GREEN INVESTMENT PROMOTION

MODULE “GI”

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Green Economy in a Nutshell
Traditional development patterns during the last decades have prioritized investments in physical capital (e.g. infrastructure) with the aim to increase economic growth as opposed to human & natural capital.

The considerable accumulation of financial capital, reached well beyond the real value of assets, & has generated considerable economic growth, but resulted in the worst global economic recession since the Great Depression of the 1930s.

It was estimated that due to the economic & financial crisis every 1% fall in growth in developing economies could translate into an additional 20 million people consigned to poverty (MGI 2009).

The financial sector crisis & the subsequent global economic slow down, wiped out US$ 28.8 trillion in global wealth captured in equity & real estate values between the 2008 & mid 2009.

In 2008 the total value of the world's financial assets fell by US$ 16 trillion to US$ 178 trillion from the worldwide store of financial assets that stood at US$ 194 trillion pre crisis (MGI 2009).
Environmental Degradation

- 20% of the planet’s green land is less productive than 20 years ago
- 20 million hectares of tropical forests are cleared each year for agriculture & other uses
- Species abundance is down by 60% since 1970 harming human health, development & security
- 1/3 of the fish stock are overfished & a further 60% are overfished beyond sustainable limits
- Current level of greenhouse gases (CO2) in the atmosphere is 405.5 ppm in 2017
- 39 million people suffered acute food insecurity because of climate-related disasters in 2017
- Cost of environmental degradation in Egypt estimated at 4.8% of GDP (WB, 2002)
Social Justice - Poverty

- Richest 1% of the population owns half of the world’s wealth
- Almost 1/2 of the world lives on less than US$ 5.5/day
- At least 80% of humanity lives on less than US$ 10/day
- Number of undernourished people in the world has been on the rise since 2014, reaching an estimated 821 million in 2017
- Though 700 million people were reduced from extreme poverty during the last decades (mainly in China & India), 1.2 billion remain in state of destitution
The term “green economy” appeared in a publication entitled “Blueprint for a Green Economy” (Pearce et al. 1989).

A Global Green New Deal: Rethinking the Economic Recovery”, commissioned by UNEP (Barbier 2010).


“Resilient People, Resilient Planet: A Future Worth Choosing”, a report by the Secretary-General’s High Level Panel on Global Sustainability (2012).
“A green economy is one that results in improved human well-being and social equity while significantly reducing environmental risks and ecological scarcities” (UNEP 2010).

The Green Sustainable Economy is one in which the vital linkages among the economy, society, & the environment are taken into account & in which adopting sustainable consumption & production patterns while contributing to resource efficiency, reduction of waste & pollution, & use of resources (energy, water, material input) will revitalize & diversify the economy, create decent employment opportunities, promote sustainable
What does Green Economy help achieve

**Economic Resilience**
- Revitalize & diversify the economy
- Enhance competitiveness & create new market niche
- Generate new investment opportunities
- Contribute to Gross National Product

**Promote Equity, Social Integrity & inclusiveness**
- Human capital development
- Poverty reduction
- Intergenerational equity
- Intergenerational equity
- Gender equality
- Create genuine prosperity & wellbeing (education, health
- Right to development for all

**Ecological Sustainability**
- Maintenance of ecosystem services & natural capital
- Biodiversity conservation
- Sustainable consumption & production
- Resource efficiency
- Waste avoidance, reduction, recycle, recovery, reuse
- Address climate change concerns
The Rio+20 Conference held in 2012 had two main themes firstly, a green economy in the context of sustainable development and poverty eradication; and, secondly, the institutional framework for SD.

“We affirm that there are different approaches, visions, models and tools available to each country, in accordance with its national circumstances and priorities, to achieve sustainable development in its three dimensions which is our overarching goal. In this regard, we consider green economy in the context of sustainable development and poverty eradication as one of the important tools available for achieving sustainable development and that it could provide options for policymaking but should not be a rigid set of rules. We emphasize that it should contribute to eradicating poverty as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth’s ecosystems.”
Global Trends

- Global new investment in renewable power & fuels reached US$ 279.8 billion in 2017

- Global sales of electric cars increased by 54% in 2017

- Since 1990s ecotourism has been growing between 10%-30%/year

- The global market for organic food reached US$ 97 billion in 2017

- The renewable energy sector now employs over 8.1 million people

- The transformation to a greener & low-carbon economy could generate up to 60 million additional jobs across economic sectors
According to IRENA cost of generating power from onshore wind has fallen by around 23% since 2010, while the cost of solar photovoltaic (PV) electricity has fallen by 73%.

Further price falls expected for these & other green energy options with all renewable energy technologies are expected to be competitive on price with fossil fuels by 2020.

Onshore wind schemes are now costing an average of $0.06 /kWh, although some schemes are coming in at $0.04 per KwH.

Cost of solar PV is down to $0.10 per KwH.

Cost of electricity generation based on fossil fuels falls in a range of $0.05 to $0.17/ KwH.
Global Trends

- Growing emerging market
- Clear & predictable regulatory policies
- Availability of infrastructure
- Data on investment opportunities
- Improves Image
- Effective marketing tool
- Increases workers productivity

- Efficiency gains & reduced costs
- Reduces environmental risks
- Promotes market access
- Reduces litigations & potential financial costs
- Good business as it increases profits
- Enhances stakeholders satisfaction
Investment Opportunities
Renewable Energy

- Renewable sources of energy (solar, hydro, wind, bio-energy, & thermal)
- Investments include extending **existing grids** to non-served areas, based on energy efficient & renewable sources of energy
- In remote locations, **off-grid & mini-grid options** tend to be more cost effective than expanding existing electricity grids
- **Solar household systems** have the potential to alleviate rural energy poverty & displace costly diesel-based power generation
- **Energy efficiency & renewable energy use** in industry, tourism, agriculture, cities, buildings, transportation, municipalities & services
Sustainable Water Use

- Investing in water efficiency saves costs & supports sustainable economic growth
- Investing in wastewater treatment & reuse
- Seawater desalination using renewable energy
- Investing in biodiversity & ecosystem services promotes water supply
- Invest in rainwater harvesting & water condensation techniques
- Adequate sanitation & drinking water supply contributes to improved health, poverty reduction, & human wellbeing
Sustainable Water Use

- Investing in **organic & sustainable farming**
- Investing in **draught resistant & water saving cash crops**
- Soil & water management systems
- Strengthening the **supply chains for green products & farm inputs**
- **Mechanization & post-harvest storage & cooling facilities** to enhance efficiency
- Manufacturing of **water & energy saving equipment**
- **Recycling of agricultural waste** into compost & biogas
- Applications of **precision agriculture** & innovative technologies
Sustainable Water Use

- Green investment to *reverse loss of forests by conserving existing areas* & promoting expansion through regeneration & reforestation
- Improving management in existing forests & agroforestry systems to ensure continued *provision of ecosystem services*
- Investment in *agroforestry* provides win-win solution: conserves forests & promotes sustainable agriculture
- Investment in *conservation & restoration of forests* in accordance with principles of sustainable forest management
- Investment in the production of forest plantations *using treated wastewater*
Sustainable Water Use

- Investment options include *maintenance & decommissioning of vessels* & improved fish stock management practices
- Investing in *aquaculture* (one of the fastest growing sectors), while overcoming sanitary & biodiversity challenges resulting from high production & trade volumes
- *Fish processing plants, recycling of fish waste & production of fish fodder*
- *Public awareness, re-training & education programs* for fishermen in order to improve fishing practices, including waste reduction
- Effective management practices, such as *individual transferable quotas (ITQs)*, could lead to improvement & rebuilding of fish stocks
- Creating *alternative employment opportunities* in order to reduce pressure on fisheries, especially in artisanal fishing locations
Green Industry

- Investing in *innovative & efficient technologies & processes* that result in reduced energy & material use & waste generation, & promote recycling of used products

- **Redesign products & business models** so that the same functionality can be delivered with less energy & material use, & with an increase in recyclable products

- Introduce *cleaner technologies & improve the efficiency of existing processes* to establish new modes of production marked by higher material & energy efficiency

- Substitute green inputs for brown inputs wherever possible, *recycle generated wastes, including wastewater*
Green Industry

- Investing in **drying & canning agriculture produce** such as tomato paste, production of jam, dried fruits, etc.
- Investing in processing of **meat, poultry & fish products**
- Investing in **medicinal plants**
- **Textile industry** (cotton, silk, jute, etc.,)
- Production of **oil & biofuel from plants** (Jejoba, Jatrova,..)
- Production of **sugarcane & sugar beet**
- Production of **paper, manufacturing of wood products, furniture**, etc.
Eco Tourism

- Sustainable tourism offers a wide range of opportunities including generating significant returns while reducing environmental impacts.
- Investment opportunities include green airports, green hotels, national parks & reserves, recreational areas, ...
- Environmental & biodiversity conservation, natural attractions, beaches, mountains, rivers, & natural parks.
- Education & capacity building (labor force skills, including the greening of the skills base), sustainable management systems & technology development.
- Investing in artisanal traditional products.
Sustainable Cities

- **Green infrastructure** – roads, transport systems, buildings, energy, water, sanitation, waste recycling, as well as investing in urban form, size, density & configuration

- **Application of AI & innovative technologies** for efficient design & layout of urban structures, efficiency in the use of energy & water & other factor inputs & the use of renewable energy & water & recycled material

- **Enhanced resource efficiency as green cities benefit from synergies between their constituent parts**: energy & water systems & between different economic sectors & resource flows, where outputs of one sector is an input for another

- Promote **urban agriculture**, including green roofs

- Electricity generation from **biogas produced from municipal waste**
Green Buildings

- Opportunities for greening the building sector in developed countries, are found mainly in *retrofitting existing buildings*

- The greatest potential to reduce energy demand will come from a new generation of *green buildings* with more efficient design & higher performance standards

- *Two paradigms* for greening the sector that can be applied to new buildings as well as retrofitting existing building stock

- The 1<sup>st</sup> is based on the concept of “*passive*” design where buildings respond to their local site context by using natural elements (such as air-flow & sunlight) to limit the effect of external conditions

- The 2<sup>nd</sup> is based on an “*active*” approach that uses state-of-the-art technologies & building management systems that reduces resource & material consumption & generates energy
Green Transport Systems

- **Avoiding** or reducing the number of journeys taken; **Shifting** to more environmentally efficient forms of transport, & **Improving** vehicle & fuel technology to reduce adverse environmental effects.

- Enacting the **Avoid, Shift & Improve** strategy requires adequate investment in **R&D, production & operation & management of infrastructure** (such as tracks for buses & rail, pedestrian & cycle routes & park-&-ride facilities).

- **Greener vehicles & transport modes** including green public transport systems, cleaner fuel, telecommunication technology e.g. GPS, smart transport systems, green logistics,..
Green Transport Systems

- Three central components in the waste minimization hierarchy are Reduce, Reuse & Recycle. Investment opportunities exist for these three areas of interventions.


- Formalizing the currently highly informal waste sector with the objective of improving working, living, & environmental & health conditions of workers.

- Investing in source separation, municipal solid waste management & production of compost, biogas, bio diesel from agriculture & municipal organic waste.
Safety & security
Stable macroeconomic environment
Social justice & cohesion
Intergenerational equity
Intragenerational equity
Good governance (Transparent, accountable, ...)
Participatory & inclusive (civil society, youth...)
Integrated policymaking
Collaborative & synergistic
Diversification & revitalization of the economy
Regulatory framework
Market based instruments
Practicality & flexibility

Sustainable consumption & production
Resource efficiency
Decoupling
Competitiveness
Sustainable trade policy
Sustainable finance policy
Job creation
Research & development
Education & capacity development
Public awareness & training
Follow up, monitoring & assessment
The Future Economy
The Addis Ababa Action Agenda clearly reaffirms the need to mobilize all available funding – public & private – to achieve the ambitious 2030 Agenda for Sustainable Development. According to UNCTAD, achieving the SDGs requires between $5 - $7 trillion annually, with an investment gap in developing countries of about $2.5 trillion out of the global GDP of $115 trillion. According to the OECD, around $6.3 trillion annually is needed on a global scale for investing in clean & resilient infrastructure between 2016 & 2030, without taking into account climate concerns.
Integrate sustainability risk factors into credit analysis

Create green investment funds & banks

Introduce requirements for reporting on sustainability performance annually

Enhance sustainability capabilities of policy makers & financial regulators

Introduce requirements to disclose policies on sustainability

Develop financial literacy programs to include sustainability considerations

Incorporate sustainability considerations into financial markets & asset purchase programs

Integrate environmental & social considerations in lending operations

Restrict financial transactions that result in social & environmental costs

Facilitate lending for priority green sectors

Facilitate lending for private sector, including SME

Align fiscal incentives for savings, lending, investment, & insurance with sustainability

Introduce standards & regulations to facilitate capital raising such as green bonds

Promote diversity of financial institutions in terms of geographical coverage, size & business model

Promote knowledge & training on sustainability to undertake fiduciary responsibility

Source: UNEP Inquiry Report 2015
Tools for Mainstreaming Environmental Risks in Business

IFC’s ESP

The Equator Principles

UNEP FI’s Principles

Sustainable Stock Exchanges

PRI

**IFC’s Environmental & Social Performance Standards** define IFC clients’ responsibilities for managing their environmental & social risks.

**The Equator Principles** provide a risk management framework that can be adopted by financial institutions for determining, assessing & managing environmental & social risk in projects.

**UNEP FI’s Principles for Sustainable Insurance** were developed to support sustainable finance in the context of the insurance industry.

**The Sustainable Stock Exchanges Initiative** explores how to improve investment transparency & performance on ESG through dialogue with investors, companies & regulators & corporate disclosure.

**The UN Principles for Responsible Investment (PRI)** aim to incorporate sustainability concerns into the investment planning of investors.

**Tools for Mainstreaming Environmental Risks in Business**
ODA amounted to $149.3 billion in 2018 down by 2.7% in real terms from 2017, but still continues to be a main source of funding. FDI flows fell 13% in 2018.

Remove obstacles facing private investors through good governance, predictable & stable policies, incentives & other incentive measures.

The use of ODA for the mobilization of additional private finance towards sustainable development. OECD DAC members endorsed Blended Finance Principles for unlocking commercial finance for SDGs.

Fiscal policy reform including Taxes & subsidies can play an important role in directing finance to support the implementation of the SDGs.

Unlocking the supply of finance through innovative domestic institutions (e.g. green banks) & financing instruments (green bonds). Pension Funds, Revolving Fund, Energy Performance Contracting, Result-based financing, Ethical finance.
Introducing sustainability measures in the financial system regulatory frameworks along with risk mitigation mechanisms to encourage lending for sustainable development.

Greening government budgets; Trade policies if properly designed provide a source for foreign exchange earnings that can be used to SDG implementation.

Meeting commitments with respect to international conventions offer funding opportunities (GEF, global Strategic Plan for Biodiversity for 2011-2020, GCF, Environmental Conventions).

Facilitate & provide financial services to nationals living & working abroad & their families to encourage transfer of funds to home country can represent a major source of green funding.

Civil society & philanthropic organizations to provide financial & technical contributions towards sustainable development & aligning their activities with government policies, plans & programs.

Sources of Green & Sustainable Finance

- Financial Institutions
- Public Finance & Trade
- UN/International Conventions & Funding Mechanisms
- Remittances
- Civil Society & Philanthropic Organizations
Green Finance Delivery Instruments

- Capital/debt/equity facilitation
  - Seed capital
  - Grants
  - Concessional & non-concessional lending
  - Equity investment (venture capital, stocks)
  - Debt-for-nature swaps

- Guarantees
  - Insurances
  - Catastrophe bonds
  - Contingent credit

- Risk sharing
- Capacity Building
  - Readiness
    - Information tools
  - Technical Assistance

Source: ESCAP Innovative instruments for Green Finance
Innovation Tools for Green Investment

Disclosure Requirements
Directed Green Credit Policy Instruments
Differentiated Capital Requirements
Green Quantitative Easing & Reserve

Accepting Carbon Certificates as part of Commercial Banks Legal Reserves
Green Differentiated Reserve Requirements
Green Macroprudential Regulation & Climate-related Stress Testing
Green Finance Guidelines & Frameworks

Source: ESCAP Innovative instruments for Green Finance
## Innovation Tools for Green Investment

### Disclosure Requirements

Improved transparency of climate-related risks helps a more appropriate pricing of risks & allocation of capital, & provides the basis for green macro-prudential regulation & climate-related stress testing.

### Carbon Certificates as part of Banks Reserves

Carbon certificates can be distributed to low-carbon projects & make them exchangeable for concessional loans. This would reduce the capital costs for low-carbon projects.

### Green Macro-prudential Regulation & Climate-related Stress Testing

Address climate risk include countercyclical capital buffers; higher risk weights for either carbon-intensive & dependent sectors (such as transport, mining & energy) or for particularly carbon-intensive & dependent companies within these sectors. Take into account externalities that may give rise to financial instability & identify the ecological imbalances that may cause material financial risks.

### Green Differentiated Reserve Requirements

The reserve requirement ratio is the share of deposits that banks & other depository institutions must hold in reserve and not lend out. Allowing lower reserve rates on privileged green assets would be a way of favoring green investments over conventional investments.

Source: ESCAP Innovative instruments for Green Finance
Capital requirements can be differentiated according to the type of bank and their lending. For instance, the capital requirements regulation under Basel III foresees a capital reduction factor for loans to (SMEs), which means that SMEs receive a differentiated treatment for their loans compared to large enterprises.

As of January 2017, 37 countries are represented in the Sustainable Banking Network (SBN), a network of banking regulators & associations established to promote the development of environmental & social risk management. In 2012, the China Banking Regulatory Commission (CBRC) issued Green Credit Guidelines & in 2014 issued a Green Credit Monitoring & Evaluation mechanism & KPI checklist.

Source: ESCAP Innovative instruments for Green Finance
## Countries reducing GHG Emissions while Growing their Economies

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Sources: BP Statistical Review of World Energy 2015; World Bank World Development Indicators
Best Performing Green Economy Countries

Expressed as percentiles representing an aggregate result from 4 main dimensions of GGEI: Leadership & climate change, efficiency sectors, market & investment, and environment.

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Source: The GGEI is published by Dual Citizen LLC, a private U.S.-based consultancy.
Thank You