



EaP GREEN

Partnership for Environment and Growth



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TOGETHER

for a sustainable future

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EaP Green RECP Demonstration Component

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DI Aida Szilagyi

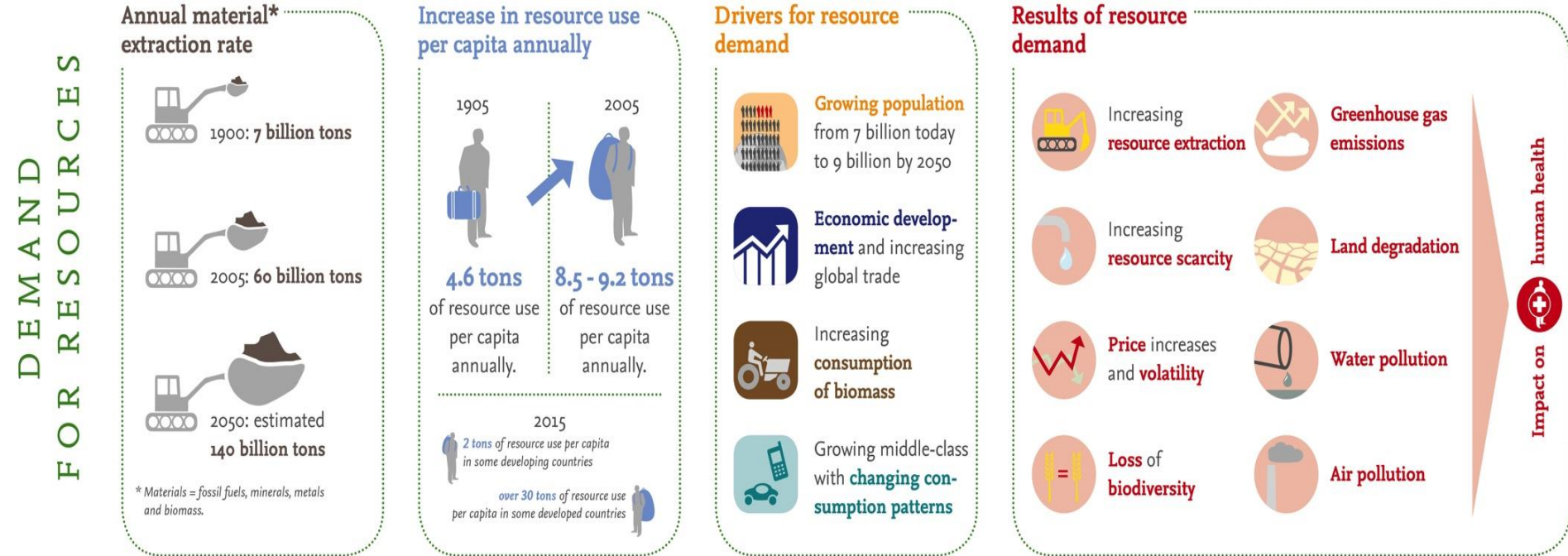
Sustainability Expert

Chair of NCSPC Romania

Content

- I. Why eco-innovation?
- II. Objectives of eco-innovation
- III. Eco-innovation drivers

How our natural resources use threatens the planet?



Premise: 140 billion tones of global extraction of natural resources per year 2050, if consumption stays at current developed country rates

Source: The International Resource Panel <http://www.unep.org/resourcepanel/KnowledgeResources/Infographics/tabid/1060391/Default.aspx>

“Decoupling: doing more with less”

Decoupling human development and economic growth from environmental degradation and resource depletion

INNOVATIVE SOLUTION

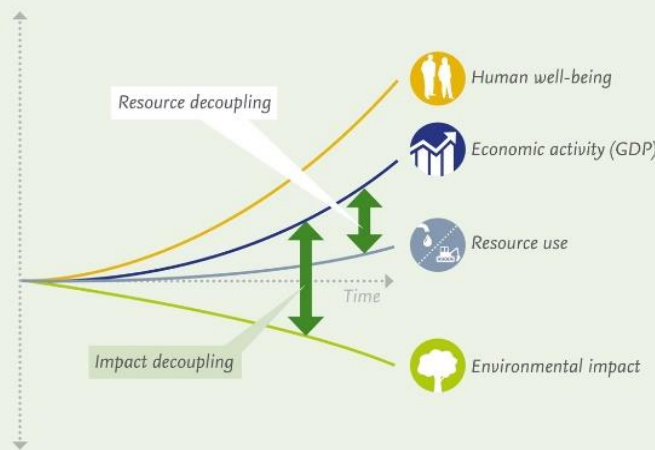
How can we protect the environment, reduce poverty and maintain economic growth?

By **Decoupling**: breaking the link between resource use and economic growth



Using less land, water, energy and materials to maintain economic growth is: **Resource decoupling**

Using resources wisely over their lifetime to reduce environmental impact is: **Impact decoupling**



WAY FORWARD

Considerations for future policy

Each country is different: developed countries may require absolute decoupling (absolute resource use decline), while developing/emerging economies may require relative decoupling (rate of resource use is lower than economic growth rate).

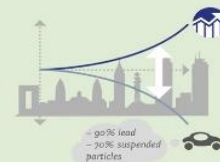
- Use taxation or subsidy reduction to move resource prices upwards in line with documented increases in resource productivity.
- Shift revenue-raising onto resource prices through taxation of resources or in relation to product imports, with recycling of revenues back to the economy.
- Remove technological and institutional barriers to innovation in resource productivity.
- Create favourable conditions for investment in technology.
- Influence corporate behaviour and public consumption patterns to reduce resource use.

SUCCESS STORIES

Putting decoupling into practice

Country experiences suggest that decoupling can lead to reduced waste and emissions, cost savings, job creation and poverty reduction

Resource Decoupling: **Japan** reduced its materials consumption by 2010, down to the level of 1970 (absolute decoupling).



Impact Decoupling: **Mexico City** decoupled growth from air pollution. Lead in the air dropped by 90 per cent.

Recycling's **global** annual turnover exceeds US\$160 billion and processes more than 600 million tonnes of commodities annually. Primary production of raw materials declines as secondary production increases.



Industries' contribution to Decoupling Turning the Risks into Opportunities



Buildings and Construction: Increased market value of green buildings



Chemicals: Product restrictions and environmental regulations



Extractives: circular economy; Increased demand for recycled products



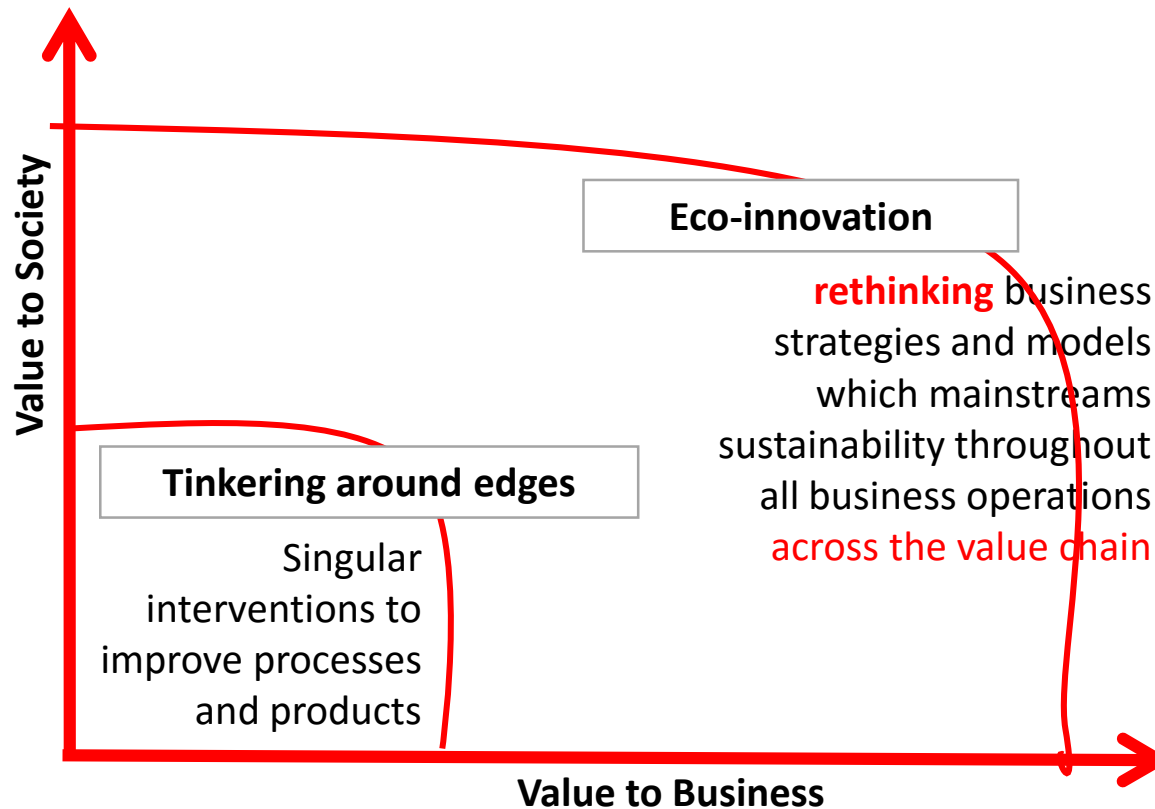
Food and Beverage: Reputation from sustainable food product certifications



Tourism: Reduced desirability of environmentally damaged destinations



Eco-innovation = Value Creation



Sustainability as a source and inspiration for innovation and value creation which translates into more substantive value to the society

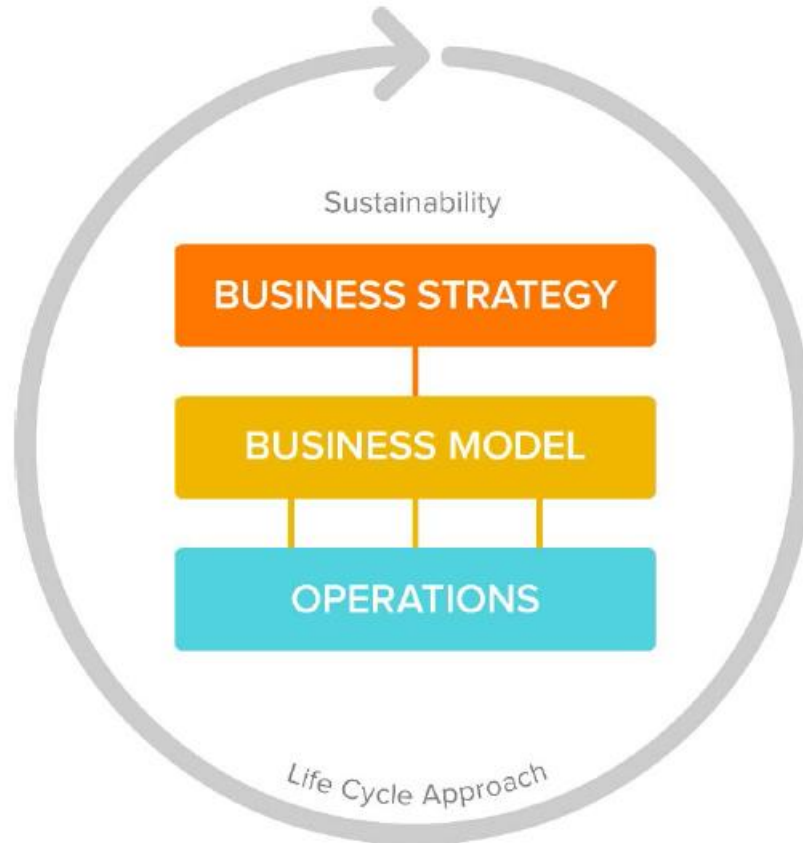
The definition of eco-innovation

Eco-innovation is the development and application of a **business model**, shaped by a **new business strategy** that incorporates **sustainability throughout all business operations**, based on **life cycle thinking** and in cooperation with partners **across the value chain**.



It entails a coordinated set of **modifications** or **novel solutions** to **products** (goods / services), **processes**, **market approach** and **organizational structure** which leads to a company's **enhanced performance and competitiveness**.

Eco-innovation approach



Sustainability as a inspiration for innovation



Key ingredients to Eco-innovation

Life cycle thinking

- Build on **life-cycle thinking** in identifying and prioritizing points of intervention

Sustainability in strategy

- Intervene at a **business strategy** level to identify innovative solutions

Value chain

- Move beyond the company's fence, and focus on the entire **value chain**

Small and Medium Enterprises

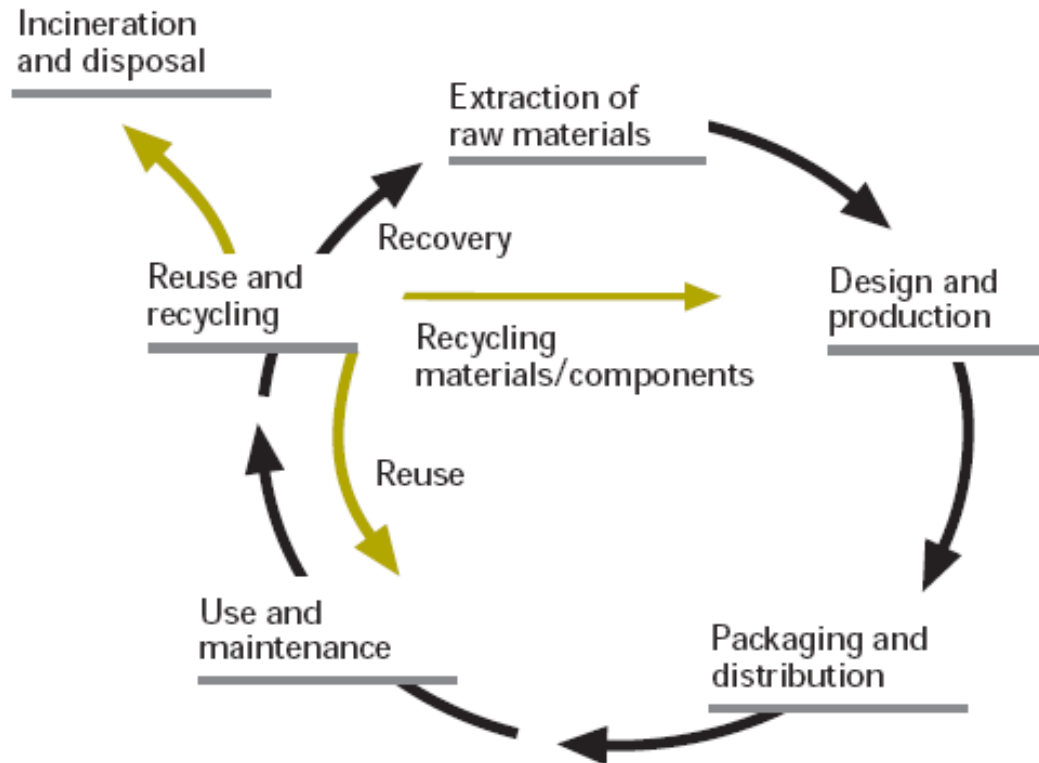
- Target **SME** as a protagonist in the value chain

Collaboration

- Foster **collaboration** among a variety of stakeholders (including with large companies and governments)

Life cycle thinking
– a prerequisite
for eco-
innovation

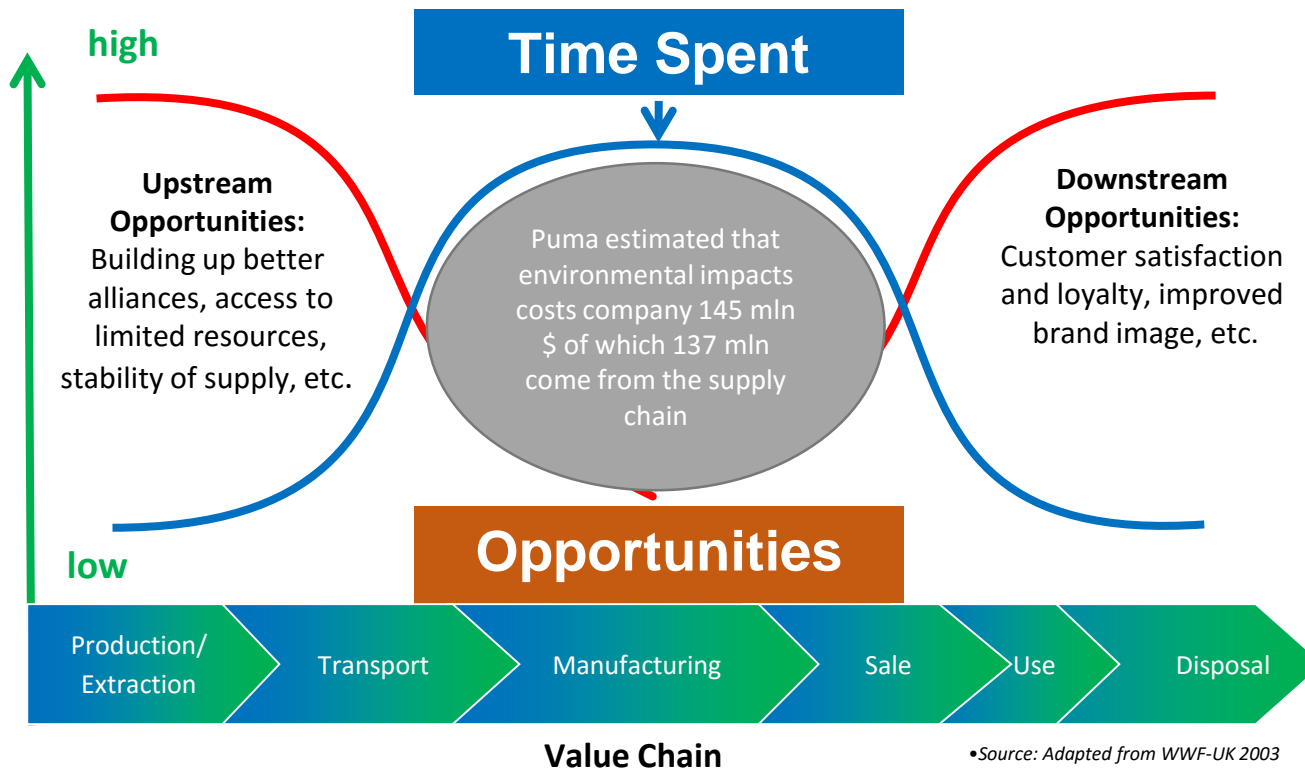
Life cycle thinking



LCA transforms data on products and processes into **insights** and **enables businesses to implement the most profitable and high impact sustainability initiatives.**

Life cycle thinking

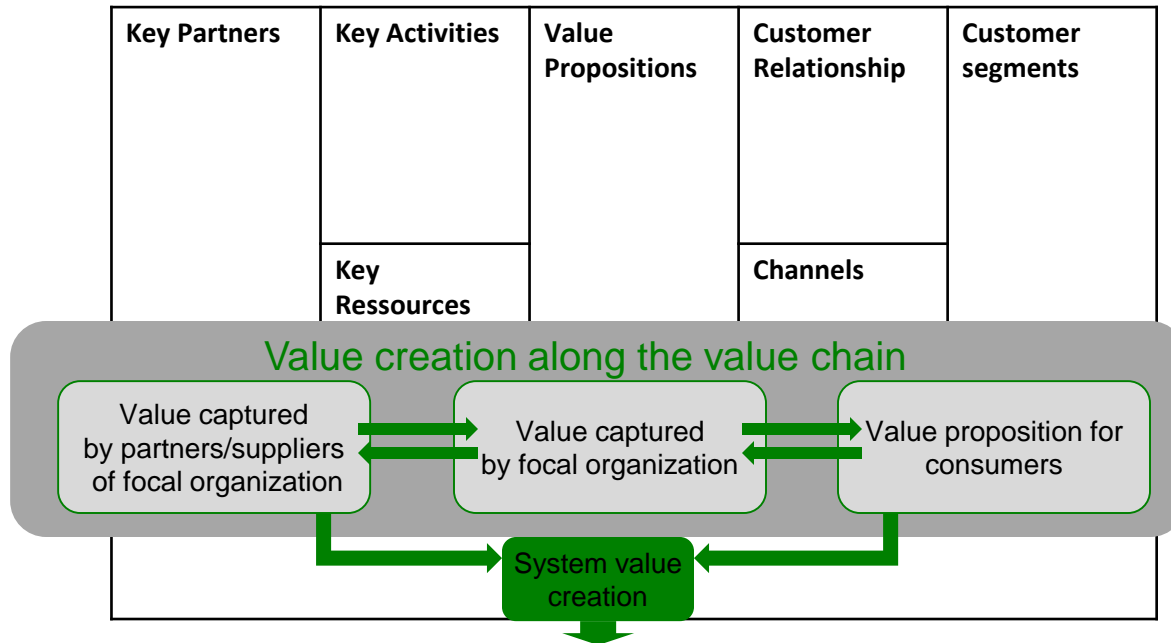
Life Cycle Thinking Creates Opportunities



Value creation

Eco-innovation = Value Creation

Eco-innovation is about creating business models designed for competitiveness and environment



Source: Technopolis Group based on adapted business model canvass by Osterwalder & Pigneur (2010)

Sustainability
in strategy

Sustainable manufacturing creates value

Financial
performance

- Increase sales
- Improve efficiency and productivity
- Reduce dependence on expensive or hazardous materials

Business
excellence

- Stay ahead of regulations
- Win access to capital
- Gain strategic foresight

Relationships
with
stakeholders

- Enhance reputation
- Improve employees' moral and retention
- Build better community relations

Source: Source: OECD Sustainable Manufacturing Toolkit, 2011

Opportunities for eco-innovation: Increased pressure on businesses!

Risk factors

- Resource scarcity
- Price volatility and commodities
- Health and social impacts from operations

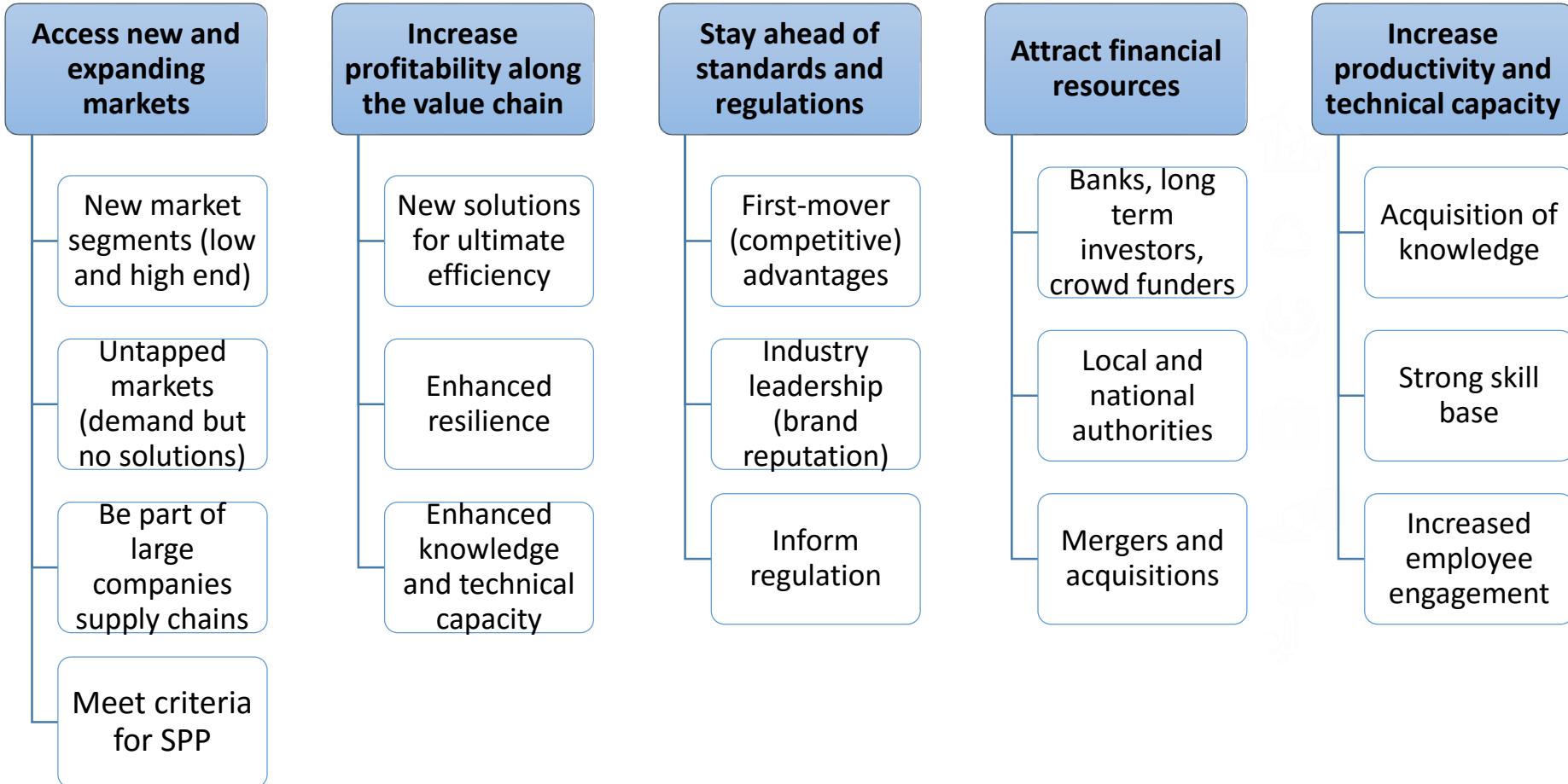
Regulatory pressures

- Significant rise in regulations and standards for industry
- Integration of life cycle approach into regulations
- Transparency in corporate sustainability performance increasingly mandatory

Changing markets

- Growing consumer demand for sustainable products and services
- New markets for innovative solutions
- Increasing pressure on suppliers to meet sustainability criteria
- Investors factoring sustainability into decision making
- Increase partnership to maximize sustainability

Business Case for Eco-innovation Drivers



Success story at industry level

Example of a « Greener product based model »

Caroma Dual-Flush Toilet

Country of origin : Australia

This is a water efficient toilet system that disposes of human waste into the drainline system, using less water than traditional single-flush toilet systems. The two button dual-flush cistern allows the user to make the selection between half-flush or full-flush mode. The technology resulted in the development of new flush valve systems for the cistern tank, and a new generation of highly efficient toilet bowl designs. The system was introduced in **1980s** and since then, has been diffused all over the world.

Solving water scarcity challenge



Business model centered on a product & technology

Success story at industry level

Example of a « Greener product based model »

<p>Main actors</p>	<p>A focal company that is the developer and seller of a new product or technology and the customers who are the consumers of the products or service.</p>
<p>Customer relations and channels</p>	<p>Greener product oriented towards mass use and designed for both private customers and organisations that are willing to improve their water use performance</p>
<p>Value capture and creation compared to business as usual case</p>	<p>For customers: financial savings in the use phase</p> <p>For the producer: reaching a wider market, with more and more customer groups with a high environmental awareness</p>
<p>Sustainability benefits</p>	<p>Water savings in the use phase</p>
<p>Role of policy</p>	<p>The dual-flush toilet has also become a part of the eco-standards applied in sustainable houses and offices, which, in turn, has increased the market for this system</p>

Source: Business Models for Systemic Eco-innovations, Feb. 2012, Technopolis Group

Natura - Sharing value

Business Strategy: Innovation for market differentiation and sustainability

Business Model: Continuous research: new technologies, market trends and advances in the area of cosmetics, with focus on technologies for sustainability and “well being”

- Open innovation model and R&D platform involving partners and scientific institutions
- Investment from national financial institutions
- Select suppliers on a “shadow price” reflecting the socio-environmental costs and benefits.
- Creation of partnerships to build a chain with higher added value.

Life-cycle approach - A calculator is used for all environmental indicators

Simplified packaging LCA, for all sold products.

Business Growth: Market share of 23 % in Brazil

Annual growth of 26 % in 2005-2010.

Product SOU compared to conventional cosmetic products:

- 70% less plastic used
- 60% lower CO2 emissions
- Lower transportation costs
- Innovation in the formula (ingredients)
- More attractive retail price = new customer segment



SafeChem – Chemical Leasing

Business Strategy: Based on the chemical leasing model, the company manages the product-specific risks of chlorinated solvents for its clients.

Respond to anticipated regulation on VOC solvents.

How?

- Offering a chemical leasing model, where **clients pay per part cleaned**, instead of the volume of solvents.
- In 2007 the VOC directive was implemented throughout Europe. At that point, the company had a product that was tested and proven, and that no one else could offer

