



**Side-event report**

**Raising the ambition of climate action through circular economy strategies**



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**15 November 2017, 13:15 - 14:45**  
**Meeting Room 4 - COP23**

**Organizers:** UNFCCC, UNDP, UNCTAD, IDB, Circle economy, Chatham House, Ellen MacArthur Foundation, The Stanley Foundation and Shifting Paradigms.

With Sustainable Development Goals (SDG)s and the Paris agreement calling for development paths which are less reliant on primary resource extraction, strategies for resource circularity are gaining increasing attention in developed and developing countries. For multiple reasons, circularity strategies represent an indirect Green House Gas (GHG) mitigation option, with potentially low abatement costs, carrying a number of co-benefits in income generation, reduction in pollution, promoting innovation, novel jobs and calling for a rethink of trade patterns.

The event noted that circularity is gaining increased political attention, and there is a growing public understanding that circularity is not only limited to national jurisdictions anymore. A highly interested audience asked questions on factors which will likely be key for increased political acceptability, like the net employment effects of circular strategy adoption and extended producer responsibility in the private sector. This note summarizes the discussions which took place, in an event at the COP23 in Bonn, organized by many of the leading thought-provoking Circular Economy organizations currently active in the World.

## **1. Circularity as a pathway to a 1.5°C target**

The main thread of discussions during the event centered on circularity strategies functioning as a means to achieving climate change mitigation. The event was opened by Ms. Isabelle Durant, Deputy-Secretary General (DSG) of UNCTAD, who mentioned that in face of growing populations and income, demand for goods and services will only grow. She subsequently called for a change in predominant economic models based on linear patterns of production, consumption and disposal, to models which disconnect prosperity from resource extraction.

The manner to ensure such resource decoupling is to promote policies and market structures that give incentives to reusing rather than wasting. Most things, such as used clothes, metal scrap and obsolete electronics, could be sent back into the economy via recycling and remanufacturing. Unused spaces and empty seats can be rented. While promoting such transformations based on an environmental / decarbonization goals alone might be a difficult political sell, the case is strengthened if the case for circularity includes developing new economic sectors which create jobs and generate additional sources of income.

Illustrations were provided, such as for the case of manufacturing – much of it for international markets - which uses 54% of the world's total delivered energy, especially in industries such as petrochemicals, metals and paper. For an idea of quantities involved, every year 322 million tons of plastic, 59 million tons of aluminum and 240 million tons of paper and paperboard are produced in the world. The result is 1.2 billion tonnes of garbage produced by 3 billion people living in cities every year. Keeping materials longer in the economy could deliver CO<sub>2</sub> emissions reductions in the order of 33% by means of lower embedded emissions in products, allowing GHG mitigation at lower costs than other strategies.

This is a pattern that doesn't make economic sense. Examples used during the session illustrate well the untapped potential of circularity. For example, losses of about €48 billion a year happen in E-waste alone, based on precious metal contents and other valuable materials which end up landfilled. Models for food sharing and food discounting exist already and could halve Food waste. Home appliances such as energy and water-efficient washing machines could be used by most people if they were leased instead of sold; Organic waste can be recovered and reused.



Introductory remarks delivered by Ms. Isabelle Durant, UNCTAD.

DSG Durant further mentioned that, at a fundamental level, there is a need to consider shifting tax bases from labor to resources; differentiating tax treatment for reused, remanufactured and repairable products; and help educate consumers about the benefits of changing a mentality of product ownership to one of access to services.

As countries adopt circular strategies, international value chains will change. Recycling and remanufacturing centres will appear closer to where products are used. This could mean less transport-related losses, quicker turnaround between orders and deliveries, and creation of jobs that cannot be offshored.

Challenges arising from circular models were also mentioned. The example of a recent curb on imports of used clothes implemented by various East-African countries was given, on the basis that used textiles prevent local industry development and negatively impacts dignity. Another example mentioned was China's notification to World Trade Organization (WTO) this year, showing an intention to restrict imports of low-quality and contaminated scrap and waste materials for recycling. This calls for an important and constructive debate on recyclable materials trade, in order to ensure the application or enactment of policies to stimulate high-quality sorting, recycling and remanufacturing. This should be done in a way that is safe for workers and the environment. It is also important to differentiate between waste, used and remanufactured goods, creating clear protocols for their acceptability.

Finalizing her introductory remarks, DSG Durant stressed that a circular economy benefits both developed and developing countries. As a global economy, there is a need to move from a mercantilist model of resource trade – where some nations accumulate materials which are costly to reprocess in their territories – to a model in which resources flow back to regions which comparative advantages for their recycling and remanufacturing. Negotiating agreeable conditions for all countries to do so it essential to place circular economy in the core of our growth strategies. With the proper alignment of enablers in various countries, as well as shifting consumer preferences, a circular economy can be an important contributor to goals set in the Paris Agreement and the SDGs, concluded the UNCTAD representative.

## 2. Institutional messages

Pointing to the growing attention the topic of circular economy has attracted in context of global climate action Mr. Vintura Silva from UNFCCC emphasized the critical role of circular economy strategies in global climate action and SDGs and hence the UNFCCC's initiative to organize this timely dialogue during the UN climate conference in Bonn with other partners.



From left to right: Mr. Vintura Silva (Session Moderator - UNFCCC), Mr. Rei Tang (The Stanley Foundation), Ms. Isabelle Durant (UNCTAD), Mr. Felix Preston (Chatham House), Ms. Amal Lee Amin (IDB), Ms. Maja Johannessen (Ellen MacArthur Foundation).

Ellen MacArthur Foundation, which has been a leading organization promoting the theme of circular economy for many years, represented by Ms. Maja Johannessen at the Panel pointed that circularity is not about doing less but about doing things differently. Ms. Johannessen, representing the foundation, stressed the importance of cooperation amongst stakeholders so that concrete results can be achieved.

Mr. Rei Tang, representing the Stanley Foundation, mentioned in his presentation the different pathways to 1.5 degrees decarbonization, including energy transitions, land-use, and the fact that circular economy models have not yet reached the mainstream international discussion, including climate policy.

Mr. Tang mentioned that linear models are expensive, also for developing countries, and that systemic circularity is a new approach. He mentioned the case of Kumasi industrial cluster in Ghana to make this point, and introduced examples on how sustainable behavior and consumption can have positive business benefits.

Mr. Felix Preston, representing the Chatham House, presented ideas for international cooperation to promote circularity. In special, he mentioned financing and tools that can be provided from (OECD) members to poor countries, in particular on eco-design. It was also mentioned that such provision of technology and models can come also from China and India. According to Mr. Preston, circularity is not be a one-way conversation, like with renewable energy. This has two sides, both can learn, and there exist examples where developing countries are ahead of the developed world.

Poor countries tend to be less locked into infrastructure and existing consumption patterns. At the same time, while at first glance developing countries have a lot of circular activities, they often exhibit very poor labor conditions as collecting and sharing waste and products is often labor intensive. Another point which needs further work is the textile market, said Ms. Preston, in which circularity imposes economic trade-offs. The presenter than called for a concentration of efforts to improve upon that basis, since the world is building momentum on circularity strategies now.

Representing the Inter-American Development Bank (IDB), Ms. Amal Lee Amin mentioned the Bank's initiative to create a platform to support the transition to a blue and circular economy in small islands states. The platform is structured to be relevant for both the mitigation and adaptation agendas, build institutional capacities and deliver economies of scale. The platform is designed to promote actions which enhance resilience to climate change impacts, attracting own resources, as well as concessional funding and government funding. It will be launched in late 2017, and will seek funding from the green climate fund for a special blended funding vehicle.

The platform is primarily focused on marine environments, such as fisheries, coral reefs, and related infrastructure. It also focuses on relieving import dependency of foreign materials. The initiative will also work in the area of buildings, in which circularity could help allow cheaper structures to reduce debt problems arising from hurricane-related disasters.

Mentioning both opportunities for south-south exchange, and synergies with the Paris Agreement, Ms. Lee Amin mentioned the bank's work in 6 Caribbean islands, and the OECS countries and the Caribbean development banks, stressing especial relevance for the coast of Nicaragua and Belize. The bank is also establishing a partnership with the University of West Indies, and INCAE business school in Costa Rica. A partnership with UNCTAD is also envisioned.



Mr. Jelmer Hoogzaad from Shifting Paradigms and Mr. Matthieu Bardout from Circle Economy, introducing the circular economy concept, its relevance to low carbon development, and presenting the approach which UNDP and Shifting Paradigms used to engage stakeholders in identifying circular mitigation opportunities in [Lao People's Democratic Republic \(PDR\)](#). Their [presentation](#) argued for the use of socio-metabolic approaches to identify circular economy opportunities, it mentioned several opportunities to raise ambition under the [Paris Agreement](#) and they launched a joint [report](#) on policy levers for a circular economy.

Previous research work done on the topic highlights that circular economic approaches can close part of the gap that exists between the current mitigation commitments and the required effort to reduce emissions to a pathway which is in line with the 1.5 °C target. Since 67% of the annual GHG emissions are from the extraction, transportation, processing and disposal of materials, improving resource efficiency can reduce emissions beyond current strategies which mostly target

the energy sector. A new report on the global metabolism and mitigation levers is planned for publication in January 2018.

### **3. Examples of Circularity initiatives in developing countries.**

Throughout presentations, a common thread was the understanding that circularity potentials are very large in developing countries, especially as consumption patterns take shape with populations entering middle classes especially in Asia, Latin America and Africa. Panelists discussed the cases of recent projects in India, Lao PDR, Kenya and China, highlighting actions taken and latent opportunities of increased circularity gains.

The first presentation was on Lao PDR, a country which has been experiencing impressive economic growth, primarily based on resource extraction and exports. At the COP23 event, the country was represented by Ms. Xaysomphone Souvannavong and Mr. Amphayvanh Oudomdethpresent from the Ministry of Natural Resources and Environment (MONRE). They mentioned that Lao PDR just finished its 8<sup>th</sup> National development plan, under which its 3<sup>rd</sup> goal is environmental protection and sustainable resource management. MONRE thanked UNDP for its support in developing the Circular Economy study for Lao PDR, centered on water, health construction, and power generation. Officials further mentioned the usefulness of circularity approaches for all government ministries and their planning. Mr. Anders Paulsen, UNDP technical advisor mentioned that the circular economy study was only possible in cooperation with the Lao government. Mr. Paulsen complemented that circularity is not a new concept in Laos, as 80% of the country is based in rural areas which require circular lifestyles to be put in practice daily. An overview of the key results of the Laos study emphasized that Circular Economy represents a unique opportunity for developing countries to redefine development and growth, through the lens of metabolic efficiency. For Lao PDR it is seen an opportunity to skip the catching-up phase and leapfrog into a postindustrial society. In the presentation, Mr. Paulsen described the 4 steps that were developed for introducing circular economy in Lao PDR, namely developing a socio-metabolic profile, mapping priority sectors, developing circular economy strategies and define the implementation plan. The identified circular economy strategies move away from single sector or industry approaches, towards strategies in which sectors jointly formulate an innovative, inspiring vision for development: A regional recycling and remanufacturing hub, circular construction methods in tourism and algae farming to produce valuable bio-based materials and clean surface water.

A recent study on circular economy opportunities in India was also presented. The representative from Ellen MacArthur Foundation (EMF) Ms. Maja Johannessen highlighted that some circularity principles are already rooted into the Indian economy. Those include widespread practices of organic farming, repair and recycling. The economic opportunities of transitioning to a circular economy in India are very large, as the country is building the equivalent of an urban Chicago every year. In addition to creating direct economic benefits for businesses and households, following a circular economy development path would also lead to 44% less greenhouse gas emissions by 2050, according to the study from EMF. Circularity in India, according to the Ellen



MacArthur Representative, could be an important lever to create a low-carbon economy. Ms. Johannessen mentioned examples applicable to urban contexts such as Modroof / ReMaterial, which are modular roofing system made out of locally sourced waste materials, which are low-cost, environmentally friendly and better e.g. than steel roofs for hot monsoon conditions. A rural example in India was also given, of anaerobic digesters using food waste at household levels, which can produce biogas and sludge which can deliver household energy and fertilizer for up to 250 plants, allowing decentralized farming systems.



Left to right: Mr. Lucas Assunção (Session Moderator - UNCTAD), Dr. Yu Xiang (Chinese Academy of Social Sciences), Dr. Pacifica Ogola (Ministry of Environment and Natural Resources of Kenya), Mr. Anders Paulsen (UNDP Lao PDR) and Ms. Maja Johannessen (EMF).

An example from China was presented by Dr. Yu Xiang from the Chinese Academy of Social Sciences. In her presentation, she mentioned that industry represents over 60% of energy use and GHG emissions in the country, and since the 1980s over 1700 industrial parks have been deployed in China, accounting for more than 50% of the gross industrial output. While those parks contributed in a great deal to the economic development of the country, those sites face large challenges of carbon emissions and environmental pressures. As a response, the country has launched a pilot programme on developing industries framed in sustainable development concepts. Those include circular industrial parks, eco-industrial parks and low-carbon industrial parks. Examples were provided on Suzhou industrial park, with wastewater and heat re-usage,

as well as Kun lun development zone and the Otog banner Economic Development zone which had significant energy intensity and are employing similar circularity practices.

The case of Kenya was presented by Dr. Pacifica Ogola from the Ministry of Environment and Natural Resources, who participated in the country's NAMA on waste collection and recycling.

The NAMA promotes an alternative to the existing waste value chain. Instead of waste being collected for disposal only, the NAMA facilitates the diversion of 90 per cent of collected waste away from disposal sites and towards various recycling practices. The NAMA creates multiple links currently missing in the value chain: recycling points, where waste will be sorted for subsequent recycling; and composting facilities, for the organic waste treatment. The country aims to create 16 recycling centres and 16 composting centres, as well as develop a compost market. The goal is to be able to process at least 600 tonnes of waste per day. Some initiatives have already been implemented at consumer level, such as a ban on plastic bags at supermarkets.

Kenya is not alone in Africa, as seen by other recent developments at the time of the COP 23. This can be illustrated by initiatives such as the [African Circular Economy Alliance](#) presented during the COP23 and the African Circular Economy network (launched in 2016), showing growing impetus in developing countries.

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