TWENTY YEARS LATER: WILL GREEN GROWTH BE THE GAME CHANGER NEEDED FOR SUSTAINABLE DEVELOPMENT?

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Framing the Issue

In June world leaders will meet in Rio de Janeiro for the 20th anniversary of the 1992 United Nations Conference on Environment and Development—the Earth Summit—in an attempt to provide new political momentum for sustainable development. At Rio+20, they will face a vastly different and more difficult terrain than they encountered when they first met 20 years ago. Population growth and urbanization is putting pressure on the environment and social systems. Growing energy demands and competition for land use thwart efforts to reduce greenhouse gas emissions. The International Energy Agency warns that the world is on a path toward a temperature increase of more than 3.5 degrees Celsius over pre-industrial levels, which is dangerously over the 2 degree Celsius goal set by climate negotiators. Competition for water is straining natural systems while the impacts of a changing climate are already being experienced, with the poorest the most vulnerable.

The ability of international institutions and cooperation to solve many of these issues is under strain as well. International climate negotiations continue to move at a glacial pace and other environmental treaties and agreements are under-delivering. The 2008 economic crisis continues to impact the economies of the United States, Europe and Japan with jobs, debt and deficits consuming political agendas.

These trends have thus prompted new ways of thinking about green growth as a pathway for sustainable development. This green growth agenda looks to meet the world's environmental and social challenges, using technology and innovation as key levers to drive job creation and economic growth. In particular, new technological advances—particularly the rise of information and communication technologies—are beginning to signal ways in which transformative change, if supported by the right set of policies, could meet the sustainable development challenge. Additionally, new coalitions between government, business, academia and civil society are starting to take action, not waiting for global or national consensus.

Policy Considerations

Green growth advocates call for strategies that emphasize efficiency and productivity as important foundational goals. Demand management policies that price energy and water at levels reflective of externalities are needed, starting with removal of fossil fuel subsidies and the implementation of policies that price carbon. Green growth's efficiency goal will be critical as we lay the next generation of infrastructure to support an additional 3 billion people who will be living in cities by 2050, mostly in Asia and Africa. More compact and denser cities will require lower infrastructure and energy costs per capita as density rises, and will need to take advantage of cleaner mass transit solutions that reduce local pollution, with attendant health benefits. Valuation of natural capital in economic accounts will help policymakers make better trade-offs between hard infrastructure investments and solutions that use ecosystems to provide services, such as fresh water sources and natural buffers against water related disasters. Market mechanisms, such a basin-wide water markets, can provide the signals needed to manage resources—especially in water stressed regions.

While these policies have been in the sustainable development toolkit for decades, they have not been widely implemented. Green growth strategies aim to make these policies more attractive by leveraging new technologies to lower costs and transform business models. Renewable energy technologies are the most often discussed, but breakthroughs and advances in information and communications technologies (ICT) may be as important. Municipal leaders are experimenting with "smart city" systems that use ICT to manage water and transportation systems more efficiently while reducing resource use. Smart grids can help manage the flow of renewable energy into the grid, and can also make distributed energy systems possible. Innovations in irrigation system technology can help meet the growing demand for food while also removing a major source of inefficiency in agricultural energy and water use. Developers are experimenting in using energy efficiency and local renewable energy generation technologies to create zero-emission commercial buildings and housing.

Proper pricing regimes, as part of the efficiency goal, will also be a critical element in driving the innovation agenda. Actions could include: public and private investment in research and development; strategies that nurture coalitions between research institutions and entrepreneurs, like business incubation centers and an enabling environment for venture capital; policies like targeted, transitional subsidies to help innovations move out of the "valley of death" or the part of the innovation cycle between invention and commercialization where new technologies often falter; and especially for developing countries, financial mechanisms to help commercialize investments in new technologies by backstopping initial risks as a way of promoting early adopters.

The green growth agenda is still in an early stage of development. Its concepts are being tested in a few national contexts, with Korea being the most notable example. International organizations like the Organization for Economic Cooperation and Development (OECD), the United Nations Environment Program (UNEP) and most recently the World Bank with its latest report "Inclusive Green Growth", are articulating the case for green growth. The Global Green Growth Institute, an international think tank based in Korea, was created to promote these concepts by supporting the development of national strategies and related capacity building.

While these global platforms are important, the most exciting new elements are being driven by a fresh generation of local leaders and multi-stakeholder coalitions. These include the C-40 Cities Climate Leadership Group, a coalition of cities from developed and emerging economies who are committed to taking action. New public-private financing models are being developed such as the Joint Initiative on Urban Sustainability, which is being launched by the United States and Brazil to bring together investors and cities to secure innovative financing for sustainable infrastructure investments. The Sustainable Energy for All Initiative, a global coalition between of government, business and civil society under the auspices of the U.N. Secretary General is looking for breakthrough action on energy access for the poor, renewable energy and energy efficiency. A common thread is the way in which these coalitions are capitalizing on new green technologies; creating new business models that give incentives to the private sector to find innovative sustainable development solutions; and using limited public funds to leverage private investment and finance.

Recommendations for Rio+20

Rio+20 is not expected to result in a set of concrete deliverables. Indeed, negotiations so far have been disappointing and the draft outcome document lacks ambition. Delegates may begin a process to develop sustainable development goals as discussed by Homi Kharas and David Steven later in the packet, but the goals themselves still need significant discussion before they are formed. The main outcome may well be the energy created by concrete bottom-up initiatives that will be formally introduced at the conference and will be driven by coalitions who are not waiting for a global solution. The Sustainable Energy for All initiative hopefully will be endorsed, the type of coalition which Bruce Jones discusses in his chapter on building a new international framework for development. These types of coalitions are not based necessarily on international consensus on one way forward, but rather bringing together the many different initiatives already in existence.

Similarly, issues related to green growth will also lack tangible outcomes. However, at Rio+20, leaders should encourage the green growth agenda by signaling support in a few key areas:

- **Pricing natural resources**. While Rio+20 cannot be a substitute for climate negotiations, leaders can signal the importance of climate negotiators in making progress towards setting national (if not global) policies that set a price on carbon, either through a tax or market mechanism. Leaders should also commit to implementing the G-20 agreement to eliminate fossil fuel subsidies. Moves to introduce natural capital accounting into economic accounts, as discussed by William Brown in this volume, should be accompanied by concrete pledges by willing countries and companies.

- **Leveraging international finance.** Leaders should direct key multilateral funders, like the multilateral development banks and specialized funds like the Green Climate Fund, to direct their funding to country-driven green growth investments. Multilateral and bilateral funders should be asked to more aggressively support the innovation agenda by leveraging private sector action through mechanisms that reduce risk. And, as argued by Mark Muro and Devashree Saha in their chapter, with the generational opportunity to change the emissions trajectory of cities given rapid urbanization, and the importance of cities as drivers of innovation, financial mechanisms to meet the large sub-national needs for green infrastructure investment should be given priority.

- **Investing in innovation.** Leaders in both developed and emerging economies can pledge to step up investment in research and development in their own countries, while also investing to build research and development capacity in least developed countries. As outlined by Nathan Hultman and Alison Shapiro in the next essay, this could be through a combination of direct support to research through competitive grants, while also extending to development of innovation capacities via business incubation centers and financial mechanisms to support venture capital in least developed countries. And further liberalization of trade for environmental goods and services, as discussed by Joshua Meltzer, can also support diffusion and impact of new technologies.