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**Latin America and the Caribbean Programme
United Nations Industrial Development Organization**



UNIDO's three inter-related thematic priorities

- ✓ Poverty Reduction through Productive Activities
- ✓ Trade Capacity-Building
- ✓ Environment and Energy



SUSTAINABLE
ENERGY FOR ALL

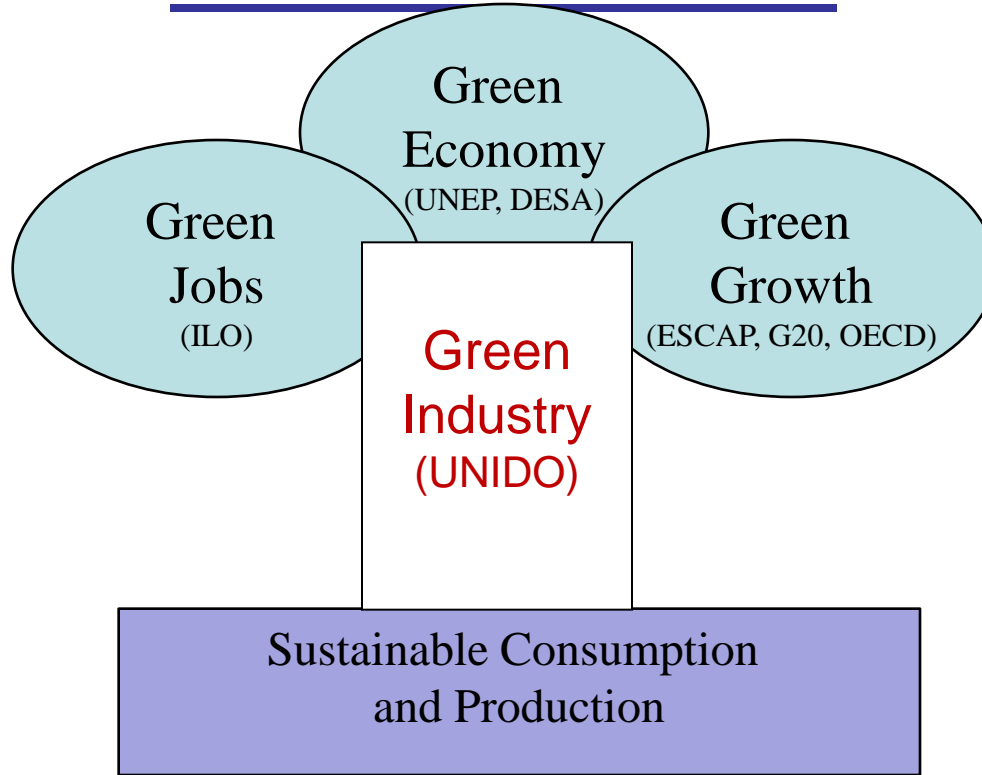
→ Director-General of UNIDO Dr. Yumkella Chair of UN-Energy & co-chairs the UN Secretary-General's High-level group on Sustainable Energy for All

UNIDO Green Industry Initiative for Sustainable Industrial Development

Green Industry → resource-efficiency and low-carbon industries. The initiative focuses on greening existing industries and making sure new industries are built on green technologies. It is a commitment to reduce, on a continuous basis, the various environmental impacts of processes and products.



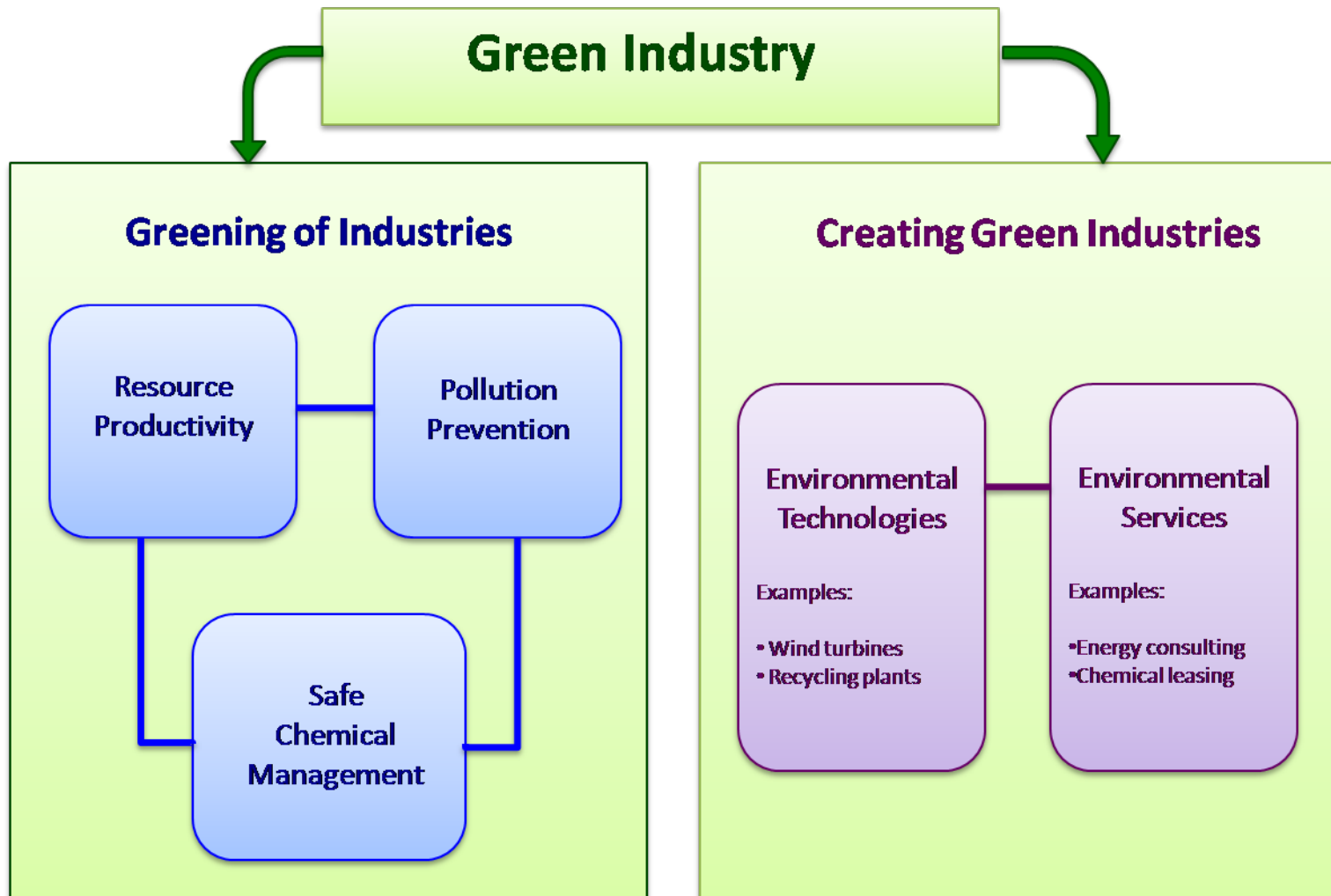
GREEN INDUSTRY



Macro-level
(policy/strategy)

Micro-level
(operational/
solutions)

Green Industry is a sector strategy for the realization of Green Growth – Green Economy – Green Jobs in the manufacturing and related sectors





UNIDO GREEN INDUSTRY

Green Industry
for a Low-Carbon Future



A greener footprint for industry


Opportunities and challenges of sustainable industrial development



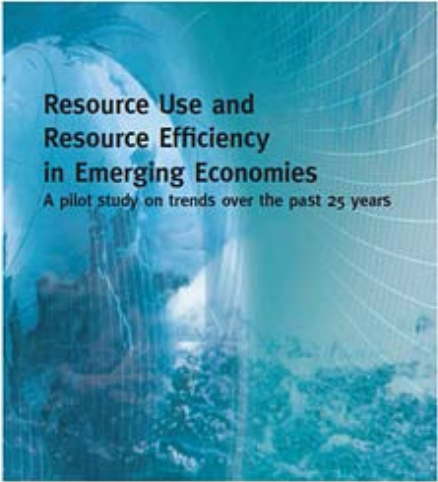

UNIDO Green Industry
Policies for supporting Green Industry




Green Industry
for a Low-Carbon Future



Resource Use and Resource Efficiency in Emerging Economies
A pilot study on trends over the past 25 years



UNIDO Green Industry Newsletter
Issue One, September 2008



Renewable Energy

- Message from the Director General
- Solar Energy: Is It Right For You?
- Green Growth: Power Plants: Lights Up!
- Building Resilient R&D: Case Thailand Energy
- Water: Making a Positive Impact: Partnering with Green Startups
- Local Manufacturing of Small Wind Turbines
- Building Resilient from Risk: High-Risk
- Challenges in Renewable Energy in Africa
- Initiative on Renewable Energy in the Caribbean
- Global Renewable Energy Program
- International Energy Commission





Green Industry Platform: officially launched on 16 June 2012

The Green Industry Platform is a global high-level multi-stakeholder partnership → forum for catalyzing, mobilizing and mainstreaming action on Green Industry around the world.

Governmental, business and civil society leaders are invited to secure concrete commitments and sign the Green Industry Platform's Statement of Support

All signatures received before 14 June 2012, will be acknowledged at the Green Industry Platform's official launch in the context of the United Nations Conference on Sustainable Development (Rio+20), in Rio de Janeiro, Brazil.

For questions: gplatform@unido.org



Environment and Energy

Key approach:

- Prevent production of industrial wastes
- Manage waste in an environmentally sound manner
- De-link the intensity of natural resource use from economic growth
- Reduce the environmental impact of industrial pollution
- Provide resources for the promotion of productive activities



Environment Programmes:

- Montreal Protocol to protect the ozone layer
- Stockholm Convention on persistent organic pollutants (POPs) & intern. waters
- Resource Efficient and Cleaner Production Programmes (with UNEP)

Regional Focus

- **Sub-Saharan Africa** → priorities in Africa: raising productivity, minimize water consumption during industrial processing, promote increased recycling of urban waste
- **Arab countries** → vary according to subregions: Eastern Mediterranean subregion (renewable energy, industrial energy efficiency, cleaner and sustainable production, water management, and the implementation of the Montreal Protocol and other international environmental protocols and agreements), Gulf countries, North Africa (building national capacities to address industrial pollution) , Arab LDCs
- **Asia and the Pacific** → facing severe environmental deterioration. Programmes in energy efficiency, capacity-building and cleaner production. LDC: assistance in modern technologies for renewable energy, water management with transfer of environmentally-sound technologies (ESTs), as well as capacity-building in cleaner and sustainable industrial production.
- **Europe and the NIS** → emphasis on development of renewable energy sources and energy efficiency

Green Industry Events in LAC 2012

Resources Efficiency Week in Quito, Ecuador (September 24-28 2012)

Paris
7-8 June
UNIDO, OECD,
UNEP: *Applying
Green Growth
Indicators*



Wednesday 26

Ministerial Meeting on Green Growth Indicators

Objectives:

- Pilot Countries Ministers meet to discuss the application of Green Growth Indicators.
- Presentation of reports and advances of UNIDO Green Industry Platform.

Event in Association with the Ministry of Productivity of Ecuador. Meeting to be called by the Minister.

LAC Round Table

25 November 2011
Will the new green industrial revolution reduce social inequalities in the LAC region?



Round Table

October-November
CAF, SELA and LAC pilot / countries



LAC Regional Discussion in 2013



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Green Growth Indicators in LAC

Carlos Chanduvi Suarez

**Latin America and the Caribbean Programme
United Nations Industrial Development Organization**



Pilot Project for six LAC Countries

→ Identify the applicability of the indicators in LAC Region

Background:

- As a follow up of the UNIDO LAC Round Table in November 2011: “*Will the new green industrial revolution reduce social inequalities in LAC?*”, UNIDO in cooperation with OECD, UNEP, SELA and CAF and the initiated six pilot cases for adapting the OECD green indicators to the LAC countries.
- Participants:
Key speech: **OECD**, Nathalie Girouard, Coordinator Green Growth Strategy
Minister of Industry and Commerce, **Costa Rica**
Minister of Industry and Productivity, **Ecuador**
Latin American Economic System (**SELA**)
Itaipu Binational, **Brazil**
Secretariat of Environment & Natural Resources (SEMARNAT), **Mexico**
Programme Economy and Impact, Federal Environment Agency of **Austria**

Other initiatives in the LAC region

- **ILAC** → Indicadores Ambientales de la Iniciativa Latinoamericana y Caribeña para el Desarrollo Sostenible (ILAC) created by the Forum of Ministers of Environment in **2002**.
 - **ILAC**: indicators in six thematic areas: biological diversity; water resource management; vulnerability, human settlements and sustainable cities; social issues (including health, inequity and poverty); economic aspects (including trade, production and consumption patterns); and institutional issues.
 - Working group: 31 LAC countries (out of 33)
 - Focal points (Ministries of Environment)
- **ECLAC** → Environmental Indicators of Latin America and the Caribbean

Publications:

Environmental Indicators of Latin America and the Caribbean 2009: *“Latin America and the Caribbean is one of the regions in the world that largely depends on the exploitation of natural resources to manage and sustain its economic growth and human development. This document provides governments and the general public with environmental statistical series in the region with the aim of contributing to the monitoring and design of public policies for development and sustainability.”*

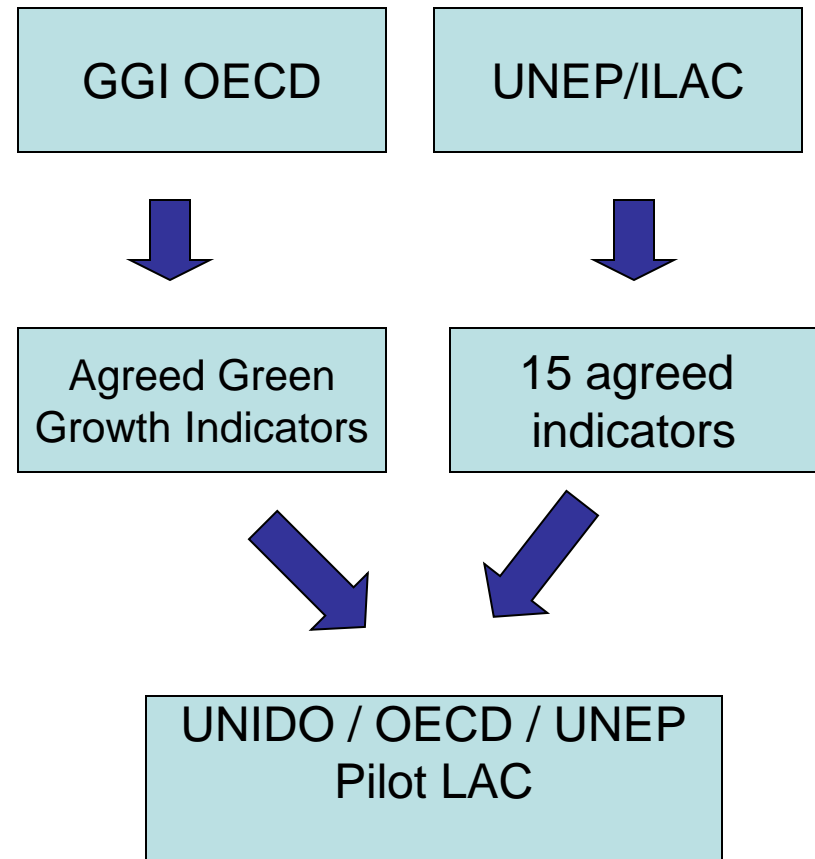
Pilot Experience of indicators in LAC

Six countries in Latin America:

1. Colombia
2. Costa Rica
3. Ecuador
4. Guatemala
5. Paraguay
6. Mexico

Main Features of Indicators

- * Support policy making at country level
- * Reflecting national characteristics
- * Not benchmarking
- * Standard and simple structure of reporting



Partners

- Organisation for Economic Co-operation and Development **OECD**
- Latin America Development Bank **CAF**
- Latin American Economic System **SELA**
- UN Environment Programme **UNEP**

Countries

- Ministry of Environment and Sustainable Development, **COLOMBIA**
- Ministry of Economy, Industry and Commerce, **COSTA RICA**
- Ministry of Industry and Productivity, **ECUADOR**
- Ministry of Economy, Industry and Commerce, **GUATEMALA**
- National Institute of Statistics and Geography INEGI, **MEXICO**
- Ministry of Industry and Commerce, **PARAGUAY**

Approach

- Opportunity to choose the indicators, “generic indicators”, and formulas they believe are most important and better adapt to each country
- Tools for monitoring of own green growth
- No benchmarking instrument, individually tailored for each country
- Open access – taking advantage of UNEP 10 years’ work experience with indicators

Preparatory Activities

- March 12 Videoconference with participation of focal points, UNIDO representative Mr. Chanduvi, and OECD Coordinator of Green Growth Initiatives, Ms. Girouard and focal points
- March 20-22 Technical workshop at SELA with participation of all focal points and UNIDO, CAF and OCED representatives in Caracas, Venezuela with the participation of an Officer from the OECD Green Growth Unit.
- April 3 Videoconference with INEGI-México with the participation of GRULAC Vienna Representatives
- April 12 Videoconference with UNEP, Panama with the participation of GRULAC Vienna Representatives
- April 24 Videoconference with UNEP, SELA, CAF, OECD & Focal points. UNEP presents its work on GG indicators with the participation of GRULAC Vienna Representatives and PTC/EMB/CPU
- April 27 UNIDO's coordination meeting with OECD (teleconference)
- May 14 - 17 Videoconference with UNIDO, SELA, OECD & Focal points to monitor advances with the participation of GRULAC Vienna Representatives

In cooperation with SQR/DPA/STA → UNIDO Statistics databases for LAC Countries

Coming events

- **September 26, 2012** → Ministerial Meeting with the six participating countries in Quito (MIPRO) in conjunction with the UNIDO IV EGM
- **October / November 2012** → LAC Round Table in Caracas as a forum for regional discussion and reviewing of the pilot exercise
- **November 2012** → Dissemination of the Six Reports and road map for involvement of other countries in the region



The challenges of measuring the impact of industry in Green Growth

Resource Efficiency and Decoupling

Petra Schwager

Environment Management Branch

United Nations Industrial Development Organization



Industry

Industry (manufacturing) plays a key role in poverty eradication...

- **Industrial sector uses** more energy globally than any other end-user sector – current consumption: **One third of the world's total delivered energy**.
- Manufacturing industry: Responsible for nearly **a third of all CO2 emissions, 20 % of global water use** and **most of the raw materials used**.
- **Industry gives rise to other GHG emissions** (methane, nitrous oxide and CFCs – gases that have higher global warming potential than CO2).
- Globally more than **4 million tons of waste** are produced annually and only less than a quarter of these are recovered or recycled.

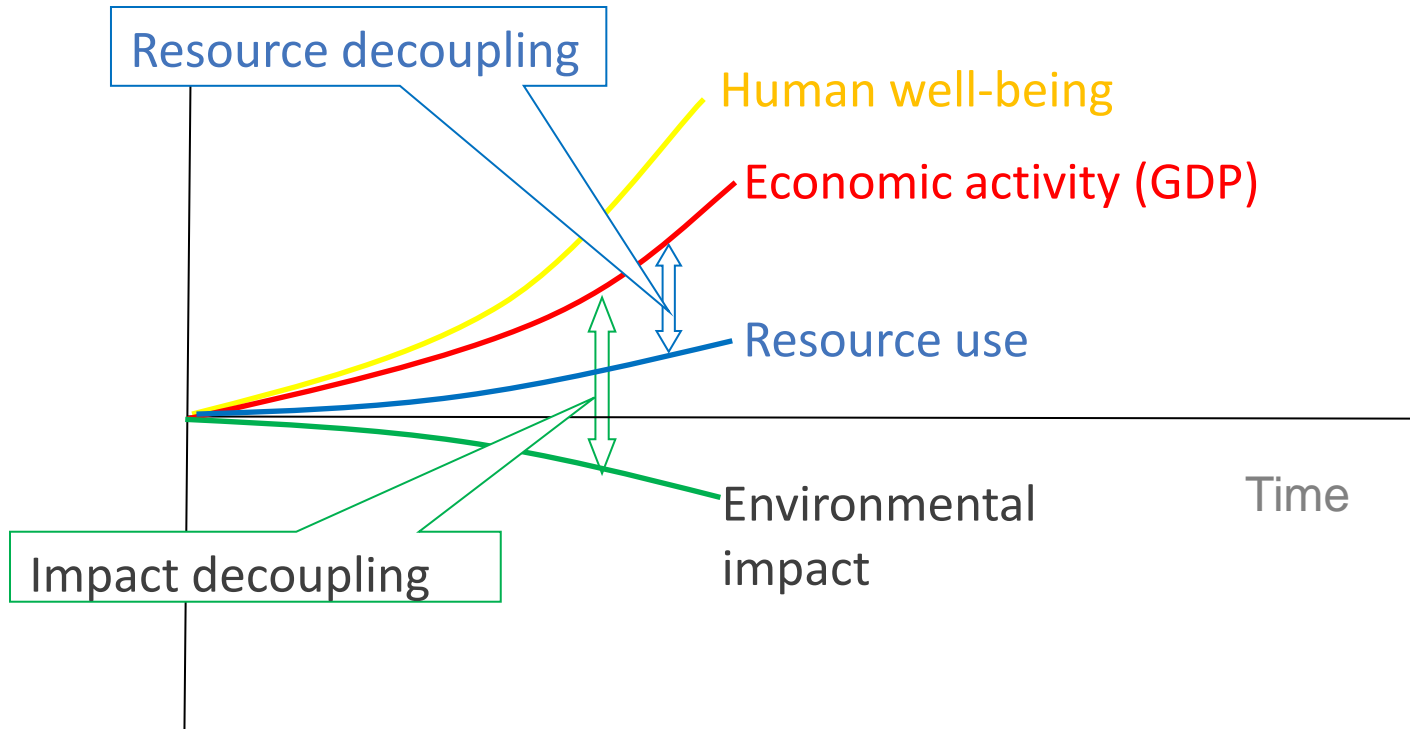
The Context

- Many industries use more materials and energy than their production processes require, due to **continued use of obsolete and inefficient technologies and methodologies.**
- Producers and consumers have adopted patterns of production and consumption that do not take into consideration the **limits of the planet's available resources and its assimilative capacity for emissions**, a situation further complicated by continued population growth.
- Climate change is one main consequence, but **loss of biodiversity, land degradation and desertification, air pollution, surface and groundwater pollution, chemical contamination** are also important.
- **Current production systems are therefore unsustainable:** they do not allow today's needs to be met without jeopardizing the ability of future generations to meet theirs.

→ Behavioral changes in society (consumption) and business investment is required.

→ Decoupling economic growth from natural resource consumption and environmental impacts

Two aspects of “decoupling”

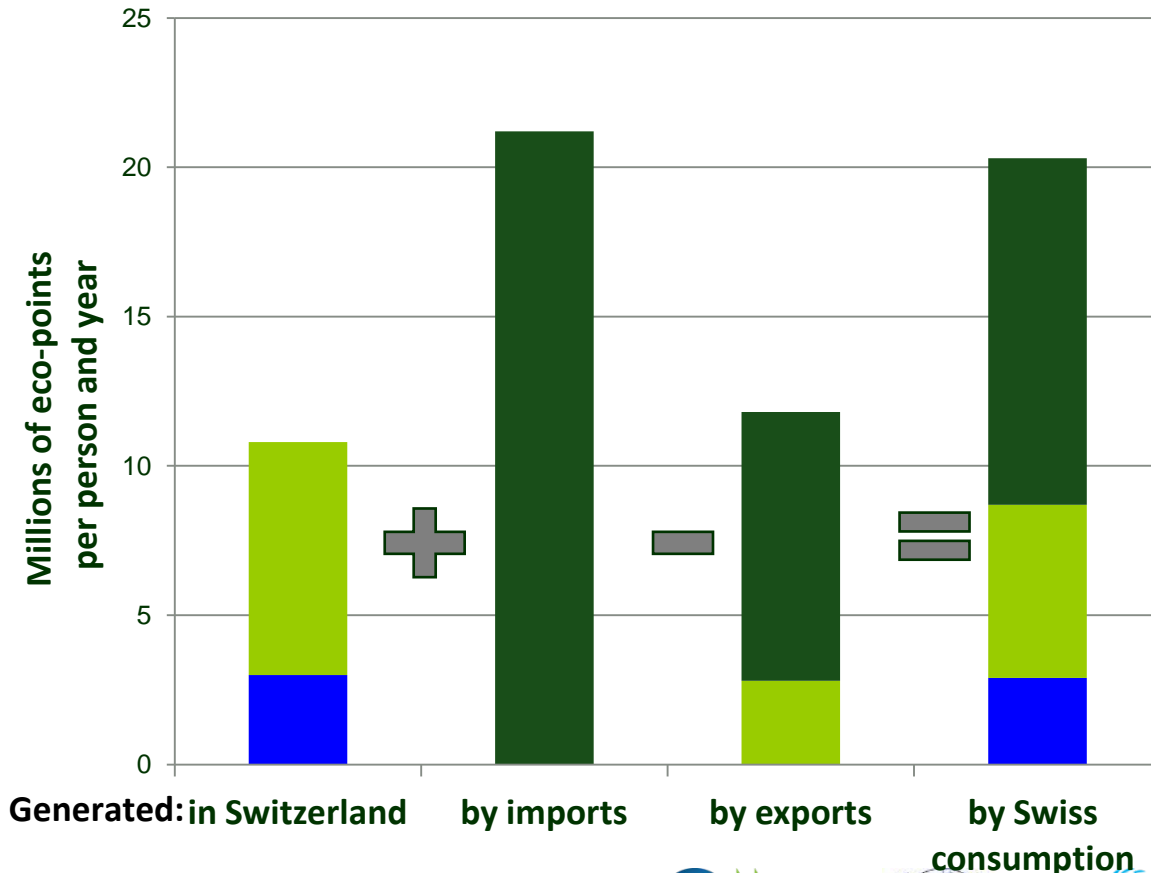


→ Resource efficiency is a prerequisite for decoupling

Source: International Resource Panel- Decoupling natural resources use and environmental impacts from economic growth ,2011

Industrialized versus developing countries

Environmental Impacts of Consumption and Production in the Swiss National Economy



Environmental impacts:

■ Abroad

■ in Switzerland (companies)

Source: Jungbluth N., Nathani C., Stucki M., Leuenberger M. 2011: *Environmental Impacts of Swiss Consumption and Production. A combination of input-output analysis with life cycle assessment.* Federal Office for the Environment, Bern. *Environmental studies*

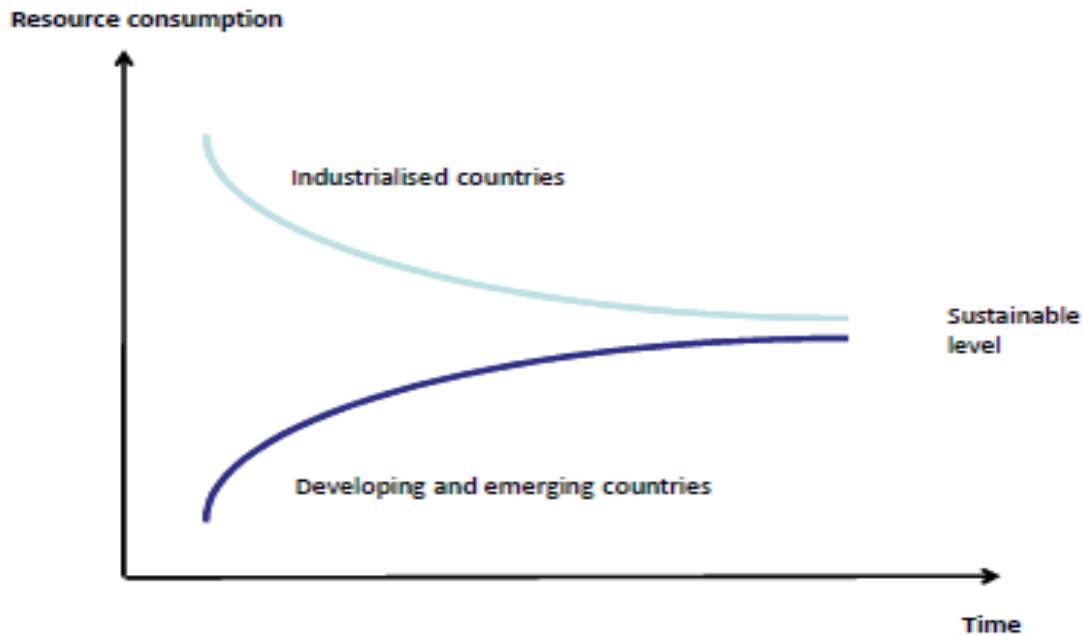
Green Industry and Decoupling

Green industry supports and encourages:

- *Absolute decoupling* (an absolute reduction in total resource use, even as GDP continues to grow) for **developed countries**.
- *Relative decoupling* (a reduction in the resource intensity of the economy i.e. the rate of increase in resource use is lower than the rate of increase in GDP) for **developing countries**.

→ factor 2 by 2030, factor 5 by 2050

Industrialized versus developing countries



Contraction and convergence

Seri, WRF, Datos 2011


Critical requirement (DAVOS 2011)



As change is only possible if it can be measured, policy developments need to be supported by quantitative targets and indicators.

These targets are crucial for encouraging consumers and businesses to partake in sustainable consumption and production.

Main categories of resource use



Abiotic materials (incl. fossil fuels)

A close-up photograph of grey, jagged rocks, likely representing fossil fuels or other abiotic materials.

Biotic materials

A photograph of a stack of cut logs, representing biotic materials.

Water

A photograph of a large, blue glacier or ice formation, representing water.

Land area

A wide-angle photograph of a vast, flat, yellowish-brown landscape, representing land area.

Greenhouse gas emissions

A photograph of a cloudy sky, representing greenhouse gas emissions.

Suggested Indicators

Category		Product level		National level	
Materials	abiotic	Material Rucksack of products	abiotic	Material flow-based indicators of countries <small>(including materials embodied in imports and exports)</small>	abiotic
	biotic		biotic		biotic
Water		Water Footprint of products		Water Footprint of countries <small>(including water embodied in imports and exports)</small>	
Land area		Actual land use of products		Actual land use of countries <small>(including land embodied in imports and exports)</small>	
GHG emissions		Carbon Footprint of products		Carbon Footprint of countries <small>(including GHG emissions embodied in imports and exports)</small>	

Summarizing

- **Industry** (manufacturing) plays a key role in poverty eradication
- **Business** as usual is no option
- **Global Challenge:** Decoupling economic growth from natural resource consumption and environmental impacts
- **Resource efficiency** is a prerequisite for decoupling
- **Absolute decoupling** for industrialized countries, factor 2 by 2030, factor 5 by 2050
- **Relative decoupling** for developing countries
- Changes in policy and regulatory instruments need to be supported by **indicators and quantitative targets**
- **Behavioral changes** in society (Consumption) and business investment is required

THANK YOU!

