

Introduction to Green Economy

*A DEVCO Training Course Prepared in Partnership with UNITAR,
UNEP and ILO*

27 September 2013, Brussels

Background Paper on Green Economy Concepts

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Abbreviations and Acronyms

CSR Corporate Social Responsibility

EMG United Nations Environment Management Group

EMS Environment Management Systems

GDP Gross Domestic Product

GGGI Global Green Growth Institute

GGKP Green Growth Knowledge Platform

GGND Global Green New Deal

IILS International Institute for Labour Studies

IOE International Employer Organization

ILO International Labour Organization

ITUC International Trade Union Confederation

JPOI Johannesburg Plan of Implementation

MA Millennium Ecosystem Assessment

MDG Millennium Development Goals

MGI McKinsey Global Institute

OECD Organisation for Economic Co-operation and Development

SCP Sustainable Consumption and Production

SEEA System of Environmental-Economic Accounts

UNCTAD United Nations Conference on Trade and Development

UNDESA United Nations Department of Economic and Social Affairs

UNEP United Nations Environment Programme

UN-ESCAP United Nations Economic and Social Commission for Asia and Pacific

UN-HABITAT United Nations Human Settlements Programme

WSSD World Summit on Sustainable Development

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1 Introduction to an Inclusive Green Economy

In the 20 years since the term “green economy” appeared in the report “Blueprint for a Green Economy” (Pearce et al. 1989), interest in a green transition has evolved and intensified. Since then several international landmark reports have helped to further the shape the concept, including:

- “A Global Green New Deal: Rethinking the Economic Recovery”, a report commissioned by UNEP (Barbier 2010)
- “Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication” published by UNEP ([2011](#))
- “Working Towards a Balanced and Inclusive Green Economy - A United Nations System-wide Perspective”, developed under the United Nations Environment Management Group ([EMG 2011](#))
- “Working Towards Sustainable Development: Opportunities for Decent Work and Social Inclusion in a Green Economy” by the International Labour Organization ([ILO 2012](#))
- “Resilient People, Resilient Planet: A Future Worth Choosing”, a report by the UN Secretary-General’s High Level Panel on Global Sustainability ([2012](#))
- “Policies for Supporting Green Industry”, published by the United Nations Industrial Development Organization ([UNIDO 2011](#))
- “Towards Green Growth”, a strategy document by the Organisation for Economic Co-operation and Development ([OECD 2011](#))
- “Inclusive Green Growth: The Pathway to Sustainable Development”, published by the World Bank ([2012](#))

The theme of a “green economy in the context of sustainable development and poverty eradication” was at the heart of the discussions at the UN Conference on Sustainable Development (Rio+20), that took place from 20-22 June 2012, Rio de Janeiro, Brazil.

The following paragraphs provide a short overview of main elements of the green economy concept.

At the visionary level, UNEP (2011) considers the green economy as: *“An economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.”*

The EMG Report (2011) points out that at the operational level the green economy is seen as one whose growth in income and employment is driven by investments that:

- Reduce carbon emissions and pollution;



Video 1: Green Economy - The Time to Act is Now! Leaders from Governments, the private sector, civil society and the United Nations stressing the importance of and opportunities for a transition to a green economy. (Source: [UNEP](#)).

- Enhance energy and resource efficiency;
- Prevent the loss of biodiversity and ecosystem services.

These investments need to be catalysed and supported by targeted public expenditure, policy reforms and regulation changes to create the so called “enabling conditions” for a green economy.¹ According to UNEP, priority areas for policy-making to create such enabling conditions include:

- Addressing environmental externalities and existing market failures;
- Limiting government spending in areas that deplete natural capital;
- Promoting investment and spending in areas that stimulate a green economy;
- Establishing sound regulatory frameworks; and
- International frameworks that regulate economic activity (UNEP 2011).

A common purpose of green policies and investments is the maintenance, enhancement and rebuilding of natural capital as a critical economic asset and source of public benefits. Protecting natural resources, from clean freshwater to forests and air, is especially important for poor people who depend on these resources for their livelihoods and are especially vulnerable to environmental contamination and degradation (PEP 2013).

In a nutshell, the green economy can be seen as an action-oriented pathway to sustainable development.

2 Global Policy Milestones

2.1 Green Economy and Rio+20

This section gives an introduction to the United Nations Conference on Sustainable Development (UNCSD or Rio+20), that took place from 20-22 June 2012 and the preparatory process leading up to the main conference.

The United Nations Conference on Sustainable Development (UNCSD)² took place in Rio de Janeiro, Brazil from 20-22 June 2012 to mark the 20th anniversary of the 1992 United Nations Conference on Environment and Development (UNCED), also held in Rio de Janeiro, and the 10th anniversary of the 2002 World Summit on Sustainable Development (WSSD), held in Johannesburg, South Africa.

¹ Enabling conditions are defined as conditions that make green sectors attractive opportunities for investors and businesses (UNEP 2011).

² UNCSD website: <http://www.uncsd2012.org/rio20/index.html>



Video 4: UNEP Executive Director Achim Steiner speaks with Edie Lush at Hub Davos. UNEP Executive Director Achim Steiner discusses urgent environmental issues and the RIO+20 Conference. (Source: [Hub Culture](#)).

Twenty years after the 1992 Earth Summit in Rio, where countries adopted Agenda 21 - a blueprint to rethink economic growth, advance social equity and ensure environmental protection - the UN brought together governments, international institutions and major groups with the aim to agree on a range of measures that can reduce poverty while promoting decent jobs, clean energy and a more sustainable and fair use of resources.

The official discussions were focussed on two main themes:

- Green economy in the context of sustainable development and poverty eradication; and
- Institutional framework for sustainable development.³

As part of the preparatory process for UNCSD, all member states and stakeholders (such as businesses, NGOs and international organisations) were invited to submit their inputs to the compilation document- the Zero Draft Text.

In the first version of the Zero Draft⁴, governments asserted the following key messages in terms of the overarching aims of the green economy:

- Contribute to meeting key sustainable development goals, from poverty eradication to resilience and disaster preparedness
- Embed the principles of the Rio Declaration on Environment and Development (UNEP 1972), in particular the principle of common but differentiated responsibilities (CBDR)
- Protect and enhance the natural resource base, increase resource efficiency, promote sustainable consumption and production (SCP) patterns, and shift the world toward low-carbon development
- Foster integrated consideration of the three pillars of sustainable development in all relevant domains of public and private decision-making
- Avoid creating new trade barriers, imposing new aid conditionalities, and widening technology gaps between developed and developing countries.

At a later stage in the preparatory process, the Earth Negotiations Bulletin issued by the International Institute for Sustainable Development (IISD), summarized the calls from governments for the following reform measures to be addressed within the green economy section (IISD, 2012):

³ UNCSD website: <http://www.uncsd2012.org/rio20/objectiveandthemes.html>

⁴ See: <http://www.uncsd2012.org/index.php?menu=140>

- Reform of the global financial system and architecture (G-77/China);
- Sustained, inclusive and equitable economic growth that generates employment and strengthens social cohesion (Liechtenstein);
- Improved science-policy interface to underpin the green economy (Liechtenstein);
- Proper recognition and accounting of the social and economic values of natural capital (EU);
- Applying price incentives and disincentives (Norway);
- Integrating social and environmental costs in the pricing and measuring of economic activities (Norway);
- Improve understanding of the social, environmental and economic implications and impacts of a green economy (G-77/China).

2.2 UNEP Governing Council 2013

The 27th session of the United Nations Environment Programme (UNEP) Governing Council/Global Ministerial Environment Forum (GC27/GMEF) took place from 18-22 February 2013, at the UN Office at Nairobi, Kenya. Over 1300 participants from 147 countries, including 80 ministers, representatives of UN agencies, international organizations, academia, NGOs, business and industry, etc., attended the first Universal Session of the GC following the decision of the United Nations General Assembly to strengthen and upgrade UNEP, as called for in the Rio+20 outcome document.

The GC adopted a decision on institutional arrangements that, inter alia, invites the UN General Assembly to rename UNEP's governing body "UN Environment Assembly," and provides that the body "will ensure" the active participation of all relevant stakeholders and explore new mechanisms to promote transparency and effective engagement of civil society in its work and that of its subsidiary bodies. This is to be done, inter alia, by developing by 2014 a process for stakeholder accreditation and participation that builds on the existing rules of procedure and takes into account the inclusive modalities of the Commission on Sustainable Development (CSD) and other relevant UN bodies.

This session of the GC marked historic outcomes, particularly with regard to new institutional arrangements and the compromise achieved regarding the integrated approach to financing chemicals and wastes. The decisions reached at the 2013 Governing Council, should give UNEP the opportunity to become more robust and effective at advancing the environment agenda and to contribute towards the implementation of a post-2015 development agenda.⁵

⁵ For more information on the First Universal Session of the Governing Council/Global Ministerial Environment Forum: <http://www.unep.org/gc/gc27/>

3 Traditional Development Patterns and their Limitations

3.1 Traditional Development Patterns

The traditional development patterns observed in the last decades have prioritized investments in physical capital (e.g. infrastructure) and human capital (e.g. employment) with the aim to increase economic growth. In more recent years, financial capital has also rapidly accumulated.

On the other hand, during the last two decades, relatively small amounts were invested in renewable energy, energy efficiency, public transportation, sustainable agriculture, ecosystem and biodiversity protection, and land and water conservation. The rapid accumulation of physical, financial and human capital at the expense of natural capital has been encouraged by many economic development and growth strategies. Policies and market incentives have allowed businesses to create significant, largely unaccounted for, social and environmental externalities.

The traditional allocation of capital has contributed to the manifestation of several concurrent crises: climate, biodiversity, energy, food, water, poverty and more recently, the global financial and economic crisis (UNEP 2011a; Barbier 2010).

3.2 Financial and Economic Crisis

The considerable accumulation of financial capital, reaching well beyond the real value of assets, has generated considerable economic growth in the last decade. On the other hand, the systemic risks it has created have been largely underestimated. In the period 2008–2010 when the world experienced the worst global economic recession since the Great Depression of the 1930s, these risks became evident. The crisis of the financial services sector and the subsequent global economic slowdown, wiped out US\$ 28.8 trillion in global wealth captured in equity and real estate values between the beginning of 2008 and mid-2009. To put the danger in context, it was estimated that due to the economic and financial crisis every 1 per cent fall in growth in developing economies could translate into an additional 20 million people consigned to poverty (McKinsey Global Institute -MGI 2009).



Video 2: Old Economic Growth Model a 'Global Suicide Pact'. Secretary-General Ban Ki-moon calls for "revolutionary action" to achieve sustainable development, warning that the past century's heedless consumption of resources is "a global suicide pact". (Source: [United Nations](#)).

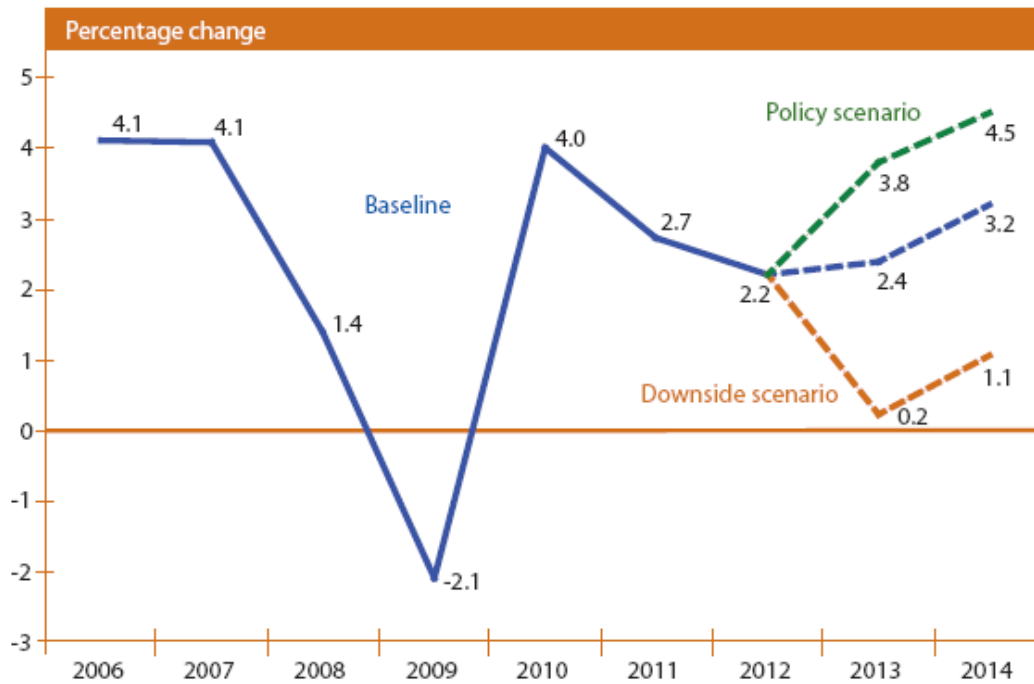


Figure 1: Development of the World Growth Product (UN DESA 2013)

For a discussion of the different scenarios consult the UN DESA report at

http://www.un.org/en/development/desa/policy/wesp/wesp_current/2013wesp_es_en.pdf

In a report on the root causes of the crisis, the UN Conference on Trade and Development (UNCTAD) points out that it was systemic in nature: *“The crisis dynamics reflect failures in national and international financial deregulation, persistent global imbalances, absence of an international monetary system and deep inconsistencies among global trading, financial and monetary policies”* (UNCTAD 2009).

The World Bank reports that recovery from the global financial and economic crisis remains fragile (see also Figure 1). Persistent economic risks include high debt and low growth in developed countries, and limited access to financing for developing countries.⁶ Indeed, official development assistance (ODA) for developing countries has declined over the last years in the face of greater fiscal austerity in donor countries (see Figure 2)⁷.

⁶ World Bank website: <http://www.worldbank.org/financialcrisis/>

⁷ Net ODA flows from member countries of the Development Assistance Committee of the OECD reached \$133.5 billion in 2011, up from \$128.5 billion in 2010. In real terms, however, this represents a fall of 3 per cent, widening the delivery gap in meeting internationally agreed aid targets to \$167 billion.

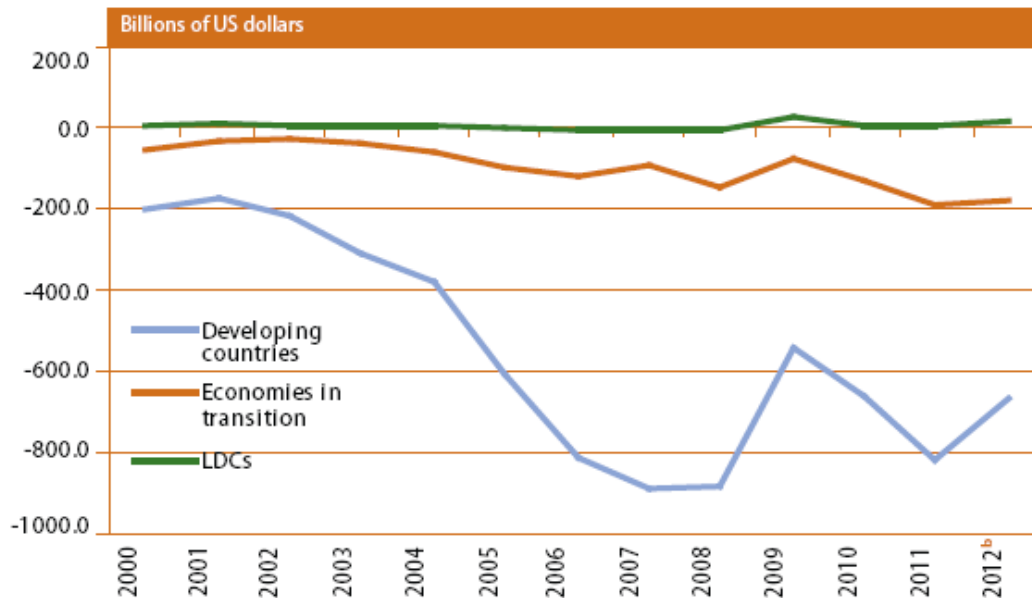


Figure 2: Net Financial Transfers from Developing to Developed Countries (UN DESA 2013)

In terms of employment, the United Nations Department of Economic and Social Affairs (UN DESA) projects that the growth pace for the world economy in 2013-14 will not be enough to overcome the continued jobs crisis faced by many countries. In Africa, despite relatively strong growth in gross domestic product (GDP), the employment situation remains a major problem across the region. The global slowdown and increased risks to the employment situation in developing countries will imply a much slower pace of poverty reduction and a narrowing fiscal space for investments in critical areas for achieving the Millennium Development Goals (MDGs) (UN DESA 2013).

3.3 Environmental Degradation

The Millennium Ecosystem Assessment (MA) has documented how global economic activity and population growth have affected the world's ecosystems and the various services, or benefits, which they produce (MA 2005). The MA found that approximately 15 out of 24 of the major ecosystem services it examined are being degraded or used unsustainably, including freshwater, capture fisheries, air and water purification.

A recent report by UNEP entitled "Keeping Track of our Changing Environment - From Rio to Rio+20" (also known as GEO-5) comes to similar conclusions. The report points out, for example, that the global forest area has decreased by 300 million hectares since 1990. The report also notes that biodiversity in the tropics has dramatically declined, by 30% since 1992 (UNEP 2011b).

Future trends are not encouraging. Using climate change as an example, a long-term concentration of atmospheric greenhouse gases in a "business-as-usual" scenario is projected to generate a temperature increase of approximately 4° Celsius by the end of this century and current greenhouse

gas emissions pledges can do little to alter this course (Report by the Potsdam Institute for Climate Impact Research and Climate Analytics for the World Bank 2012). According to the Intergovernmental Panel on Climate Change (IPCC) such an increase will have consequences for water supply, food production, human health, land use, and ecosystems (IPCC 2007).

It is estimated that by 2050, hundreds of millions of people will face increasing water stress; sea level rise will accelerate coastal storm surges, leading to land loss and erosion, and intrusion of saltwater into surface and groundwater; 15-40% of species will face extinction already with 2°C of warming; crop yields, especially in Africa, will decline likely leaving hundreds of millions without the ability to produce or purchase sufficient food. The report "2052: A Global Forecast for the Next Forty Years" launched on 7 May 2012 by the Club of Rome warns that "humankind might not survive on the planet if it continues on its path of over-consumption and short-termism".⁸

3.4 Persisting Poverty

Studies by the World Bank Development Research Group indicate that poverty has declined during recent years (moving from 1.38 billion people living below \$ 1.25/day in 2005 to 1.27 billion people in 2008)⁹ thanks to strong economic growth in countries like China. However, while on average poverty in developing and transitioning countries has declined, the situation has not improved or become worse in some cases in Least Developed Countries (LDCs). In 2010, more than 65% of the population in Africa and South Asia lived on less than US\$ 2 a day.¹⁰

According to the World Development Report 2010, in addition to "monetary poverty" mentioned above, one billion people lack clean drinking water, 1.6 billion electricity and 3 billion adequate sanitation. A quarter of all developing-country children are malnourished. The Report argues that addressing these needs must remain the priority both of developing countries and of development aid - also recognizing that reducing poverty will get harder, not easier, with climate change (World Bank 2010).

3.5 Structural Factors in Present Development Trends

There are a number of structural factors underlying the present development trends mentioned above. The EMG Report (referring to López 2009) describes the underlying structural determinants of present growth patterns that need to be taken into account by countries embracing a green and inclusive economy as follows:

⁸ More information on the launch of the report available at : <http://www.clubofrome.org/?p=4211>

⁹ Information available at: <http://www.economist.com/node/21548963>

¹⁰ World Bank website: <http://data.worldbank.org/topic/poverty>

- There has been relative decoupling of resource consumption from GDP growth since 1980 as material productivity has risen, but the strong economic growth has overwhelmed these improvements so that absolute amounts of materials and fossil energy consumption have continued to rise (International Resource Panel 2010).
- Since the early 1990s, the long-term trend of declining raw materials prices has been reversed, with steep rises in certain commodity prices in recent years. This reflects growing scarcities as evidenced, for example, by declining ore grades in the case of metals.
- Consumption in developed countries has not significantly dematerialized. This implies that developed countries have been shifting the environmental and social impacts associated with producing the goods they consume to other countries through international trade (Ghertner et al. 2007).
- A number of labour-abundant developing countries have benefited from the growing markets and increased trade in industrial goods arising from the reduction of material in production in the developed countries (Barbier 2005).
- Fossil fuel energy intensity in emerging industrial economies is high, which means that their continued rapid economic growth will imply increases in their emissions. This also means that world economic growth is now even more closely linked to carbon emissions than during the late twentieth century (López 2009).
- Resource-rich exporting countries have benefited from rising commodity prices, but this has also increased the risk of “Dutch disease”¹¹ and the risk of being out-competed by the emerging industrial exporters.
- Economic growth has been fuelled by, among other factors, the availability of relatively inexpensive energy. The depletion of fossil fuel resources and a soaring energy demand represent new constraints.

¹¹ The “Dutch disease” makes manufactured goods as well as services less competitive by raising the value of the currency.

Overall, there are two pressing issues that emerge from the structural factors mentioned above: (i) the need to change resource-intensive consumption patterns in developed countries; and (ii) a need to promote efficient resource-saving technological and structural changes in production systems in developing countries, so that global growth is “decoupled” from environmental impact and becomes less commodity-intensive and environmentally damaging.¹² Today, only few countries come close to creating high level of human development without exerting unsustainable pressure on the planet’s ecological resources, as illustrated by Figure 3.¹³

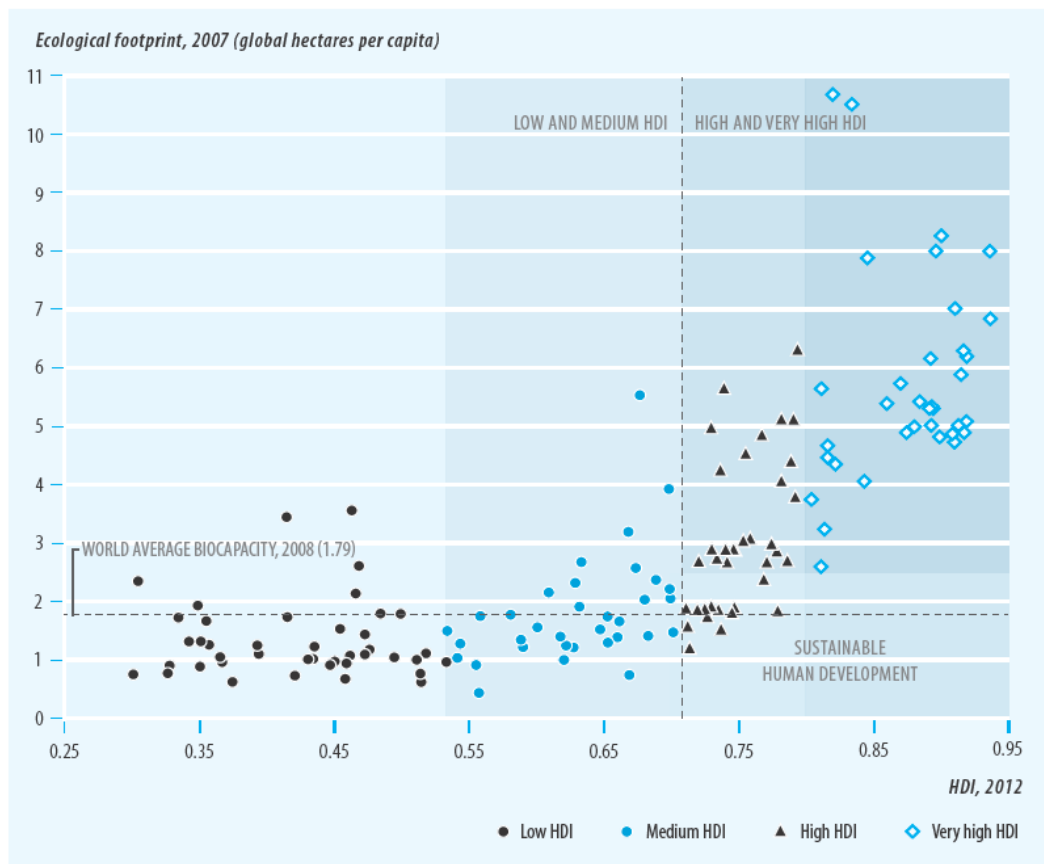


Figure 3: Ecological Footprint and Human Development of 151 Countries (UNDP 2013)

¹² The nature of consumption is also important in developing countries, and continued structural change and technological progress is relevant in developed countries as well. It is important to make the distinction between relative and an absolute decoupling. ‘Relative decoupling’ refers to a situation where resource impacts decline relative to GDP but nevertheless continue to rise. The situation in which resource impacts decline in absolute terms is called ‘absolute decoupling’. If the green economy is to tackle environmental scarcities, then absolute decoupling is needed.

¹³ The figure plots the ecological footprint of consumption of 151 countries against their Human Development Index (HDI) value in 2012. The ecological footprint is a measure of how much area of biologically productive land and water an individual, population or activity requires to produce all the resources it consumes and to absorb the waste it generates, using prevailing technology and resource management practices. The HDI is a composite measure of indicators along three dimensions: life expectancy, educational attainment and command over the resources needed for a decent living.

4 Rationale for a Balanced and Inclusive Green Economy

4.1 New Engines of Productive and Efficient Growth

Given the trends of environmental degradation and wide-spread poverty, the nature of economic growth in the coming decades will have to be fundamentally different from the resource-intensive growth of the past. Future growth will need to be assessed more broadly, against the criterion of whether it satisfies demands for higher living standards for a larger global population, while adjusting to tightening environmental and natural resource constraints.

As a way forward, the EMG Report (EMG 2011) describes three new engines of productive and efficient growth:

- Greater efficiency in resource use and energy production;
- Stronger environmental protection; and
- A shift in the composition of consumption away from resource-intensive goods towards less resource-intensive goods and into services.

Fuelling these engines will require technological progress that boosts not only material and energy efficiency but also labour productivity. For this to happen, two main gaps between developing and developed countries will have to narrow:

- The technological gap; and
- The productivity gap.

The argument for closing the technology and labour productivity gaps as basis for a green and inclusive economy is summarized in very broad terms in the following matrix (see Figure 4). The green quadrant – low material and energy intensity and high labour productivity – corresponds to the twin criteria of green and inclusive. A high material and energy intense growth model characterized by low labour productivity (lower left quadrant) is not desirable from either an environmental or a social perspective and reflects the situation of many developing countries. But there are also cases of countries characterized by high labour productivity, where the economy is not sustainable (lower right quadrant).

The EMG Report concludes that public policies will need to be used strategically to orient the process of economic growth towards such a sustainable pathway, and issues of fairness in income distribution and social investment, as well as planning for long-run energy and resource efficiency, need to be included in

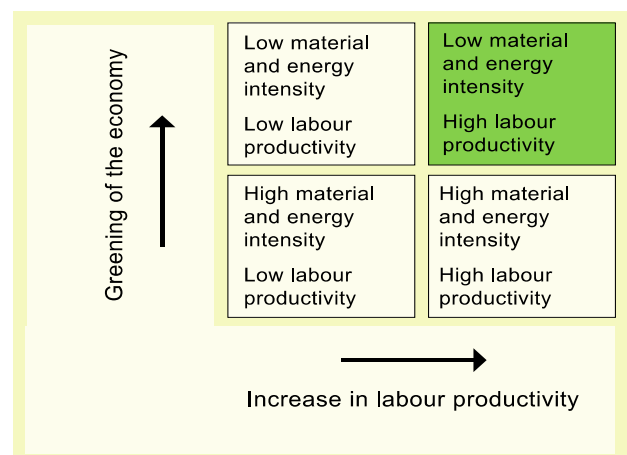


Figure 4: Green Economy Matrix (EMG 2011)

the redefined set of economic policy goals. This approach requires a systemic shift rather than incremental improvements alone.

4.2 From Crisis to Opportunity

The last years have seen the idea of a “green economy” enter the mainstream of policy discourse. It is found increasingly in the messages of heads of state and finance ministers, it is referred to in the text of G20 communiqués, and is discussed in the context of sustainable development and poverty eradication.

This recent traction for a green economy agenda has no doubt been aided by widespread disillusionment with the prevailing economic paradigm, a sense of fatigue emanating from the many concurrent crises and market failures experienced during the first decade of the new millennium. At the same time, several reports, e.g. the EMG Report, the UNEP Green Economy Report and the Report of the UN Secretary’s General High-level Panel on Global Sustainability, are pointing to a new economic paradigm – one in which material wealth is not delivered per force at the expense of growing environmental risks, ecological scarcities and social disparities.

The UNEP Green Economy Report affirms that transitioning to a green economy has sound economic and social justification and that there is a strong case emerging for a redoubling of efforts by both governments as well as the private sector to engage in such an economic transformation:

- For governments, this would include levelling the playing field for greener products by phasing out antiquated subsidies, providing new incentives, strengthening market infrastructure and market-based mechanisms, redirecting public investment, and greening public procurement.
- For the private sector, this would involve understanding and seizing the opportunity represented by green economy transitions across a number of key sectors, and responding to policy reforms and price signals through higher levels of financing and investment.

5 Origins, Definitions and Priority Areas of a Green Economy

5.1 Origins and Definitions

In the 20 years since the term “green economy” appeared in the report “Blueprint for a Green Economy” (Pearce et al. 1989), interest in a green transition has evolved and intensified. As a result of the global market and financial crisis in 2008 calls were made in the global policy arena for a Global Green New Deal (GGND). This was the focus of a report commissioned by UNEP in 2009 (Barbier 2010). Implementation of green economic action was described as a long-term strategy for moving national economies out of the crisis. The GGND set out three concrete objectives:

- Economic recovery;
- Poverty reduction; and
- Reduced carbon emissions and ecosystem degradation.

The document proposed a framework for green stimulus programmes as well as supportive domestic and international policies, including support to least developed countries.

Following the GGND study, the UNEP Green Economy Report was published in 2011. The Report elaborates the concept of a green economy, analyses key sectors of a green economy and identifies global as well as sectoral recommendations for action. At the visionary level, UNEP (2011) considers the green economy as: *“An economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.”*

At the operational level, the green economy is seen as one whose growth in income and employment is driven by investments that:

- Reduce carbon emissions and pollution;
- Enhance energy and resource efficiency;
- Prevent the loss of biodiversity and ecosystem services.

These include investments in human and social capital, and recognize the central position of human well-being and social equity as core goals promoted by growth in income and employment. The approach is based on an economic analysis of current trends, risks and opportunities as well as on taking stock of national experiences in applying more integrated policy tools effectively.

Other entities such as the World Resources Institute (WRI) view a green economy as an alternative vision for growth and development; one that can generate growth and improvements in people’s lives in ways consistent with sustainable development. A green economy promotes a triple bottom line: sustaining and advancing economic, environmental and social well-being (WRI 2011).

Based on a review of various definitions, UN DESA concludes that whilst various definitions of a green economy exist, they are generally consistent, having sustainable development as their ultimate objective and being a means to reconcile economic development and environmental sustainability, without ignoring social aspects (UN DESA 2012).



Figure 5: Diverse Perspectives on a Green Economy (UN DESA 2012)

5.2 Priority Areas for Policy-making

By steering development onto a low-carbon, resource-efficient, resilient, equitable and pro-employment path the green economy aims at transforming both supply and consumption, being mindful of environmental degradation and the carrying capacity of ecosystems. As a consequence, priorities areas for green policy-making according to UNEP (2011) include:

- **Addressing environmental externalities and existing market failures**, where the production or consumption of goods and services has negative effects on third parties and the environment whereby the cost is not fully reflected in market prices.
- **Limiting government spending in areas that deplete natural capital**, such as subsidies that stimulate unsustainable production, resulting in the depletion of natural resource stocks and overexploitation.
- **Promoting investment and spending in areas that stimulate a green economy**, i.e. in areas that (a) promote innovation in new technologies and behaviours that are vital to green markets; (b) expand infrastructure that is required for certain green innovations to flourish; and (c) foster infant green industries.
- **Establishing a sound regulatory framework** of legislation, institutions and enforcement to channel economic energy into environmentally and socially valuable activity; and
- **The role of international frameworks that regulate economic activity**, including the international trading system, in driving a green economy.

6 Key Concepts Related to the Green Economy

6.1 Decent Work and Green Jobs

According to the ILO Institute for Labour Studies: "Green jobs are those jobs maintained or created in the transition process towards a green economy that are either provided by low-carbon intensive industries (enterprises) or by industries (enterprises) whose primary output function is to greening the economy" (IILS 2011).

However, jobs in low-carbon or green industries are not necessarily safe and healthy jobs with adequate remuneration and social coverage. The dismantling and recycling of electronic parts by workers under conditions that do not meet recognized occupational health and safety standards would not qualify as green. The Green Jobs Report jointly published by UNEP, ILO, the International Trade Union Confederation (ITUC) and the International Employers Organization (IOE) (UNEP et.al. 2008) highlights that in addition to environmental considerations green jobs also need to reflect "decent work" (see Figure 6).

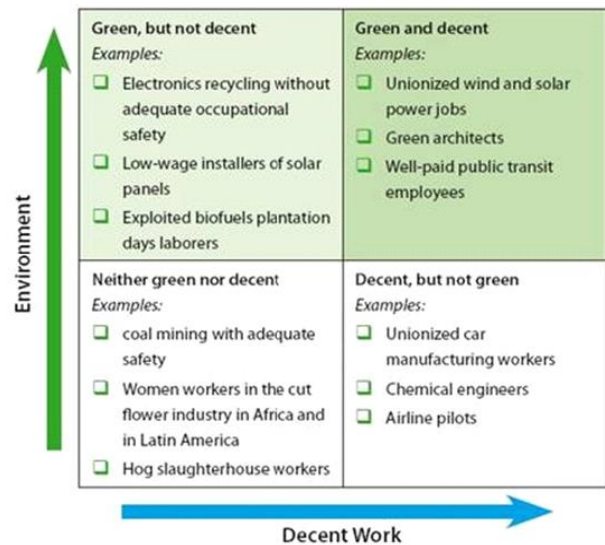


Figure 6: Green and Decent Jobs? A Schematic Overview (UNEP, ILO et al. 2008)



Video 3: Green Jobs: Protecting the Environment by Profiting from Garbage. Burkina Faso's first plastic recycling centre is paving the way for a new kind of development project. It provides a money earner to the poor while tackling environmental pollution. (Source: [ILO](#)).

Decent work is thereby understood as:

- Productive and secure work;
- Ensures respect of labour rights;
- Provides an adequate income;
- Offers social protection; and
- Includes social dialogue, union, freedom, collective bargaining and participation.

6.2 Green Growth and the Circular Economy

Concepts similar to green economy that have been promoted in recent years, particularly in Asia, include that of green growth and the circular economy. The use of the word "growth" suggests the particular importance many countries attach to the quantitative expansion of their economies to accommodate growing populations, rising development aspirations and poverty reduction.

Green Growth

Several institutions, including the World Bank, the OECD, the Global Green Growth Institute (GGGI) and the United Nations Economic Commission for Asia and Pacific (UN-ESCAP), consider green economic issues under the concept of “green growth” and several definitions have been developed for this term.

According to UN-ESCAP (UN-ESCAP et al. 2010), “green growth” refers to, “*economic progress that fosters environmentally sustainable, low-carbon and socially inclusive development*”.¹⁴

There are three important aspects of this definition:

- First, “growth” as used in this concept is not the same as output growth, which is the standard meaning of growth in economics. Rather, it is elevated to cover “economic progress”.
- Second, “green” appears to be equal to “environmentally sustainable”, which refers to using natural resources efficiently and respecting the carrying capacity of ecological systems.
- Third, low-carbon development and social inclusion are the objectives of green growth.

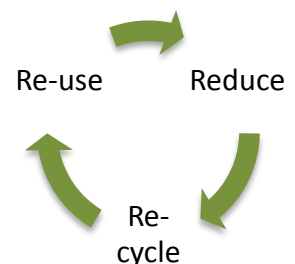


Video 4: Importance of Green Growth. Message by Simon Upton, OECD Environment Director. (Source: [OECD](http://www.oecd.org)).

Similarly, according to the Organisation for Economic Co-operation and Development (OECD 2011), “*green growth means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies*”.¹⁵

Circular Economy

Applying holistic and life cycle principles at the national level, the concept of the circular economy, written into legislation in China, refers to an economy that reduces the consumption of resources and the generation of wastes, and reuses and recycles wastes throughout the production, distribution and consumption processes. This resonates with the “3R” concept as promoted for instance in Japan, signalling a waste mitigation hierarchy of **reduce**, **re-use** and **re-cycle**. Investment in resource-efficient technologies and preventative waste



¹⁴ See also UN-ESCAP Environment and Development Division, Green Growth website <http://www.greengrowth.org/>

¹⁵ The OECD argues that green growth means improving health prospects for populations and strengthening energy security through less dependence on imported fossil fuels, adding that investment in the environment becomes a driver for economic growth. See www.oecd.org/document/41/0,3746,en_2649_34893_43783465_1_1_1_1,00.html

management are expected to generate new sources of income and jobs, building a resource-efficient society (EMG 2011).

The movement from a waste or “throw-away” society to a resource-efficient society is closely linked to the concept of sustainable consumption and production, presented in the next section.

6.3 Sustainable Consumption and Production

The Johannesburg Plan of Implementation (JPOI)¹⁶ agreed to by Governments at the World Summit on Sustainable Development (WSSD or Earth Summit 2002) recognized that consumption patterns often undermine progress made in improving resource efficiency in production. The JPOI text therefore put the term “consumption” ahead of the term “production” and used the concept of sustainable consumption and production (SCP). This sought to recognize the interrelation between production and consumption, between supply and demand and the need to move from a tendency to treat these aspects in isolation from each other.

The JPOI describes SCP as a shift: *“To promote social and economic development within the carrying capacity of ecosystems by addressing and, where appropriate, delinking economic growth and environmental degradation through improving efficiency and sustainability in the use of resources and production processes and reducing resource degradation, pollution and waste”*.¹⁷

Importantly, the above definition raises the idea of decoupling economic growth from resource use and environmental degradation. It highlights two key elements of SCP that are also core to a green economy, namely:

- The promotion of social development and economic growth, but growth that is within the carrying capacity of ecosystems and decoupled from environmental degradation.
- Increased resource efficiency and cleaner technologies, reducing material use and eliminating waste and pollution. Integral to cleaner production are economic concepts such as eco-efficiency, reduced use of material, costing for environmental externalities (e.g. through the application of the polluter pays principle and other market instruments), payments for ecosystem services, as well as compliance with the precautionary principle¹⁸.

In this perspective the green economy and SCP can be described as two sides of the same coin, covering macro and micro interventions that require changes

¹⁶ Johannesburg Plan of Implementation (2002), paragraph 2, available at: www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIToc.htm

¹⁷ Johannesburg Plan of Implementation (2002), paragraph 15.

¹⁸ The definition for the precautionary principle reads: “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”, Rio Declaration, 1992.

in policy and regulatory instruments, investment and business operations, as well as behavioural change in society¹⁹. However, in order to operationalize the concept of SCP more information and clearer policy guidelines would be needed. At present stage limited information on products and their lifecycle is collected and made available, also due to the lack of regulation and enforcement.

6.4 Green Industry

Green industry is a concept, which recognizes that in a world of increasing challenges such as resource scarcity, climate change, pollution, and depletion of natural capital, economic growth must rely on clean and efficient production processes.

The UN Industrial Development Organization (UNIDO) uses green industry as a term to describe economies aiming for a more sustainable pathway of economic growth, by undertaking green public investments and implementing public policy initiatives that encourage environmentally responsible private investments (UNIDO, 2012). Green industry promotes sustainable patterns of production and consumption i.e. patterns that are resource and energy efficient, low-carbon and low waste, non-polluting and safe, and which produce products that are responsibly managed throughout their lifecycle. This could be achieved through specific policy measures, improved industrial production processes and or an increase in resource and energy efficiency.

Policies relevant to green industry are sector specific but similar to those proposed for a transformation to a green economy. They require substantial policy and regulatory reforms, as well as changes in investment and business patterns (UNEP 2011a). Approaches focus on upgrading industry and increasing productive capacity without corresponding increases in resource use and pollution burdens. These strategies, tools, approaches and institutional structures are already available in some places, and can form the basis for measures to guide and accelerate progress towards sustainability. As such, green industry and green economy are closely related and green industry provides an effective entry point for driving the transformation to a green economy and, ultimately, achieving, sustainable development.

6.5 Green Accounting

The most commonly used indicator for a country's economic success and progress is Gross Domestic Product (GDP). GDP is an aggregate measure of production equal to the sum of the gross values added of all resident institutional units engaged in production. However, whilst GDP is a measure for the goods and services produced and consumed by a country in a set time

¹⁹ UNEP Green Economy Initiative website:
<http://www.unep.org/greeneconomy/AboutGEI/WhatisGEI/tabid/29784/Default.aspx>

period, it does not capture all parts of an economy. For example, it does not include the priceless environmental and social externalities, which are important in a sustainable development context. Accounting for sustainability thus requires an extension of the standard framework and this is where green accounting could play a major role.

Green accounting aims to incorporate the amount of natural resources used and pollutants expelled into conventional economic accounting in order to provide a detailed measure of all environmental consequences of all economic activities. In short, it includes the incorporation of costs to the environment in decision-making. Green accounting provides the possibility to place environmental considerations into a framework that key economic ministries in any government are familiar with. It can thus be used to more accurately measure natural wealth, and guided by this, to improve environmental performance, develop greener processes and products as well as invest in cleaner technologies.

The United Nations System on Environmental and Economic Accounting (SEEA)²⁰ provides an agreed system to adjust national accounts in specific components, such as material flow accounts, input-output tables as well as land and water use accounts. However, an internationally-agreed standard to measure progress towards sustainable development has yet to be developed. At the 2012 UN Conference on Sustainable Development (Rio+20), governments did recognize that there is a need for alternative indicators and measurement systems to complement GDP in order to better inform policymakers. It was thus recommended that the UN Statistical Commission and other relevant UN system entities launch a programme of work in this area to build on existing initiatives.²¹

Currently, several organizations are conducting work on alternative measures beyond GDP or as complements to GDP. The OECD, UNEP, GGGI and the World Bank - under the Green Growth Knowledge Platform (GGKP) - have undertaken work towards creating an innovative set of indicators, which measure inter alia the natural asset base, environmental and resource productivity, the environmental quality of life, as well as green economy policies and economic opportunities, and the socio-economic context (GGKP 2013).

²⁰ For further information see: <http://unstats.un.org/unsd/envaccounting/seea.asp>

²¹ For further information see: <http://www.uncsd2012.org/content/documents/727The%20Future%20We%20Want%2019%20June%201230pm.pdf>

7 International Support Programmes and Services

This section provides more specific information on selected global and regional initiatives supporting a green economy transformation at different levels, including, amongst others, capacity building, technical and financial support.

7.1 Partnership for Action on Green Economy (PAGE)

The Partnership for Action on Green Economy (PAGE) is a 7-year programme responding to the Rio+20's call for the UN system to support countries interested in pursuing green economy policies. It will deploy the joint expertise of four UN agencies – ILO, UNEP, UNIDO, and UNITAR – to progressively assist a total of 30 countries in their efforts to embark on green economy pathways. The collective endeavour ranges from mobilizing social awareness and providing specialized training to identifying critical bottlenecks, formulating and assessing policy options, and enabling policy implementation for greening the economy. The programme also includes global and regional level capacity development, knowledge creation and sharing, and high-level policy dialogues, all to enrich and strengthen country level assistance.

Through transformation at the macroeconomic level, PAGE will enable marginalised groups, including poor women and men in developing countries living in poverty and degraded environmental conditions, to acquire equitably shared income and quality jobs and to live under improved environmental conditions. The key to this transformation is shifting investment and policies towards the creation of a new generation of assets: clean technologies, energy and resource efficient infrastructure, well-functioning ecosystems, a skilled labour force with green jobs driven by strong institutions and good governance. To that effect, the scope of PAGE focuses on the deployment of economic instruments, including policy reforms such as phasing out fossil fuel and other harmful subsidies, which are necessary to trigger the shift, complemented by specific social protection measures.

The programme's main objective is to create enabling conditions for national inclusive green economies in each participating country. Achieving this objective in turn depends on delivering four sets of specific results:

- 1) countries are enabled to formulate and adopt inclusive green economy policies;
- 2) the capacity of national partners to finance and implement inclusive green economy policies is strengthened, including in key sectors in each participating country;
- 3) relevant tools and training programmes are developed and accessible globally;
- 4) knowledge on green economy is created and shared for country-level applications.

7.2 UNEP Green Economy Initiative

The UNEP-led Green Economy Initiative, launched in late 2008, aims to provide the analysis and policy support for a transition to a green economy and investments in green sectors.

The Green Economy Initiative includes three sets of activities:

- Producing a Green Economy Report and related research materials, which will analyse the macroeconomic, sustainability, and poverty reduction implications of green investment in a range of sectors from renewable energy to sustainable agriculture and providing guidance on policies that can catalyze increased investment in these sectors.
- Providing advisory services on ways to move towards a green economy in specific countries. Advisory services include providing platforms for national dialogue and consultations; analytical and research support through macro-economic and sectoral assessments of green economy opportunities and options; capacity enhancing activities; and sharing of international experiences and best practices.
- Engaging a wide range of research, non-governmental organizations, businesses and UN partners in implementing the Green Economy Initiative.

Beyond UNEP, the Green Economy Initiative was one of the nine UN-wide Joint Crisis Initiatives (JCI) launched by the UN System's Chief Executives Board (CEB) in early 2009. This work has been continued by the Environmental Management Group (EMG) – including a wide range of international institutions - in an Issue Management Group (IMG) on Green Economy, launched in Washington, DC, in March 2010. This group published in 2011 the EMG inter-agency report on 'Working Towards a Balanced and Inclusive Green Economy'.

7.3 Green Jobs Programme and Green Jobs Initiative

ILO Green Jobs Programme

The ILO's Green Jobs Programme promotes a practical and coherent strategy that recognizes the strong interdependence between the need for social development and the urgency to act on climate change. The analysis and policy guidance provided by the Programme contribute to the promotion of fair globalization and the development of sustainable enterprises and economies that are efficient, socially just and environmentally sound. Through country-level support, the Programme contributes to national and local initiatives for greening economies and provides a comprehensive knowledge base as well as tools for applying practical approaches. The Programme currently concentrates on six priorities:

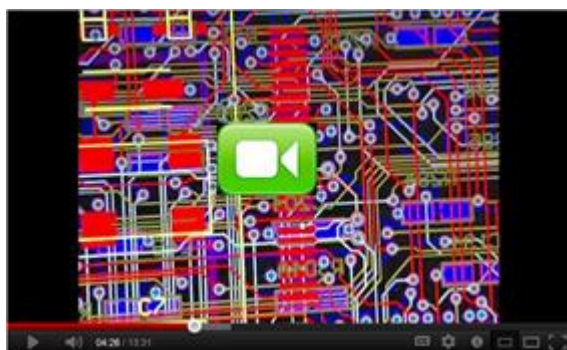
- Analysis of the employment and labour market dimension;
- Practical approaches to greening enterprises;

- Green Jobs in waste management and recycling;
- Renewable energy and energy efficiency;
- A just transition towards a green economy and a sustainable society;
- Adaptation to climate change.

UNEP/ILO/ITUC/IEO Green Jobs Initiative

The Green Jobs Initiative is a partnership established in 2007 between the United Nations Environment Programme (UNEP), the International Labour Organization (ILO), and the International Trade Union Confederation (ITUC). The International Employers Organization (IEO) joined the Initiative in 2008.

The Initiative was launched to assess, analyse and promote the creation of decent jobs as a consequence of the needed environmental policies to address the global environmental challenges, particularly climate change. The initiative supports a concerted effort to promote coherent policies and effective programmes leading to a green economy with green jobs and decent work for all, in a climate-challenged world.



Video 1: The Green Business Option in China.

The Green Business Option is a Green Jobs Initiative project in China. Among its activities, it promotes: the use of LED lighting to save energy in Chengdu, Sichuan; recycling used clothes by transforming them into handicrafts in Chendu, Sichuan; recycling used books at a university in Nanjing; and recycling musical instruments in Nanjing. (Source: [ILO](#)).

7.4 UNESCAP Green Growth

In March 2005, at the 5th Ministerial Conference on Environment and Development (MCED 2005) held in Seoul, Republic of Korea, some 340 delegates, including representatives from 52 member and associate member countries of ESCAP embraced the approach of Environmentally Sustainable Economic Growth or 'Green Growth'.

ESCAP's member and associate member countries reaffirmed their commitment to Green Growth during the 61st (April 2005) and 62nd (April 2006) Commission Sessions and have requested that the ESCAP Secretariat continue acting as the regional platform to support Green Growth by developing the conceptual and analytical framework and by providing capacity building support to the Governments.

Today, ESCAP is facing substantive demands from member states to diffuse and put into action the strategies of the Green Growth approach in the region. Countries such as Brunei, Cambodia, Indonesia, Kazakhstan, Myanmar, Lao PDR, Thailand, Vietnam, the Philippines, Samoa and Vanuatu have made

requests, and are being provided with ESCAPs Green Growth Capacity Development support, which aims at assisting countries to institutionalize eco-efficient and environmentally sustainable economic growth (Green Growth) into their own national development plans.

Recognizing that capacity development is a process in itself, ESCAP's Training of Trainers Programme was developed to assist building individual and organizational capabilities to ensure Green Growth goals can be defined and realized at the national level. Training is targeted towards middle-level government managers, ministerial officials, private-sector decision makers, NGO's, academics and other actors, i.e. all stakeholders involved in the country's transition to Green Growth.

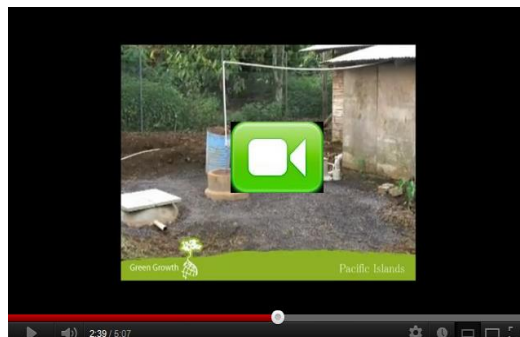
The Programme seeks to:

- Introduce Green Growth as a solution for addressing the development challenges facing countries in Asia and the Pacific
- Familiarize participants with appropriate assessment tools to measure emerging environmental/economic/social issues in the region
- Assist with the integration of Green Growth concepts into socio-economic policy planning.

Since October 2010, ESCAP in partnership with the Asian Institute of Technology and the Government of the United Kingdom launched an online e-Learning Facility to provide zero emissions and cost effect outreach of the green growth concept and policy tools, as well as for sharing good practices and success stories.²² In 2011, the Economic and Social Commission for West Asia (ESCWA) joined the partnership providing on-line capacity development support to policy makers in the region. Currently, National e-learning Nodes/Centres are being established in a number of East-Asian countries, including Brunei, Malaysia, Myanmar, Lao PDR, Thailand, Vietnam, the Philippines and Cambodia.

7.5 UNESCO Education for Sustainable Development

UNESCO's Education for Sustainable Development (ESD) is not a particular programme or project, but is rather an umbrella for many forms of education that already exist, and new ones that remain to be created. Education for Sustainable Development:



Video 2: Green Growth - Capacity Development in The Pacific. Pro-poor green business model for renewable energy supply (Biogas) in Samoa. (Source: [UNESCAP](#)).

²² See: <http://www.greengrowth-elearning.org/lms/>

- Promotes efforts to rethink educational programmes and systems (both methods and contents) that currently support unsustainable societies;
- Affects all components of education: legislation, policy, finance, curriculum, instruction, learning, assessment, etc.;
- Calls for lifelong learning and recognizes the fact that the educational needs of people change over their lifetime.

Many individuals and organizations around the world already implement ESD e.g. a teacher weaving sustainability themes into primary education using participatory methods; a community development worker raising people's awareness on rights which are denied to them; or a public health worker training people to draw water from clean sources.²³

7.6 UN-REDD

The UN-REDD Programme is the United Nations Collaborative Initiative on Reducing Emissions from Deforestation and forest Degradation (REDD) in developing countries. The Programme was launched in September 2008 to assist developing countries prepare and implement national REDD+ strategies, and builds on the convening power and expertise of the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP).



Video 3: UN-REDD Programme in Action. This video highlights the activities and value of the UN-REDD Programme at the national and global level, and includes interviews with representatives of the Programme, pilot and partner countries, donors and other REDD+ experts. (Source: [UN-REDD](#)).

The Programme currently supports 42 partner countries across Africa, Asia-Pacific and Latin America, of which 16 are receiving support to National Programme activities.²⁴ To date, the UN-REDD Programme's Policy Board has approved a total of US\$ 59.3 million for National Programmes in these 16 partner countries. These funds help to support the development and implementation of national REDD+ strategies.

UN-REDD Programme countries not receiving direct support to national programmes engage with the Programme in a number of ways, including as observers to the Programme's Policy Board, and through participation in regional workshops and knowledge sharing, facilitated by the Programme's interactive online workspace.

²³ See: <http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/education-for-sustainable-development/>

²⁴ Bolivia, Cambodia, Democratic Republic of the Congo (DRC), Ecuador, Indonesia, Nigeria, Panama, Papua New Guinea, Paraguay, the Philippines, Republic of Congo, Solomon Islands, Sri Lanka, Tanzania, Vietnam and Zambia.

Concerning global activities the UN-REDD Programme brings together technical teams from around the world to help develop analyses and guidelines on issues such as measurement, reporting and verification (MRV) of carbon emissions and flows, ensuring that forests continue to provide multiple benefits for livelihoods and the environment, and supporting the engagement of Indigenous Peoples and Civil Society at all stages of the design and implementation of REDD+ strategies. The UN-REDD Programme also seeks to build consensus and knowledge about REDD+, to ensure a REDD+ mechanism is included in a post-2012 climate change agreement.

7.7 OECD Green Growth

At the Organisation for Economic Co-operation and Development (OECD) Ministerial Council Meeting in June 2009, Ministers acknowledged that green and growth can go hand-in-hand, and asked the OECD to develop a Green Growth Strategy. Since then, the OECD has been working with a wide range of partners from across government and civil society to provide a framework for how countries can achieve economic growth and development while at the same time combating climate change and preventing costly environmental degradation and the inefficient use of natural resources.

The OECD supports global efforts to promote green growth, especially in view of the Rio+20 Conference. Future work will see green growth reflected in OECD country reviews and on indicators, toolkits and sectoral studies, to support countries' implementation efforts towards green growth. Here the OECD looks specifically at way to analyse economic and environmental policies together, to spur eco-innovation and to address key issues related to a transition to a green economy such as jobs and skills, investment, taxation, trade and development

Towards Green Growth, one of the key OECD documents on green growth, provides recommendations to help governments to identify the policies that can help achieve the most efficient shift to greener growth, focusing, for example, on:

- Green jobs and social aspects;
- Green taxes and regulatory approaches;
- Industrial restructuring and renewal;
- Fiscal consolidation;
- Green technologies;
- Peer reviews;
- Co-operation between OECD countries and emerging economies;
- Involvement of stakeholders.

7.8 UNIDO Green Industry Initiative

In the last few years UNIDO coined the concept 'Green Industry' to place sustainable industrial development within the context of new global sustainable development challenges. For UNIDO, green industry means 'economies striving for a more sustainable pathway of growth, by undertaking green public investments and implementing public policy initiatives that encourage environmentally responsible private investments'. To achieve this, UNIDO helps developing countries move to clean technologies and to implement environmental agreements. This includes the provision of services and expertise to promote sustainable patterns of production, that is, patterns that are low-carbon, low-waste and energy efficient, and products that are responsibly managed throughout their lifecycle.

UNIDO's Green Industry Initiative was formed to create awareness, knowledge and capacities. UNIDO works with governments to support industrial institutions that in turn provide assistance to enterprises and entrepreneurs in all aspects relating to the greening of industry. This includes the promotion of the in the following activities:

- Resource Efficient and Cleaner Production (RECP): RECP covers the application of preventive management strategies that increase the productive use of natural resources, minimize generation of waste and emissions, and foster safe and responsible production.
- Cleaner Production (CP): CP addresses production efficiency (optimization of the productive use of natural resources), environmental management (minimization of impacts on environment and nature through reduction of wastes and emissions), and human development (minimization of risks to people and communities and support for their development).

Further, UNIDO established the Green Industry Platform, a global high-level multi-stakeholder partnership intended to act as a forum for catalysing, mobilizing and mainstreaming action on Green Industry around the world. It provides a framework for bringing together government, business and civil society leaders to secure concrete commitments and mobilize action in support of the Green Industry agenda, i.e. greening the manufacturing process and creating green industries for production of goods and services for domestic use or export.

7.9 Global Green Growth Institute (GGGI)

The Global Green Growth Institute (GGGI) was launched in 2010, with the aim to create an international platform for learning and policy innovation to promote practical opportunities for country-led and industry-led progress on the dual priorities of economic development and environmental sustainability. As such, GGGI supports emerging and developing countries that seek to

develop green growth economic development strategies. It does so by placing analytical tools at their disposal, building their institutional capacity to apply these tools, and engaging them in an international process of mutual learning with other countries embarking upon similar initiatives. GGGI also supports the implementation of green growth plans by advising on their institutionalization in governmental structures and policy as well as by engaging private investors and public donors in their application.

During 2010, GGGI launched its work in several countries globally. Specific country services include:

- Assessment of economic development and environmental sustainability objectives
- Micro economic modelling of detailed, sector-by-sector (i.e. power, transport, buildings, industry, agriculture, and forestry) CO2 mitigation potential, including cost-curves
- Macro-economic analysis, assessing the potential impacts of a low-carbon transition on economic growth, employment, poverty reduction, trade, and other macroeconomic factors
- Detailed, step-by-step analysis of the plausible pathways from business-as-usual to the desired outcomes
- Analysis of the financial flows required by the transition, and an assessment of potential financing sources including both public & private and domestic & international sources
- Advice on the design of policies that could help deliver the desired outcome—drawing on the experience and expertise of "Best Practice Networks"
- Sharing of best practices on implementation and institutionalization of green growth plans.

7.10 Green Growth Knowledge Platform (GGKP)

In January 2012, GGGI, the OECD, UNEP, and the World Bank launched the Green Growth Knowledge Platform (GGKP). GGKP's main aim is to identify and address major knowledge gaps in green growth theory and practice, and to help countries design and implement policies to move towards a green economy.

Three research programmes are underway: Green Growth Metrics and Indicators; Innovation and the Adaptation and Diffusion of Green Technologies; and Green Growth, Trade, and Competitiveness. In addition, two other initiatives have been included as affiliate programmes: Data and Decision-Making Tools for Green Growth, and Green Growth Best Practices initiative.²⁵

²⁵ See: <http://www.greengrowthknowledge.org/Pages/Programs.aspx>

7.11 Green Economy Coalition (GEC)

The Green Economy Coalition (GEC) is a diverse set of organisations and sectors from NGOs, research institutes, UN organisations, business and trade unions that have come together to accelerate the transition to a new green economy.

As a group, the GEC aims to:

- Improve communication between stakeholders and among green economy initiatives
- Forge a coherent new economic vision that works for all
- Encourage that best practice is scaled up
- Promote ways of halting bad practice
- Encourage innovation that explores prosperity within planetary boundaries
- Influence key decision-makers.²⁶

One of the key activities the GEC is undertaking is providing support to a series of multi-stakeholder national dialogues to help NGOs, practitioners, businesses and governments explore what a green economy looks like in different contexts. Dialogues have already taken place in several regions and countries including the Caribbean, India, Brazil, Mali and Spain.

²⁶ See: <http://www.greeneconomycoalition.org/what>

References

Barbier, E.B. (2005). *Natural Resources and Economic Development*. Cambridge: Cambridge University Press.

Barbier, E.B. (2010). *A Global Green New Deal: Rethinking the Economic Recovery*. New York: Cambridge University Press. Ghertner, D.A. and M. Fripp (2007). Trading away Damage: Quantifying Environmental Leakage through Consumption-based, Life-cycle Analysis. *Ecological Economics*, 63 (2–3): 563 – 577.

Green Growth Knowledge Platform (GGKP) (2013): *Moving Towards a Common Approach on Green Growth Indicators: GGKP Scoping Paper*. GGKP. Paris.

European Commission (2013). *A decent life for all: ending poverty and giving the world a sustainable future*. COM(2013) 92 final. EC: Brussels

European Commission (2011). *Energy Roadmap 2050*. COM/2011/0885 final. EC: Brussels

European Commission (2011). *Rio+20: towards the green economy and better governance*. COM(2011) 363 final. EC: Brussels

European Commission (2011). *Agenda for Change*. COM(2011) 637 final. EC: Brussels

European Commission (2010). *Energy 2020 - A strategy for competitive, sustainable and secure energy*. COM/2010/0639 final. EC: Brussels

European Commission (2010). *Environment and Natural Resources Thematic Programme: 2011-2013 Strategy Paper and Multiannual Indicative Programme*. EC: Brussels

International Labour Organization (ILO) (2004). *World Employment Report 2004-05*. Geneva: ILO.

ILO (2011). *Skills for Green Jobs - A Global View*. Geneva: ILO: Geneva

ILO (2012). *Working Towards Sustainable Development: Opportunities for Decent Work and Social Inclusion in a Green Economy*: ILO. Geneva.

Intergovernmental Panel on Climate Change (IPCC) (2007). *Fourth Assessment Report (AR4)*. IPCC. Geneva.

International Energy Agency (IEA). (2012). *World Energy Outlook (WEO)*. Paris: OECD/IEA.

International Institute for Labour Studies (IILS) (2011). *Defining "Green" – Issues and Considerations*. EC-IILS Joint Discussion Paper Series No. 10 (Forthcoming).

International Resource Panel (2010). Assessing the Environmental Impacts of Consumption and Production: Priority Products and Materials. Nairobi: United Nations Environment Programme (UNEP).

López, R. (2009). World Economic Crises in Times of Environmental Scarcity and Wealth Concentration. College Park: Department of Agricultural and Resource Economics, University of Maryland.

McKinsey Global Institute (MGI) (2009). Global Capital Markets: Entering a New Era.

Meadows, D.H. et al. (1972). The Limits to Growth - A Report to the Club of Rome. New York: Universe Books.

Millennium Ecosystem Assessment (2005). Ecosystems and Human Well-Being: Current State and Trends. Washington DC: Island Press.

Organisation for Economic Co-operation and Development (OECD) (2011). Towards Green Growth. Paris: OECD.

Organisation for Economic Co-operation and Development (OECD) (2011). Towards Green Growth. A Summary for Policy Makers. Paris: OECD.

Pearce, D.W., Markandya A. and Barbier, E.B. (1989). Blueprint for a Green Economy. London: Earthscan.

Potsdam Institute for Climate Impact Research and Climate Analytics. (2012). Turn Down the Heat: Why a 4°C Warmer World Must Be Avoided. Washington DC: World Bank & IBRD.

Poverty-Environment Partnership (PEP) (2013). Building an Inclusive Green Economy for All – Opportunities and Challenges for Overcoming Poverty and Inequality.

United Nations Conference on Environment and Development (1992). Rio Declaration on Environment and Development. Rio de Janeiro, Brazil.

United Nations Conference on Trade and Development (UNCTAD) (2009). The Global Economic Crisis – Systemic Failures and Multilateral Remedies. New York and Geneva: UNCTAD.

United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP), Asian Development Bank and UNEP (2010). Green Growth, Resources and Resilience – Environmental Sustainability in Asia and the Pacific (Preview Version). Bangkok: UN-ESCAP.

United Nations Environment Management Group (EMG) (2011). Working Towards a Balanced and Inclusive Green Economy, A United Nations System-wide Perspective.

United Nations Department of Economic and Social Affairs (UN DESA) (2012). A Guidebook to the Green Economy Issue 1: Green Economy, Green Growth, and Low-Carbon Development – History, Definitions and a Guide to Recent Publications. New York: UN DESA

UN DESA (2013). World Economic Situation and Prospects 2013. New York: UN DESA.

United Nations Development Programme (UNDP) (2013). Human Development Report 2013 - The Rise of the South: Human Progress in a Diverse World. New York: UNDP.

United Nations Environment Programme (UNEP) (2011a). Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication. Nairobi: UNEP.

UNEP (2011b). Keeping Track of our Changing Environment - From Rio to Rio+20 (1992-2012). Nairobi: UNEP.

UNEP, ILO, International Employers Organization (IOE), and International Trade Union Confederation (ITUC) (2008). Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World. Nairobi: UNEP.

United Nations Industrial Development Organization (UNIDO) (2011). Green Industry Initiative for Sustainable Industrial Development. Vienna: UNIDO Green Industry Initiative.

United Nations Secretary-General (2011). Objective and Themes of the United Nations Conference on Sustainable Development. A/CONF.216/PC/7.

United Nations Secretary-General's High Level Panel on Global Sustainability (2012). Resilient People, Resilient Planet: A Future Worth Choosing.

World Bank (2008). Global Financial Crisis and Implications for Developing Countries. Paper for G-20 Finance Ministers' Meeting, November 8, 2008, São Paulo, Brazil.

World Bank (2010). World Development Report 2010. Development and Climate Change. Washington DC: World Bank.

World Bank (2012). Inclusive Green Growth: The Pathway to Sustainable Development. Washington DC: World Bank

World Resources Institute (WRI). 2012. Q&A: What is a Green Economy? Washington DC: WRI.