

2011-03

Beyond Rio+20: governance for a green economy

Bigg, Tom

Boston University Frederick S. Pardee Center for the Study of the Longer-Range Future

<http://hdl.handle.net/2144/22899>

Boston University

MARCH 2011

**BOSTON
UNIVERSITY**

Boston University The Frederick S. Pardee Center
for the Study of the Longer-Range Future

PARDEE CENTER TASK FORCE REPORT

Beyond Rio+20:

Governance for a Green Economy

Beyond Rio+20: Governance for a Green Economy

Co-conveners

Henrik Selin

Adil Najam

Task Force Members

Tom Bigg

Elizabeth DeSombre

Mark Halle

Hans Hoogeveen

Saleemul Huq

Bernice Lee

David Levy

Ricardo Meléndez-Ortiz

Stacy VanDeever

Patrick Verkooijen

Paul Wapner

Occasionally, the Pardee Center convenes groups of experts on specific policy questions to identify viable policy options for the longer-range future. This series of papers, *Pardee Center Task Force Reports*, presents the findings of these deliberations as a contribution of expert knowledge to discussions about important issues for which decisions made today will influence longer-range human development.

Series Editor: Professor Adil Najam

The Frederick S. Pardee Center for the Study of the Longer-Range Future at Boston University convenes and conducts interdisciplinary, policy-relevant, and future-oriented research that can contribute to long-term improvements in the human condition. Through its programs of research, publications, and events, the Pardee Center seeks to identify, anticipate, and enhance the long-term potential for human progress, in all its various dimensions.

The Frederick S. Pardee Center for the Study of the Longer-Range Future
Boston University
Pardee House
67 Bay State Road
Boston, Massachusetts 02215
Tel: 617-358-4000 Fax: 617-358-4001
www.bu.edu/pardee
Email: pardee@bu.edu

Cover photograph via iStock.com.

The views expressed in this paper represent those of the individual authors and do not necessarily represent the views of their home institutions, the Frederick S. Pardee Center for the Study of the Longer-Range Future, or the Trustees of Boston University. The publications produced by the Pardee Center present a wide range of perspectives with the intent of fostering well-informed dialogue on policies and issues critical to human development and the longer-range future.

Produced by Boston University Creative Services
© 2011 Trustees of Boston University

ISBN 978-0-9825683-8-5

 Printed on recycled paper

0311 055712

TABLE OF CONTENTS

iv Acronyms and Abbreviations

v Preface by Adil Najam

Co-conveners' Synthesis

Making Sustainable Development Real:

Institutional Architectures for a Green Economy

by Adil Najam and Henrik Selin

1. Global Environmental Governance for a New Green Economy	11
by Elizabeth R. DeSombre	
2. Accountability in the Green Economy	19
by Mark Halle	
3. Development Governance and the Green Economy: A Matter of Life and Death?	25
by Tom Bigg	
4. Governance of International Trade for the Green Economy	33
by Ricardo Meléndez-Ortiz	
5. Consuming Environments: Options and Choices for 21st Century Citizens	43
by Stacy D. VanDeveer	
6. Managing the Challenges of Interlocking Resources	53
by Bernice Lee	
7. Climate and Energy	61
by Saleemul Huq	
8. Transforming Global Forest Governance	69
by Hans Hoogeveen and Patrick Verkooijen	
9. Transitioning to a Green Economy: Citizens and Civil Society	77
by Paul Wapner	
10. Private Sector Governance for a Sustainable Economy: A Strategic Approach	83
by David Levy	
Task Force Members	91

ACRONYMS AND ABBREVIATIONS

A4T: Aid-for-Trade

BASIC: Brazil, South Africa, India, and China

BRIC: Brazil, Russia, India, and China

CBD: Convention on Biological Diversity

CCSR: Civilian Corps Service Responsibility

CDP: Carbon Disclosure Project

CITES: Convention on International Trade in Endangered Species

CRC: Corporate Responsibility Charter

CSD: Commission on Sustainable Development

EPA: Environmental Protection Agency

GATT: General Agreement on Tariffs and Trade

GDP: Gross Domestic Product

GEF: Global Environment Facility

GFG: Global Forest Governance

GRI: Global Reporting Initiative

IEA: International Energy Agency

IMF: International Monetary Fund

IRENA: International Renewable Energy Agency

NGOs: Non-governmental organizations

ODA: Overseas Development Assistance

OECD: Organisation for Economic Co-operation and Development

REMs: Rare earth metals

SEC: Securities and Exchange Commission

UNCED: United Nations Conference on Environment and Development

UNCSD: United Nations Conference on Sustainable Development

UNEP: United Nations Environment Programme

UNFCCC: United Nations Framework Convention on Climate Change

WIPO: World Intellectual Property Organization

WTO: World Trade Organization

Preface

Beyond Rio+20: Governance for a Green Economy is the second in *The Pardee Center Task Force Reports* series, and, as it happens, the timing for this report could not have been better. Recent and upcoming international meetings convened by the United Nations are focused on the challenges of actualizing the promise of sustainable development, of recreating a world economy that is “greener” and more sustainable, and identifying institutional frameworks that could help achieve this vision. Marking the 20th anniversary of the historic Rio Earth Summit of 1992, the 2012 UN Conference on Sustainable Development (UNCSD)—popularly called Rio+20—has set for itself the goal of deliberating upon and designing such an architecture. This *Pardee Center Task Force Report* is a contribution to these deliberations.

We hope that the ideas presented in this *Pardee Center Task Force Report* will provide international decision-makers at the United Nations and elsewhere a fresh and diverse set of perspectives concerning the ongoing quest for institutional and governance frameworks that can help foster sustainable development globally. Between now and Rio+20, this very topic will be debated many times and in many venues. We hope that our early attempt to synthesize some of the lessons from the past debates and to present some fresh suggestions for future directions will help inspire and inform the important decisions that will be made in the next many months.

The Pardee Center invited an eminent group of thought-leaders from academia, civil society, and the diplomacy arena to think about why we face the institutional challenges we do and about the type of bold actions and ideas that may move us towards an institutional framework that is more conducive to fostering sustainable development. This report presents the results of these deliberations. This Pardee Center Task Force was convened by Professor Henrik Selin and myself. The membership of the Task Force was purposely interdisciplinary, international, and intersectoral. All members of the Pardee Center Task Force met at Pardee House on September 10, 2010, where initial drafts of their essays were presented and discussed. The group also deliberated upon the overall trends and findings emerging from the discussions and this became the basis of the synthesis from the Task Force co-conveners. In addition to the co-conveners’ synthesis of the key ideas emerging from the meeting, this report also includes the thought-provoking essays written by each of the experts on the Pardee Center Task Force on different aspects of the challenge. Between them, these expert essays capture a rich and refreshing diversity of perspectives that we hope policymakers will find useful.

The mission of the Boston University Frederick S. Pardee Center for the Study of the Longer-Range Future is to convene and conduct interdisciplinary, policy-relevant, and future-oriented research that can contribute to long-term improvements in the human condition. As part of fulfilling its mandate, the Pardee Center occasionally convenes groups of experts on pertinent policy issues with longer-range impacts. The *Pardee Center Task Force Reports* present the findings and deliberations of these groups in a format designed to speak to the concerns of policy practitioners and policy scholars. The views expressed in these reports are always those of the individual authors and do not represent the views of their home institutions, of the Pardee Center, or of Boston University.

This *Pardee Center Task Force Report* is just one of several ways the Pardee Center is contributing to the deliberations on Rio+20 in particular, and global governance in general. The Center also publishes the *Sustainable Development Insight* series of policy briefs on behalf of the Sustainable Development Knowledge Partnership (SDKP) with the United Nations, and has provided a series of expert consultations at recent meetings of the UN Commission on Sustainable Development (CSD) on topics related to Rio+20 preparations.

As co-conveners, Professor Henrik Selin and I are deeply grateful to all the members of the Task Force for the time, enthusiasm, and effort they have devoted to this report, producing an excellent document on a complex set of issues in a short period of time. We would like to especially thank Professor Maria Ivanova of the University of Massachusetts at Boston for her participation in part of the Task Force meeting and sharing her insightful perspectives and expertise. We would also like to thank Cynthia Barakatt and Ellie Perkins for assisting with the editing and publication of this report, and Elaine Teng for helping organize the Task Force meeting. As Director of the Pardee Center, I would like to express my special gratitude to my colleague Henrik Selin for helping conceive and implement the idea of this Pardee Center Task Force. His patient yet persistent leadership of this effort was crucial to bringing it to completion.

Let me end by congratulating all the Task Force members for having produced a timely and intellectually stimulating report. I am certain this report will contribute significantly to the deliberations going into Rio+20, and I hope that it will also have impacts well beyond that.

Adil Najam

The Frederick S. Pardee Professor of Global Public Policy

Director, The Frederick S. Pardee Center for the Study of the Longer-Range Future
Boston University

Co-conveners' Synthesis

Making Sustainable Development Real: Institutional Architectures for a Green Economy

Adil Najam and Henrik Selin

On December 24, 2009, the United Nations General Assembly adopted Resolution A/RES/64/236 to organize the United Nations Conference on Sustainable Development (UNCSD) in Rio de Janeiro, Brazil. The General Assembly identified two themes of focus for the conference: First, “a green economy within the context of sustainable development and poverty eradication”; and second, “an institutional framework for sustainable development.”¹ As in all UN processes, both themes were extensively—maybe excessively—negotiated and capture a measure of intentional ambiguity and breadth to satisfy a very broad range of (sometimes contradicting and conflicting) viewpoints and interests. The comprehensive preparations for the UNCSD are currently under way, involving a multitude of governments and stakeholders.

UNCSD will be one in a series of UN conferences that aim to focus global political attention towards the need for policy interventions in the areas of environment and development, now commonly called sustainable development. Marking the 20th anniversary of the landmark “Rio Earth Summit” of 1992 (the United Nations Conference on Environment and Development, held in Rio de Janeiro)—which itself marked the 20th anniversary of the equally landmark Stockholm conference of 1972 (the United Nations Conference on the Human Environment, held in Stockholm, Sweden)—the upcoming conference is being popularly referred to as “Rio+20.” This title embodies the hope that UNCSD will attract the same attention and import as its two illustrious predecessors. Yet, other conferences with similar goals—for example, the less distinguished 2002 conference in Johannesburg dubbed “Rio+10” (the World Summit on Sustainable Development) or the now largely-forgotten “Stockholm+10” held in 1982 in Nairobi, Kenya—did not live up to their own aspirations.²

UNCSD will seek to build on a wide range of past political and organizational achievements, but also, more importantly, seek to accelerate progress where a long

line of earlier international efforts have come up well short. This is not just an exercise in politics, but of critical importance to people and societies all over the world as well as future generations. The two themes were selected by the United Nations General Assembly precisely because they are viewed as areas where (a) there is a need for global clarity and agreement and (b) there is a perceived potential for real change if, indeed, further clarity and agreement are achieved.

Those attending UNCSD—which is technically not yet called a “summit” with heads of state and government in attendance, but is likely to become one—will seek to arrive at global agreement and decisions within the conceptual framework of sustainable development. In fact, that is already baked into the name of the conference. Indeed, from the 1992 Earth Summit onwards, the entire global conversation has revolved around the desire to put meaning into the term “sustainable development.” If those government delegates and stakeholder representatives who go to Rio in 2012 can succeed in constructing a global new deal for sustainable development, their time and effort will be well spent and Rio+20 will be remembered in the same breath and with the same reverence as the 1992 Earth Summit and the 1972 Stockholm meeting.³

THE PARDEE CENTER GREEN ECONOMY TASK FORCE

As an intellectual contribution to the Rio+20 preparatory process and UNCSD, the Boston University Frederick S. Pardee Center for the Study of the Longer-Range Future convened a small task force of experts to discuss the role of institutions in the actualization of a green economy in the context of sustainable development. As co-conveners of this group, we brought together stellar experts from academia, government, and civil society and asked them to outline ideas about what the world has learned about institutions for sustainable development from the past, and what we can propose about the governance challenges and opportunities for the continuous development of a green economy in the future.

Members of the Pardee Center Task Force met at Boston University on September 10, 2010, to discuss the first drafts of the papers collected in this report and to deliberate on the trends in governance and institutional frameworks that might inform and influence the decisions to be made at Rio+20 and beyond. Task Force Members included: Dr. Tom Bigg (International Institute for Environment and Development), Prof. Elizabeth DeSombre (Wellesley College), Mark Halle (International Institute for Sustainable Development), Dr. Hans Hoogeveen (Dutch Ministry of Agriculture, Nature and Food Quality), Dr. Saleemul Huq (International Center for Climate Change and Development), Bernice Lee

(Chatham House, the Royal Institute for International Affairs), Prof. David Levy (University of Massachusetts at Boston), Ricardo Meléndez-Ortiz (International Centre for Trade and Sustainable Development), Prof. Adil Najam (Pardee Center, Boston University), Prof. Henrik Selin (Pardee Center, Boston University), Prof. Stacy D. VanDeveer (University of New Hampshire), Dr. Patrick Verkooijen (World Bank), and Prof. Paul Wapner (American University).

The Task Force members were encouraged to think big and think bold. We asked them to be innovative in their ideas, and maybe even a little irreverent and provocative. We have not tried to force a consensus; far from it, we have encouraged a variety and diversity of views. Nor was the idea to define a set of precise “recommendations”; that, after all, is the work of the preparatory negotiators between now and 2012. Rather, we set the goal of identifying broad themes and trends in the area of global governance and institutional frameworks for sustainable development and the actualization of a green economy. We placed a premium on “newness” of ideas. Instead of shackling Task Force members in repetitive debates on the minutia of what may or may not be done by or to a particular UN agency, or what a green economy is, or how the existing system can be tweaked at its periphery, we asked them to identify key lessons that have the greatest potential to trigger bold and systemic change—not just at Rio+20, but beyond that. We asked them to consider trends and ideas that match the scale of the challenges that the planet faces today.

We realize that the political will for implementing some of the ideas presented in this report may not yet be available. We also realize that many of these ideas are bold, but not necessarily new. But our goal here is to lay out a big picture view for Rio+20 negotiators and to articulate bold visions of the global ambition that they should be addressing. Converting this into a set of practical policies and specific measures is a next step for the international community. We hope that this contribution from the Pardee Center Task Force can be of assistance in this endeavor.

This opening chapter provides our (the Task Force co-conveners’) synthesis of the discussion at the Task Force meeting and outlines our understanding of the key ideas and insights that emerged from those deliberations. There was no attempt to force a negotiated consensus on these points and they are our interpretation of the intense, informed, and far-reaching discussion.

To capture a more detailed sense of the very rich ideas brought to the table by the Task Force members, included in this report are each of their “think pieces.”

These essays—which look at critical dimensions of transitioning to and eventually maintaining a green economy in a world of sustainable development— informed the Task Force discussion and should be read as important complements to the views presented in this introductory chapter.

FIVE+1 SUGGESTIONS FOR RIO+20

Building on the papers collected in this report, and even more on the enriching discussion at the September meeting, we have synthesized five+1 ideas that Rio+20 negotiators should keep in mind. These are big and somewhat generalized ideas, but they all have significant implications and can—and should—inform the more specific policies and programs that might emerge from Rio+20.

One. Think boldly and move incrementally. Discussions of institutional reform have sometimes been described as an exercise in “rearranging the deck chairs on the *Titanic*.”⁴ Any institutional reform process must begin with a recognition of the urgency for action. It must also begin with a commitment to the proposition that we need fundamental shifts in our political and economic practices if we are to avoid significantly accelerated ecological damage with disastrous consequences (already experienced by many) for people and societies. The enormity of the challenge calls for bold thinking, but it should not paralyze action just because big change is often difficult to achieve quickly.

There is a need, instead, for what some participants called a strategy of “radical incrementalism”—recognizing and strengthening those elements within the existing institutional architecture that work, identifying the strategic direction of change, and implementing measured and pragmatic shifts that can begin moving the system in that direction. Progressively evaluating the implementation and progress of such measures and carefully adding to them to bring about the desired shifts is an important component of this process. One example of this would be to break the deadlock that often arises when we search for a single “perfect” solution by the adoption of a “portfolio approach” that uses a combination of initiatives to raise a variety of resources including monetary resources, knowledge resources, capacity development, public support, and awareness-raising for effective global action on forests.

Another example of the benefits of radical incrementalism would be the much-stalled debates on creating a new international environmental organization modeled at least in part on the World Trade Organization. The debate has not only remained inconclusive but regularly saps energy away from the needed reform

with the United Nations Environment Programme (UNEP)—especially in terms of strengthening its funding arrangements and consolidating various treaty secretariats—for which there is great and urgent need and on which there is much international agreement. The idea that Rio+20 should lead to a stronger, and not a weaker, UNEP is already broadly accepted and should not be held hostage to the debate about the designs of a superorganization for the environment. The benefits of a radical incrementalism approach should not be lost in the debate on institutional reform.

Two. Take economic policy seriously. The proposition that the world needs to move towards a “green” economy implies that the economy we have is not working, at least not for the environment and future generations.⁵ Change is required, therefore, in economic policy institutions as much as in environmental ones. A genuine transition to a green economy needs to involve fundamental changes to both macro-economic and micro-economic conditions—and, therefore, institutions. Business as usual with respect to economic policy is not a viable alternative to meet the challenges of the future. The fact that recent economic upheavals have left the global economy in a state of flux is a massive challenge but can also be an opportunity in that the perceived need—and possibly the appetite—for change is more widely accepted.

The proposition that the world needs to move towards a “green” economy implies that the economy we have is not working, at least not for the environment and future generations. Change is required, therefore, in economic policy institutions as much as in environmental ones.

The most obvious case for a shift towards a green economy is in macro-economic policy instruments relating to structures and principles for international trade and finance issues. For example, the role of trade in resources—especially in energy-related resources and also including the security implications of resource trade—is central to a green economy. Any shift in this area will require carefully crafted incentives to align international markets simultaneously towards environmental and resource goals. At the micro-economic level, the institutional challenge is to create individual incentives (including negative ones) to realign consumption and production decisions that can have significant environmental and economic ramifications.

A central challenge for Rio+20, therefore, is not only to think creatively about economic policy but to engage international economic institutions to do so. While

the necessity of such engagement is now understood by environmental as well as economic decision-makers, making it real will not be easy because the incentives for such engagement do not yet exist. The same economic crisis that makes the case for change in economic institutions also makes such change more difficult to undertake. Rio+20 creates an opportunity to bring environmental and economic institutions together at a common platform where world leaders—to whom both sets of institutions are ultimately responsible—can lay out a program for such collaboration and begin removing the current disincentives for cooperation. A good goal for Rio+20 would be to at least begin the realignment of institutional incentives to facilitate the achievement of a goal that was already agreed upon at the 1992 Rio Earth Summit but has not yet been achieved: making environmental considerations central to our global economic decision-making.

Three. Recognize what is working and what is not working. There is no need to re-invent the wheel. There are already a number of public and private sector initiatives and partnerships that seek to promote a transition to a green economy world. At the same time, current organizations, policies, and practices must be subject to critical evaluation and changed if they stand in the way of the realization of a green economy. Furthermore, activities and regulations across organizations, states, and issue areas must be coordinated. Policy goals should be formulated clearly and followed by monitoring and reporting (related to discussions about targets and timetables). There should be actual consequences for failing to meet agreed-upon goals and targets.

The desire to fundamentally redesign things, to create new institutions without first thinking about what will happen to old ones, and to simply assume that the problems that have plagued institutions in the past will somehow disappear in the future remains as prevalent as it is misguided. Rio+20 negotiators will be well-advised to resist the temptation. For example, the period right before and right after the 1992 Rio Earth Summit was extremely productive in the negotiation of new instruments to deal with emerging problems. There is now a variety of such instruments available for a range of pressing issues, including a variety of financial mechanisms (although many have few or no resources). The challenge now is no longer of creating new instruments, but of making the existing ones effective and functional.

This is particularly relevant to the question of international environmental governance. We feel that a more fruitful discourse for Rio+20 would be to meaningfully enhance the efficacy of the main elements of the system of international

environmental governance as it now exists. For example, we believe that there is a need to (a) focus on strengthening UNEP—especially in terms of giving it financial stability, authority, and dependability—so that it can effectively deal with the responsibilities that member states have been piling upon it; (b) return to the original design mandate of the Commission on Sustainable Development (CSD) and make it a review mechanism for progress towards sustainable development; and (c) accelerate the process of rationalization of multilateral environmental agreements (MEAs) through consolidation and better linkages.

Four. Make implementation the focus. The period right before and after both the 1972 Stockholm conference and the 1992 Rio Earth Summit saw a frenzy of new international treaty-making and institution-building for the environment.⁶ As already mentioned, that has now given us a rich edifice of institutions and instruments that will be central to creating and managing a green economy. However, the system as it has evolved remains focused on negotiation rather than on implementation. A functional green economy will require that societies shift their attention much more towards implementation. Rio+20 provides an ideal opportunity to accelerate this transition. There has been growing restlessness amongst industrialized and developing countries alike—although for different reasons—to make implementation a more central focus, and UNCSD can become the marker that signifies this shift in attention.

A global green economy will necessitate an emphasis on implementation and on implementation coordination. Such a focus involves at least two important changes. First, it will require better incorporating public, private, and civil society actors who are closer to implementation, including at the national and sub-national levels. This will require multilevel governance from major intergovernmental forums down to town halls and households. The subsidiarity principle should guide policy and management efforts, dealing with each issue at the lowest, most appropriate level to bring decision-making as close as possible to each citizen. Second, implementation requires evaluation, monitoring, and accountability. At each level, accountability issues are crucial to ensure change and implementation. This includes thinking hard and carefully about what kind of accountability mechanisms are needed and how they may be established. To this end, a host of scientific, economic, and political information needs to be generated and shared in an open and transparent manner.⁷

Five. The state remains central but non-state actors have to be better accommodated. A focus on green economic issues highlights the importance

of markets and consumers to both ecology and politics. However, governments remain—and will remain—central to this enterprise. There is a tendency (often by those outside of governments) to downplay the importance of states; there is also a tendency (often amongst those within governments) to push the much of the responsibility for action and change on to non-state institutions. Both tendencies should be rejected.

While the members of this Task Force have highlighted—and celebrated—the importance of broadening the institutional tent and incorporating market as well as citizen institutions more effectively into the global governance enterprise, we remain emphatic on the continuing centrality of the state. The model here is not as much of state responsibility being “replaced” or “taken over” by other institutions; it is, instead, state responsibility evolving to (a) become an enabler of more and better action by non-state actors and (b) develop the ability to work in concert with non-state institutions. Both are already happening and Rio+20 should be structured as a forum to demonstrate this evolution. As the 1972 Stockholm conference and the 1992 Earth Summit are remembered for the breakthroughs they made in accommodating ever-larger numbers of civil society organizations into the global discourse, Rio+20 should set for itself the goal of developing and deploying new and expanded ways of making the engagement with citizen and market groups deeper and more directly related to the implementation challenges.

Just as the state has to learn how to create a space where markets and citizens can spur institutional innovation at a planetary scale, it also has to retain and assert its role as rule-setter and enforcer. This is already evident in the area of climate change and the creation of carbon markets—markets that can neither operate nor be created independent of state action—and will become increasingly important in the management and greening of natural resource supply chains. As these market instruments may become defined more and more by national security concerns, the importance of the state will increase—not diminish—in the evolving institutional needs of the planet.

And all of the above needs to be incorporated within the context of the realization that the state itself has changed over time, and certainly the structure of states that make up the international system has. No single bloc of countries or region holds all the answers. But certainly compared to 1972 and 2002, the North today is a little less “North” and the South a little less “South” than before. As global power balances shift, as corporations as well as citizens and

their consumption become more global and more central to the global enterprise, international politics and policy are forced to confront new realities about “North-South” differences. Neither is ready to wither away, but both have evolved—as have the relations both have to the many non-state actors critical to the realization of a green economy.

Five+1. Put equity at the center. Finally, and overarching and incorporating all of the first five ideas, we make a concerted and strong argument that equity and human well-being must be the central and unwavering goals of Rio+20. A green economy and any institutions devised for it must make their core focus the well-being of people—of all people,

everywhere—across present and future generations. That essential idea puts the notion of equity—intra- as well as inter-generational equity—smack at the center of the green economy enterprise. It also brings to the fore the centrality of consumption ques-

tions, not only among nations but within societies. It would be a folly to forget that a green economy demands not just “green consumers” but “green citizens.”

The proximate goal in the creation of a green economy is the notion of making the economy more ecologically efficient—meeting our economic needs without compromising our ecological integrity. But the ultimate goal is to do so in a way that the needs of all people—today, and in the future—can be met and sustained. That, after all, is the central premise of sustainable development. Therefore, a deep commitment to fairness and social justice is central to the green economy transformation. Indeed, a key role of institutional frameworks required for a green economy is to maintain a focus on equity. It is not just fitting, but necessary that Rio+20 be a forum that helps ensure that the desire for ecological efficiency complements, not displaces, the commitment to intra- and inter-generational equity.

A FINAL WORD

Both the number of people who still live in abject poverty and the rapid increase in the number of people who engage in high-consumption lifestyles raise crucial challenges for change. Rio+20 delegates should seek to craft a global new deal

A green economy and any institutions devised for it must make their core focus the well-being of people—of all people, everywhere—across present and future generations. That essential idea puts the notion of equity—intra- as well as inter-generational equity—smack at the center of the green economy enterprise.

for sustainable development; a deal that could finally help bridge the North-South divide by tackling poverty as well as over-consumption, environmental degradation as well as social justice, and greenness of the economy along with sustainable livelihoods.

Many of the ideas presented in this synthesis and the subsequent papers are not new *per se*. Versions of many green economy ideas have been debated for decades, and will continue to be debated, as they should. However, as the preparations for the UNCSO continue, we hope that this report presents some ideas whose time has come (again). It has been said many times before, but it will hopefully inspire action this time: more aggressive policy change for sustainable development and implementation is needed.

The following chapters detail many ideas and summarize a wealth of lessons from the past as well as visions of the future. The above synthesis should not be read as a summary of these ideas (in fact, it is not that at all), but as an invitation to explore the rest of the report in more detail. We hope that the reader will find these ideas as useful and stimulating as we have. Our Task Force views this report as an early and initial contribution to the discussion on Rio+20, and we remain committed to active participation in that dialogue. It is, after all, a discussion about all our shared futures.

1 UN General Assembly Resolution A/RES/64/236, adopted 24 December 2009.

2 Najam, A. 2005. Developing Countries and Global Environmental Governance: From Contestation to Participation to Engagement. *International Environmental Agreements: Politics, Law and Economics*, 5(3): 303–321; Najam, A. et al., 2002. From Rio to Johannesburg: Progress and Prospects. *Environment*, 44(7): 26–38; Linnér, B-O. and H. Selin. 2005. The Road to Rio: Early Efforts on Environment and Development, in A. Churie Kallhauge, G. Sjöstedt, and E. Correll (eds.) *Global Challenges: Furthering the Multilateral Process for Sustainable Development*. London: Greenleaf Publishing.

3 Munoz, M. and A. Najam. 2009. Rio+10: Another World Summit. *Sustainable Development Insights*, No. 2, November 2009. Boston University: The Frederick S. Pardee Center for the Study of the Longer-Range Future.

4 Najam, A., M. Papa, and N. Taiyab. 2006. *Global Environmental Governance: A Reform Agenda*. Winnipeg, Canada: International Institute for Sustainable Development (IISD).

5 Najam, A., D. Runnalls, and M. Halle. 2007. *Environment and Globalization: Five Propositions*. Winnipeg, Canada: International Institute for Sustainable Development (IISD).

6 Selin, H. and B-O. Linnér. 2005. The Quest for Global Sustainability: International Efforts on Linking Environment and Development. *CID Graduate and Postdoctoral Fellow Working Paper No. 5*. Cambridge, MA: Science, Environment and Development Group, Center for International Development, Harvard University.

7 Najam, A. and M. Halle. 2010. Global Environmental Governance: The Challenge of Accountability. *Sustainable Development Insights*, No. 5. Boston University: The Frederick S. Pardee Center for the Study of the Longer-Range Future.

1. Global Environmental Governance for a New Green Economy

by Elizabeth R. DeSombre

What role will be required of global institutions in managing a new green economy as it emerges (or in encouraging it to emerge) in the next 20 to 40 years? While there are many ways institutions could be structured to support a new green economy, their primary role is likely to be a coordinating one. Citizens and states need to determine what this green economy looks like; the main role for institutions is to support its implementation. That coordination done by institutions will involve both environmental regulation itself and the economic adjustments necessary when the environmental regulation is incomplete.

GLOBAL ENVIRONMENTAL REGULATION

The first role required of institutions is one they are already attempting to play: coordination of the information, negotiation, and implementation related to changing environmental behavior globally. As more environmental problems are seen to be global in causes or effects, action by individual states is no longer a realistic way to address them.

Despite the shortcomings international institutions face in operating in an anarchic world where states can opt out of participation—or,

As more environmental problems are seen to be global in causes or effects, action by individual states is no longer a realistic way to address them.

perhaps, even because of these shortcomings—they play an invaluable role in moving the world toward behavior changes necessary to mitigate the negative human impact on the global environment.

Institutions, first, can play a central role in the generation and dissemination of information. They can work to decrease uncertainty. Most environmental agreements begin by creating scientific assessment bodies as a part of the institutional structure of the agreement. These scientific committees study the resource in question, determining the level and cause of environmental harm. Associated

requirements that states examine and report on their own behavior and environmental conditions generate further information to use in evaluating a given problem. The recent trend toward creating general framework conventions without substantive obligations for states reflects situations in which policymakers argue that there is insufficient evidence of environmental damage, or its human causes, to justify costly action. In many issues, such as ozone depletion and acid rain, the scientific processes in these institutions informed states that environmental damage was more extensive than they realized, and states were willing to change their behavior once they understood the severity of the environmental problems.

The second primary role environmental institutions play is in coordinating the negotiations in which states collectively decide what the response should be to the global environmental problems in question. The process of negotiation often involves tradeoffs in the search for mutually beneficial arrangements (or determining least-common-denominator acceptability). State preferences may be malleable, however, in light of new information or a reshaping of concerns of states so that they become interested in an issue they had previously considered unimportant. The role of international institutions in lowering the transaction costs of conducting such discussions across many individual states should not be underestimated, and a skilled leader of negotiations can help shape what states are willing to agree to.

Finally, an essential role of international institutions is to increase the likelihood that states will live up to their commitments to protect the environment. An institution can do so by increasing transparency; in other words, by making it easier for others to know when actors are, or are not, living up to their obligations. Reporting requirements, for example, make it easier to determine when states are not doing what they have agreed to do. Increasingly intrusive types of monitoring (such as mandating observers on fishing vessels) have recently been created within existing institutions to overcome the potential unreliability of self-reporting. The European agreements on acid rain include a monitoring process that is able to evaluate the accuracy of emissions data reported by states, and although it is not directly used to do so, the fact that it can be is likely to increase reliability of reported information. Institutions can also increase the likelihood of implementation by establishing penalties for those who do not follow the rules set by the institution. Though strong enforcement mechanisms are rarely found in international environmental institutions, the Convention on International Trade in Endangered Species has called for the cessation of all species trade with some

states, for example, with poor records of upholding the requirements of the agreement. The possibility of such enforcement, or simply of the shaming that comes from not upholding agreements, may work to increase implementation.

ECONOMIC COORDINATION IN RESPONSE TO GAPS IN REGULATION

The more interesting—because it is currently underdeveloped—coordinating role that institutions will likely be called upon to play in a new green economy is to manage the adjustments needed when global regulation is imperfectly implemented. As is already evident, some states are more willing to move ahead at implementing (or even agreeing to) environmental regulation than others. That unevenness is perhaps necessary: those who regulate first can be the source of innovation (which can make it easier for others to follow) or inspiration (especially if changing behavior does not have the dire economic consequences in the long-term that its detractors predict) to encourage others to follow the same path.

Over the long run, adaptation to new ways of doing business that are better than current practices for protecting the environment is unlikely to have dramatic economic disadvantages at the state or global level. But in the short run there are good reasons that changing behavior can be costly for those who do, and potentially even devastating for some local businesses; this is particularly true if the adoption of environmental rules is uneven across states.

The trick to encouraging some states to become early adopters of regulations that protect the global (rather than just local, which they might be willing to do on their own) environment is to decrease the global economic disadvantage from doing so. Institutions can play an important role in coordinating acceptable international responses

to the perceived inequity that results from uneven adoption of environmental measures.

This coordination can help persuade more states to take the risk of adopting envi-

ronmental measures, even when it is not clear that everyone will do so. And, it can reduce the chaos triggered by the inevitable political responses that states undertake when obligations are unevenly adopted.

There are at least two different ways that institutions can manage this coordination: via trade measures or financial measures. Trade measures require the

Institutions can play an important role in coordinating acceptable international responses to the perceived inequity that results from uneven adoption of environmental measures.

institutions that manage global or regional free trade to organize or acquiesce to measures allowing states to discriminate against or impose countervailing duties against products produced in cheap, environmentally harmful ways. Although there are those who anticipate the impossibility of such approaches within the current system of trade governance, there are actually several approaches that might be compatible with underlying World Trade Organization (WTO) goals and priorities, and indications that the evolution of WTO processes on these issues would make such approaches increasingly possible.

The first trade approach is through the use of economic sanctions (restrictions in trade). There is plenty of evidence that these sanctions can play an important role in an environmental protection strategy. In some cases, domestic environmental protection is enabled by the assurance to domestic industry that it will not be disadvantaged by competition from those who do not have to undertake costly environmental regulation. In other cases, states have been persuaded to join international environmental agreements by the prohibition of trade advantages to those outside of the agreement.

By some measures, the WTO has not looked kindly on efforts by states to impose restrictions in trade based on the environmental conditions of production. There have been several high-profile cases in which the WTO has rejected such attempts. But the ways in which it has done so, and the statements the WTO has made even in the cases where these measures have been rejected, have laid the groundwork for the conditions of acceptable restrictions in trade for environmental reasons.¹

Within its findings against these particular trade measures, the dispute settlement process elaborates an increasing acceptance of environmental protection as a legitimate reason for restricting trade, as long as restrictions on trade are applied in a non-discriminatory way, are designed specifically for environmental protection, and are accompanied by multilateral attempts to address the environmental issue. More recent efforts to construct multilaterally based restrictions on trade (such as the rules of the International Commission on the Conservation of Atlantic Tuna that require member states only to land, transship, or import tuna caught within the organization's rules and similar ones undertaken by the Commission for the Conservation of Antarctic Marine Living Resources) have been deemed by the WTO Secretariat to "provide examples of appropriate and WTO-consistent (i.e., non-discriminatory) use of trade measures in multilateral environmental agreements."² And in particular, the lack of any serious challenge

to multilateral organizations that use trade—in some cases, like with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) where trade restrictions are its core method of operation—suggests the general acceptance of such strategies when undertaken in a multilateral context.

The second approach is through the use of countervailing duties, to be applied in circumstances when states are subsidizing their goods or “dumping” products on foreign markets at below-cost prices. It is possible to conceptualize production of products in environmentally harmful ways as being produced with a subsidy (or, in some cases, sold below what the cost would be were environmental standards adopted), especially if there is a broader global institutional process, as discussed in the first part of this essay, to create and oversee the regulation that some states are not adopting.

Article 16 of the General Agreement of Tariffs and Trade indicates that states must avoid granting any form of income or price support “which operates directly or indirectly to increase exports of any product from . . . its territory.” The agreement recognizes that granting such subsidies can harm other contracting parties and “may hinder the achievement of the objectives of this Agreement.” In particular, parties are required to cease granting such subsidies, directly or indirectly, on products other than primary products, and to apply subsidies to primary products only where doing so does not result in giving that party a “more than equitable share of world export trade in that product.” Article Six defines dumping as the process “by which products of one country are introduced into the commerce of another country at less than the normal value of the products” and disallows it.

Both of these articles refer to the price of the good. One measure of whether a good is being dumped is whether it is being sold for less than the price being paid for the good on in its domestic market. Subsidies are indirectly considered as things that result “in the sale of such a product for export at a price lower than the comparable price charged for the like product to buyers in the domestic market.”³ Neither of these definitions quite fits the situation when a state implicitly subsidizes its industries by not internalizing the externalities of environmental costs into production costs, but the other elements of the definition fit this process well.

Article Six in particular suggests a way out of the current dilemma, by allowing countervailing duties to be assessed on goods that are improperly subsidized, or

dumped. This type of duty is defined as a “special duty levied for the purpose of offsetting any bounty or subsidy bestowed, directly, or indirectly, upon the manufacture, production or export of any merchandise.”⁴ States are allowed to assess a duty on these goods that is equal to the margin of dumping—the amount by which its price is unfairly lowered. This application of a countervailing duty could be sufficient as a domestic political incentive to assure those who will be bound when a state undertakes environmental regulation on a global issue that they will not be unfairly disadvantaged on the global market by having to meet what is likely to be a more costly production process, initially, for whatever goods they produce.

Although either of these approaches could be applied unilaterally by states, their orderly implementation would be dramatically improved by their oversight under the WTO system whereby unfair uses (or those simply designed as restraints of trade) could be adjudicated.

The financial approach is much more complex, and has less of a current trajectory to build on, but would be deeper and far-reaching. This approach recognizes that the current ways a country’s wealth is calculated—such as by measuring Gross Domestic Product—does not count environmental resources as a form of wealth until they are being extracted or processed. In addition, environmental disasters actually add to the official record of a state’s wealth by measuring, for instance, the economic activity that takes place in response to a major oil spill but not the damage to environmental resources that results. Although there are

Although there are major academic discussions of environmental versions of national accounting, it would take agreement by the major financial institutions (such as the International Monetary Fund and probably the World Bank) to fundamentally change the way we calculate national wealth.

major academic discussions of environmental versions of national accounting, it would take agreement by the major financial institutions (such as the International Monetary Fund and probably the World Bank) to fundamentally change the way we calculate

national wealth. Although it is difficult to imagine how such a change could happen, it could have a major effect on how states measure economic and environmental well-being, and therefore on their willingness to take on measures that protect the global environment.

If this kind of shift seems impossible or not useful, a related effort to at least include valuation of natural resources in their unused state, and ecosystem

services provided by these resources, should be used in global financial and development institutions considering undertaking or funding projects. A shift in the conceptualization of how natural resources are valued can help avoid projects that destroy or use resources without providing the same value to the local or global economy as if they remain whole in their ecosystems.

MOVING FORWARD

The key to envisioning a green economy is to imagine the realistic steps to get there. This paper outlines reasonable extensions of what existing institutions are already doing that would collectively improve the global ability to address environmental problems with international components. The collective action required can be accomplished by a combination of information, negotiation, and implementation assistance from global environmental institutions, as well as coordination by global trade, finance, and development institutions, to allow states to be the first to take positive action to protect the environment without bearing an additional cost for their leadership.

1 DeSombre, E. R. and J. S. Barkin. 2002. Turtles and Trade: The WTO's Acceptance of Environmental Trade Restrictions. *Global Environmental Politics* 2(1): 12-18.

2 World Trade Organization (WTO). 2000. *The Environmental Benefits of Removing Trade Restrictions and Distortions: The Fisheries Sector*, Note by the Secretariat. Geneva: WTO 16 October. WT/CTE/W/167.

3 General Agreement on Tariffs and Trade 1947: Article 16(B)(4).

4 General Agreement on Tariffs and Trade 1947: Article 6(3).

2. Accountability in the Green Economy

by Mark Halle

The opening assumption for this paper is that what is meant by “green economy”—as for example promoted by United Nations Environment Programme (UNEP) and many others—is not merely a redecoration of the traditional economy with green trimming, but a form of economic organization and priority-setting substantially different from the one that has dominated economic thinking in the richer countries for the past several decades. Indeed a green economy, thus conceived, is more than a re-ordering of priorities; it involves a significant rethinking of the assumptions upon which the traditional economy has been based.¹ If we are to avoid slip-back towards the traditional economy, strong accountability mechanisms will have to be built into the green economy from the start.²

TIME FOR SOMETHING NEW

Although the ideas underlying it have been floating around for years, if not decades, the green economy is being promoted—we hope accurately—as “the next Big Thing.” As we gaze at the ruins of the neo-liberal economic paradigm, it is eminently clear that something new is needed, but it is not always easy to let go of the familiar. Neo-liberal thinking has possessed such a strangle-hold on development since the days of Thatcher and Reagan and the articulation of the “Washington Consensus”³ that it was often considered to have the power of a religion. This form of economic organization adopted by—or imposed upon—countries around the world was deemed to be the only one that worked or had a chance of meeting human aspirations within a framework of human freedom. So powerful was this conviction among its proponents that some felt that it represented “The End of History”⁴—that with neo-liberal economic organization, humanity had emerged onto a sunny plateau on which efficient economic organization and the interplay of open markets would generate the wealth needed by society to address whatever social and environmental issues rose in its margins. A priority focus on generating wealth—a prerequisite for all good things—was justified because it was the only sound way to generate the wherewithal to address other, non-economic issues.

While neo-liberal economics had its share of critics, it held governments and international financial institutions in thrall for decades. Its undeniable results in generating wealth allowed it to secure the political power needed to fend off criticism. And yet when the collapse came in 2008, the economies foundered not because they were undermined by social unrest or overwhelmed by environmental destruction—instead, the neo-liberal system collapsed under the weight of its own economic contradictions. Far from permitting governments to address social and environmental issues, the fabulous wealth generated through neo-liberal economics led to strong pressure for a cut-back in government spending and services. Partly as a result, the gap widened between those benefitting directly from the new wealth and those marginalized from it. And far from leading to a serene plateau on which sufficient wealth was available to address non-monetary concerns, the new wealth led to an ever more frenetic effort to grow even richer, increasingly through arcane financial instruments well-removed from the real economy. Generating wealth became an end in itself.

In seeking a form of economic organization that avoids the mistakes of neo-liberal economics, some things appear evident. We cannot divorce economics from its social and economic underpinnings. On the contrary, we must organize the economy in such a way that economic growth leads simultaneously to the creation of employment and livelihoods, and to the gradual elimination of social marginalization.⁵ At the same time, it must lead us away from wasteful use of the earth's resources and ecosystems, from the depletion of species, and from air

We cannot divorce economics from its social and economic underpinnings. On the contrary, we must organize the economy in such a way that economic growth leads simultaneously to the creation of employment and livelihoods, and to the gradual elimination of social marginalization.

and water pollution toward clean, renewable, and sustainable forms of resource use.⁶ These factors are so important that economic initiatives should be screened for their likely impact on employment, social inclusion and justice, and for their environmental

footprint. Capacity to generate wealth, competitive efficiency and other traditional tests of economic activity should not be set aside; simply, these tests must be augmented by new tests on the social and environmental side of the equation to ensure that a triple win is being pursued and secured.

WHAT IS THE GREEN ECONOMY?

One could be forgiven for noting that this formula for a green economy strongly resembles the descriptions of sustainable development that have been floating around our society for a quarter century and gaining little more than intellectual ground—what the French call “succès d’estime” (or “critical success”). Launched in 1987 by the Brundtland Commission report, calls to bring economic activity into a framework bound by the limits of the earth’s ecosystems and to give priority to social inclusion and poverty alleviation are now all too familiar. Would it not be fair to say that the green economy is nothing more than a re-labeling of “sustainable development”?

In some ways it is. If sustainable development has not prevailed over the past quarter century, neither has it been discredited. Indeed, the reasons for insisting that development be placed on a sustainable foundation have been growing steadily stronger, at least in objective terms. While opinions vary on which of the three pillars—economic, social, and environmental—should be given greatest attention, there can be no doubt that the traditional economy has collapsed in part because it ignored the other two pillars to such an extent.

Therefore, a green economy is one that takes us toward sustainable development. Once a green economy is fully in place, we might say that our form of development can be deemed sustainable. What, then, is new?

Perhaps the most significant difference lies in the recognition that an efficient, functioning economy is a precondition for addressing the other two pillars of sustainability. Much sustainable development activism over the past decades has been a thinly disguised effort to give the environment priority over social and economic concerns, betraying a deep suspicion of economically driven motivation and doubting the attachment of the working masses to the natural environment.⁷

A green economy recognizes that it is the form of organization of humankind’s economic activity that will, in the end, determine whether or not we are successful in addressing the problems of social marginalization and environmental destruction. If we get the former right, the others have a better chance of following—not, it must be stressed, as a result of the wealth generated, but because concern for social and environmental matters is an integral part built into the economic organization. In a green economy, actions taken to reach economic ends also advance social and environmental ones, just as actions taken to meet social and environmental ends strengthen and develop the economy.

Still, what are the boundaries of a green economy? At what point do we say that we have one in place? Surely this state would be reached several steps short of perfection, but if it is to avoid being specious, the anointment of an economy as “green” must meet certain tests in terms of impact on sustainability. But what are these tests, and who should apply them?

It is both an advantage and a disadvantage that the movement for a green economy is taking place as neo-liberalism lies in ruins, its precepts disgraced and its followers inclined to keep their heads down. It is an advantage because the world is ripe for new ideas, new thinking, and new approaches. We are in an intellectual environment in which assaults on orthodoxy are fair game, where we are all casting around for alternatives to the discredited neo-liberal economic paradigm. Fresh ideas are welcome; so, to some extent, are ideas that are not particularly fresh but that have a new coat of paint and a freshly serviced engine. A window of opportunity has edged open, but the gentlest wind could close it again unless the opportunity is seized.

In a sense, the disadvantage of the present situation is that the window opened before we were truly ready to take advantage of it, and we are all scrambling to come up with a robust, complete, and compelling answer to the question: “What next?” Unless we do so, the likelihood is that we will all, like victims of an earthquake, straggle back to our ruined houses only to rebuild them on the traditional design, with the same materials as before, because this is what we know, this is what we are familiar with—even if we would be happy to sample new ideas if they were genuinely offered.

THE NECESSITY OF ACCOUNTABILITY

Let us imagine that the green economy grows wings and takes off, that the governments of the world forgather and adopt the basics of the green economy as their chosen form of economic organization. Could we then sit back and congratulate ourselves, confident that social and environmental issues have been set on a firm course toward a positive solution, within the framework of a robust and vibrant economy?

Sadly not. If public pledges over the past three decades are anything to go by, public declarations—even when accompanied by solemn legal undertakings—are no guarantee that things will move in the direction suggested by the public pledge. Indeed, the history of sustainable development is by and large the history of *unsustainable* development, peppered by broken promises. Is there anything we can do to change that?

Early and strong attention to accountability is the only guarantee that promises of green responsibility in rebuilding the economy will lead—in a reasonably straight line—to green responsibility dominating our economic behavior.⁸ As we design the new green economy, we must flank that design with a series of accountability measures to ensure that politicians cannot

As we design the new green economy, we must flank that design with a series of accountability measures to ensure that politicians cannot cynically gain points by calling for a green economy while busily rebuilding an economy along traditional lines.

cynically gain points by calling for a green economy while busily rebuilding an economy along traditional lines. What sort of accountability measures might be envisaged?

Accountability suggests that a price must be paid for not doing what one has promised to do. That price must be sufficiently high that ignoring it is something decision-makers and politicians will not do lightly. Accountability measures can be in the form of incentives or disincentives. In the case of the former, there are clear advantages to be gained from moving quickly and resolutely to implement what has been promised, whether these incentives are financial or not. In the latter case, there is a clear price to be paid for non-compliance, again financial or otherwise.

Within the environment and development worlds, there are many examples of the successful use of both “carrots” and “sticks” to reduce the accountability gap, yet there is no systematic attempt to make these a central point in institutional design.⁹ This leaves politicians with the easy option to look good by promising miracles, knowing that they will never be held accountable for failing to deliver. When the time comes, the easiest course will simply be to offer new promises.

If the campaign for a green economy is to avoid this fate, it must ensure the range of accountability measures is solidly in place as the green economy is constructed.¹⁰ It must ensure the series of incentive and disincentive measures is empowered by the right mix of legislation, institutional tracking mechanisms, third party monitoring, and funding mechanisms to allow rewards to be offered and legal mechanisms to allow punishment to be meted out. In the course of design, it is also fundamental to look at the present range of incentives and disincentives currently driving economic behavior to ensure that these are in line with the objectives of the green economy. Where perverse incentives are in place

(e.g. subsidies, tax breaks, privileged access to capital, etc.), it is important that these be removed or restructured until the factors driving personal behavior or consumer choice are aligned with the needs of the green economy.

It is vital that we gather best practices in this field, assess what has worked and what has not, and identify what mix of carrot and stick works best. We must identify those positive practices that have the potential to be scaled up and replicated, and we must review the full panoply of tools that will make stronger accountability something welcomed by all countries, independent of their level of development or of their contribution to economic growth or environmental destruction.

If we fail to do this—and do it now, in the design phase—there is a real chance that the green economy will turn out to be just another ride on the global merry-go-round of broken promises and lost opportunities.

-
- 1 Najam, A., D. Runnalls, and M. Halle. 2007. *Environment and Globalization: Five Propositions*. Winnipeg, Canada: International Institute for Sustainable Development (IISD).
 - 2 Najam, A. and M. Halle. 2010. Global Environmental Governance: The Challenge of Accountability. *Sustainable Development Insights*, No. 5. Boston University: The Frederick S. Pardee Center for the Study of the Longer-Range Future.
 - 3 Serra, N. and J. E. Stiglitz. 2008. *The Washington Consensus Reconsidered: Towards a New Global Governance*. New York: Oxford University Press.
 - 4 Fukuyama, F. 1992. *The End of History and the Last Man*. New York: The Free Press.
 - 5 Halle, M. and R. Meléndez-Ortiz. 2007. The Case for a Positive Southern Agenda on Trade and Environment, Chapter 2 in *Envisioning a Sustainable Development Agenda for Trade and Environment*, A. Najam, M. Halle, and R. Meléndez-Ortiz (eds). New York: Palgrave MacMillan.
 - 6 Najam, A., D. Runnalls, and M. Halle. 2007.
 - 7 Halle, M. 2002. *Sustainable Development Cools Off*. IISD Commentary. Winnipeg, Canada: International Institute for Sustainable Development (IISD).
 - 8 Najam, A. and M. Halle. 2010.
 - 9 Najam, A., M. Papa, and N. Taiyab. 2006. *Global Environmental Governance: A Reform Agenda*. Winnipeg, Canada: International Institute for Sustainable Development (IISD).
 - 10 Najam, A. and M. Halle. 2010.

3. Development Governance and the Green Economy: A Matter of Life and Death?

by Tom Bigg

“The real science of political economy, which has yet to be distinguished from the bastard science, as medicine from witchcraft, and astronomy from astrology, is that which teaches nations to desire and labour for the things that lead to life; and which teaches them to scorn and destroy the things that lead to destruction.”

John Ruskin
Unto This Last, 1860

The governance of development encompasses the range of institutions, systems, processes, and decisions that affect the well-being and prospects of poor people and countries. This goes far beyond the bodies directly charged with responsibility for achieving agreed development objectives; it includes the impacts of trade agreements and instruments; the exercise of power and rights at local and national levels; access to and use of natural resources and land; the functioning of markets; and a whole range of other factors that affect prospects for improvements to the well-being of individuals and nations.

The “green economy” is a similarly broad concept; it belongs at the centre of national and global debates about how we could and should organize our economies and lives differently if we are to achieve environmental sustainability, social justice, and a viable and stable economy in the longer term. At present there is a risk that the notion of a “green economy” will be discredited; its political currency means that it is increasingly associated with short-term, incremental tweaks to the mainstream and with the search for comparative advantage, not with challenges to the underlying drivers of change in our economies and societies.

Ruskin’s challenge is highly relevant here: how can the world move toward “life” and away from “destruction”? Can we establish a vision of the world we want to live in 30 or 40 years ahead, and then track a path by which we can get there?

Although the challenge for this essay was to scope out what development governance should look like by the middle of the 21st century, a look backwards is also needed. What visions of the future and the means by which to realize them were set out 40 years ago, when the year 2000 was a distant prospect? What has been the experience of acting on and augmenting those visions during the intervening decades? What conclusions can we draw about the successes and failures, about what's improving and what isn't, about what is no longer seen as significant? What have emerged as major challenges over that period? And finally, can we prioritize areas for action now that will move the world in the right direction and lead to life?

PLANNING FOR THE FUTURE IN THE 1970s

Forty years ago the world was a very different place. Many of the changes since would have been unimaginable, and the unpredictability of subsequent events, inventions, social change, and discoveries all color our reading of prognoses from the 1970s and '80s. However, three factors are particularly striking in the most prominent future casting from that period and are explored below.

Let's take two examples: the report produced for the 1972 Stockholm Conference on the Human Environment *Only One Earth* (by Barbara Ward and René Dubos) and the much-maligned 1972 Club of Rome report *Limits to Growth* (by Donella Meadows et al.). Both were officially sanctioned and closely linked with inter-governmental bodies. Both looked at the impacts of resource scarcity and growing human impacts on the planet—in other words, at development challenges and the capacity of markets and states to meet growing human needs. Both presented projections for key variables up to the year 2000. Both set out a vision of how the world should be in the future and the steps needed to get there. Looking back, how should we rate their accuracy and what lessons can we learn from them?

First, they offered an impressive level of accuracy in the predictions made for global change over the past 30 years or so. *Only One Earth* predicted that the global population would reach 6.5 billion by 2000, with the urban population overtaking the rural one around the end of the century—both within a few years of the truth. While world energy consumption was actually about 30 percent below the projection for 2000, the authors estimated that average global temperatures could rise by 0.5°C by 2000 as a result of human activity. Predictions in *Limits to Growth* were also surprisingly accurate: for 2008, world population was projected at 6.7 billion (actual figure 6.9 billion), and per capita industrial output

was estimated at 1.8 times 1970 levels (actual figure 1.9 times). Projections for birth and death rates globally, however, were rather less on the mark.¹

Hall and Day, in their work “Revisiting the Limits to Growth After Peak Oil,” conclude that “there is growing evidence that the original ‘Cassandras’ were right on the mark in their general assessment, if not always in the details or exact timing, about the dangers of the continued growth of human population and their increasing levels of consumption in a world increasingly approaching very real material constraints.”²

Second, the key drivers of change and the dilemmas to be addressed identified in the two reports remain largely in place. To pick just two of many examples, Ward and Dubos explored the tensions between environmental concerns and development objectives, and the corrosive distrust that could derail global action.³ Meadows et al. argued that, as natural resources are placed under growing strain and limits are reached, increasing amounts of capital and manpower will have to be diverted to cope with these constraints, leading eventually to declines in quality of life. Both of these points are at least as relevant today as when they were written, along with numerous other analyses of the power dynamics and barriers to progress underlying the two publications. The purpose here is not to point out how prescient these authors were (though this is certainly true) but to highlight the intractable, continuing nature of the drivers of unsustainable, inequitable development they identified. Presenting a strong analysis and a rational argument for change—appealing to the rational and enlightened to act—is not in itself sufficient.

Third, the recommendations for action to deal with these challenges are ambitious, logical, and compelling, and are still relevant because they have not been adequately addressed in the intervening years. Addressing the potential impacts of climate change, *Only One Earth* argues for “a new capacity for global decision-making and global care. [Man’s global interdependence] requires coordinating powers for monitoring and research. It means new conventions to draw up ground rules to control emissions from aircraft. . . It requires a new commitment to global responsibilities.” Looking back in 2004, the authors of *Limits to Growth* conclude: “We are much more pessimistic about the global future than we were in 1972. It is a sad fact that humanity has largely squandered the past 30 years in futile debates and well-intentioned, but half-hearted, responses to the global ecological challenge.”⁴

We can draw some broad conclusions from this short and partial summary. We already have the information, the projections into the future, the intellectual arguments, and the practical tools for action needed to deliver effective and fair development in conjunction with better stewardship of natural resources and systems to safeguard the planet for future generations, using the wealth of data and analysis generated over the past 40 years. While further assessments and reports are useful in sustaining awareness of key trends and potential tipping points, they do not in themselves offer the “magic bullet” that will shift the mainstream.

However, appeals to enlightened self-interest and the need for global action have very limited traction, and the growing influence of countries that have no desire to cede power to international agencies or give up elements of sovereignty means any supra-national framework for action is a long shot for the foreseeable future. While we already have a composite long-term vision of where the world should be going, we lack clarity on the immediate, incremental steps that can get us there. Furthermore, although states have made commitments to address environmental challenges and tackle poverty and the lack of access to basic resources, progress is partial—and there is little evidence of positive change in the poorest countries.

The reality is that moves toward a more sustainable and fairer world are up against some tough constraints: the interests of powerful constituencies that defend their turf and can manipulate the political system to stymie change; the hierarchy of policy and politics in almost every country which places environmental issues towards the bottom and economic growth and military security at the top; and the difficulty of achieving strong global regimes to effect change at a time when multilateralism is on the retreat. The most pressing challenge is to develop the tactics and tools for incremental change in critical areas that can start to move our societies and economies in the right direction.

WHAT'S DIFFERENT ABOUT THE “GREEN ECONOMY”?

There are two principal ways in which the green economy concept offers the potential to move beyond the stalemate that has mired most international negotiations on sustainable development over the past decade or so.

Green economy is a term used by new and surprising sets of actors. Incorporation of “green stimulus” elements in the financial recovery packages in 2008–09 was not driven by an environmental lobby, but by economic calculations of

the potential for job creation and economic resilience. Within many countries, anticipated scarcity in access to fossil fuels and “rare earth” minerals (to pick just two examples) are driving policy and technological efforts to shape alternative futures. Private sector actors are anticipating major shifts in markets and resource availability, and planning for much lower carbon intensity production as a result. In short, the economics of scarcity and uncertainty are stimulating significant efforts to develop alternative, “greener” business models and patterns.

Poor countries have much to gain from a focus on the green economy. While environmental assets provide just two percent of total wealth in the Organisation for Economic Co-operation and Development (OECD) countries, they provide around 26 percent of wealth in the poorest countries.⁵ Within developing countries, the figures are even more striking. While seven percent of India’s GDP is directly attributable to

services from ecological systems, the poorest tenth of the population derives 57 percent of its gross domestic product from ecosystem services, through small-scale or informal economic activities such as farming, animal husbandry, informal forestry, and fisheries. Furthermore, rapidly emerging economies have the potential to expand energy provision and plan for urban growth without having to undo the legacy of a century or more of outmoded infrastructure and associated patterns of social behavior.

Poor countries have much to gain from a focus on the green economy. While environmental assets provide just two percent of total wealth in the Organisation for Economic Co-operation and Development (OECD) countries, they provide around 26 percent of wealth in the poorest countries.

So far so good. The potential for major change seems more real than at any time since the early 1970s. However, this does little to address the need for greater fairness in the distribution of resources and opportunity, and the structures of governance that can make these a reality. In periods of rapid change and uncertainty, the likelihood is that the rich and powerful will draw away from those at the other end of the scale rather than act in solidarity. And as noted above, there is little sign that supranational institutions and commitments will strengthen over the coming decades. What compelling vision, then, can we articulate that links global equity inextricably with a new green economy? What institutions, instruments, and levers of influence might be needed at global level to make a greener economy also a fairer one?

THE VISION

As Willy Brandt stated in the Brandt Commission, “A new century nears, and with it the prospects of a new civilization. Could we not begin to lay the basis for that new community with reasonable relations among all people and nations, and to build a world in which sharing, justice, freedom and peace might prevail?”⁶

The vision that we have carried since the early 1970s, and most fully articulated in *Our Common Future*, is of an economy that produces a range of social and environmental, as well as economic, benefits for individuals, communities, and society overall. It is a vision of environmental governance that restores and protects the resilience of ecosystems and the biodiversity within them, and thus secures the many services they provide. It is a vision of development that uses natural resources sustainably, allocating environmental benefits and costs fairly to achieve a more just and equitable society.

What are the key characteristics of an effective governance system at an international level that can help deliver these assets around the world? I propose three major elements that could usefully inform the incremental progress we should aim for over the coming three to four decades. First, a shift from development aid to payments for public goods; second, a leveling of the playing field so that environmentally sound and socially just practice is rewarded across the spectrum; and third, active support for local diversity and accountability as critical factors in building economic resilience.

First, there must be socially just payments for public goods. We can already see the rapid emergence of a system intended to increase global capacity to address the impacts of climate change, and to help secure the benefits of a stable and functioning climate system for the planet. This already demonstrates the potential for money and other forms of support to be transferred that dwarfs the aid budget (notwithstanding huge flaws in governance and lack of vision). It seems highly unlikely, given current trends and political pressures, that “official development assistance” in its current form will still exist by 2050. In its place, and at much more ambitious levels, we could be in a position where a range of public goods are funded through instruments that act as a tax on “bads” and reward “goods.” Countries should be enabled to shift from reliance on aid to receiving payment for services that safeguard significant resources. As development experts Keith Bezanson and Francisco Sagasti put it, development is not so much a problem to be solved as a condition from which to evolve.

Crucial to the success of this transformation would be to avoid creation of some gargantuan bureaucracy while still facilitating the effective transfer of funds and other resources (know-how, innovations, etc.) through a diversity of channels. An inter-governmental governance framework is necessary to provide oversight and legitimacy, but not to dominate the activities. A second crucial factor is to recognize and respond to demand for support. Development to date has been overwhelmingly supply-driven; a future alternative should recognize local specificity and particular contexts in which positive change is possible and find ways to support these effectively. The implications of this shift are huge—and there’s no space to explore them further here. However, one significant implication should be the strengthening of local and national systems of accountability.

Second, it is time to level the playing field. It is quite clear that there are significant barriers to moving towards a greener global economy and society that are built into the fabric of our world. Our system of shareholder value imposes a terrifyingly short time horizon on all publicly listed companies. Our economic models and accounting systems exclude environmental costs and assets from calculations, which means these still have little value in financial terms. As above, international development governance is not best placed to oversee and “manage” each of these areas; what we need is the capacity to assess where prevailing rules and instruments are reinforcing unsustainable practice and the means to challenge them.

This kind of approach will only be effective if it demonstrates three characteristics. The first of these is the capacity to prioritize: There are a multitude of things wrong with the way the world functions that have a negligible impact on critical sustainability factors, and a limited number that have a seismic global effect. It will be essential to identify the most important international governance changes that are needed and present a clear and compelling case for change. The second characteristic is subsidiarity: Only issues that cannot be resolved at lower levels of governance should be tackled at global level. The third attribute needed is power, or agency: As we have seen earlier, being able to identify problems and propose solutions is of little value if the perpetrators are able to ignore the prognosis and calls for change.

This is, of course, a long way from the realities we face today, and it is hard to see how we could arrive at a governance regime able to achieve this level of influence. However, an effective and coherent global system would require this capacity to identify and change existing drivers of change.

Third, local diversity and accountability must be supported. Most of the critical factors in determining whether the “green economy” becomes a reality will be played out at local and national levels. The governance and planning of urban centers will be (and already are) crucial in determining future patterns of energy use, employment, consumption of natural resources, rewards for livelihoods,

Most of the critical factors in determining whether the “green economy” becomes a reality will be played out at local and national levels.

and so on. Opportunities to create “green jobs” depend less on international factors than on local characteristics (e.g., the availability of skilled labor; regulations and incen-

tives put in place by local and national governments; investment options; comparative advantage through location, natural resources, etc.). Accountability for decisions taken and policy coherence is most needed at the local level to ensure that the progress made in meeting social and environmental needs at one level is not wiped out through conflicting measures or actions at another level.

All of this takes place outside the purview of international governance. Where there is a key role for some form of global action is in legitimizing such activity where useful, in making connections between different contexts to enable learning and collaboration, and in addressing trans-national factors that impede progress at lower levels of governance.

1 Hall, C. A. S. and J. W. Day. 2009. Revisiting the Limits to Growth After Peak Oil. *American Scientist*, 97(2). See also Turner, G. 2008. A Comparison of ‘The Limits to Growth’ with Thirty Years of Reality. Commonwealth Scientific and Industrial Research Organisation (CSIRO). Available at <http://www.csiro.au/files/files/plje.pdf>.

2 Hall, C. A. S. and J. W. Day. 2009.

3 Ward, B. and R. Dubos. 1972. *Only One Earth*. Harmondsworth: Penguin Books. (p. 284) “Some developing governments fear that tighter environmental controls might be used as further barriers to their overseas sales. How do we know, they argue, that this new concern with the environment is an honest one?... The fact that the developed nations’ increased interest in the human environment has coincided, among some of the wealthiest of them, with an apparent loss of concern for development assistance does little to allay such fears.”

4 Meadows, D., D. Meadows, and J. Randers. 2004. *Limits to Growth: The 30 Year Update*. Vermont: Chelsea Green Publishing.

5 Hamilton, K., G. Ruta, K. Bolt, A. Markandya, S. Pedroso-Galinato, P. Silva, M. S. Ordoubadi, G. Lange, and L. Tajibaeva. 2005. *Where is the Wealth of Nations?* Washington D.C.: The World Bank.

6 Brandt, W. 1983. Foreword to *Common Crisis. North-South: Co-operation for World Recovery*. The Brandt Commission. Available online at http://files.globalmarshallplan.org/inhalt/coc_2.pdf.

4. Governance of International Trade for the Green Economy

by Ricardo Meléndez-Ortiz*

“If a term has many diverging definitions, it is better to begin by assuming that it is full of meanings. For none of the main ideas of our civilization has a single meaning.”

Walter Lippmann,
Essays in the Public Philosophy (1955)

ON ECONOMICS AND SUSTAINABILITY

In its simplest formulation, the “green economy” refers to economics in the name of sustainability: a system of interactions among markets, environmental forces, and social policies that supports human subsistence and freedoms over generations.

Sustainability broadens the study of economics, moving it beyond the assumption that utility sufficiently explains individual behavior and that certain “natural” laws govern market exchanges. It calls for a reformulation of economics in the direction proposed by Amartya Sen, bringing together modern economics and the foundations of the moral philosophy of welfarism, thus welding economics to the natural resource realities of today, the rapidly integrating global market, and the blinding pace of technological innovation supporting it.

If economics intends to “understand, explain and predict human behavior” to inform “prognosis and policy” in the service of sustainability, tinkering with concepts of classical economic thought may not give us all the tools that we now need.¹ Sustainable development requires that economic actors be guided by an Aristotelian “god-like” aim, not by the “good of man.” In Adam Smith’s words, good citizens promote the “welfare of the whole society.”² Today, in the context of sustainable development, such aims refer to an inter-generational imperative as well.

We need to ensure that institutional arrangements and decisions do not hurt our ability for maintaining or improving future living standards. Moreover, by capturing the negative externalities of our natural resource use, our economic

institutions and systems should be managed so that we can live off the dividends instead. We need to distinguish “between survivability, which requires welfare to be above a threshold in all periods, and sustainability which requires welfare to be non-decreasing in all time periods.”³ We need to provide incentives that protect rainforests rather than turn them into charcoal.

We are currently transitioning from a world of plenty into one in which the planet’s resources have been compromised in their ability to sustain our routines. We are also in a world of global economic and social multi-level governance. From the perspective of the trade system of today, how can we get to sustainability? And what is the role of institutions in the creation of a green economy?

THE GOVERNANCE WEB

Trade and sustainable development hinge on institutions. In the absence of a formal worldwide authority, governments need to ensure that domestic and international institutions interact constructively to pursue sustainable development goals and not work at cross-purposes. Several crucial sustainable development policies will have ramifications for commercial exchange. Shaping and managing this intersection is the governance challenge. While national governments can establish sustainability directives for ministries, this is not an option available at the multilateral level. Global “governance,” rather than “government,” recognizes a system that operates under formal and informal rules and practices arising from multiple sources, and in which efforts are accountable to multiple stakeholders.⁴ Getting these rules to reinforce each other and work together coherently is critical. To do this, governments will need to work innovatively within and across institutions.

The challenges are manifold. Population growth is concentrated in the poorest countries, where meeting basic human development needs and aspirations entails increased resource use. Increasing wealth in the developing world—a good thing—involves changing diets and boosting demand for resource-intensive food, which puts more pressure on nature and energy systems. Climate change impacts are complicating the picture even more.

New policies governing investment, finance, energy, and knowledge are necessary to harness economic activity into modes of production that favour resource conservation. However, the current trading system—which encompasses the multilateral rules of the World Trade Organization (WTO) together with the growing landscape of bilateral and regional trade agreements—is not yet fully equipped to steer economic activity towards new pathways.

Let us have no illusions about the trading system's capacity to play a driving role. Most of the decisions necessary to set the planet on a course to sustainability will not be made within the trading system, but virtually all such policy decisions—from the internalization of environmental costs to policies that encourage innovation—will impinge on trade: what we produce, where we produce it, and how we exchange it. Some policy will overlap with issues now dealt with by international trade rules, such as intellectual property, standards, and protections for foreign investors. There are ample opportunities for policy-makers and influencers to ensure that trade-related policies do not detract from the pursuit of sustainable development.⁵

At the same time, the trading system must remain true to its own principles and not allow environmental policy to become a pretext for governments to engage in discriminatory practices or pander to influential domestic economic actors. Trade and investment policies determine allocation and use of resources, from minerals and labor to knowledge and soil. Individual societies' abilities to govern domestic resources are affected by the international regulatory systems for trade and investment—systems that they, in turn, can influence.

The idea is simple enough, but governments have a record of taking with one hand what they have given with the other. By conflating development policy with development aid, they have too often ignored the developmental effects of their trade, investment, immigration, and environmental policies. The classic example is levying high tariffs on goods exported by aid recipients. A more complex narrative comes from the incoherence of governments' pursuit of a fundamental global developmental goal: food security, which has been an international policy objective for decades. Yet, nearly one human in six still does not get enough food to lead a healthy and active life.

One problem linked to trade governance is well known: Rich country farm subsidies and tariffs push down prices and weaken incentives for developing country governments, or the private sector, to invest in agricultural production and build roads and the other rural infrastructure necessary to support it. The Uruguay Round trade talks, which brought agricultural tariffs and subsidies into the scope of multilateral trade rules, failed to correct these practices. Decades of low productivity and low farm prices pushed many small farmers in developing countries to look for other sources of income. In the process, they became net buyers of food. When food prices rose in 2007–08, many developing country farmers got caught in the middle. Correcting these problems requires an

evidence-based approach that allows countries to rise above commercial and mercantilist interests and conclude the WTO's Doha Round. Coherent, cooperative action on land-use across the governance board—whether on forests, water, biodiversity or climate—is another urgent need that must be addressed.

BUT...

It is not possible to look at trade governance processes in isolation from broader governance challenges. Modern international institutions must operate in circumstances they have never had to confront before: an increasingly multi-polar world. No single actor can impose its will on others. Moreover, the worst financial and economic crisis in decades has devastated some of our core assumptions about the global economy. As a result, major powers now disagree on fundamental aspects of how economies should be organized. Concordant beliefs and expectations are necessary to motivate action and change in international regimes.

Even though “policy coherence” is a phrase used too much and followed too little, it is a concept to which we must return as we begin talking of building a “green economy.” Our collective failure to produce global public goods, such as updated multilateral trade rules that respond better to poor countries’ needs or curb greenhouse gas emissions, has been due at least in part to an inadequacy of what has been called “cosmopolitics”—“global political action transcending a strict state-to-state, or multilateral, basis.”⁶

DOING WITH WHAT WE HAVE—INCREMENTALLY

The rules and practices embodied in the multilateral trading system offer governments ample potential to take action on current and future challenges linked to sustainable development—it’s just that governments have not purposefully taken advantage of them yet.⁷ Making trade governance more supportive of sustainable development will require governments to change their behavior. Networks that bring together civil society, business, international organizations, and governments have done sterling work on several challenges, from public health to environmental protection and corruption. But trade institutions largely remain an enterprise between governments.

Moreover, the “legislative” or rule-making function of the WTO and other trade institutions is likely to remain limited to government participation only. Outside input into their “ideational” function—identifying which issues to discuss, and potential solutions—is desirable, especially from non-traditional sources (i.e., those other than business). But here too, governments will play a central role.

Even if a “trisectoral network” analogous to the World Commission on Dams was created to bring governments, business, and civil society together to think through the challenges of making the trade system contribute positively to a green economy, any recommendations would have trouble being heard at the WTO unless the initiatives received member governments’ blessing.

To make sense of a chaotic and disorderly system, the hundreds of preferential trade arrangements of various types and coverage is a good place to start. The WTO has failed miserably to bring consistent rules here. A continuing black mark for the trading system is the vastly uneven capabilities among governments to assess their own needs and grasp the implications for global challenges of the complex web of arrange-

A continuing black mark for the trading system is the vastly uneven capabilities among governments to assess their own needs and grasp the implications for global challenges of the complex web of arrangements.

ments. And the development of such preferential agreements in a closed, competitive approach results in a fragmentation of markets at various levels. One proposal, a review by a Global Task Force of Ministers, may help minimize inefficiencies and complexities inherent in the current system. This may lower the bar of meaningful participation from Olympian heights and make coherence more plausible.

On this same path, countries need to update trade rules that are not working for sustainable development. The *de facto* differentiation among developing countries that has emerged in the Doha Round negotiations could become a springboard for a bold experiment in giving nations more policy space to respond to risk, unsustainable situations, or vulnerabilities. Parties to bilateral trade agreements could alter investment provisions so that they are not used as a sword against legitimate health and environmental action. WTO members could act to anticipate potential challenges to trade governance that might arise from governments’ pursuit of sustainable development, enabling a nimble response.

WTO members would do well to build on existing subsidy rules to identify and target government handouts that damage the environment; for example, government procurement rules and standards on process and production methods or measures addressing carbon content could be developed following non-discrimination principles, ensuring prevention of disguised protectionism.

In the past few years, countries have been able to provide expression in trade terms—through particular prescriptions for market access, for instance—to the intractable concepts of food security, sustainable livelihoods, and rural development. They have done it in the context of Doha’s negotiations by recognizing and classifying the particularities of specific products in terms of agro-ecological conditions, nutritional intake, employment relevance, and a long list of indicators that despite its hard reality would otherwise be unapparent to multilateral policymaking. While the possibilities are there, countries can only shift direction and rearrange objectives if driven by compelling vision and political leadership.

BROADENING THE SYSTEM

Issue-specific cooperation outside trade-related institutions could amplify the contribution that trade governance could make to sustainable development. For instance, while continuing the slow process of reducing rich country farm subsidies inside the WTO, governments collaborating in the Organisation for Economic Co-Operation and Development (OECD) could agree to a tax on farm subsidies, with the proceeds directed at funding agricultural research and development and extension services in developing countries.⁸

Having to pay extra for the privilege of subsidizing would potentially make governments think twice about lavish farm programs and their international consequences. Investing a share of subsidy money directly in boosting agricultural productivity in developing countries would amplify the effects of the WTO’s subsidy reform process. A farm subsidy tax may be wishful thinking. But a different trade issue with direct ramifications for food security—including agricultural export bans—will be impossible to address without serious complementary policies.

Sudden bans of farm exports are not good policy: Not only do they “starve your neighbor,” they discourage investment to boost future production.⁹ But export bans do make a lot of sense to a government faced with rioters demanding cheaper food. Similarly, growing rice in solar-powered greenhouses, fed by groundwater and cooled with seawater, seems preposterous from both a cost standpoint and an environmental one. But Djibouti started doing it when it felt that it could no longer trust world markets for its food supply.¹⁰

Action outside the WTO could enhance the sustainable development impacts of the Doha talks to liberalize trade in environmental goods and services. Research in renewable energies suggests that tariffs are just one in many factors determining whether companies choose to invest in green technology.¹¹ Other policies,

such as “feed-in tariffs” guaranteeing a price for renewable electricity, subsidies for components, and the use of renewable energy tax breaks, matter at least as much. If a group of governments got together and cooperated on these other factors—for instance, by harmonizing standards or making them interoperable, and establishing incentives for the sharing of trade secrets linked to green technology—it would substantially expand the market for environmental goods.

Similar institutional subsidiarity action is called for in the case of regulation of use of genetic resources and traditional knowledge, a key aspect of building incentives for the protection of biodiversity. Governments could act at the WTO to amend the intellectual property agreement, which provides the global baseline for patent rules, to include a genetic resources disclosure requirement for patent applicants. The Convention on Biological Diversity could finalize a protocol spelling out the rules guiding access to those genetic resources, as well as the sharing of benefits that arise from them. The World Intellectual Property Organization could develop an instrument to protect folklore and traditional cultural expressions, while also serving as a repository for best practices on the protection of genetic resources.

More immediately, consistency in financing responses becomes urgent as the international community comes to grips with wants of developing economies in the face of emerging challenges. Today, an Aid-for-Trade (A4T) initiative has been established at the WTO involving major international financial institutions. Within two to three years of implementation, resources at a magnitude of approximately \$5 billion per year were flowing. In 2006–2007, total new commitments from bilateral, multilateral donors and others had reached over \$50 billion.¹² At the same time, the Kyoto Protocol unleashed climate mitigation funding for developing countries. Commitments under the United Nations Framework Convention on Climate Change and the December 2009 Copenhagen Accord have lined up \$30 billion for immediate release in 2010–2012. This flow of funds is expected to ramp up to \$100 billion per year by 2020 to attend to the adaptation and mitigation requirements of developing countries.

In moving towards a green economy, A4T and climate financing may be addressing similar and synergetic objectives: from specific analytical and policy capabilities, to shifts in production, material needs, and challenges to competitiveness. Operational realities will dictate the obligation of addressing trade and climate financing in a coordinated manner. A sound understanding of needs, ways, and means to effect demonstrable change is still to be fully developed, as is an efficient and responsive governance scheme. Lessons learned in the financing

of climate change accords and the elaboration of national adaptation plans of action, as well as the World Bank's endeavour to draw poverty reduction strategy papers as basis for development financing, should inform the push for coherence. Devising an institutional apparatus that brings together donors with recipient countries around the goal of coherence and coordination is a primary task in the governance of trade for the green economy.

FINAL THOUGHTS ON TRADE AND THE GREEN ECONOMY

Today's trade system may be incapable of steering the world into a "green economy." It is, however, a wisely constructed governance device, with valuable principles for the management of interaction among members at different levels of development. Yet it is a system informed by a theoretical perspective of economics and the *homo economicus* questionable from a sustainability perspective.

A firm political will, articulated in the form of a compact for shared vision agreed upon at Rio+20, may trigger reform and make it possible.

In the absence of a review to complement it, tinkering with what we have may move us closer to shifting pathways, but only if societal concerns are introduced in an operative

manner and responsive adaptations to the system are added in strategic steps. A firm political will, articulated in the form of a compact for shared vision agreed upon at Rio+20, may trigger reform and make it possible.

Establishing a governance system for trade that supports the green economy would take time—whether ruinously too long is in our leaders hands. And time is the real test.

* This short essay borrows partly from *Trade Governance and Sustainable Development*, by R. Meléndez-Ortiz and T. Biswas, in *Making Global Trade Governance Work for Development: Perspectives and Priorities from Developing Countries*. C. Deere Birkbeck, (ed.), forthcoming from Cambridge: Cambridge University Press in 2011.

1 Sen, A. 1987. *On Ethics and Economics*. Cambridge: Basil Blackwell.

2 Smith, A. 1776:1904. *The Wealth of Nations*. E. Cannan, ed. London: Methuen and Co., Ltd.

3 Munasinghe, M. 1993. Environmental Economics and Sustainable Development. *World Bank Environment Paper No.3*. Washington, DC: The World Bank.

4 Najam, A. 2003. The Case Against a New International Environmental Organization. *Global Governance*, 9(3): 367-384.

5 Najam, A., R. Meléndez-Ortiz, and M. Halle. 2007. Searching for Southern Agendas on Trade and Environment, Chapter 1 in *Envisioning a Sustainable Development Agenda for Trade and Environment*, A. Najam, M. Halle, and R. Meléndez-Ortiz. New York: Palgrave MacMillan.

6 Charnovitz, S. 2002. WTO Cosmopolitics. *New York University Journal of International Law and Politics* 34: 299-354.

- 7 Meléndez-Ortiz R. and T. Biswas. Forthcoming 2011. Trade Governance and Sustainable Development, in *Making Global Trade Governance Work for Development: Perspectives and Priorities from Developing Countries*, C. Deere Birkbeck (ed). Cambridge: Cambridge University Press.
- 8 Biswas, T. 2010. "Let's counter the damage of subsidies," letter to the *Financial Times*, 8 September.
- 9 Ryan, M. 2008. "'Starve Your Neighbor' Policy Roils Food Trade. *Reuters*. 5 March.
- 10 Martin, A. 2008. Mideast Facing Choice Between Crops and Water. *The New York Times*, 21 July.
- 11 Jha, V. 2009. Trade Flows, Barriers and Market Drivers in Renewable Energy Supply Goods: The Need to Level the Playing Field. *Bridges Trade BioRes Review* 3(3), December. Geneva: International Centre for Trade and Sustainable Development. Available at: <http://ictsd.org/i/news/bioresreview/64027>.
- 12 OECD and WTO, 2009. *Aid for Trade at a Glance 2009: Maintaining Momentum*. Paris and Geneva: Organisation for Economic Co-operation and Development and World Trade Organization.

5. Consuming Environments: Options and Choices for 21st Century Citizens

by Stacy D. VanDeveer

Our world's \$70 trillion economy, with nearly seven billion humans in more than 190 independent countries, makes truly unprecedented demands of the earth's resources. We grow, extract, produce, and trade vastly more than ever—and we emit more wastes into the global environment than ever. Yet, it is not only the dramatic and growing ecological costs of our species' massive use of resources that concern many activists, scholars, states, and firms around the world. As we make enormous and growing demands on the earth's resources, we also make growing demands on each other and our political institutions.¹

Crucially, “we” humans consume resources very unequally. The wealthiest one to two billion drive global consumption. Frankly, the earth cannot sustain the material throughput of seven to nine billion people in the coming decades, if all consume as many resources

as the wealthiest billion do now. If we are to have a more equitable, more sustainable 21st century, we must address the connections between ecological degradation, human security, and consumption.

If the green economy refers mainly to developing and deploying a few “cleaner” technologies and shopping for more eco-friendly products, the many developmental and environmental goals the international community has set for the next decades will not be met. We need states and international institutions that work, and markets that engender sustainability rather than undermine it. And, we need to be citizens, rather than simply consumers and employees.

If the green economy refers mainly to developing and deploying a few “cleaner” technologies and shopping for more eco-friendly products, the many developmental and environmental goals the international community has set for the next decades will not be met.

RESOURCES, INTERNATIONAL POLITICS, AND REALITIES

Humans have been fighting over resources, and cooperating with each other to trade, manage, and share them, throughout our history. Concerns about access to oil, uranium, and other critical resources were integral parts of planning and strategy in World War II, and they lurked beneath the global ideological struggles of the Cold War. The 21st century's globalizing economic, political, and social processes have pushed the local and global politics of resources back into the top tier of issues in world politics.

Traditionally, international politics scholars have focused analysis on state cooperation and/or conflict dynamics around issues of resource control and access. They have paid less attention to the growing material consumption in the global economy and to the inclination of global markets to push ecological damage and humanitarian degradation out of sight of consumers and their political representatives. More analysis that connects international politics among states over access to natural resources with the causes and ramifications of accelerating resource consumption is needed. So is a deeper examination of attempts by states, non-governmental organizations (NGOs), and firms to curb the ecological and humanitarian abuses incumbent in contemporary global markets and consumption.

The resource/commodities trade has long fueled and funded violence, abuse, and ecological destruction. Examples of this fact abound. Resources can be the subject of military conflict, or the means to raise the money that fuels weapons purchases or oppressive patronage networks and authoritarian governments. Resources are centrally important in politics among the world's great military and economic powers, as well as the subject of politics and activism in local communities and within families. But to understand global resource politics, we start by accepting three facts and trying to think thoroughly about their connections and ramifications:

- (1) Consumption uses things up;
- (2) The world is a very unequal place;
- (3) Scarcity can induce both human cooperation and conflict.

GLOBAL CONSUMPTION IN AN UNEQUAL WORLD

By now it is well known that we humans are consuming vast quantities of natural resources and changing our local, national, and global environments in the process. Furthermore, everything comes from somewhere. Whether the things we

consume are grown, captured, mined, or manufactured—or some combination of all of these—they come from somewhere. In the 21st century, these “somewheres” are often geographically and socially distant from most “consumers.” People and communities are involved in the complex international processes that create, finance, harvest, distribute, and sell the things we use in our daily lives. If we are to understand ever-expanding material throughput in our world (and global resource geopolitics), then we must remember that consumption happens at every stage or within every transaction along commodity and product chains.² At every stage, with every interaction, things are used up. Every transaction along these chains or webs of economic and social relations consumes resources.

The social and environmental conditions in which things are grown, harvested, and mined are often quite grim—in ecological and humanitarian terms—and often unregulated. Through complex commodity chains, the environmental and social implications of the things people consume are hidden or distanced from their everyday lives. Distancing of the implications of consumption severs feedback of information and ideas between social groups involved in commodity chains. It obscures the costs (often called the ecological and human externalities) of our activities. In other words, the prices of goods do not reflect the costs—environmental, social, human, or political—incurred in their growth, extraction, design, production, trade, use, and disposal.

According to one recent estimate, humans consume about 50 percent more natural resources than they did 30 years ago, with people in wealthier countries consuming 5 to 10 times as many resources as those in poorer ones.³ The same study also notes that we have become more economically efficient over time, using 30 percent fewer resources to produce each dollar or euro of gross domestic product. North American consumerism begets a lifestyle associated with ravenous consumption of resources—energy, minerals, foods, and products of all types. We also know such consumptive patterns and institutions are being replicated around the world (mostly) by wealthy urbanites in many countries. For example, consumption of fossil fuels, beef, and bottled water continue to grow as the number of automobiles in the world passes one billion on its way to two billion and beyond.⁴ Such lifestyle choices globalize some of the most ecologically damaging and inefficient aspects of Northern consumer culture. Can this process continue? By 2005, Americans used 50 billion bottles of water in a country where tap water is safe to drink in almost every location.⁵ Can such trends be globalized without engendering more violent conflict and without massive ecological and humanitarian degradation?

As global consumption grows, the world remains a very unequal place. About 40 percent of the world's 6.8 billion people live in poverty (defined by the World Bank as living on less than \$2 per day). Almost one billion people live in even more desperate poverty—on less than \$1 per day. In fact, about 80 percent of the global population lives on less than \$10 per day—about what it costs to see a film or buy a couple of beers in much of the global North. More than 50 countries (more than a quarter of the total number) are actually poorer, per capita, than they were in the 1970s. Hundreds of millions have no access to clean water or

As global consumption grows, the world remains a very unequal place. About 40 percent of the world's 6.8 billion people live in poverty (defined by the World Bank as living on less than \$2 per day). Almost one billion people live in even more desperate poverty—on less than \$1 per day.

medical care, regularly experience hunger and malnutrition, and live with little or no hope of improvement in these conditions.⁶ These lives are nearly unimaginable for most North Americans and Europeans—and increasingly unknown to urbanites in

booming cities around the globe. The world's poor and lower income citizens do not drive growing global overconsumption or accelerate global competition for resources, nor do they drive global resource scarcities.

Let us use carbon emissions as an example. While the average U.S. citizen emits almost 20 metric tons of carbon each year, the average European or Japanese citizen emits less than half of that, with similarly high standards of living. Chinese per capita emissions are about five metric tons, and average per capita emissions for India and most of Africa are less than two metric tons per year.⁷ So, while the African population grows much faster than that in North America, Europe, or China, it is not Africans whose consumption is rapidly changing the global climate. Nor is their consumption driving the global economy and its growing demands on the earth's resources. Africans, however, will suffer the consequences of the global climate change they did not cause. Africa also plays host to many of the violent and ecologically damaging aspects of global resource trade and politics—and the world's largest states and industries play key roles in these politics.

Contemporary concern about consumptive and social justice aspects of "globalization" has resulted in a host of state and non-state attempts to address the negative environmental and social conditions in producer communities around the globe. In recent years, scholars' attention to consumption issues has grown, as the aggregate demand of our species continues to increase and as the environ-

mental and human health implications of global resource consumption mount.⁸ Environmental and social justice advocates have also turned their attention to combating overconsumption and to ecological and humanitarian costs of unregulated, or badly regulated, agricultural production, mining, and manufacturing around the world.⁹

Organizations such as Worldwatch Institute, Friends of the Earth, Oxfam, WWF, Global Witness, Fair Trade International, and thousands of other NGOs are working tirelessly to reduce the environmental damage and human exploitation accompanying the growth of global wealth and trade. Furthermore, some states are working together, and with international organizations, NGOs, and private sector organizations, to attempt to reduce corruption and improve governance in areas such as diamond mining and the oil and gas sector. Analysis of these diverse efforts yields insights about their origins, design, and effectiveness, contributing to our understanding about the evolving roles of public, private, and civil society actors.

NON STATE-LED ACTIONS, OPTIONS, AND POLICIES

What can be done about the many environmental, security, and humanitarian issues raised here? What is already being done? What is working? What can we learn from innovative attempts to enhance sustainability occurring at different scales across the global North and South? Such questions and their answers must animate the analysis and debates in Rio and beyond. The good news is that there are a host of non-state-led and state-led efforts underway from which to draw lessons and build knowledge, and around which to enhance cooperation.

Hundreds of millions of people in the global North and South depend on commodities markets for their livelihoods, to say nothing of those who now reap the tremendous benefits modern societies and economies afford. A reasonable estimate is that nearly 150 million production workers (non-retail) and nearly 500 million households depend on the production of basic commodities.¹⁰ This number does not include the millions more dependent on the production of thousands of finished goods. Even if it were possible for higher income societies and consumers to stop consuming commodities, throwing hundreds of millions of families out of work and leaving them without any means of support would not beget sustainable development either. Few want to return to Stone Age lifestyles or life spans. So, what can be done?

Several sets of policy options currently pursued and/or suggested by analysts around the world are designed and championed by non-state actors in

civil society and/or the private sector. Some are designed to reduce aggregate material throughput in consumer societies, while most are intended to address specific aspects of the ecological and humanitarian damage engendered by the contemporary, globalizing political economy. Most may be deployed or experimented with at multiple levels of social organization, from local to global. Four overlapping types of initiatives have dominated recent practice and scholarly attention:

- awareness raising and education,
- certification and labeling schemes,
- corporate social responsibility, and
- ethical consumption/purchasing movements and campaigns.

Research has begun to assess the origins, operations, and evidence of impacts and effectiveness associated with these types of non-state led activism and governance. Prominent examples include certification and labeling associated with the Fair Trade movement and its thousands of products, the Forest Stewardship Council and the Kimberley process, the work of Transparency International to reduce corruption and improve governance, and the increasing institutionalization of social responsibility and sustainability initiatives within many of the world's largest corporations and industrial sectors. While these initiatives are not primarily led by state actors, public sector actors and institutions may still play important roles. So, for example, government bodies may decide to purchase certified goods whenever possible, or to convene meetings and take other actions to engender corporate responsibility initiatives or disseminate their insights. In fact, many of these non-state-led initiatives are most active and influential where states function most effectively. In other words, non-state-led initiatives remain heavily reliant on and involved with states and the state system.

STATE-LED ACTIONS, OPTIONS, AND POLICIES

State-led policy options are also proliferating and under analysis around the world. Some initiatives are (occasionally) designed to reduce aggregate material throughput in consumer societies or (more often) to address specific aspects of the ecological and humanitarian damage stemming from the contemporary, globalizing political economy. All build on, and draw lessons from, existing and ongoing political action and institutions. Again, most of the options may be deployed or

experimented with at multiple levels of government, from local to global. Five overlapping types of initiatives currently receiving attention include the following:

- national regulations,
- effective international standards,
- adjustment of subsidies,
- tax externalities, and
- building governance capacities.

The growing analytical literature suggests that state action remains powerful, and sometimes uniquely essential, in contemporary politics and markets if environmental and social standards are to be raised. So, for example, if national and global energy efficiency is to be rapidly improved (thereby reducing energy consumption and polluting emissions), effective policies and regulations are often required. Furthermore, research in both wealthier and developing countries suggests that states can accomplish tasks and accrue advantages by enacting such policies even when other states have not. So most states need not wait for global agreement on everything (or anything) to act. Reasonable national policies to reduce some types of consumption or increase efficiencies—such as carbon or energy taxes, product efficiency standards, or the reduction of ecologically damaging subsidies—can be effective absent global agreement about them. Some states can and do act unilaterally. Others act in groups. In some areas of energy and environmental policy, the European Union has demonstrated that setting and implementing the globe's most stringent policies can in fact serve to advance (not limit) one's economic and political interests.¹¹

States can also seek to work through existing or newly established international organizations to set and implement standards and guidelines. These can be imbedded in global international law, such as within international trade or environmental agreements, or developed and promulgated by non-legally binding (or voluntary) initiatives such as those spearheaded by UN organizations. As other contributions to this report argue, transnational and inter-state cooperation often require effective institutions and organizations.

PROTECTING OR CONSUMING EACH OTHER?

If global sustainable development is also about improving the lives of the world's poorest and most marginalized, then addressing issues of overconsumption in

some societies cannot simply mean consigning others to perpetual, grinding poverty. The challenge of greater sustainability—political, economic, and social—is to ensure or engender a high quality of life for all of the nearly seven billion

The challenge of greater sustainability—political, economic, and social—is to ensure or engender a high quality of life for all of the nearly seven billion people of today and the nine to 10 billion expected by mid-century, without exceeding the capacity of our planet’s ecosystems.

people of today and the nine to 10 billion expected by mid-century, without exceeding the capacity of our planet’s ecosystems. As the list of non-state-led and state-led initiatives outlined above illustrates, there is a growing menu of options facing

domestic and international actors in the global North and the South. It also illustrates that changes must occur in the public, private, and civil society sectors—changes that produce more effective and more sustainable states and markets.

In sum, we can ask whether people—citizens—want a global politics designed to protect humans and nature from exploitation, or a politics designed to facilitate consumption of things, people, and nature. Informed consumer purchasing decisions may slightly reduce negative implications of some individual purchases, but they cannot substantially alter the foundational international economic and political dynamics. Ethical shopping therefore should not be expected to substantially reduce human and natural exploitation or the violence and oppression associated with resource markets on their own. When do people act as citizens, rather than as consumers? Similar questions can be asked of NGOs, firms, non-state governance, and states. The options listed above—and many more—require engaged citizens at multiple levels of authority and across public, private, and civil society sectors, if the character and outcomes of global politics and markets are to be altered and transformed.

1 Parts of this argument are based on VanDeveer, S. D. 2011. Consumption, Commodity Chains and the Global Environment in *The Global Environment: Institutions, Law and Policy*, Third Edition. R. Axelrod, S. D. VanDeveer, and D. L. Downie (eds.). Washington D.C.: CQ Press.

2 Princen, T., M. Maniates, and K. Conca. 2002. *Confronting Consumption*. Cambridge, MA: MIT Press.

3 Sustainable Europe Research Institute (SERI). 2009. *Overconsumption? Our use of the world’s natural resources*. Vienna: SERI. Available at <http://seri.at/news/2009/09/24/overconsumption>.

4 Worldwatch Institute. 2007. *Vital Signs 2007–2008*. New York: W. W. Norton & Company; Sperling, D. and D. Gordon. 2009. *Two Billion Cars: Driving Toward Sustainability*. Oxford: Oxford University Press.

5 Abel, D. 2009. Battle to expand bottle law heats up. *The Boston Globe*, 8 October.

6 Stiglitz, J. 2006. *Making Globalization Work*. New York: W. W. Norton & Company, Inc.

- 7 Netherlands Environmental Assessment Agency. 2008. *Global CO2 Emissions: Increase Continued in 2007*. Bilthoven: Netherlands Environmental Assessment Agency. Available at <http://tinyurl.com/CO2increase>.
- 8 Princen, T. et al., 2002; Princen, T. 2005. *The Logic of Sufficiency*. Cambridge, MA: MIT Press; Dauvergne, P. 2008. *The Shadows of Consumption: Consequences for the Global Environment*. Cambridge, MA: MIT Press; Worldwatch Institute. 2004. *State of the World 2004: The Consumer Society*. New York: W. W. Norton & Company; Pirages, D. and K. Cousins (eds.). 2005. *From Ecological Scarcity to Ecological Security: Exploring New Limits to Growth*. Cambridge, MA: MIT Press.
- 9 SERI. 2009; WWF. 2008. *Living Planet Report 2008*. Switzerland: WWF International. Available at assets.panda.org/downloads/living_planet_report_2008.pdf.
- 10 Figures compiled by the author.
- 11 Selin, H. and S. D. VanDeveer. 2006. Raising Global Standards: Hazardous Substances and E-Waste Management in the European Union. *Environment*, 28(10): 6-17; Schreurs, M., H. Selin, and S. D. VanDeveer (eds.). 2009. *Transatlantic Environment and Energy Politics: Comparative and International Perspectives*. Aldershot: Ashgate.

6. Managing the Challenges of Interlocking Resources

by Bernice Lee

Environmental change and resource constraints are adding to the complexity of international relations in an already turbulent world. The anticipated production bottlenecks—in food, water, energy, and the production of other critical natural resources and infrastructure—are bringing new geophysical, political, and economic challenges, and creating new and hard-to-manage instabilities.¹ They also have significant impacts on the global political economy, bringing new questions in respect to international law and the management of international regimes, as well as the distribution of resources.

Increasing globalization of supply chains—combined with higher incomes and population growth, in particular in the major developing countries—has seen both processing and consumption shift increasingly to developing countries. A study by Deloitte and the U.S. Council on Competitiveness points to a “new world order for manufacturing competitiveness” in less than a decade. Its Global Manufacturing Competitiveness Index highlights the rise in the manufacturing competitiveness of three countries in particular—China, India, and the Republic of Korea (Korea).² The continued growth of manufacturing and consumption hubs around the world, in particular in BRIC (Brazil, Russia, India, and China), is likely to lead to a consolidation and expansion of regional production networks. With this diffusion of demand and production centers, promotion of sustainable consumption—through the market power of the Organisation for Economic Co-operation and Development (OECD) countries’ consumers—will no longer be enough to drive change down supply chains in the coming decades.

It is now widely understood that astronomical demand growth from an emerging economy—driven by decades of industrialization and urbanization—is re-drawing the landscape for resources, from minerals, energy, and food to water. Water and land are likely to become increasingly important drivers of new investment decisions. Industry and power generation will feel the effects of water stress, most directly in the hydropower sector but also in nuclear and thermal power stations reliant on water coolant systems and in a wide range of manufacturing industries. There

has also been renewed interest in issues relating to resource security, the environment, and political change. Neo-Malthusian concerns about over-consumption and resource scarcities are not new; they have been around—and growing—since the 1960s, the most famous being the Club of Rome’s report titled *The Limits to Growth*.³

The combined effect of this resources demand growth together with shifting wealth to emerging economies is yet to be thoroughly analyzed and translated into policy planning practices. Emerging Asian economies have doubled their share of global output in the past two decades, for example. By 2030, non-OECD member countries as a group could account for as much as 57 percent of global gross domestic product (GDP) on a purchasing-power parity basis.⁴ In 2010, China overtook Japan as the world’s second largest economy in terms of nominal GDP, even though its per capita GDP—at U.S. \$3,678—is still one-tenth of Japan’s. The increasingly blurred dividing line between developed countries and the emerging economies is likely to create new and difficult dynamics for the governance of the new green economy.

As traditional OECD importing countries decline as consumers in relative terms, will their power as rule-setters in international markets and the global economy fall correspondingly? Will the increasing dominance of the newcomers change the business models and operational assumptions? Lessons can be drawn, for example, from the oil and gas markets—manifest not least by the International Energy Agency’s (IEA) moves to include China and India in its strategic supply mechanism.⁵ State-backed Asian resource investment strategies are changing the business environment for competitors in extractive industries and other infrastructure investments in developing countries. The traditional consumer and producer blocs will be less able to influence oil prices over the mid to long term, for example—and that will increase volatility.⁶

Societal responses to resource threats—potentially exacerbated by climate change impacts—will change the established patterns of relations between producers and consumers of energy, food, and other natural resources. In the transition to the global green economy, there will be winners and losers. Before new models of global governance of resources are developed or old ones adapted—each with different operational assumptions and a different mix of consumer–producer dynamics—perceptions of insecurity will likely encourage stronger long-term strategic investments by the most import-dependent countries across the sectors. Today, Asian countries already prioritize long-term bilateral resource supply deals for oil, gas, and coal, sealed with political and economic support. And the search for water is already one of the driving forces

in the recent wave of deals between some of the major emerging economies and Arab Gulf states to secure land for agricultural production overseas.

As states and markets navigate their pathway towards delivering a global green economy, policy-makers and businesses must have a firm grasp of the challenges ahead in a resource-constrained world, including the possibility of a dramatic change of paradigm vis-à-vis resources access and use. This paper will explore three key dimensions that will pave the way for more responsible markets for a global green economy.

THE SECURITY IMPACT OF A RESOURCES-CONSTRAINED WORLD

Food, water, and other resources are already facing serious pressures, driven by demographic changes and shifting consumption patterns. Total consumption on this scale would exceed the tolerance thresholds of ecosystems and resources, whether cropland, rangeland, fisheries, or usable water.⁷ Individuals in the middle and upper classes increased resource consumption by more than 200 percent between 1960 and 2004.⁸ The impact of water scarcity is also likely to grow significantly in the future. By 2050, 75 percent of the global population could face freshwater shortages.⁹ Climate change impacts are expected to exacerbate these pressures, although to what extent will depend upon the policy choices that are made in the coming years.

These interlocking climate, resource, and development problems are increasingly understood as key accelerators to the range of risks and vulnerabilities policy-makers and citizens need to manage in the short, medium, and longer terms. Especially in the developing world, water availability, energy security, and the upward trend in costs for many resources together constitute significant new risks.

Despite increased recognition of the need to manage resource security and the potential political fallout, these interlocking issues are rarely considered in a systematic fashion by governments and industries. Following the financial crisis of 2008, the consequences of bad policy choices—and the cost of inaction and policy failures—should receive more attention. Policy planning runs the risk of preserving the prevailing assumptions and mindsets in terms of risk management, especially when dealing with complex issues with long-term time horizons and high scientific uncertainty.

At the policy level, the implications of dangerous climate change for security and political stability are increasingly recognized by the foreign policy and defense communities. The Center for Naval Analysis report says climate change can

become “a threat multiplier for instability in some of the most volatile regions of the world...”¹⁰ In 2008, the U.S. National Intelligence Council completed a new classified assessment that explores how climate change could threaten U.S. security in the next 20 years by causing political instability, mass movements of refugees, terrorism, or conflicts over water and other resources in specific countries.¹¹ The *Sydney Morning Herald* reported in early 2009 that an assessment completed in 2007 by the Australian Defence Force concluded that climate change and rising sea levels posed one of the biggest threats to security in the Pacific; these impacts might also spark a global conflict over energy reserves under melting Arctic ice.¹²

Risk management involves the consideration of extremely disruptive events and the implications of policy failures and/or inaction. Most actors have yet fully to consider and factor into their short- and long-term strategies the political, economic, and security impacts of the worst-case scenarios, or of unlikely but highly consequential events triggered by climate, energy, food, and water crises (and the response mechanisms to them). Environmental change-induced migration, for example, could become yet another driver of future patterns of resource use. Forecasts for the number of people moving because of environmental degradation and climate change vary widely, ranging between 25 million and 1 billion, depending on which of the Intergovernmental Panel on Climate Change scenarios occurs.¹³

In the run-up to Rio+20, the international community can come together to comprehend the risks of business-as-usual planning and practices around resource access, use, and management. First, a range of worst-case scenarios could be developed to enhance understanding of potentially dangerous geo-political and economic impacts of policy failures in this area. Second, the upcoming high-level panel on resources could put forward a range of practical international mediation mechanisms to mitigate or manage future resource-related conflicts.

RESOURCES SCRAMBLE FOR NEW TECHNOLOGIES?

To move into a global green economy, new technologies are needed to meet a range of goals. Most of the discussions on technologies focus on economic viability and cost. However, moving to lower carbon options may not be a complete escape from the security of supply issue. This means that in addition to considering the economic viability of green options, we must also explore issues around material availability and the politics of resources access. For example, the needed transformation of the energy sector to meet climate and supply security concerns has been described as the “third industrial revolution.” Currently available technologies can deliver significant benefits, especially those relating to energy demand. But many new green

technologies and materials will need to be either developed or scaled up in the coming decades, like renewable energy. In 2008, nearly one quarter of all investment in new generation was in renewable energy (excluding large hydropower)—a fourfold increase since 2003. These green technologies may require the use of a range of materials in significantly greater volumes, as seen in Table 1 and Table 2.

Table 1: Material Use of New Energy Sources

Problem	Solutions	Raw materials (application)
Future energy supply	Fuel cells	Platinum Palladium Rare earth metals Cobalt
	Hybrid cars	Samarium (permanent magnets) Neodymium (high performance magnets) Silver (advanced electromotor generator) Platinum group metals (catalysts)
	Alternative energies	Silicon (solar cells) Gallium (solar cells) Silver (solar cells, energy collection/transmission, high performance mirrors) Gold (high performance minors)
	Energy storage	Lithium (rechargeable batteries) Zinc (rechargeable batteries) Tantalum (rechargeable batteries) Cobalt (rechargeable batteries)

Source: *Materials Innovation Institute, November 2009*¹⁴

Table 2: Material Use of Other Environmental Technologies

Energy conservation	Advanced cooling technologies	Rare earth metals
	New illuminants	Flare earth metals (LED. LCD. OLED); Indium (LED. LCD. OLED); Gallium (LED. LCD. OLED)
	Energy-saving tires	Industrial minerals
	Super alloys (high efficiency jet engines)	Rhenium
Environmental protection	Emissions prevention	Platinum group metals
	Emissions purification	Silver; Rare earth metals
High precision machines	Nanotechnology	Silver; Rare earth metals
IT limitations	Miniaturization	Tantalum (MicroLab solutions); Ruthenium (MicroLab solutions)
	New IT solutions	Indium (processors); Tungsten (high performance steel hardware)
	RFID (hand-held consumer electronics)	Indium; Rare earth metals; Silver

Source: *Materials Innovation Institute, November 2009*

The development of new energy resources—as with the current options that they seek to replace—comes with new material and resource risks. These must be considered in risk assessment of new technologies. The predicted availability and price of a material will be an important consideration in the development of a particular design of a technology and will ultimately determine a technology's viability, as will its environmental and resource-use implications.

Let's take the example of rare earth metals (REMs), a group of 17 elements whose unique properties make them indispensable in many advanced technologies, including clean energy.¹⁵ High growth rates are forecasted for many REMs. Those related to battery use, such as neodymium, are expected to grow at 10 to 16 percent between 2008 and 2012, while those used in the manufacturing of batteries may grow between 15 and 20 percent per year.¹⁶ The new, more efficient wind turbines, using rare earth permanent magnet generators, require approximately two tons of rare earth magnets per windmill. Currently, China produces 97 percent of the world's rare earth supply, almost 100 percent of the associated metal production, and 80 percent of the rare earth magnets. Within the next 5 to 10 years, growth in China's domestic consumption will leave no capacity for export. China recently imposed export restriction on a range of REMs, citing domestic use for economic development as a reason, which is creating tensions with the U.S. and the European Union.¹⁷

Increasing awareness over the need for REMs has already triggered rapid supply responses: from the re-birth of metals recycling in Kosaka, Japan to new plans to reopen or establish new rare earth mines in South Africa, Australia, Canada, the United States, Vietnam, etc.¹⁸ But trade tensions over access to REMs illustrate the type of conflict that may proliferate in a resources-constrained world. The increasing national control of resource governance, as in the oil sector in the recent past, has placed restrictions on the global trade of some materials with the associated impact on the material availability and/or price. While many of these factors may only affect the individual manufacturer at the current time, there are important considerations for policy-makers and the wider business community.

Rio+20 provides an excellent opportunity for policy makers to come to grips with the resources and materials dimensions of new technologies, and to propose new public-private mechanisms in managing resources security for the green economy. This may involve a range of voluntary agreements to share critical resources in exchange for knowledge transfer.

MAKING MARKETS RESPONSIBLE FOR RESOURCES FOR THE GREEN ECONOMY

Addressing resource security questions would require generating multiple public goods from the same production systems or sectors. Unless incentives in international markets are aligned towards both environmental and resource goals, even well-meaning initiatives and efforts will not necessarily deliver the public policy outcomes needed for the green economy.

Environment and resource risk-related exposure of companies and governments will continue to come under increasing public scrutiny in the coming decades. Voluntary or mandatory reporting is increasingly common on carbon and is likely to extend to cover water, biodiversity and other environment-related factors.

As awareness of resource and environmental stresses continues to rise, innovation and investment in green goods and services is set to expand rapidly; companies and governments that are moving fastest will gain significant competitive advantages. Water constraints, for example, will provide business opportunities through innovation in water-efficient technologies and practices.

This race for green solutions is already evident in low-carbon sectors. It is also critical for policy-makers to reaffirm the key role of an open trading system in delivering cost-effective green goods and services. Markets for low-carbon energy products are likely to be worth at least \$500 billion per year by 2050, and perhaps much more, according to the Stern Review. Listed companies in the climate change sector already surpassed the Stern estimates in 2008—reaching a global turnover of \$534 billion. It also exceeds the \$530 billion turnover of the aerospace and defense sector.¹⁹ HSBC recently forecasted that the low-carbon energy market will triple to \$2.2 trillion by 2020.²⁰

While shifting economic power may erode the strength of OECD consumers in greening the supply chain, interdependence in global supply chains means that the market power of green consumers can continue to be harnessed in driving sustainable business practices and innovations strategies. On the occasion of Rio+20, progressive governments, businesses, and civil society leaders can co-convene a High-Level Panel on Sustainable Supply Chains to put forward a transformative vision that takes into account environmental as well as equity concerns. This could include piloting a comparable set of criteria for labeling and other tools for specific products.

-
- 1 Lee, B. 2009. Managing the interlocking climate and resource challenges. *International Affairs*, 85(6): 1101-1116.
 - 2 Deloitte Touche Tohmatsu and U.S. Council on Competitiveness. 2010. *Global Manufacturing Competitiveness Index*, pp. 13-16.
 - 3 Meadows, D. H., J. Randers, and E. E. Behrens III. 1974. *The Limits to Growth*. London: Pan.
 - 4 Organisation for Economic Co-operation and Development (OECD). 2010. *Perspectives on Global Development 2010: Shifting Wealth*, Executive Summary, p. 23.
 - 5 International Energy Agency (IEA). 2007. Press release, "As China and India become major players in global energy markets, it makes sense to share views with them on our common energy challenges," Nobuo Tanaka, Executive Director of the IEA. Paris, December 6.
 - 6 Lloyds and Chatham House. 2010. *Sustainable Energy Security: Strategic Risks and Opportunities for Businesses*. Lloyd's 360 Report.
 - 7 Stockholm International Water Institute, International Food Policy Research Institute, World Conservation Union, and International Water Management Institute. 2005. *Let It Reign: The New Water Paradigm for Global Food Security*. Final Report to the Commission on Sustainable Development meeting (CSD-13). Stockholm: Stockholm International Water Institute.
 - 8 Taylor, M. 2008. Economic growth puts global resources under pressure. *World Finance*, May 23.
 - 9 Hightower, M. and S. A. Pierce. 2008. The energy challenge. *Nature* 452: 285-6.
 - 10 U.S. Center for Naval Analyses. 2007. *National Security and the Threat of Climate Change*. Alexandria, VA: Center for Naval Analyses.
 - 11 Fingar, T. 2008. Written testimony by Thomas Fingar, Chairman of the National Intelligence Council, to U.S. Congress, "National intelligence assessment on the national security implications of global climate change to 2030," 25 June. Center for International Earth Science Information Network, Columbia University. 2008. Press release, "Climate change may challenge national security, classified report warns." New York, June 26.
 - 12 Taylor, R. 2009. Climate change threatens Pacific, Arctic conflicts. *Reuters*, 6 January. See also Borgerson, S. G. 2008. Arctic meltdown. *Foreign Affairs*, 87(2): 63-77.
 - 13 International Organization for Migration (IOM). 2009. *Migration, climate change and the environment*, IOM Policy Brief. Geneva: IOM.
 - 14 Material Innovation Institute. 2009. Material Scarcity Platform in the Netherlands, November. Delft: Material Innovation Institute.
 - 15 Smith, M. 2010. Written testimony, Mark A. Smith, Chief Executive Officer, Molycorp Minerals, LLC. House Science and Technology Committee, Subcommittee on Investigations and Oversight, "Rare Earth Minerals and 21st Century Industry," March 16.
 - 16 *New Energy Finance*. 2009. Unearthing the Rare Earth Market for Clean Energy Investors. January 15.
 - 17 China has imposed export restriction on Neodymium (Nd), Europium (Eu), Cerium (Ce) and Lanthanum (La) to 35,000 tons per year, and to completely stop the export of Thulium (Tm), Terbium (Tb), Dysprosium (Dy), Yttrium (Y) and Lutetium (Lu). See Smith, M. 2010. Written Testimony, Mark A. Smith, Chief Executive Officer, Molycorp Minerals, LLC House Science and Technology Committee, Subcommittee on Investigations and Oversight, "Rare Earth Minerals and 21st Century Industry," March 16.
 - 18 Tabuchi, H. 2010. Japan Recycles Minerals from Used Electronics. *The New York Times*, October 4.
 - 19 Harvey, F. 2009. Low-carbon industries come of age. *Financial Times*, September 17.
 - 20 HSBC Global Research. 2010. *Sizing the Low Carbon Economy*, September.

7. Climate and Energy

by Saleemul Huq

A future green economy needs to avoid dangerous global climate change and do so within the context of sustainable development. The main features of what the global energy system should look like under those circumstances are now generally agreed upon. Over the next two to three decades, the global energy mix—that is, the combination of energy

Over the next two to three decades, the global energy mix—that is, the combination of energy sources powering our society—must be transformed from a system mostly dependent on fossil fuels to a portfolio that emits significantly less carbon.

sources powering our society—must be transformed from a system mostly dependent on fossil fuels to a portfolio that emits significantly less carbon.

The transition, to be completed by 2050, needs to go through a low-carbon phase in the first two decades—we cannot wait until 2050 to make all the changes. These time constraints are based on the science of climate change, as assessed periodically by the Intergovernmental Panel on Climate Change (IPCC), and particularly the estimates of global emission reductions need a chance to limit global temperature increases to less than two degrees Celsius; that is, reductions of 80 percent or more compared to 1990 emission levels.

With regard to the global governance of climate change (and hence energy) there is a well-established global treaty, namely the United Nations Framework Convention on Climate Change (UNFCCC), which was signed and ratified by practically all countries of the world in the early 1990s. Under the UNFCCC, all countries have agreed to protect the global climate system on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.¹ They have recognized the potential dangers of global warming due to the continued emissions of greenhouse gases, mainly carbon dioxide (CO₂) from burning of fossil fuels, but also other warming gases such as methane (CH₄) and nitrous oxide (N₂O). They have also agreed to take actions to reduce their emissions to prevent danger-

ous climate change. Furthermore, according to the principle noted above, parties to the UNFCCC agreed that developed countries should take the lead in combating climate change.

The devil, as always, is in the details. For example, which countries need to act first, by how much, and at what rate?² These questions remain fraught with geopolitical tensions, with the main divide occurring between the rich countries (named in Annex 1 of the UNFCCC) and the rest of the world (called the non-Annex 1 countries in climate change negotiations parlance).³ There are also some differences among developed countries, best illustrated by the divergences between the U.S. and the EU; and among developing countries, with BASIC (Brazil, South Africa, India, and China) capturing, for example, most climate investment, leaving some of the poorer and most vulnerable countries feeling left out.

This essay outlines a few ideas for possible ways to achieve that energy transition in governance and institutional terms and within the context of what we are now calling a “green economy.” These ideas are based on two decades of involvement in and observation of the UNFCCC’s development and implementation, as well as debates regarding the failure to achieve the Convention’s stated goals of preventing some level of dangerous climate change.

FROM BURDEN TO OPPORTUNITY

The failure of global institutions in dealing effectively with the climate change problem under the UNFCCC (despite some limited successes such as the Kyoto Protocol) has been mainly due to the prevailing paradigm under which the weaning of national energy systems from fossil fuels towards cleaner (non-polluting) sources has been seen as a burden rather than an opportunity. The “costs” of mitigation are highlighted in nearly every policy document on mitigation.⁴ Yet, the (economic) opportunities of mitigation are seldom discussed.

Thus the main arguments have been between the rich countries (mainly the U.S., which is the richest and biggest polluting country) and the developing world (primarily China, which has a fast-growing economy that has already made it the world’s biggest net emitter of greenhouse gases). This divide manifested itself in the spectacular failure of the Copenhagen Climate Summit in December 2009. Copenhagen was supposed to achieve the agreement that would become the successor treaty to the Kyoto Protocol. Instead it achieved nothing but a rather meaningless “Copenhagen Accord” with limited legal and doubtful moral value.⁵

This failure stemmed from the reluctance of the two biggest emitters, namely the U.S. and China, to agree to meaningful reductions in their emissions. As long as they and others continue to see the short-term costs of reducing emissions as paramount to the longer-term benefits of avoiding dangerous climate change, there is little likelihood of achieving an ambitious global treaty. And definitely not the kind of post-2012 (when the commitments under the Kyoto Protocol expire) treaty that most people had hoped for in Copenhagen.

This situation can change once countries like China and India realize that a global temperature rise of over three degrees Celsius (which is where the world is currently headed) will cause very severe impacts to people, agriculture, and ecosystems in their own countries.⁶ With this realization, they are likely to also appreciate that by taking action to avoid such a fate (for example, by not tapping the vast coal reserves they are sitting on) they may also be hastening the transition to a low-carbon energy mix. Even if switching to a carbon-free energy mix might cost more in the short term, the transition is laden with future opportunity. There are already some signs (particularly in China) that they are beginning to realize this potential and are preparing to become the leaders of the upcoming post-fossil fuel world.

But the opportunities that exist in the post-fossil fuel world are not limited to only these very large economies. Indeed, if the world is to see a massive energy transition, it could create opportunities for all countries.

While it is true that large uncertainties can loom within such a massive change, it is also true that large opportunities exist. Costs of wind and solar energy are already

Indeed, if the world is to see a massive energy transition, it could create opportunities for all countries. While it is true that large uncertainties can loom within such a massive change, it is also true that large opportunities also exist.

beginning to decrease, and these cost reductions are creating opportunities for energy production in countries that have hitherto been energy importers.

Although their stance in global negotiations remains tentative, a number of large oil producers have also begun exploring opportunities in non-fossil fuel energy production. They know better than anyone else the benefits of being major energy producers, and if a transition is to be made they do not wish to stay out of whatever the new “green economy” will look like. A case in point is the tiny Emirate of Abu Dhabi, which is also a major oil producer. Not only is Abu Dhabi

boasting a massive effort towards creating a zero-emission city and embracing cutting-edge green technologies, it now also hosts the headquarters of the International Renewable Energy Agency (IRENA)—a signal to the world of its interest in green energy, and to itself of where the future is headed. Indeed, the fact that there is now such an agency is itself an indicator of the recognition that an energy transition is now not only inevitable, but also that it must be institutionally managed if it is to be globally relevant.

THE SECOND AND THIRD BILLION ARE KEY

My second point stems from the fact that an overwhelming majority of the world's past and current greenhouse gas emissions—if assigned to people by taking wealth (with associated high consumption and hence high emissions) into account—can be attributed to the richest one billion people (most of whom live in the rich world but with significant numbers also in the developing world). Making these one billion people change their high-consumption lifestyles will take either major behavioral changes (which is very unlikely in the short term) or drastic national policies to reduce fossil-fuel dependence (for which their governments have not shown any political willingness so far).

So perhaps we will be better off focusing not on this top one billion, but instead moving our institutional attention to the second (and third) billion richest people on the planet—a large proportion of whom are urban dwellers in the faster-developing countries such as China, India, Indonesia, South Africa, and Brazil. These two to three billion also aspire to the same high-consumption lifestyle, but they have yet to attain it. They may well be the real architects of a new “green economy” for the future. If they follow the path to lifestyles that include multiple cars, air conditioners, flying across the world, and diets high in meat, and if their energy needs are met by investments (which are largely still to be made over the next decade or two) in fossil-fuel systems, then we will be locked into a fossil-dependent future for a very long time. And that would mean any hopes of stabilizing stratospheric carbon would be doomed.⁷

On the other hand, if these two or three billion could be provided with a good life and high development—a legitimate aspiration on their part—by investing in non-fossil fuel energy, then much of the future greenhouse gas emissions may be avoided and a real “green economy” enabled. This would need innovative thinking in terms of technologies as well as policies to allow these populations to leapfrog from relative poverty to improvements in quality of life without the associated high per capita carbon footprint of the richest billion.

The global governance challenge is to create institutions that can unleash such innovative thinking. While most of our existing institutions are caught in thinking about mitigation and carbon management, what we need are institutions that can think in terms of the development requirements of those whose needs remain unmet today. That is, we need institutions that focus on this middle two to three billion and are concerned about triggering an energy transition that can meet the legitimate energy aspirations of this critical cohort.

THE MOST VULNERABLE MAY LEAD THE WAY

The main victims of the failure of the global leaders assembled in Copenhagen last December are the poorest people living in the poorest countries—mostly in Africa and Asia. They are the most vulnerable to the adverse impacts of even a two-degree global temperature rise. The fact that the emissions of the poorest billion humans living in the poorest hundred countries account for less than five percent of global emissions only highlights the inequity and injustice involved in the climate change problem—namely, that the rich have caused the problem but the poor will suffer the consequences first and hardest.

Nevertheless, some of these poor and vulnerable countries (such as the Maldives, Costa Rica, and Bangladesh) are leading the world in tackling climate change at home (both through adaptation as well as mitigation). The Maldives (whose emissions are miniscule) has decided to become carbon neutral in the next decade. This is not because their emissions are large or because they are being made to do it, but because it is the right thing to do. Moreover, they are sending a proactive signal to the rest of the world about what needs to—and can indeed—be done.

Thus the rest of the world may actually be able to learn lessons from some of the poorest countries on the planet when it comes to making the transition to a global green economy. Indeed, there is also a conceptual logic to this. Institutionally, and in terms of the transition to sustainable development, the poorest countries are also the countries that are least locked into the fossil fuel economy, and therefore most able to change, and likely to do so at less cost. The problem, of course, is that precisely because of their poverty, even these lesser costs may be well beyond their means. This is where the argument for assertive global governance comes in. Institutions of sustainable development should be investing in these countries to speed up the transition to cleaner energy, and should do so for development reasons much more than for climate reasons. Therein lies the “win-win.” Global governance investments in cleaner energy in poor countries

yield development benefits and should be both perceived and made as sustainable development investments.

CONCLUSIONS

A shift towards the green economy will require a transition of the energy system to deal with climate change, specifically making the energy system independent from fossil fuels at the global level. This shift will need to occur in the context of sustainable development when global governance institutions are shaped to view energy as a development issue but without devaluing its carbon implications.

This article has offered three possible ideas towards this goal.

First, countries need to recognize the opportunities imbedded in energy transitions. As long as climate change action is considered a “cost,” prospects for action will be dim. When climate action is considered instead as both cheaper than dealing with the consequences and an opportunity for leadership in the post-fossil fuel world, then there will be hope for action.

Second, most of today’s emissions are by the richest billion people on Earth. But it is the second and third billion people, mostly in rapidly developing countries, who may hold the key to speeding up a transition. These are the populations for whom the new investments in energy are being made. How these investments are made will determine whether we are locked in a carbon-intensive or a decarbonized world.

Finally, we must not underestimate the role of the poorest and most vulnerable countries in the world. We think of them as the likely “victims” of global climate change, but they can also act as change agents. While their emissions may be globally negligible, their climate-change actions and policies may serve as example and inspiration to the rest of nations. More importantly, assisting them in their own energy transitions will create development benefits for them and could be a cost-effective means of triggering the larger global transition.

All three ideas require a shift in the global governance of climate change to move away from its primarily carbon-based and principally mitigation focus to a more developmental focus. For this to happen, institutional arrangements are needed that will focus on sustainable development. It is only in the context of sustainable development that a “green economy” can be conceived or implemented.

-
- 1 Najam, A., S. Huq, and Y. Sokona. 2003. Climate negotiations beyond Kyoto: Developing countries concerns and interests. *Climate Policy*, 3(3): 221-231(11).
 - 2 Jinnah, S., D. Bushey, M. Muñoz, and K. Kulovesi. 2009. Tripping points: Barriers and bargaining chips on the road to Copenhagen. *Environmental Research Letters*, 4(3): 4003.
 - 3 Sokona, Y., A. Najam, and S. Huq. 2002. *Climate Change and Sustainable Development: Views from the South*. London: International Institute for Environment and Development.
 - 4 For example, Stern, N. 2006. *Stern Review on the Economics of Climate Change*. Cambridge: Cambridge University Press.
 - 5 See for instance 2010 *Climate Policy*, 10(6).
 - 6 Ronga, F. 2010. Understanding developing country stances on post-2012 climate change negotiations: Comparative analysis of Brazil, China, India, Mexico, and South Africa. *Energy Policy*, 38 (8): 4582-4591, Tables 3, 4, 5, and 15.
 - 7 Satterthwaite, D. 2009. *The implications of population growth and urbanization for climate change*. London: International Institute for Environment and Development.

8. Transforming Global Forest Governance

by Hans Hoogeveen and Patrick Verkooijen

Since sustainable development entered the international agenda in the mid-1980s, sustainable development governance has evolved rapidly. The governance system we have today reflects both the successes and failures of this process. There is growing awareness that the present system of development is rapidly and irreversibly eroding all three pillars of sustainable development: economic, social, and environmental. The current governance's high maintenance needs, internal redundancies, and inherent inefficiencies have combined to have the perverse effect of impeding the achievement of sustainable development worldwide.¹ Against this background, we characterize global forest governance (GFG) as a subset of the broader sustainable development agenda. In this paper, we take as our point of analytical departure that GFG is not only a cornerstone of sustainable development, but that to understand the complexities, challenges, and nuances of GFG, it has to be placed within the evolving concept of sustainable development.

The GFG system we have today is one of mixed results.² On one hand, there is a high awareness of threats to forests and numerous efforts have emerged to address them globally. Although sustainable forest management has been high on the international agenda since the United Nations Conference on Environment and Development (UNCED) in 1992, although a "non legally binding instrument on sustainable management of all forests" was agreed upon, and although we spend many billions of dollars yearly on regional, national, and local programs for sustainable forest management, we are still not able to stop or reverse the loss of 13 million hectares of forests per year. So, ironically, notwithstanding the rather spectacular growth in awareness and initiatives, the GFG system has outgrown its original design and intent in terms of addressing the problems and societal goals that led to its creation.³ We assert that global forest governance and diplomacy is facing the same problems and challenges as those of other aspects of sustainable development governance. These challenges relate to the increasing complexity of GFG: (i) complexity of issues, interlinkages, fragmentation,

and proliferation of arenas, (ii) complexity of actors and lack of cooperation and coordination, and (iii) complexity of instruments and lack of implementation.

This paper argues that instead of asking how the fragmented and complex GFG system can be restructured into a top-down regime, reformers should embrace complexity; rather than restructuring from the bottom up, we suggest building upon the existing regime complex and designing incremental changes to the existing mix of regime elements, thus overcoming their fragmentation. In sum, this paper seeks to do two things. First, it introduces the complex and fragmented institutional configuration of international forest policy. Second, it attempts to identify lessons learned and to develop a range of recommendations if the world were to construct a truly “green economy” over the next 20 to 40 years, building upon the analysis of GFG.

COMPLEXITY OF ISSUES

As many commentators have argued, a paradigm shift is needed in the way land is used and commodities are produced. Demand for agricultural commodities and timber will continue to rise as the world population grows and becomes wealthier. The world today faces one of the biggest challenges of the 21st century:

It is important to realize that forest issues are complex and have multiple perspectives and linkages to the full range of sustainable development issues, such as poverty reduction and livelihoods, trade and economic development, security, biodiversity, and climate change.

how to feed nine billion people in 2050 in the face of climate change, economic and financial crises, and growing competition for the use of natural resources. As a result, the competing claims for land use will increase the pressure

on forests worldwide when the potential of agricultural productivity enhancement is not fully captured. In the absence of an incentive system, in a “business as usual” world, it is estimated that around 60 percent of tropical forests are at risk of deforestation over the long term.⁴ Improvements in agriculture productivity and the sustainable management of forests need to play a key role in GFG.

In this context, it is important to realize that forest issues are complex and have multiple perspectives and linkages to the full range of sustainable development issues, such as poverty reduction and livelihoods, trade and economic development, security, biodiversity, and climate change. To handle this complexity, GFG has shifted over time to better address emerging priorities. Looking at GFG, the emergence of new dominant ideas have shaped—and reshaped—forest policy.

Over the last 40 years, these shifts have transformed forest policy from a “commodity issue” into a “biodiversity issue,” “a sustainable development issue,” and “a human rights issue,” among others.⁵ It is therefore clear that the system of GFG impacts—and is impacted by—much more than just the forest sector or those living inside the forests. It is connected with human well-being, both for forest- and non-forest-dwellers, international trade, human health, economic growth and development, natural resources and ecosystem health, and human security.

This complexity challenges the current system of GFG and does not allow for continued “siloeed” governance responses or single-lens viewpoints of forest issues. A critical determinant of success is to manage, rather than eliminate, complexity, and apply a coherent approach to address the broad range of issues therein. As we will argue below, this will require a new governance approach that matches the complexity of our management system to the complexity of the problem. Success depends on the development of such new approaches to governance.

COMPLEXITY OF ACTORS

Global debates on sustainable development—including debates on forests—have been largely characterized as a collective debate between the rich and poor countries, along the North/South divide.⁶ This dichotomous view has largely centered on binary distinctions between the North and the South, or—in the forest context—countries with tropical forests with high rates of deforestation and countries with boreal and temperate forests with low deforestation rates. As such, it has resulted in high tensions, difficult-to-bridge divisions, and a general inability to look at forest issues as a whole. Until now, GFG has been highly state-oriented. A lack of coherency in state approaches in the international arena adds to the failure of the current GFG. This also accounts for the lack of real involvement from the private sector, civil society, and NGOs in the negotiation and decision-making processes. Last but not least, the myriad of international organizations in a current struggle to position themselves makes the system even more complex.

GFG, by its very nature, includes a vast array of actors that vary widely in their type, specific interests, and goals. They represent a wide range of entities—from global institutions to local civic groups, national governments to indigenous peoples, and large multinational businesses to small landholders dependent on forest products. As demonstrated in scholarly work on revolving complexity theory, actors within the GFG system do not appreciate complexity and non-linearity. Complexity is regarded as a source of failure and as something that should be reduced or “fixed.”⁷ However, actors connect which each other in

myriad ways around multiple components of the evolving GFG agenda. There is nearly full consensus among scholars as well as practitioners of GFG on the need to incorporate a broader array of actors—beyond state actors—and their wider range of interests for more effective global governance.⁸ Discussions couched in the language of “multi-stakeholder involvement,” “public-private partnerships,” or “broad participation” all emanate from the realization that meaningful global action requires more than the participation of states. States are no less important today than they were in the past, but they are no longer the only actor group that influences global challenges.⁹ While states once played the dominant role in global governance, as issues have multiplied and the interconnections among them have grown more complex, other actors, including international organizations; private sector, civil society organizations; and consumers, have also become significant actors in designing and implementing the system of GFG.

COMPLEXITY OF POLICY INSTRUMENTATION

The multiplicity of issues, users, uses, and views of forests has led to myriad governance mechanisms, instruments, and diverse approaches to the implementation and enforcement of sustainable forest management. The proliferation of international instruments, especially treaties or conventions concerning GFG, and the lack of means of implementation have complicated the issue, making effective governance more difficult at all levels. Scholars and policy practitioners have become increasingly concerned about the “messiness” of the GFG system. Among the issues of concern, the following themes are identified as having special relevance to explaining the ineffectiveness of the current system of GFG:

- **Scale of governance/subsidiarity.** Political decisions are being negotiated in new modes of governance that depart from conventional, hierarchical legislation using regulations and directives. Based on previous analysis, however, we argue that GFG has been too focused at the apex, or the global policy level, even when issues of actual implementation are neither best understood nor best implemented at that level. Furthermore, it is important to realize that UN headquarters discussions generally tend to operate in a particular logic of global inter-state politics.¹⁰
- **Treaty congestion** is a prominent problem afflicting GFG. Over the course of a few decades, the GFG system has created messiness, incoherence, and confusion that incites demands for centralization in decision-making. Furthermore, a lack of means of implementation, especially funds, made real implementation almost impossible. Negotiators mainly focus on Overseas Development Assistance (ODA)

while other available funds are never looked at. Only recently has the search for new and additional resources, as well as innovative approaches, started.¹¹

- **Institutional and policy fragmentation** has resulted from policy being dispersed not only among ever-more-specialized treaty bodies, such as the United Nations Framework Convention on Climate Change (UNFCCC) or the Convention on Biological Diversity (CBD), but also geographically as the institutions managing these policies get fragmented by having to operate in different political, normative, and geographical contexts.
- **Negotiation fatigue** is increasing and states, especially developing countries, struggle to meet institutional demands as the number of institutions and international agreements increases. A general sense of negotiation fatigue is now apparent among seasoned sustainable development negotiators. Reasons behind this include missing unified concepts or methodology, a variable sense of urgency, lack of political support, lack of means of implementation, and lack of leadership.¹²

TRANSFORMING GFG: A CALL FOR NEW DIPLOMACY

As the first decade of the 21st century comes to a close, the world faces mounting challenges characterized by the intensifying interconnectedness of global and regional issues. These challenges, as introduced above, are particularly pertinent in the realm of GFG. How, then, do we move towards creating better decisions and more effective institutions for the global governance of forests? Putting in place an effective GFG governance system requires taking a long-term view of where we are going and where we need to be. It also means starting now with what is immediately possible while building transition pathways to what is ultimately necessary. In this, we assert that imperfections or uncertainties are no excuse for inaction or short-sightedness, but rather a reason for vision and innovation.

The record of attempted replacement strategies at the international level in order to create an integrated, legally binding forest regime has not been promising. The most promising alternative to designing a global forest governance system that addresses the multiple societal objectives is not to replace the existing regime complex, but rather to manage the existing governance system better. To do this, we offer two propositions and five building blocks collectively comprising a transformed system of GFG:

- First, with any given challenge, the complexity of the solution has to match the complexity of the problem. The current GFG system has the tendency to simplify

the problem in order to make the problem “more manageable.” Our assertion is that effective GFG will come not from addressing any one (or a few) of these elements, but from systematically tackling these myriad elements of global governance together and, more importantly, the linkages between them. However, addressing these linkages makes the global governance of forests what social scientists call a “wicked problem”¹³: a problem which is inherently complex and to which there are no simple solutions because of complex interconnections.

- The second proposition flows directly from the above and posits the need for a “new diplomacy” that recognizes not only the inherent complexity of the issue but also the changed realities of GFG. Diplomacy provides us with the context and tools for global governance. The nature of the forest issue, and its many complex inter-linkages to a whole host of other issues (climate change, biodiversity, trade, etc.), raises challenges for traditional practices of state diplomacy with its focus on single solutions to complex problems.

In the context of these propositions, building on the analysis of GFG, the following building blocks must be designed if the world is to construct a truly “green economy” over the next 20 to 40 years. The points we raise here are especially pertinent in the context of forests, but they are not unique to the forest issue. Indeed, it is our contention that forests are not atypical at all. Instead, they are an exemplar of a new set of complex global problems (including, for example, climate change, global finance, and food security) that are calling for an alternative approach to diplomacy—an approach that embraces the complexity of today’s problems, is not state-centric, involves a multitude of stakeholders, operates differently at different policy scales, and seeks an array of appropriate toolkits rather than single solutions.

This alternative approach towards a green economy—which we label “a new diplomacy for global forest governance”—consists of the following five building blocks.

1. Appropriate Scale and Subsidiarity

As we claimed above, the system of GFG has been too focused on the global level. The recognition that not everything can be resolved from within the UN system implies two very important aspects in how a new model for global forest governance might operate. First, it implies that while not all issues can be resolved from within the UN, some issues can—and, maybe, some issues can *only* be resolved from there. Second, it implies that a first step in the new diplomacy on global forest governance should be to determine what the appropriate level of discourse and action is for which discussion (i.e., the principle of subsidiarity).

2. Developing Institutional Space

Following other scholarly work, we assert that the system of GFG has evolved into something far more complex than it was even recently.¹⁴ Based on our analysis, we believe that the evolution continues and is likely to continue into the future.¹⁵ The proliferation of arenas where forest governance is being discussed could lead to significant management problems. While multiple arenas provide the ability to deal with different levels of the complexity at different forums, they also require a system of inter-arena coordination. We claim that any efforts to “manage” all the myriad issues related to forests (agriculture, climate change, security etc.) within a single institutional framework will lead to an ineffective governance system. An alternative model would focus on a governance system that can create enough coherence, interaction, and coordination between the various arenas that they all act towards a common goal.

3. Deeper Stakeholder Participation

For a GFG system to become more effective, we assert that we need new and innovative ways of thinking about what “participation” in GFG really means for different actors. A critical determinant for success for a more effective GFG system is to invest in a new diplomacy that allows multiple opportunities for multiple actors; here the notion is to provide different actors with the ability to be involved at the levels where they have the most competence and capacity to influence GFG. Our proposition is not to categorically exclude some actors from global diplomacy. At the same time, we should depart from the widely shared notion that “all relevant stakeholders” should be involved in all policy decisions.

4. Policy Instrumentation: Development of a Portfolio Approach

From nearly 20 years of accumulated experience in trying to negotiate a “treaty,” we now know that an overarching agreement that addresses all the related issues is unlikely. We assert that the complexity issues and the myriad linkages to other challenging issues—such as climate change—militate against a single treaty solution and instead call for a more nuanced set of cross-linkages with other issues and the conventions and treaties that govern them. We claim that the governance challenge for the future is not one of negotiating a new grand instrument, but of coordinating multiple existing and new initiatives. The fixation with searching for hard law solutions needs to be nuanced with recognition that an array of soft law instruments might be more effective than a single, comprehensive hard law instrument. Based on our earlier research, such a “portfolio approach” could consist of using a com-

bination of initiatives to raise a variety of resources including monetary resources, knowledge resources, capacity development, public support, and awareness-raising for effective global action on forests.¹⁶ To be effective, such a portfolio approach requires adaptive governance in order to adjust to new conditions flexibly.

5. Leadership

Our final building block centers around the notion of leadership and its impact on the system of GFG. Much scholarly work has underscored the importance of effective leadership in global public goods arrangements.¹⁷ Leaders in the global forest governance arena are neither representatives of hegemony who can impose their will on others, nor ethically motivated actors who seek to fashion workable institutional arrangements as contributions to the common good. Effective leadership requires a truly global and inclusive mindset to turn the notion of traditional diplomacy on its head, building upon the recognition that the complexity of our evolving and polycentric governance systems is here to stay. In this, the leadership required has to be bold and innovative enough because the long-term challenges of sustainable development are big enough.

1 Najam, A., M. Papa, and N. Taiyab. 2006. *Global Environmental Governance: A reform agenda*. Winnipeg, Canada: International Institute for Sustainable Development.

2 Humphreys, D. 2006. *Logjam: Deforestation and the Crisis of Global Governance*. London: Earthscan.

3 Hooegeveen, H. and P. Verkooijen. 2010. *Transforming Sustainable Development Diplomacy: Lessons Learned from Global Forest Governance*. Wageningen University Dissertation.

4 Terrestrial Carbon Group. 2009. *Roadmap for Terrestrial Carbon Science*, Policy Brief 7, Discussion Draft.

5 Arts, B. 2008. *Global Governance, NGOs and the Politics of Scale*. Assen: Van Gorcum.

6 Najam, A., L. Christopoulou, and W. Moomaw. 2004. The Emergent "System" of Global Environmental Governance: A Reform Agenda. *Global Environmental Politics*, 4(4): 23-25.

7 Teisman, G., A. van Buuren, and L. Gerrits. 2008. *Managing Complex Systems: Dynamics, Self-Organization and Coevolution in Public Investments*. London: Routledge.

8 Young, O. 1994. *International Governance: Protecting the Environment in a Stateless World*. Ithaca, NY: Cornell University Press.

9 Najam et al. 2004.

10 Hooegeveen and Verkooijen. 2010.

11 Hooegeveen, H., J. S. Maini, W. Moomaw, A. Najam, and P. Verkooijen. 2008. *Designing a Forest Financing Mechanism (FFM): A Call for Bold, Collaborative & Innovative Thinking*. Medford, MA: Tufts University.

12 Hooegeveen and Verkooijen. 2010.

13 Rittel, H. and M. Weber. 1973. Dilemmas in a general theory of planning. In *Policy Sciences* 4: 155-173.

14 Najam et al. 2006.

15 Hooegeveen and Verkooijen. 2010.

16 Hooegeveen et al. 2008.

17 Frohlich, N., J. Oppenheimer, and O. R. Young. 1971. *Political Leadership and Collective Goods*. Princeton, NJ: Princeton University Press.

9. Transitioning to a Green Economy: Citizens and Civil Society

by Paul Wapner

The need to build a green economy is obvious. Much of the world produces, buys, sells, and uses goods and services in ways that enhance injustice and undermine the organic infrastructure that supports life on earth.

Civil society plays a key role in prodding societies toward a just and green future. While far from enlightened or powerful enough to single-handedly create a green economy, civil society, nonetheless, represents a necessary component of transition. This paper briefly outlines the promise of civil society. It begins by describing the components of a green economy and the obstacles toward bringing one about. It then explains analytically the potentialities of civil society and offers a set of specific initiatives for enhancing civil efforts to build a green economy.

WHAT IS A GREEN ECONOMY?

A green economy ensures *fair* use of ecological resources and sinks at *re-generational* and *bio-assimilation* rates. Building such an economy entails the following components:

- 1. Full-cost pricing:** Incorporate ecological degradation into the cost of goods and services (with compensation for the poor).
- 2. Waste = Food:** Design production to reuse all pre- and post-consumer waste as industrial or biological inputs.¹
- 3. Sustainable ethic:** Foster cultures that recognize ecological scarcity and inspire consumers and producers to desire only what is most necessary and ecologically sustainable.
- 4. Progressive green taxes:** Tax resource and sink use instead of income.
- 5. Wealth = Environmental Health:** Create measures of value that preserve the intrinsic worth of nature.

OBSTACLES

The rich rule the world. Economic power too easily translates into political and cultural power; thus we have financier rather than philosopher or otherwise enlightened kings. This raises troubling questions about transitioning to a green economy. Can the rich always know what is best for themselves, much less the poor or our common planet? If their wealth results largely from industries and practices that undermine ecological stability, will the rich alter economic structures? Furthermore, insofar as most people's short-term economic fate is associated with the continued well-being of the rich, can a green transformation occur when most of us are implicated in ecological degradation?

Further complications include the specific challenge of incorporating social and environmental justice concerns into the world economy. Economies operate largely according to supply and demand, and thus they are often tone deaf to

We face a situation in which extra-market forces must be marshaled on behalf of a green economy, even though few forms of power are more commanding and expansive in scope than market ones.

social justice and ecological protection. Justice influences economic calculation only when extra-market forces are extraordinarily powerful and governments impose economic restrictions on

unfair practices. Ecological constraints only breach market dynamics in the form of prices that rarely represent actual ecological costs. Consequently, we face a situation in which extra-market forces must be marshaled on behalf of a green economy, even though few forms of power are more commanding and expansive in scope than market ones.

CIVIL SOCIETY

Building a green economy thus rests on embedding the global financial system within a broader socio-ecological frame of reference and practice. We need to cultivate a vibrant extra-market realm of life that gives relevant and effective expression to non-commercial concerns—principally focused on social justice and environmental sanity. This is a tall order because, as mentioned, economic power is often hegemonic, with the ability to dictate governmental and cultural forms of governance.

Civil society represents a realm that is largely outside immediate commercial and even governmental pressures. It is populated by various associations that work

within and across societies in the service of particular public ideals or enterprises. The specifically public dimension suggests that civil society actors are motivated fundamentally *not* by economic profit, while the transnational character of civil society suggests a sovereignty-free orientation.² To be sure, civil society actors are not wholly autonomous from the world economy or the nation-state system. Indeed, civil society often reflects the same power dynamics that define these other two spheres. However, analytically it is distinct enough that forces and initiatives can arise within civil society that are at odds with contemporary governmental or commercial norms and practices, and this partial independence provides civil society actors with a unique purchase point on world affairs in general and global environmental issues in particular. To the degree that their efforts—which include everything from pressuring governments to shifting codes of good conduct—influence economic calculation and the dynamics of commercial life, civil society becomes a necessary agent of transition to a green economy.

FROM PROMISE TO PRACTICE

To boost the hope of civil society, we need new and stronger institutions to empower civil society actors. These institutions must translate the aspirations of social and environmental justice emergent in civil society into forms of governance that can both penetrate and direct economic life. What follows, then, are proposals for how to build and strengthen civil society institutions that can facilitate a green economic transformation.

Civilian Corps Service Responsibility (CCSR): Many countries require or encourage citizens to serve the nation in one form or another. This can include everything from military drafts to civilian service organizations. Such service not only assists in public welfare—by meeting critical community needs in education, health and public safety—but also provides an education and sense of national investment by participants.

The United States initiated the Civilian Conservation Corps in 1933 as a work relief program wherein unemployed youth were enlisted to implement a natural resource conservation program. Participants planted three billion trees, constructed more than 800 state parks, and built infrastructure to make public lands accessible. The program also built awareness and appreciation of America's natural beauty and resources among the population.³

A similar program in which youth serve for a year as stewards of the land could arise within countries around the world. Citizens would work as public servants

at water treatment plants, waste disposal sites, farms, environmental remediation areas, and urban transportation centers. This would give youths a sense of contemporary ecological challenges and enlist them in helping countries meet their provisioning needs in a sustainable fashion. Indeed, since more than half the world's population lives in cities, people are increasingly unaware of the sources of their water and food products and the disposal sites for their waste. A CCSR would provide an experiential sustainability education to a nation's citizens, as well as create a steady cadre of workers committed to natural resource protection.

While civilian corps systems have historically been national in scope, there is reason to expand them beyond national boundaries. A transnational, regional, or even global service in which people serve in the world's ecological hotspots would provide a steady stream of sustainability workers, expand global consciousness about environmental interconnections, and help build a global community—all of which are crucial to increasing civil society pressure on the world economy.

International Food and Product Label Standardization Program: Full cost or sustainability-sensitive pricing is impossible without accurate information about ecological costs. To move toward an accurate pricing system, the international community can adopt product-labeling standards.

At a minimum, labels should indicate the source of ingredients to specify that the ultimate foundation of products is the earth itself. Computers, dry wall, pottery, food, and paper do not materialize from the sheer ingenuity of humans, but rather from the living earth. Minerals, water, animals, plants, and microorganisms are the building blocks of our consumptive material world. Being reminded of this in a systematic way could contribute to civic environmental responsibility and, by extension, civil pressure on the global economic market.

In 2009, Sweden began providing carbon emission ratings for food in addition to nutritional information. This effort sought to encourage Swedes to consider the health of the planet along with their individual health decisions.⁴ Calculating the carbon emissions from food production is still fraught with challenges, and there are many potentially unjust consequences involved with consumers shifting their buying habits based on such labeling. However, the effort is useful for reducing Sweden's carbon emissions sourced from food production.

The transnationalization of such a system would encourage consumers and producers to make more mindful choices in the marketplace. Food labels could

include information about not only the ecological components of products and sustainable disposal options, but also the fairness of production practices (as in today's fair-trade certified labels).

Corporate Responsibility Charter (CRC)⁵: Corporations in many countries are legally afforded the same (if not more) rights, and are required to assume the same (if not fewer) responsibilities, as citizens. This corrupts politics and licenses corporate irresponsibility.

For example, in democracies where corporations enjoy the right to free speech (and where money is considered a form of speech), corporate financial power influences elections and policy-making. Additionally, most corporate charters legally circumscribe liability such that shareholders stand to lose only their investments and employees only their jobs if a corporation fails to protect its own or the public's interests. These common laws shield corporations from public welfare accountability.

A CRC would require all corporations with gross receipts in excess of \$100 million to obtain a renewable corporate charter to do business within and across national boundaries. Multinational panels of citizens, serving in the same capacity as citizen jurors, would act as grantors. These panels would evaluate corporate behavior to ensure acceptable environmental and ethical business practices.

Earth Flag⁶: The absence of global solidarity among sovereign states undermines the possibility of a strong, global environmental ethic and thus efforts toward creating a global green economy. States pursue their national interest often devoid of global concern. A country's flag—its patriotic symbol—thus serves as a powerful instrument for cultivating global consciousness and building momentum for a green world economy.

By sewing a small image of the globe in the corner of their existing flags, countries could demonstrate their solidarity with the ecological imperative that national concerns dovetail with global ones. In this way, citizens could commemorate their nation's uniqueness while acknowledging and celebrating their interdependence with others. Such citizen consciousness could heighten global civil society's pressures for a green economy.

THE IMPORTANCE OF CIVIL SOCIETY

Civil society is no panacea to the challenges of transitioning to a green economy. Associations within civil society often enjoy parochial interests (even if they

express themselves in public good terms), and the realm itself lacks sufficient power to alter the deeply entrenched structures of the world economy. Indeed, more often than not, civil society is the tail being wagged by the economic dog.

The activation of civil society in the service of environmental protection is a necessary component of transitioning to a green economy, even if it is not sufficient.

However, there are still pockets of collective life amidst commercial hegemony that occasionally enjoy critical distance in which people can imagine and disseminate

alternative practices, and the hope of transitioning to a green economy depends partly upon such pockets. Put differently, the activation of civil society in the service of environmental protection is a necessary component of transitioning to a green economy, even if it is not sufficient.

The measures suggested above may sound naïve given their small interventions into the monumental character of the world economy. They may seem, at most, like quaint gestures with no ability to genuinely shift environmental affairs. This would be a semi-accurate read. However, another interpretation would suggest that they nevertheless represent genuine intrusions into the matrix of our socio-economic lives, and thus have the ability to stir ideas and practices. In the same way that civil society reflects the power dynamics of the world economy and the nation-state system, the world economy is partially reflective of what happens in these other two realms. Thus, civil society provides part of the basic context within which the world economy operates. Coloring this context in green is crucial for building any semblance of a green economy.

1 The phrase “waste=food” comes from: McDonough, W. and M. Braungart. 2002. *Cradle to Cradle: Remaking the Way We Make Things*. New York: Farrar, Straus and Giroux. 92ff.

2 Rosenau, J. 1990. *Turbulence in World Politics*. Princeton, NJ: Princeton University Press. p 36.

3 Williams, G. W. and A. Shapiro. 2008. The Civilian Conservation Corps and the National Forests. March 21. Available online at: <http://tinyurl.com/USFS-CCC>.

4 International Centre for Trade and Sustainable Development. 2009. Sweden Tells All With CO2 Emissions Food Labels. *Bridges Trade BioRes*, November 13, 9 (20): 10.

5 This idea draws on the work of Michael Lerner and the Network of Spiritual Progressives. See, e.g., Network of Spiritual Progressives. 2010. Environmental and Social Responsibility Amendment to the U.S. Constitution. *Tikkun Magazine*, September/October, pp. 33-38.

6 Professor Daniel Deudney, currently of the Political Science Department at Johns Hopkins University, proposed a variant of this idea in the 1990s.

10. Private Sector Governance for a Sustainable Economy: A Strategic Approach

by David Levy

A global transition to a sustainable economy requires the large-scale mobilization of our financial, technological, and organizational resources. Climate change is one of the major concerns of this century, and it has been estimated that annual global investment of more than \$500 billion will be needed over the coming decades to keep warming within a two-degrees-Celcius limit. The vast scale of these investments and the need to integrate sustainable technologies, practices, and products across the supply chains of every economic sector highlight the importance of creating governance structures that will redirect corporate resources toward sustainability.

Growing concern about an international “governance deficit” has fuelled this embrace of private resources and capacity. It is important, however, to recognize that large companies are already, *de facto*, highly engaged in the fabric of global environmental governance

systems in their roles as polluters, investors, innovators, lobbyists, and marketers. Private decisions over products and processes, technologies and research, and distribution

Private decisions over products and processes, technologies and research, and distribution and sourcing have vast environmental consequences with wide societal ramifications and broad geographic reach.

and sourcing have vast environmental consequences with wide societal ramifications and broad geographic reach.¹

Here I use the term “global governance” in the broadest sense to mean “the rules, institutions, and norms that order, channel, and constrain economic activity and its impacts in relation to international issues of public concern.” It therefore includes not only regulation and formal international agreements, but also private mechanisms such as codes of conduct, discursive and normative frames, and market structures.² This expands on the conventional understanding of multi-actor, multi-level governance to emphasize three primary channels of governance, which

correspond to the pillars of stability in a particular arena or “organizational field”: economic/technological, political/regulatory, and discursive/cultural.³

THE COMPLEXITY OF CARBON LOCK-IN

Governance is thus a matrix of forces, actors, and institutions that stabilize a field in a particular way. Governance does not necessarily guarantee an outcome that serves the public interest. It is our current governance systems over energy and transportation that produce carbon lock-in, the “interlocking technological, institutional and social forces...that perpetuate fossil fuel-based infrastructures in spite of their known environmental externalities.”⁴ Lock-in is more than an economic and technological phenomenon. Institutions such as the mass media, unions, government agencies, and professional certification bodies generate standards, rules, norms, routines and cultural practices that stabilize the dominant technologies. The automobile, for example, is intimately connected to our patterns of work, leisure, and shopping. Organizations with vested interests associated with existing technologies, such as industry associations and unions, become powerful actors who perpetuate the status quo.

A structural understanding of governance highlights the complexity, interdependencies, and inertia of the current system, and thus, the challenges of a sustainability transition. Against this background, what governance institutions and mechanisms could generate change? Here we must heed Machiavelli’s warning to avoid wishful thinking and start with the world as it is. It is pointless to preach to consumers to abandon their cars and plane travel, or to admonish companies to give priority to sustainability. Economic activity is deeply embedded in economic and social institutions, and companies are constrained by corporate governance, capital markets, competition, and the wider consumer culture.

Existing governance institutions are also embedded in the current system, so it is naïve to simply specify “ideal” governance institutions that would, for example, create a high global price for carbon, mandate clean production systems, and empower non-financial stakeholders. Meaningful change requires careful study of the contested terrain of corporate environmental practice and governance, and a long-term strategy to win new allies, reframe the issues, shift norms, realign economic incentives, and craft new rules and oversight mechanisms. This represents a strategic approach to building governance for a green economy.

FROM REGULATORY TO RADICAL: FOUR APPROACHES

Four governance mechanisms can potentially shift corporate behavior toward sustainability. First, regulation can direct companies to meet specific goals, such as renewables in the power sector, or fuel efficiency for vehicles. Second, economic incentives for sustainability can be structured through taxes, subsidies, or new financial instruments such as carbon markets. Third, public pressures can lead companies to shift their norms and practices, for example, by embracing information disclosure initiatives such as the Global Reporting Initiative (GRI) and the Carbon Disclosure Project (CDP). The fourth and most radical approach is to restructure the foundations of corporate governance so that productive organizations internalize the drive to serve multiple stakeholders and goals, including the workforce, the community, and the environment.

Each of these approaches has possibilities and limitations. Regulation is the most traditional means of influencing corporate behavior, but it can face huge political hurdles, as illustrated by the current post-Kyoto climate regime quagmire and inaction in the U.S. Congress. Regulation not only generates corporate opposition but also frequently faces reluctance from politicians more concerned about competitiveness and employment than sustainability. Some have made a spirited argument for a Global Environmental Organization to overcome problems of collective action and coordinate national regulation, but others are wary of the centralization of unaccountable power.⁵

Providing economic incentives harnesses the private sector's profit motive, but these incentives are often driven by political rather than environmental considerations, as in the case of ethanol subsidies. They can have unintended and perverse impacts, such as providing incentives through carbon credits for expanding the manufacture of air conditioning. They strain governmental budgets and are frequently opposed by vested interests.

The move toward social and environmental disclosure represents a form of informational governance or "civil regulation" that some herald as a new era of transparency, accountability, and stakeholder engagement.⁶ Critics have argued that disclosure is actually a privatized form of voluntary self-governance that protects against more onerous regulation and accomplishes little for sustainability or democratic ideals.⁷

Disclosure is, indeed, a contested form of governance in which the non-governmental organizations (NGOs) who promote initiatives such as CDP seek not only

to change corporate practices but also to empower civil society actors as active partners in corporate decision-making.⁸ Simultaneously, business strives to promote a more corporate version of disclosure geared toward management of reputation, liability, energy costs, and investor relations.

These three mechanisms for promoting sustainability—regulation, economic incentives, and increased disclosure programs—leave intact the fundamental structures of corporate governance in which companies strive to maximize profits and are accountable to capital markets, both through the formal legal structures of shareholders and boards of directors and functionally through the operations of investment analysts and bond ratings. Any attempt to divert companies from this goal inevitably faces resistance, and companies are frequently able to thwart, weaken, or skirt regulation through the deployment of lawyers, lobbyists, and accountants.

Sustainability advocates enthusiastically make the “win-win” case that improving environmental disclosure and practice actually raises financial performance; indeed, the core strategy of GRI and CDP has been to enlist investors as key allies in creating a demand for disclosure. While there is certainly some low-lying fruit in the energy area, relying on the harmony of private interests and planetary sustainability, with vague appeals to the long run, seems rather dubious and ignores the massive environmental externalities of our industrial production and mass consumption. Studies of the relationship between environmental and financial performance offer little evidence for the “win-win” case.

The fourth and most radical approach is to reengineer structures of governance so that organizations internalize not just environmental costs but the sustainability mission itself. A variety of experiments are under way with organizational forms that attempt to combine the economic efficiency and market orientation

A variety of experiments are under way with organizational forms that attempt to combine the economic efficiency and market orientation of the private sector with the concern for social and environmental goals of not-for-profit organizations.

of the private sector with the concern for social and environmental goals of not-for-profit organizations. The Corporation 20/20 initiative has brought together a range of ideas about governance structures to promote a “Great

Transition” to a more sustainable society. Marjorie Kelly of the Tellus Institute, co-founder of Corporation 20/20, has described a three-part typology of structures

of “for-Benefit companies”: Stakeholder-Owned Companies, Mission-Controlled Companies, and Public-Private Hybrids. “The essential framework of such a company—its ownership, governance, capitalization, and compensation structures—is designed to support this dual mission.”⁹

The ambitious agenda of Corporation 20/20 hints at the hurdles it faces. Some of the organizations Kelly describes deliberately limit their dividends, profitability targets, and growth rates in order to address their goals. Building an economy based on such organizations would therefore require a revolution in capital markets. While some investment funds apply social screens, constraints on pursuit of returns are anathema to capital markets. The transition toward regarding stakeholders, such as labor and environmental groups, as active participants in decisions rather than actors to be consulted and managed is likewise a revolution that overthrows shareholder supremacy and replaces it with a more complex and multi-layered form of governance.

A STRATEGIC SHIFT IS NECESSARY

Yet even if most organizations were environmentally aware and followed best practice, there is no guarantee that the global economy would be sustainable at a planetary level. As John Ehrenfeld, sustainability scholar and current executive director of the International Society for Industrial Ecology, has described, sustainability is a systems-level phenomenon based on the balance of human activities and the earth’s natural processes.¹⁰ The sum total of global production and consumption, from cars and planes to food and energy, puts an intolerable strain on the earth’s capacity to provide fresh water and absorb carbon dioxide and other pollutants. This is becoming strikingly clear with the rapid industrialization of China, India, and Brazil. Moreover, the redesign of our cities, transportation systems, and energy infrastructure requires such a massive scale of investment and regional planning that individual business organizations, however well intentioned, cannot meet the challenge. Clearly, we need sectoral, national, and global institutions that can play a role in planning, coordinating, and financing the transition.

Several writers brought together under the Corporation 20/20 initiative recognize this wider context and the need for macro-level governance.¹¹ Tellus Institute Senior Fellow Richard Rosen, for example, draws from experience with the U.S. Public Utility Commissions to suggest paths to democratizing decisions at the sectoral level pertaining to capital investments, technologies, and pricing in basic industrial and service sectors. Paul Epstein, associate director of the

Center for Health and the Global Environment at Harvard Medical School, calls for a new Bretton Woods to reshape institutions such as the IMF, World Bank, and WTO to align the global financial architecture with sustainable development goals. This would entail strengthening and enhancing funding for existing institutions with a sustainability mission, such as UNEP and GEF, and restructuring other organizations. John Stutz of the Tellus Institute and Boston College sociology professor Juliet Schor, among others, have argued for a far-reaching cultural transformation that displaces consumption and growth from its central place in our economy and society.

Yet here again we should heed Machiavelli's warning and consider a strategy for getting there from here. There are tensions between the more incremental yet practicable changes to governance structures and more radical plans that

There are tensions between the more incremental yet practicable changes to governance structures and more radical plans that are unlikely to gain traction.

are unlikely to gain traction. Some of the most intriguing initiatives, such as the GRI and the CDP, have tried to negotiate these tensions in a strategic, dynamic manner.

These disclosure-based governance projects have been remarkably successful in galvanizing voluntary compliance among many of the largest companies. Most notably, the leaders of these initiatives forged wide coalitions, including NGOs, businesses, accountants, consultants, and investors, and attempted to appeal to the diverse interests and goals of these actors.

The core strategy for CDP, which is largely modeled on GRI, is to recruit institutional investors to pressure companies in which they hold investments to report using the disclosure protocol. For investors, the claim is that the information is valuable in signaling the degree of carbon risk. To appeal to the NGO community and multilateral organizations such as UNEP, carbon disclosure is framed as advancing an agenda of corporate accountability and more inclusive and transparent governance. The CDP, along with GRI, would provide a standardized format to reduce compliance costs, but also enable comparison across firms. This would reward strong performers with reputational benefits while enabling NGOs to exert pressure on non-disclosers and poor performers.

Advocates of corporate social reporting frame it discursively in "win-win" terms as satisfying environmental, social, and economic goals in a way that would appeal to a diverse array of actors. Carbon disclosure, for example, is presented

as an element of social and environmental responsibility and reporting, a broader project that already has widespread acceptance among business, government, and civil society actors.

Simultaneously, CDP founders have been skillful in framing carbon disclosure slightly differently for different audiences. For the business and financial community, carbon disclosure is portrayed as an extension of financial reporting, drawing from its legitimacy as a routine practice with companies, investors, and regulatory authorities. For businesses wary of mandatory carbon regulation, voluntary disclosure offers positive publicity and flexibility in implementation with little legal exposure. Carbon disclosure is also framed as serving the material interests of industry and finance through carbon trading, risk management, streamlined reporting, and energy savings. For accounting, IT, and consulting firms, the measurement and management of carbon flows presents a vast new market opportunity.

CDP has gained widespread acceptance, but it has not eliminated the fundamental tensions in this contested field. These tensions, or “competing logics,” arise from the diversity of forms and purposes of carbon accounting and disclosure, and the related interests of the actors involved. The logic of “civil regulation” views carbon disclosure as a mechanism to empower civil society groups to play a more assertive role in corporate governance, increasing the transparency and accountability of corporations to external stakeholders. The implicit goal is a more fundamental shift in the balance of power toward civil society. The logic of “corporate environmental performance,” by contrast, relies on the instrumental value of carbon disclosure to business through the management of energy costs, compliance, and reputation.

The strategic compromises and fragile coalitions necessary to initiate a widespread shift in business practice inherently generate pressures that circumscribe more systematic transformation. In this case, the strategy of positioning carbon disclosure as integral to carbon markets and management has resulted in the dominance of market-oriented managerialism. Carbon information seems to hold the most potential value for corporate managers and accountants, consultants, and software companies, who are emerging as the dominant partners in the carbon disclosure movement. Neither investors nor NGOs have much use for aggregate data, which, it turns out, is not particularly valuable for activist campaigns or valuing assets.

While carbon disclosure has not transformed corporate governance, it has scored important strategic gains. It has generated legitimacy for the principle of disclosure and accountability to external stakeholders, and increased the visibility and voice of environmental advocates inside and outside corporations. It has generated considerable momentum toward the formalization of carbon accounting standards, standards currently crossing over into the regulatory apparatus of agencies such as the Securities and Exchange Commission and the Environmental Protection Agency. Perhaps most importantly, carbon disclosure has demonstrated the feasibility of carbon management and potential corporate benefits, shifting the field of play and opening political space for further action. It suggests how a strategic approach to building structures of governance might chart a trajectory toward taming the powerful locomotive of corporate productive and creative energies and redirect them toward building a green economy.

1 Levy, D. L. and P. J. Newell (eds.). 2005. *The Business of Global Environmental Governance*. Cambridge, MA: MIT Press.

2 Levy, D. L. and R. Kaplan. 2008. Corporate social responsibility and theories of global governance: Strategic contestation in global issue arenas. In A. Crane, A. McWilliams, D. Matten, J. Moon, and D. Siegel (Eds.), *Oxford Handbook of Corporate Social Responsibility*. Oxford: Oxford University Press.

3 Levy, D. and M. Scully. 2007. The institutional entrepreneur as modern prince: The strategic face of power in contested fields. *Organization Studies*, 28(7): 971-991.

4 Unruh, G. C. 2000. Understanding carbon lock-in. *Energy Policy*, 28(12): 817-830.

5 Bierman, F. 2001. The emerging debate on the need for a World Environment Organization. *Global Environmental Politics*, 1(1): 45-55.

6 Florini, A. 2003. *The Coming Democracy: New Rules for Running a New World*. Washington D.C.: Island Press.

7 Gupta, A. 2008. Transparency Under Scrutiny: Information disclosure in global environmental governance. *Global Environmental Politics*, 8(2): 1-7.

8 Levy, D. L., H. S. Brown and M. de Jong. 2010. The Contested Politics of Corporate Governance: The Case of the Global Reporting Initiative. *Business and Society*, 49(1): 88-115.

9 White, A. (Ed). 2009. *Paper Series on Restoring the Primacy of the Real Economy*. Boston: Corporation 20/20, Tellus Institute, p.36. Available at <http://tinyurl.com/restoringtheprimacy>.

10 Ehrenfeld, J. 2009. *Sustainability by Design*. New Haven: Yale University Press.

11 White, A. 2009.

Task Force Members

Tom Bigg is Head of Partnerships at the International Institute for Environment and Development (IIED) and has worked for more than seven years with the United Nations Environment and Development UK Committee (UNED-UK), where he focused on building UK links with the work of the UN Commission on Sustainable Development. He also worked to produce a number of publications including a book co-written with Derek Osborn titled *Earth Summit II: Outcomes and Analysis* in 1998. He also managed the production of “Poverty and Plenty”—a human development report for the UK—and was the editor of the UNED magazine *Connections*.

Elizabeth R. DeSombre is the Frost Professor of Environmental Studies and professor of political science at Wellesley College. Her main focus is international environmental politics. She also works on international law and international relations theory. Recent projects have involved the lessons from the Montreal Protocol, the regulation of international fisheries, and the use of economic sanctions for environmental goals. Professor DeSombre’s first book, *Domestic Sources of International Environmental Policy: Industry, Environmentalists, and U.S. Power*, won the 2001 Chadwick F. Alger Prize for the best book published in 2000 in the area of international organization and the 2001 Lynton Caldwell Award for the best book published on environmental policy. She currently serves as the book review editor for the journal *Global Environmental Politics*.

Mark Halle is Director, Trade and Investment, and European Representative at the International Institute for Sustainable Development. His career began in the field of international negotiations, serving in the diplomatic secretariat of the Conference on Security and Cooperation in Europe. He has worked extensively with the United Nations Environment Programme, WWF International, and the International Union for the Conservation of Nature over the years, and has worked for the International Institute for Sustainable Development, both as its European Representative and as its Global Director for Trade and Investment. Halle also lectures, writes, and publishes frequently on issues related to sustainable development and to multilateral trade policy. He is founder and former Chairman of the Board of the International Centre for Trade and Sustainable Development.

Hans Hoogeveen is Director General at the Dutch Ministry of Agriculture, Nature and Food Quality and Visiting Professor of Practice in Natural Resource Policy at the Fletcher School of Law & Diplomacy at Tufts University. He currently is leading a Dutch Task Force on agriculture for post-war reconstruction in Uruzgan, Afghanistan. He is the senior advisor on water and food security issues to the Royal Crown Prince of the Netherlands, who serves as Chair of the United Nations Advisory Board on Sanitation and Water. He also serves on several boards in the field of sustainable development, including the Sustainability Challenge Foundation in the Netherlands and Forest Trends. Dr. Hoogeveen is also a lead author of the Global Forest Expert Panel (GFEP) on the International Forest Regime.

Saleemul Huq is Senior Fellow of the Climate Change Group at the International Institute for Environment and Development (IIED) in London. His interests are in the inter-linkages between climate change and sustainable development from the perspective of developing countries. He has published numerous articles in scientific and popular journals, was a lead author of the chapter on adaptation and sustainable development in the Third Assessment Report (2001) of the Intergovernmental Panel on Climate Change (IPCC), and was one of the coordinating lead authors of “Inter-relationships between Adaptation and Mitigation” in the IPCC’s Fourth Assessment Report (2007). In 1984, he became the founding Executive Director of the Bangladesh Centre for Advanced Studies (BCAS) in Dhaka, Bangladesh. When he left BCAS in 2000, it was the leading scientific research and policy institute in the country in the field of environment and development.

Bernice Lee is Research Director for Energy, Environment, and Resource Governance at Chatham House, Royal Institute of International Affairs. She was Head of the Energy, Environment, and Development Programme and Team Leader for the EU-China Interdependencies on Energy and Climate Security project; Policy and Strategy Advisor of the International Centre for Trade and Sustainable Development; Warren Weaver Fellow (International Security) at the Rockefeller Foundation; and Research Associate at the International Institute for Strategic Studies. She also worked at the Strategic Planning Unit of the United Nations Secretary-General’s office.

David L. Levy is Professor and Chair of the Department of Management and Marketing at the University of Massachusetts Boston. He teaches business strategy, international business, international political economy, and business and its environment, and is active in the PhD program in public policy. He is also Director of the Center for Sustainable Enterprise and Regional Competitiveness,

whose mission is “to foster a transition to a clean, sustainable, and prosperous economy.” The center engages in collaborations among businesses, universities, and policymakers to advance research and education. Professor Levy is also the founder and editor of *Climate Inc.*, a new blog devoted to discussion of business and climate change.

Ricardo Meléndez-Ortiz is the co-founder and Chief Executive of the International Centre for Trade and Sustainable Development since 1996. Previously, he co-founded and was General Director of Fundación Futuro Latinoamericano (Quito). He formerly represented Colombia as a negotiator in various multilateral trade and environmental governance processes, including the GATT’s Uruguay Round, the Climate Change Convention, Intergovernmental Panel on Climate Change, and the Montreal Protocol. Earlier, he served as Principal Advisor to the Colombian Minister of Economic Development and as Chief of Administration of the Office of the President of Colombia. Since 1997, Meléndez-Ortiz has been the publisher of *BRIDGES* and its sister publications. He serves on several international policy initiatives, including the board of Intellectual Property Watch (Geneva), and the UN Sustainable Development Knowledge Partnership. He is also as member of the World Economic Forum’s Global Agenda Council on Trade and of the Forum’s Working Group on Trade and Climate Change.

Adil Najam is the Frederick S. Pardee Professor of Global Public Policy, Director of the Pardee Center for the Study of the Longer-Range Future, and Professor of International Relations and of Geography & Environment at Boston University. He previously taught at the Fletcher School of Law & Diplomacy at Tufts University, at the Massachusetts Institute of Technology (MIT), and at the University of Massachusetts. His recent books include: *Portrait of a Giving Community: Diaspora Philanthropy by Pakistani-Americans* (2006), *Global Environmental Governance* (2006), and *Trade and Sustainable Development* (2007). He was a lead author of the Intergovernmental Panel on Climate Change (IPCC), work for which the IPCC was awarded the 2007 Nobel Peace Prize. In 2008, he was appointed by the UN Secretary-General to serve on the United Nations Committee for Development Policy (CDP). In 2009, the President of Pakistan conferred on him the medal Sitara-i-Imtiaz (SI) for his services to education and environment.

Henrik Selin is Associate Professor of International Relations and Faculty Fellow at the Frederick S. Pardee Center for the Study of the Longer-Range Future at Boston University. He conducts research and teaches classes on global and regional politics and policy-making on environment and sustainable develop-

ment. His book *Global Governance of Hazardous Chemicals: Challenges of Multilevel Management* was recently published by MIT Press. He is the co-editor of two books, *Changing Climates in North American Politics: Institutions, Policy Making and Multilevel Governance* (MIT Press, with Stacy VanDeveer) and *Transatlantic Environment and Energy Politics: Comparative and International Perspectives* (Ashgate, with Miranda Schreurs and Stacy VanDeveer). He is also the author and co-author of more than two dozen peer-reviewed journal articles and book chapters.

Stacy D. VanDeveer is Associate Professor and Co-Director of the master's program in Political Science at the University of New Hampshire. His research interests include international environmental policy-making and its domestic impacts, the role of expertise in policy-making, and the politics of consumption and environmental and human rights degradation in global commodities markets. He spent two years as a post-doctoral research fellow in the Belfer Center for Science and International Affairs at Harvard University's John F. Kennedy School of Government after getting his PhD from the University of Maryland. He has authored and co-authored numerous articles, book chapters, working papers, and reports and co-edited two books. Previously, he was a Visiting Fellow at the Watson Institute for International Studies at Brown University.

Patrick Verkooijen is the Visiting Professor in Global Forest Diplomacy at the Forest and Nature Conservation Policy Group at Wageningen University and Research Centre (WUR), Senior Research Fellow at the Fletcher School of Law & Diplomacy at Tufts University, and also Senior Partnership Specialist at the World Bank in Washington, D.C. Before his appointment at the World Bank, Dr. Verkooijen acted as key negotiator for the Department of International Affairs at the Ministry of Agriculture, Nature and Food Quality in the Netherlands. He also served as senior advisor to the President of the United Nations Forum on Forests and acted briefly as advisor to the Special Representative of the Secretary-General of the United Nations in Sudan, and was stationed in Khartoum. Dr. Verkooijen is also a lead author of the Global Forest Expert Group (GFEP) on the International Forest Regime, as established within the framework of the Collaborative Partnership on Forests (CPF) and coordinated by the International Union of Forest Research Organizations (IUFRO).

Paul Wapner is Associate Professor and Director of the Global Environmental Politics program in the School of International Service at American University. He researches and teaches global environmental politics, social movements, environmental thought, and international relations theory. His articles have appeared in *World Politics*, *International Studies Quarterly*, *Global Environmental Politics*, *Alternatives*, *Global Governance*, *Environmental Politics*, *Tikkun*, *Chicago Journal of International Law*, *Politics and the Life Sciences*, *Dissent*, and other venues. He is author of *Environmental Activism* and *World Civic Politics*, which won the Margaret and Harold Sprout Award, and co-editor (with Edwin Ruiz) of *Principled World Politics: The Challenge of Normative International Relations*.

SUSTAINABLE DEVELOPMENT INSIGHTS

Sustainable Development Insights is a series of short policy essays supporting the Sustainable Development Knowledge Partnership (SDKP) and edited by Boston University's Frederick S. Pardee Center for the Study of the Longer-Range Future. The series seeks to promote a broad interdisciplinary dialogue on how to accelerate sustainable development at all levels.

The papers in this series, listed below, are available in PDF format at www.bu.edu/pardee/publications. Hard copies are available by email request to pardee@bu.edu.

Green Revolution 2.0: A Sustainable Energy Path

Nalin Kulatilaka (No. 6), October 2010

Global Environment Governance: The Challenge of Accountability

Adil Najam and Mark Halle (No. 5), May 2010

The Role of Cities in Sustainable Development

David Satterthwaite (No. 4), May 2010

Are Women the Key to Sustainable Development?

Candice Stevens (No. 3), April 2010

Rio+20: Another World Summit?

Miquel Muñoz and Adil Najam (No. 2), November 2009

Pushing "Reset" on Sustainable Development

Alan AtKisson (No. 1), October 2009



RECENT PARDEE CENTER PUBLICATIONS

The Pardee Papers series

Energy Transitions

Peter A. O'Connor (No. 12), November 2010

Coffee, Culture and Intellectual Property:

Lessons for Africa from the Ethiopian Fine Coffee Initiative

Heran Sereke-Brhan (No. 11), July 2010

Sub-Saharan Africa at a Crossroads:

A Quantitative Analysis of Regional Development

Zachary C. Tyler and Sucharita Gopal (No. 10), May 2010

Narcotics Trafficking in West Africa: A Governance Challenge

Peter L. McGuire (No. 9), March 2010

Issues in Brief series

China and the Future of Latin American Industrialization

Kevin Gallagher (No. 18), October 2010

Complex Natural Disasters and the Role of the University

Enrique Silva (No. 17), October 2010

Call for a Corporate Social Conscience Index

Stephanie Watts (No. 16), September 2010

Mapping the Complexity of Higher Education in the Developing World

Muhammad Hamid Zaman, Adil Najam, and David K. Campbell (No. 15), May 2010

Pardee Conference Center Reports

Africa 2060: Good News from Africa

April 2010

All publications are available for download as PDF files at www.bu.edu/pardee/publications.
Hard copies are available by email request to pardee@bu.edu.

The Frederick S. Pardee Center for the Study of the Longer-Range Future at Boston University convenes and conducts interdisciplinary, policy-relevant, and future-oriented research that can contribute to long-term improvements in the human condition. Through its program of research, publications, and events, the Pardee Center seeks to identify, anticipate, and enhance the long-term potential for human progress, in all its various dimensions.

Occasionally, the Pardee Center convenes groups of experts on specific policy questions to identify viable policy options for the longer-range future. *The Pardee Center Task Force Reports* present the findings of these deliberations as a contribution of expert knowledge to discussions about important issues for which decisions made today will influence longer-range human development.

The Pardee Center Task Force on Governance for a Green Economy

The Pardee Center Task Force on Governance for a Green Economy is comprised of leading experts in the fields of economics and trade, sustainable development, global governance, political science, business, international politics, and the environment. Task Force members are from countries around the world, including Bangladesh, Canada, Colombia, the Netherlands, Pakistan, the UK, and the United States. A meeting of all Task Force members was held at Pardee House, Boston University, in September 2010.

The Task Force was co-convened by Henrik Selin, Associate Professor in the International Relations Department at Boston University and a Pardee Center Faculty Fellow, and Adil Najam, Director of the Pardee Center and Professor of International Relations and of Geography & Environment at Boston University. Other members of the Task Force include Tom Bigg, Head of Partnerships at the International Institute for Environment and Development; Elizabeth R. DeSombre, Frost Professor of Environmental Studies and Professor of Political Science at Wellesley College; Mark Halle, Director of Trade and Investment, and European Representative at the International Institute for Sustainable Development; Hans Hoogeveen, Director General at the Dutch Ministry of Agriculture, Nature and Food Quality; Saleemul Huq, Senior Fellow of the Climate Change Group at the International Institute for Environment and Development; Bernice Lee, Research Director for Energy, Environment, and Resource Governance at Chatham House, Royal Institute of International Affairs; David L. Levy, Professor and Chair of the Department of Management and Marketing at the University of Massachusetts Boston and Director of the Center for Sustainable Enterprise and Regional Competitiveness; Ricardo Meléndez-Ortiz, co-founder and Chief Executive of the International Centre for Trade and Sustainable Development; Stacy D. VanDeveer, Associate Professor in Political Science at the University of New Hampshire; Patrick Verkooijen, Senior Partnership Specialist at the World Bank; and Paul Wapner, Associate Professor and Director of the Global Environmental Politics program in the School of International Service at American University.

Pardee House
67 Bay State Road
Boston, Massachusetts 02215
www.bu.edu/pardee
Email: pardee@bu.edu
Tel: 617-358-4000
Fax: 617-358-4001



Boston University The Frederick S. Pardee Center
for the Study of the Longer-Range Future

ISBN 978-0-9825683-8-5