

RESEARCH PAPER BY
RICHARD ATTIAS & ASSOCIATES

PLENARY SESSION Scheduled for: August 29, 12.20pm
Part of the Climate South Initiative

PANEL OVERVIEW

GREEN IS THE COLOUR OF SUCCESS

With \$50 billion in annual investment going into Africa, there is an unprecedented opportunity to leverage the private sector and build Africa into a green continent. How can we scale up innovation in green businesses so we also maximise their job creation potential? How can we optimise the collaboration between entrepreneurs and lead innovators and 'big business'? What can be done to harness the power of the informal economy in the battle against climate change? What new innovations in energy tech will represent change for the most people in Africa?

Regional challenges

Like many developing economies, Africa faces a paradox: it experiences both resource depletion and negative effects from climate change, despite the fact that compared to the global average, it contributes very little to global warming and worldwide carbon emissions. As the continent shifts its economic agenda to incorporating more sustainable goals, new investment will enter the economy, carbon-intensive jobs will be eliminated and there will be a greater need for green jobs and green businesses. With a swelling population, the need will only be greater. African countries need the right policies to encourage both investments by foreign companies with sustainability objectives, foster the creation of African green businesses, and encourage new energy technologies.

Sustainable Growth

With \$128bn FDI in Africa in 2014, and continued FDI growth, the continent has a unique opportunity to encourage investment by sustainable or "green" businesses, or companies that have minimal harm on the environment for future generations (*Ernst and Young, 2015*). The UNEP defines green jobs as work that contributes substantially to preserving or restoring environmental quality (*UNEP, 2008*). Africa can harness innovations in energy technology to create more green jobs, mitigate climate change and foster inclusive green growth (*UNDP, 2014*). African governments can look beyond the renewable energy sector as well, by

encouraging low-carbon business practices in existing industries and helping corporations remain competitive in a world where sustainable practice is crucial to a brand's reputation.

UNDP argues that inclusive economic growth and green businesses work in tandem through greater efficiency, innovation and the creation of new markets (OECD, 2011). "Greening" the economy may create new jobs both within the formal and the informal sector. However, challenges remain in promoting inclusive green growth, including lack of innovation capability, technological barriers, lack of capital, and dependence on extractive industries for the majority of jobs. According to UNDP 8-8.5% of Africa's jobs come from natural resources including minerals, agriculture and forestry. A report by the International Labor Organization (ILO) illustrates that as countries prioritize greening their economies, economic activity will shift away from low energy efficiency activities, which will cause structural shifts in employment to occur. Workers may be displaced as "brown" jobs are eliminated, and existing jobs are transformed into greener positions (ILO, 2011). Africa's task is to foster green businesses without stunting current economic growth strategies. Some of this might come from supporting green entrepreneurship and encouraging more sustainable practices within agriculture and other resource dependent sectors like infrastructure, energy and industry.

Drivers of a green economy and green employment will come from government policies including subsidies, research and design budgets, and investment in energy alternatives (UNEP, 2008). Key drivers of sustainable transformation or growth are investment and technology, and governments need to encourage investment in areas that cause little environmental damage or facilitate greater resource efficiency.

Energy Technology

Africa is currently in a unique position in terms of its energy sector, because foreign companies are targeting the continent for investment in renewables. According to the UNCTAD, fossil fuels were the primary material import and export in Africa between 1980-2008, yet it was a net importer of renewable resources (UNCTAD, 2012). Solar, wind and other renewables not only mitigate climate change, but also create millions of jobs. Although projections for individual countries vary, the UNEP estimates that wind energy could generate 2.1 million and solar PVs might generate up to 6.3 million jobs worldwide by the year 2030 (UNEP, 2008). McKinsey estimates that renewables have the potential to create 2.5 million temporary jobs across Africa (McKinsey, 2014). The energy efficient building sector, agriculture, recycling sectors and transportation sectors also have potential for job related growth (UNEP, 2008).

New research suggests that transforming an economy away from depleting the environment is not necessarily a recipe for economic stagnation. UNCTAD points out there are three different economic arguments supporting green growth, each sequentially stronger. The first argues that green businesses do not inhibit economic growth; the second argues that green sectors provide

some jobs; and the final argument is that renewable energy systems will provide basic sources of economic growth (UNCTAD, 2012).

Collaboration between entrepreneurs and lead innovation and big business

Innovation is an important catalyst for disruption. New technologies will not thrive in industries that depend on existing, energy inefficient technologies, specifically in sectors like transportation and energy (OECD, 2012). The areas that are projected to grow most are in renewable energy, electric vehicles and energy efficiency in building and lighting. However, many developing countries may do not have the intellectual or financial capital to innovate clean technologies (UNCTAD, 2012). Part of this has to do with limited funding for research and design, limited capital for startups and high rates of patents for energy technologies (UNCTAD, 2012). Furthermore, competition between private companies may prevent the sharing of innovative green technologies. Governments may be able to boost collaboration and innovation by creating cooperative research and design centers (UNEP, 2008). At the same time, in order to ensure that FDI focusing on green technologies enters countries, governments need to ensure that copyright and intellectual property is protected (OECD, 2012).

Informal Economy

The informal economy comprises more than 80% of total employment and 90% of new jobs in lower income African countries, and includes activities such as street vending, carpentry, maintenance work, retail trading, recycling and refuse collection, and artisan work (Organisation Internationale de la Francophonie, 2014 and UNPAN, 2013). The UNRISD notes that many actors working in the informal economy already practise sustainability goals. For example, bottle collectors and waste recyclers collect products out of economic necessity, but their actions, in fact, participate in sustainability goals (UNRISD, 2012). Because the informal economy comprises such a large portion of the African workforce, it is important that policymakers include it in the discussion of green economies.

Recommendations from the UNDP, UNRISD, UNCTAD, OECD, UNEP

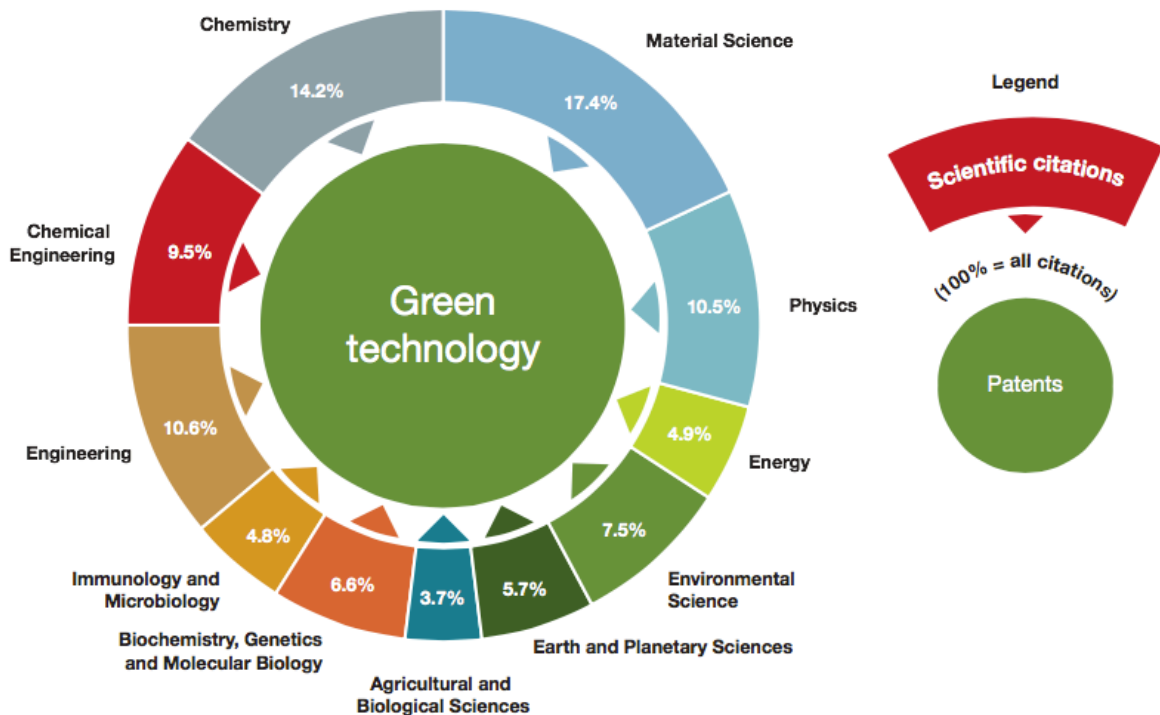
- Holistic approach to inclusive green growth would include an efficient use of natural resources in sectors like agriculture (UNEP, 2008)
- Governments should avoid strategies for a green economy that impede specific livelihood strategies used by the informal sector. Policy recommendations should include the participation of women, livelihood security and acknowledging cultural beliefs of those working in the informal economy (UNRISD, 2013)
- More than 70% of the African population works in agriculture, and many of these workers are small hold farmers. Policymakers should encourage these farmers to engage in more sustainable practices like low tillage, organic fertilizer, and decreased use of environmentally harmful pesticides (UNDP, 2014)

- Governments should implement strategies to attract low-carbon FDI and promote international cooperation efforts to promote partnerships with foreign organizations (UNDP, 2014)
- Governments should identify sectors that offer the greatest opportunities for growth that offset environmental pressures (UNCTAD, 2012)
- Countries can encourage industrial development by improving resource efficiency and mitigating pollution in high growth sectors like agriculture and manufacturing (UNCTAD, 2012)
- In order to fuel sustainable growth, countries should encourage investment in natural resources and renewable technologies, and encourage partnerships between research institutes and corporations in the technology sector (UNCTAD, 2012)
- Governments should use a combination of economic, cooperation, regulatory, education and information policy instruments to promote sustainable structural transformation. Some of these might include cooperation or partnerships, subsidies for businesses (UNCTAD, 2012)
- Governments should look to multinational corporations investing in Africa for support in their sustainability goals (UNCTAD, 2012)
- Governments should implement trade-based policies including the removal of import tariffs on energy-efficient modes of transportation or other green businesses.
- Governments should design policies that encourage businesses to change their electricity consumption to technologies like renewables and retrofit their buildings, and minimize the environmental impact of their activities (UNCTAD, 2012)
- Encourage linkages between universities and entrepreneurs through the creation of industrial clusters and technology parks, and create public private research grants (UNCTAD, 2012)
- The informal sector should be incorporated into the mainstream economy through training and planned efforts to accelerate entrepreneurship. Countries should intensify skills development and basic business management knowledge for those working in the informal sector (UNPAN, 2013)
- Policymakers should develop new skills training programs for workers from sectors that may eventually be eliminated through a green economy, and for workers who wish to transition into new green jobs (ILO, 2011)
- Policies should both reinforce economic growth and focus on conservation of natural resources/natural capital (OECD, 2012)
- African countries can encourage international cooperation within the technology sector to promote technology transfer and development. "Because many environmental technologies are patented, it can be difficult for African institutions, with limited capital to access them. Greater use of technology can occur if governments promote

technologies that are available in the public domain, without patent restrictions. Increased public funding and research and development programs can facilitate more African entrepreneurs and small businesses to launch energy technology businesses.” (UNCTAD, 2012)

The innovation-science link in selected green technologies

Patent-science link via citations, 2000-07



Source: OECD (2010), *Measuring Innovation – A New Perspective*, based on Scopus Custom Data, Elsevier, July 2009; OECD, Patent Database, January 2010; and EPO, Worldwide Patent Statistical Database, September 2009.

Issues for further debate

How can we scale up innovation in green businesses so we also maximize their job creation potential?

How can we optimize the collaboration between entrepreneurs and lead innovators and ‘big business’?

What can be done to harness the power of the informal economy in the battle against climate change?

What new innovations in energy tech will represent change for the most people in Africa?

Forum Flashback:

NYFA 13: Larry Summers stressed the need for a new world relationship to Africa, which focused on investment rather than aid. "Technology, effective government and dealing with natural resources," should be priorities.

Further reading:

Senegal: towards a green jobs strategy http://www.ilo.org/global/topics/green-jobs/projects/africa/WCMS_250673/lang--en/index.htm

The time is ripe for Africa's green economy vision (letter to the Financial Times)
<http://www.ft.com/intl/cms/s/0/3c1b12b0-44ac-11e4-ab0c-00144feabdc0.html#axzz3g4V2wvg7>

Kenya's geothermal investments contribute to green energy growth
<http://www.worldbank.org/en/news/feature/2015/02/23/kenyas-geothermal-investments-contribute-to-green-energy-growth-competitiveness-and-shared-prosperity>

South Africa's national waste tyre project is supporting SMEs and creating jobs
<http://www.theguardian.com/sustainable-business/2015/aug/03/south-africa-circular-economy-unemployment-lifeline>

Prepared by Angela LaSalle, Program and Research team at Richard Attias & Associates, and Masters International Affairs, Columbia University