



## Circular Economy Dimensions

 Circular Strategies

 Innovation

 Lifecycle Stages

 Enablers

switchasia



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## GRANT PROJECTS CONTRIBUTING TO THE CIRCULAR ECONOMY

**30** ONGOING IN 2024

**10** ● Agri-food

**5** ● Textile and Leather

**3** ● Sustainable Housing and Building

**5** ● Plastics

**2** ● Waste Management

**5** ● Tourism



# CIRCULAR ECONOMY

The increase in resource consumption is leading to a rapidly accelerating crisis situation – growing pollution, loss of biodiversity and ecosystems, and climate change. To decouple growth in well-being from environmental degradation and resource overconsumption, a shift from linear (extract-make-use-throw away) to circular (extract-make-use-reuse/recycle/remake/recover) models of development is urgently needed.

The circular economy (CE) offers a framework in which the value of materials, parts, and products remains for as long as possible within the production and consumption system.

CE is a system driven by interconnected strategies and innovations (Figure). It is to be achieved through **Circular Strategies** that correspond to the goals of sustainable consumption and production. This means relying on renewable and/or less harmful materials ('resource switch'), striving for perpetual use and re-use of materials, products and their components within production and consumption systems ('circularity of resources'), as well as minimising waste generation through better design and efficiency of production and use ('resource efficiency'). Achieving circular strategies depends on **Innovations** in materials, technologies, and business and consumption models (including consumption by private consumers, and public and business organisations). All CE strategies and innovations must be taken into consideration during the different steps in **Life Cycle Stages** – from selection of materials along with product or service design to distribution, use and end-of-life management. Finally, the acceptance and implementation ('uptake') of CE will require **Enablers** – appropriate public policies, functional markets, and education and capacity development.

In the context of this brochure, the SWITCH-Asia Grants are portrayed as contributors to different elements of the CE – from practicing CE strategies and innovations along the supply chain to contributions into critical enablers. Presenting the Grants in the CE ecosystem will open up perspectives for further engagement between them and additional critical partners in the ongoing movement towards circular transformation.

## CIRCULAR ECONOMY DIMENSIONS\*

### Circular Strategies

- Resource Circularity
- Resource Efficiency
- Resource Switch

### Innovation

- Products, Materials & Technologies
- Business Models
- Consumption Patterns / Lifestyle

### Lifecycle Stages

- Materials
- Design
- Production & Distribution
- Use
- End of Life

### Enablers

- Education & Behavioural Change
- Public Policy
- Markets

\* Adapted from Van Berkel, R. 2021. 'Building a Circular Manufacturing Economy', presentation at CII GreenCo 2021 Summit, 7 October 2021. <https://greenco.in/grncosummit/>



CHINA

## eECHO: Towards Energy Efficiency in Agri-Food Cold Chain Logistic in China

Enhances the resource-efficiency and sustainability of the Agri-food Cold Chain Logistic in Tibet, Jingjinji & Shandong by providing MSMEs with mechanisms to reduce energy use and GHG emissions of logistic services, while ensuring food quality and safety, and reducing food wastage.



**Inkoa**  
AGRICULTURAL SOLUTIONS  
Consultancy-Engineering Execution



### Circular Strategies

- Resource Efficiency

### Innovation

- Products, Materials & Technologies

### Lifecycle Stages

- Production & Distribution

### Enablers

- Education & Behavioural Change
- Public Policy



CHINA

## SAFE – Supporting Scheme for MSMEs by Building Sustainable Agricultural Fresh Food Production and Logistics in China

Promotes eco-efficient agricultural production among farmers, improved processing and packaging, and better food safety through verification systems, guidelines, and standards, as well as efficient and innovative logistics.



**CCFA**



### Circular Strategies

- Resource Efficiency

### Innovation

- Products, Materials & Technologies
- Business Models

### Lifecycle Stages

- Materials
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### Enablers

- Education & Behavioural Change
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- Markets





INDONESIA

## Low Carbon Rice – Reducing Climate Impact of Rice Production in Indonesia

Reduces the climate impacts of rice through the adoption of sustainable rice cultivation practices. Increases access to finance to SMEs, enabling access to loan and credit programmes and new business models for sale of rice by-products and carbon credits.



### Circular Strategies

- Resource Efficiency



### Innovation

- Products, Materials & Technologies



### Lifecycle Stages

- Production & Distribution



### Enablers

- Education & Behavioural Change
- Public Policy
- Markets



LAO PDR

## SuPER WE Coffee - Sustainable Production and Ethic Responsible & Women Empowered Coffee value chains in Lao PDR

Improves the economic profitability, efficiency and sustainability of intensified coffee production by smallholder farmers. Supports MSMEs in reducing the environmental impact of their industrial production by adoption less polluting and more resource-efficient circular approaches.



### Circular Strategies

- Resource Efficiency
- Resource Switch



### Innovation

- Products, Materials & Technologies



### Lifecycle Stages

- Production & Distribution



### Enablers

- Education & Behavioural Change
- Markets





MONGOLIA

## Switching On the Green Economy (SOGE)

Supports Mongolian agri-food and beverage MSMEs and retailers in adopting circular economy practices through market-based eco-labelling systems, tailored technical assistance, behaviour change and access to green finance.



### Circular Strategies

- Resource Switch



### Innovation

- Products, Materials & Technologies



### Lifecycle Stages

- Production & Distribution



### Enablers

- Education & Behavioural Change
- Markets



MYANMAR

## NGA-Myanmar – Nurturing Green Aquaculture in Myanmar

Supports aquaculture MSMEs to adopt more resource-efficient and greener production practices, reducing environmental degradation in Myanmar's aquaculture industry, while ensuring improved economic returns in the value chain.



### Circular Strategies

- Resource Efficiency



### Innovation

- Products, Materials & Technologies



### Lifecycle Stages

- Production & Distribution



### Enablers

- Education & Behavioural Change
- Markets





PHILIPPINES

## MS-SETB – Mindoro Strait Sustainable and Equitable Tuna for Bankability Project

Increases capacity to conduct resource-efficient fishing and aquaculture operations in Occidental Mindoro. Reduces post-harvest losses and equips target groups to achieve green trade certification standards and compliance with international standards for yellow fin tuna.



### Circular Strategies

- Resource Efficiency

### Innovation

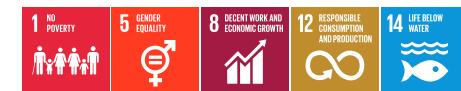
- Products, Materials & Technologies

### Lifecycle Stages

- Production & Distribution
- Use

### Enablers

- Education & Behavioural Change
- Markets



TAJIKISTAN, UZBEKISTAN

## REAP - Resource Efficiency in Agri-food Production and Processing

Promotes SCP practices in the agri-food production and processing industries along the entire supply chain. Develops business case for resource efficiency measures by MSMEs, while promoting eco-efficiency based on international standards and supporting companies in presenting bankable projects to financial institutions. Provides training to MSMEs on suitable financial instruments for SCP solutions.



### Circular Strategies

- Resource Efficiency

### Innovation

- Products, Materials & Technologies

### Lifecycle Stages

- Design
- Production & Distribution

### Enablers

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## Biomass Gasification Technology - Sustainable Energy Solution for Agri-Food Processing and Waste Management in Rural Areas of Vietnam

Promotes sustainable production and sustainable energy consumption among agri-food processing micro and small enterprises (agri-MSEs) in Vietnam and contributes to waste management by scaling up the deployment of environmentally friendly and low-cost Volumetric Continuous Biomass Gasification (VCBG) technology. Increases availability of mechanical and biomass supply services and access to finance for agri-MSEs to deploy VCBG consistently.



### Circular Strategies

- Resource Efficiency
- Resource Switch

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- Products, Materials & Technologies
- Business Models

### Lifecycle Stages

- End of Life

### Enablers

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- Markets



## Circular Economy Cocoa: From Bean to Bar

Promotes the development and adoption of less polluting and more resource-efficient and circular products, processes and services by MSMEs in the cocoa industry, allowing their integration into global greener value and supply chains.



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- Markets





## Transitions to circular economy practices in textile and apparel MSMEs along the lifecycle in Huzhou and Shaoxing

Promotes improved sustainable management, resource efficiency and adoption of circular economy principles by the local textile and fashion industry in the cities of Huzhou and Shaoxing, facilitating China's textile and fashion industry's transition towards a circular economy by 2025.



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## Effective waste management and sustainable development of the MSME tanning companies in the Kolkata Leather Cluster

Promotes sustainable production practices in the highly polluting tanning sector through technology transfer, capacity building of tannery management and workers, and facilitating access to technical and financial services.



Solidaridad



### Circular Strategies

- Resource Circularity
- Resource Efficiency

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INDIA

## Promoting circularity in the Tamil Nadu leather clusters for solid waste management

Promotes circular market-based models for processing solid waste generated from leather tanning and finishing practices in the Tamil Nadu leather clusters. Enables the reduction of amount of solid waste that ends up in the open spaces/landfills. Improves the public health situation for workers and people living near leather clusters in Tamil Nadu and enhances international competitiveness and market access of leather export from Tamil Nadu.



SCAN ME

**Solidaridad**

### Circular Strategies

- Resource Circularity
- Resource Efficiency

### Innovation

- Products, Materials & Technologies

### Lifecycle Stages

- Production & Distribution

### Enablers

- Education & Behavioural Change



INDIA

## Switching to Green & Fair Fashion: Advancing sustainable production and consumption in cotton & textile value chains

Promotes adoption and mainstreaming of sustainable production systems in India's cotton textiles sector by creating an enabling framework, supporting green business development and improving access to green finance.



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MONGOLIA

## Capacity building to the Mongolian vegetable tanned yak leather cluster on bio- leather and bio-leather products

Supports the Vegetable Tanned Yak Leather Cluster in reducing the environmental impact of production. Improves resource efficiency and encourages adoption of circular economy practices, enabling its members' integration into global greener value and supply chains.

### Circular Strategies

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- Materials
- Production & Distribution



 europeanprofiles<sup>SA</sup>



### Enablers

- Education & Behavioural Change
- Markets





CHINA

## RurEnergy: Promoting sustainable residential energy consumption in rural China

Promotes the adoption of cost-effective energy retrofitting solutions for rural households, integrating thermal performance improvement and sustainable renewable heating and cooking. Promotes energy efficient behaviour change among rural households in the provinces of Henan and Gansu.



### Circular Strategies

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- Resource Switch

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- Products, Materials & Technologies

### Lifecycle Stages

- Materials
- Use

### Enablers

- Education & Behavioural Change
- Public Policy



## Switch-off Air Pollution in Mongolia's Cities

Improves air quality and reduces GHG emissions in urban Mongolia through the scaling-up of conducive and inclusive access to finance and energy efficient solutions in the housing sector.



### Circular Strategies

- Resource Efficiency

### Innovation

- Products, Materials & Technologies
- Consumption Patterns / Lifestyle

### Lifecycle Stages

- Design
- Use
- Production & Distribution

### Enablers

- Education & Behavioural Change
- Public Policy
- Markets





NEPAL

## BUILDING Energy Efficiency in Nepal (BEEN)

Promotes climate-responsive building designs, the use of energy efficient space heating and cooling technologies as well as renewable energies and resource efficient building materials.

### Circular Strategies

- Resource Efficiency
- Resource Switch

### Innovation

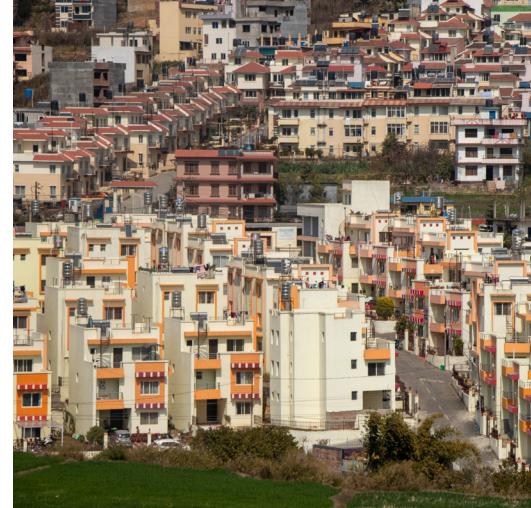
- Products, Materials & Technologies

### Lifecycle Stages

- Design
- Use



universität  
innsbruck  
Unit of  
Energy Efficient Buildings



### Enablers

- Education & Behavioural Change
- Public Policy
- Markets





INDIA

## PROTOPRINT – Promoting Socio-economic Transformation by Empowering Informal Waste Pickers for Production of 3D Printing Filaments in Pune

Improves the lives of marginalised waste pickers in Pune, India by creating replicable business models through re-skilling and access to innovative technology. Creates a city-wide network of micro-enterprises with the goal to process collected suitable plastic waste into 3D printing filaments, high value-added marketable products.



### Circular Strategies

- Resource Circularity



### Innovation

- Products, Materials & Technologies



### Lifecycle Stages

- End of Life



### Enablers

- Education & Behavioural Change
- Markets



INDIA, MALDIVES, SRI LANKA

## PROMISE – Prevention of Marine Litter In The Lakshadweep Sea

Contributes to the prevention and leakage of wastes from land-based sources into the Lakshadweep Sea, enhancing the attractiveness of tourism industries, avoiding further deterioration of marine ecosystems and improving living conditions in the Maldives, Sri Lanka and India.



### Circular Strategies

- Resource Circularity



### Innovation

- Consumption Patterns / Lifestyle



### Lifecycle Stages

- Use
- End of Life



### Enablers

- Education & Behavioural Change
- Public Policy





MONGOLIA

## Sustainable Plastic Recycling in Mongolia

Promotes sustainable production among MSMEs by developing less polluting and more resource-efficient products, processes and services; and sustainable consumption patterns and behaviour in Mongolia through raising awareness of the principles of 3Rs (reduce, reuse, recycle) among consumers. Increases MSMEs' access to finance and creates an enabling environment to strengthen the implementation of national SCP policies.

### Circular Strategies

- Resource Circularity

### Innovation

- Products, Materials & Technologies

### Lifecycle Stages

- End of Life



 Caritas  
Czech Republic



### Enablers

- Education & Behavioural Change



## MYANMAR

## Prevent Plastics

Enhances capacity for more responsible waste management in factories, local MSMEs and communities; supports MSMEs producing eco-friendly packaging and recycled products; promotes cooperation between MSMEs and Myanmar retailers, and identifies green finance possibilities. Increases awareness raising and sharing of best practices on waste management, in particular plastic prevention and reduction, for consumers and producers.

### Circular Strategies

- Resource Switch

### Innovation

- Products, Materials & Technologies

### Lifecycle Stages

- Materials
- Design
- End of Life



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### Enablers

- Education & Behavioural Change





SRI LANKA

## PLASTICS: Promoting Long-term Approaches for a Sustainable, Transformative and Inclusive Circular Economy in Sri Lanka

Facilitates sustainable and innovative plastic minimisation and management in Sri Lanka by integrating SMEs in greener value and supply chains (V/SC), thereby contributing to economic prosperity and environmental sustainability.



### Circular Strategies

- Resource Circularity



### Innovation

- Products, Materials & Technologies



### Lifecycle Stages

- Design
- Production & Distribution



### Enablers

- Public Policy





## Pride on our Plates- Strengthening China's MSMEs through food waste solutions and behavioural insights

Promotes adoption of more resource-efficient processes and services among MSMEs, including an actual reduction of food waste. Develops a Food Waste Policy Proposal to increase awareness on Sustainable Consumption and Production (SCP) and strengthens policies related to curbing food waste. Raises awareness on SCP by training MSMEs to use a Behaviour-Centred Design (BCD) approach to food waste reduction, and widely disseminating information to businesses and consumers.



### Circular Strategies

- Resource Efficiency



### Innovation

- Products, Materials & Technologies
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### Lifecycle Stages

- Production & Distribution
- Use



SCAN ME



## 3R4UB - The 3Rs for a sustainable use of natural resources in Ulaanbaatar

Supports SMEs and MSMEs in adopting and financing SCP practices from demonstration to practical replication of sustainable urban landscape and waste management. Follows an innovative design for a Smarter Consumption Plan through knowledge-sharing and co-design approaches, involving a wide range of stakeholders and the wider community towards innovative and competitive solutions for Ulaanbaatar's environmental issues.



### Circular Strategies

- Resource Circularity



### Innovation



### Lifecycle Stages

- End of Life



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BHUTAN

## SHINE – Sustainable Hospitality Industry Inclusive of Native Entrepreneurs

Develops inclusive community-based ecological tourism models, particularly in Bhutan's marginalised rural districts. Implements SCP practices and integrates green services and products in the tourism supply chain, contributing to resource efficiency, promotion of cultural heritage and a circular economy.



### Circular Strategies

- Resource Switch



### Innovation

- Products, Materials & Technologies



### Lifecycle Stages

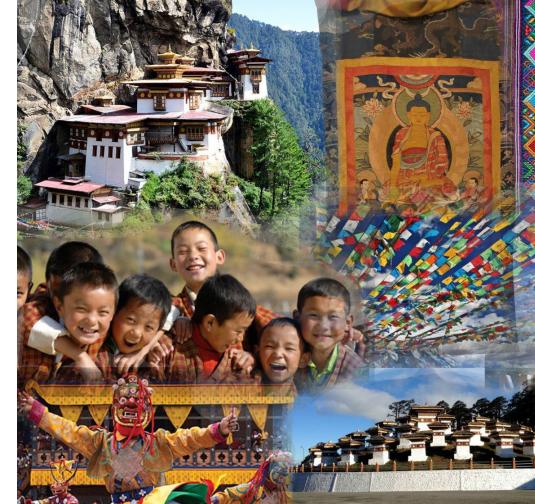
- Design
- Production & Distribution



SCAN ME

**GrAT**

Center for Appropriate Technology



BHUTAN

## SUSTOUR Bhutan – Replicating EU tourism industry SCP best practices into a Bhutanese sustainable tourism model

Enhances sustainability and competitiveness of the tourism sector in Bhutan through support to travel associations developing green business approaches. Promotes access to green finance for MSMEs of the tourism sector in order for them to adopt SCP and resource efficiency measures, while creating appropriate enabling environment for related policies.



### Circular Strategies

- Resource Efficiency



### Innovation

- Products, Materials & Technologies



### Lifecycle Stages

- Production & Distribution



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KYRGYZSTAN

## GREENTOUR - Replicating tourism industry sustainability best practices into the Kyrgyzstan and wider Central Asian tourism supply chain through an integrated business led approach

Integrates green services and products in the tourism supply chain; develops waste management approach for hotels, restaurants and destinations, in particular for food waste and plastics reduction standards. Fosters the creation of new financial schemes and promotes access to finance for MSMEs.



Circular Strategies



Innovation



Lifecycle Stages



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HELVETAS  
GERMANY

KYRGYZSTAN

## PERETO - Promotion of energy security and sustainable growth through increased energy and resource efficiency in tourism SMEs in Kyrgyzstan

Fosters the adoption of SCP and energy and resource efficiency measures through the introduction of different tools and training while promoting the adoption of voluntary green certification; develops an online Self-Assessment Tool for MSMEs; promotes access to green finance for MSMEs of the tourism sector in order for them to adopt SCP and resource efficiency measures, while creating appropriate enabling environment for related policies.



Circular Strategies



Innovation



Lifecycle Stages



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LAO PDR

## SUSTOUR Laos – Promoting Sustainable Tourism by Integrating MSMEs into Sustainable Supply Chains and Raising Consumer Awareness



Promotes Lao PDR as a green destination and supports MSMEs in the tourism supply chain to obtain and adhere to sustainable consumption and production practices upheld by the Travelife sustainability certification programme. Enhances the capacity of MSMEs in developing green business approaches in response to market demands. Promotes community-based tourism by providing tour operators and community members with adequate knowledge and awareness of the cost, benefits and responsibilities for sustainable tourism. Promotes access to green finance for MSMEs and cost-savings through resource efficiency.



### Circular Strategies

- Resource Efficiency



### Innovation

- Products, Materials & Technologies
- Consumption Patterns / Lifestyle



### Lifecycle Stages

- Production & Distribution



### Enablers

- Education & Behavioural Change
- Markets



8

DECENT WORK AND ECONOMIC GROWTH



12

RESPONSIBLE CONSUMPTION AND PRODUCTION

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