



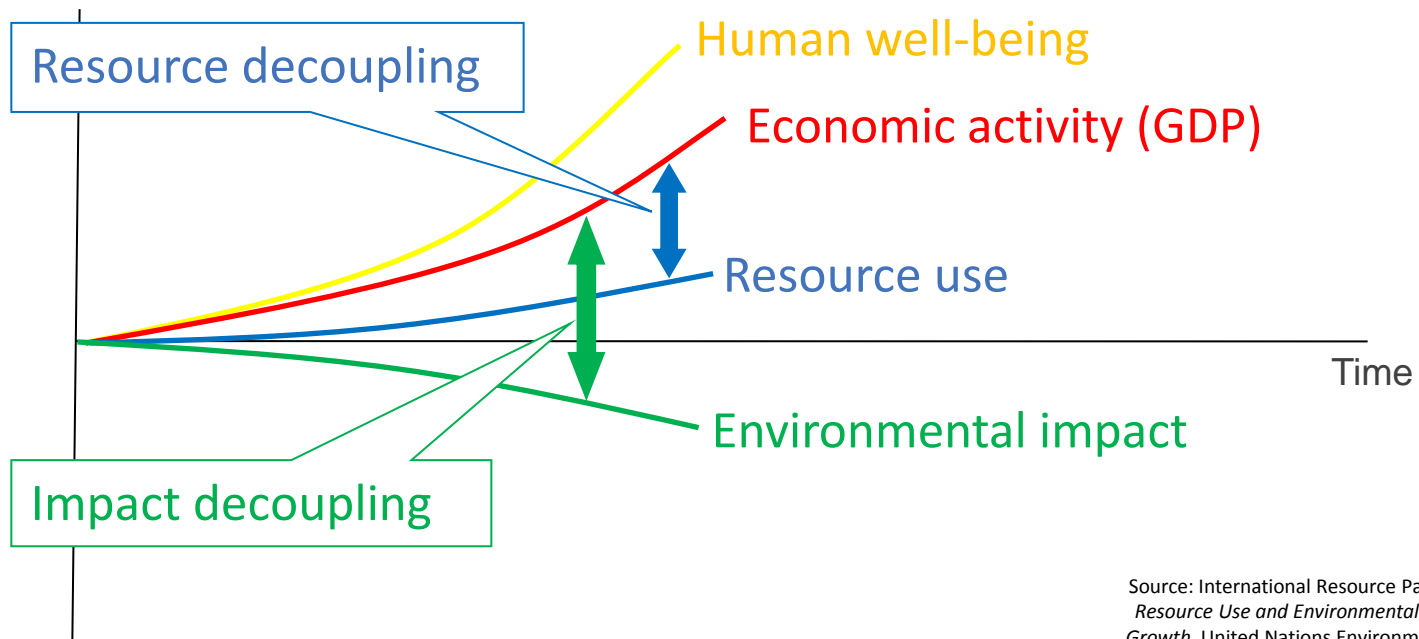
Session 1.2 – Options and ongoing efforts for strengthening technology facilitation at the international level

Examples of Successful Technology Facilitation and Existing Global Mechanisms

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The Challenge

Decoupling of Growth from Natural Resource Consumption and Negative Environmental Impacts



Source: International Resource Panel, *Decoupling Natural Resource Use and Environmental Impacts from Economic Growth*, United Nations Environment Programme (UNEP), Nairobi, 2011



Major Steps To Achieve Decoupling

A Comprehensive, Consistent and Holistic Approach in all Productive Activities

1. Greening of Existing Industries

Improve the environmental performance of existing industry by increasing resource efficiency, strengthening waste management, phasing out toxic substances, use renewable energy sources, etc...

2. Creating New Green Industries

Support the creation of industries delivering environmental goods and services, such as 3R service providers, pollution control equipment suppliers, renewable energy technology, etc...

3. Shift from Labour to Resource Productivity

Re-orient the prevailing economic paradigm away from an emphasis on achieving labour productivity, towards maximizing productivity gains from efficient resource management

4. Dematerialization of the Economy

Reducing the material footprint of productive activities, through **new business models**, **eco-design of products**, closing the material loop by promoting a **circular economy**



Clean and Environmentally Sound Technologies

Technologies which contribute towards the overall goal: ***Decoupling economic growth from the consumption of natural resources and emissions to the environment.***

Basic and applied research, innovation, deployment and transfer of technology, capacity building, etc. should be oriented towards meeting this challenge



UNIDO's Role in Technology Facilitation

Promoting Inclusive and Sustainable Industrial Development (ISID)

- UNIDO's renewed mandate of ISID emphasizes **economic growth within an environmentally sustainable framework** and contributes towards decoupling economic growth from natural resource consumption and the reduction of emissions to the environment
- UNIDO provides **policy guidance, technical assistance, productive capacity building, applied research**
- We believe that many **technologies to achieve ISID are available today**
- UNIDO assists developing countries with:
 - **Access** to independent information and assessments
 - **Selection** of appropriate technologies
 - **Deployment and implementation** of selected technologies
 - Long-term **maintenance** and operational **know-how**

Successful Examples

Non-Combustion Technology for PCB Destruction

Chemical dechlorination process deployed in three countries:

Macedonia

Treatment of 167 tonnes of PCB contaminated equipment and oil (stationary, batch process)

Philippines

Treatment of 45 tonnes (plus 128 kg of Askarel, pure PCBs) of PCB contaminated equipment and oil (stationary, batch process)

Mongolia

Treatment of 40 tonnes of PCB contaminated equipment and oil (mobile unit, continuous process)





Successful Examples

Developing an Enabling Environment for Transfer of Renewable Energy Technology

India, Cambodia, Zambia , Cuba

- Promoting ultra low-head micro hydropower (ULH-MHP) technology , gasifier solar panels to increase access to renewable energy for rural productive use
- Promoting business models for increasing penetration and scaling up of solar energy

Myanmar, Thailand and Viet Nam

- Overcoming policy, market and technological barriers to support innovation and South-South technology transfer – the pilot case of ethanol production from cassava

West Africa (18 countries)

- Enhanced access to energy based on renewables, including demonstration, deployment and transfer of innovative low-carbon technologies and dissemination of best practices
- Market transformation for energy efficiency in industry, building and transport sectors

Successful Examples

Phasing Out Ozone-Depleting Substances

China

Large refrigeration and AC companies using HCFC-22 as refrigerant gas are being converted to hydrocarbons

Egypt, Iran, Mexico

Alternative propellant technology (to CFC) for the production of metered-dose inhalers developed and deployed

Ecuador, Jordan, Philippines

HCFC-141b as a foam blowing agent replaced by newer, safer systems in the manufacture of polyurethane and extruded polystyrene foams in developing countries



Successful Examples

Economic Benefits of Energy Efficient Technologies Deployed in Cambodia

| Technology | Investment (USD) | Annual Benefits (USD) |
|---|------------------|-----------------------|
| Biomass based paddy dryers in rice mills | 800,000 | 540,000 |
| Biomass based power generation using gasifiers | 200,000 | 320,000 |
| High draft fast baking kiln | 150,000 | 120,000 |
| Auto molding for bricks | 320,000 | 150,000 |
| Energy efficient ice units | 80,000 | 95,000 |
| Energy efficient compressors | 26,000 / unit | 32,000 / unit |
| Conversion of DO based oven to wood fired ovens | 30,000 | 82,000 |
| Replacement of DO fired boilers with biomass fuel | 60,000 | 65,000 |
| Replacement of DO based rubber drier with biomass | 73,000 | 70,000 |
| Replacement of lighting from T-8 to LED | 26 / unit | 11 / unit |



Existing Global Mechanisms

International Technology Centres (ITCs)

The UNIDO International Technology Centres (ITCs) promote inclusive and sustainable industrial development through global technology transfer programmes.

- International Centre for Advancement of **Manufacturing Technology** (ICAMT), Bangalore
- International Centre for **Small Hydro Power** (ICSHP), Huanzhou
- International Centre for Promotion and Transfer of **Solar Energy** (ISEC), Lanzhou
- UNIDO-Shanghai International **IT Technology** Promotion Centre, Shanghai
- UNIDO-Shenzhen **Environment Technology** Promotion Centre, Shenzhen
- International Centre for **Materials Technology** Promotion (ICM) , Beijing
- Russia-Brazil Centre for **Technological Cooperation** (RBCTC), Moscow

Existing Global Mechanisms

Investment and Technology Promotion Offices (ITPOs)

Specialized Network of UNIDO ITPOs:

- Connects developed and developing countries
- Partners investors, technology suppliers, client countries
- Forms international alliances in industrial investment and technology transfer



- Bahrain
- China (Beijing)
- China (Shanghai)
- Italy
- Japan
- Republic of Korea
- Russian Federation

South-South Industrial Cooperation Centres (SSICs)



- China South-South Industrial Cooperation Centre
- India South-South Industrial Cooperation Centre

Existing Global Mechanisms

Global Network of Regional Sustainable Energy Centres

Programmatic approach to promote north-south and south-south knowledge and technology transfer in cooperation with regional economic communities



ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) for the West African region



Southern African Centre for Renewable Energy and Energy Efficiency (SACREEE)



East African Centre for Renewable Energy and Energy Efficiency (EACREEE)



Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE)



Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)

Renewable Centre for Renewable Energy and Energy Efficiency (RCREEE) for the Arab region

Austrian
Development Cooperation



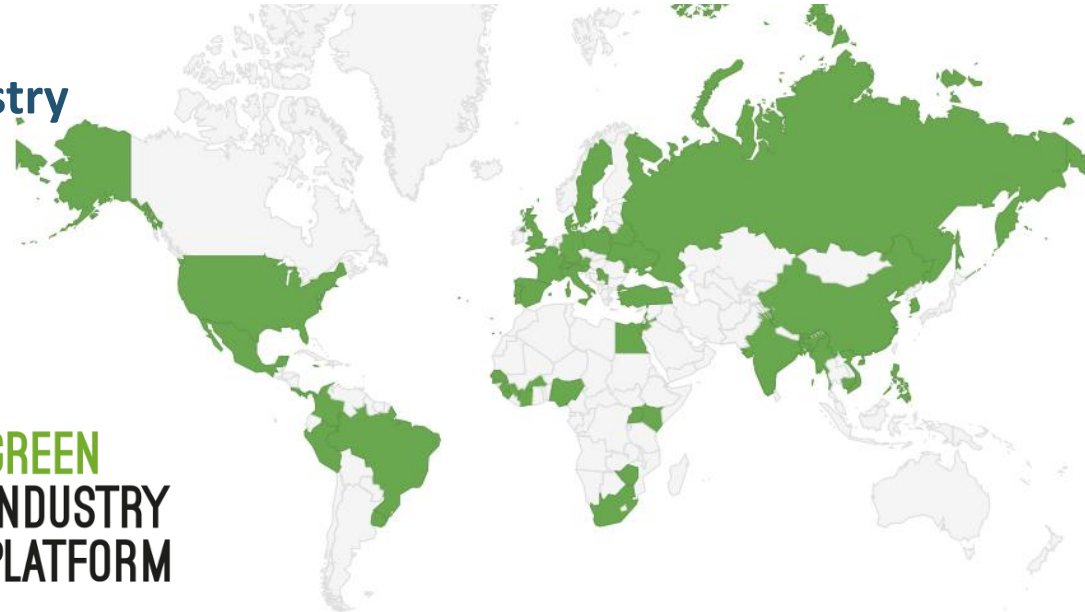
Existing Global Mechanisms

UNIDO-UNEP Green Industry Platform

- High-level, multi-stakeholder, transformative partnership framework
- Businesses, governments, international and civil society organizations have joined by signing the *Statement of Support*
- Scales up and mainstreams Green Industry approach in global industry

190 Signatories of the Green Industry Platform's *Statement of Support*

- 30 Governments
- 95 Businesses
- 65 Int'l, Business, Civil Society Organizations



Existing Global Mechanisms

GEF-UNIDO Global CleanTech Programme and Awards for SMEs

Participating Countries: Armenia, India, Malaysia, South Africa

Planned in: Pakistan, Russian Federation, Turkey

Objective and Strategy

- Encourage innovation in SMEs through incubation and competition.
- Most promising entrepreneurs are identified through national awards competition, and are mentored, promoted and connected to potential investors, partners and clients.
- Participating countries provide a strong foundation for regional collaboration, South-South technology transfer, and expansion.

Key Activities

- Training – national academies, webinars, training
- Mentoring – local/global specialists, business clinics
- Access to capital – strategic investors, VC firms, networking
- Showcasing – regional events, global for a, press exposure



Existing Global Mechanisms

Climate Technology Centre and Network (CTCN)

Mission

Stimulate technology cooperation and enhance development and transfer of technologies to developing country parties at their request

Functions

- Manage requests from developing countries and deliver responses
- Foster collaboration and access to information and knowledge to accelerate climate technology transfer
- Strengthen networks, partnerships and capacity building for climate technology transfer



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Conclusions

Achieving UNIDO's Mandate of Inclusive and Sustainable Industrial Development (ISID)

Technology Facilitation and Transfer Must:

- Correspond to country needs and developmental priorities
- Meet industrial and private sector requirements
- Be resource-performance-based
- Provide a strong business case and incentives for participation

Priorities

1. Identification, assessment, deployment and effective long-term implementation
2. Research, innovation and commercialization

Conclusions

Based on UNIDO's Experience with Global Technology Facilitation

Cooperation and Coordination Required

- Many UN institutions working on technology transfer
- Duplication avoidance through multi-convenor approach
- Responsiveness through multi-stakeholder model

Scale Up and Accelerate Existing Solutions

- Tools and frameworks exist today to achieve ISID
- Technology available to help developing countries “leapfrog” counter-productive development stages and embark on a sustainable development trajectory
- Need to strengthen, grow, scale up and expand existing deployment frameworks, institutions and infrastructures
- Pursuit of a consistent implementation of clean and environmentally sound technologies essential



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Thank You!



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