

## Development News – 27<sup>th</sup> November, 2016.

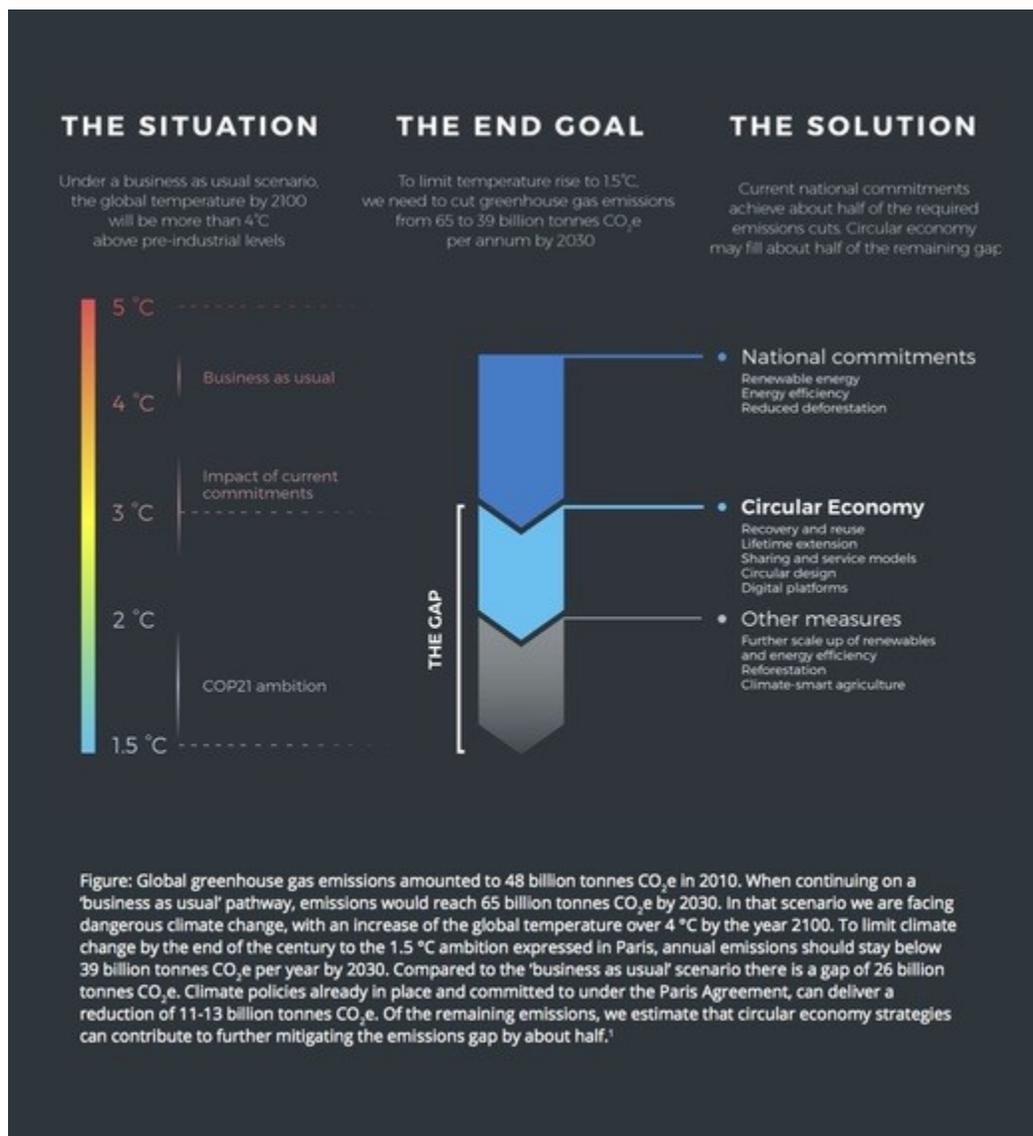
### Circular Economies

It's been a momentous but mixed two weeks for the climate and clean energy agenda. At the beginning of the month, the Paris Agreement - a global compact negotiated in December 2015 - came into [force](#), following much faster ratification by the world's big players than anyone dared hope. Then a few days later, the US elected a [man](#) who has threatened to pull out of the agreement and reverse Obama's Clean Power Plan to reduce emissions (thankfully, the US has already ratified the Paris Agreement and can't pull out for four years).

As climate negotiators meet in Marrakech this week, here's another piece of good news: there is an as-yet untapped opportunity to help us dramatically speed up the transition to a zero-carbon world - the [circular economy](#).

This is about changing the way we design, buy, and use products to make the most of the materials they are made of. Now, we make a product - say a toaster or phone - it doesn't last long and when it breaks, or there's a better model available, we throw it away and all the resources used to make it (metals, energy, water) are lost.

Recent [research](#) suggests that half of the remaining climate emissions gap could be closed by being less wasteful in our use of materials. Under business as usual, the world is headed for a global temperature increase of more than four degrees by 2100. Existing commitments under the Paris Agreement take us around half-way to the target of 1.5 degrees. The circular economy could close half the remaining gap.



*The circular economy can be a key lever in bridging the emissions gap to a 1.5 °C pathway © 2016 Ecofys/Circle Economy*

Each year, we extract roughly 60 billion tonnes of raw materials from the natural world. Most of our global emissions are associated with digging them out of the ground and turning them into things that we can use.

Unfortunately, we're rather profligate in our use of these materials at present. Much of what we make isn't built for the long-term (how long did your last mobile phone last?), a lot of it is used rather inefficiently (think cars transporting just one person or 'fast fashion'), and less than a tenth of these materials are ever recycled and reused. If we can adjust our behaviour, the potential savings are huge. Here are four quick examples:

- Keeping your mobile [phone](#) in use for an extra year cuts its lifetime CO<sub>2</sub> impact by a third.

- In 2015, a single [car sharing](#) platform in Seattle reduced the number of vehicle miles travelled by 34 million.
- Making [clothes](#) last a year longer cuts their lifetime CO2 impact by a quarter.
- Recycling [aluminium](#) requires 95% less energy than producing the metal from scratch.

Even improving basic waste management in emerging and developing countries could make a big difference. In [Brazil](#), half of collected waste is organic, and this breaks down in landfill to produce methane, a greenhouse gas 20 times as powerful as carbon dioxide. Sending this waste for composting instead results in a big carbon saving and creates jobs.

For this reason, [Kenya](#) has made improving waste management a significant part of its plan for reducing carbon emissions. At present, close to two thirds of Nairobi's waste sits in informal dump sites or is burned, and less than 10% is recycled. Kenya's plan would change this, and other countries could follow suit.

These examples have two things in common: they are happening now, and the potential for scale-up is exciting. What's more, most of these 'circular economy' strategies do not feature in countries' existing climate plans. Rolling them out more widely could take us a big step closer towards meeting the Paris Agreement's 1.5-degree target.

### **Keeping Mothers and Babies Alive**

Public health experts in east [Africa](#) have hailed an initiative that will fund research on the continent in the hope of fostering African innovation.

The \$7m (£5.7m) [Grand Challenges Africa innovation seed grants](#) programme – funded by the Bill and Melinda Gates Foundation and coordinated by the African Academy of Sciences (AAS) and the [Nepad](#) Agency Alliance for Accelerating Excellence in Science in Africa (Aesa) – is calling for ideas from Africa-based innovators working in maternal and newborn child health.

### **My mother did everything but she was left to bleed to death after giving birth'**

/Aesa said the five-year programme would provide seed grants worth up to \$100,000 each, with successful researchers eligible to apply for further funding of up to \$1m to scale up their innovations.

“Solutions for Africa's challenges do exist within the continent. As an African grant-making body, we are laser-focused on tapping the best minds on the continent to develop innovative local solutions to our health and development challenges,” said Aesa's director, Tom Kariuki.

That view was echoed by Peter Waiswa, an associate professor at the Makerere University School of Public [Health](#) in the Ugandan capital, Kampala. Waiswa, a specialist in maternal and newborn health, said it was good the Grand Challenges scheme now had funds set aside specifically for – and managed in – Africa. Although the grants are small, Waiswa said, they are “most likely going to respond to local needs”.

A key problem for the continent's scientists is the dearth of Africa-driven research. In Uganda alone, Waiswa said, maternal and newborn mortality and stillbirths add up to about [85,000 deaths a year](#). "These are double the number of people who die from [HIV and Aids in Uganda](#)," he added, "but all the attention is on HIV. So I think it is good that they are funding into this specific area. But, as I said, they are still small grants and we have to compete for them as a region."

Waiswa said researchers often faced a lack of money for scaling up innovations. This has meant researchers cannot do long-term work. He cited the case of Ugandan scientist [Misaki Wayengera](#), who created a prototype for a quick test for Ebola, but failed to get funding even after writing to the Ugandan president. Only after the [latest Ebola outbreak in west Africa](#) that Wayengera received financial support, from [Grand Challenges Canada](#).

At Makerere University and Nsambya hospital in Kampala, researchers wanted to solve birth asphyxia (newborn breathing difficulties) by [cooling babies to zero](#), but they lacked funding. "There is a good effort," said Waiswa, "but government and other partners must come on board to push the science to the rightful conclusion. Even us – we have come up with a couple of innovations but they just die."

Pauline Irungu, the advocacy and policy manager at the health charity Path in Kenya, said maternal and child health in Africa suffered from a lack of investment relative to areas such as HIV and Aids, leading to limited innovation. The Africa-centred grants will challenge African innovators to address other continent-specific health problems, she said.

"HIV came with a bang. It was killing [so many] people and therefore there was a huge focus on it – [there was a lot of investment](#)," said Irungu, who has worked in public health since 2000. "But I think because maternal and newborn child [mortality] has always been with us. I haven't seen a similar impetus to put in resources and to push for innovation that can change the trajectory."

Like Waiswa, Irungu hopes the new grants will lead to more Africa-led research. "Homegrown solutions combined with world-class innovation is what will solve the problems of Africa," she said. "We can't stand back and wait for someone to design something out there and bring it to Africa, and then we adopt it."

### **International Women's Day: the battle for better maternal health care in Uganda**

Irungu is in no doubt that African scientists can tackle the continent's problems if given a conducive environment in which to work. "Why are we talking about brain-drain? Africa – we – are exporting brains to the west," she said, citing the use of antiretroviral therapy to prevent HIV infection, for which proof-of-concept was [driven by researchers in South Africa](#). "We don't only have the brainpower; we also have institutions that are conducting world-class research in Africa. The Kenya Medical Research Institute is currently undertaking a study for a malaria vaccine for children."

Just as enthused about the "Africanness" of the grants was Betty Walakira, chief executive officer of the Ugandan NGO Health Child. She says that, in poor countries, research funding is not a priority for governments. Yet local researchers continue to show good potential to address such problems as post-partum bleeding.

“All this new knowledge is useful in the sense that it can be used in a developing country context,” said Walakira, whose organisation promotes maternal and child health.

The Ugandan president, Yoweri Museveni, has been talking up the potential of his country’s scientists, despite the government’s approach apparently being driven more by politics than cohesive policy. At the end of 2015, he was quoted as promising to increase the government’s innovation fund from \$49m to about \$143m. In June, Museveni created a department of science, technology and innovations, and its new minister, Elioda Tumwesigye, has already [called for a substantive innovation fund](#).

John

27<sup>th</sup> November, 2016.