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IMPACT SHEET: 3R4UB

Advancing Circular Economy and Waste Reduction in Ulaanbaatar

Promoting Sustainable Consumption and Production through the 3R approach in Mongolia's capital city

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PROJECT BACKGROUND

The project was implemented in Ulaanbaatar, Mongolia, a rapidly growing urban area facing increasing challenges related to solid waste management, resource efficiency and environmental pollution. Rapid urbanisation, rising consumption patterns and limited recycling infrastructure have placed significant pressure on landfills and ecosystems. The project supported local authorities, SMEs and communities in advancing Sustainable Consumption and Production practices based on the Reduce, Reuse and Recycle (3R) principles.

CHALLENGE

Urban areas face increasing waste generation, limited reuse practices, and low public awareness of circular economy principles. Fragmented waste management systems and weak coordination between central and local government and local stakeholders make it difficult to effectively implement reduction, reuse, and recycling actions. The 3R4UB project addresses these challenges by promoting and testing circular solutions, active community engagement, and measurable environmental benefits in urban contexts.

PROJECT OBJECTIVES

The project aimed at reducing waste generation and improve resource efficiency in Ulaanbaatar by promoting 3R principles through policy support, urban service planning, SME engagement and awareness raising actions.

The specific objectives include:

- To strengthen local capacity on 3R and SCP practices
- To support SMEs in reducing waste and improving resource efficiency
- To promote recycling and reuse value chains
- To raise awareness among citizens and stakeholders
- To contribute to climate change mitigation through waste reduction

TARGET GROUPS

- Small and medium-sized enterprises (SMEs)
- Ulaanbaatar City Authority
- Waste operators and recyclers
- Urban communities and consumers

PROJECT ACTIVITIES

Capacity building and SME support

The project delivered targeted training and technical assistance to improve waste reduction, material efficiency and adoption of circular practices. Pilot actions demonstrated the economic and environmental benefits of the 3R approach, encouraging replication and scaling-up.

Policy dialogue and awareness raising

The project supported dialogue with municipal authorities to strengthen local waste management strategies aligned with national policies. Awareness campaigns, workshops and public events increased understanding of 3R principles among businesses and citizens, fostering behavioural change.

LESSONS LEARNED

Key challenges included limited initial engagement from SMEs, low public awareness of waste separation and disruptions linked to external factors. These challenges were addressed through tailored communication strategies, flexible implementation approaches and strengthened cooperation with central and local authorities and community organisations.

Additional challenges related to data availability and monitoring were mitigated through simplified indicators and participatory reporting mechanisms.

The COVID-19 pandemic significantly impacted the project implementation, causing delays in activities, restrictions on public

events, and reduced community engagement. These limitations required adaptive approaches and alternative solutions to ensure project continuity and stakeholder involvement.

Combining policy engagement, practical demonstrations and community awareness is essential to achieve measurable waste recycling and long-lasting behavioural change in urban contexts.

PROJECT ACHIEVEMENT

The project delivered tangible environmental, economic and social benefits supporting Ulaanbaatar's transition towards sustainable urban waste management.

Key achievements include:

- Improved SME adoption of 3R and SCP practices
- Strengthened cooperation among waste management stakeholders
- Increased recycling and reuse initiatives
- Enhanced public awareness on waste reduction
- Reinforced central and local know how in planning the service in a medium/long term strategies

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> 3R4UB demonstrated that real change starts in everyday places like schools. By engaging students and communities, the project turned waste into a resource and showed that circular economy principles can deliver measurable environmental benefits, even in challenging contexts. By strengthening the circular economy in Ulaanbaatar, we are not only reducing waste but building the foundations of a more resilient, inclusive, and climate-smart urban future. The 3R4UB project shows how policy, innovation, and local commitment can turn environmental challenges into lasting opportunities.

Long-term project sustainability

Project results are sustained through strengthened local capacity, continued SME engagement and integration of 3R principles into municipal waste management strategies. SMEs continue applying resource-efficient practices supported by improved knowledge and networks.

Awareness actions and stakeholder partnerships ensure long-term lifestyle change and everyday life consumer's patterns and replication beyond the project duration.

Project contributions to Climate Change Mitigation and SDGs

The project directly contributed to SDG 12 by reducing waste generation, promoting recycling and improving resource efficiency. These actions lead to reduced landfill emissions and lower environmental impact.

The project also contributed to SDG 11 (Sustainable Cities), SDG 13 (Climate Action) and SDG 8 (Decent Work and Economic Growth).

The School Recycling Pilot Project, which involved 15 schools in Ulaanbaatar and engaged approximately 25,000 students, resulted in significant greenhouse gas emission reductions. Based on average European emission-saving factors for recycling, the pilot demonstrated measurable climate mitigation benefits when implemented at the school level.

A total of **18,633.4 kg of waste** was collected and recycled, including **2,477.2 kg of plastic, 229.3 kg of aluminium**, and **13,670 kg of paper and cardboard**.

Thanks to recycling activities, the project avoided approximately **19,073 kg of CO2 equivalent**, corresponding to about 1**9.1 tonnes of greenhouse gas (GHG) emissions**.

In addition to SDG 12, the project contributed to SDG 11 by supporting sustainable urban waste management, SDG 8 through green jobs and SME competitiveness, SDG 13 via emission reductions, and SDG 17 by fostering partnerships among public and private stakeholders.

The integrated 3R approach ensured synergies across environmental, economic and social dimensions.

Impacts at a Glance

Economic Impact	• Approximately EUR 2,000 saved through avoided landfill fees and improved sorting efficiency. • Upstream improvement through adoption of selective collection points and standardized sorting procedures.
Environ-mental Impact	• 18.5 tonnes of materials collected and diverted from disposal, consisting of: 2,477.2 kg of plastic, 229.3 kg of aluminium, and 13,670 kg of paper and cardboard. • Approximately 232 trees and 362,000 liters of water have been saved. • Recycling activities reduced the use of virgin materials and associated chemical processes, leading to an estimated 15–30% reduction in the use of toxins and harmful substances compared to conventional production and disposal practices.
Social Impact	• Protective gloves, dedicated sorting stations, and improved hygienic procedures introduced. • Cleaner environments, increased public awareness, and stronger community participation result in sustainable behaviours. • Activities open to both men and women; communication materials designed to be gender-inclusive, youth groups participated directly in sorting, monitoring, and educational activities.
Climate Benefits	• Through recycling activities, the project avoided approximately 19,073 kg of CO_2 equivalent, corresponding to about 19.1 tonnes of greenhouse gas (GHG) emissions. • Recycling activities reduced energy consumption by avoiding virgin material production, with an estimated saving of approximately 45,000–55,000 kWh, corresponding to about 20–30% energy reduction compared to conventional production processes.
Green Finance	• Up to USD 115 million potentially accessible through: USD 90M (Khan Bank) + USD 25M (XacBank) via the EBRD Clean Economy Financing Facility; USD 13M Government co-financing to activate the Mongolia Green Finance Corporation (MGFC) for green/circular investments. • Engagement of the Mongolia National Recycling Association (110 companies), with 20 SMEs ready to invest and already licensed. Structured dialogue between SMEs, the Municipality of Ulaanbaatar, and EBRD to coordinate financing schemes with 3R4UB needs. • Scaling-up of EBRD's SME Advisory Services (50–85% grant reimbursement) as a financial-readiness tool for recycling companies.
Target Group Engagement	• 20 SMEs directly engaged as early movers in the recycling sector; 110 companies represented in the national recycling cluster. • 15–20 institutions engaged, including: Ministry of Environment, Ministry of Finance, Municipality of Ulaanbaatar, Central Bank of Mongolia, EBRD, EU Delegation, MGFC, Mongolia Stock Exchange, Mongolia Chamber of Commerce, Mongolia National Recycling Association, Mongolia Bank Association, Rio Tinto, ADB, Mongolia green finance association.
Policy Develop-ment	• Clear policy recommendations: Extended Producer Responsibility (EPR) as long-term financing backbone, alignment of the Master Plan with the EBRD sorting plant and waste-to-energy project already under negotiation. • Waste reducing and recycling Pilot Project and waste collection in the schools, cooperation with TML company
Europe-Asia cooperation	• 25 events organized with European and Asian participants, including technical workshop, technical documents, studies and presentations. • Visits to European recycling facilities and participation in ECOMONDO, one of Europe's leading fairs focused on waste management.

FUNDING

EUR 3,513,601.10
(EU Contribution: 80%)

DURATION

May 2020 - Nov 2025

PARTNERS

CNR IRISS - Consiglio Nazionale delle Ricerche – Institute for Research on Innovation and Services for Development

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