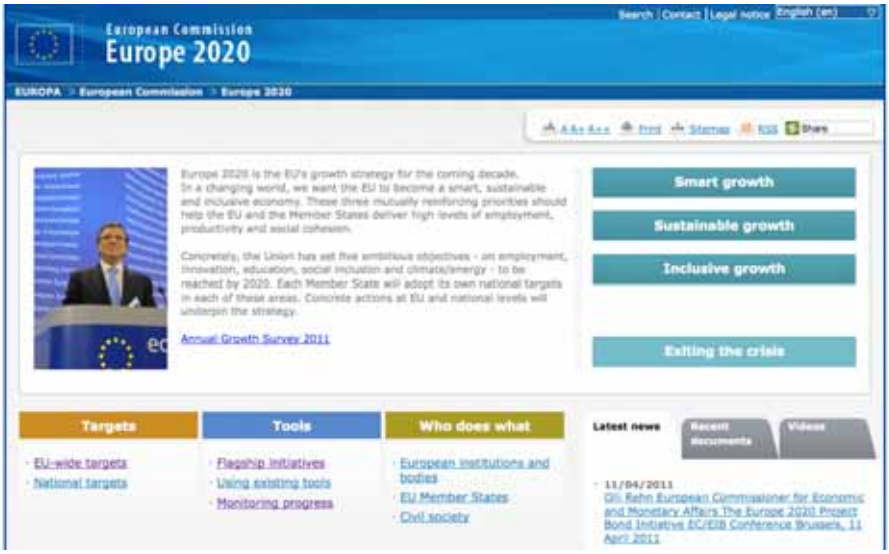

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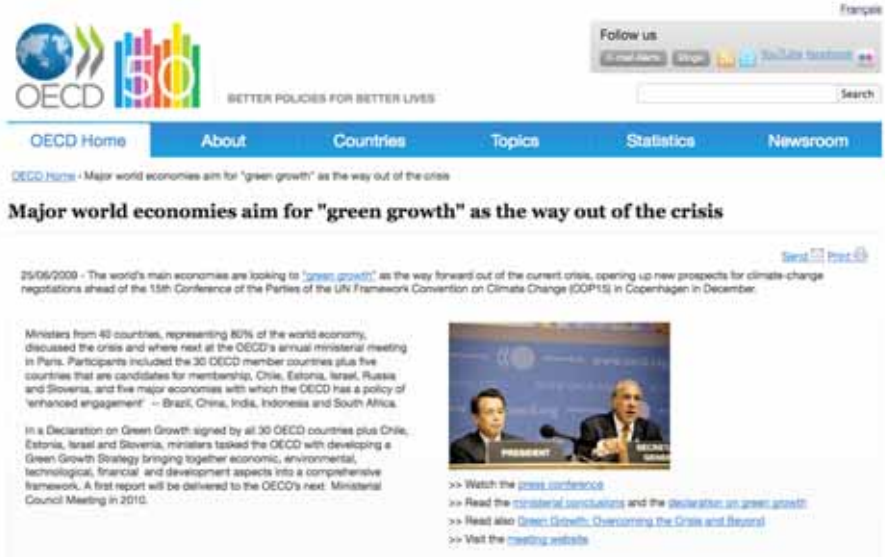
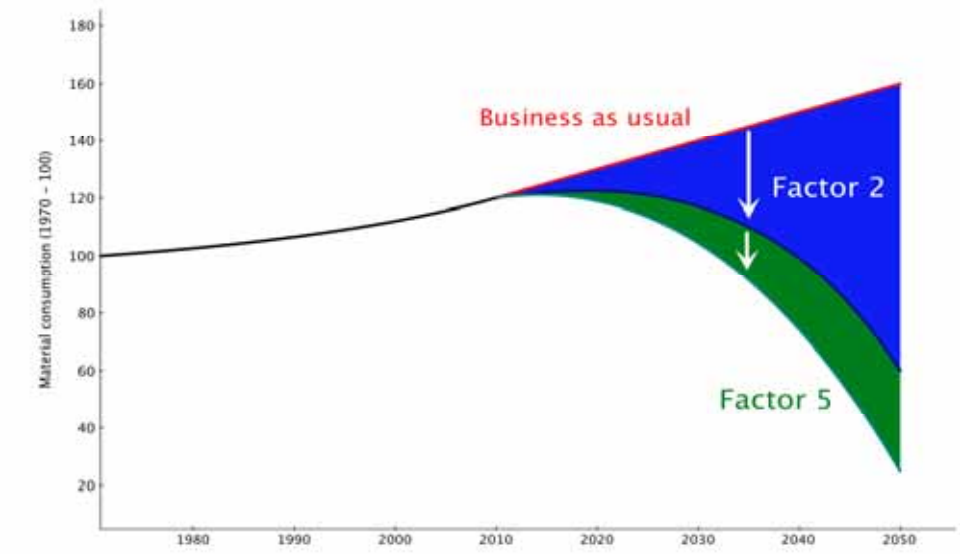
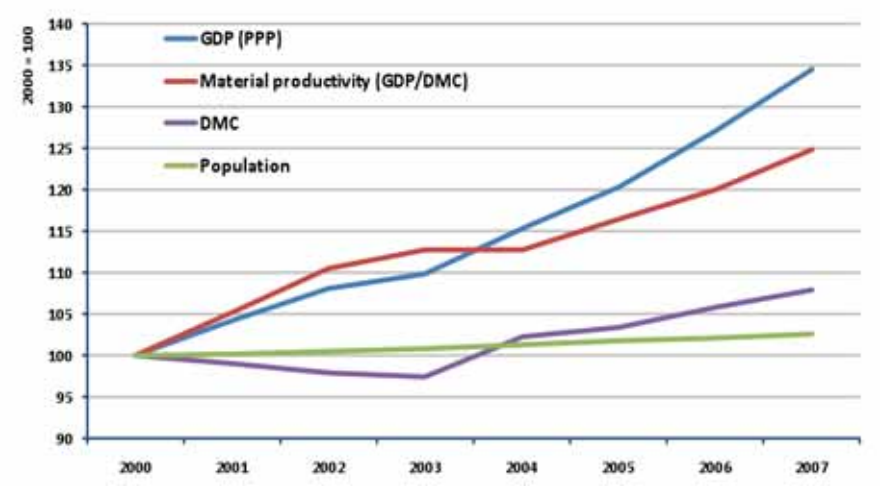


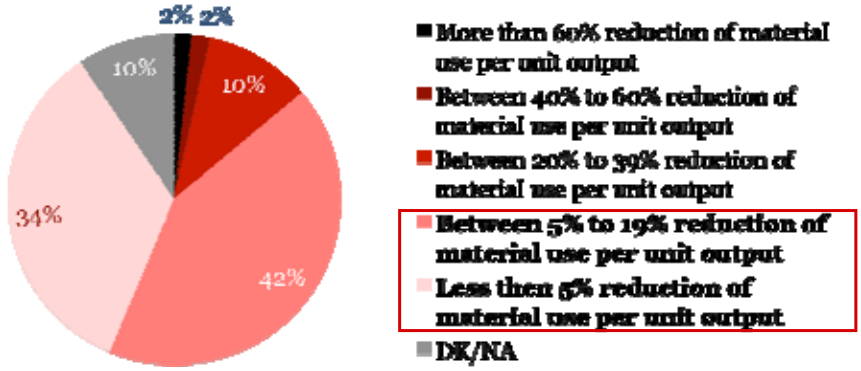


Source: EIO 2011



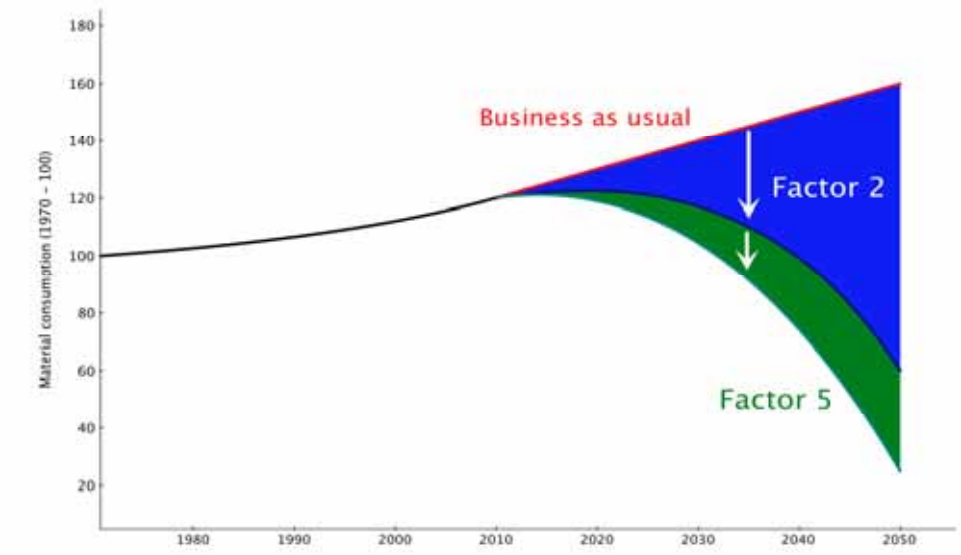
Source: EIO based on EUROSTAT MFA database

45% of companies in EU in manufacturing, construction, agriculture, water supply and food services have **introduced at least one eco-innovation in the past two years** (Eurobarometer 2011)



Source: Eurobarometer (2011)

How would you describe **the effect of innovation** you have introduced in the past 24 months in terms of **resource efficiency**?



Source: EIO 2011

Concluding remarks

- Eco-innovation activity is relatively widespread in the EU according to innovation polls
- There is growing evidence that eco-innovation can lead to the reduction of material cost of companies, including SMEs
- Eco-innovation, notably linked to resource efficiency and material security, has moved up both policy and business agendas

but…

- Majority of EU companies do not eco-innovate
- Great majority of eco-innovators declare only incremental material efficiency improvements
- Strong eco-innovation performance does not automatically result in better environmental performance on the macro scale
- There is a high diversity of eco-innovation performance in the EU, both between countries and sectors

Eco-Innovation Observatory

A Cerro Tololo Sky (Chile)
Credit: Roger Smith, AURA, NOAO, NSF

- Information platform on eco-innovation for business, policy and researchers
- Analysis of the current and future eco-innovation trends in EU and beyond
- Funded by the European Commission, DG Environment
- Duration: 3 years (2010-2012)

Our resources:

- Reports and briefs
- EU27 country profiles
- Database with on-line charts and maps
- Good practice examples
- Glossary
- Surveys

Visit our website to get access to our reports, briefs, and databases.

www.eco-innovation.eu

Thank you

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