HOW A 1.5 DEGREES WORLD CAN ONLY BE CIRCULAR

THE FUTURE OF AN ARUBAN CIRCULAR ECONOMY
Fourth Annual Future of Innovation Conference by the Centrale Bank van Aruba

November 1st, Ritz Carlton Hotel, Aruba

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Why Circular Economy?
Urgency and Scale
The world is only 9% circular.

Exponential growth

Source: Adapted from: The New Scientist, WRI, WHO, World Bank, OECD Factbook 2013

Source: Circle Economy (2019), Global circularity gap report 2019
Circular Economy Impacts
Benefits to the economy and society

- €1.8 trillion: Total economic benefit each year by 2030
- €600 million: Savings on raw materials per year by 2030
- 700,000: Net increase of jobs by 2030
Benefits to the environment

- **50%**
  - Reduction in fine particle emissions by 2040

- **24%**
  - Reduction on raw material inputs by 2030

- **23%**
  - Reduction in greenhouse gas emissions by 2040
The circular economy creates new opportunities for the implementation of the Paris Agreement and for countries to increase mitigation ambition.

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
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<tbody>
<tr>
<td>Focus on energy efficiency, renewable and deforestation</td>
<td>Focus on substituting carbon-intensive materials, optimised resource and asset use</td>
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<tr>
<td>Efficient production of products</td>
<td>Optimised production AND use of products</td>
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<td>Focus on a company, city or country (scope 1 and 2 emissions)</td>
<td>Focus on value chains (scope 1, 2 and 3 emissions)</td>
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<td>Territorial IPCC carbon accounting per sector</td>
<td>Consumption-based accounting and system analysis to identify mitigation opportunities across sectors</td>
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<td>Article 6 inspired by CDM and offsetting</td>
<td>Article 6 to facilitate international cooperation and develop low-carbon value chains</td>
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Innovative Circular Economy Solutions
SEVEN KEY ELEMENTS OF THE CIRCULAR ECONOMY

- Prioritise regenerative resources
- Design for the future
- Preserve & extend what’s already made
- Rethink the business model
- Incorporate digital technology
- Use waste as a resource
- Collaborate to create joint value
Prioritise regenerative resources

Biorefinery from agricultural waste

Fuel and feed from livestock farms
PRESERVE & EXTEND WHAT’S ALREADY MADE

RENAULT
Refurbished machinery

Gispen
Building from recycled material
USE WASTE AS A RESOURCE

Bread waste to Beer

Fertiliser from waste water
RETHINK THE BUSINESS MODEL

Lighting as a service

Appliances as a service
DESIGN FOR THE FUTURE

Modular headphones

Modular phone
COLLABORATE TO CREATE JOINT VALUE

ReTuna
Upcycling shopping mall

Neighbourhood recycling
INCORPORATE DIGITAL TECHNOLOGY

Calculate CO2 of meals

60% less CO2

LeanPath
Food waste monitoring
From Analysis to Design: Circular Strategies in Lao PDR (LDC)
Circular Economy Strategies for Lao PDR (LDC)

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

Circular business opportunities and SDGs in Lao PDR

Lao PDR as resource hub for recycling and remanufacturing

The net outflow of materials implies that there is idle transport capacity in the reverse direction. This capacity can be used for reverse logistics of end-of-life products to stimulate the growth of the Laotian recycling and remanufacturing industries.

Circular business opportunities and SDGs in Lao PDR

Circular resorts to advance ecotourism: Material substitution for sustainable construction

Vientiane is experiencing a construction boom. By substituting carbon intensive construction materials with bamboo and wood, it can safeguard a national architectural character while tapping into domestic rather than imported resources.

Source: UNDP, (2017), Circular Economy Strategies for Lao PDR
Circular business opportunities and SDGs in Lao PDR

Circular agriculture and hydropower: Algae farming

Hydropower reservoirs are used only for power generation while they can provide several services. River water contains agricultural residues like fertilizer. Algae farming in reservoirs can provide a raw material for protein or organic fertilizer, while improving water quality.

From Analysis to Design: Circular Strategies in Almaty, Kazakhstan (Upper-Middle Income Country)
Circular economy opportunities and SDGs in Almaty

Agriculture and food

Clean organic residues from industries can be composted and used to regenerate the exhausted soils near Almaty.

Support initiatives for certifying organic production and couple them with quality certification to provide access to new markets.

Employ land-sharing and urban farming schemes to blend agricultural and urban areas.

Circular economy opportunities and SDGs in Almaty

Construction

Preserve the architectural heritage or spatial lay-out of the city.

Use passive design to lower the energy use of new buildings, and rely on modular design and urban mining to reduce resource use.

Lower the carbon footprint of the construction sector by substituting carbon intensive materials with wood-based industrial construction materials.

Circular economy opportunities and SDGs in Almaty

Industry

Use temporary, vacant space in the city for creative industries which re-design and repurpose secondary products and materials.

Take advantage of the Belt and Road initiative to expand the manufacturing industry with remanufacturing. Service models can help retain ownership.

Use agricultural residues to produce packaging and support growth of the agricultural sector by providing matchmaking services for industrial symbiosis.

GREENING UNDP
MOONSHOT PROPOSAL
Partnerships:

- PAGE Partnership for Action on Green Economy
- Poverty-Environment Partnership (PEP)
- GGGI
- One planet handle with care
- Green Growth Knowledge Platform
- Green economy coalition
- DCED: The Donor Committee for Enterprise Development
- Good Growth Partnership
Thank you!

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