



UNITED NATIONS ENVIRONMENT PROGRAMME

Programme des Nations Unies pour l'environnement Programa de las Naciones Unidas para el Medio Ambiente

Программа Организации Объединенных Наций по окружающей среде برنامج الأمم المتحدة للبيئة

联合国环境规划署



UNEP Green Economy Report

20th April 2009

This report is part of the UNEP Green Economy Initiative (GEI), which was launched in October 2008. The GEI seeks to mobilize and re-focus the global economy towards investments in clean industries and technologies and 'natural' infrastructure such as forests and soils – as the best bet for real growth, reducing ecological scarcity, combating climate change and triggering an employment boom in the 21st century. It aims to contribute to the crafting of a global economic and ecological set of actions that more conducive to sustainable wealth creation and achievement of the Millennium Development Goals.

The Green Economy Report (GER) is an effort to make the economic case that an integral response to the economic, financing, food, climate and energy crises can generate both economic and ecological gains for the world of today and future generations.

Specifically, the GER will generate and communicate, through economic analysis, strong and convincing evidence of the potential for environmental investments in the areas of green buildings, sustainable energy, sustainable transport, sustainable agriculture, climate change, ecosystem management, waste management and recycling, and resource efficiency can yield significant gains in terms of economic growth, decent jobs creation, and poverty reduction.

It will also provide and communicate practical recommendations on how to build green economies at the national and international levels, including recommendations in favour of creating green and decent jobs as well as greening existing jobs in a just transition from a “brown” to “green” economy. It will also facilitate the continuous engagement with and capacity building for different stakeholders.

The report targets primarily the world’s decision makers on economic, employment, environment and development policy; while seeking to influence choices of business and industry leaders; workers; civil society organizations and society at large.

As a process, the GER will engage government officials, business executives, researchers, and representatives of civil society organizations including local communities, women's groups, and other stakeholders in assembling and communicating the growing evidence of the environment’s strong and tangible contributions to economic development, decent job creation, and poverty reduction at the global level and national levels.

The report will be developed with substantive contribution from several divisions and branches of UNEP, other agencies within the United Nations system as well as other intergovernmental bodies, academia and civil society organisations. It will be lead by economists and experts from a wide range of geographical and institutional representation.

This report is expected to be produced and published by October 2010, with a first integral draft report to be released by the end of 2009. The report will include a review of the global policy context, and analysis of selected green sectors, followed by an analysis of their enabling conditions, and finally a set of policy recommendations.

I - Draft outline

1. Executive summary

2. Introduction

- About the GER (objectives, process of development, target audience, usage)
- The global policy context (financial, economic, food, fuel, water and climate change crises, persistent poverty)
- Core policy principles and concepts underlying a Green Economy

3. Green Sectors/Areas

- 3.1 Sustainable cities and buildings
- 3.2 Sustainable transport
- 3.3 Clean technology and resource efficiency
- 3.4 Sustainable energy
- 3.5 Waste management and recycling
- 3.6 Sustainable agriculture
- 3.7 Forests
- 3.8 Water
- 3.9 Fisheries

4. Enabling Conditions

- Legislation/standard setting
- Fiscal policy reform
- Financing and investment
- Development, transfer of technology and capacity building
- Trade policies and markets
- Information, monitoring, and accountability
- Sustainable consumption
- GGND international coordination

5. Conclusions and recommendations

II - Annotated outline

1. Executive summary

The executive summary presents key findings, conclusions, messages and recommendations of the Green Economy Report in a succinct, easy to grasp and straightforward language.

2. Introduction

The introductory chapter presents the objectives, process of development, target audience and usage of the Green Economy Report.

The chapter discusses the overall policy context for the green economy report. It is meant to put the effort towards a transition to a green economy in the context of a myriad of economic, developmental, social, energy, and environmental challenges facing the world today, with the key message that these challenges are also unique opportunities for governments and the international community to reform the world economy in a way that reorients investment, growth and employment towards green sectors; enhances material and resource efficiency, reevaluates the economic and infrastructural functions of the environment and gets economies on a low carbon and sustainable track.

The chapter will also introduce the core policy principles and concepts underlying a green economy – as they relate to pricing policies; green accounting, patterns of production and consumption among others. This chapter will discuss the concept of ecological infrastructure, making the case that ecosystems and ecosystem services, and the biological diversity underpinning most of those services, are the basis for value and wealth creation. It will introduce the public utility functions of natural capital and the spillovers for the economy, a theme that will be further developed in the relevant sectoral chapters (e.g. forests, water, agriculture etc).

The chapter will be composed of the following sections:

- Financial and Economic crisis
- Climate Change
- Energy Crisis
- Food Crisis
- Water Crisis
- Persistent Poverty
- Core policy principles and concepts underlying a Green Economy

3. Green Sectors/Areas

This part constitutes the core of the report. It makes the case that the sectors that have been identified as “green sectors” have the potential to drive economic recovery while addressing many other global social and environmental challenges.

3.1 Sustainable cities and buildings

This chapter makes the case for a transition towards smart city design, as the world has entered a period when more people live in cities than rural areas, with rapid urbanization trends. It is meant to analyze and provide recommendations of how a smart design of cities in the 21st century can anticipate and avoid many of the problems the world is facing today, in relation to transport, mobility and access to goods and services. This chapter will also address the employment, economic and environmental gains of retrofitting old buildings, and increasing energy and resource efficiency in the construction sector. It will also demonstrate the significant potential of the building sector to address climate change, expand access to affordable and sustainable housing, especially in developing countries, and generate quick returns on investment, including as part of the stimulus packages.

3.2 Sustainable transport

The chapter examines the economic and environmental opportunities of reforming transport systems both in terms of modal and fuel shifts, with the related gains in emissions reduction from the transport sector. This chapter will discuss the energy efficiency potential of green transport systems. It is also meant to provide an economic indication of the potential for growth and employment generation of green public transport systems in the context of infrastructural projects being initiated in stimulus packages.

3.3 Clean technology and material efficiency

This chapter makes the case for economic and environmental gains of the technological potential of clean technologies in reducing significantly material, resource and energy input in industrial production processes, thereby increasing efficiency and return on investment as well as saving on the natural capital, with overall economic and environmental gains for the economy at large. This chapter will not dig into sector specific material and energy efficiency issues, which are being addressed in other sectoral chapters (energy, building, transport)

3.4 Sustainable energy

This chapter examines the potential of renewable energies to supply the world energy needs, provide massive employment in clean energy generation and reduce the levels of emissions from the energy supply sector. The chapter will provide an indication of the investment requirements and returns of different renewable energy options for the world to achieve zero carbon energy profile at the horizon of 2030, and the potential of renewable to address energy poverty in developing countries. It will also address energy efficiency, focusing on energy efficient appliances and efficiency in industrial processes.

3.5 Waste management and recycling

This chapter explores the potential for waste management and recycling to generate decent employment; enhance resource efficiency, and address the many environmental and social problems associated with the generation of industrial and household waste around the world. The chapter will consider the economic trade-offs between waste minimization, reuse of goods and material, and recycling in the context of an overall circular economy. The chapter will give due attention to the potential of the sector in developing countries.

3.6 Sustainable agriculture

This chapter makes the economic argument that sustainable forms of agriculture are able to secure and create massive employment, provide the world with sufficient, safe and stable food supply, contribute to the fight against climate change and soil erosion, ensure maintenance of long-term productivity of the land, and maintain ecosystem integrity. It will demonstrate the significance of the global market for sustainable agricultural products and provide elements of policy and market reform to shift agricultural production worldwide towards a more sustainable future.

3.7 Sustainable forests

This chapter examines the economics of forests from the perspective of ecosystems and ecosystem services, ecological infrastructure and the global carbon market. It makes the case that sustainable forest management can create massive employment, provide for livelihoods, particularly in developing countries, and make a significant contribution to the global effort to address climate change, combat desertification and land degradation.

3.8 Water

This chapter examines the opportunities of investing in clean water supplies and related infrastructure, including in maintaining and/or restoring relevant ecosystems, so as to achieve sustainable water access for the future. It will look at the opportunity costs of various water investment options, in the overall context of climate change, growing global demand and scarcity of the resource.

3.9 Fisheries

This chapter examines the fisheries sector from the perspective of its contribution to economic growth, employment, food security and makes the economic case for reform that would ensure long-term sustainability of the sector. The chapter will provide indication of the economic and environmental gains

of keeping the global fishing industry (small scale and industrial fishing) within the limits of the marine resources by demonstrating the opportunities of value addition versus uncontrolled expansion of fishing effort, and the opportunity costs of developing non-marine fisheries.

4. Enabling Conditions

This part of the GER present elements of domestic policy reform along with key fundamentals of a global policy architecture that are essential to achieving a transition towards a green economy. The chapter will draw upon analysis undertaken in the sectoral chapters, while also approaching each of the issues considered from a more generic perspective of global governance. It will cover the following aspects:

- Legislation/standard setting
- Fiscal policy reform
- Financing and investment
- Development, transfer of technology and capacity building
- Trade policies and markets
- Information, monitoring, and accountability
- Sustainable consumption
- GGND international coordination

5. Conclusions and Recommendations

The concluding chapter will present the key findings, messages and recommendations from the report. It will consider interlinkages between policy intervention across sectors and levels of policy making. The concluding chapter will also present the results of a modeling exercise on a macro-assessment of the transition towards a green economy, in terms of economic gains, employment, decarbonisation and the overall costs and return to the economy at large, society and the environment. The chapter will be structured are follows:

III - Terms of Reference and General Guidance to Chapters Authors

UNEP Green Economy Report

1. The Green Economy Report

The Green Economy Report (GER) will have a total of no more than 300 pages. This is about the same size as the World Bank's World development Report or the UNDP Human Development Report. Apart from an overview chapter, there will be about 8-10 sectoral chapters, each with about 30 pages. The structure of the report is annexed to this document.

2. Organisation of research teams and working arrangement

The Green Economy Report will be produced by a group of experts from a range of institutions in developed and developing countries. An institution that would have been selected to lead the work on a specific chapter of the Green Economy Report (GER) is referred to as **“lead institution”**. The designated representative of a lead institution that has primary responsibility for ensuring the completion of tasks assigned to the lead institution and assuring communication with UNEP is referred to as **“coordinating author”**. In addition to the coordinating author, several other experts, representing a wide geographical balance, will contribute to the work of each chapter. These are referred to as **“contributing authors”**. Within UNEP, individual staffs - referred to as **“focal point”** are designated to be responsible for communication, management and coordination of the implementation of the agreement between UNEP and the lead institution.

A contractual arrangement to be entered into between UNEP and the lead institution on each chapter will govern the work on chapters. The coordinating author has responsibility for making the necessary contractual arrangements to involve contributing authors in the work of the chapter. A list of expected contributing authors will be annexed to the agreement between UNEP and the lead institution.

3. Expected Outputs

The coordinating author will deliver to UNEP two sets of outputs, apart from related processes. The first is the sectoral chapter that goes into the GER, and the other is a comprehensive report that covers the various aspects of the sector (of about 150 pages). In practice, sectoral teams may want to either produce a 150-page document as one integrated piece or do a number of distinctive yet related pieces that serve the same purpose of further substantiating the main chapter that goes into the GER.

4. Methodology

The GER report aims to make the case, through economic analysis, that addressing environmental challenges such climate change, energy, water, and food crises by investing in the so-called green sectors that have been identified in the GER can 1) contribute to addressing the economic crisis while putting economies on the path to sustainable growth and development; 2) saving and creating employment, and 3) addressing environmental problems. These three key hypotheses and objectives of the report are core elements of the respective chapters that will compose the GER.

Analytical tools

Chapter authors are expected to employ quantitative economic analysis tools, including economic modelling, to demonstrate these three points. They may also rely on qualitative analysis to complement quantitative analysis.

Indicators

In undertaking the economic analysis of the sector they cover, chapter authors are expected to develop and make use of a set of economic, social and environmental indicators that will be benchmarks against which the three hypotheses of the report will be demonstrated. For example, such indicators may include rate of growth of the sector, level of employment, return on capital investment, material and resource efficiency, emissions level and overall environmental performance.

5. Country/regional grouping

As a global report, the GER recognises the difference of national and regional circumstances and conditions, which may have bearing on the space and nature of the transition towards a green economy and the possible variance in policy interventions that may be required in different parts of the world. To reflect such difference, chapters will rely on regional/country groupings on the basis of geography, level of development, or other criteria as may be most relevant to the sector considered.

6. Timeline

The first draft of the GER is due to be completed at the end of October 2009. To that chapter authors are expected to produce a zero draft by the 31st of August 2009. Zero drafts will be internally reviewed within UNEP and returned to the coordinating authors by 31st September 2009. On the basis of comments received from UNEP, coordinating authors will undertake a first rewriting of their chapters, and resubmit to UNEP by 31st October 2009.

YEAR 2009											
Jan	Feb	March	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Project planning		consultations		Drafting of chapters – Zero draft ready			Review zero draft		1 st draft ready		
YEAR 2010											
Jan	Feb	March	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
External review of 1st draft			Editing, format and printing			Dissemination and outreach					

7. Budget

The budget for each chapter will be agreed between UNEP and the lead institution.