

THE CIRCULAR ECONOMY

Pathway for Pursuing 1.5°C

Brussels, 21 February 2018



Harald Friedl,
CEO Circle Economy



The circular economy can make a **major contribution** to mitigating climate change



Download the report:

<http://www.circle-economy.com/case/circular-economy-a-key-lever-in-bridging-the-emissions-gap-to-a-1-5-c-pathway>

THE SITUATION

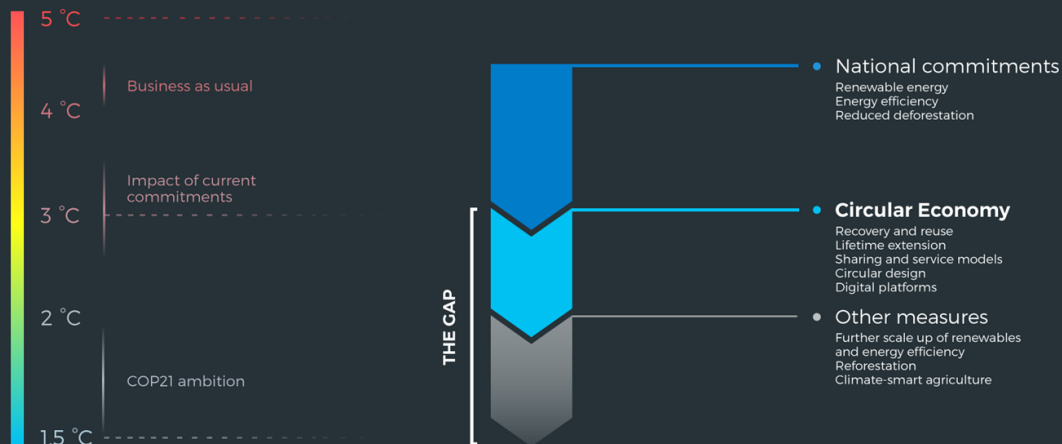
Under a business as usual scenario, the global temperature by 2100 will be more than 4°C above pre-industrial levels

THE END GOAL

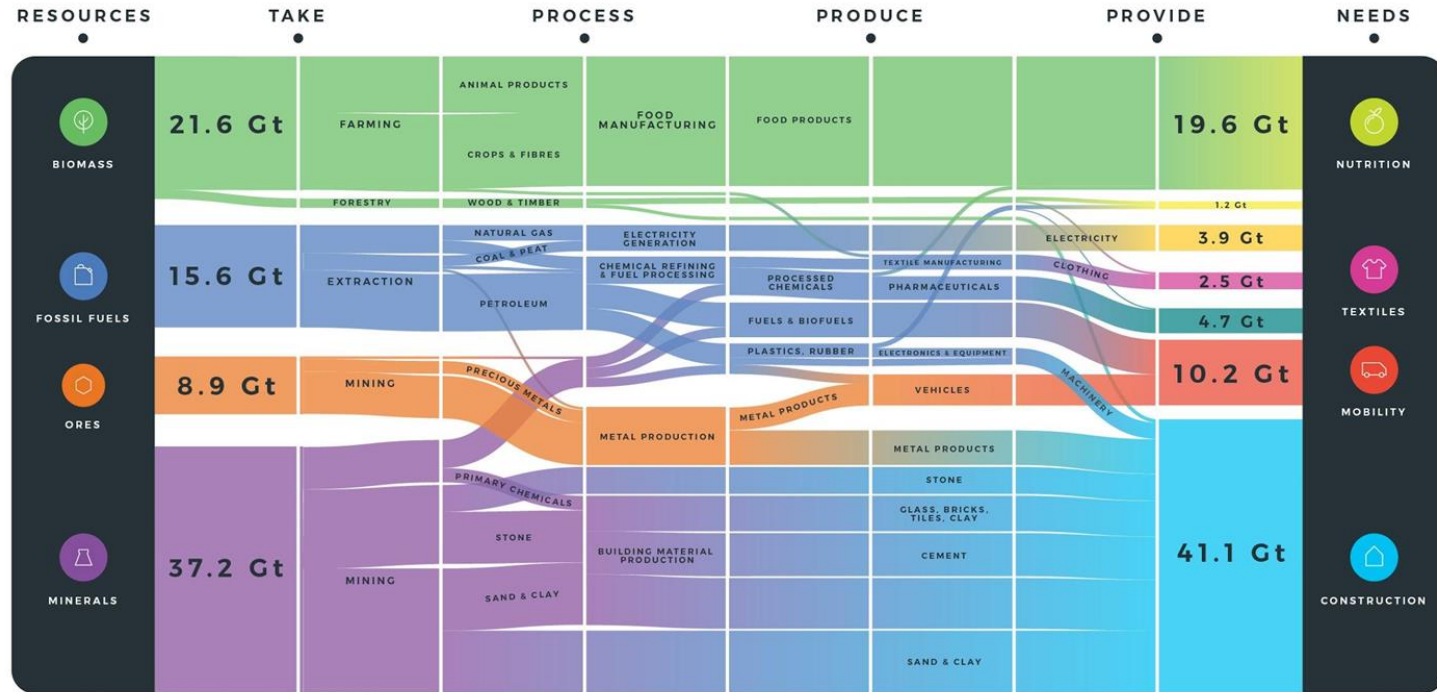
To limit temperature rise to 1.5°C, we need to cut greenhouse gas emissions from 65 to 39 billion tonnes CO₂e per annum by 2030

THE SOLUTION

Current national commitments achieve about half of the required emissions cuts. Circular economy may fill about half of the remaining gap



We extract over **80 billion tonnes** of materials per year to meet the functional needs of society...



(draft analysis)

Sources: Circle Economy team analysis based on Exiobase (2011); Tukker et al., EXIOPOL - Development and illustrative analyses of a detailed global MR EE SUT/IOT (2013) Economic Systems Research, 25 (1), pp. 50-70.; Wood et al., Global sustainability accounting-developing EXIOBASE for multi-regional footprint analysis (2015) Sustainability (Switzerland), 7 (1), pp. 138-163.

Finding systematic mitigation options requires mapping **the full metabolism** of a jurisdiction, industry or industrial cluster

The metabolism of Albania, mapping:

Food
Water
Energy
Tourists



0 5 25 50 km



It offers Lao PDR an **alternative development perspective** which steps away from devastating resource extraction and its short-term rents

Initiative with UNDP

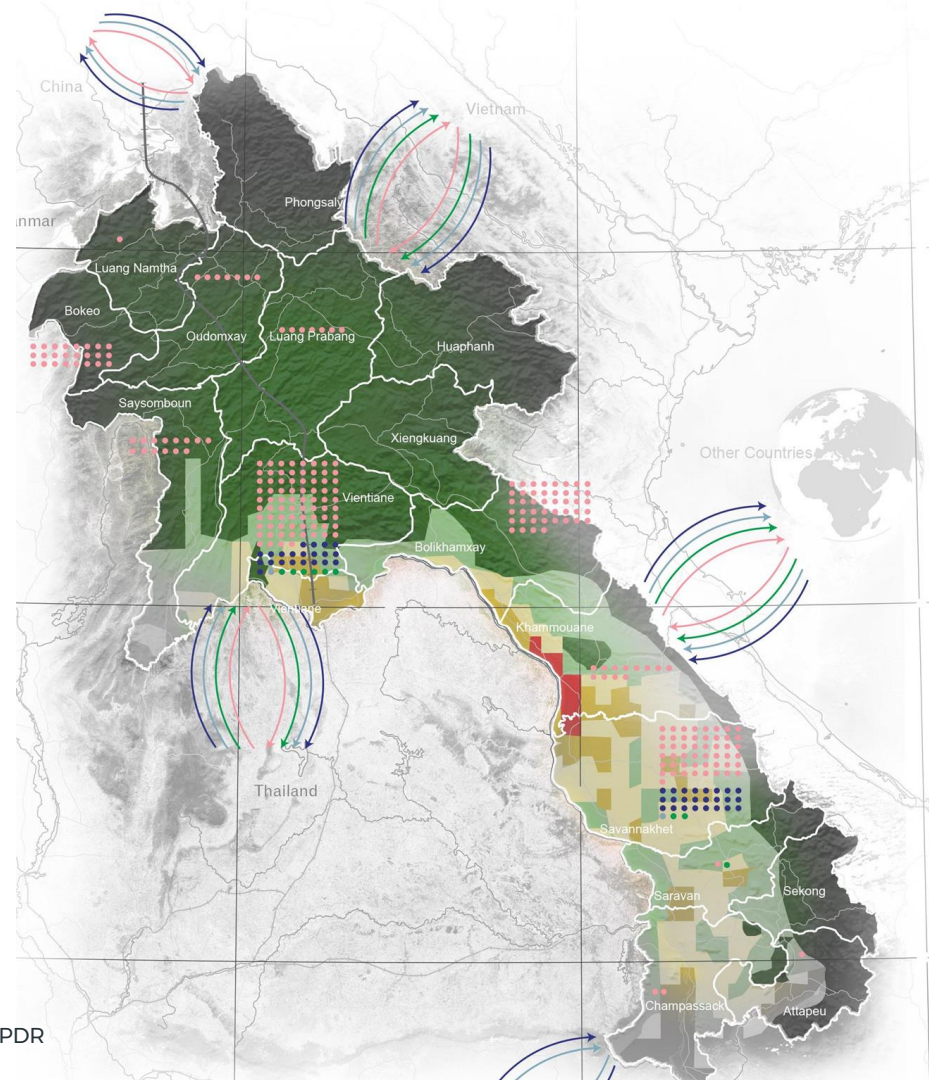
Mapping stocks and flows of:

- Agriculture and forestry
- Energy
- Metals
- Tourism

Opportunities

- Aquaculture in hydropower reservoirs
- Cross laminated timber
- Vehicle remanufacturing
- Nutrients recovery

Source: J.A.hoogzaad and others (unpublished draft), Circular economy strategies for Lao PDR





Circular economy opportunities to mitigate climate change are **overlooked and underfinanced**

~67%

share of global climate finance going to energy efficiency and renewables

67%

global energy use related to material management

13%

share of global emissions related to agriculture

1%

share of global climate finance directed to land-use

15%

share of global emissions related to construction

Sources:

UNFCCC, 2016 Biennial Assessment and Overview of Climate Finance Flows.

J.A.hoogzaad and others (unpublished draft), Circular economy strategies for Lao PDR

<http://www.wri.org/blog/2014/05/everything-you-need-know-about-agricultural-emissions>

B. Bajželj, J.M. Allwood and J.M. Cullen, "Designing Climate Change Mitigation Plans That Add Up", *Environmental Science & Technology*, 47(14): 8062-8069, July 2013

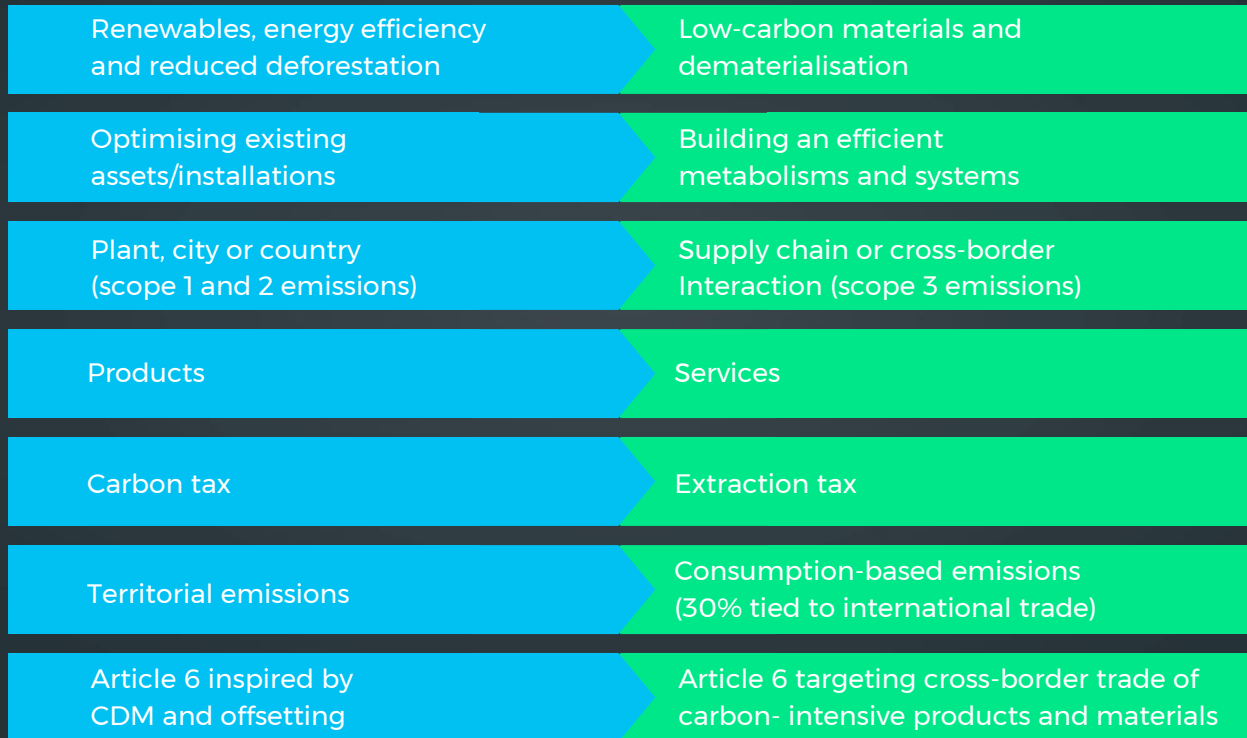
Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3797518>

A growing body of evidence suggests **the circular economy is a promising pathway** to reduce emissions

- A FUNDAMENTAL SHIFT IS NEEDED IN THE WAY WE DELIVER ON SOCIETAL NEEDS AND MITIGATE EMISSIONS.
 - The extraction, processing and disposal of materials are a large source of greenhouse gas emissions. Closing material cycles and improving asset use offer a large mitigation opportunity which is insufficiently tapped into by climate policies. Climate change mitigation and the circular economy are mutually reinforcing objectives and policy makers in both fields should join forces.
- THERE IS A POSITIVE DYNAMIC BEHIND LOW-CARBON CIRCULAR POLICY. The EU and front-running member states are taking important first steps and best practices lay the foundation for a more comprehensive and integrated policy framework. It is essential to consolidate policies along the entire value chain, building on existing policies such as eco design, extended producer responsibility and green procurement, while addressing gaps in policies such as the current approach to waste, which promotes incremental improvements rather than tackling more fundamental issues with material use.
- THE CONSTRUCTION AND MOBILITY VALUE CHAINS ARE WELL POSITIONED TO LEAD THE TRANSITION. In both sectors, policies should aim to reduce material and greenhouse gas footprints across the entire value chain: in construction by promoting secondary material use, circular design and green procurement; and in mobility by shifting the focus towards circular design and the functional economy. Material streams are however less specifically targeted and require dedicated policy attention. It is also essential to integrate policies across these sectors and material streams.

The circular economy changes the **scope of mitigation action**

From



To