UNEP GREEN economy

Briefing Paper

Metrics & Indicators

Measuring progress towards a green economy

Important advances have been made in the field of indicators for sustainable development over the last two decades. A number of international initatives have been set up to look at indicators for sustainability. Yet, significant challenges remain for national governments to develop their baselines and measure progress in reaching their green economy targets. Building on the existing indicators, UNEP, in consultation with national and other international agencies and stakeholders, is developing options for measuring progress towards a green and inclusive economy.

This paper highlights three principal areas for work on green economy indicators and the key challenges to developing a framework for metrics for a green economy. While countries require flexibility to meet their different needs and green economy pathways, the development and coordination of enabling conditions at the international level require some degree of standardization and comparability.

Metrics framework for a green economy

UNEP has identified three principal areas for the work on green economy indicators:

Indicators of economic transformation. A green economy is first and foremost about transforming the way economies grow. Currently, growth is typically generated from investments in high emission, heavily polluting, waste generating, resource intensive, and ecosystem damaging activities. A green economy requires investments to shift towards low carbon, clean, waste minimizing, resource efficient, and ecosystem enhancing activities. The key indicators of economic transformation, therefore, include the shift in investments (as in the case of UNEP/REN21's regularly published status of investments in renewable energy) and, over time, the consequent growth of environmentally friendly or environmentally enhancing goods and services and related jobs. Some existing statistical classifications in the national accounts, such as environmental goods and services sector, developed by Eurostat, provide a suitable starting point for measuring transformation to a green economy, alongside various initiatives, sometimes in the private sector, to monitor green investment flows.

Indicators of resource efficiency. A major benefit of economic transformation – apart from expected net increase in income and jobs at least in the medium and long term – is improved resource efficiency in relative or absolute terms. Principal indicators include those on the use of materials, energy, water, land, changes to ecosystems, generation of waste, and emissions of hazardous substances related to economic activities. The International Resource Panel has proposed relevant indicators to capture some of these impacts, which can provide a basis for further work in this area. For various resources, data and indicators are generally already available

UNEP defines a **green economy** *as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.*

Figure 1: Measuring Transition

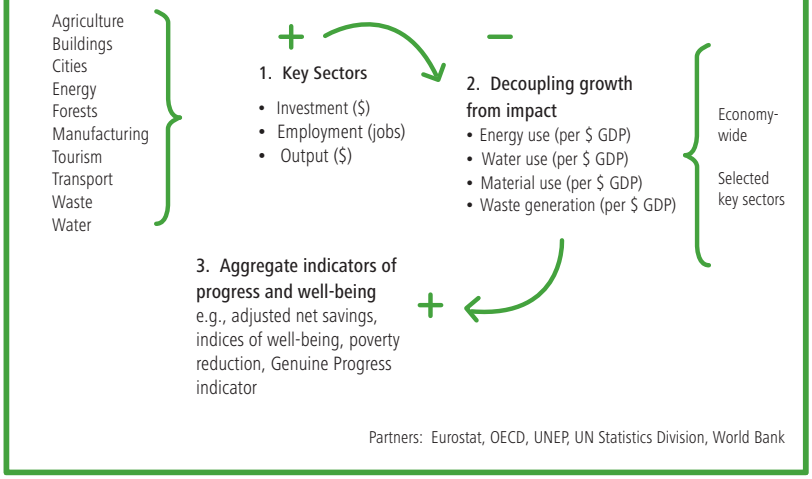
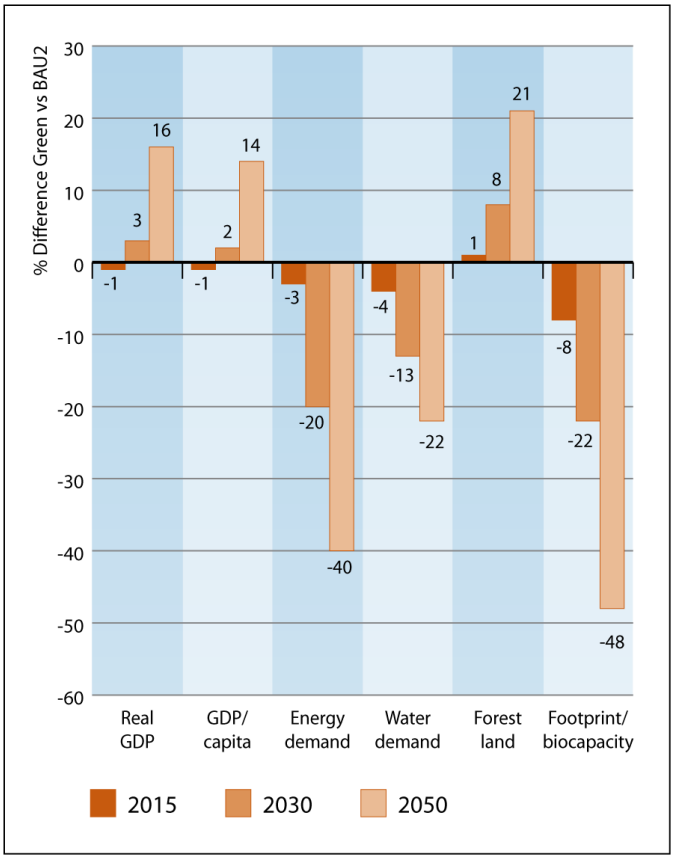


Figure 1 demonstrates how these groups of indicators are related to each other. Investments in key sectors of the green economy, together with policy reforms, should contribute to decoupling economic growth from resource use and environmental impacts. Such improvements can be related to key macroeconomic indicators, such as GDP, Human Development Index (HDI), poverty rates, and can even lead to refined measures, such as adjusted net domestic product taking into account depreciation of natural capital.

(e.g. energy and carbon emissions) or in the process of being developed (e.g., water use accounting). Impetus is being given to this area by the EU's 2020 Strategy for a Resource Efficient Europe, which defines key areas of resource use for measurement and monitoring.

Indicators of progress and well-being. A green economy can contribute to societal progress and human well-being in two ways: firstly, by redirecting investments towards green goods and services, and secondly, by redirecting investments towards the strengthening of human and social capital. Some of the indicators of progress and well-being include the extent to which basic human needs are fulfilled, the level of education achieved, health status of the population, and the availability of, and access by the poor to social safety nets. A number of these are covered by the Millennium Development Goals (MDGs). Considerable attention is being devoted to this area by the EU and the OECD as part of the initiatives on Beyond GDP and Measuring the Progress of Societies, respectively. The proposal for Rio+20 to establish a process for governments to define and commit to sustainable development goals is helping to provide a focus for discussion in this area.

Figure 2. Impacts of the green investment scenario relative to business-as-usual for selected variables (per cent +/-). (Source: *Green Economy Report*, UNEP, 2011)



UNEP launched its **Green Economy Initiative** *in 2008, and is currently supporting over 20 countries around the world in their transition towards a green economy.*

By promoting investment in key ecosystem services and low-carbon development, the resulting economic growth is characterized by a significant decoupling from environmental impacts, and is also illustrated by a considerable decline in the global ecological footprint (see Figure 2).

In order for the international community and national governments to develop their baselines and measure the effects of their green economy strategies and policies, a framework with options for metrics is needed. Depending on their circumstances and priorities, countries could choose from these options. For example, the choice of key sectors will depend on the structure of the economy as well as the natural circumstances such as the availability of freshwater resources.

This framework for metrics for a green economy could propose two or three key headline indicators to include, for example, indicators for decoupling, such as GHG Emissions intensity (per unit of GDP), and for greening of the most important key sectors.

Key challenges

Significant challenges remain for the international community and national governments to develop their baselines and measure impacts of their green economy strategies and policies. UNEP has identified three gaps in measuring the effects of a transition towards a green economy:

Firstly, there is a scarcity of data and indicators that capture the economic transformation in terms of investments, outputs and jobs in environmental sectors (renewable energy technologies, public transport, waste management and recycling, etc.). There is increasing attention in the investment community, especially in the areas of environmental finance and impact investing, that may provide for innovative partnerships in this area.

UNEP's Green Economy Report assesses the effects of annual green investments at the global level on a wide range of indicators covering the economic, social, and environmental dimensions of sustainable development. Apart from the conventional indicators of GDP, the assessment also covers calories per capita, population below USD day, Human Development Index (HDI), employment in each of the sectors that are targeted for green investments ranging from agriculture to transportation, and a large number of environmental indicators such as forest land, water demand, waste generation, total landfill, biocapacity or ecological footprint, CO2 emissions, primary energy demand, and the share of renewable energy in primary demand.

Secondly, while there are many existing indicators related to sustainable development, they appear to play a secondary role in policy-making relative to key economic indicators such as GDP. A key challenge is to understand better the constraints to taking a more integrated approach, which may require further elaborating how changes in different indicators are related to each other.

The **Green Economy Report**, *published by UNEP in 2011, makes a compelling economic and social case for investing two per cent of global GDP in greening 10 central sectors of the economy.*

Thirdly, many developing countries lack the ability to collect and report on proposed, or even standard, indicators and make them widely available. Any new indicators will pose further challenges, requiring not only proof of concept under such circumstances, but also technical assistance and perhaps partnering with developed country agencies.

What UNEP is doing

UNEP, in consultation with national and other international agencies and stakeholders, aims to develop options for measuring progress towards a green and inclusive economy, including helping countries set goals and targets for sustainable development. Given its historical role on data collection and measurement on the environment, UNEP is positioned to play a catalytic role for developing indicators and measuring progress, working with key partner organizations to forge policy consensus and promote implementation.

To this end, UNEP is focusing its efforts on the following activities:

Catalysing the implementation of existing indicators related to sustainable development. For instance, the System for Environmental and Economic Accounting (SEEA) developed by the UN Statistics Department can provide a framework, including material flow accounts, input-output tables, and land and water use accounts, to develop indicators of decoupling and efficiency.

Designing and promoting an integrated approach to applying economic, environmental and social indicators, including identifying gaps in indicators of economic transformation and indicators of resource efficiency.

Developing guidelines for measuring a green economy transformation and facilitating the application of the guidelines at the country level.

Engaging with developing countries to promote capacity building efforts together with partner agencies in the context of advisory services. Not only do developing countries often require assistance to strengthen their capacity in this area, but their specific needs and circumstances should be reflected in the development of appropriate and informative indicators tailored to each country's specific needs and endowments.

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