FRIEDRICH EBERT STIFTUNG

Green Economy

Turning Over a New Leaf towards Sustainable Development?

NINA NETZER AND JUDITH ALTHAUS (EDS.)

June 2012

- It is evident that the »old« way of doing business, based on finite fossil fuels and the exploitation of natural resources, is no longer possible. Industrialised, emerging and developing countries therefore face the challenge of restructuring their current economic model in an ecologically sustainable way.

- The necessary transformation of our economic systems represents a fundamentally different challenge for a host of actors, economic sectors and regions of the world. This is also reflected in the debate on the concept of the Green Economy: There is a struggle, on the one hand, for ideological hegemony with regard to conflicting concepts (green growth vs. de-growth), and on the other hand, for the remaining natural resources and growth opportunities.

- The aim of this publication is to show, by highlighting different countries, how diverse the debate on the Green Economy is and, at the same time, to elucidate the different challenges facing individual countries, given their respective structures and stages of development.

Dialogue on Globalization

Contents

Introduction

Nina Netzer and Judith Althaus

In recent years, especially in the course of mounting global economic and environmental crises, the discourse on sustainable economic and social models has intensified across a broad spectrum of actors, representing the most diverse ideological strands and regions. The resurgent debate has ranged in recent years from the renaissance of post-growth theories to a veritable proliferation of approaches based on the so-called »Green New Deal« against the background of the global financial and economic crisis. It has now come to a head once more with the designation of »Green Economy« as key topic of the UN Conference for Sustainable Development. But apart from the various concepts and approaches, ranging from the Green Economy through the critique of growth to post growth, the necessary transformation of our economic systems represents a fundamentally different challenge for a host of actors, economic sectors and regions of the world. This is also reflected in the debate on the concept of the Green Economy. Clearly, there is a struggle, on one hand, for ideological hegemony with regard to conflicting concepts (green growth vs. de-growth), and on the other hand, for the remaining natural resources and growth opportunities.

What Is at Stake? The Need to Transform Our Economies

It is becoming increasingly clear that our current growth-fixated economies, built on the exploitation of finite resources and emission-intensive energy, are no longer sustainable. Not only that, but in recent years this economic model has not discernibly increased prosperity or wellbeing for most people nor found a way to decouple economic growth from resource consumption.

Despite remarkable economic performance in recent decades – at least, measured in terms of GDP growth in many countries – it has not led to greater prosperity for all. As early as 1934, Simon Kuznets declared in his report to the US Congress *National Income, 1929–1932* that: »the welfare of a nation can ... scarcely be inferred from a measurement of national income«. A glance at the state of our planet reveals that inequalities within and between countries have intensified: the number of people going hungry is higher in 2012 than it was in 1992, reaching a historic high of around 1 billion (despite the fact that global food production is more than sufficient for everyone) and the number of people living in extreme poverty is still around 1.4 billion.[1] Furthermore, people's perception of what can actually be achieved economically has moved on from the »limits to growth« diagnosed by Dennis Meadows in 1972 to encompass the entire planet: what we might call the »Meadows trap« consisted of linking the limits to growth solely to the finitude of resources.[2] The current state of scientific knowledge,[3] according to which our economic activity has led to global climate change, the extinction of many species, heavy environmental damage, the depletion of renewable resources – such as global fish stocks – and increasing scarcity of non-renewable resources (leading, among other things, to rising energy prices), makes it clear that besides the scarcity of raw materials there are also planetary limits to our growth.

1. See Rio+20. Die UN Konferenz für nachhaltige Entwicklung 2012. Hintergründe – Konflikte – Perspektiven. Global Policy Forum und Terre des Hommes, February 2012, p. 6.

2. See Lecture by Prof. Dr. Uwe Schneidewind, President of the Wuppertal Institute for Climate, Energy and Environment, entitled »Möglichkeiten und Grenzen für nachhaltiges Wirtschaften«, 14.2.2012 at Urania in Berlin.

3. See Stern, Nicholas (2009): Der Global Deal: Wie wir dem Klimawandel begegnen und ein neues Zeitalter von Wachstum und Wohlstand schaffen [The Global Deal: Climate Change and the Creation of a New Era of Progress and Prosperity], p. 48. Stern refers to the IPCC's four climate change status reports – the most recent was in 2007 – which demonstrate the causal connection between increasing anthropogenic emissions and rising global warming. See also WBGU (2011): Global Megatrends, Factsheet No. 3/2011: »There is a scientific consensus about the fundamental processes underlying anthropogenic global warming. As a result of human-induced emissions, atmospheric CO_2 content is already one-third higher than in the millennium preceding the onset of industrialisation. For reasons of basic physics, a rise in atmospheric greenhouse gases causes a warming of the climate at the Earth's surface. Since the start of the 20th century, global mean temperature has increased by 0.8 °C above pre-industrial levels and this rise is unabated. It is essential to limit global warming to 2 °C in order to avoid incalculable risks«.

The concept of »planetary boundaries« developed in 2009 by environmental scientists around Johan Rockström of the Stockholm Resilience Centre lays down »tipping points« of the earth system in nine domains that could cause »irreversible and abrupt environmental change«.[4] These tipping points – which include rising global temperatures and loss of biodiversity – provide for certain boundaries within which humanity will have to confine itself economically in future, for example, a global CO_2 budget of 750 gigatonnes.[5] This will have to be adhered to if we are to comply with the internationally agreed goal of limiting average global temperature rises below 2 °C. In order not to further endanger the stability of the climate system and the environment a new economic model is needed. This should not only eliminate the negative consequences of deregulated financial markets but also meet the challenge of decoupling resource consumption from increasing productivity. At the same time, the so-called »rebound effect« – which describes the phenomenon of efficiency gains being »eaten up«[6] by additional consumption – teaches us that this is nothing like sufficient: even an environmental restructuring of current economic systems will, in the long term, not exempt us from the question of sufficiency, given planetary boundaries and limited resources. This challenge is all the more urgent since various trends, such as growth of the world's population – which will rise above 9 billion by mid-century – and the intensified consumerism and rising energy needs of the growing global middle classes will continue to ratchet up resource consumption. At the same time, it is clear that developing countries in particular still need economic growth in order to combat the poverty that still afflicts broad strata of the population and to ensure fulfilment of basic needs, such as access to a modern energy supply.

Economic Transformation as a Question of Global Justice

The debate on new forms of sustainable economy – which, in the face of resource scarcity and planetary boundaries, also raises the question of how residual growth can be distributed between countries and actors – inevitably leads to fundamental questions of justice. Considering that the industrialised countries bear the main responsibility for climate change because of their accumulated historical emissions,[7] and are still not reducing their emissions to the necessary degree, the insistence of many developing countries on their right to economic development and thus to unrestricted CO_2 emissions and the use of putatively more economical fossil fuels is entirely understandable and cannot be dismissed by repeatedly emphasising the win-win effects of sustainable growth for the environment and economic performance or cost digression for renewable energies.[8] The initial investment costs are too high, a problem that can be overcome only through massive financial and technological support from the industrialised countries. Furthermore, the link between affluence and CO_2 emissions must be taken into account: the 500 million most affluent people on earth – in other words, only around 7 per cent of the world population – are responsible for half the emissions. The poorest 50 per cent of the world population, by contrast, are responsible for only 7 per cent of emissions.[9] This means that a small upper stratum consumes the bulk of the world's resources and thus is responsible for the major part of CO_2 emissions, while in many countries most of the population live in poverty. Furthermore, it is questionable whether all emissions are to be evaluated as equal, a discussion often conducted under the heading »lifestyle vs. development emissions«.

It is scarcely surprising, therefore, that there is some scepticism concerning the debate that has been gaining prominence in recent years – boosted among other things by the report of the Stiglitz-Fitoussi-Sen Commission in 2009 – on the need to introduce new indicators of prosperity or well-being as an alternative to GDP, since economic performance and its growth do not necessarily entail improving quality of life. Since in some strands of the debate – especially those led by Western experts – alongside non-material indicators, such

4. See United Nations Secretary-General's High-Level Panel on Global Sustainability Report (2012): Resilient People, Resilient Planet: A Future Worth Choosing. http://www.un.org/gsp/sites/default/files/attachments/GSP_Report_web_final.pdf (accessed on 23.5.2012).

5. See WBGU (2011): Hauptgutachten »Welt im Wandel. Gesellschaftsvertrag für eine große Transformation«, p. 40.

6. See Ernst-Ulrich von Weizsäcker et al. (2009): Faktor Fünf. Die Formel für nachhaltiges Wachstum, pp. 289.

7. See Rogner et al. (2007): 111: Industrialised countries (UNFCCC Annex I countries), which only make up 20 per cent of the world's population, are responsible for 46.4 per cent of total global greenhouse gas emissions. By contrast, developing countries, home to 80 per cent of the world's population, cause only 53.6 per cent.

8. See International Energy Agency, IEA (2011): Renewable Energy. Markets and Prospects by Technology.

9. See United Nations Population Fund, UNFPA (2009): The State of World Population 2009, Facing a Changing World: Women, Population and Climate.

as health or quality of the environment, also subjective measures, such as happiness and personal well-being are being discussed,[10] some actors in developing countries fear that this line of argument will be marshalled to try to persuade them that well-being is possible even without growth, in effect denying them their right to development.

These debates reveal a fundamental crisis of trust between different countries and actors. Nevertheless, it is evident that the »old« way of doing business, based on finite fossil fuels and the exploitation of natural resources, is no longer possible. Industrialised, emerging and developing countries therefore face the common challenge of restructuring their current economic model in an ecologically sustainable way or of developing an economic model based on renewable energies. This shift can also represent an opportunity in terms of a »green recovery«, allowing for both climate protection and economic growth. However, promoting factors and conditions under which an economic transformation offers a chance for sustainable development is highly controversial.

Green Economy Debates in the Run-up to Rio+20

Just weeks before the 2012 United Nations Conference on Sustainable Development in Rio de Janeiro, the debate about sustainability has intensified significantly. Politicians, think tanks, trade unions, NGOs and many others are fervently discussing what needs to be achieved in Rio – and what the main challenges are on the way to a successful summit.

The two core themes of Rio+20 are »A Green Economy in the context of sustainable development and poverty eradication« and »An institutional framework for sustainable development«.[11] Especially with regard to the concept of the Green Economy, actors remain far from a common approach that gives reason to hope for a binding international consensus. Partly, this is due to sharp differences between actors with regard to their understanding of the term »Green Economy«: definitions vary considerably and no single concept has yet been found to which all players can sign up.

The idea of a Green Economy came to prominence when the repercussions of the global financial crisis in 2007/2008 necessitated financial stimulus packages around the world. It was hoped that the so-called »Global Green New Deal«, similar to President Roosevelt's economic »New Deal« of the 1930s, would stimulate growth sufficient to restore national economies to pre-crisis levels, while promoting climate protection at the same time. Although national strategies to »green« the stimulus packages have differed, the sudden emphasis on the Green Economy, along with the severe lack of financial resources to fight the crisis, has made the concept a prominent subject of debate across national boundaries.

Green Economy: Threads of Debate and Definitions

Currently, the debate has three main threads: Green Economy, Green Development and Sustainable Development.[12]

Green Economy

An interpretation of the Green Economy that requires the least radical change is the simple greening of the existing economy. While those advocating this approach acknowledge the existence of environmental constraints and ecological boundaries, they fail to question the very system that has led to irreversible climate change and grave global social injustice. Consequently, this understanding of the Green Economy does not call for substantial change in production and consumption patterns or a redistribution of global wealth, but continues to promote belief in the saving grace of technological innovation.

Green Development

The concept of »Green Development« extends the idea of a simple greening of the existing economy with a strong focus on the third, social, pillar of sustainable

10. For an overview of various well-being indicators see the working report of Projektgruppe 2 »Development of a comprehensive wellbeing or progress indicator« by the Commission of Inquiry on Growth, Wellbeing and Quality of Life appointed by the Bundestag. http://www.bundestag.de/bundestag/ausschuesse17/gremien/enquete/wachstum/drucksachen/72_neu_Zwischenbericht_PG_2.pdf (last accessed 23.5.2012).

11. See http://www.uncsd2012.org/rio20/about.html (last accessed 16.5.2012).

12. Bår, H., Jaboc, K. and Werland, S. (2011): Green Economy Discourses in the Run-Up to Rio 2012, pp. 24–26.

development. It advocates a new model of production and consumption that includes changing existing concepts of welfare. With a view to measuring welfare differently, the focus, instead of being confined to a purely monetary understanding of increased welfare in terms of GDP growth, shifts to encompass the development of well-being indicators.[13] The concept of Green Development tries to do justice to the different circumstances of industrialised, emerging and developing countries. To operationalise the necessary changes in consumption patterns, it looks beyond current models in the Western world and thus draws a more inclusive picture of the Green Economy.

Sustainable Development

The Sustainable Development approach to the Green Economy advocates a differentiated view of the concept, taking into account the different circumstances in which industrialised, emerging and developing countries find themselves. In this vein, proponents underline the »common, but differentiated responsibilities« between those countries whose decades-long economic growth is the cause of today's climate change and those countries that, in the absence of economic growth, have not contributed to the systematic destruction of nature and exploitation of limited resources. In view of developing countries' low level of economic development, the idea of a »right to development« draws attention to developing countries' lack of scope for reducing their vulnerable economies' material and energy intensity. For proponents of this concept, operationalising the Green Economy must leave room for the needs of developing countries by placing a heavier burden on industrialised countries to reduce the effects of climate change.

Green Economy Actors

These different strands of debate on the Green Economy are partly mirrored in the positioning of relevant actors. Actors' standpoints, however, are often not identical with particular concepts and transcend specific discourses, presenting features of all three approaches. Most prominently, UNEP in its 2011 report »Towards a Green Economy – Pathways to Sustainable Development and Poverty Eradication« defined the Green Economy as one »that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities«.[14] UNEP is certainly leading the debate on the Green Economy: its 2011 report had been downloaded more than 2 million times by April 2012.

Both inside and outside the UN framework, the increasing importance of the economic potential of environmental technologies has fuelled the debate on the Green Economy. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) calls Green Growth »a strategy that seeks to maximize economic output while minimizing the ecological burdens«.[15] A similarly strong economic focus has led to an emphasis on Green Growth in industrialised countries in particular. According to the 2011 OECD report »Towards Green Growth« 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«.[16] This emphasis on Green Growth builds on the belief that technological changes can circumvent environmental constraints (»decoupling«) and thus enable future growth. Consequently, a »Greening« of the existing economy would not necessitate a change in production and consumption patterns.

In contrast, unions and other proponents of workers' rights advocate a strong focus on »Green Jobs«. In its February 2011 resolution on Trade Unions, Climate Change and the Rio+20 Process, the International Trade Union Confederation (ITUC) underlined »the importance of ensuring that the transformation towards a low-carbon economy involves a ›Just Transition‹ and creation of decent jobs«.[17] This strong focus on social justice underlines the need for an inclusive adjustment to a Green Economy that leads to a new model of production and consumption and includes a change in institutions, culture and welfare concepts.

13. Fensterseifer, M. (2012): Wachstumskritik: Ein Überblick, pp.1–2.

14. UNEP report (2011): Towards a Green Economy – Pathways to Sustainable Development and Poverty Eradication.

15. See www.enterprise-development.org/download.aspx?id=1544 (last accessed 16.5.2012).

16. OECD report (2011): Towards Green Growth.

17. ITUC resolution »Trade Unions, Climate Change and the Rio+20 Process«, February 2011.

Criticism of the Green Economy Approach

Recent discussions on »The Future We Want«, the zero draft for the Rio+20 conference outcome document, reveal deep conflicts regarding the Green Economy approach. In line with the ITUC, developing countries and civil society actors in particular direct their criticisms at the main shortcoming of the Green Economy: the lack of consideration of the social dimension. In their view, the Green Economy can help to reduce poverty and create international equality only if rooted in the framework of sustainable development. Consequently, institutional and structural settings by design need to prevent »Green Protectionism« in the form of eco-labelling, eco-taxes and customs, patents and intellectual property regulations and other barriers to trade established by industrialised countries.

Similarly, developing countries fear a conditionalisation of financial support from industrialised countries based on a one-size-fits-all strategy that prescribes the Green Economy to all, regardless of their level of economic development. While pioneers from specific countries, regions or branches of industry might benefit from this »Green Change«, others might fall behind. However, the fear of a lack of competitiveness is not held by developing countries alone; industrialised countries share the apprehension of a loss of jobs and economic growth.

Not least, many actors criticise the fact that an ecological modernisation of our current economic system would not necessarily lead to fundamental structural change in existing neoliberal structures. Hence, critics claim that making the economy »greener« will simply serve to force »nature's commons« into further submission in accordance with the logic of capitalist exploitation.

Green Economy Perspectives from Africa, Asia, Europe, Latin America and Middle East/North Africa

Given the concerns with regard to the Green Economy approach, as well as differing views and challenges among regions, countries and actors, this publication aims to present a perspective from one country in each of the five regions – Europe, Latin America, Asia, Africa and the Middle East/North Africa – regarding the national debate on the Green Economy. The perspectives portray the current state of the debate on the Green Economy in each country, including an assessment of the role the respective countries will play in the run-up to Rio+20 and the way they will influence both discussions and outcomes.

While the aim is to place the perspectives in a wider regional context, it must be clear that the contributions cannot reflect all developments found in highly complex regions of the world. Likewise, contributions vary where circumstances differ – not just between industrialised and developing countries, but also between different developing regions of the world and even within countries.

For a lot of industrialised and some emerging countries, the Green Economy looks like a window of opportunity for economic growth and the creation of jobs in green sectors. However, most emerging and developing countries face completely different challenges when restructuring their economies to create low carbon societies. Fast-growing emerging countries such as India or China have to find a way to combine high growth rates and, accordingly, high energy needs with a resource-efficient economy. In developing countries, one of the main challenges is to reconcile sustainable development with the aim of poverty reduction. But even among these countries, sharp contrasts can be found. While for some the Green Economy has a strong focus on agricultural development, others take a more high-tech approach, aiming for green industrial development.

This multitude of contradictions is reflected in the perspectives from the different regions. However, the publication does not aim to list each nuance and every detail, but rather to do justice to the complexity of the situation by drawing a picture from one country per region.

Ecological Industrial Policy: Key Concept of a Green Economy

Philipp Schepelmann, Raimund Bleischwitz and Uwe Schneidewind

Management Summary

An entrepreneurial spirit and a green industrial policy are vital to the success of renewable energy and other green technologies. This article examines the lessons learned in Germany and the challenges ahead. It concludes that an upgraded version of such a policy is needed to address all natural resources in a comprehensive manner. It will require intelligent incentives to develop long-term systemic innovations as well as a distinct international dimension. In that regard, Germany can serve as a laboratory for the transition to a Green Economy.

Challenges to a Green Economy

The concept of a Green Economy suggests new opportunities for future growth worldwide while acknowledging and attempting to reduce major environmental pressures.[1] It is mirrored in similar strategies, such as A Resource-Efficient Europe, the flagship initiative of the European Union, and the Green Growth Strategy, advocated by the Organisation for Economic Co-operation and Development.[2] Towards a Sustainable Asia, an initiative developed by 26 Asian academies of science, should also be mentioned in this context.[3]

The scope of any other such strategies must address primary environmental challenges, such as climate change caused by anthropogenic greenhouse gas emissions. Assuming high prices for oil and other fossil fuels in the future, it is likely that appropriate strategies to reduce carbon emissions will yield innovation in the energy system, such as the rapid deployment of renewable energies. Amory Lovins[4] even proposes a »farewell to fossil fuels« driven by business and civil society. Such an optimistic outlook adds an element of feasibility to the economist Sir Nicholas Stern's characterisation of climate change as the »biggest market failure the world has seen.«

It remains less clear how climate and energy interact with other ecosystems and natural resources. If relative factor prices are assumed to drive investments for innovation and growth, commodities and materials are at least as relevant as energy. According to a Eurobarometer[5] survey, the costs of materials account for approximately 40 to 45 per cent of the gross production value of manufacturing companies in the European Union; similar amounts can be estimated for other regions worldwide. The International Resource Panel[6] has highlighted the environmental relevance of fossil fuels as well as agricultural goods, biotic materials, and metals, including iron, steel, and aluminium. In other words, enhancing resource efficiency is more conducive to innovation and growth than is a focus on carbon dioxide reduction alone. Accordingly, the EU's eco-innovation observatory defines eco-innovation as »any innovation that reduces the use of natural resources and decreases the release of harmful substances across the whole life-cycle«.[7] Searching for synergies to align better management of natural resources and the long-term reduction of greenhouse gas emissions by 80 to 90 per cent points to the first requirement of any Green Economy strategy: It should take a broad view of environmental pressures and put key socio-economic variables, such as materials, at center stage.

1. United Nations Enviroment Programme, UNEP (2011): Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication. Geneva.

2. European Commission (2011): A Resource-efficient Europe: Flagship Initiative under the Europe 2020 Strategy. Brussels; OECD (2011): Towards Green Growth. Paris.

3. Association of Academies of Sciences in Asia, AASA (2011): Towards a Sustainable Asia: Green Transition and Innovation. Beijing and Berlin: Science Press and Springer.

4. Lovins, Amory B (2012): A Farewell to Fossil Fuels: Answering the Energy Challenge. *Foreign Affairs* 91 (2): 134–46.

5. Eurobarometer (2011): Attitudes of European Entrepreneurs towards Eco-innovation. Gallup Organization Report Flash Eurobarometer 315.

6. UNEP (2010): Assessing the Environmental Impacts of Consumption and Production: Priority Products and Materials Report of the Working Group on the Environmental Impacts of Products and Materials to the International Panel for Sustainable Resource Management. Paris and Nairobi.

7. EU Eco-Innovation Observatory, EIO (2011): The Eco-Innovation Challenge: Pathways to a Resource Efficient Europe. http://www.eco-innovation.eu.

Another recent insight from environmental research is the growing interconnectivity between types of resources – energy, materials, food, water, and land – and ecosystems and human systems. This has led to acknowledging Earth's »planetary boundaries«[8] that are about to be exceeded: climate change, biodiversity loss, nitrogen cycle, phosphorus cycle, stratospheric ozone depletion, ocean acidification, global freshwater use, and land use. Acknowledging those boundaries is essential to maintain life-supporting ecosystems on Earth.

Those global boundaries and human systems are interconnected on multiple levels. Such global drivers as economic growth, commodity price volatility, and climate change interfere with local drivers in water river basins, forests, wetlands, and regional economies. The global drivers disrupt the resilience of these systems and overtake local drivers as dominant forces, with knockout effects in many regions. Conversely, local disturbances spread farther and faster than previously, turning local disasters into transboundary and international crises.

Any Green Economy thus presents governance challenges for coping with risks on multiple levels. This means that a variety of actors and institutions – green industries and like-minded countries as well as oil companies, emerging economies, and those industrialised countries, such as the United States, that refuse to engage in multilateral environmental agreements – will be faced with developing strategies to meet these challenges. At the systemic level, any Green Economy will need to confront prevailing paradigms in the public interest, including economic growth and the liberalisation of services. Given the magnitude of the global socioecological transition required, one should not be surprised to hear criticisms of the concept of a Green Economy.[9]

While some propose an earth system governance with new and legally binding multilateral institutions as a response strategy[10], this paper primarily addresses this fa cinating topic by responding to a core question: What is the proper scope and role for policies in lead countries, such as Germany, or the European Union? This approach is supported by the fact that states remain the repositories of the greatest amount of governance authority.

Ecological Industrial Policy – Lessons from Germany

In 2006, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety published a memorandum on a »New Deal« for the economy, the environment, and employment.[11] Appearing one year before the global financial crisis, the memorandum examined the idea of states framing the development of markets, a proposition also later expressed in a number of national »Green New Deals«.[12]

The concept of ecological industrial policy stands in the tradition of the 1987 Brundtland Report's notion of sustainable development, which asserts that the world's environmental and development challenges can be addressed through various opportunities if »good« market forces are actively promoted and »bad« market forces are restricted. Ecological industrial policy thus compels transition strategies; some experts, including Martin Jänicke[13] and Joseph Huber[14] have referred to such a policy as an ecological modernisation of economies and societies since the eighties of last century.

As a result of an ecological industrial policy, one can expect a »third industrial revolution,« with energy and resource efficiency at its core. Instead of assuming a trade-off between economy and ecology, it unleashes winds of change that can lead to new growth, new value

8. Rockström, Johan, et al. (2009): A Safe Operating Space for Humanity. *Nature* 461: 472–75.

9. Northern Alliance for Sustainability, ANPED et al. (2012): Principles for a Fair and Green Economy. Brussels; Brand, Ulrich (2012): Green Economy – The Next Oxymoron? No Lessons Learned from Failures of Implementing Sustainable Development. *GAIA: Ecological Perspectives for Science and Society* 21 (1): 28–32.

10. Biermann, Frank (2007): Earth System Governance‹ as a Crosscutting Theme of Global Change Research. *Global Environmental Change* 17: 326–27.

11. Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, BMU (2006): Ökologische Industriepolitik. Memorandum für einen »New Deal« von Wirtschaft, Umwelt und Beschäftigung. Berlin. http://www.bmu.de/files/pdfs/allgemein/application/pdf/memorandum_oekol_industriepolitik.pdf.

12. Schepelmann, Philipp, Marten Stock, Thorsten Koska, Ralf Schüle, and Oscar Reutter (2009): A Green New Deal for Europe: Towards Green Modernization in the Face of Crisis. Brussels: Green European Foundation. http://gef.eu/publication/a-green-new-deal-for-europe-towards-green-modernization-in-the-face-of-crisis.

13. Jänicke, Martin (2008): Megatrend Umweltinnovation. Zur ökologischen Modernisierung von Wirtschaft und Staat. Munich: Oekom; Jänicke, Martin, and Klaus Rennings (2011): Ecosystem Dynamics: The Principle of Coevolution and Success Stories from Climate Policies. *International Journal of Technology, Policy and Management* 11 (3–4): 198–218.

14. Huber, Joseph (2004): New Technologies and Environmental Innovation. Cheltenham: Edward Elgar Publishing.

creation, new products and processes, and new jobs. Although such glowing results are not guaranteed, there is agreement that new policies are needed to promote system innovation toward structural changes.

The underlying understanding is that industry of all kinds – but especially manufacturing – uses energy and materials. Today, the European Union (EU27) is the biggest importer of resources worldwide, while the United States is the biggest user of resources. It is thus clear that the scope of any ecological industrial policy refers not only to the traditional »environmental industries,« including renewable energies, but also to the smart use of all resources across all industries. It is a comprehensive approach to steering economies toward sustainable development.

The State Leads the Way

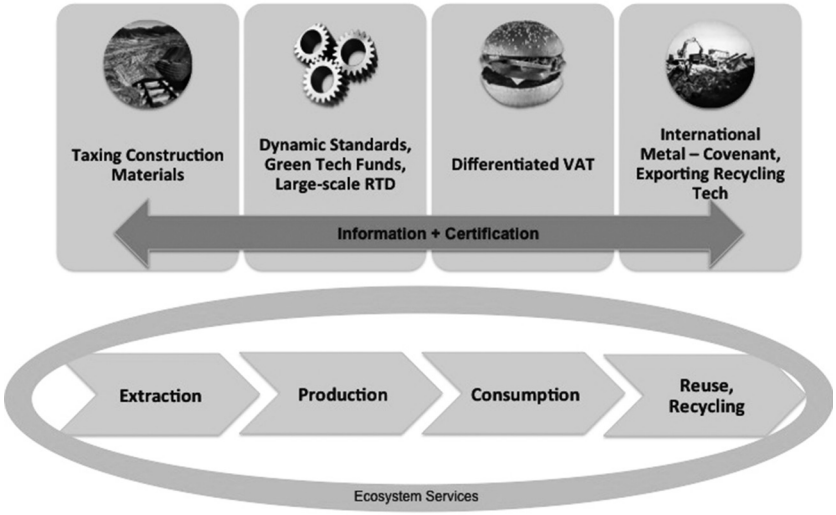
In Germany, the birth of an ecological industrial policy can be traced to Willy Brandt, the former chancellor and Nobel Peace Prize laureate who in 1961 promised a blue sky over the Ruhr area, which at the time was one of the most densely populated and polluted regions in the world. This policy developed into a driver of innovation and led to the early development of »pioneer markets« for a competitive and high-export environmental industry. German feed-in tariffs demonstrated in an exemplary manner how economic instruments can promote and stabilise market demand for innovative newcomers in energy structures where market power favors incumbents. In this case, within a few years the newcomers had emerged as world market leaders in wind energy turbines and other renewable energy technologies.

An Ecological Industrial Regulatory Framework

In its political pursuit of an ecological industrial policy since the late 1980s, Germany has developed a number of interesting instruments. The German Federal Law on Renewable Energy, with its feed-in tariffs for renewable energy, represents one of the most successful green institutional innovations in the world. Other successful instruments include the ecological tax reform, which is a set of programmes deployed by the state-owned KfW Development Bank (Kreditanstalt für Wiederaufbau), energy and material efficiency agencies at federal and state (Land) levels, as well as the EU emissions trading system for incineration plants.

Despite their positive impacts, these elements have not yet been merged into a coherent, overall framework. In certain areas, targets have been missed and created negative side effects and in other areas effective measures were compromised by exemptions. A more strategic

A Suggested Policy Mix for Material Efficiency and Resource Savings



Source: Bleischwitz and Jacob 2011.

approach should help to reduce contradictions, redundancies, and overregulation and foster more coherence and efficiency. In this regard, the consistent reduction of ecologically harmful subsidies is essential. The following illustration presents a possible policy mix for resource efficiency.[15]

Exploitation of Export Potentials

The global ecological challenges of today will increase in the future, in large part due to the dynamic growth of the emerging economies, and thereby can contribute to the emergence of green markets. This promises continued gains for eco-industries in Germany, which is a »world champion« when it comes to the export of environmental goods and services. Nevertheless, large parts of the traditional manufacturing industries are not yet embarking on this new agenda, resulting in a gap in eco-innovation that needs to be closed.[16] The extended crisis in the automobile industry, which has been exacerbated by the financial and economic crisis, illustrates the potential of plunging an entire sector into crisis, and putting large numbers of jobs at risk, when a product range is geared mainly toward prestige and consists predominantly of material- and energy-intensive goods. It also makes clear that a major sustainable business opportunity for industry will be the further development of smart, resource-efficient solutions involving new engines and designs and system integration of other mobility patterns. This development should be accompanied by other new product designs for enhancing resource efficiency.

Accelerating Systems Innovation

State procurement policies, market-launch programs, and »top-runner« approaches can contribute to the dissemination of technological innovations. In light of greenhouse gas reduction and other environmental requirements, the promotion of individual technologies should be complemented with systems innovations. Such innovations mean that research, development, and sales strategies should not only address individual technologies, but entire systems, such as value chains, sectors, and areas of need.[17] Isolated technology supply options are increasingly seen as incapable of delivering the solutions needed, so the institutional system of societal actors needs to be considered in such strategies.

This requires not only the formulation of credible, long-term goals and the creation of economic framework conditions at the macro level, but also a process that develops corresponding goals at the meso level – for example, value chains, sectors, and areas of need – and at the micro level, such as companies and households. For the development of appropriate state interventions to steer scientific and corporate strategies in the right direction, regional and local policies, in particular, offer untapped potential.[18] The regional economic development policies of districts and municipalities are key to systemic economic cooperation on the macro, meso, and micro levels.

Financing for Companies, Research, and Policy Brokerage

Financing system innovation is a top priority in light of the »valley of death« for novel ideas, that is, the difficulty of getting mass-market development financed after some earlier markets have been established. The need now exists to expand the target groups for financing beyond individual companies to include clusters of innovation ranging from research institutions to living laboratories with users and processes for setting new standards. New research programs thus should have a strong funding component for socio-ecological transitions and involve coordination with key industries rather than with single companies alone.

In industry, integrated modes of cooperation are also needed. For example, the German model of social partnership through workers councils could be used to ac-

15. Bleischwitz, Raimund, and Klaus Jacob (2011): Innovative Ressourcenpolitikansätze zur Gestaltung der Rahmenbedingungen. Ein Überblick. In: *Aus Weniger Mehr machen. Strategien für eine nachhaltige Ressourcenpolitik in Deutschland*, edited by P. Hennicke, K. Kristof, and T. Götz, 40–56. Munich: Oekom; Bleischwitz, Raimund (2012): Towards a Resource Policy: Unleashing Productivity Dynamics and Balancing International Distortions. *Mineral Economics: Raw Materials Report* 24.

16. EIO (2012): Closing the Eco-Innovation Gap: An Economic Opportunity for Business. www.eco-innovation.eu.

17. Elzen, Boelie, Frank Geels, and Ken Green, eds. (2004): System Innovation and the Transition to Sustainability: Theory, Evidence and Policy. Cheltenham: Edward Elgar Publishing.

18. Spangenberg, Joachim H. (2010): World Civilisations at Crossroads: Towards an Expansionist or a Sustainable Future. Lessons from History. *Futures* 42 (6): 565–73.

celerate the ecological modernisation of industries, especially with regard to energy and materials efficiency. Of note, macroeconomic benefits seem to be more likely if resource cost savings are reinvested in innovations rather than translated into productivity improvements and higher wages. With resource-efficient products and services becoming less expensive, however, the potential benefits for employees are tangible.[19] A self-financing mechanism for future innovation might emerge if companies and their employees can realise tangible benefits. A knowledge-based Green Economy requires new, better-quality cooperation among companies, the political sphere, research, and academia. This approach demands inter- and trans-disciplinary research and science as well as the integration of ecological considerations in training and university teaching. Applied sustainability research with a commitment to political relevance and social accountability of science should become a cornerstone of research funding, preferably on an international scale.[20]

Global Visions and Benchmarks for Ecological Industrial Policy

The German government has committed itself to doubling energy and raw material productivity by 2020, increasing the proportion of renewable energies in electricity generation to at least 35 per cent by 2030, and completing the switch to renewable power by 2050. These plans are ambitious, especially when combined with the recent decision to phase out nuclear energy and its ongoing adherence to the Kyoto commitments for reducing greenhouse gas emissions. They will also pose a considerable challenge for German industry. Ambitious domestic policies alone are insufficient in a globalised economy. A too narrow focus on domestic use of natural resources does not address the increasing shift of environmental burden from industrialised countries to other countries.[21] This issue concerns in particular the extraction of natural resources – for example, mining, fishing, biofuels, wood from tropical forests – and typically therefore the poorest populations of other countries.

The interdependencies of ecosystems and societies, along with international material flows, call for global approaches, visions, and benchmarks that take into consideration full lifecycles – from resource extraction to production and consumption of products to their disposal as industrial waste.[22] A car, for instance, can have an estimated total material requirement of some 22 tons, but even in an ambitious recycling economy such as Germany's, less than 20 per cent of the registered cars are being removed to domestic recycling facilities. The establishment of new »lead markets« thus constitutes an important part of ecological industrial policy. Primary challenges remain:

- Will these new technologies disseminate rapidly across international markets, or will structural barriers prevent markets from flourishing?

- Will international success be able to break the trend for ever-increasing material requirements of industrial consumption and production patterns?

Given the current situation, the pioneering role of the state must not be confined to the opening up of domestic lead markets, but must also include pursuing new paths in the areas of diplomacy and international governance. Taking the 1992 and 2002 Earth Summits seriously calls for a fair and ecologically sustainable distribution of global energy and resource consumption, coordination of different ecological industrial policies, and addressing structural barriers. Certainly one take-home message is that technology alone will not be sufficient to meet the challenges, and growth in gross domestic product (GDP) should not be an aim in and of itself. Rather, system innovation toward real progress – measured in social and environmental indicators – is the key issue.

19. Meyer, Bernd, Meyer, Mark, Distelkamp, Martin (2012): A Modeling Green Growth and Resource Efficiency: New Results. *Mineral Economics*: *Raw Materials Report* 24.

20. Etzkowitz, Henry, and Loet Leydesdorff (2000): The Dynamics of Innovation: From National Systems and »Mode 2« to a Triple Helix of University–Industry–Government Relations. *Research Policy* (29): 109–23; Avelino, Flor, and Jan Rotmans (2011): A Dynamic Conceptualization of Power for Sustainability Research. *Journal of Cleaner Production* 19 (8): 796–804.

21. Bringezu, Stefan, Helmut Schütz, Sören Steger, and Jan Baudisch (2004): International Comparison of Resource Use and Its Relation to Economic Growth: The Development of Total Material Requirement, Direct Material Inputs and Hidden Flows and the Structure of TMR. *Ecological Economics* 51 (1–2): 97–124.

22. Wilts, Claas Henning, Stefan Bringezu, Raimund Bleischwitz, Rainer Lucas, and Dominic Wittmer (2011): Challenges of Metal Recycling and an International Covenant as Possible Instrument of a Globally Extended Producer Responsibility. *Waste Management and Research* 29 (9): 902–10.

The German Energy Experiment and Social Innovations

Any »third industrial revolution« will create winners and losers and thus requires a Schumpeterian spirit of »creative destruction« combined with a long-term-oriented consistency and resilience among decision makers. There will be no master plan, but instead an open processes of innovations toward the desired direction, with plenty of errors and undesired outcomes that must be evaluated against their impacts. This will require social innovations with integrated assessments and forecasting capacities. In this respect, there is a demand for

- visions that are capable of motivating actors to develop new system designs that translate into business opportunities;

- experimentation at every level (including economic experiments, such as the EU emissions trading system and social experiments in participatory governance); and

- collective evaluation and decision making to draw conclusions for the way ahead.

At the moment, the effectiveness of various ecological industrial policy instruments is often counteracted by regulatory exemptions and elements of other policies. This makes ecological industrial policy inefficient, expensive, and without credibility. On the other hand, extreme social hardships must be avoided or ameliorated. An ecological industrial policy should therefore take account of the losers, but also embrace equity, clarity, and consistency.

The development of instruments and the formulation of strict policies for a Green Economy need to be based on a social consensus and on networks. In Germany, for example, clusters and structures have emerged that generate innovations in a knowledge-based and resource-efficient industry. Instruments and institutions of ecological industrial policy have produced unique forms of cooperation and cultures, such as programs for promoting renewable energy and the efficient use of energy, material and energy efficiency agencies, and Federal Workers Union (DGB) measures to promote workplace resource efficiency based on codetermination. In contrast, most neighboring states experienced changes in governments that were accompanied by disruptions in environmental policies and ensuing setbacks for eco-pioneers.

Ecological industrial policy depends on commonly shared perspectives across a majority of actors in a society, political leadership, and a complement of bottom-up innovation networks. In Germany, a broad-based environmental movement – including a green political party, green banks, ecological farms, green energy suppliers, ecological research institutes, ecological manufacturing industries, green labels and distribution networks – contributed to a societal consensus, which is reflected in the programs and strategies of the political parties. Civil society provided essential parts of the knowledge base and the mass markets for low-energy buildings, recycling, renewable energies, and ecological food production. The current Energiewende is inconceivable without these pioneering activities!

Innovative German companies and networks in civil society have been supported through intelligent policies. In the energy sector, for example, the government introduced instruments such as feed-in-tariffs (StromEinsparG, EEG), amendments to building regulations (BauGB), a so-called Market Incentive Programme, as well as effective private financing instruments for energy efficiency and renewable energies. These instruments were implemented by a number of intermediate institutions, such as federal and state agencies, the state-owned KfW Development Bank, and a network of consumer organisations. Network ties have been essential dissemination mechanisms, operating smoothly below the level of official political rhetoric. In conclusion, steering processes via capacity-building and network activities are at least as important as decent incentives and the right framework conditions.

As a result of Germany's policy approach, the renewable energies industry doubled its energy production in one decade (1990 to 2000) and again in half the time (between 2000 and 2005). Between 2005 and 2010, production continued to increase, from about 60 to more than 100 TWh in 2010. German investments in 2010 in the construction of renewable energy installations amounted to about EUR 26.6 billion. The renewable energies sector now contributes to almost 3 per cent of German GDP. In 2008 the German renewable energies industry exported goods and services with a value of approximately EUR 12 billion. The global market share of German wind energy is about 25 per cent. It is world champion in installed photovoltaic energy production and the second largest user of wind energy facilities.

Between 2004 and 2010, employment in the booming German renewable energies industry rose by almost 130 per cent, to about 370,000 jobs.

Triggered by the Fukushima catastrophe, Germany's active civil society forced the conservative-liberal federal government to change its previous stance by implementing a nuclear phase-out along with ramping up renewable energies and pursuing energy efficiency. This has been accompanied by the release of the first national program on resource efficiency, which is still merely descriptive in identifying activities at the regional and sectoral levels, but also lays out a structure from which future action can emerge. The next few years will be decisive for demonstrating that real progress can be accomplished through new investments in distribution systems and social innovations in strategic management, consumption, and planning.

Conclusions

Transition toward sustainable societies can only be realised if there is a clear commitment beyond single green technologies that addresses the systemic dimension of eco-innovations. The challenge today is to demonstrate the ability of industrial economies to integrate clean technologies into entire distribution systems and to cope with such enduring issues as open loops for consumer goods, heavy traffic, and trends to shift ecosystems into settlements. The new strategies would lead ultimately not only to low-carbon energy systems, but to a system-wide low-input metabolism for industrial societies along with resource efficiency in manufacturing, international recycling schemes and recovery of precious materials, green infrastructures, sustainable agriculture, and better use of ecosystems.[23] This approach goes beyond what is today seen as ecological industrial policy because it implies considering (1) the socio-institutional dimension, (2) comprehensive indicators, such as total resource requirements plus the use of land and water induced by globalised value chains, and (3) strengthened international cooperation. In more strategic terms, such globally coordinated ecological policy will balance international distortions and target lead markets worldwide. Based on observation, the support in emerging economies and many developing countries is conceivably much higher for comprehensive resource policies than it is for carbon dioxide reduction and general environmental policies!

23. Bringezu, Stefan, and Raimund Bleischwitz, eds. (2009): Sustainable Resource Management. Sheffield: Greenleaf Publishing.

The Green Economy and Sustainable Development in Sub-Saharan Africa

Fazila Farouk

Christian Aid, a UK charity, predicts that by the end of this century, Africa could bear witness to 185 million deaths linked to climate change diseases.[1] Africa remains the continent most vulnerable to the effects of climate change due to its high levels of poverty, underdevelopment, and unemployment. Thus, giving expression to the principles of a Green Economy and sustainable development as envisioned by the United Nations Environment Programme (UNEP) – with its multifaceted goal of economic growth that also leads to equitable social development and poverty eradication while prioritising the protection of the environment and mitigating the effects of climate change – is a noble pursuit for the people of Africa.

African Countries Tread with Caution

As Green Growth is largely an agenda that has its origins in the West, there have been concerns emanating from African nations about how it will affect economic development on the continent, particularly as advanced economies are in a stronger position with respect to the development of Green Economy technologies, which African economies cannot compete against. Many African countries also question whether Green Economy solutions can be inexpensively adopted at scale, as opposed to cheaper fossil fuel solutions, through which countries already possess a comparative advantage. Examining the political economy of Green Growth in Southern Africa, Danielle Resnick and her colleagues argue, »Green Growth policies often encourage developing countries to redesign their national strategies in ways that might be inconsistent with natural comparative advantages and past investments.«[2]

Moreover, the Green Economy Coalition, a global network of organisations that promotes the transition to a Green Economy, reached a similar conclusion. In an attempt to understand how governments around the world are positioning themselves on the issue of a Green Economy, the coalition conducted an analysis that drew on country-level »zero draft texts« submitted to the United Nations Conference on Sustainable Development. The coalition found that least developed countries, a large majority of which are in Africa, »remain fearful of the full implications of a transition to a Green Economy and the potential impact that Green Economy strategies in industrialised countries will have on their own economic prospects.«[3] There is sufficient evidence available to support this concern.

The African sustainable development landscape is littered with a variety of multilateral agencies (notably, UN agencies), international aid agencies, international NGOs, and foreign companies. This is evident by their participation in so many African development projects. Moreover, when the Green Economy Coalition analyzed the sustainable development themes and policy areas around which major stakeholders are circling, they identified a number of international players as key stakeholders.[4] Japan, for example, in consultation with a range of African countries in May 2011 in Dakar, Senegal, has developed a draft outline »African Green Growth Strategy: Toward Low-Carbon Growth and Climate Resilient Development.« Japan intends to present a final report of the strategy to the IMF–World Bank general assembly meeting to be held in Tokyo in autumn 2012.[5]

1. The Climate of Poverty: Facts, Fears and Hope. A Christian Aid Report, May 2006. http://www.christianaid.org.uk/Images/climate-of-poverty.pdf.

2. Danielle Resnick, Finn Tarp, and James Thurlow: The Political Economy of Green Growth: Illustrations from Southern Africa, UNU-WIDER, Working Paper 2012/11, February 2012. http://www.wider.unu.edu/stc/repec/pdfs/wp2012/wp2012-011.pdf.

3. Green Economy Coalition: Green Economy: Everyone's Talking about It – An Analysis of the UNCSD Zero Draft Text Submissions. http://www.greeneconomycoalition.org/sites/greeneconomycoalition.org/files/Analysis%20of%20UNCSD%20submissions%20for%20Rio%202012%20%28F%29.pdf.

4. Ibid.

5. Japan /Announcement of the Draft Outline of the »African Green Growth Strategy: Toward Low-Carbon Growth and Climate Resilient Development,« NigeriaNewsDaily.com, 7.12.2011. http://nigerianewsdaily.com/nigeria-news-more/nigerianews-africa/14918-japan--announcement-of-the-draft-outline-of-the-qafrican-green-growth-strategy-toward-low-carbon-growthand-climate-resilient-developmentq.html.

Nevertheless, the experience of and commitment to sustainable development in Africa is varied. One should not forget that Africa remains a continent with the highest levels of mineral wealth on the planet, including large amounts of fossil fuels, which African governments as well as local elites and international corporations eagerly exploit for political expedience and for profit. While making every attempt not to be overly simplistic or pessimistic about the reality on the ground, »Green Economy« initiatives still take a back seat to serious no-holds-barred natural resource exploitation on much of the continent, even in cases where there is a political commitment to sustainable development. »There are often sizeable antireform coalitions whose interests may conflict with a Green Growth agenda,«[6] argues a team of writers assessing the political economy of Green Growth in Southern Africa. It can be argued that discernable momentum exists to adopt Green Growth as a strategy, but thus far projects are disjointed and do not possess a transformative effect in terms of changing the economic pathways of African countries, many of which still depend on dirty industries as the drivers of their economies.

Africa's Big Economies and Green Growth

Many of sub-Saharan Africa's bigger economies do buy into the idea of a Green Economy as an engine of growth for their countries, and some African leaders have been enthusiastically talking it up in recent years, even if only at the level of rhetoric. African countries that have been identified by the Green Economy Coalition as »actively engaged in the concept of the Green Economy« include Botswana, Ghana, Kenya, Nigeria, and South Africa.[7]

Nigeria

Although Nigeria, Africa's biggest economy on the west coast, is identified as a country that actively engages with the concept of a Green Economy, it remains tied to its dirty oil industry. Nigeria is Africa's largest oil-producing country and the damage that big oil companies have done to sensitive environmental areas like the Niger Delta, as well as the harm to the health and livelihoods of communities living in this sensitive biosphere, has been widely documented and is well-known internationally.

Rather than a singular Green Economy strategy, Nigeria has a basket of policies aimed at climate change, adaptation, and renewable energy,[8] and the policies appear to be developing alongside the country's extractive oil industry. It is not clear if, when, or how Nigeria's renewable energy sector will intersect with its massive extractive oil industry to bring about reform in this well-established sector, which has powerful corporate and political backers.

To date, what has emanated from Nigeria with respect to Green Economy initiatives is an announcement about the country's first wind farm going online in Katsina province. The wind farm, funded by the Japanese International Cooperation Agency, will contribute 10 megawatts to the national grid. A small portion of this will be diverted to Katsina province's university. Nigeria has also announced plans to develop a »green city« in Abuja. According to one media report, »The proposed Abuja Green City will cover 2,000 hectares and will comprise of the ›very best‹ green technologies available, with about 350 hectares of woodland.«[9] Reading through the media report, however, it becomes evident that this project is aimed at high-end consumers who will in all likelihood live in a gated community, albeit climate friendly. The likelihood of the project's benefits feeding into a broader sustainable development agenda, particularly as it relates to long-term employment generation and poverty alleviation, appears limited. Nigeria will likely announce more Green Economy projects with time, but it, like many African countries, is definitely a country worth monitoring to see if these initiatives transcend mere window dressing.

Kenya

Kenya, Africa's biggest economy on the east coast, has embraced the »right to a clean environment« as a guaranteed right in the country's newly adopted con-

6. Resnick, Tarp, and Thurlow: Political Economy of Green Growth.

7. Green Economy Coalition: Green Economy.

8. Green Economy Will Boost Nigerian Economic Recovery – Environment Minister, *Afrique Avenir*, 8.9.2011. http://www.afriqueavenir.org/en/2011/09/08/green-economy-will-boost-nigerian-economic-recovery-%E2%80%93-environment-minister/.

9. Nigeria Plans »Abuja Green City« with Zero Emission, *Afrique Avenir*, 6.8.2011. http://www.afriqueavenir.org/en/2011/08/06/nigeria-plans-%E2%80%98abuja-green-city%E2%80%99-with-zero-emission/.

stitution.[10] Only 18 per cent of Kenyans have access to electricity, and the government is still »work-shopping« what its sustainable development and Green Economy policies will eventually look like. In the meantime, Kenya has been working closely with UNEP, which has helped the country map out a number of wind and solar projects. Consequently Kenya will host Africa's largest wind farm, which will go online in December 2013.

The wind farm, to be hosted in the country's Turkana region, will contribute to about 20 per cent of Kenya's energy needs. The project is being developed by a consortium of international players among which can be counted a Dutch company, the South African Industrial Development Corporation, and the Norwegian Investment Fund for Developing Countries. The consortium has argued that as part of its social responsibility program, four local towns in the Turkana region will gain access to the wind-driven energy project through the establishment of four electricity substations and that local people will be employed on the project during its building and maintenance phases.[11]

Kenya is a unique case in point; the country took the lead in developing alternative energy sources primarily because it did not possess fossil fuels to exploit. All this, however, is about to change. In March 2012, the British oil firm Tullow announced that it had discovered vast oil reserves in Turkana, the same region as Kenya's enormous wind farm.[12] It is still too early to speculate on how the Kenyan government will respond to this discovery, but the temptation to join Africa's oil giants may ultimately turn out to be too attractive for the country's elites.

South Africa

South Africa, the continent's southern economic powerhouse, is well regarded internationally as a country that understands and cares about sustainable development. South Africa even produced a Green Economy Accord in the run-up to the December 2011 United Nations Climate Conference (COP17), which was hosted on its soil. Despite the adoption of the accord and much noise about job creation via a Green Economy, the major drivers of the economy in South Africa are still steeped in dirty technologies. As recently as 2008–2009, the World Bank and African Development Bank approved loans equivalent to almost 2 per cent of South Africa's national income for the development of new coal-fired generators.[13]

South Africa is one of the largest greenhouse gas-emitting countries in the world and will continue to be for some time. The contrast between South Africa and countries with a serious commitment to sustainable development is stark. Whereas a country like Germany looks set to meet its target of generating 40 per cent of the country's energy needs from renewables by 2020, »South Africa is locked into coal-fired electricity until at least 2020.«[14]

Efforts to transform the situation are hindered by political decision making, as the switch to renewable energy requires a massive financial investment, the cost of which will be passed along to consumers. With almost 40 per cent of South Africans unemployed or underemployed, this remains a politically unpopular choice. Moreover, local extractive industry giants continue to pressure the South African government to extract the country's abundant coal reserves as the primary source of energy. This does not help the transition to a Green Economy.

Even more problematic is the fact that South Africa is touting nuclear energy as clean energy, and despite a strong local environmental lobby coming out against it, the country has recently announced investments worth hundreds of billions of rands for the development of three nuclear power plants with up to a total of six reactors. This is taking place while international sustainable development trends are moving in the opposite direction. Germany, for example, permanently shut down eight of its nuclear power plants in 2011 and is on track to decommission all of them by 2022. For its part, Japan, struck by the Fukushima nuclear disaster in 2011, shut down the last of its 54 nuclear reactors on 5.5.2012 (at least temporarily) amid tremendous public pressure for

10. UNEP Green Economy, Advisory Services: Kenya: Moving Towards A Green Economy, 24.6.2011. http://www.unep.org/greeneconomy/AdvisoryServices/GreenEconomyWorkshopinKenya/tabid/56137/Default.aspx, discussing the First Green Economy National Workshop, held in Nairobi.

11. Clar Ni Chonghaile: Kenya To Host Sub-Saharan Africa's Largest Windfarm, *Guardian*, 28.3.2012. http://www.guardian.co.uk/global-development/2012/mar/28/kenya-to-host-largest-windfarm-turkana.

12. Nigeria Plans »Abuja Green City«.

13. Resnick, Tarp, and Thurlow: Political Economy of Green Growth.

14. Ibid.

the country's denuclearisation. Public sentiment is obstructing any plans authorities may have to restart the plants as well as forcing the introduction of new legislation to double Japan's use of renewable energy.[15]

Worth Mentioning

Ethiopia also stands out with respect to the Green Growth agenda. Prime Minister Meles Zanawi led the African Union delegation at COP17, and Ethiopia has developed a 20-year Green Growth strategy valued at USD 150 billion, which it is trying to flog to international investors. Ethiopia is the first nation in Africa to go online with a wind farm, in the country's arid north and run by the Vergnet Groupe, a French company. The project is not, however, without controversy.

Approximately 700 farmers lost some or all of their land to the wind farm. The farmers have argued that they were insufficiently compensated for the loss of their land, undermining their livelihoods. Worse still, the outputs of the project bypass them, because the electricity generated by the wind farm feeds into the national grid. More than half of Ethiopia's population remains off the national grid, including, apparently, the people living in the vicinity of the country's first wind farm.[16]

Conclusion

There is always lively debate in Africa about the trade-offs inherent in the adoption of Green Growth strategies. Current initiatives are a reflection of the careful political balancing act in countries juggling the multiple problems of poverty, unemployment, and underdevelopment. Political elites must contend with the added pressure of creating access to and providing affordable energy for an underprivileged electorate. In this regard, short-term and unsustainable goals often win out over long-term sustainable goals, as the case of South Africa clearly demonstrates. This situation makes achieving the goals of sustainable development via Green Growth somewhat challenging.

Overall, it can be concluded that present-day Green Economy projects in Africa do not meet the goals of sustainable development as espoused by the UNEP and that they are driven by varied agendas that cannot always be linked to the most honorable intentions. Projects remain small or disjointed and their transformative effect in terms of meeting the social, economic, and environmental goals of sustainable development are still limited. Policy proposals, in particular, are thin on substantive measures to combat climate change while at the same time achieving scalable sustainable economic growth that also pulls people out of poverty – Africa's biggest problem.

15. Catherine Mitchell: Japanese Energy Policy Stands at a Crossroads, *Guardian*, 3.5.2012. http://www.guardian.co.uk/environment/2012/may/03/japan-nuclear-power-post-fukushima.

16. Ethiopia: Wind Farm Fuels Country's Green Power Ambitions, *AllAfrica.com*, 11.12.2011. http://allafrica.com/stories/201112120249.html.

Green Economy Challenges in the MENA Region

Mohamed Abdel Raouf Abdel Hamid

The countries of the Middle East and North Africa (MENA) region have a diverse population of more than 300 million people,[1] more than half of whom are under 25 years of age. The region's gross domestic product (GDP) was reported to have exceeded USD 2.5 trillion in 2009.[2] One United Nations Development Programme study categorised its economies as follows:

- diversified economies: Egypt, Jordan, Lebanon, Morocco, Syria, and Tunisia – with 46 per cent of the population and 34 per cent of GDP;

- mixed oil economies: Algeria and Libya – with 12 per cent of the population and 12 per cent of GDP;

- oil economies: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE – with 12 per cent of the population and 45 per cent of GDP; and

- primary export economies: with Comoros, Djibouti, Mauritania, Sudan, and Yemen – with 20 per cent of the population and 5 per cent of GDP.[3]

Employment is one of the most important challenges facing the MENA region. Unemployment averages around 13 per cent, and the region needs to create some 50 million jobs by 2020, mostly for youths.[4]

The MENA region possesses approximately 58 per cent of the world's proven crude oil reserves and 30 per cent of its proven natural gas reserves. The region's economies are highly dependent on oil and gas as primary sources of energy, with 53.6 per cent of its electric energy generated by oil in 2008 and 43.9 per cent by gas. Other sources, such as hydropower, coal, and renewables, were responsible for about 2 per cent of its energy.[5]

In 2008 emissions from fuel combustion in the MENA region totaled 1,310.2 Mt-CO_2 equivalent, representing approximately 4 per cent of all global emissions, and was commensurate with the population and area proportions of the MENA region.[6] The region produces some 250,000 tons of solid waste daily, with most of it disposed untreated in dumps. Less than 20 per cent is properly treated or deposited in landfills, and no more than 5 per cent of it is recycled. Demolition and construction debris is an emerging issue stemming from rapid economic development. Water scarcity is a traditional problem in the region, with more than 80 per cent of water resources being used for agriculture.[7] The macroeconomic commonalities among MENA countries include the following:

- low and volatile economic growth;

- budgets dominated by social programs, particularly ones devoted to education (6 per cent of GDP compared to 4 per cent in East Asia and 4 per cent in Latin America)[8] and generally non-targeted food subsidies;

- balances of payments dominated by remittances of emigrants and exports of oil and other natural resources;

- value-added industries and services representing a low share of total exports;

- low levels of intra-regional trade.

1. The MENA Region in the International Arena. http://www.opec.org/opec_web/en/2211.htm (accessed May 2012).

2. Founder of Arab Global Forum on Fox News, Egypt: Closer Than You Think, 3.12.2009. http://www.modernegypt.info/online-newsroom/e-alerts/founder-of-arab-global-forum-on-fox-news (accessed May 2012).

3. Development Challenges for the Arab Region, 2 vols. New York and Cairo: United Nations Development Programme and League of Arab States, 2009.

4. Ibid.

5. Organization of Arab Petroleum Exporting Countries, Annual Statistical Report, 2008.

6. International Energy Agency, CO2 Emissions from Fuel Combustion (2010): Highlights.

7. Arab Human Development Report (2009): Challenges to Human Security in the Arab Countries. New York: United Nations Development Programme.

8. The Road Not Traveled: Education Reform in the Middle East and North Africa, Washington, D.C.: World Bank (2008).

- significant contributions by agriculture to GDP in many countries (more than 30 per cent in Sudan; 15 to 20 per cent in Egypt, Morocco, and Syria; and 10 to 15 per cent in Tunisia and Mauritania)[9];

- lack of regional peace and security, which directly hinders the sustainable and effective management of shared water resources and ecosystems.

The MENA region must confront two sets of challenges. The first involves traditional issues, such as water scarcity, pollution, loss of biodiversity, desertification, poverty, unemployment (particularly among youths), migration, energy security, and peace and security. The second consists of emerging problems, such as the short-term economic implications of the Arab Spring, climate change and adaptation, consequences of the global financial crisis, uncontrolled urbanisation, and food security. The MENA region is at a turning point in its history as citizens continue to challenge the established order, demanding political freedoms and real democracy, better standards of living, fair distribution of national wealth and resources, employment opportunities, and so on.

In the short term, the region will suffer significant negative impacts stemming from political upheaval, such as drops in foreign direct investment, remittances, and tourism income as well as compromised security. All of these factors will negatively affect economic growth. Uncertainties surrounding the exact nature of future governing and institutional frameworks and macroeconomic and environmental policies in each country have already slowed economic activity and negatively impacted investment. In the long term, however, the Arab Spring and the sociopolitical transformations in the region represent a real opportunity for positive reforms and reconsideration of development priorities, notably regarding social justice and job creation and adoption of Green Economies in the context of sustainable development.

Generally speaking, strong doubts exist about the concept of a Green Economy, especially considering the lack of an agreed upon definition of the term. Some of the MENA countries, Egypt among them, are blocking negotiations on Green Economy in the Rio+20 process. MENA countries in general have positioned themselves alongside the Group of 77 and China during Rio+20 negotiations and have reaffirmed the »polluter pays« principle as well as the »common but differentiated historic responsibility.« In addition, they want any definition that might be approved to be considered a tool for achieving sustainable development, not a substitute for it. They also insist that any transitions to a Green Economy be gradual. MENA countries assert that a Green Economy

- should be defined according to each country's economic specificities, status, and priorities;

- should not be a pretext for implementing trade barriers;

- should not limit the right of developing countries to utilise their natural resources;

- should not be a basis for providing financial support and assistance;

- should help in accessing financial tools for green investment across sectors, not just those focused on climate mitigation and low-carbon Green Growth.[10]

A Green Economy requires a multidisciplinary, multistakeholder, and multisectoral approach. The MENA region can point to a number of success stories within the Green Economy context. Such initiatives are, however, fragmented, small, and sector specific. Many Green Economy initiatives in the region are focused on renewable energy (RE) and low-carbon industries and cities as well as RE legislation. In Egypt for instance, the Renewable Energy Authority in 2009 introduced a proposed new energy law that is still under discussion. In general, countries in the MENA region lack the proper governance for creating and sustaining a Green Economy (or even renewable energies), and this is, in fact, the main obstacle to guaranteeing real, smooth, and stable transitions from traditional economies in the region.

Within the context of Green Economy transitions, governance is defined as »a collective design and execution of common actions towards achieving common goals

9. Development Challenges for the Arab Region.

10. Mohamed Abdel Raouf: Rio plus 20 a window for the Arab world, 28.10.2011. http://gulfnews.com/opinions/columnists/rio-plus-20-a-window-for-the-arab-world-1.919737 (accessed April 2011).

for a specific society.«[11] This means that clear goals must be identified and recognised by all stakeholders in the society. In other words, a participatory approach for the development process is necessary, as well as a clear allocation of authority and responsibilities, agreed values, accepted rules and institutions, and negotiation processes when different views exist. In this regard, a policy mix of command and control (standards and regulations), economic instruments (incentives, taxes, etc.), and awareness, education, skills development, and capacity and institution building are required for the transition toward a Green Economy. In terms of RE Governance, countries in the MENA region can be categorised as follows in Table 1:

The MENA region has immense potential for producing solar and wind energy, which could contribute to addressing the progressive growth of energy and water demand, improving energy security, and mitigating climate change impacts. The potential of solar energy resources is excellent in all MENA countries with an annual global radiation varying between 4 and 8 kWh/m2. Several countries have good wind energy resources (8–11m/sec), and some have initiated plans for RE, including the following:

- Morocco: rural photovoltaic (PV) electrification, wind farms, concentrating solar power [CSP], etc. – 4,000 MW by 2020
- Egypt: wind farms, CSP, etc. – 7,200 MW by 2020
- Algeria: Boughzoul low-carbon city project, funded by the Global Environment Facility – 13,000 MW by 2030
- United Arab Emirates: Masdar zero-carbon city project, funded by the Abu Dhabi government[12]

Subsidies for fossil fuels and conventionally generated electricity represent major obstacles to the deployment of renewables and the transition to a Green Economy in the MENA region. In the short term, they are essential for social stability and are therefore difficult to eliminate. In the long term, the gradual removal of such subsidies and governmental intervention to overcome the market distortions favoring fossil fuels will be required for implementing the transition toward a renewable energy supply. Despite the well-known environmental and economic concerns involving nuclear energy, a recent trend and plans in some MENA countries toward utilising nuclear power for generating electricity represents another challenge to the adoption of renewable energy sources and a Green Economy.

It is important that the MENA region focus not only on diminishing the carbon content of existing activities (»greening the brown«), but that it also carry out new activities to refocus policies and investment toward Green Economic sectors (»growing the green«), such as water, urban development, low-carbon transport, renewable

Table 1: Status of Renewable Energy Governance in the MENA Region

Country	Targets and Policy	Challenges
Algeria, Egypt, Jordan, Tunisia, Morocco	Policy with targets	Financing, technology transfer, regulatory framework
Gulf Cooperation Council states	Targets without policy	Policy and strategy, capacity building, awareness
Lebanon, Iraq, Mauritania, Sudan, Syria, Yemen	Lack of targets and policy	Financing, policy, technology transfer, capacity building, awareness

Source: Mustapha Taoumi: Renewable Energy in the MENA Region: Opportunities and Challenges (paper for the renewable energy and green jobs conference, Dead Sea, 27.–28.3.2012).

11. Mohamed Abdel Raouf: Environmental Governance in GCC Is Key, *Gulf News*, 23.11.2011. http://gulfnews.com/opinions/columnists/environmental-governance-in-gcc-is-key-1.871590 (accessed 25.5.2012).

12. Mustapha Taoumi: Renewable Energy in the MENA Region: Opportunities and Challenges (paper for the renewable energy and green jobs conference, Dead Sea, 27.–28.3.2012).

energies and energy efficiency, and sustainable agriculture as well as changes in production and consumption patterns. Agriculture is a sector with great potential for greening economies, not only because of its share of GDP, but also because it accommodates the highest proportion of labor force compared to other sectors in the MENA region. The countries of the region must develop an index, such as a »green GDP,« or an »environmentally adjusted GDP« in line with the »beyond GDP principle.« In this regard, it is worth mentioning that none of the MENA countries has a system for environmental statistics and accounting – »green accounting« – which is a prerequisite for shifting toward a Green Economy.

There are a number of other actions and enabling conditions that MENA countries will need to undertake to transition to a Green Economy. It is important that they strengthen the role of the private sector and civil society through partnerships, especially in promoting national education and research and development systems and improving vocational training. Demand for a Green Economy should be fostered through increased awareness and understanding among consumer groups and civil society. Free dissemination of environmental information is a key enabling condition for the shift toward a Green Economy.

Policy makers should also mainstream Green Economy principles into national development plans and regional agendas to create new financial mechanisms and policies that support investment in green sectors and technologies. This includes the areas of sustainable public procurement, environmental taxation, green investment incentives, and green financing. In this context, activating and supporting the Arab Environment Facility is central. Some MENA countries have already begun devising legislative frameworks for sustainable development, but passage and enforcement remain problems.

A Green Economy should not be seen only as revolving around industrial policies or low-carbon activities. In fact, it embraces a wide range of policies covering all productive and environmental sectors, including the regulations and reforms required for the transition to a Green Economy. Institutional settings will need reforming at all levels in the MENA region in order to ease the path to green economies. This transition necessitates improved coordination between sectorial strategies, increased involvement of local authorities, and a shared vision among all the MENA countries. Regional integration should be accelerated while boosting technological transfer and localising technology.

Beginning with the inception stage of green projects, a monitoring and evaluation framework will be needed to constantly measure the economic and social impacts of Green Economy activities within the region. It is worth mentioning that the Green Economy concept aims to encourage new, value-based growth by incorporating social and environmental considerations in the growth process. It must also be pointed out that many of these values are already part of local Islamic cultures in the MENA region.

A meeting of environment or economic ministers held at Arab League headquarters in Cairo on 19.4.2012 reaffirmed the position issued at a previous preparatory meeting for Rio+20. It asserted, however, the right of Arab countries to diversify energy sources, including use of RE and nuclear energy, to achieve sustainable development. Issues involving oceans, seas, and coastal areas, sustainable cities, a new convention on principle 10 (access to information, participation, justice), as well as sustainable development goals (SDGs) were not addressed.

The Case of Tunisia

Despite successes on some fronts concerning the environment, education, renewable energy, and economic diversity, Tunisia is the country that triggered the Arab Spring. The economic repercussions of the Tunisian uprising are significant: since the beginning of 2011, tourism has decreased by 50 per cent, industrial output by 12 per cent, and remittances from Tunisians by 12.5 per cent. In addition, because of the upheaval in Libya, Tunisia also lost the benefits of a flourishing trade with this neighboring state and has had to manage an increasing flow of refugees.[13]

The economic success of Tunisia's transition depends on its ability to respond adequately to the tremendous social expectations of the population without further increasing budget deficits. The creation of new green

13. Nizar Maqni: One Year after the Revolution: The Tunisian Economy Is in the Red, *al-Akhbar*, 19.12.2011. http://english.al-akhbar.com/content/one-year-after-revolution-tunisian-economy-red (accessed 25.5.2012).

jobs and resulting social changes or consequences are vital for Tunisia. The Green Economy theme of Rio+20 addresses »Green Economy within the Context of Sustainable Development and Poverty Eradication.« This means that a Green Economy should at its heart take into account social issues. Tunisia is also faced with transferring companies – representing 33 per cent of total GDP and »illegally owned« under past governments – to new owners without harming or halting industrial activity.[14]

The figures available from the Arab Labor Organization (2005–2006) placed the Tunisian unemployment rate at 27 per cent. In 2010, Tunisia's urban population stood at 67.3 per cent; the MENA regional average was 66.3 per cent.[15] With an annual per capita distribution rate of less than 1,000 cubic meters, Tunisia faces a significant water scarcity problem. Agricultural productivity has increased since the 1990s. The total agricultural land share stands at 63 per cent of total land, and the total cultivated land share stands at 5 per cent of total agricultural land.[16] Although Tunisia's legislative framework has significantly improved, actual management of the environment continues to suffer from various deficiencies, leading to a cost of annual environmental degradation rated at 2.1 per cent of GDP. In regard to a Green Economy, Tunisia shares the challenges of the other MENA region states. Tunisia is, however, the region's leader in renewable energy, with RE providing 16 per cent of its power.[17]

The Tunisian experience in RE, green jobs creation, and green financing has been beneficial and continues to hold great promise.[18] Between 2005 and 2008, clean energy initiatives allowed the government to save USD 1.1 billion in energy costs relative to initial investments of USD 200 million in clean energy infrastructure. In December 2009, the government presented the first national Solar Energy Plan and other, complementary initiatives. The plan includes the use of solar PV systems, solar water heating (SWH) systems, and solar concentrated power units for electricity generation. The total financial cost to implement the plan has been estimated at USD 2.5 billion, including USD 175 million from the National Fund, USD 530 million from the public sector, USD 1.6 billion from private-sector funds, and USD 24 million from international institutions and foreign governments. The funding is to be invested by 2016 on 40 renewable energy projects. Approximately 40 per cent of the resources are devoted to the development of energy export infrastructure. The energy savings expected to result from the Solar Energy Plan could reach 22 per cent by 2016, with an annual reduction of 1.3 million tons of carbon dioxide.

The Tunisian Solar Programme (PROSOL) – a joint initiative of the Tunisian National Agency for Energy Conservation, the state-run Société Tunisienne de l'Electricité et de Gaz (STEG), the United Nations Environment Programme, and the Italian Ministry for the Environment, Land, and Sea – provides a good model for solar thermal market development. Its financial and fiscal support combines a capital grant qualifying for a VAT exemption, customs duty reductions, and a bank loan with a reduced interest rate. Repayment of the loan is organised through the regular utility bill of STEG, with local banks receiving support that allows them to finance solar water heating (SWH) projects at reduced interest rates.

This arrangement has generated direct financial benefits for end users as well. This is evident from a comparison of monthly installments for an SWH system to earlier electricity bills. A complementary interest rate subsidy was available during the first two years (2005–2006) of the program, which for the end user reduced the interest rate on the loan to 0 per cent. This support was removed in 2007, and since then the annual interest rate for loan repayment has been 6.5 per cent. The government provides a subsidy of 20 per cent of the system cost, or USD 75 per square meter, while customers are expected to finance a minimum of 10 per cent of purchase and installation costs.

More than 50,000 Tunisian families now get their hot water from the sun as a result of loans amounting to some USD 5 million in 2005 and USD 7.8 million in 2006 – a substantial leverage of PROSOL's initial cost of

14. Economic and Social Commission for Western Asia: Green Economy in the Context of Sustainable Development and Poverty Eradication Principles, Opportunities and Challenges in the Arab Region (Report presented to the Arab Regional Preparatory Meeting for the United Nations Conference on Sustainable Development, Rio+20, Cairo, 16.–17.10.2011).

15. United Nations Program on Human Settlements: Status of Urban Development in the Arab Cities, 2010–2011. http://www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=3320 (accessed 6.6.2012).

16. Economic and Social Commission for Western Asia: Green Economy.

17. Jouda Bouattour, »Renewable Energy in the MENA Region: Opportunities and Challenges« (paper for the renewable energy and green jobs conference, Dead Sea, 27.–28.3.2012).

18. Economic and Social Commission for Western Asia: Green Economy.

USD 2.5 million. With installed solar panel surfaces already totaling 400,000 square meters, the government set a more ambitious target of 750,000 square meters for the period 2010–2014, a level comparable to those of much larger countries, including Spain and Italy. As of 2008, PROSOL had prevented the emission of 214,000 tons of carbon dioxide. The program created jobs as 42 technology suppliers were officially registered for it, and at least 1,000 companies installed the systems. PROSOL's experience demonstrates the potential returns on investing in renewable energy, including creating new jobs and reducing dependence on fuel imports.

The Millennium Institute recently released a study predicting the impact of an investment of 2 per cent of GDP in a Green Economy in Tunisia, as representative of a lower-income and small economy. The report found that up to 307,190 job opportunities – a share of around 10 per cent of employment in the energy, construction, water, and agriculture sectors – could be created with a total investment of USD 2.9 billion over five years (see Table 2).

Table 2: Green Economy Investment: Potential for Job Creation in Tunisia, Select Sectors

One-year Job Creation, Low	45,411
Share of Employment*	1.4%
Five-year Job Creation, Low	227,055
Share of Employment	7%
One-year Job Creation, High	61,438
Share of Employment	1.9%
Five-year Job Creation, High	307,190
Share of Employment	9.5%

* In the energy, construction, water, and agriculture sectors.

Source: International Trade Union Confederation, »Growing Green and Decent Jobs,« http://www.ituc-csi.org/growing-green-and-decent-jobs,11011.html.

The Arab Spring and subsequent sociopolitical transformations occurring opened doors for more hopes and calls from various actors, especially civil society and political parties, for the adoption of a Green Economy as a tool for sustainable development by creating jobs and fighting poverty. One can say that in Tunisia, compared to other MENA countries, there is an increasing awareness among people, especially youths, about decent green employment opportunities. There is still a lot to be done to raise public awareness about the Green Economy concept. Media are covering Green Economy issues, but to a lesser extent when compared to political and other economic issues. The major concern is the cost of the transition toward a Green Economy, especially while the country is suffering from the negative consequences of the uprising and the global financial crisis.

Sustainable Growth and the Role of Green Economy Concepts in India

Mini Govindan

Context

The model of a Green Economy has become the center of policy debates and will be one of the major themes of Rio+20, the United Nations Conference on Sustainable Development, to be held in June 2012. Visions of a Green Economy have assumed different meanings and definitions from country to country depending on national strategies and priorities. This paper looks at the current state of the Green Economy in India along with the recent debates and discourses on this important issue. It also discusses the crux of civil society discourses on green economies and India's position on and expectations for Rio+20.

The Status Quo of »Greening« the National Economy

In most underdeveloped and emerging economies, general discussion of a Green Economy is still at a nascent stage. This is largely due to the perception that »Green Growth« is always less than »standard« Keynesian growth and costlier. As these countries have large concentrations of the world's poor and negligible social overhead capital, their utmost priority is to increase income so that the state can ensure distribution and investment in a way that lifts people out of poverty and creates a conducive atmosphere for private investment. In other words, many of these countries are still in between W. W. Rostow's second and third stages of economic growth.

In India – a country with one-third of its population living below the poverty line – the discussion about Green Growth began, to a certain extent, only after the economy had experienced increased growth in the last decade. It has become one of the leading emerging market economies in the world and increasingly plays a major role in multilateral cooperation agreements. This new status might have been one of the reasons for the government and the private sector to begin addressing issues of environmental concern, such as carbon emissions, efficient utilisation of natural resources, and so on.

In the last decade, India has undertaken a number of initiatives toward greening its growth. Through public interventions, it has prioritised such areas as water conservation, renewable energy, renewal of degraded land, and solid waste recycling for energy, among other initiatives. The adoption of green technology, which is largely imported in India, incurs high costs, so government has encouraged investment by providing tax breaks and incentives (for example, for solar power generation). In 2008 the government unveiled its first National Action Plan on Climate Change, which has, among other sustainable development tools, eight primary missions covering the areas through which the objectives of a Green Economy can be achieved: energy efficiency, clean technology, renewable energy, public transportation, resource efficiency, strategic knowledge centers, sustainable habitats, and tax incentives. Recently, it launched the National Mission for a Green India to regenerate 10 million hectares of forest by 2020.

As state governments also have roles to play in expanding Green Growth, the Thirteenth Finance Commission included the environment and forests in its devolution formula so that states can also become partners in achieving green targets. Further, based on the commission's recommendations, beginning in 2015 India is to start reporting green domestic product, which should help in monitoring the contribution of green policies to the overall economic growth process. The government has also established a »green bonus« of Rs 5,000 crores for states that achieve sustainable forest cover by the end of 2015. Additional efforts are under way to encourage paperless transactions and communications. Green Initiative in the Corporate Governance recently allowed companies to begin providing paperless services, and Indian Railways, which declared 2011–2012 the Year of Green Energy, made SMSs valid proof for reservations. Other initiatives have involved exemptions for solar thermal projects, energy efficient lamps, windmill plants, green toilets, a biodiesel plant, and passage of the National Green Tribunal Act in 2010.

In 2009 to promote investment in the Green Economy, the Indian government launched the National Solar Mission to incentivise the installation of 22 gigawatts of solar power capacity by 2022. Innovative public–private partnerships are already mitigating investor risks to increase the flow of private finance. The Asian Development Bank and the United Kingdom have launched a partial credit guarantee mechanism to mitigate commercial and technical risks encountered by solar project developers. Meanwhile, some government measures make use of subsidies (direct advantage) or exemptions from taxes and regulations (indirect advantages) to promote a Green Economy. For instance, a number of municipalities in the Indian state of Maharastra are providing 6 to 10 per cent rebates in property taxes for users of solar water heaters.[1] The Indian Renewable Energy Development Agency, a public limited government company, borrows money from commercial financers to support renewable energy and energy efficiency projects. The agency includes a network of business development centers and strategic allies and provides technical assistance to those requiring loans.

Business organisations, such as the Confederation of Indian Industry, and non-governmental research organisations, such as The Energy and Resources Institute (TERI) and the Centre for Science and Environment, have also been in the forefront of influencing and promoting green concepts. They focus largely on the areas of green buildings, energy efficiency technologies, solid waste management, water use efficiency, pollution control measures, solar energy, and business incubation, all of which have an effect on social costs. In fast-growing locations, there has been in particular an increased interest in the concept of green buildings. Based on awareness created by »green business« groups, there is now a realisation that investment in green buildings, although costly in the initial stages of a project, can bring down operation costs in three to five years of the project and provide benefits over its lifetime. Discussion of the benefits of green building helped bring about the launch of the Energy Conservation Building Code in 2007; although its implementation is on a voluntary basis, it is expected eventually to become mandatory.

The Bureau of Energy Efficiency has been tracking public debates and research findings in various sectors involving lighting, appliances, building, industry, and agriculture and assisting in green policy making. The Ministry of Environment and Forests has initiated an e-waste policy, based on the Environment Protection Act, to reduce pollution and to encourage recycling. Some private-sector retail supply chains, including Shopper's Stop (through its Back to Earth brand), Fab India, Bharati Group, and Shree Cement, have adopted sustainable development models.[2] Some of these companies have realised higher profit margins (and did so more quickly) than their competitors. The types of initiatives noted here, however, are limited to only a few regions and sectors, but given the huge potential for green business in India, there is much more that research and debates can accomplish in developing green business in the country.

Following the lead of government initiatives, Indian industries are indeed playing a role in promoting a Green Economy although in a limited way. At present, the private sector is treating green initiatives more as an element of corporate social responsibility than as a business proposition. Further, as there are few incentives for adopting green technology, and no disincentives for using existing technology, progress toward green production has been hampered. Even when government creates an enabling environment – by promoting public and private investment in such sectors as renewable energy, forest conservation, and water management – sufficient business opportunities must be available. Support for green business ventures is often crippled by an inadequate availability of working capital, scant financing options, and inefficient subsidies, limited opportunities for global partnership and trade, lack of demand for the enterprise, and lack of local action. There is a need for more awareness among users as well, since demand is extremely important for these business models to be successful and competitive.

There are not many studies or sources in the literature that provide reliable estimates on the number of current jobs created by the green sector or the potential for new jobs in it. Existing studies tend to categorise green jobs

1. Ministry of New and Renewable Energy: *Annual Report*, 2009–10.

2. Shree Cement was rated a sustainability champion by a World Economic Forum–Boston Consulting Group study. The rating is based on proactively turning constraints into opportunities through innovation, embedding sustainability in company culture, and actively shaping the business environment.

differently and use different methodologies to measure employment created. In addition, some studies are highly qualitative while others are quantitative.[3] One notable example of an attempt to estimate the jobs created in the green sector stems from the flagship project for employment generation created by the Mahatma Gandhi National Rural Employment Guarantee Act of 2006. The act established a social protection and livelihood security program in rural areas that guarantees a hundred days of wage employment. The program invests in the preservation and restoration of natural capital and has created 3 billion workdays benefiting 59 million households.[4] The central government is examining whether the work done under the scheme can be used to help laborers earn extra money through carbon credits.[5] The Global Climate Network has compiled estimates of employment opportunities created by clean energy compared to carbon-intensive jobs from nine countries. For India, the study states that by 2020, wind energy will generate 243,225 jobs, and the solar sector will produce 234,350 jobs.[6] In another study, by the United Nations Environment Programme, a proposed project on community-level waste segregation has the potential to provide 2,500 jobs to rag pickers with an average earning of USD 75 per month.[7]

The Sociopolitical Discourse on a Green Economy

Unlike in many developed economies, in particular in Europe, the issue of »going green« is not yet being discussed broadly in the mainstream in part because there are not enough resources to meet the basic needs of substantial segments of the population (who therefore live in poverty). India, however, has been having a green discourse in other forms. Movements such as Chipko, a tree-hugging movement, were started to challenge deforestation. Agitations were also initiated against major irrigation projects (for example, the Sardar Sarovar Dam), mining operations (POSCO), and coal-related, real estate, and automobile (TATA, Nano) industries. These movements were not focused solely on environmental concerns, but rather centered around struggles over the destruction of livelihoods, population displacement, land rehabilitation, and the rights of people dependent on natural resources in affected areas. Such movements are numerous in India, particularly in natural resource, mineral-rich states. Foreign investments in such places are often held up due to unclear policy on rehabilitation and land acquisition.

The Ministry of Environment and Forests has been at the forefront of the issues related to environmental protection. Various institutional and legislative measures have been introduced and have moved from the conceptual stage to implementation. In 2009 the Indian Network for Climate Change Assessment, a body of institutions and scientists, was launched to provide guidance for policy makers. Other areas, such as transparency in environmental and forestry clearances, have received renewed impetus to promote environmental protection and natural resources management, including through the activities of the National Mission for Green India, Mission Clean Ganga, and National Green Tribunal.

The International Labour Organization (ILO), in collaboration with the Ministry of Labour and Employment, has been organising discussions and deliberations focusing on the emerging trends and issues relating to the creation of new, environment-friendly employment opportunities and the transformation of existing occupations in the shift toward greener economics. The outcomes of such initiatives most often have recognised the need for policy frameworks and linkages among various stakeholders and institutions to bring about changes in the economy.[8] The ILO has been at the helm of affairs, and in an acknowledgement of the need for such linkages, the Multistakeholder Taskforce on Green Jobs and Cli-

3. The Energy and Resources Institute: Promoting Environmental Services Sector in Asia: Resource and Energy Efficiency Services (background paper for the International Conference on Green Industry in Asia, Manila, 9.–11.9.2009); Global Climate Network: Low-Carbon Jobs in an Interconnected World, Global Climate Network Discussion Paper no. 3.3.2010, 23–24; Himani Upadhyay and Neha Pahuja: Low Carbon Employment Potential in India: A Climate of Opportunities, Global Climate Network and the Energy and Resources Institute, Discussion paper TERI/GCN-2010:1, 2010.

4. International Labour Organisation and Development Alternatives, NREGA: A Review of Decent Work and Green Jobs in Kaimur District in Bihar: New Delhi, 2010.

5. NREGA Workers May Earn Money from Abroad, *livemint.com*. http://www.livemint.com/2009/02/08133801/NREGA-workers-may-earn-money-f.html (accessed 5.4.2012).

6. Global Climate Network: Low-Carbon Jobs in an Interconnected World, pp. 23–24.

7. United Nations Environment Programme: Lessons Learned on Mainstreaming Pilot Projects into Larger Projects, 2009.

8. Vincent Jugault: Policies as Drivers of Green Jobs (presentation at the conference Green Jobs, Greener Business Training for Constituents and Partners – Thailand, 28.–30.6.2011). http://www.ilo.org/asia/info/WCMS_159039/lang--en/index.htm (accessed 15.3.2012).

mate Change was established in March 2009 under the leadership of the Ministry of Labour and Employment and with support from the ILO. The taskforce consists of representatives from worker and employer organisations, government departments, research institutions, and non-governmental organisations seeking to address the employment and labor market aspects of environment-related strategies and policies for promoting environmentally friendly opportunities for »decent« work.[9]

Although still in a nascent stage, some discussion has begun among India's political parties regarding environmental protection and a Green Economy.[10] On the political front, there are no clear differences in terms of the direction of the debate on Green Growth in the country. This is largely because, as mentioned earlier, the discourse on these issues is not yet commonplace in the mainstream. Divisions do, however, exist among the various political camps – in part depending on who is in power – regarding the use or abuse of natural resources and the consequences for the livelihoods and employment of local people and growth. Government at the central and state levels, irrespective of political affiliation, have at the least expressed concern for the environment, although in some cases pro-environment actions have been largely driven by judicial activism (for instance, banning illegal mining in the southern state of Karnataka). Civil society organizations and government departments, rather than the political parties, are the leading voices on issues concerning the environment and will continue to be until the economy adequately addresses poverty and deprivation.

The issue of a Green Economy has become more prominent in the Indian media since the announcement of the Rio+20 summit.[11] This is largely due to the involvement of the media as one of the partners of the summit as well as the increasing role of India's non-governmental and government actors in the deliberations toward arriving at an effective global governance structure for achieving sustainable development. Positive and considerable media coverage has been extended to the discussions and debates on Green Economy issues and dialogues organised by various ministries, including the Ministry of Labour and Employment, on Green Growth and Green Jobs and the »ministerial dialogue« on Green Economies and inclusive growth, organised by the Ministry of Environment and Forests. At the 12th Delhi Sustainable Development Summit (2012), the media was an active participant in deliberations regarding participation and leadership of women in design and implementation of a »post-carbon« economy.[12] The issue of climate change was widely covered in the media even before the announcement of Rio+20, as government and research organisations, including TERI, have been in the forefront of international debates on it and have contributed immensely toward policy-making processes in the relevant international bodies.

India has also witnessed the emergence of campaigners strongly advocating environmental protection and sustainable development. The torchbearer has been R. K. Pachauri, the chairman of the International Panel on Climate Change and director general of TERI. The noted environmentalist Ashish Kothari has been actively supporting people's struggles against destructive development projects and has also taken part in reshaping the way government perceives environmental issues. Career banker and environmentalist Pavan Sukhdev has highlighted the importance of viewing the environment through an economic lens.

Unlike in the Western world, there are not many arguments against the adoption of green initiatives in India. As mentioned above, the issues of livelihood and green strategies are overlapping; in the media landscape, it is difficult to identify opponents of promoting a Green Economy. Government (including the judiciary), private industries, non-governmental organisations, and researchers have clearly identified themselves as supporters of green initiatives and have been trying to create frameworks to advance them. In one effort, government and researchers are working on introducing green national accounting by 2015.

9. See National Conference on Green Jobs, 24.–25.6.2010, press release. http://www.ilo.org/newdelhi/info/public/pr/WCMS_142306/lang--en/index.htm (accessed 15.3.2012).

10. Permanent Black: The Finest Books on South Asia's History, Politics, Culture, Ecology, blog. http://permanent-black.blogspot.de/2011/11/environmentalism-and-hindu-right.html (accessed 11.4.2012).

11. Rio+20 United Nations Conference on Sustainable Development. http://www.uncsd2012.org/rio20/index.php (accessed 10.4.2012).

12. See 12th Delhi Sustainable Development Summit, 2.–4.2.2012, New Delhi. http://dsds.teriin.org/2012 (accessed 15.5.2012).

Outlook

»Faster, Sustainable and More Inclusive Growth« is the title of India's Twelfth Five Year Plan. It gives the impression that the growth that India has thus far achieved might not be sustainable and could be more inclusive. Although neo-classical growth is different from inclusive growth, the pertinent question now is whether economic growth is different from sustainable growth? In other words, can the high-growth path adopted by India be decoupled from resource use intensity and environmental degradation? The answer could be the negative, hence, the government's Planning Commission specifically wants to focus on sustainability that can be achieved through accelerating the decoupling process.

In developing countries like India, decoupling can be difficult, as the focus continues to be on growth, which is a precondition for enhancing Millennium Development Goals allocations. Further, sustainable growth comes with costs, which can adversely affect immediate growth and, therefore, national development. In other words, in India at its current stage of development, there could be a clear trade-off between growth and sustainable development. If the focus of public policy is more on growth, it needs »first, to generate the income and employment opportunities that is needed for improving living standards for the bulk of the population; and second, to generate the resources needed for financing social sector programmes, aimed at reducing poverty and enabling inclusiveness.«[13] To make this growth sustainable, however, emphasis will be needed on improving energy efficiency, which is identified as a major risk in achieving the five-year plan's growth objective. Nevertheless, for longer and sustainable growth, more focus should be on green investment, even if it has adverse growth impacts in the initial phases.

Shifting from current growth strategies to Green Growth does come with costs, and these can be higher (in some cases, substantially higher) for developing countries than industrialised nations. Countries suffering from scarce capital may need to divert more resources toward new and energy-saving technologies that could be costlier than traditional technologies. Although one can argue that this change in technology might secure higher profit margins in the long run, in the short term it could push costs too high and compromise growth as well as employment generation. In the absence of higher social-sector outlays, and because fiscal space is limited, the cost for the poor from the loss in growth and employment can be expected to be irreparable. Hence, although it is desirable to shift to Green Growth, the actual transformation might be exceedingly costly. The process therefore requires substantial support from the global community.

India has pledged its support in moving toward a greener path and looks forward to the Rio+20 conference as a moment for renewed political commitment. India holds that the Green Economy approach should be based on common but differentiated responsibilities. Any outcomes from Rio+20 should »allow ample flexibility and policy space for national authorities to make their own choices out of a broad menu of options and define their paths towards sustainable development based on the country's stage of development… India does not support defining and aiming for quantitative targets or goals towards sustainable development.« Instead, developed countries should create »ecological space« for developing countries to achieve equitable and sustainable growth. India also reiterates that the developed countries should desist from using »green protectionism« as a barrier to international trade and should provide financial support for research and development of green technologies without restrictions on their transfer.[14]

Overall, the discussion here confirms the general commitment that in India both the government and private sector are doing their bit to channel the growth process toward a green path; their commitment is exemplified in their stand on Rio+20. The current situation also reveals, however, that more effort is needed. The evidence discussed above appears to be more anecdotal than a sign of real commitment to Green Growth. More needs to be done in the economic (production and consumption) sector as well as in sociopolitical spheres. Ultimately India needs to generate more »green brains« to lead it toward a green path.

13. Government of India, Planning Commission: Faster, Sustainable and More Inclusive Growth: An Approach to the Twelfth Five Year Plan, October 2011.

14. Ministry of Environment and Forests: National Inputs of India for Rio+20. http://www.sustainabilityoutlook.in/content/library/national-inputs-india-rio-20 (accessed 10.4.2012).

Conclusion

In India, the issue of a Green Economy appears to be appreciated by all the relevant economic agents. Hence, with active support from government, the private sector, and civil society, it is positioned to assume to center stage in India's growth process. This could, however, be a long, drawn out endeavor, as it is generally perceived that shifting to green business will mean high initial costs and could compromise growth as well as employment targets. Achieving India's economic development goals requires a substantial increase in growth and in employment opportunities, so compromising these for Green Growth would create a dilemma. This predicament is not limited to India, but is common to all other developing and underdeveloped economies. The international community – particularly developed nations, international organisations, and so on – have a major role to play in supporting efforts in these nations to achieve the common global goal of a Green Economy. By adopting green initiatives, India could in return compromise a little on short-term growth to gain long-term benefits in order to make overall growth sustainable.

A Green Economy Based on the Rights of Mother Earth: A Perspective from Bolivia

Carlos Toranzo Roca and Anja Dargatz

Status Quo of »Greening« the National Economy

In Bolivia, the discourse on sustainable development dates back to the period 1993–1997. During this time, the Bolivian government decided to establish a Ministry of Sustainable Development, and by doing so, initiated discussions about environmental issues, the creation of protected areas, and a debate on the protection of biodiversity. Since that time, the government has not promoted investments in areas related to a Green Economy. Only since early 2000 has there been a debate on greenhouse gases and the desertification of forests and agricultural land.

There are no major green companies or green enterprises in Bolivia today. There are large corporations involved in hydrocarbon extraction and mining, but most of them do not take environmental protection into consideration. There are around 1,100 small companies involved in logging, and although on paper logging, as part of forestry is a »green« business, in Bolivia their operations are not always performed in an environmentally sustainable manner. On the contrary, they take the form of radical deforestation and result in the extensive destruction of forests and the desertification of agricultural lands.

Environmental ventures are often initiated by cooperatives, indigenous communities, and by a handful of farmers. They are typically joined by small, family-run businesses that hire self-employed workers. These businesses are generally cooperatives or self-employed people involved in the agricultural sector who primarily specialise in the production of organic quinoa from the Bolivian Altiplano, in the departments of Oruro and Potosí, or organic coffee and cocoa from the province of Yungas, in the department of La Paz. Chestnuts are grown in Beni and Pando by a self-employed labor force; there are few permanent employees. The same labor pattern applies to the forestry sector as well, particularly in the department of Santa Cruz. Indigenous communities in the north of La Paz, in the region of Madidi, have developed a low level of ecotourism.

Quinoa exports generated USD 55 million in revenue in 2011, while proceeds from coffee amounted to USD 45 million; chestnuts brought in USD 90 million, and wood produced USD 220 million. All these exports amounted to USD 410 million, or the equivalent of 4.4 per cent of Bolivia's export revenue, which totaled USD 9.2 billion. This implies that the gross domestic product accumulated from these sectors did not surpass 3 per cent of the national gross domestic product. Given that most of what is produced is provided by a self-employed labor force, and that no records (let alone official statistics) are kept, it is difficult to determine the exact amount of revenue generated by these sectors.

With informal work comprising 78 per cent of all employment, work in Bolivia is primarily informal; salaried work is the exception. The 70,000 people involved in the production of quinoa are mostly farmers generating their own employment. The production of chestnuts mobilises some 7,000 families of collectors in addition to 4,500 salaried temporary employees. The coffee sector, predominantly composed of farmers, sustains 20,000 direct producers and an indirect workforce of 12,000 people, neither of them salaried. The forestry sector supports 50,000 workers directly, most of whom are self-employed, or to put it more accurately, are day laborers. The forestry sector also indirectly provides work for another 20,000 people, who are also self-employed.

The Bolivian economy has traditionally sustained itself on natural resources. The state has been investing in mining, hydrocarbons, and telecommunications, but not in Green Economy sectors. Private forestry companies, particularly from the department of Santa Cruz, have established themselves in Green Economy sectors, but they have no major plans to expand their activities due to the lack of legal certainty regarding landownership. Other actors involved in this sector also do not have plans to increase their investment or to initiate new ventures. The indigenous peoples, the original inhabitants from the lowlands in the east of Bolivia,

have been receiving large endowments of land in recent years, but they show no signs of investing in these lands.

The Bolivian state has established tax incentives for all exports, including those from Green Economy sectors. One major incentive for promoting the growth of a Green Economy could be the low cost of land, particularly for Bolivian farmers, settlers, and entrepreneurs. The entrepreneurs have not, however, set their sights on green sectors or sustainable forms of cultivation. Instead, production of soy and sorghum has been intensified following a model based on agricultural expansion without crop rotation, which has led to large-scale deforestation and the desertification of agricultural land. The major barriers to investing in agricultural sectors that could operate within the parameters of a Green Economy are the legal uncertainty of landownership rights along with the seizure by farmers and settlers of land owned by agricultural businesses. Getting green investment going in Bolivia will vary according to the type of product involved.

In the case of cocoa, production began at the end of the 1970s. Investment in the coffee sector dates back to the 1980s. Logging began to intensify in the 1990s. Quinoa has been produced for a long time, but the industry only began to expand for export purposes in the 1990s. The small field of ecotourism began to take shape in the 1990s. Due to the lack of industrialised development on a national scale, Bolivia has held on to its niches of sustainable and ecological production. This occurred, however, not as the result of a comprehensive policy promoting sustainable agriculture, but to preserve the traditional way of farming. Although the current government preaches a harmonic coexistence between man and nature, it does not actively promote theses niches or traditional knowledge about small-scale farming. Once investment in the agricultural sector is available, small-scale farming could be replaced by large-scale agro-industrial production at some point in time.

Sociopolitical Discourse on a Green Economy

In Bolivia, the concept of a Green Economy is not well known. It has not been broached as a topic by social actors, trade union leaders, political parties, politicians, members of parliament, or opinion leaders, who focus more on the broader debate on sustainable development. Only a handful of environmental activists and a few government officials are familiar with the subject. The position taken by the Bolivian government against the concept of a Green Economy, as presented by the United Nations Environment Programme, is not the result of a broad-based national debate. The few social groups (environmentalists and *indigenistas*) following preparations for Rio+20, the United Nations Conference on Sustainable Development in June 2012, complain that the government, in staking out its position, did not take into account proposals developed by civil society, although it would back the government's position.

In 2010 in Tiquipaya, Bolivia, indigenous peoples from around the world held a conference on climate change and the rights of Mother Earth. The agreement formulated there rejects trade in emissions, demands technology transfers, and asks developed countries to »pay their ecological debts« to developing countries through a »fund of adaption.« The agreement also calls for the promotion of small- and medium-scale agriculture. Programs like UN-REDD – the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries – are seen as fostering monoculture and the mercantilisation of nature. Establishing protection areas is contingent upon the right of indigenous peoples to self-determination. In this respect, the traditional sustainable methods used by indigenous peoples for managing nature are considered the starting point for such protection. This and related arguments are rights based, be it universal human rights, such as the right to clean water, or the rights of Mother Earth.

After the Tiquipaya conference, critiques of the UNEP's Green Economy concept developed further in environmentalist circles. One prime criticism involves the »mercantilisation of nature,« highlighting the risk of the devaluation of nature once it is submitted to the mechanisms of the stock market. The critics argue that selling emissions certificates is attractive only if a few are sold, and accordingly, the market price is high. If the idea is successful, and certificates are sold in large numbers, prices will fall automatically and devaluate the »product nature«.

The government's position is not far from the one developed in Tiquipaya. In its comment on the first draft of a joint declaration for Rio+20, the government un-

derlines the necessity of establishing »harmony with Mother Earth« and rejects protection areas in favor of management by indigenous peoples. It argues against all market-based mechanisms for fighting global warming and calls for the establishment of a UN Tribunal for Environmental and Climate Justice, similar to the constitutional court for environmental crimes recently created in Bolivia.

Unlike in the declaration of Tiquipaya, however, the government stresses the utmost priority »to overcome poverty and the tremendous inequalities that exist.« Thus, »basic resources and companies should be in the hands of the public sector and society,« because »only a society that controls its principal sources of income can aspire to a just distribution of the benefits needed to eliminate poverty.« The government rejects a Green Economy and promotes instead »sustainable development (economic, social, environmental),« emphasising that the »Green Economy should not distort the fundamental principles of sustainable development.« It asserts that ecological debt lies exclusively with the developed countries, which therefore »must reduce their levels of overconsumption and overexploitation of resources of the world in order to re-establish harmony among human beings and with nature.«

The Bolivian government perceives a bias in the UNEP proposal in favor of climate mitigation measures. This bias is reflected in the distribution of the resources that would be gathered by the international community to meet the ten predefined priorities concerning the climate crisis. Accordingly, 87 per cent of total investments would go into five priority areas of climate mitigation; the remainder would be dedicated to development and poverty reduction. In response, a representative of the Bolivian government stated recently, »we will not mitigate poverty in Bolivia by introducing renewable energies.«

Although the positions of Bolivian civil society and the government have a lot in common, the controversy surrounding Rio+20 has not generated a national debate or a nationwide movement that could lead, among other things, to a truly unified presence at the conference. The reason for the gap between government and civil society lies in domestic policies. The discourse on Mother Earth and the resulting concept of vivir bien (no mejor) – »living well (not better),« a rhetorical backbone of the government – is barely reflected in concrete politics at the national level. With the ongoing conflict over the proposed road crossing the protected area of the Isiboro Sécure National Park and Indigenous Territory (TIPNIS), it became obvious that the current government, like previous governments, prefers the traditional concept of economic development based on infrastructural projects and the exploitation of primary resources. Ideas on how this approach could be combined with ecological sustainability are lacking.

A gap similar to the one between government and civil society also exists within Bolivian society itself. Protest marches against and in favor of the TIPNIS road are not only the most recent sign of a political, indigenious environmental movement, they also reveal the interest of small farmers (campesinos) in improving their livelihoods. The battleline is between indigenious people living in and from the selva and small farmers who moved to the lowlands for agriculture and farming of coca leaves and are fervently defending the building of a motorway.

The most vocal actors promoting or defending sustainable development and the protection of the environment are the indigenous peoples of the lowlands in the east and environmental non-governmental organisations (NGO). The indigenous peoples and small sections of the middle class, who lack political representation, defend sustainable development, while most social actors and the government, including the Movement Toward Socialism (MAS), support the need for extraction-based development, although apparently without taking into account the detrimental effects this has on the environment. The government officially supports the protection of Mother Earth and defends the concept of vivir bien, but as noted, its actual policies are inconsistent with environmental protection.

Neither green businesses nor the topic of a Green Economy is currently an item of public debate; their presence is only marginal, as subjects being investigated by academics and institutions. The Friedrich-Ebert-Stiftung is, however, making an effort to start a discussion and inform social actors about the issues related to a Green Economy, as well as organise events to make citizens aware of the Bolivian government's positions with respect to its proposals for Rio+20. With a few exceptions, newspapers, radio, and television are hardly following or covering the preparations for Rio+20. There is thus no way of measuring perception of the situation or pres-

entation of the issue of a Green Economy by the media. The government-sponsored *Cambio* has published comments presenting the government's opposition to the concepts and idea of a Green Economy, taking a rather ideological position. Given the absence of public discussion, the issue of a Green Economy has not thus far energised or polarised advocates or opponents of it.

Outlook

In a primarily export-based economy like Bolivia's, which is dependent on the sale of gas and minerals, little room exists to develop business opportunities for a Green Economy and for the creation of green jobs. Given that two-thirds of the country are involved in the timber industry, however, there are certainly opportunities for green business ventures.

Transforming the country from an export-based economy to a green one – which will, indeed, be difficult to do – would not negatively impact development and could instead help business sectors develop social awareness, as currently hardly any connection is made between a Green Economy and the eradication of poverty. Bolivian society at large is not discussing expectations and possible outcomes of Rio+20, and there are only a few NGOs that are informed about the matter. In general, social actors have not show much interest in the subject of a Green Economy, although there is a clear link between this approach and eliminating poverty.

Meanwhile, the Bolivian government is adamantly opposed to the UNEP proposals outlined in the 2011 report »Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication«. It is simply not interested in exploring the connection between a Green Economy and the eradication of poverty. To the contrary, the government believes that a green approach will exacerbate poverty, so it will send representatives to Rio+20 to align itself with countries that oppose the endorsement of an approach advocating a Green Economy.

Bolivia's official position on international climate negotiations is defined by an insistence on a »right to develop« rather than environmental concerns. Its potentially justifiable critique of the UNEP concept has not been complemented, however, by concrete proposals, such as alternative ways of fighting climate change at the global level, or by acting as a role model. Although Bolivia is predisposed to lead a global debate on sustainable development due to its indigenous attributes, it has declined to take up this role and instead relies on strident criticism of the former »colonisers.« Bolivia's approach can be seen as a lost opportunity for a small developing country that apart from a campaign to legalise coca leaves, does not have a significant global agenda.

About the authors

Nina Netzer and **Judith Althaus** work for the Department Global Policy and Development at the Friedrich-Ebert-Stiftung in Berlin on International Energy and Climate Policy.

Philipp Schepelmann is project manager of the Research Group for Material Flows and Resource Management at the Wuppertal Institute for Climate, Environment and Energy. **Raimund Bleischwitz** is co-director of the Research Group for Material Flows and Resource Management at the Wuppertal Institute for Climate, Environment and Energy. **Uwe Schneidewind** is president of the Wuppertal Institute for Climate, Environment and Energy.

Fazila Farouk is the executive director of the South African Civil Society Information Service (www.sacsis.org.za), a non-profit news agency that promotes social justice.

Mohamed Abdel Raouf Abdel Hamid is a research fellow at the Environment Research Program, Gulf Research Center, Jeddah. He is also focal point for the United Nations Environment Programme's Science and Technology Major Group.

Mini Govindan is a fellow at The Energy and Resources Institute, New Delhi, India.

Carlos Toranzo Roca is an economist and programme manager at the Bolivian office of the Friedrich-Ebert-Stiftung. **Anja Dargatz** is a political scientist and resident representative of the Friedrich-Ebert-Stiftung in Bolivia.

Imprint

Friedrich-Ebert-Stiftung | Global Policy and Development
Hiroshimastr.28 | 10785 Berlin | Germany

Responsible:
Jochen Steinhilber, Head, Global Policy and Development

Phone: +49-30-269-35-7408 | Fax: +49-30-269-35-9246
http://www.fes.de/GPol/en

To order publications:
Sandra.Richter@fes.de

Global Policy and Development

The department Global Policy and Development of the Friedrich-Ebert-Stiftung fosters dialogue between North and South and promotes public and political debate on international issues in Germany and Europe.In providing a platform for discussions and consultation we aim at raising awareness of global interdependencies, developing scenarios for future trends and formulating policy recommendations.This publication is part of the working line »International Energy and Climate Policy«; in charge: Nina Netzer, Nina.Netzer@fes.de.

Dialogue on Globalization

As part of the international work of the Friedrich-Ebert-Stiftung, Dialogue on Globalization contributes worldwide to the debate on globalization and global governance.It is based on the premise that – through an inclusive and responsive global policy approach – globalization can be shaped into a direction that promotes peace, democracy and social justice.The program draws intensely on the international network of the Friedrich-Ebert-Stiftung – a German non-profit institution committed to the principles of social democracy with offices, programs and partners in more than 100 countries.Dialogue on Globalization addresses »movers and shakers« both in developing countries and in the industrialized parts of the world.The program is coordinated by the head office of the Friedrich-Ebert-Stiftung in Berlin and by the FES offices in New York and Geneva.

ISBN 978-3-86498-183-8