Facing Environmental Challenges: Policies for Greening the Economy

Central Asia's environmental challenges and opportunities

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Agenda

• Environmental challenges in Kyrgyzstan and Tajikistan.
• The green economy: key pillars and principles.
• Key sectors for a green economy transformation.
• Turning challenges into opportunities.
• Cross sectoral benefits of green technologies.
• Barriers for the generation, use and diffusion of green technologies.
Environmental challenges in Kyrgyzstan and Tajikistan

• Land use, with respect to:
  - Forest ecosystem and water supply
  - Land/soil erosion

• Inefficient water supply/consumption;

• Lack of access to modern forms of energy (and cost of supply re. fossil fuels);

• Heavy impact of natural disasters (environmental as well as social and monetary).
The green economy: key pillars and principles

• The traditional development pattern observed in the last decades prioritizes investments defined in response of short-term crises, with the aim to increase economic growth.

• The green economy instead...
The green economy: key pillars and principles (2)

- Promotes, as key pillars:
  - Resource efficiency,
  - Low carbon development,
  - Resilient and inclusive growth.

- A green economy strategy needs to be customized and developed locally.
The green economy: key pillars and principles (3)

• The green economy is an action oriented approach that aims at transforming the current “brown” (or unsustainable) practices in “green” (or sustainable) ones.

• As a result, the ultimate goal of the green economy is sustainable development.
The green economy: key pillars and principles (4)

• The main vehicle for the green economy are investments.

• New technologies need to be adopted to lower carbon intensity, improve resource efficiency and conserve natural capital while stimulating a resilient economic growth and creating employment.
Example: green economy

- Fossil fuels, water, forest
- Supply of Natural Resources
- Demand of Natural Resources
- Resource efficiency
- GDP
Key sectors for a green economy transformation

• Using an integrated policymaking approach, the sectors identified as priority areas for the potential introduction of green innovations are:
  – Energy
  – Natural resources
  – Agriculture
  – Construction
  – Manufacturing
  – Transport
  – Tourism

Sectors relying on natural resources (investing in natural capital)

Sectors relying on technology (investing in energy and resource efficiency)
Key sectors for a green economy transformation

• Energy
  – Considerable water resources, little fossil fuels;
    • Long-Term Programme for Small HEPPs Construction for 2009-2020
  – Good potential for the use of unconventional renewable resources (e.g., solar heat water and PV);
    • Comprehensive Target Programme for Extensive Use of Renewable Energy Sources for 2007-2015
  – Two main challenges:
    • (1) reduce energy demand through enhanced energy efficiency and (2) increase energy supply.
Key sectors for a green economy transformation

• Natural resources
  – Considerable biodiversity;
  – Unpredictable and sometimes unsustainable exploitation
    • Long-term Country Development Strategy; Medium-Term Development Program of the Poverty Reduction Strategy Paper (forest management)
    • National Environmental Action Plan; State Forestry Development Programme 2006-2015; State Ecological Programme 2009-2019
  – Several challenges:
    • Natural resources are threatened by climate change, irrational use and unsustainable exploitation practices.
    • In Tajikistan the cost of mudflows and floods amounted to over 600 million dollars in 2010. (GoT, 2012).
Key sectors for a green economy transformation

• Agriculture
  – Key sector contributing to GDP and employment;
  – Requires considerable amounts of water and could expand further;
  – Several challenges:
    • Despite high water consumption (up to 90% of total freshwater withdrawals), crop yield remains generally low.
    • Key factors include soil erosion and salinization, irrational use of fertilizers, inefficient irrigation systems, poor crop rotation and intercropping, low efficiency and adaptability to changing climate conditions.
Key sectors for a green economy transformation

• Construction
  – Housing stock not large enough to satisfy demand;
  – Inefficient building stock, leading to high operation costs
    • GEF-funded project “Improving energy efficiency in buildings”
  – Several challenges:
    • Availability of affordable and quality housing,
    • Efficient use and affordability of energy and water,
    • Environmental impacts caused by buildings and their use (e.g., waste creation and disposal).
Key sectors for a green economy transformation

• Manufacturing
  – Key sector for production and employment
    • For instance, aluminum production in Tajikistan.
  – Several challenges:
    • Heavily relying on power and water, but efficiency is low;
    • Infrastructure inadequate to make it competitive internationally (despite low electricity prices);
Key sectors for a green economy transformation

• Transport
  – Heavily relying on road transport, but infrastructure is deteriorating in parts of the two countries;
  – Considerable funding is required to implement existing plans.
  – Several challenges:
    • The deterioration of the domestic road network in Kyrgyzstan and also in parts of Tajikistan, represents an obstacle to economic development, is also due to the exacerbation of extreme natural events (i.e. floods and landslides), as result of climate change.
Key sectors for a green economy transformation

• Tourism
  – Still to be exploited, relies on the performance of all the other sectors;
  – Several challenges, same as for the other sectors.
  – Opportunities and ongoing projects:
    • Kyrgyzstan: “Rehabilitation of the drinking water supply system of Karakol city”, “Sustainable Development of the Issyk-Kul”, “Improvement of water supply system of Bishkek city”, and “Improvement of water supply system of Osh city and Jalalabad city”.
## Turning challenges into opportunities

<table>
<thead>
<tr>
<th>Policies</th>
<th>Investment (e.g., capital investment in RE and EE for extra capacity and retrofits)</th>
<th>Mandates and targets (e.g., RE and EE standards, deforestation and reforestation targets)</th>
<th>Subsidies (e.g., feed in tariffs for energy, tax rebates, payments for ecosystem services)</th>
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</thead>
<tbody>
<tr>
<td>Scenarios</td>
<td>Climate change, energy prices, conflicts, peak oil, world economic growth, etc.</td>
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### Structure

#### Social sectors
- Population
- Education
- Infrastructure (e.g. transport)
- Employment
- Income distribution

#### Economic sectors
- Production (GDP)
- Technology
- Households accounts
- Government accounts
- Investment (public and private)
- Balance and financing
- Government debt
- Balance of payment
- International trade

#### Environmental sectors
- Land allocation and use
- Water demand and supply
- Energy demand and supply (by sector and energy source)
- GHG and other emissions (sources and sinks)
- Footprint

### Science

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Systemic thinking is needed to evaluate the cross-sectoral short- medium- and longer-term impact of policy implementation.

This is crucial to ensure that National Development Planning supports the environment rather than depleting it, creating further challenges for the future.

Interventions may have more than one benefit, across several sectors.
Cross sectoral benefits of green technologies

Policy evaluation
- Decoupling and resource efficiency
- Preserving the resource base
- Economic and social progress
- Performance of Green interventions

Agenda setting
State of the environment and impacts of economic activity

Definition of policy goals
Issues, and relative policy goals, can be of general nature, social, economic and environmental (with the latter being more relevant for the GE)

Policy formulation
Policy cost and reach

Policy formulation analysis focuses on the issue (e.g., environmental) and on the economic cost-benefit of the intervention

Economic
Social
Environmental

Policy evaluation covers ESE indicators, as policy impacts have a cross-sectoral reach.
Green Economy scenarios
Barriers for the generation, use and diffusion of green technologies

- Lack of human capacity:
  - Knowledge of options
  - Readiness of institutions
  - Forecasting of impacts and policy planning
- Lack of funding (private and public)
- Sectoral policy formulation (vs. integrated)
- Ineffective policy implementation

Enabling conditions are needed to overcome these barriers
Thank you!

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