

**The Transition to a Green Economy: Benefits, Challenges  
and Risks from a Sustainable Development Perspective**

**Report by a Panel of Experts\***  
to  
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\*The views expressed in this report are solely those of the authors and do not necessarily reflect those of the sponsoring UN organizations.

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# **The Transition to a Green Economy: Benefits, Challenges and Risks from a Sustainable Development Perspective**

## **Summary of Background Papers**

**José Antonio Ocampo**  
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The concept of a green economy has become a center of policy debates in recent years. During the recent global financial crisis, the United Nations General Assembly and several UN agencies underscored that the crisis represented an opportunity to promote green economy initiatives as part of the stimulus packages being put in place to support the recovery. Furthermore, when the GA decided to call a UN Conference on Sustainable Development (UNCSD), to be held in June 2012 in Rio de Janeiro, it chose as one of its major themes “a green economy in the context of sustainable development and poverty eradication”.

The concept carries the promise of a new economic growth paradigm that is friendly to the earth’s ecosystems and can also contribute to poverty alleviation. Viewed in this framework, it is compatible with the older concept of sustainable development that has been mainstreamed into the United Nations’ work for decades. But it also entails risks and challenges, particularly for developing countries, for whom economic development becomes more demanding and the fear arises that the new concept could be used to reinforce protectionist trends, enhance the conditionality associated with international financial cooperation, and unleash new forces that would reinforce international inequalities.

At the UNCSD’s first Preparatory Committee in May 2009, several delegations therefore requested that the United Nations Department of Economic and Social Affairs, the United Nations Environment Programme, the United Nations Conference on Trade and Development and other relevant organizations cooperate to prepare a study to be available for the second Preparatory Committee which would assess both the benefits and the challenges and risks associated with a transition to a green economy.

This document responds to this mandate. It contains three papers. The first one, by José Antonio Ocampo, looks at the macroeconomic policy implications of the transition to the green economy. The second, by Aaron Cosbey, focuses on the interlinked issues of trade, investment and technology. The third, by Martin Khor, considers the risks that this concept generates for developing countries and the domestic and international policies necessary to promote the green economy in these countries according to the principles of sustainable development. This summary presents the major policy conclusions that emanate from these contributions.

They are summarized around six major topics: (i) the advantages as well as the risks that the concept entails; (ii) the macroeconomic dimensions of green economic growth; (iii) the domestic strategies that developing countries need to put in place to meet the challenges of the transition to the green economy; (iv) the specific domestic and

international technological issues that this transition raises; (v) international trade issues; and (vi) financial support for developing countries. By the nature of the linkages among these issues, some are dealt with by two or even all three authors. For these reasons, it is better to summarize the papers by issue rather than in a sequential way. Also, although there is a high level of convergence of opinions among them, there are also a few disagreements.

## THE CONCEPT OF A GREEN ECONOMY

The concept of the green economy has gained currency to a large extent because it provides a response to the multiple crises that the world has been facing in recent years – the climate, food and economic crises – with an alternative paradigm that offers the promise of growth while protecting the earth’s ecosystems and, in turn, contributing to poverty alleviation. In this sense, the transition to a green economy will entail moving away from the system that allowed, and at times generated, these crises to a system that proactively addresses and prevents them.

There is no unique definition of the green economy, but the term itself underscores the *economic* dimensions of sustainability or, in terms of the recent UNEP report on the Green Economy, it responds to the “growing recognition that achieving sustainability rests almost entirely on getting the economy right”. It also emphasizes the crucial point that economic growth and environmental stewardship can be complementary strategies, challenging the still common view that there are significant tradeoffs between these two objectives – in other words, that the synergies prevail over the tradeoffs.

Responding to concerns of many countries, the three papers underscore that the concept of green economy should be seen as consistent with the broader and older concept of sustainable development. The specificities of the broader concept are its *holistic* character, as it encompasses the three pillars of development – economic, social and environmental – and its particular focus on *inter-generational* equity. This is reflected in UNEP’s definition of a green economy as “one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities”.

In his contribution, Khor raises several concerns and risks in the use of this concept from the perspective of developing countries. In particular, he underscores the need to identify and deal with the tradeoffs that may be involved at different stages of development and with different environment endowments and challenges. Furthermore, in linking the concepts of the green economy and sustainable development, he underscores the need to respect fully the principles agreed upon at the 1992 United Nations Conference on Environment and Development (UNCED) and, particularly, the principle of common but differentiated responsibilities. This requires, in his view, a three-pronged approach in which: the developed countries have to take the lead in changing their production and consumption patterns; developing countries maintain their development goals but do so while adopting sustainable practices; and developed countries commit to enable and

support the developing countries' sustainable development through finance, technology transfer and appropriate reforms to the global economic and financial structures.

Khor also presents several risks that may be associated with the misuse of the concept of the green economy. The first risk is that it could be defined or operationalized in a one-dimensional manner, as purely "environmental". The second risk is that of a "one size fits all" approach, in which all countries are treated in the same manner. There are also a series of risks related to the trade regime, to which we will return below: of using environment for trade protection; of gaining market access through the guise of environment; of developing countries' facing production that is subsidized in the industrial world without being able to impose corrective measures; of limiting the policy space that developing countries have to promote their own green economy sectors; and of facing technical standards that their exporters cannot meet. And finally, he also underscores that the concept of the green economy should not be used to impose new conditionality on developing countries for aid, loans, and debt rescheduling or debt relief.

Therefore, as the concept of the green economy is mainstreamed into the work of the United Nations, the three authors agree that it should be seen in the context of the now familiar concept of sustainable development and placed integrally within this holistic framework of UNCED, the Rio Principles and Agenda 21. This means that, while underscoring the links between the economy and the environment, it should not lose sight of the equity dimensions, including the needs of the poorer members of society throughout the world, the specific needs of developing countries (and of different groups of developing countries) and, of course, of future generations.

## **THE MACROECONOMIC DIMENSIONS OF GREEN ECONOMIC GROWTH**

Ocampo highlights four different macroeconomic issues that must be taken into account in the analysis of the green economy. The first one relates to issues of inter-temporal welfare: how the welfare of future generations is taken into account in current economic decisions, an issue that is relevant for savings and investment decisions today, but has broader implications, as the social discount rate chosen should be used in cost-benefit analysis at the microeconomic and sectoral levels. The second refers to the effects that the degradation of the environment has on aggregate supply, as well as the effects of environmental spending and protection policies on both aggregate supply and demand. The third is the fact that economic growth is always a process of structural change, a fact that is highlighted by the significant changes in the patterns of production and consumption that must be put in place in the transition to the green economy, which in this regard can be characterized as no less than a new technological or industrial revolution. The final one relates to how global initiatives in this area are going to be financed. The first two of these issues are dealt in this section, the third in the next one, while later sections contain the analysis of technology and finance.

The first of these issues relates to the discount rate that is used to value in current economic decisions the consumption (welfare) of future generations and the environmental damages that are being created today but which will fully affect economic

activity only in the future – the damages generated by climate change, the loss of biodiversity or the deterioration of water systems, to name a few. The importance of this issue can be best understood in terms of the debates surrounding the Stern Review on the economics of climate change. For example, environmental damage worth \$100 half a century from now would be valued at \$49.90 today using the Stern Review's discount rate of 1.4% a year but only \$5.43 or \$6.88 using the alternative rates preferred by its critics (6 and 5.5%, respectively). Therefore, using a high discount rate significantly reduces the social profitability of taking mitigation actions today, favoring delayed action or even no action at all. For this reason, a high rate of discount reduces the attractiveness of savings and investing today to benefit the welfare of future generations.

This implies that social discount rates used for the analysis of optimal economic growth paths and associated savings and investment decisions are inherently linked to ethical debates on inter-generational equity. On these grounds, Ocampo justifies the use, by Stern and supporters of strong environmental action, of social discount rates that are below (in fact well below) market rates. Indeed, he argues that full inter-generational equity calls for the use of a discount rate equivalent to the expected rate of technical change (say on the order of 1.5 to 2%). This also implies that savings and investment today to reduce environmental damages must be increased to benefit future generations. A complementary argument is that strong action today insures future generations against the asymmetric and non-linear effects that certain developments can have on the ecosystem (i.e., the fact that the risk of losses associated with climate change or the extinction of species, among others, is higher than the probability of a more favorable outcome than those being projected), including the rising likelihood of extreme events (catastrophes). As indicated, this implies that microeconomic and sectoral cost-benefit analysis of relevant environmental investments should be evaluated using low social discount rates.

Macroeconomic considerations also indicate that green investments have a dual positive economic effect, on aggregate supply and demand. In the first case, the recent Green Economic report by UNEP shows that a strategy of reallocating investments towards the green economy may lead to slower potential economic growth for a few years, as renewable natural resources are replenished (an effect that can be strong in some sectors, such as fisheries), but will result in the long run in faster economic growth. Furthermore, investments in the green economy also reduce downside risks of adverse events associated with climate change, energy shocks, water scarcity and loss of ecosystem services. They will also result in the long term in increased employment, as green investments are generally more employment intensive, and have direct benefits in terms of poverty reduction. The latter is particularly true in the case of agriculture, where green technologies will tend to improve the agricultural productivity of rural smallholders.

A full consideration of the fact that green investments today will also increase aggregate demand gives an even more positive macroeconomic picture. Indeed, such investments can help increase economic activity and employment in the short-run, a much needed action for industrial economies that are still characterized by high levels of unemployment. This positive effect may even counteract whatever adverse aggregate

supply effects those investments can have in the short term. In turn, to the extent that investment is embodied in new equipment or leads to learning-by-doing, higher investment induces productivity growth, reinforcing long-term growth. Obviously, the composition of the demand stimulus must be carefully chosen to reinforce sustainable development: certain types of consumption and investment must be restricted to avoid excessive resource depletion and waste, whereas environmentally-friendly investment and consumption should expand.

## **DEVELOPING COUNTRIES' GREEN DEVELOPMENT STRATEGIES**

The third macroeconomic dimension highlighted by Ocampo comes from recognizing that economic growth is nothing else but a process of structural change: one in which some activities expand, based on new technological knowledge, while others contract. In this “structuralist” view, those changes are not just a byproduct of growth but their prime mover: development is nothing other than the capacity of an economy constantly to generate new dynamic activities. This view is essential because the transition to the green economy involves no less than a technological revolution, and will have deep impacts on production structures as well as on consumption patterns.

These structural transformations have two types of implications. Since new technologies are largely going to originate in the industrial countries, there are a series of international issues related to how these technologies are disseminated, what changes in trade patterns they will generate and what mechanisms will be put in place by the international community to guarantee that this process will benefit all countries. These issues are dealt with in later sections. Here we will concentrate on a second set of issues that relate to the domestic policy response by developing countries.

The major implication in this regard, which is underscored by the three authors, is that active development strategies must be put in place to drive the transformation towards new dynamic green activities. This strategy can be called as an investment-led strategy, or an active industrial and technology policy. In the latter case, it must be emphasized, however, that it involves not only manufacturing or industry but the whole range of economic activities (agricultural transformations, for example, are critical). For this reason, “production sector policies” could be a better term than industrial policies. Developmental states must be at the center of these strategies, but they must be designed

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