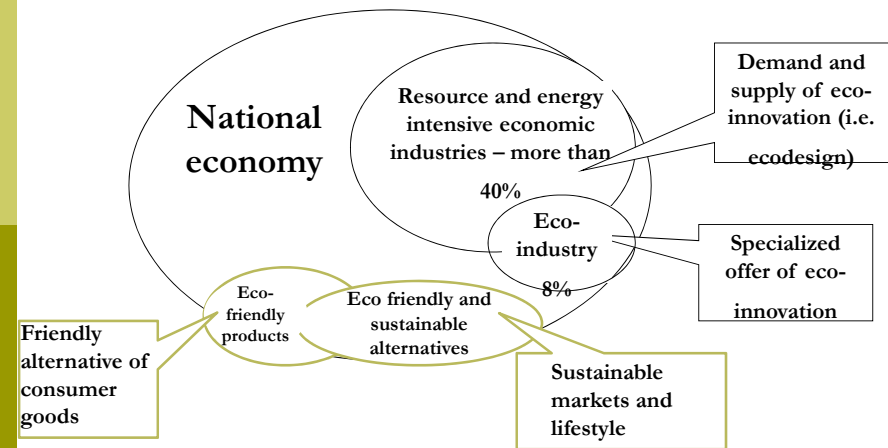


Topic 4: Business response on environmental challenges

Ing. Rastislav Strhan, PhD.
Environmental market and marketing

Economy according environmental impacts



Classification and stratification of eco-related activity

- Not all activities have same impact on environment
- Managerial and marketing instruments and tools cannot be used for every case and every purpose
- Effective use of management tool requires good understanding of situation

Classification of eco-related activity

- Eco-industry
- Resource and energy intensive industries and activities
- Environmental friendly alternatives development and sale
- Environmental friendly products production and sale
- Economy with passive approach toward environment

Level of environmental entrepreneurship

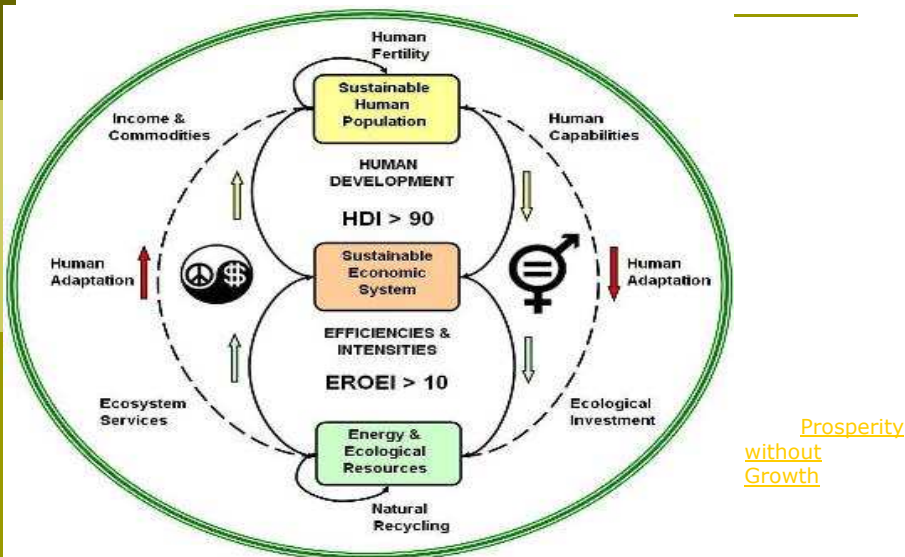
Eco-industry

- ▣ Activities directly related to environmental protection – core of eco-industry – different strategies are applicable
- ▣ Eco-industry includes wide variety of activities

What is eco-oriented industry

- Several types of activity are actively or passively influenced by environment
- We need raw materials, energy,
- We produce waste
- We behave more or less environmental friendly
- Etc.

Bounded Population-Economic-Ecological System for Sustainable Human Development



THE GREEN INDUSTRY

Greening of Industries

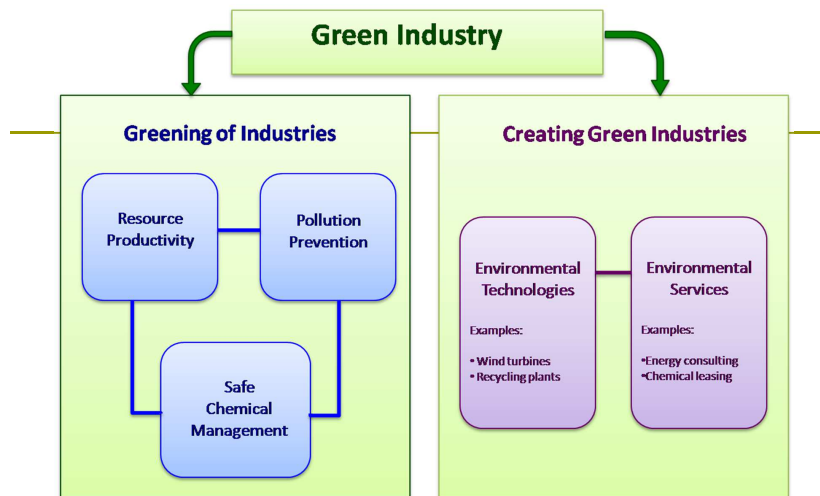
Helping enterprises improve resource productivity and environmental performance

- Efficient use of materials, energy and water
- Reduction of wastes and emissions
- Safe and responsible management of chemicals, renewable raw materials
- Phasing out toxic substances
- Substituting fossil fuels with renewable energy sources
- Using recycled raw-materials
- Product and process redesign, Green Chemistry

Creating New Green Industries

Establishing new operations delivering environmental goods and services

- Reduce, reuse and recycle (3R) industries
- Pollution control technology and equipment
- Renewable and energy-efficient technologies
- Re-engineering of production processes and redesign of products
- Waste management and resource recovery
- Environmental advisory and analytical services



Heinz Leuenberger PhD., Director, Environmental Management Branch, UNIDO Green Industry Platform. Prep- Meeting Vienna, 3. Mai 2012

Eco-industry

- The manual "The Environmental Goods and Services Industry. Manual for data collection and analysis", defines the eco-industry as "*activities which produce goods and services to measure, prevent, limit, minimize or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems.*"
- *This includes technologies, products, and services that reduce environmental risk and minimize pollution"*
- This definition results in the identification of 36 activities that together constitute the eco-industry.

Definitions of eco-industry

- the 'core' of the eco-industry, i.e. "*those [identifiable] sectors within which the main – or a substantial part of – activities are undertaken with the primary purpose of the production of goods and services to measure, prevent, limit, minimize or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems.*"
- Activities from the OECD list that do not fit this selection criterion will not be the main focus of this study. For example, 'eco-tourism' whose primary purpose is tourism, will not be included in the main analysis. We call these industries 'connected' eco-industries.

Eco- industry segments

- Eco- industry according american classification is organized into 14 segments in three groups:
 - Services
 - Equipment
 - Resources
- Income is created from both private and public sector, according the situation of activity.
- Later 3 segment were added although they do not really cover the content of eco-industry (sustainable agriculture, sustainable forestry and eco-turism)

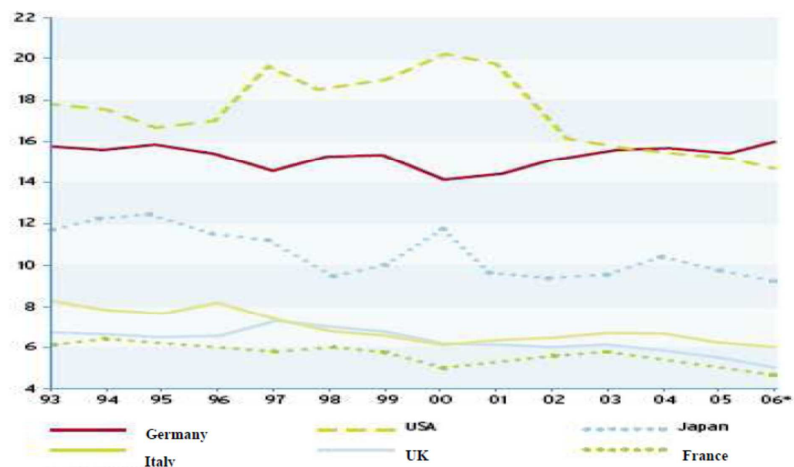
Segment	Description	Examples of Clients
Environmental Services (Environmentally Preferable Services)		
Environmental Testing & Analytical Services	Provide testing of "environmental samples" (soil, water, air and some biological tissues)	Regulated industries, Gov't, C&E, Hazardous waste and remediation contractors
Wastewater Treatment Works	Collection and treatment of residential, commercial and industrial wastewaters. Facilities are commonly known as POTWs or publicly owned treatment works.	Municipalities, Commercial Establishments & All industries
Solid Waste Management	Collection, processing and disposal of solid waste	Municipalities & All industries
Hazardous Waste Management	Collection, processing and disposal of hazardous, medical waste, nuclear waste	Chemical/Petroleum Manufacturers and Government agencies
Remediation/Industrial Services	Cleanup of contaminated sites, buildings and environmental cleaning of operating facilities	Government agencies, Property owners, Industry
Environmental Consulting & Engineering (C&E)	Engineering, consulting, design, assessment, permitting, project management, O&M, monitoring, etc.	Industry, Government, Municipalities, Waste Mgmt. companies, POTWs

Environmental Equipment (Environmentally Preferable Goods)		
Water Equipment & Chemicals	Provide equipment, supplies and maintenance in the delivery and treatment of water and wastewater.	Municipalities & All industries
Instruments & Information Systems	Produce instrumentation for the analysis of environmental samples. Includes info systems and software.	Analytical services, Government Regulated companies
Air Pollution Control Equipment	Produce equipment and tech. to control air pollution. Includes vehicle controls.	Utilities, Waste-to-energy Industries, Auto industry
Waste Management Equipment	Equipment for handling, storing or transporting solid, liquid or haz waste. Includes recycling/remediation equipment.	Municipalities, Generating industries, Solid waste companies
Process & Prevention Technology	Technology for in-process pollution prevention and waste recovery	All industries

Environmental Resources (can also be services; or equipment for renewable energy)		
Water Utilities	Selling water to end users	Consumers, Municipalities & All industries
Resource Recovery	Selling materials recovered and converted from industrial by-products or post-consumer waste	Municipalities, Generating industries, Solid waste companies
Clean Energy Power & Systems	Selling power and systems in solar, wind, geothermal, small scale hydro, energy efficiency and DSM	Utilities, All industries and consumers

Environmental Consumer Goods (Environmentally Preferable Products or EPPs)		
Sustainable Agriculture Products	Agricultural products or finished food products derived from certified organic materials and processes.	Consumers, Food manufacturing companies, Food service companies
Sustainable Forestry Products	Timber or finished forest products derived from certified sustainable forestry programs.	Consumers, Manufacturers
Eco-Tourism	Tourism revenues derived from certified eco-tourism locations that minimize 'environmental footprint' in transportation and lodging facilities	Consumers

Export market share of green industry



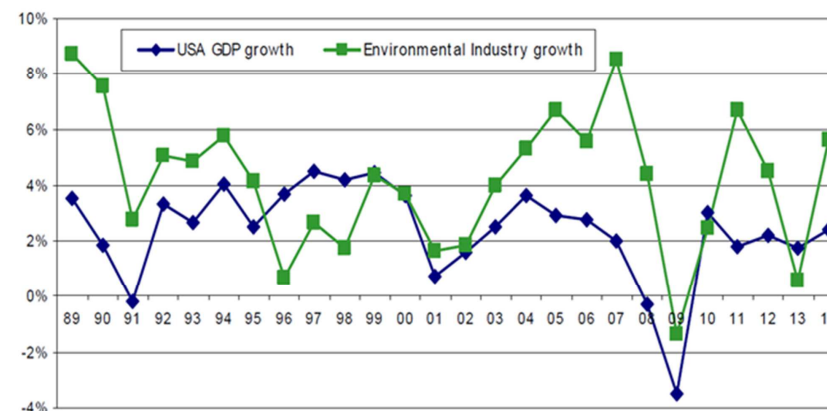
Rozsah amerického a svetového environmentálneho priemyslu

- americký environmentálny priemysel reprezentov al príjem viac než 315 miliárd USD v 2010,
- Vytváral okolo 30,000 miest v súkromnom sektore a viac ako 80,000 inštitúcií verejného sektora, ktoré zamestnávajú 1,6 milióna američanov
- Celosvetový trh odhadujú americké výskumy na 803 mld. USD v 2010.

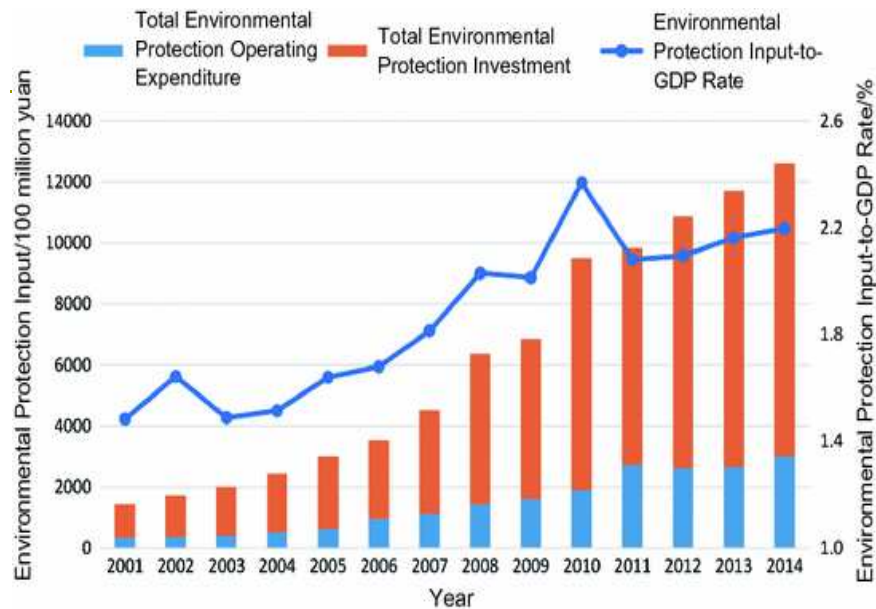
Expectation of green-eco industry growth

	Situation 2010 (v mld. €)	Expectation 2020 (v mld. €)
Overall	1400	3100
Renewable energy/ energetic efficiency	695	1645
Resource effectiveness/ recycling	148	More than 335
Sustatinable water supply management	361	805
Sustainable transport	200	300

Environmental Industry in Context: Growth



SOURCE: EBI Inc., San Diego CA; Annual segment-by-segment research; government shutdowns in 1995-96 and October 2013



Level of environmental entrepreneurship Environmentally intensive industry

- Energy and resource sensitive industry
 - Industry consumes energy and resources massively, represents dangerous activities for environment and produces huge pollution and negative environmental output.
 - Environmental oriented behaviour can create important sources of competitive advantage, sustainability and differentiation
 - Majority of companies in this industry must care about environmental questions due to existing legislation restricts.

ENERGY AND RESSOURCE INTENSIVE INDUSTRY

- **Greening of Industries**
- **Ensuring that all industries, regardless of sector, size or location, continuously improve their resource productivity / resource efficiency.**
- **Aimed at reducing the environmental impacts of processes and products through using:**
 - Use resources more efficiently;
 - Phasing out toxic substances;
 - Substituting fossil fuels with renewable energy sources;
 - Improve occupational health and safety;
 - Taking increased producer responsibility, eco design of products
 - Reducing the overall risks of production.

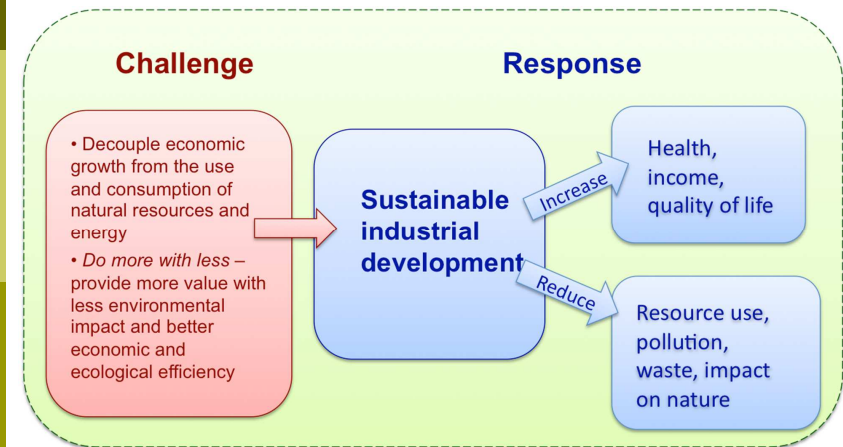
Energy and ressource intensive industry

- Energy intensive industries are sectors such as chemicals, steel, aluminium, cement, ceramics and paper.
- are responsible for 45% of all business, offering job for important part of workforce and creating important part of HDP
- Because of energy and ressource requirement they belong tho the biggest pollutant in economy and are responsible for public sector greenhouse gas emissions .
- They must go green to have any chance of meeting its climate change obligations.
- They are producing raw materials, components and technology for eco-industry and developing technology for decrease of pollution

Energy and resource intensive industry

- Companies in this sector are included in the Emission Trading System (ETS)
- They face additional costs compared to those engaged in similar activities outside the EU.
- This may affect their international competitiveness; an extreme outcome could be the company going out of business, or (more likely) relocating to outside Europe.
- It is therefore important to understand the degree to which European producers affected by the EU-ETS can pass on cost increases to their consumers.
- The level of competition in a particular sector is often thought to be a key determinant in price formation; for example, under perfect competition no additional costs may be passed to customers but monopolies are able to set their own prices.

The Green Industry Challenge



Internal factors of environmental approach decision

- ❑ **capacity and accessibility of available factors (current degree of integration of environmental requirements into business policy)**
- ❑ **technical and organizational know-how of the company**
- ❑ **usability and access to finance (alternative investment financing options, return on investment, etc.)**
- ❑ **environmental requirements inclusion in the production and performance of the business (direct and indirect environmental relevance)**
- ❑ **employee attitudes towards environmental protection.**

External factors of environmental approach decision

- ❑ **environmental legal and legislative requirements,**
- ❑ **Public sensitivity, especially around the industrial production zones to environmental problems**
- ❑ **ecological awareness of user and customers**
- ❑ **Competition environmental strategy**
- ❑ **developmental trends and research knowledge**
- ❑ **Development level of environmental technology**
- ❑ **International pressure on environmental performance**

Level of environmental entrepreneurship

Environmentally oriented behaviour

- Demand side environmental behaviour
 - Increased sensitivity of environmental topics inside society influenced the consumer behaviour
 - Rising number of entrepreneur and consumer consider environmental topics as good instrument to differentiate from other society and have small part on social changes
 - As main representant of such changed behaviour is considered LOHAS market – market representing Lifestyle of Health And Sustainability.

Environmental alternative

- Connected with lifestyle - LOHAS
- Defining the LOHAS Market
- It's important to understand two things about the LOHAS marketplace:
 - 1. LOHAS comprises diverse industries, for example, building materials, organic foods, alternative health care and personal development/improvement products such as yoga tapes.
 - 2. LOHAS operates on the principle that these products and industries are related to a specific set of consumers.

Environmental alternative

- While LOHAS is a new view of the sustainable marketplace, the industries that comprise LOHAS have been in existence for some time. Sales figures and consumer demographics exist for some but not all LOHAS industries. However, national studies of consumer trends and demographics present ample evidence of a growing, thriving demand for sustainable products.

Environmental alternative

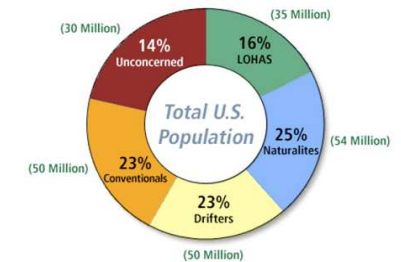
- The LOHAS Market Consists of Five Key Market Segments
 - Sustainable Economy
 - Healthy Lifestyles
 - Personal Development
 - Alternative Healthcare
 - Ecological Lifestyles.
- Together these five segments represent an estimated \$230 billion U.S. market and a \$546 billion market worldwide. Within each of these five segments exist many more specific categories of business.

Environmental oriented lifestyles

- ❑ LOHAS – Lifestyle of Health and sustainability
- ❑ LOVOS – Lifestyle of voluntary simplicity
- ❑ SLOHAS - Slow Lifestyles of Happiness and Sustainability

Lifestyles of Health & Sustainability (LOHAS)

- ❑ Sustainable economy
 - Zelené stavebníctvo, obnoviteľné zdroje, zdrojová ekonomika
- ❑ Healthy lifestyles
 - Organická strava, osobná starostlivosť doplnky
- ❑ Ecological lifestyles
 - Ecotourism, ekologické spotrebné produkty, organické/recyklované vlákna
- ❑ Alternative healthcare
 - Naturopathy, complimentary medicine
- ❑ Personal development
 - Yoga, kúpele, wellness



www.ecopreneuring.biz & www.nmisolutions.com

Environmental friendly products

- Product having lower negative impact on environment
- Normal and innovated products which can be in accordance with sustainable lifestyle but must not be necessary
- Core of green marketing suggestion
- Product identified by labelling and declarations schemes.

Labeling of environmental friendly products

- Labels and declaration shall be reliable and verifiable; based on scientifically correct approach and studies
- L&D shall not create trading barriers
- Procedures, methodologies, criteria shall be public
- All life cycle aspects shall be considered
- Interested parties shall be involved
- Innovation shall be supported
- Administrative procedures for L&D awarding shall be restricted to a technical assessment of the compliance with awarding criteria