GREEN GROWTH AND THE SUB-NATIONAL DEVELOPMENT IMPERATIVE

Mark Muro and Devashree Saha

Framing the Issue

Nations all over the world face challenging new economic and environmental realities characterized by sharpening resource constraints and growing economic and environmental uncertainties. Confronting these challenges is increasingly driving nations to pursue a strategy of "green growth"—defined as economic progress that fosters environmentally sustainable, low carbon, and socially inclusive development. Dozens of the world's nations from China and India to Brazil and Mexico are now turning their focus to fostering "clean" economic growth and cleantech economic development as a matter of national priority.

However, while the national focus on clean economy is a welcome development, more and more evidence suggests that the new focus too often remains divorced from the true locus of clean economy development: the world's urban economies. National governments, in this respect, have often not only ignored the spatial elements of green growth but have also failed to take into account cities' and city-regions' existing contributions. Yet to be successful, green growth planning needs to become an iterative process, one that adapts to local and regional developments over time and responds to the needs of the local and regional stakeholders who in the end guide the "real" economy.

All of which points to the need for a new, sub-national focus in international green growth interventions. More and more of the most sophisticated nations and industries are recognizing the importance of working at the city and regional level to achieve green growth, and as it happens, the Rio+20 conference offers an important moment for extending and implementing such an emphasis.

Policy Considerations

The facts of world urbanization, as well as the drift of leading-edge economic theory, are thrusting the power of sub-national problem solving into the foreground of green growth and clean economy discussions.

Rapid world urbanization underscores the importance of cities and regions in meeting green growth goals. More than half of the world's population now resides in urban areas, a share that is expected to reach 70 percent by 2050. By the end of the next decade there will be nearly 500 cities of more than a million people, including several "megacities" such as Mumbai, Tokyo, Shanghai, New

York, and Mexico City with populations exceeding 20 million each. Megacities like these are literally "where it's at" in the emerging world order. How these sub-national megacities and regions manage their growth will hugely affect the sustainability of the world's nations. And here it should be said that these urbanized areas—large and small—serve as their nations' principle economic engines. For example, these regions are increasingly the chief locus of labor force matching, technical innovation and adoption, industrial output, and social opportunity. For instance, the largest 100 metropolitan areas in the United States produce three-quarters of the nation's GDP. Similarly, in developed Asia-Pacific countries 24 metropolitan areas account for 64 percent of both their countries' total population and GDP. Add in that environmental problems are both created and solved in these locations and it becomes clear that cities and regions are integral to the transition to a global clean economy.

Generally accepted economic theory further supports the logic of city- and region-scale action. Regions and clusters—geographic concentrations of interconnected firms and supporting or coordinating organizations—draw together the unique variations and specializations that define productive local economies and focus attention on the myriad of actors and the dynamics of their interactions, which also give rise to new innovations and jobs. Hot spots of productivity and collaboration as well as competition, regions and industry clusters are the locations most likely to deliver the next clean economy that will advance environmental sustainability and economic prosperity at once.

Studies from the U.S. support this contention and reveal how national "clean" or "green" economies, far from being placeless, are in reality extremely place-based and manifest themselves in varied configurations. Our recent study "Sizing the Clean Economy: A National and Regional Green Jobs Assessment" found that while the American "clean economy" permeates every corner of the national economy it varies widely in size and shape, region by region, in response to different market and policy dynamics.

Similar stories abound in the rest of the world. Regional cluster development is an important theme of China's 12th Five-Year Plan for its clean energy industry. Seven Chinese provinces—Jiangsu, Hebei, Zhejiang, Jiangxi, Henan, Sichuan, and Inner Mongolia—have leveraged their regional resource advantages and existing industrial bases to emerge as regional industrial centers for China's rapidly growing solar photovoltaic industry. And meanwhile cleantech clusters are sprouting up all across Europe and North America, such as the Copenhagen Cleantech Cluster, Lahti Cleantech Cluster, Amsterdam Ecocluster, CleanTECH San Diego, and Ecotech Quebec, all of which are geared towards positioning their regions to take their place in the new clean economy.

And there is good reason for the regional cast of these green growth stratagems. Quite simply, the clean or green economy performs best where strong industry clusters pack firms and relevant supporting actors densely together in discreet local regions. Along these lines, our U.S. study "Sizing the Clean Economy" noted that companies that are clustered near those in similar or related industries grew at a rate 1.4 percent faster each year than more isolated companies. Examples highlighting this dynamic include fuel cells in Boston, wind in Chicago, professional environmental services in Houston, and solar PV in Los Angeles. In like fashion, Germany's Saxony-Anhalt has one of the world's faster growing cluster of solar cell companies—earning it the nickname "Solar Valley"—with nearly 10 percent of solar cells produce globally coming from this region.

In short, national competitiveness in green growth will emanate most effectively from the sub-national urban areas that are increasingly the world's hubs of such development. Nations that want to pursue such growth amid the unsettled realities of the current world order will therefore succeed best if they intervene at least partially at the sub-national level.

Recommendations for Rio+20

Fortunately many cities and regions are already at the center of making the transition towards a clean economy. From Paris to Jakarta, Copenhagen to Singapore, and Chicago to Sao Paulo, a growing realization is taking hold among local and regional leaders that the well-being of their regions is closely tied to their promotion of a green growth agenda. The C-40 Climate Leadership Group, for

instance, resides at the forefront of designing and implementing meaningful and sustainable strategies that will reduce their cities' carbon and water footprints while also creating jobs and growing their economies. This momentum needs to be affirmed and carried forward and the Rio+20 deliberations offer a signal moment for that affirmation. Along these lines both national and sub-national governments should consider embracing a number possible action steps for advancing green growth through regional strategies. In this connection, they should:

- **Facilitate the development of green regional clusters.** Proximity and complementarities within these clusters would help generate the critical mass to attract, grow, and sustain clean economy industries
- **Explore innovative financing mechanisms,** including ones with a regional linkage, to meet the massive investment needed for green growth strategies. With public budgets under strong pressure everywhere, leveraging private investment will play a crucial role in the transition to green growth
- **Foster green innovation** by devoting more funding for research and addressing barriers to early-stage commercial deployment. Cities and regions themselves remain the world's signal forums for the acceleration of technology development and diffusion. Their innovative power should be leveraged through the careful structuring of place-based partnerships among universities, sub-national governments, and the private sector.
- **Identify potential and actual policy impacts at the local and regional level** by incorporating social, economic, and environmental metrics that can be measured over time and also enable comparisons across cities and regions.