Implementing Inclusive and Sustainable Industrial Development at the Regional and Country level

Aid for Trade

Sustainable Development and the Green Economy Workshop

Frank Van Rompaey
UNIDO Representative in Geneva

WTO, 5 February 2019
The Challenge

Resource decoupling

Human well-being

Economic activity (GDP)

Resource use

Environmental impact

Impact decoupling
Stage of industrialization – early, middle and late industries
Structural change in industry

Source: UNIDO’s elaboration based on CIC 2009; UNIDO Database (2012a).
Technological change: trends in energy intensity

The graph illustrates the energy intensity of various industries over different levels of real GDP per capita. The x-axis represents real GDP per capita, ranging from 1100 to 60000, while the y-axis represents energy intensity, ranging from -1.00 to 7.00. The industries are color-coded and include:

- Food and tobacco
- Petrochemical
- Machinery
- Textile and leather
- Chemicals and chemical products
- Wood and wood products
- Non-metallic minerals
- Metals
- Non-specified industry

The graph shows a trend where energy intensity decreases as real GDP per capita increases, indicating an improvement in energy efficiency over time. The industries with the highest energy intensity are typically those in the early stages of economic development, while those with lower energy intensity are found in more developed economies.
Technological change: trends in emission intensity
Sustainable Industrialization

**Greening of Industries**
- Resource Productivity
- Pollution Prevention
- Safe Chemical Management

**Creating Green Industries**
- Environmental Technologies
  - Examples: Wind turbines, Recycling plants
- Environmental Services
  - Examples: Energy consulting, Chemical leasing
Resource Efficient, Cleaner Production Centers

65 independent Resource Efficient Cleaner Production centers in 50 countries

A UNIDO-UNEP initiative since 1994

www.recpnet.org
Eco-Industrial Parks (EIP)

**Firm level**

- Individual RECP solutions
  - Resource Efficient Cleaner Production (RECP):
    - Materials efficiency
    - Water efficiency
    - Energy efficiency

**Industrial Park level**

- Collective RECP solutions
  - Operation & Management of:
    - Common Infrastructures
    - Resource Supply (Water, Energy, Materials)
    - Environmental & Social Services

**City level**

- **Urban Symbiosis**
  - Waste Management
  - Recycling industries
  - Corporate Social Responsibility

**EIPs to promote “circular business practices, including “green design”**
Eco-Industrial Parks Programme

Colombia:
- 1 Industrial park
- 20 Companies

India:
- 4 Industrial parks
- 40 Companies

South Africa:
- 2 Industrial parks
- 40 Companies

Viet Nam:
- 4 Industrial parks
- 60 Companies

Peru:
- 2 Industrial parks
- 20 Companies

Morocco:
- 1 Industrial park

Bir Mcherga industrial park, Tunisia:
Cement industry symbiosis:
- Energy co-processing (waste to energy)
- Materials co-processing (Reuse of slag, and refractory materials as substitutes for raw materials)

Ankleshwar industrial park, Gujarat, India:
- Common facility of spent sulfuric acid recovery for 46 companies

Target beneficiaries:
- 15 industrial parks
- Over 200 companies
An international framework for Eco-Industrial Parks

With support of and inputs from

https://openknowledge.worldbank.org/handle/10986/29110
https://openknowledge.worldbank.org/handle/10986/30458
Cleantech Opportunity for SMEs and Start-ups

1. **GLOBAL CLEANTECH INDUSTRY**
   Will exceed 6.4 trillion US$ in the next decade

2. **ACCESS**
   To over 1.7 trillion US$ for SMEs and start-ups in developing countries

3. **OPORTUNITY**
   For SMEs and start-ups to be key engines of growth in the cleantech sector in developing countries

4. **POTENTIAL**
   For cleantech SMEs and start-ups to contribute to green growth, creation of new revenue streams, innovation and job creation.
Chemical leasing

Powder coating

Classical business model: payment per t of powder coating

Payment per m² of coated surface

Agrochemicals

Classical business model: payment per kg pesticides

Payment per ha agriculture area with controlled pest

Water treatment

Classical business model: payment per t of treatment chemical

Payment per m³ of purified water

Labelling glues

Classical business model: payment per kg of glue

Payment per labelled bottle
Detoxify waste for reuse of recovered materials

• Following e-waste programmes in Cambodia, Ethiopia, Uganda, Vietnam in partnership with Dell and Microsoft

• Environmentally sound management of POPs in waste of electronic and electrical equipment (WEEE)

• Regional WEEE programme 13 Latin American countries: Argentina, Bolivia, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Peru, Uruguay and Venezuela
UN, World Economic Forum and partners come together to address e-waste challenges

- **Seven UN entities**, supported by the World Economic Forum and the World Business Council for Sustainable Development, have come together to better address electronic and electrical waste (e-waste) challenges.
- The Initiative is **supported by major global brands, governments and other organizations** with commitments and projects to address e-waste and build a circular economy.
- **50 million tonnes of e-waste** are discarded annually. In terms of material value, this is worth 62.5 billion dollars – more than the GDP of most countries. **Less than 20% of this is recycled formally.**
- New joint report titled “A New Circular Vision for Electronics – Time for a Global Reboot” was launched in Davos calls for a new vision for electronics based on the circular economy and the need for collaboration with major brands, SMEs, academia, trade unions, civil society and associations in a deliberative process to change the system.
Green design (detoxify POPs, ODS, Hg; lightweight, innovations for alternatives), enhanced circular and responsible business practices by resource, water & energy efficiency (RECP, TEST), green chemistry, and water stewardship.
Circular Economy
Thank You
f.vanrompaey@unido.org