

WORLD ECONOMIC AND SOCIAL SURVEY

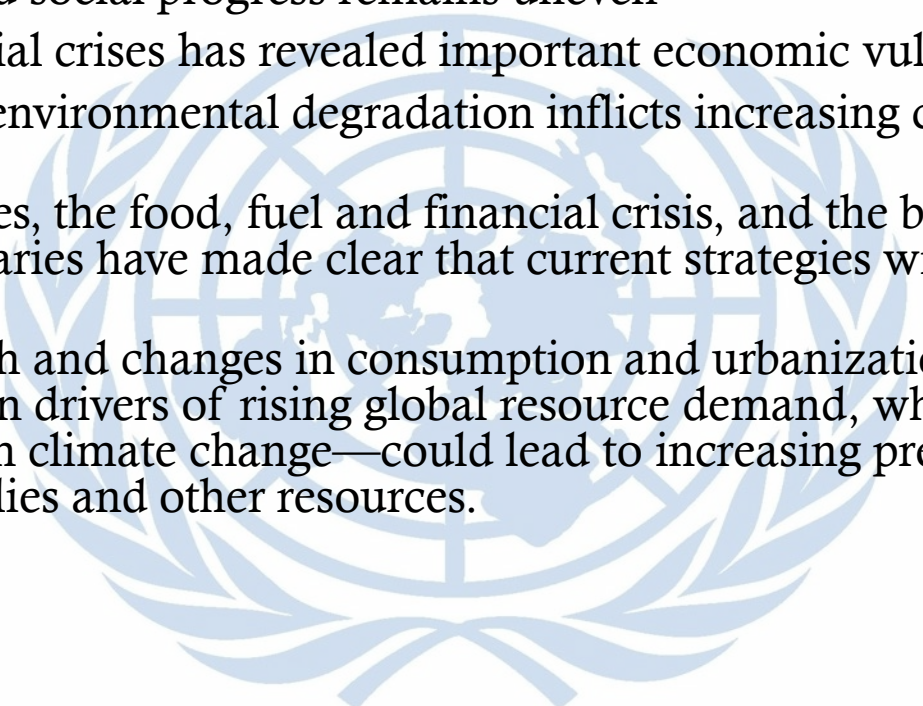
# Sustainable Development Challenges

## 2013



# CHAPTER 1

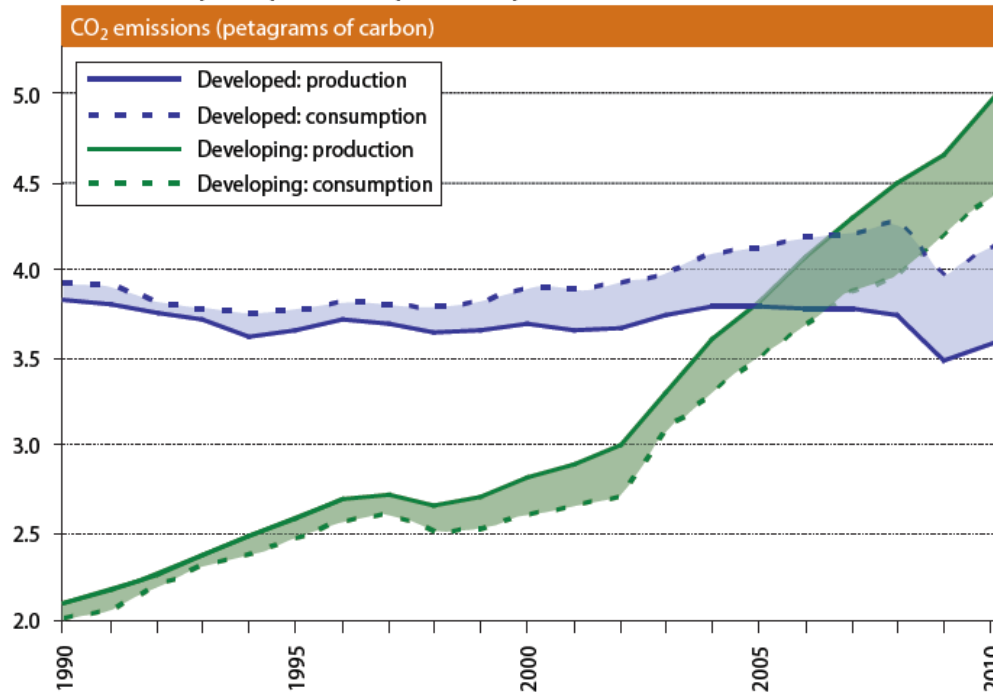
## GLOBAL TRENDS AND CHALLENGES

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- Great stride in addressing poverty, but
    - economic and social progress remains uneven
    - global financial crises has revealed important economic vulnerabilities
    - accelerating environmental degradation inflicts increasing cost on the society
  - Rising inequalities, the food, fuel and financial crisis, and the breaching of planetary boundaries have made clear that current strategies will not suffice.
  - Economic growth and changes in consumption and urbanization patterns are amongst the main drivers of rising global resource demand, which— in combination with climate change—could lead to increasing pressure on arable land, water supplies and other resources.

# CHAPTER 1

## GLOBAL TRENDS AND CHALLENGES

Figure I.6  
CO<sub>2</sub> emissions of developed and developing countries, as allocated to production and consumption (production plus net exports), 1990-2010



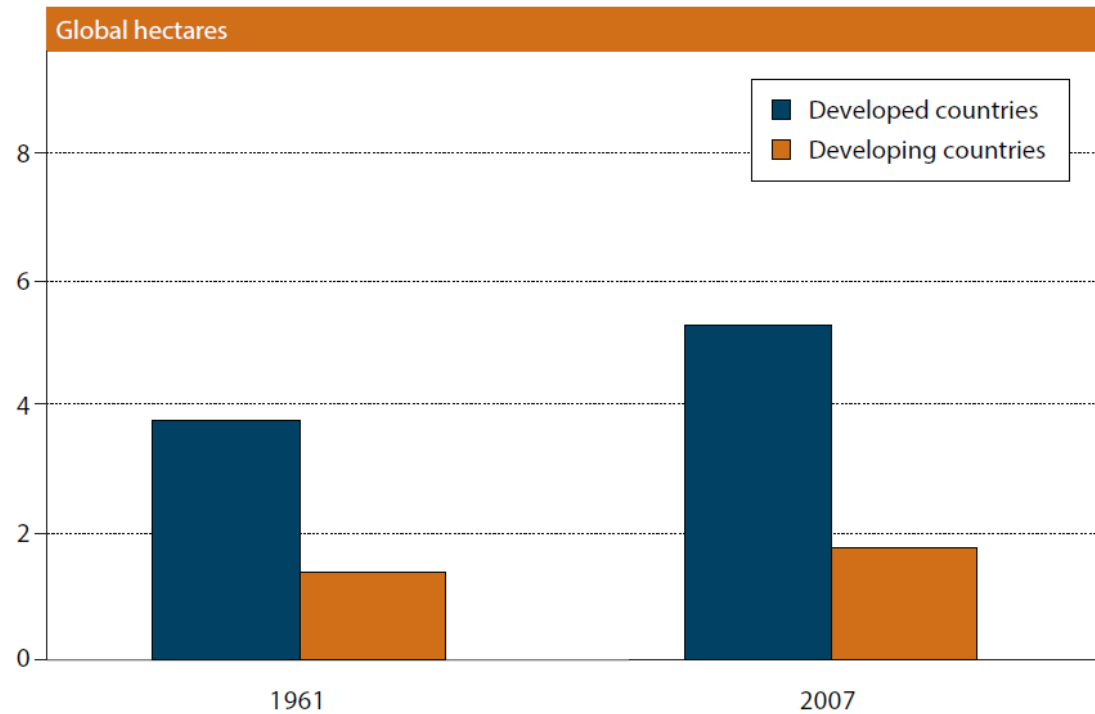
Source: Peters and others (2012).

**CO<sub>2</sub> Emissions of developing countries exceeding developed countries...**

# CHAPTER 1

## GLOBAL TRENDS AND CHALLENGES

Average ecological footprint per person in developed and developing countries, 1961 and 2007



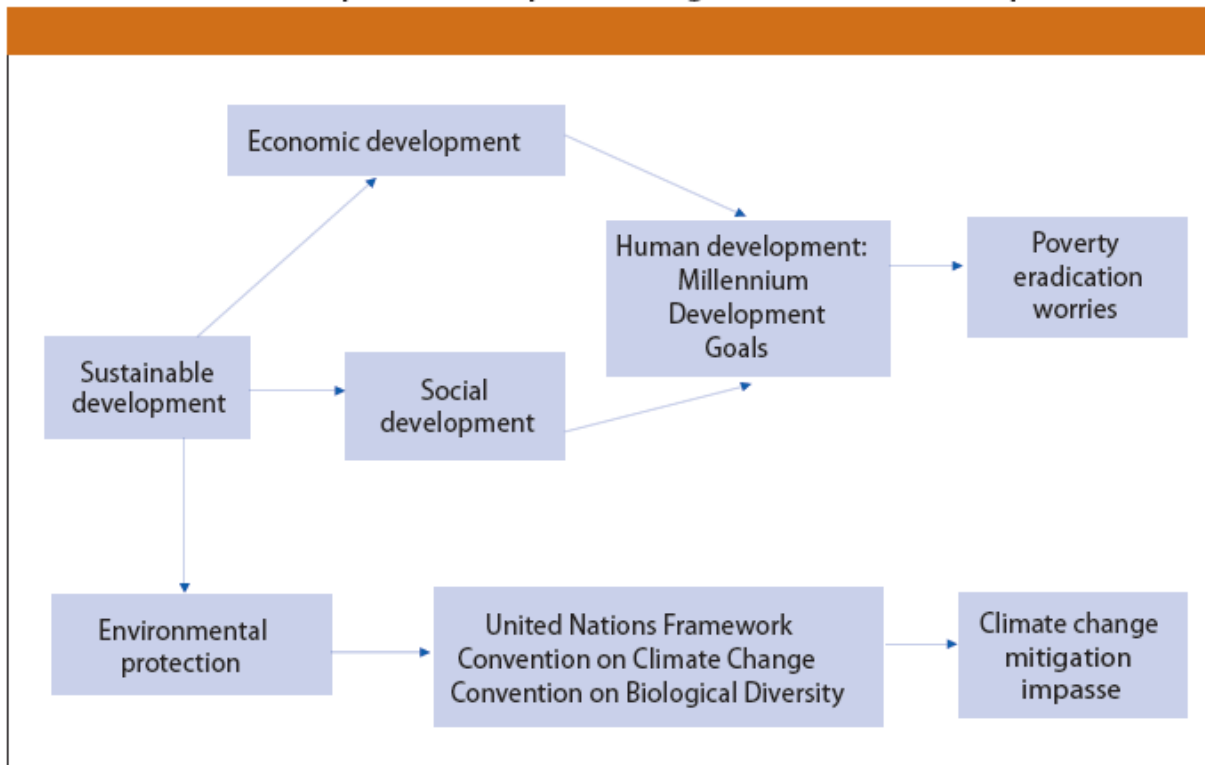
Source: Woodward and Simms (2006); Global Footprint Network, "Ecological Footprint Atlas" (Oakland, California, 13 October 2010).

*... but per capita ecological footprints in developed countries rising faster*

# CHAPTER 2

## STRATEGIES FOR DEVELOPMENT AND TRANSFORMATION

Different tracks of the implementation process of Agenda 21 and the consequences



*MDG and SD processes need to be integrated. . .*

# CHAPTER 2

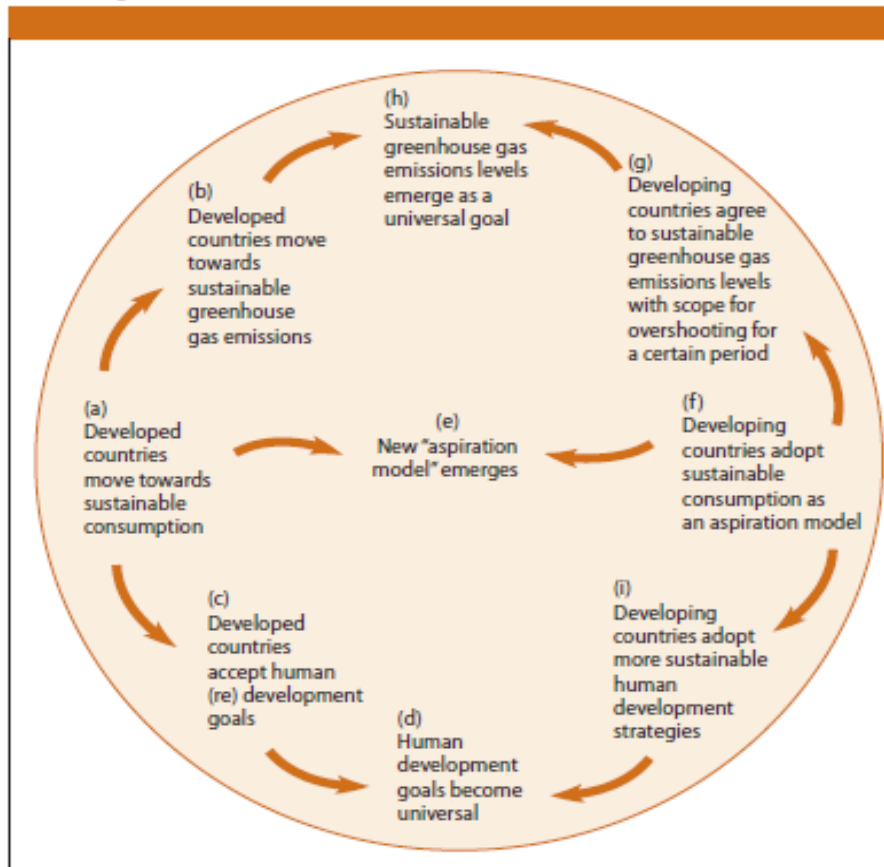
## STRATEGIES FOR DEVELOPMENT AND TRANSFORMATION

- Integration of the MDGs and the SDGs is needed
- Technology will play an important role in the transition to sustainable production and consumption.
- However, in developed countries conscious efforts will have to be made to shift from
  - resource-intensive to resource-extensive goods and service
  - a private to a public mode of consumption
  - single to multiple usage of products
  - use of non-biodegradable to biodegradable material
  - means of bringing about desirable changes in consumption patterns include price corrections through taxes, subsidies and regulatory reforms, environmental-economic accounting, and emphasis on the strong concept of sustainability.

# CHAPTER 2

## STRATEGIES FOR DEVELOPMENT AND TRANSFORMATION

Framework for Integrating human development and environmental protection goals and making them universal

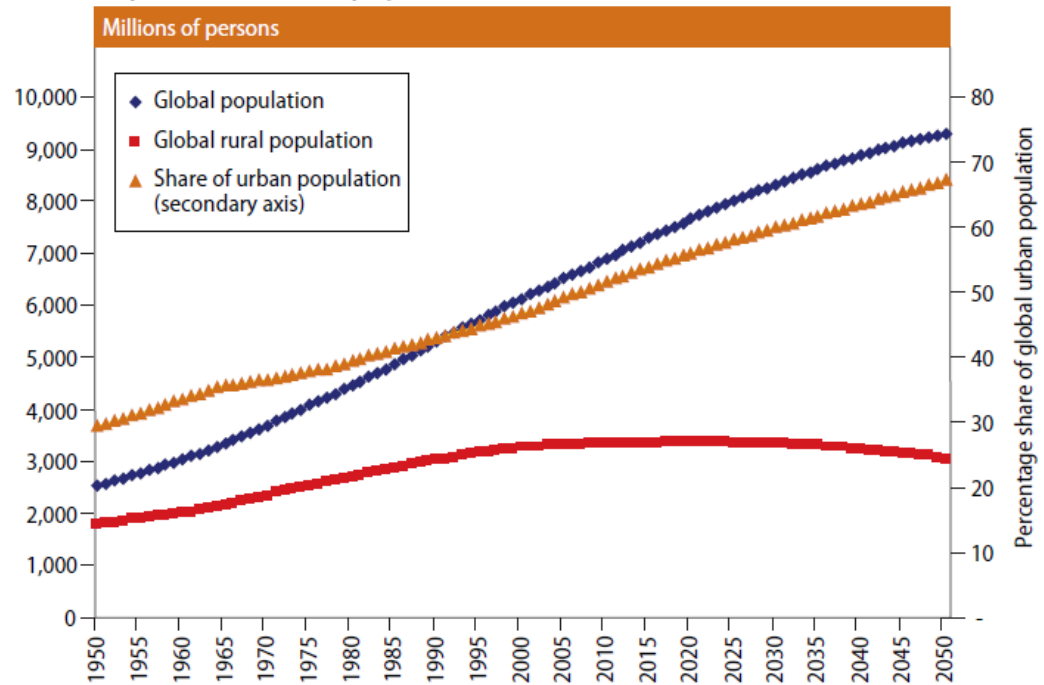


Source: UN/DESA,  
Development Policy and  
Analysis Division.

# CHAPTER 3

## TOWARDS SUSTAINABLE CITIES

Figure III.1  
Population trends and projections, 1950-2050



Sources: United Nations,  
Department of Economic  
and Social Affairs, Population  
Division (2011; 2012).

*For the first time in history, rural population expected to decline ...*



# CHAPTER 3

## TOWARDS SUSTAINABLE CITIES

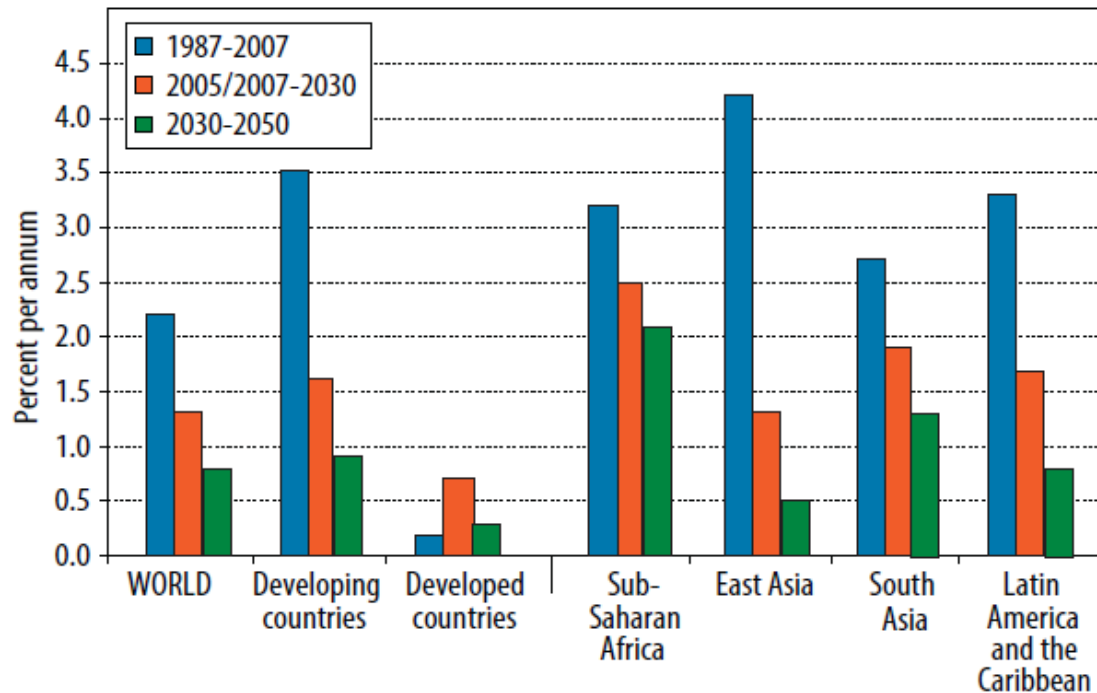
- Numerous challenges threaten the ability of cities to become viable pillars of sustainable development.
- Predominance of small- and medium-sized cities provides an opportunity to invest in green infrastructures and in social development.
- However, building sustainable cities requires, amongst others:
  - investment in renewable energy sources
  - efficiency in the use of water and electricity
  - design and implementation of compact cities
  - retrofitting of buildings and increase of green areas
  - fast, reliable and affordable public transportation
  - improved waste and recycling systems

*An integrated and coordinated approach to sustainability of cities is needed ...*

# CHAPTER 4

## ENSURING FOOD AND NUTRITION SECURITY

Figure 1: Agricultural production growth rates (percent per annum)



*Source:* World Agriculture Towards 2030/2050: The 2012 Revision (Proof copy), Nikos Alexandratos and Jelle Bruinsma, Global Perspective Studies Team, ESA Working Paper No. 12-03 (June 2012), Food and Agriculture Organization of the United Nations.

*Long-term agricultural production growth is projected to decline . . .*

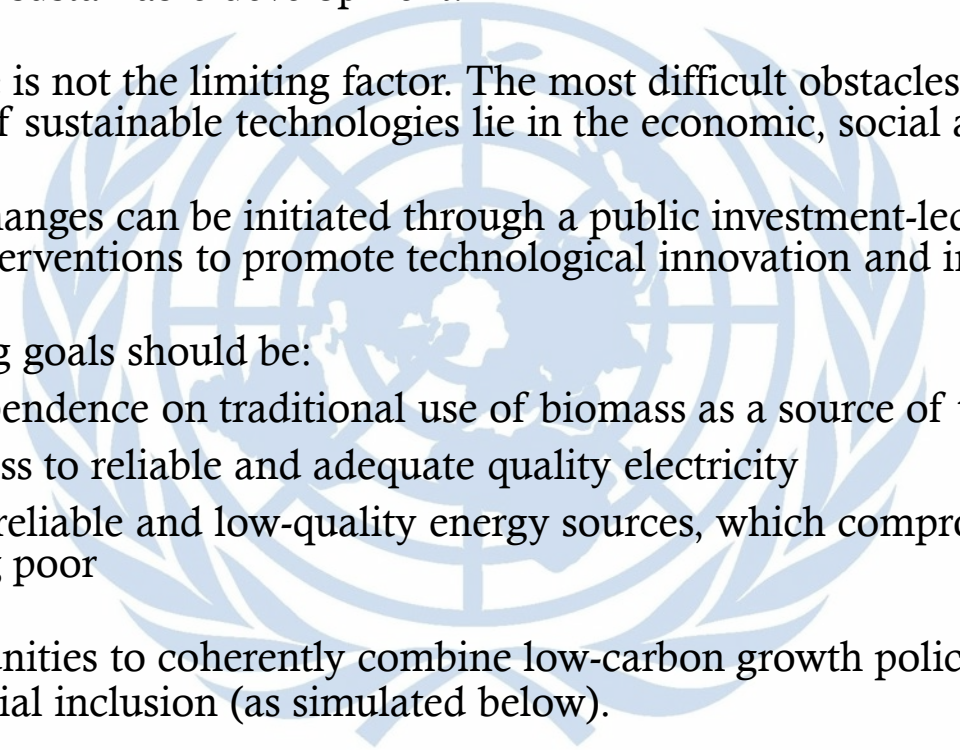
# CHAPTER 4

## ENSURING FOOD AND NUTRITION SECURITY

- Food production has to increase by 100% in developing countries by 2050 (estimation from FAO).
- Contrary to past experiences, an integrated approach that takes into consideration the nexus of food, water, energy, environment and climate is required, while reorienting food production, distribution and consumption.
- Increasing agricultural productivity will be crucial, in particular in developing countries where the agriculture sector accounts for an important share of gross domestic product and where large productivity gaps still exist.
- Access of poor households to food will need to be improved, in particular given that hunger can exist even in countries where there is enough food produced.
- Diets should become less resource intensive and more nutritious, which will be crucial for the sustainability of the food system and for better health outcomes, while food waste has to decrease.

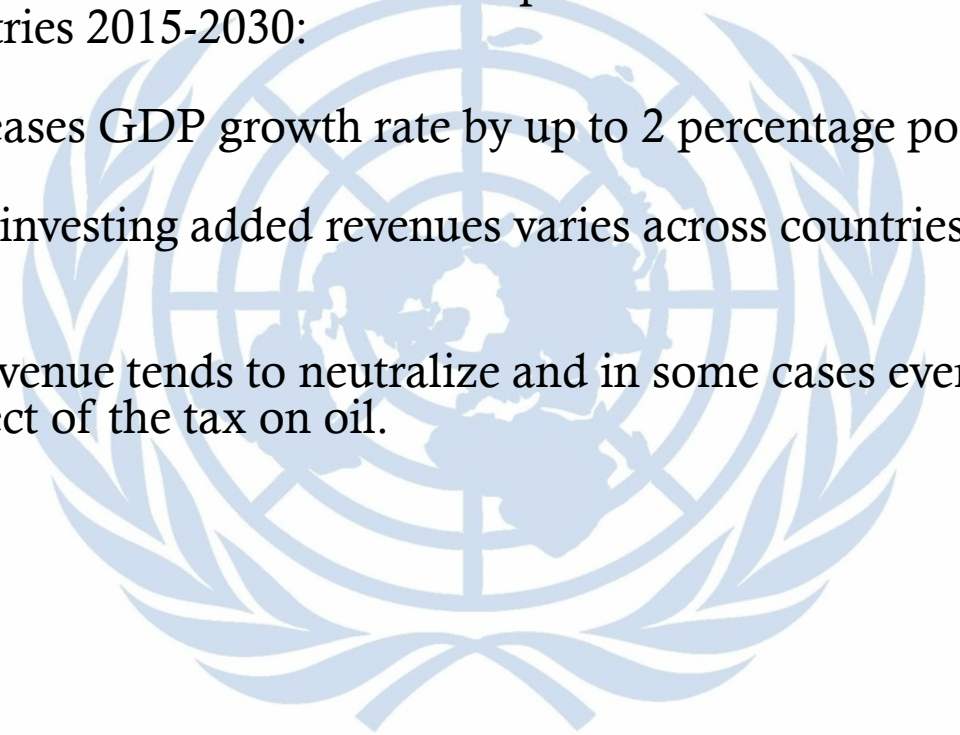
# CHAPTER 5

## THE ENERGY TRANSFORMATION CHALLENGE

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- There are a large number of pathways towards transforming the energy system so that the world can achieve sustainable development.
  - Technology per se is not the limiting factor. The most difficult obstacles to the implementation of sustainable technologies lie in the economic, social and cultural domains.
  - Transformative changes can be initiated through a public investment-led big push and decisive public interventions to promote technological innovation and implementation.
  - But the underlying goals should be:
    - eradicating dependence on traditional use of biomass as a source of thermal energy
    - improving access to reliable and adequate quality electricity
    - substituting unreliable and low-quality energy sources, which compromise opportunities for the working poor
  - There are opportunities to coherently combine low-carbon growth policies with strategies for economic and social inclusion (as simulated below).

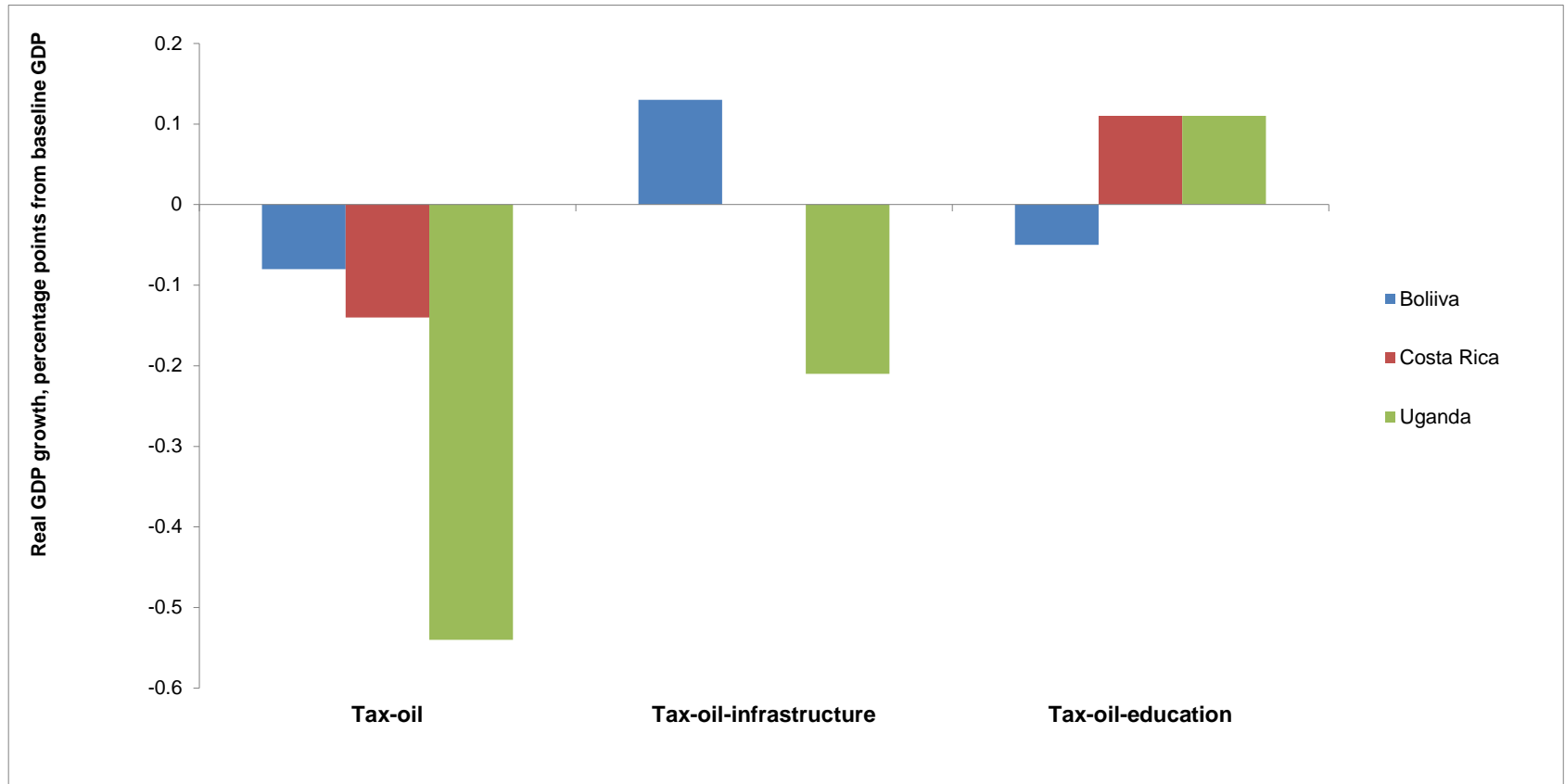
# CHAPTER 5

## THE ENERGY TRANSFORMATION CHALLENGE

- Preliminary results of “sustainable development simulations” for three selected oil-importing countries 2015-2030:
  - Tax on oil decreases GDP growth rate by up to 2 percentage points.
  - The effect of re-investing added revenues varies across countries and the type investment.
  - Using the tax revenue tends to neutralize and in some cases even more than offset the negative effect of the tax on oil.
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# CHAPTER 5

## THE ENERGY TRANSFORMATION CHALLENGE



*Results of three alternative re-investment scenarios ...*



# Thank You

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WESS: <http://www.un.org/en/development/desa/policy>