



Green Industry

**Towards Environmental Technologies, the Vision of World,
European and Regional Players:**

Green industry: Opportunities and Challenges

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INDUSTRIAL DEVELOPMENT ORGANIZATION

www.unido.org

Outline

1. Context and challenges of sustainable development
2. What do we mean by a green industry?
3. The market for environmental technologies
4. Selected UNIDO's projects
5. Concluding remarks



1. Context and challenges

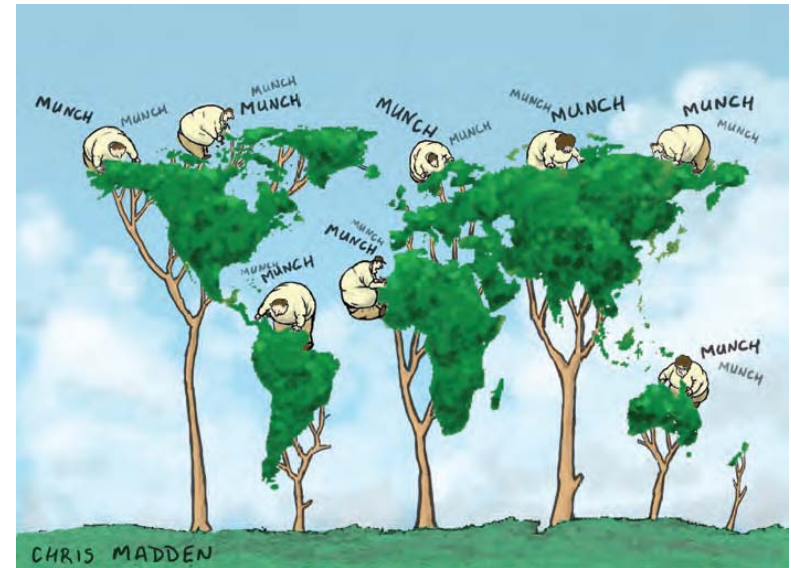
- Many industries use more materials and energy than their production processes require due to continued use of obsolete and inefficient technologies.
- The Producers and consumers have adopted patterns of production and consumption without taking into consideration:
 - ✓ The limits of the planet's available resources
 - ✓ Its assimilative capacity for emissions
 - ✓ And this situation is further exasperated by continued population growth.



- Current production systems are unsustainable.
- They do not allow today's needs to be met without jeopardizing those required for future generations.

We need a transition to a more fuel efficient, low carbon economy:

- And they are economic, technological and ecological reasons to do that:
 - ✓ **An estimated 60% of the world's ecosystems have been degraded.**
 - ✓ **Global carbon emissions have risen by 40% since 1990.**



However, they are new positive developments.....

- At the enterprise level, global competition and best practices are leading enterprises to establish:
 - ✓ good industrial relations and improve working conditions – Corporate Social Responsibility (ISO 26000).
- Pressure is also coming from major lending institutions as well as investors, which are adopting performance standards on:
 - ✓ environmental concerns (ISO 14000).
 - ✓ social issues.
- The Governments are another source of pressure, increasingly requiring enterprises to meet standards pertaining to:
 - ✓ Environment.
 - ✓ Occupational health and safety.
- ISO has just started the development of a new standard in the field of energy management (ISO 50000)

New developments....environmental technologies

- Manufacturing industries can improve their energy efficiency by as much as **18 to 26%**
- while reducing the sector's CO₂ emissions by **19 to 32%** based on proven technologies.
- **Case of India:** lowered energy consumption for its **cement, steel and fertilizer industry** by about **28%** per unit output.

What are the challenges in this international context?

**Sustainable
Development**

should:

health, income,
quality of life

increase

resource use, pollution,
waste, impact on nature, ...

decrease

Simply said....our global challenge....

- To provide more **value** with less environmental **impact**
- To **de-link** advances in welfare from the natural resource use
- To improve both **economic** and **ecological efficiency**

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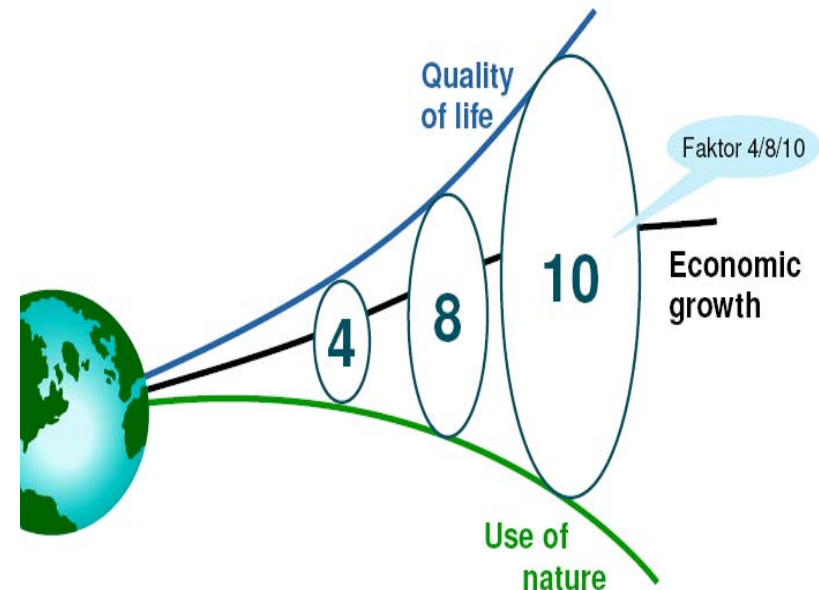
ECO-EFFICIENCY

Is this challenge a delusion?

- The reality is that there is as yet no:
 - ✓ **credible, socially just** and **ecologically sustainable** scenario of continually growing incomes for a world of 9 billion people.
- Governments are in conflict:
 - ✓ Securing the future by protecting long-term social and ecological goods
 - ✓ Macro-economic stability which depends on growth.

The solution....Decoupling economic growth from natural resource use

- **The aim:** continued economic growth with continually declining material throughput
- There is evidence for declining resource intensities (**relative decoupling**): i.e. the energy required to produce a unit of economic output declined by a 3rd in the last 30 years.
 - ✓ Case of global carbon dioxide
- But evidence for overall reductions in resource throughput (**absolute decoupling**) is virtually absent.
 - ✓ Mostly offset by increases in the scale of economic activities



Source: Wuppertal Institute Collaboration Centre on SCP, 2006

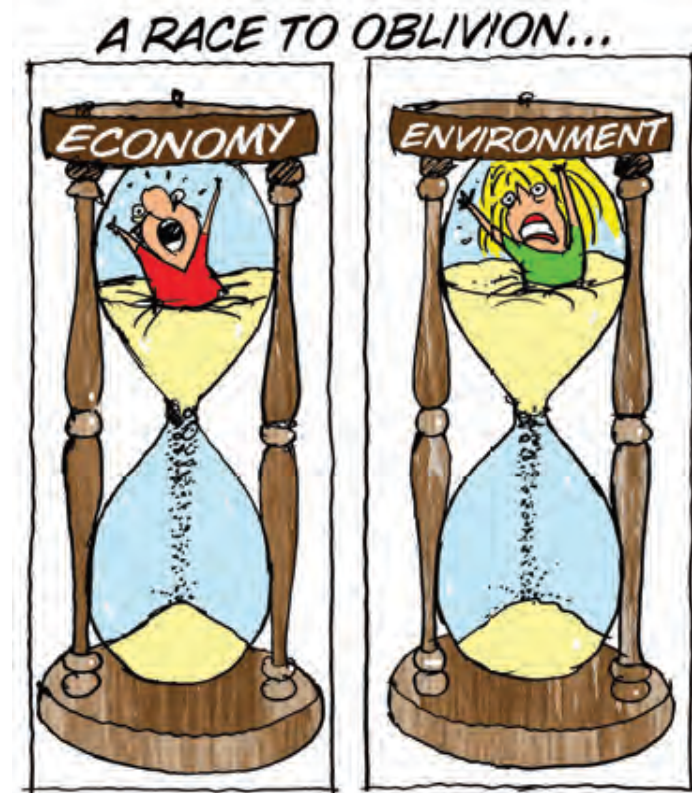


In a world of 9 billion people, decoupling is a huge task:

- Carbon intensities would have to fall on average by over 11% per year to stabilize the climate
- That is 16 times faster than it has done since 1990
- By 2050, the global carbon intensity would need to be only 6 grams per dollar of output, almost 130 times lower than it is today.

.....Dematerialization of our society?

'It seems unlikely that deep resource and emission cuts can be achieved without confronting the nature and structure of market economies' (T. Jackson)



A unique opportunity for the developed economies to:

- Demonstrate economic leadership by promoting environmental technologies.....green industries
- Champion international action on sustainability... green industries



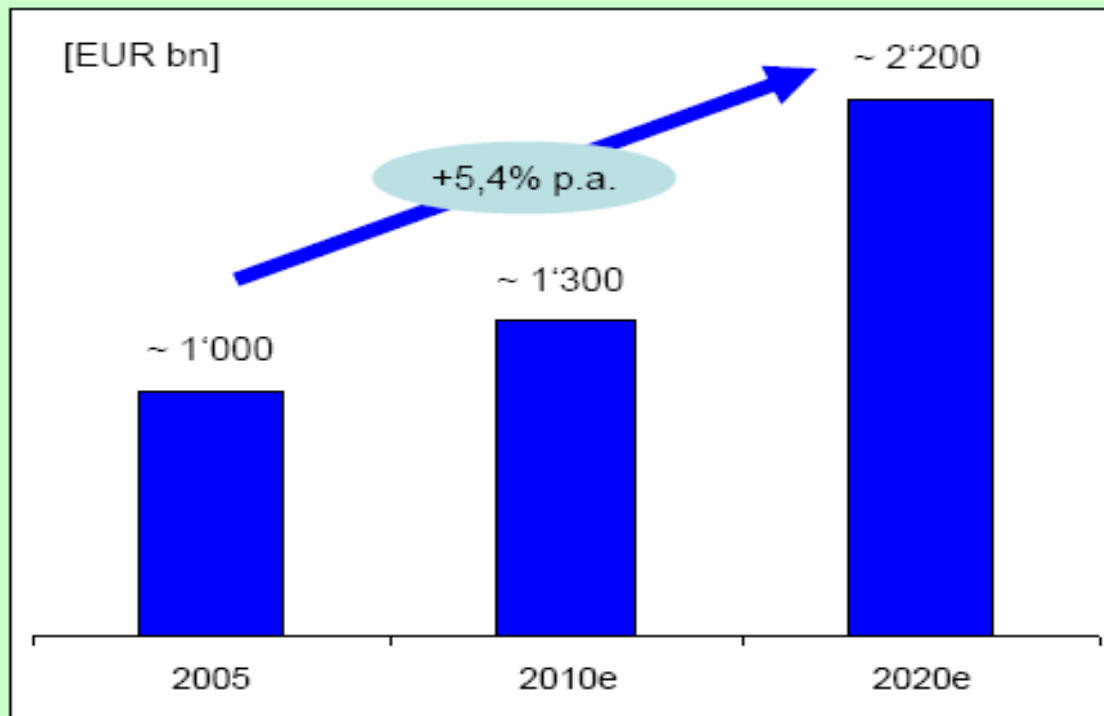
2. Green industries.....The definition

- Any industry that commits itself to:
 - ✓ reducing the environmental impacts of its processes and products
 - ✓ through resource efficiency
 - ✓ and is actually doing so on a continuous basis

By this definition, **all types of industries can be green.**

3. The market for environmental technologies

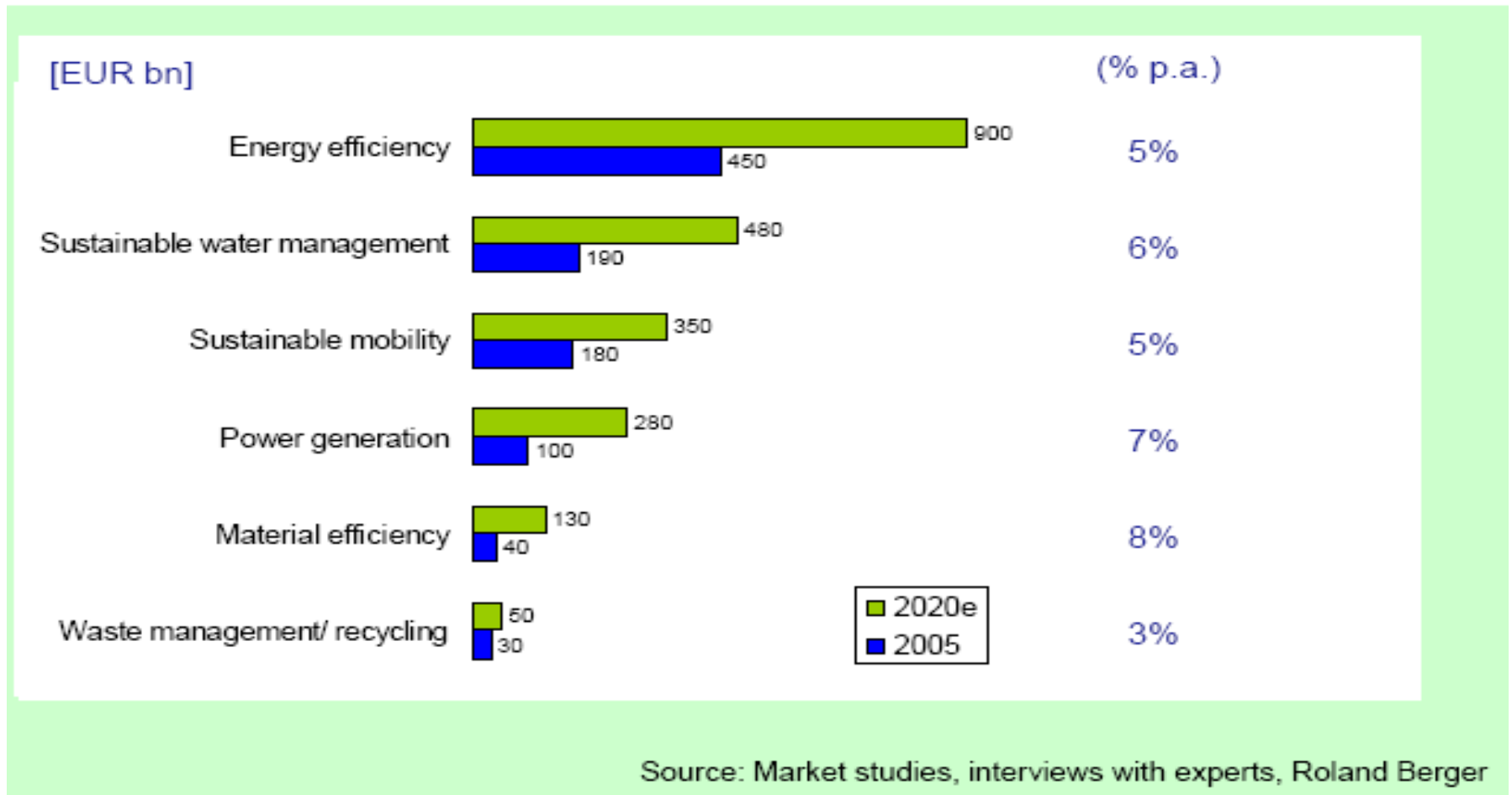
Global market volume for environmental technologies will more than double (2005 – 2020)



New projection based on actual estimated figures: EUR 3'100 bn by 2020 (Roland Berger 2009)

Source: Roland Berger (2005)

Estimated growth of the global market volume for environmental technologies (2005 – 2020)



4. Selected UNIDO's projects... Case Sisal waste in Tanzania

- Tanzania is one of the world's leading producers of sisal fiber, made from the sisal plant.
- The customary industry practice is to throw away 96% of the sisal plant.



- UNIDO established a sisal waste-based plant that uses discarded sisal residue to produce **organic fertilizer** and **green electricity**.



Creating Wealth from Rice Husk Waste - Nigeria

- 700 rice mills discharging 50,000 tons/year of rice husks.
- UNIDO turned these mountains of rice husk into natural source of energy to power nearby rice mills.
- Provided new markets for farmers and their products, thereby providing employment and increasing social welfare.



Methyl Bromide Phase-out

- Me.Br. Negative effect on the Ozone layer
- UNIDO promoted alternative technologies to Me.Br. for soil and commodities fumigation, including:
 - ✓ Grafting
 - ✓ Steam pasteurization
 - ✓ Soil solarization
 - ✓ Soilless cultivation
 - ✓ IPM concept



5. Concluding remarks...towards environmental technologies...a must and an opportunity:

- **Decoupling economic growth from consumption of natural resources**
 - ✓ Reduce material and energy intensity (increase eco-efficiency)
 - ✓ Reduce carbon footprint (climate change)
 - ✓ Reduce environmental pollution (air, water, etc.)
 - ✓ Reduce dependency on scarce materials, fossil fuels, water
- **In terms of economic factors:**
 - ✓ Increase efficiency, productivity and improve competitiveness of companies
 - ✓ Create new market opportunities and new jobs

What can be the role of the development aid community?

- **Remove gaps in the normative framework with a focus on:**
 - ✓ Encouraging the growth of recycling industries, green innovation, etc.
 - ✓ Removing perverse subsidies to the consumption of inputs of materials and energy
 - ✓ Allowing enterprises to obtain locally certifications of compliances with environmental standards
 - ✓ Adapting/introducing policy instruments for resource efficiency
- **Remove gaps in the support system:**
 - ✓ Make entrepreneurs aware of the opportunities for new green businesses
 - ✓ Build-up technical and commercial skills
 - ✓ Establish the necessary support institutions
- **Remove gaps in the industrial sector's knowledge and skills set**
 - ✓ Green technical and managerial knowledge and skills

‘While green growth is possible, it will require a high level of political maturity and global social solidarity – between rich and poor countries as well as among them. Whether such maturity and solidarity will emerge in time remains for now an open question’

Tariq Banuri and David le Blanc.



Thank you for your attention!