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Harnessing Sustainable Consumption and Production (SCP) and Circular Economy (CE) Opportunities to Achieve Higher Climate Ambition and Green Growth in Kyrgyz Republic

White Paper

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
CE	Circular Economy
CIS	Commonwealth of Independent States
COP	Conference of the Parties (UNFCCC)
EAEU	Eurasian Economic Union
EBRD	European Bank for Reconstruction and Development
EDB	Eurasian Development Bank
EPR	Extended Producer Responsibility
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GEDP	Green Economy Development Programme 2025–2029
GHG	Greenhouse Gas
GSP+	Generalized Scheme of Preferences Plus (EU)
IPPU	Industrial Processes and Product Use
IRP	International Resources Panel
LDN	Land Degradation Neutrality
LT-LEDS	Long-Term Low Emission Development Strategy
LULUCF	Land Use, Land-Use Change and Forestry
MFA	Material Flow Accounting
MRV	Monitoring, Reporting and Verification
NAP	National Adaptation Plan
NBSAP	National Biodiversity Strategy and Action Plan
NDC	Nationally Determined Contribution
PAGE	Partnership for Action on Green Economy
PSC	Policy Support Component (SWITCH-Asia)
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RKDF	Russian-Kyrgyz Development Fund
SB	Subsidiary Body (UNFCCC)
SCP	Sustainable Consumption and Production
SDG	Sustainable Development Goal
TA	Technical Advisory
TNC	Third National Communication (UNFCCC)
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

EXECUTIVE SUMMARY

The Kyrgyz Republic contributes less than 0.034% of global greenhouse gas emissions, yet few countries are as exposed to the consequences of a warming climate. With 94% of its territory above 1,000 metres, the country depends on glacier-fed rivers for water, agriculture and hydropower—and those glaciers are receding faster than projected. In October 2025, the government submitted its updated Nationally Determined Contribution (NDC 3.0), committing to an 18% reduction in emissions by 2030 (30% with international support) and 16% by 2035 (39% with support). The plan was developed through consultation with over 1,000 stakeholders and includes, for the first time, a just-transition principle covering workers and communities affected by the shift to a green economy.

This White Paper, prepared under the EU SWITCH-Asia Policy Support Component, examines how sustainable consumption and production (SCP) and circular economy (CE) approaches can help the Kyrgyz Republic meet its NDC targets more cost-effectively and whether they can help close a substantial climate finance gap. The paper's central argument is that circular economy measures are not merely an environmental add-on but a strategic mechanism to reduce the cost of climate action and mobilise additional resources.

NDC 3.0 does not use SCP or CE terminology, yet much of what it already commits to is circular in substance. Of the nine sectors reviewed, six sectors namely, buildings and heating, agriculture, waste, forestry, industry and transport contain measures that align directly with circular principles: building retrofits, improved livestock management, a proposed ban on landfilling recyclable waste, and a target to plant 800 million trees. None of this requires new legislation. It requires applying circular thinking to commitments the country has already made. Three sectors remain underdeveloped by comparison. Construction has grown eightfold since 2019, but nearly 80% of building material certificates issued in 2025 were for imported goods, even as domestic alternatives such as rice-husk brick have proven viable in over 300 homes. Tourism and water resources also carry potential the current NDC does not yet capture.

The Financing Imperative

Finance is the hardest constraint. The government estimates NDC 3.0 will cost USD 23.1 billion to implement, of which it can fund roughly 37% domestically, leaving a gap of approximately USD 14.6 billion. Circular economy measures can help close this gap through three mechanisms: Lowering capital requirements, operational cost savings and avoiding environmental and social costs.

The Implementation Gap

What constrains progress is not ambition but institutional infrastructure. There is no dedicated circular economy strategy yet, though the Eurasian Development Bank is helping develop a Secondary Raw Material Market Programme. Material flow data remains thin. Monitoring and verification systems for both climate and circularity indicators are still nascent. While the NDC process itself was broadly consultative, translating consultation into coordinated implementation across ministries presents a distinct challenge.

Recommendations

The paper's ten recommendations follow four categories:

- ***Policy and Institutional Foundation***: Give SCP/CE explicit status in the next NDC cycle and establish a standing inter-ministerial coordination mechanism.
- ***Data and Monitoring Systems***: Develop national material flow accounting and build shared MRV capacity for both climate and circularity indicators.

- ***Sector-Specific Priority Action***: Take targeted action in construction (circular standards via green procurement), waste (accelerate the landfill ban and EPR pilots), forestry (fast-track MRV for carbon credits), and the tourism-agrifood cluster around Issyk-Kul (food-waste reduction and organic-waste valorisation).
- ***Finance Mobilisation***: Establish a blended finance facility and prioritise outcome-based and de-risking instruments.

A Near-Term Opportunity

None of this depends on waiting for the next policy cycle. The reforestation programme, the draft landfill ban and the emerging secondary materials market are already in motion and already investable. The more useful question for policymakers is not whether to pursue this agenda, but how quickly the coordination and data systems needed to scale it can be put in place. The Kyrgyz Republic is well positioned to demonstrate that circularity is not a co-benefit of climate ambition awaiting future recognition, but a set of opportunities already embedded within current commitments and one of the more cost-effective pathways for meeting them.

1. INTRODUCTION

1.1. The European Union's SWITCH-Asia Programme

Through the European Union Green Deal and Global Gateway, the EU is committed to supporting the transition of countries to a low-carbon, resource-efficient and circular economy while promoting sustainable production and consumption patterns. The SWITCH-Asia Policy Support Component (PSC) aims to enhance SCP progress through scaling up and mainstreaming SCP policy in 42 countries across Asia and the Pacific. The programme's flexible and on-demand interventions, and its mandate to foster cooperation, strengthen networking and build a platform for exchange, make the PSC well-positioned to meet the needs of the region in addressing the triple planetary crises .

1.2. Global Context

Climate change has unequivocally emerged as a systemic challenge that extends far beyond the energy sector. While rapid decarbonisation of power generation remains highly important, an expanding global evidences shows that focusing on energy supply alone is insufficient to provide solutions to climate change challenges and achieve the objectives of the Paris Agreement. The outcomes of the first Global Stocktake under the United Nations Framework Convention on Climate Change (UNFCCC) confirm that, at the current pace of action, global mitigation efforts remain misaligned with the temperature goals of limiting warming to well below 2 °C and pursuing efforts toward 1.5 °C. This misalignment persists despite unprecedented growth in renewable energy deployment and improvements in energy efficiency across many economies.

A central reason for this gap lies in the continued growth of material demand and resource-intensive consumption and production patterns. According to the latest Global Resource Outlook, the flagship publication of the International Resources Panel (IRP, the extraction and processing of material resources—biomass, fossil fuels, metals, and non-metallic minerals—account for more than 55% of global greenhouse gas emissions, a figure that rises beyond 60% when land-use change and land-use-related emissions are included. These same processes are also responsible for a dominant share of biodiversity loss, water stress, and pollution pressures globally[1].

These findings have significant implications for climate policy. They demonstrate that greenhouse gas emissions are deeply embedded not only in how energy is produced, but in how societies design, build, consume, and discard products, infrastructure, and services. As a result, climate mitigation pathways that do not systematically address material flows, product lifecycles, and consumption patterns risk locking in emissions through embodied carbon, inefficient asset use, and premature waste generation.

In response to this growing evidence, Sustainable Consumption and Production (SCP) and Circular Economy (CE) approaches have gained increasing recognition within international climate and development discourse. SCP focuses on reducing the environmental impacts of goods and services across their entire lifecycle while enhancing economic and social wellbeing. This requires building systems in which resources are renewable by design, with an emphasis on minimising waste, retaining materials in use for as long as possible, improving resource efficiency, and substituting conventional inputs with renewable alternatives. The circular economy operationalises this concept through strategies such as resource efficiency, product durability, reuse, recycling, waste prevention, and industrial symbiosis. Together, SCP and CE provide a systemic framework for addressing emissions that originate across value chains and consumption systems, rather than solely at the point of energy generation.

At the global level, this shift is increasingly reflected in policy frameworks and climate pledges. The most recent cycle of Nationally Determined Contributions (NDCs), often referred to as NDC 3.0, shows a growing number of countries moving beyond "waste management only" interpretations of circularity toward broader

1 International Resources Panel (IRP), Global Resources Outlook 2024 https://wedocs.unep.org/items/3ec5991f-1ab2-4d54-9000-c9d3cee81d16

integration of material efficiency, sustainable design, and consumptionside measures. Nonetheless, the depth and operationalisation of SCP and CE within climate commitments remain uneven, and in many cases, these approaches continue to function as implicit background concepts rather than fully articulated climate policy instruments. For example, Vietnam has positioned CE approaches as a cross-cutting element in its updated NDC[2], particularly in agriculture and industrial value chains, going well beyond waste management measures to promote circular agricultural models and the reuse of crop and animal residues, and to call for reduced reliance on chemical fertilisers. In Thailand, SCP and CE-linked actions are embedded across energy-efficiency standards, sustainable food systems, and resource-efficient manufacturing, reflecting a broader systemic shift rather than isolated waste-related interventions[3]. Sri Lanka's NDC 3.0 has included CE as a fundamental component in their industrial processes and product use (IPPU) sector[4]. In Central Asia, Kazakhstan's NDC 3.0 incorporates CE and SCP-linked measures across their energy, industry, agriculture, and waste-management sectors, positioning CE as an integral part of the country's mitigation and resource-efficiency strategy rather than as an isolated waste-management agenda[5]. Uzbekistan's NDC 3.0 similarly embeds circular-economy principles as a cross-cutting element, explicitly framing CE development as a key driver of sustainable economic growth and climate mitigation, with SCP-related actions extending into energy efficiency, industrial modernisation, and sustainable agriculture[6]. In the Asia-Pacific region, several countries have used SCP and CE policies, dialogues on NDC 3.0 and stakeholder consultations to make CE a main element in climate ambition pathways directly connect CE strategies to cutting emissions (mitigation), handling climate impacts (adaptation), and promoting sustainable ways to produce and use resources.

Long-term low-emission development strategies (LT-LEDS) are national roadmaps that outline how a country intends to transition towards a low-carbon, climate-resilient economy by mid-century, and they are usually aligned with the Paris Agreement goal of limiting global warming to well below 2 °C above pre-industrial levels (Article 2) and of achieving net-zero emissions in the second half of the century (Article 4). Under Article 4.19 of the Paris Agreement, Parties are invited to 'strive to formulate and communicate' LT-LEDS, which then serve as overarching frameworks to guide and harmonise short-term climate actions, such as Nationally Determined Contributions (NDCs), with long-term structural transformations in energy, land use, industry, and urban systems. By integrating climate objectives with broader sustainable-development priorities, LT-LEDS help countries mainstream climate action across sectoral policies, strengthen investment signals, and ensure that national climate strategies are coherent, ambitious, and resilient over time.[7]

LT-LEDS also offers a policy opportunity to mainstream SCP and CE principles into a country's climate and development agenda. Because LT-LEDS span several decades and cut across sectors, they allow governments to embed SCP and CE as cross-cutting pillars – rather than isolated projects – into energy, industry, agriculture, cities, and infrastructure planning, thereby aligning resource-efficient, low-waste development pathways with net-zero and resilience goals. Several countries already use their LT-LEDS to demonstrate this integration: for example, Bhutan's LT-LEDS emphasise sustainable resource use and low-waste development as part of a long-term decarbonisation vision, while Pakistan's LT-LEDS process explicitly links SCP-type measures, such as resource-efficient agriculture and industry, with emission-reduction scenarios and national-development planning. By integrating SCP and CE in LT-LEDS, countries can ensure that climate-action portfolios are not only carbon-efficient but also materially and socially sustainable over the long term.

2 Vietnam's updated Nationally Determined Contributions, 2025. Available at https://unfccc.int/sites/default/files/NDC/2022-11/Viet%20Nam%20NDC%202022%20Update.pdf

3 Thailand's updated Nationally Determined Contributions, 2025. Available at https://unfccc.int/sites/default/files/2025-11/TH%20NDC%203.0.pdf

4 Sri Lanka's updated Nationally Determined Contributions, 2025. Available at https://unfccc.int/sites/default/files/2025-09/Sri%20Lankas%20Nationally%20Determined%20Contributions%203.0%20%282026-2035%29%20submitted%2022.09.2025%20%281%29.pdf

5 Kazakhstan's updated Nationally Determined Contributions, 2025. Available at https://unfccc.int/sites/default/files/2025-11/NDC_Kazakhstan%203.0%20eng.pdf

6 Uzbekistan's updated Nationally Determined Contributions, 2025. Available at https://unfccc.int/sites/default/files/2025-11/Uzbekistan%20Third%20NDC.pdf

7 Long-term low-emission development strategies - Synthesis report by the UNFCCC secretariat, 2022 -https://unfccc.int/sites/default/files/resource/cma2022_08.pdf#:~:text=commitment%20to%20achieving%20the%20long%2Dterm%20temperature%20goal%20of%20the%20Paris%20Agreement

Within most NDCs and LT-LEDS, recognition of SCP and CE has remained limited up to now but is clearly on an upward trajectory. Many countries initially framed CE-linked actions only within waste-management-related climate targets, but recent NDC 3.0 and LT-LEDS updates show that SCP and CE are increasingly being mainstreamed into broader sectors such as industry, buildings and construction, agrifood systems, and urban resilience, reflecting a more systemic understanding of material-resource-efficient development as a core climate-ambition lever. At the UNFCCC level, SCP and CE have not yet occupied a central place in formal negotiation themes such as mitigation accounting or transparency, but they have begun to feature more prominently in high-level discussions, especially during the first Global Stocktake (GST) and under the Sharm el-Sheikh mitigation-ambition work programme, where Parties and observers have highlighted the need to harness resource-efficiency and CE opportunities to close the emissions gap.

The IPCC Sixth Assessment Report emphasises that avoiding dangerous climate repercussions will require capitalising on all available mitigation and adaptation opportunities, including demand-side measures, resource efficiency, and systemic shifts in consumption and production patterns, thereby reinforcing the imperative of integrating SCP and CE into national climate strategies. In practice, however, SCP and CE remain mostly linked with climate mitigation targets and are still under-recognised within adaptation planning and National Adaptation Plans (NAPs), despite the fact that many adaptation actions such as resilient infrastructure, housing, and water-retention systems, are highly material-intensive and could benefit greatly from CE and resource-efficiency principles. It is hoped that, as countries refine their NDC 3.0 and LT-LEDS portfolios and deepen adaptation mainstreaming, SCP and CE will increasingly be recognised and operationalised within adaptation actions as well, helping to align resilience-building with sustainable resource use and long-term climate ambition.[8]

1.3. Why SCP and CE matter for climate ambition in developing and transition economies

For developing and transition economies, the relevance of SCP and CE is particularly significant. These countries often face rapidly growing demand for infrastructure, housing, transport, and industrial capacity—investments that are inherently material intensive and that will shape emissions trajectories for decades. Decisions taken today regarding how infrastructure is designed, constructed, and operated can either lock in high-carbon resource pathways or enable long-term decoupling of economic growth from emissions and resource depletion.

SCP and CE provide options to avoid carbon-intensive development lock-in while delivering multiple co-benefits. Improved material efficiency lowers production costs, reduces import dependence on raw materials, and enhances resilience to external price shocks. Circular value chains create new economic opportunities in repair, recycling, remanufacturing, and secondary material markets, supporting employment and local value addition. Beyond domestic value creation, CE exerts influence throughout supply chains by reducing reliance on virgin material extraction, shortening and diversifying sourcing networks, and lowering exposure to upstream environmental and price volatility. This supply chain effect is particularly relevant for developing and transition economies, which are frequently positioned as raw material exporters or downstream assemblers with limited control over upstream emissions embedded in imported inputs. At the same time, SCP-oriented consumption patterns such as more efficient buildings, improved public services, and reduced waste, can enhance household welfare and reduce pressure on public budgets.

From a climate perspective, SCP and CE function as mitigation multipliers. By lowering energy and material demand upstream, including emissions embedded in imported and traded goods across supply chains, they reduce the scale of investment required in low carbon energy supply and infrastructure. This reduction in required capital makes ambitious climate targets more financially attainable within constrained fiscal environments. Importantly, these benefits extend equally to climate adaptation. Many adaptation measures such as flood protection, water storage, irrigation systems, climate-resilient roads, and housing are highly material-intensive. Without circular and resource-efficient design, adaptation investments risk generating

8 Working Paper on the contribution of circular economy to climate change mitigation strategies. MedWaves, the UNEP/MAP Regional Activity Centre for SCP and ENT Environment and Management. Barcelona, 2023 - https://www.medwaves-centre.org/wp-content/uploads/2023/12/WP_Report_CircularEconomy_ClimateAction_DEF_compressed.pdf

significant embodied emissions and additional environmental pressures, potentially offsetting mitigation gains elsewhere in the economy.

This SWITCH-Asia TA on SCP-linked NDCs and LT-LEDS in Central Asia to identify opportunities to capitalise synergies between SCP, CE, Green Growth and Climate Ambition in Central Asia has been designed precisely within this evolving policy landscape to support countries in systematically integrating SCP and CE principles into their climate ambition frameworks, including NDC 3.0 and LT-LEDS processes. The TA as a whole covered all Central Asian countries through regional-level policy assessments, mapping SCP and CE-related opportunities and gaps across national climate and development agendas. At the same time, it pursued more in-depth, locally grounded engagements in Kazakhstan, Kyrgyz Republic, and Tajikistan, working closely with national institutions to strengthen policy coherence, identify concrete SCP and CE measures, and build institutional capacity for mainstreaming resource-efficient and low-waste development pathways into both mitigation and adaptation planning.

1.4. The Technical Advisory Context

This White Paper was developed as part of an exploratory Technical Advisory (TA) called "Sustainable Consumption and Production (SCP)-linked Nationally Determined Contributions (NDCs) and Long-Term Low Emission Development Strategies (LT-LEDS) in Central Asia—Identifying opportunities to capitalise synergies between SCP, Circular Economy, Green Growth and Climate Ambition." The TA has been carried out as a regional initiative covering five Central Asian countries: Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan .

The TA has been strategically designed to:

- Identify the potential to integrate SCP and CE into climate ambitions including NDCs and LT-LEDS in Central Asian countries;
- Enhance local knowledge and capacities for SCP and CE integration; and
- Provide on-demand technical assistance to design and develop sector-specific SCP/CE-related targets.

1.5. Methodology of the Technical Advisory

The TA was implemented as a scoping assessment aimed at exploring potential avenues for integrating SCP into the NDCs, LT-LEDS and other climate ambition strategies of Central Asian countries. The assessment was designed to gather the necessary information through two main processes: (i) a systematic review of relevant national policy documents related to SCP, climate change, and circular-economy (CE) priorities, and (ii) targeted consultations with key stakeholders, including government ministries, line agencies, research institutions, and civil-society organisations.

The TA covered all Central Asian countries through regional-level policy assessments, mapping SCP and CE-related opportunities and gaps across national climate and development agendas. In parallel, the assessment pursued more in-depth, locally grounded engagements in Kazakhstan, Kyrgyz Republic, and Tajikistan, where the Programme Experts worked closely with national institutions and stakeholder consultations to strengthen policy coherence, identify concrete SCP and CE measures, and build institutional capacity for mainstreaming resource-efficient and low-waste development pathways into both mitigation and adaptation planning. In Kyrgyz Republic, this was reinforced by a Local Expert based in the country, who was actively engaged throughout the NDC 3.0 development process, including stakeholder consultations, technical discussions, and the validation workshop.

To complement the national-level work and obtain views from countries where national-level deep-dive engagement had not yet been set up such as Uzbekistan and Tajikistan, the TA also leveraged regional and international platforms to facilitate dialogue with climate-change and SCP/CE stakeholders. This included organising and participating in special sessions at the Central Asia Climate Change Conferences, SWITCH-Asia Annual Meetings, and side events and thematic sessions at UNFCCC Conference of the Parties

(COP) and Subsidiary Body (SB) meetings, which provided opportunities to exchange experiences, validate findings, and align the recommendations of the TA with broader regional and global climate-policy debates. For Kyrgyz Republic specifically, this included the Central Asia Regional Climate Change Conference held in Ashgabat, Turkmenistan in 2025, the UNFCCC Conference of the Parties (COP 30 and COP 31), the UNFCCC Subsidiary Body sessions in 2024 and 2025, the NDC Clinic of Asia Pacific 2025, and the SWITCH-Asia Annual event held in Bangkok in 2025, where the TA team engaged directly with stakeholders to gather their views and ideas.

2. CLIMATE CHANGE AND CIRCULAR ECONOMY LANDSCAPE IN KYRGYZ REPUBLIC

2.1. Climate Vulnerabilities and Impacts

Kyrgyz Republic is a landlocked, mountainous country in Central Asia, with 94% of its territory located at elevations above 1,000 metres. The country's geography makes it highly vulnerable to climate change impacts, particularly glacier melt, water scarcity, and extreme weather events[9]. Kyrgyz Republic's climate profile is defined by its dependence on glacier-fed water systems. The country's glaciers are receding at an alarming rate, threatening the long-term availability of water for agriculture, hydropower, and domestic use. The Tien Shan and Pamir-Alay mountain ranges, which feed the region's major rivers, are experiencing accelerated warming, with projections indicating significant reductions in glacier mass by mid-century. This loss directly affects the country's hydropower-dependent energy system and the irrigation-based agricultural sector[10].

The country faces increasing frequency of extreme weather events, including floods, landslides, droughts, and heatwaves. These events pose direct risks to infrastructure, agriculture, and communities, particularly in mountainous and rural areas. Water scarcity is emerging as a critical challenge, affecting both agricultural productivity and energy security, given the country's heavy reliance on hydropower[11].

2.2. GHG Emissions Profile and Mitigation Commitments

Despite contributing less than 0.034% of global GHG emissions, Kyrgyz Republic is experiencing intensifying climate impacts that threaten its development trajectory. According to the country's Third National Communication (TNC) to the UNFCCC and the latest GHG inventory data underlying NDC 3.0, the total GHG emissions (excluding land use, land-use change and forestry) in the baseline period (2010) were approximately 17.2 million tons of CO_2 equivalent. By 2020, emissions had declined due to economic restructuring, but recent growth has led to a renewed upward trend[12].

The sectoral breakdown of emissions (as of 2020) shows:

- **Energy (including electricity, heat, and transport):** 55% of total emissions. The electricity sector is dominated by hydropower, but thermal power plants and the transport sector are significant contributors.
- **Agriculture:** 25% of total emissions, mainly from enteric fermentation in livestock, manure management, and agricultural soils (nitrous oxide from fertiliser use).
- **Waste:** 10% of total emissions, primarily methane from solid waste disposal sites and wastewater.
- **Industrial processes and product use (IPPU):** 7% of total emissions, mainly from cement production and other industrial activities.
- **Land use, land-use change and forestry (LULUCF):** The LULUCF sector currently acts as a net sink, offsetting approximately 10–15% of total emissions through forest growth and reforestation.

Per capita emissions in Kyrgyz Republic (about 2.5 tCO_2e) remain well below the global average, but emissions intensity of GDP is higher than in many OECD countries, indicating room for improvement in resource efficiency. Kyrgyz Republic's carbon intensity stands at 0.21 kg CO_2 per dollar of GDP in 2024

9 Caspian Policy Center. "Central Asia's Future Melts Away: Water Down the Drain?" (28 August 2025). Available at: https://caspianpolicy.org/research/security-and-politics-programme/central-asias-future-melts-away-water-down-the-drain

10 UNEP. «Climate Change Reshaping Kyrgyz Republic» (March 2025). Available at: https://www.unep.org/news-and-stories/press-release/climate-change-reshaping-kyrgyz-republic-finds-new-unep-atlas

11 World Bank. «Kyrgyz Republic adapts to climate threats, moving towards green economy» (5 December 2025). Available at: https://en.kabar.kg/news/kyrgyzstan-adapts-to-climate-threats-moving-towards-green-economy/

12 Third National Communication of Kyrgyz Republic submitted to the UNFCCC - https://climate-laws.org/documents/kyrgyzstan-national-communication-nc-nc-3_5699

(World Bank data), higher than the global average of 0.16 kg but aligning with or exceeding many OECD countries' levels from recent periods (e.g., OECD average ~0.33 kg in 2009; individual countries like France at 0.193 kg per 1000 USD equivalent). Kyrgyz Republic presented its updated NDC 3.0 in October 2025, marking a strategic milestone in the country's climate policy development. The document aligns fully with the Paris Agreement, the National Development Programme 2030, and the Sustainable Development Goals.

The NDC 3.0 sets the following mitigation targets:

- **By 2030:** 18% reduction in net GHG emissions compared to baseline (up to 30% with international support);
- **By 2035:** 16% reduction (up to 39% with international support);
- Expected emissions reductions: 8.5 million tons of CO_2 equivalent per year by 2030; 13.1 million tons by 2035.

One of the key innovations of NDC 3.0 is the introduction of the just transition principle, ensuring that workers and communities are supported during the shift to a green economy. The plan also integrates strong social dimensions, including education, social protection, gender equality, youth engagement, inclusiveness, and enhanced climate finance mobilisation. The NDC development process was mentioned as highly inclusive, involving over 1,000 participants from government institutions, academia, civil society, the private sector, women's and youth organisations, and vulnerable communities. EU SWITCH-Asia also engaged in the NDC 3.0 process in Kyrgyz Republic which enabled to bring analysis into this whitepaper.

2.3. Policy Response and the Role of SCP/CE

Kyrgyz Republic has demonstrated increasing commitment to climate action and sustainable development. The country is a Party to the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. The government has developed a range of policy frameworks that recognise the urgency of climate action and the importance of green growth.

The National Development Programme until 2030, approved by President Sadyr Japarov, identifies four main development directions: Industrialisation, Regional Hub development, Agriculture and Tourism, and Green Energy. The Programme sets ambitious targets including increasing GDP to $30 billion, achieving an average annual real GDP growth rate of at least 8%, and ranking among the top 30 countries in achieving the UN Sustainable Development Goals[13].

2.4. Analytical Framework

Before proceeding to the sectoral analysis, it is essential to establish a clear analytical framework that explains the methodology, criteria, and logic underlying the assessment of SCP and CE integration potential in Kyrgyz Republic's climate policy architecture. This framework provides transparency to the analysis and ensures consistency across the sectoral mapping presented in Section 4.

2.4.1. Methodology for Sectoral Mapping

The sectoral mapping employs a three-tier classification system to categorise sectors based on their current status within NDC 3.0 and their potential for SCP/CE integration. This classification is derived from a systematic review of NDC 3.0 provisions, the Green Economy Development Programme 2025-2029, and other relevant policy documents.

The three tiers are defined as follows:

13 The National Development Programme of Kyrgyzstan https://www.gov.kg/files/news/froala/dd08061311362a-4faa610d681b49a92ae4f73a55.pdf

Tier 1: Explicitly Included — Sectors that contain specific measures, targets, or commitments in NDC 3.0 that are directly relevant to SCP and CE. This includes sectors where the NDC explicitly references resource efficiency, waste reduction, circular approaches, or related concepts. Examples from the Kyrgyz context include waste management (with explicit references to recycling and methane management) and agriculture (with measures on livestock productivity and organic farming)

Tier 2: Implicitly Covered or Partially Included — Sectors that are addressed in NDC 3.0 but primarily through a conventional mitigation lens (e.g., energy efficiency, emissions intensity reduction) without explicit SCP/CE framing. These sectors contain measures that are compatible with CE principles but have not been systematically articulated as circular economy interventions. Industry, which is addressed through carbon intensity reduction targets, falls into this category.

Tier 3: Not Explicitly Included — Sectors that are absent from NDC 3.0 provisions despite having significant economic importance and circular economy potential. This tier includes sectors such as tourism and, to a significant extent, construction and textiles, which were identified as priority circular economy sectors through the October 2025 Parliamentarians' Platform Dialogue but are not adequately reflected in the NDC framework.

2.4.2. Criteria for SCP/CE Opportunity Assessment

For each sector, the assessment of SCP/CE opportunity is based on five criteria derived from established analytical frameworks for SCP-NDC integration:

Emissions Reduction Potential — The sector's contribution to national GHG emissions and the potential for emission reductions through SCP/CE interventions. This criterion considers both direct emissions (from production processes) and indirect emissions (from material extraction, processing, and waste management). The Global Resources Outlook 2024 establishes that material extraction and processing account for over 55% of global GHG emissions, making this criterion particularly relevant.

Economic Significance — The sector's contribution to GDP, employment, exports, and national development priorities. Sectors with high economic significance present both greater opportunities for impact and greater risks if circularity is not integrated. The National Development Programme 2030's growth targets underscore the importance of this criterion.

Circularity Readiness — The existence of enabling conditions for circular economy interventions, including policy frameworks, institutional capacity, technological readiness, and market demand. This criterion assesses whether the sector has the foundational elements required for circular transition.

Investment Attractiveness — The potential for mobilising private and public investment, considering the availability of bankable projects, the existence of financing mechanisms, and the overall investment climate. This criterion links directly to the financing analysis in Section 5.

Policy and Institutional Feasibility — The presence of policy windows, institutional mandates, and stakeholder alignment that would facilitate SCP/CE integration. This criterion considers whether the sector has a "champion" within government, whether relevant regulations exist or are under development, and whether industry associations are supportive of circular approaches.

Each sector's opportunity assessment is based on a qualitative synthesis of evidence from policy documents, stakeholder consultations, and international experience. The assessment does not employ quantitative modelling but draws on available data to provide an informed judgment of the sector's potential.

2.4.3. Linking Sectors to NDC Implementation

The analytical framework connects sectoral SCP/CE opportunities to NDC implementation through four dimensions that directly link circular approaches to enhanced climate ambition. These four dimensions have been identified through a synthesis of international literature on SCP-NDC integration, including the UNFCCC's practical toolbox on circularity and NDCs.

Material Efficiency as Mitigation — Reducing material demand lowers emissions across the entire value chain, from extraction to manufacturing to waste management. SCP/CE interventions that improve material efficiency contribute directly to NDC mitigation targets by reducing the emissions intensity of production and consumption. The OECD has identified material efficiency as one of the most cost-effective mitigation strategies available to developing economies.

Waste Valorisation as Revenue Generation — Transforming waste streams into economic resources creates new revenue streams that can be directed toward climate action. This dimension addresses the financing gap by generating resources that reduce the fiscal burden of NDC implementation. The Ellen MacArthur Foundation has estimated that circular economy approaches could create USD 4.5 trillion in economic value by 2030, with waste valorisation as a significant component.

Circularity as Infrastructure Resilience — Circular approaches to infrastructure, buildings, and urban systems enhance resilience to climate impacts by using materials more efficiently, designing for durability and adaptability, and reducing dependence on imported materials. This dimension links SCP/CE to adaptation planning, addressing a recognised gap in current NDC frameworks.

Systemic Transformation as Ambition Multiplier — SCP/CE interventions across multiple sectors create synergies that amplify climate ambition beyond what individual sectoral measures could achieve. Industrial symbiosis, for example, simultaneously reduces waste, lowers emissions, and creates economic value. This dimension addresses the need for economy-wide transformation rather than isolated project-level interventions.

2.4.4. Analytical Limitations

The analysis is subject to several limitations that should be acknowledged:

Data Availability — The absence of comprehensive national material flow accounting constrains the ability to quantify baseline resource use and circularity indicators. This limitation is recognised in NDC 3.0's identification of MRV systems as a priority area.

Temporal Scope — The analysis focuses on the NDC 3.0 period (2025-2035) but considers longer-term implications for green growth and development. The transition to circular economy models may extend beyond this timeframe.

Qualitative Assessment — Given the early stage of SCP/CE integration in Kyrgyz Republic's climate policy, the assessment is necessarily qualitative. It provides directional guidance rather than precise quantification, establishing a foundation for more detailed analysis as data and methodologies improve.

Policy Volatility — The analysis is based on the policy frameworks in place as of early 2026. Future policy changes, particularly those related to the Secondary Raw Material Market Programme and the national circular economy framework, may affect the assessment.

2.4.5. Contribution of the Framework

This analytical framework contributes to the literature on SCP-NDC integration by operationalising the SWITCH-Asia methodology for a specific national context, providing a replicable model for other countries in Central Asia and beyond. The framework also addresses a recognised gap in the academic literature on circular economy-climate linkages by articulating a structured approach to sectoral opportunity assessment.

The framework serves as the basis for the sectoral mapping presented in Section 4 and the financing analysis in Section 5, ensuring analytical coherence across the white paper.

2.5. The SCP and CE Policy Landscape of Kyrgyz Republic

Kyrgyz Republic's SCP and CE policy landscape has evolved significantly in recent years, with increasing recognition of the importance of resource efficiency and circular approaches. The country has developed a range of policy instruments that, while not always explicitly framed as SCP or CE policies, embed principles consistent with sustainable consumption and production.

2.5.1. Green Economy Development Programme 2025

The Green Economy Development Programme 2025-2029[14] (GEDP) (detailed below) provides the sectoral delivery framework for these commitments.

The Programme sets several ambitious targets for the country to achieve by 2029:

- Reduce GDP energy intensity by 20% compared to the 2022 level;
- Increase agricultural productivity by 25% compared to the 2022 baseline;
- Restore 30% of degraded land and territories;
- Achieve a 30% share of "green" public procurement, in line with the approved indicator matrix;
- Ensure widespread introduction of renewable energy sources and energyefficient technologies in both production and social sectors.

2.5.2. National Development Programme 2030

The National Development Programme until 2030 (see Section 2.5.2) sets the overarching strategic framework for Kyrgyz Republic's development. The Programme identifies four main development directions:

1. **Industrialisation**: Creating a modern, diversified industrial base using a cluster approach and prioritising the export of high value-added products;
2. **Regional Hub**: Leveraging Kyrgyz Republic's geostrategic position between China, the Eurasian Economic Union, and Central and South Asian countries to become a major transit corridor and logistics centre;
3. **Agriculture and Tourism**: Producing organic, eco-friendly agricultural goods with a high degree of processing and added value, combined with the country's natural landscape and cultural heritage;
4. **Green Energy**: Harnessing the country's rich hydropower potential and renewable energy sources to ensure energy security and position Kyrgyz Republic as a platform for green investment and energy exports.

2.5.3. Plastics and Waste Management Reform

A significant development in Kyrgyz Republic's SCP and CE landscape is the successful reform of plastic products circulation. The adoption of amendments to the Law "On Restriction of the Circulation of Polyethylene Bags and Plastic Products" followed more than a year of joint work by the government, business community, and experts.

The reform balanced environmental objectives with economic considerations. The original version of the Law contained broad restrictions on plastic packaging, including PET bottles, food containers, and other products. Through public-private dialogue facilitated by the Investment Council under the Cabinet of Ministers, amendments were developed that excluded PET bottles and food packaging—which are actively collected and recycled domestically—from the list of banned items[15].

The amendments provided:

- **Clarity and predictability**: Clear definition of prohibited and permitted products;
- **Cost reduction**: Avoidance of costly switches to more expensive alternatives;
- **Support for the recycling industry**: The country already has at least 30 companies engaged in processing PET and other plastics into secondary raw materials;
- **Alignment with EAEU norms**: Removal of contradictions with Eurasian Economic Union technical regulations.

14 https://www.un-page.org/news/green-leap-forward-kyrgyz-republic-adopts-new-green-economy-programme-2025-2029/

15 LAW OF THE KYRGYZ REPUBLIC of July 10, 2025 No. 139 About introduction of amendments to the Law of the Kyrgyz Republic «About restriction of turnover of packets from polymeric film and plastic products in the territory of the Kyrgyz Republic» - https://cis-legislation.com/document.fwx?rgn=168357

This reform demonstrates how public-private dialogue can result in balanced environmental and economic policies and illustrates alignment with SDG 9 (Industry, Innovation and Infrastructure) and SDG 12 (Responsible Consumption and Production).

2.5.4. Secondary Resources Market Development

In October 2025, work began on creating a Secondary Material Resources Market Development Programme in Kyrgyz Republic. A trilateral agreement was signed between the Eurasian Development Bank (EDB), the Russian-Kyrgyz Development Fund (RKDF), and the Ministry of Natural Resources, Ecology, and Technical Supervision[16].

The initiative, supported by the EDB Technical Assistance Fund, provides grant financing for expert work on programme preparation. The document will combine business incentive mechanisms, a list of pilot projects, and solutions for optimising waste processing logistics. As noted by Artem Novikov, Chairman of the Board of the Kyrgyz Republic Fund for Recycling, the project will become a tool for forming a new model of waste management in the country, stimulating recycling, attracting investment in environmental projects, and developing closed-loop economic sectors.

2.5.5. Circular Economy Priority Sectors

The first "Circular Economy Policy Dialogue with the Parliamentarians' Platform in Central Asia" held On October 2, 2025, government officials, international organisations, and circular economy experts convened in Bishkek to advance Kyrgyz Republic's transition toward a circular economy model. During this working discussion led by SWITCH-Asia, the participants identified four priority sectors for circular economy development[17]:

1. **Construction**: The construction sector surged by 63% in the first half of 2025. Participants emphasised redirecting this momentum toward material reuse, recycling, and designing for circularity from the outset.
2. **Agrifood**: Serious environmental challenges stem from wool processing and livestock waste management. Discussions revealed synergies between tourism and agriculture, with tourists potentially serving as a distribution channel for local organic products.
3. **Textiles**: Identified as a priority sector requiring targeted interventions for circularity.
4. **Tourism**: Highlighted as having significant potential, particularly around Lake Issyk-Kul. Critical infrastructure gaps were noted regarding waste data collection and accommodation capacity, with robust waste management systems needed during peak seasons.

The discussions converged on four key principles for designing Kyrgyz Republic's national circular economy framework:

- **Alignment instead of duplication**: Build on existing national strategies and avoid overlapping green economy instruments;
- **Stepwise legislation**: Define the framework first, then expand existing instruments;
- **Sectoral focus**: Prioritise the four key sectors with targeted measures;
- **Competencies and data**: Invest in monitoring, reporting, and verification systems and provide business incentives[18].

16 https://eabr.org/en/press/news/new-step-towards-a-circular-economy-the-edb-supports-a-programme-to-develop-the-secondary-raw-materi/

17 Circular Economy Policy Dialogues with the Parliamentarians' Platform in Central Asia - https://www.switch-asia.eu/news/kyrgyzstan-charts-path-toward-circular-economy-with-focus-on-four-priority-sectors/?fbclid=IwY2xjawR6J49leHRuA2FlbQIxMQBicmlkETFHNktzWWp4dGs2VURVWVZac3J0YwZhcHBfaWQQMjIyMDM5MTc4ODIwMDg5MgABHvmobRIJ4WR80W3gkkDQjag4m1YbWCGZTGV775a0vGqkFgKJf05TITPO0o85_aem_nTLB0pnfMNIjxzc9PcNjWQ

18 EU Global Gateway Multi-Stakeholder Consultation in Central Asia: Strengthening Policy Ambitions through Sustainable Consumption and Production (SCP) and Circular Economy (CE) – Event Summary Report - https://www.switch-asia.eu/site/assets/files/4438/central_asia_parliamentarians_report_final-1.pdf

3. INTEGRATING SCP AND CE INTO KYRGYZ REPUBLIC'S DEVELOPMENT STRATEGY

3.1. Sustainable Development Challenges in Kyrgyz Republic

Kyrgyz Republic's development trajectory is shaped by a set of interconnected challenges that define the country's sustainable development landscape.

Economic Challenges

The Kyrgyz economy faces the challenge of transitioning from a resource-dependent model to a more diversified, value-added economic structure. Agriculture remains a key sector but suffers from low productivity, inefficient resource use, and vulnerability to climate impacts. Industrial development has been constrained by infrastructure gaps, limited access to finance, and environmental legacy issues. The services sector, particularly tourism, offers significant growth potential but requires investment in infrastructure and sustainable practices[19][20].

Pursuing the National Development Programme's 8% growth trajectory (Section 2.5.2.) while holding to Kyrgyz Republic's NDC 3.0 mitigation targets creates an inherent sequencing tension: historically, GDP growth in the Kyrgyz Republic has been closely coupled with rising material and energy throughput, particularly in construction, which expanded eightfold between 2019 and 2025 (see Section 5.9). Absent deliberate decoupling measures, the Programme's growth ambitions risk locking in additional carbon- and resource-intensive infrastructure at precisely the moment the country is committing to deeper emissions cuts. This tension is compounded by a financing constraint: the government can currently cover only an estimated 37% of NDC 3.0 implementation costs from domestic resources (see Section 6), leaving limited fiscal space to simultaneously fund high-growth industrial expansion and the resource-efficiency measures needed to keep that growth within Kyrgyz Republic's climate commitments.

Environmental Challenges

Kyrgyz Republic faces significant environmental pressures, including water scarcity, land degradation, waste management challenges, and biodiversity loss. The country's water resources are under increasing stress from glacier melt, inefficient irrigation practices, and growing demand. Land degradation affects agricultural productivity and contributes to desertification. Waste management systems are inadequate, with limited recycling capacity and significant environmental impacts from uncontrolled disposal.

Translating these targets into results depends heavily on institutional and monitoring capacity that is still developing. As noted in Section 2.4.4., the absence of comprehensive national material flow accounting constrains evidence-based tracking of resource-efficiency progress, while monitoring, reporting, and verification (MRV) systems for both climate and circularity indicators remain nascent. Without strengthened data infrastructure, land-restoration and green-procurement targets risk being difficult to verify or adjust over the Programme's five-year horizon, a gap that is particularly consequential given that water stress from glacier melt and inefficient irrigation is already compounding land degradation faster than current monitoring can characterise it.

Kyrgyz Republic's population is young and growing, creating demand for quality employment, improved public services, and better infrastructure. Rural areas face particular challenges, including limited access to services, out-migration, and vulnerability to environmental shocks. Gender inequality persists in many sectors, requiring targeted interventions to ensure that the benefits of green growth are equitably shared.

19 From Vulnerability to Prosperity; A ystematic Country Diagnostic, Kyrgyz Republic - https://documents1.worldbank.org/curated/en/516141537548690118/pdf/Kyrgyz-Republic-SCD-English-Final-August-31-2018-09182018.pdf

20 Asian Development Bank. Promoting Economic Diversification Programme (Subprogramme 1, Programme Impact Assessment - https://www.adb.org/sites/default/files/linked-documents/52225-001-sd-01_9.pdf

4. THE KYRGYZ REPUBLIC'S NATIONALLY DETERMINED CONTRIBUTIONS

The Kyrgyz Republic submitted its first Nationally Determined Contribution in 2020, followed by an updated version in 2021. In October 2025, the country submitted its NDC 3.0, a data-driven, inclusive and forward-looking framework that defines Kyrgyz Republic's strategic position ahead of UNFCCC COP30[21].

4.1. Mitigation Targets

NDC 3.0 adopts a comprehensive approach covering multiple sectors. The plan sets:

Target	2030	2035
Unconditional	18% reduction from baseline	16% reduction from baseline
Conditional (with international support)	30% reduction from baseline	39% reduction from baseline

Source: NDC Partnership[22]

The plan is seen by the Kyrgyz Republic as an essential step towards the national goal of carbon neutrality by 2050, consistent with the global trajectory set out in the IPCC 6th Assessment Report for limiting global warming to 1.5°C. Implementation of the plan's measures is expected to cut emissions by 8.5 million tons of CO_2 equivalent per year by 2030, and 13.1 million tons by 2035[23].

4.2. Recognition of SCP and CE as Transition Pathways

The Kyrgyz Republic's NDC 3.0 does not appear to feature explicit SCP/CE framing. However, the plan does include measures with strong SCP and CE relevance:

- **Mitigation priorities** include renewable energy and hydroelectric power facilities, improving energy efficiency of buildings and heating systems, expansion of low-emission and alternative transport modes, reduction of carbon intensity in industry, improved livestock productivity, sustainable pasture management to increase CO_2 absorption, reforestation, expansion of organic farming, improved management of organic waste and methane, wastewater management, and waste recycling.
- **Adaptation priorities** include water resources and agriculture, energy, infrastructure and cities, forest ecosystems and biodiversity, health, and disaster risk management.

4.3. Enabling Frameworks Mentioned in NDC 3.0

NDC 3.0 was developed through cross-sectoral consultations across 11 priority areas, including energy, industry, agriculture, water resources, healthcare, trade, and gender. The process involved over 1,000 participants from government institutions, academia, civil society, the private sector, women's and youth organizations, and vulnerable communities.

21 https://kyrgyzstan.un.org/en/303222-kyrgyzstan-presented-its-updated-national-climate-plan-–-ndc-30
22 https://ndcpartnership.org/country/kgz
23 https://www.undp.org/kyrgyzstan/press-releases/kyrgyzstan-presented-its-updated-nationally-determined-contribution

Key enabling frameworks referenced in or supporting NDC 3.0 include:

1. **National Development Programme 2030** — the plan aligns fully with this national development framework.
2. **Green Economy Development Programme 2025–2029** — adopted in September 2025, this programme defines the country's strategic guidelines for implementing environmentally friendly technologies, improving energy efficiency, and attracting green investments.
3. **National Green Taxonomy** — defines eligible green projects and technologies, creating a foundation for sustainable finance.
4. **Concept on Achieving Carbon Neutrality by 2050** — provides the long-term strategic vision.
5. **National Adaptation Plan (NAP)** — priorities integrated into NDC 3.0 structure.
6. **National Biodiversity Strategy and Action Plan (NBSAP)** — integrated into NDC 3.0.
7. **Land Degradation Neutrality (LDN) targets** — integrated into NDC 3.0.

A notable feature of NDC 3.0 is the introduction of the **just transition principle** for the first time, ensuring that workers and communities are supported during the shift to a green economy. The plan also integrates strong social dimensions including education, social protection, gender equality, youth engagement, and inclusiveness.

4.4. Gaps in SCP/CE Integration

Despite these progressive elements, several critical gaps remain as far as SCP/CE integration is concerned.

- ***No explicit SCP/CE framing***: The Kyrgyz Republic's NDC 3.0 does not appear to feature such language.
- **No national Circular Economy Strategy**: The Kyrgyz Republic appears to lack such a commitment, though a Programme for Developing the Secondary Raw Material Market is under development.
- **Limited material flow accounting**: The absence of comprehensive national material flow accounting constrains evidence-based SCP policymaking.
- **Challenging institutional coordination**: While the NDC development process involved multiple ministries, implementation coordination remains a challenge.
- **Nascent MRV systems**: Strengthening monitoring, evaluation, reporting, and verification systems has been identified as a priority area for Partnership support.

5. SECTORAL MAPPING: INTEGRATING SCP AND CE IN THE KYRGYZ REPUBLIC'S NDC 3.0

One of the areas to improve in the Kyrgyz Republic's existing climate policy discourse is the absence of a systematic mapping of economic sectors where SCP and CE interventions could deliver material climate and economic co-benefits. Although SCP and CE are not explicitly referenced within the NDC 3.0, a number of SCP/CE interventions remain highly relevant and can meaningfully contribute to the achievement of the NDC targets. Mainstreaming SCP/CE approaches would therefore be of considerable value to the country, both in supporting the successful implementation of the NDCs and in mobilizing additional finance and resources. A sectoral typology is presented below, based on explicit inclusion in NDC 3.0, identifying additional sectors where SCP/CE integration could generate high impact.

5.1. Sectoral Mapping Table

Sector	Status in NDC 3.0	SCP/CE Opportunity	Potential Actions
Buildings & Heating	Explicitly included (energy efficiency)	Building energy efficiency retrofits; district heating modernisation; insulation standards	Green building codes; energy performance standards; retrofitting finance facilities
Agriculture	Explicitly included (climate-smart agriculture, livestock)	Reducing cattle headcount through improving pedigree quality; reducing emissions from nitrogen fertilisers; organic farming	Improved livestock productivity; sustainable pasture management; organic farming expansion; precision agriculture
Waste Management	Explicitly included (waste recycling, methane management)	Methane reduction from solid waste sector; wastewater management	Landfill gas capture; recycling infrastructure; ban on landfilling recyclable waste; secondary raw material market development
Forestry & Land Use	Explicitly included (reforestation, carbon sinks)	Forest carbon sink; reforestation (6,000 hectares under FAO project); 800 million tree planting target	Reducing Emissions from Deforestation and Degradation+ (REDD+) readiness; agroforestry; carbon sink accounting to leverage other investments
Industry	Explicitly included (carbon intensity reduction)	Industrial energy efficiency; waste-to-resource (agricultural and food industry waste to pharmaceuticals, cosmetics, feed additives)	Industrial decarbonisation roadmap; circular industrial parks; material efficiency standards
Textile and Garment (Can be considered as a sub-sector within Industries)	Underrepresented (industry covered broadly)	Kyrgyz Republic's third-largest clothing exporter in the CIS; dual duty-free market access (EAEU 180M consumers; EU GSP+ 450M consumers, 6,200+ product categories); over 128,000 jobs; light industry output ~25 billion soms (2025). Bishkek generates ~50 tonnes of fabric waste daily; currently only two textile waste recycling enterprises. Identified as one of four priority sectors for circular economy development (October 2025 Parliamentarians' Platform Dialogue)	National circular textile roadmap; strengthened waste management regulations for textile waste; investment support for recycling infrastructure and technology innovation; green public procurement for sustainable textiles; capacity building for circular design and production; pilot programmes for wool waste valorisation and textile-to-textile recycling

Sector	Status in NDC 3.0	SCP/CE Opportunity	Potential Actions
Tourism	Not explicitly included but an important sectors for Kyrgyz Republic	Food waste in tourism sector; circular economy opportunities	Circular tourism initiatives; food waste reduction; sustainable supply chains
Construction and Built Environment	Not explicitly included (beyond general energy efficiency references)	Construction sector recorded 64.6% growth in 2025; sector contribution expanded from 58.5 to 438.5 billion soms (2019–2025). In 2025, 79.6% of construction material certificates were issued for imported materials. Over 300 houses have been constructed using rice-husk bricks, demonstrating domestic circular construction feasibility Embodied carbon footprint remains unaddressed	National circular construction standards; C&D waste recycling regulation and infrastructure; low-carbon and alternative materials promotion (rice-husk bricks, recycled aggregates); circular design principles in building codes; green public procurement for construction; material passports; reduction of import dependence through local secondary materials
Water Resources	Included under adaptation	Water efficiency; wastewater treatment; nature-based solutions	Integrated water resource management; water-efficient irrigation; wastewater recycling
Transport	Explicitly included (low-emission and alternative modes)	Electric buses (135 diesel buses to be replaced); trolleybuses in Osh; intelligent traffic management	EVs will bring an opportunity to consider total circularity modes including Battery recycling, Extended Producer Responsibility (EPR) models and consideration of overall material resource circularity systems.

5.2. Building Heating - *Explicitly Included, Major Opportunity*

Building heating represent a significant source of emissions in the Kyrgyz Republic, particularly given the country's cold climate and reliance on inefficient heating systems. NDC 3.0 includes improving the energy efficiency of buildings and heating systems as a mitigation priority.

SCP/CE Opportunity: Beyond energy efficiency, circular building materials, designs for construction longevity and low maintenance, reuse, and recycling are potential areas that could significantly reduce embodied carbon and construction waste. Green building certification systems, low-carbon material procurement, and C&D waste recycling remain underdeveloped.

5.3. Agriculture - *Explicitly Included, Methane and Circular Bioeconomy Focus*

Agriculture is a significant source of emissions in the Kyrgyz Republic, with livestock as a major contributor to methane emissions. NDC 3.0 includes multiple agriculture measures: reducing cattle headcount through improving the pedigree quality of the herd, reducing emissions from the use of nitrogen fertilisers, improving government agricultural statistics, and developing organic farming and resource-efficient agriculture.

SCP/CE Opportunity: The circular bioeconomy offers substantial potential in the Kyrgyz Republic. Agricultural residues could be transformed into value-added products for pharmaceuticals, cosmetics, and feed additives. Sustainable pasture management can increase CO_2 absorption. Closing nutrient loops through composting and biogas production would simultaneously reduce emissions, enhance soil health, and reduce dependency on imported fertilisers. The country would benefit from a national circular bioeconomy strategy for agriculture.

5.4. Waste Management - *Explicitly Included, Substantial CE Potential*

Waste management is explicitly included in NDC 3.0 through commitments to waste recycling and improved management of organic waste and methane. The WasteMAP project is supporting Kyrgyz Republic and Tajikistan in strengthening national capacity to identify, measure, and reduce methane emissions from the solid waste sector.[24]

The government is developing a Programme for Developing the Secondary Raw Material Market, which will lay the groundwork for future projects and provide impetus for developing modern waste management infrastructure.[25] A draft regulation proposes banning the landfilling of waste that can be recycled or reused in industry, including waste types containing metals, plastics, paper, glass, rubber, textiles, batteries, and electronic components.[26]

SCP/CE Opportunity: The waste sector in the Kyrgyz Republic is at an early stage of development, offering significant potential for leapfrogging to circular models. Priorities include formalising informal recycling, developing RDF markets, implementing Extended Producer Responsibility schemes, and scaling methane capture from landfills.

5.5. Industry - *Explicitly Included, Emerging Circular Potential*

Industry is included in NDC 3.0 through a commitment to reduction of carbon intensity in industry.[27] The Ministry of Economy and Commerce is developing an Industrial Development Strategy to 2030, which proposes transforming agricultural and food industry waste into products for pharmaceuticals, cosmetics, and feed additives.

SCP/CE Opportunity: Industrial symbiosis—where waste from one industry becomes feedstock for another—remains largely untapped. Priorities include circular industrial parks, material efficiency standards, and fiscal incentives for circular production.

5.6. Mining *and Metallurgy - Implicitly Covered, Resource Efficiency and Circular Economy Potential*

The mining sector is one of Kyrgyz Republic's economic pillars. According to World Bank data the mining sector accounts for 9.5% of Kyrgyz Republic's GDP, attracts 41.2% of total investment, and represents 56.5% of exports. In 2025, the mining sector contributed 65.4 billion soms to the state budget.[28] The Kumtor gold mine, the country's largest, generated revenue exceeding 124 billion soms in 2025, producing 12 tonnes of gold annually. Kyrgyz Republic plans to commence underground mining at the Kumtor and Jerui deposits from 2026 to further increase production. The Jerui deposit produced 3.9 tonnes of gold in 2025. The mining sector also produces other minerals including antimony, with reserves of 16,758 tonnes.[29]

NDC 3.0 Status: The mining and metallurgy sector is implicitly covered in NDC 3.0 through the commitment to reduction of carbon intensity in industry. However, the sector lacks explicit responses to its specific challenges including energy-intensive extraction and processing, tailings management, water consumption, land degradation, and material efficiency in mineral processing.

SCP/CE Opportunity: The mining sector's circular economy potential is substantial. Tailings valorisation i.e. recovering valuable metals and minerals from tailings and converting them into construction materials or backfill, can significantly reduce environmental footprint. Mine site rehabilitation and ecological restoration

24 http://www.carececo.org/en/main/activity/projects/WasteMAP/#top
25 https://eabr.org/en/press/news/new-step-towards-a-circular-economy-the-edb-supports-a-programme-to-develop-the-secondary-raw-materi/
26 National E-waste Monitor – Kyrgyz Republic, 2024 - https://www.scycle.info/wp-content/uploads/2025/02/National_E-waste_Monitor_Kyrgyzstan_A4_WEB_feb_2025.pdf
27 Kyrgyz Republic preparing industry for a low-carbon future under NDC 3.0 - https://kyrtag.kg/kg/news/kyrgyzstan-goto-vit-promyshlennost-k-nizkouglerodnomu-budushchemu
28 https://en.kabar.kg/news/mining-industry-accounts-for-95-of-kyrgyzstans-gdp/
29 https://interfax.com/newsroom/top-stories/113480/

can return degraded land to productive use. Mining waste to construction materials (using waste rock and tailings for concrete aggregates, bricks, and road materials) can reduce demand for virgin aggregates and lower import dependence. Water recycling in mining operations (treatment and reuse of process water) can alleviate the country's water stress. Additionally, scrap metal recycling and secondary metal recovery in the metallurgical sector represent significant emission reduction and resource efficiency opportunities. The country would benefit from a mining sector circular economy roadmap, regulatory frameworks for tailings valorisation, and investment incentives for mine rehabilitation and ecological restoration.

5.7. Tourism - *Not Explicitly Included, Emerging Opportunity*

Tourism, while not explicitly covered in NDC 3.0, represents an emerging opportunity for circular economy integration. SWITCH-Asia TA study titled "Foresight-Driven Pathways for Circular Economy Integration: Kyrgyz Republic's Food and Tourism Sectors" has identified implementation of circular economy principles in the tourism sector, with a focus on the food component, as a strategically important area for achieving sustainable, inclusive, and climate-resilient development.[30]

SCP/CE Opportunity: Food waste reduction in the tourism sector, sustainable supply chains, and circular hospitality models could reduce emissions while enhancing the country's tourism competitiveness.

5.8. Textile and Garment Sector - *Underrepresented in NDC 3.0, High Circular Economy Potential*

The textile and garment sector is among the few sectors of Kyrgyz Republic's economy that generate a significant share of non-resource exports and provide employment for hundreds of thousands of people. In 2025, light industry output reached approximately 25 billion soms, of which textile production accounted for about 4 billion soms and garment production exceeded 20 billion soms. Kyrgyz Republic is the third-largest clothing exporter in the Customs Information System (CIS). The industry possesses a unique dual duty-free market access advantage: access to the Eurasian Economic Union (EAEU) market (180 million consumers) and duty-free export of over 6,200 product categories to the EU market (450 million consumers) through the GSP+ preferential regime.[31]

NDC 3.0 Status: The textile and garment sector has not been prominently mentioned in NDC 3.0. The NDC 3.0 initiative focuses on establishing a digital platform for GHG emissions monitoring, transparent climate reporting and verification systems, and modern low-carbon production standards for industry as a whole. While these measures are relevant, the sector's specific challenges including energy consumption, water pollution, chemical use, textile waste management, and supply chain sustainability must be considered. The initiative includes support measures such as preferential financing and tax incentives for enterprises transitioning to clean technologies, but these are not tailored to the textile sector's unique circular economy potential.[32]

SCP/CE Opportunity: The textile sector has been identified as one of Kyrgyz Republic's four priority sectors for circular economy development along with construction, tourism, and agri-food sectors at the Central Asian Parliamentarians' Dialogue on Circular Economy. The need for sectoral focus with targeted measures including design standards, secondary raw material utilisation, separate waste collection, and support for repair and remanufacturing has been emphasised.[33]

The sector's circular economy potential is significant. Kyrgyz Republic has only two textile waste recycling enterprises, which process fabric offcuts into non-woven fibres for mats, mattresses, blankets, gloves and other products. A recycling facility near Bishkek processes approximately 3 tonnes of waste daily, with plans to increase capacity to 8 tonnes; the waste is processed into thermofelt used for mattresses, yurts, and insulation materials. Wool processing and livestock waste management are considered major environmental

30 Foresight-Driven Pathways for Circular Economy Integration: Kyrgyz Republic's Food and Tourism Sectors - https://switch-asia.eu/resource/foresight-driven-pathways-for-circular-economy-integration-kyrgyzstans-food-and-tourism-sectors/
31 https://invest.gov.kg/en/sectors/textile
32 https://kyrtag.kg/kg/news/kyrgyzstan-gotovit-promyshlennost-k-nizkouglerodnomu-budushchemu
33 https://www.switch-asia.eu/news/kyrgyzstan-charts-path-toward-circular-economy-with-focus-on-four-priority-sectors/

challenges facing the sector. With the EU market's increasing requirements for product sustainability and traceability, the sector faces both pressure and opportunity to integrate circular economy principles into production. The country would benefit from a national circular textile roadmap, strengthened waste management regulations, investment support for recycling infrastructure, and capacity building for circular design and production techniques.

5.9. Buildings and Built Environment - *Absent from Explicit NDC Provisions, Critical Opportunity*

The buildings and construction sector has been a primary driver of Kyrgyz Republic's economic growth. In 2025, the sector's contribution to GDP reached 438.5 billion soms, compared with 58.5 billion soms in 2019, an eightfold expansion over six years.[34] The construction sector recorded 64.6% growth in 2025.[35] Buildings account for over 50% of total energy consumption in the country, with residential buildings alone accounting for approximately 70% of final energy consumption.[36] The sector is heavily dependent on imported materials: in 2025, 79.6% of all construction material certificates issued pertained to imported materials up from 65.8% in 2024.[37] Cement imports doubled from 242,900 tonnes in 2023 to 526,100 tonnes in 2024.[38]

NDC 3.0 Status: The buildings and construction sector is only partially addressed in NDC 3.0, primarily through general references to improving the energy efficiency of buildings and heating systems. The Law of the Kyrgyz Republic "On Energy Efficiency of Buildings" (No. 137) establishes minimum energy efficiency requirements for new and reconstructed buildings and mandates mandatory energy certification at all stages of their lifecycle from design and construction to operation. However, these frameworks focus predominantly on operational energy efficiency. They do not systematically address embodied carbon, material efficiency, circular design, or construction and demolition waste management.

SCP/CE Opportunity: The construction sector has been identified as one of Kyrgyz Republic's four priority sectors for circular economy development. Participants of the October 2025 Circular Economy Policy Dialogue of Central Asian Parliamentarians' Platform[39] emphasised redirecting the sector's growth toward material reuse, recycling, and designing for circularity from the outset. Agricultural residues are already being converted into sustainable building materials: more than 300 houses have been built using rice-husk bricks, which are composed of 60% rice husks and rival cement in strength. Construction and demolition waste recycling remains in its very early stages, yet the potential is substantial. Bishkek has launched a new waste processing plant with capacity up to 1,200 tons of waste per day, generating approximately 30 MW of electricity, with ash residue used to produce building materials.[40] The introduction of circular economy concepts including material passports, design for deconstruction, and recycled content standards, could significantly reduce embodied carbon while creating new markets for secondary materials. Green public procurement, which the Ministry of Economy has expressed strong interest in advancing, could serve as a practical tool for implementing these principles. The country would benefit from a national circular construction strategy, stronger waste segregation rules, fiscal incentives for recycling investment, and support for technology transfer and skills development.

5.10. Forestry and Land Use - *Explicitly Included, Carbon Credit Potential*

Forestry and land use are explicitly included in NDC 3.0 through commitments to reforestation and sustainable pasture management to increase CO_2 absorption. The government has announced a national initiative to double the country's forest cover to 15% by planting 800 million trees. Under the FAO CS-FOR project, reforestation activities are planned for an area of 6,000 hectares, with new forests (spruce, juniper, walnut, pistachio, and poplar) to be planted.

34 https://24.kg/english/364549_Construction_sector_GDP_reaches_4385_billion_soms_in_Kyrgyzstan/
35 https://caspianpost.com/kyrgyzstan/kyrgyzstan-leads-eurasian-economic-union-in-construction-boom-with-45-growth
36 https://www.ctc-n.org/technical-assistance/projects/development-policy-guidelines-building-codes-enhancing-energy
37 https://topnews.kg/ekonomika/115244-sertifikacija-strojmaterialov-v-kyrgyzstane-vyrosla-vdvoe-za-2025-god-no-za-schet-importa.html
38 https://www.globalcement.com/news/19169-kyrgyzstan-cement-imports-up-by-over-threefold
39 https://switch-asia.eu/news/central-asia-advances-circular-economy-cooperation-at-second-regional-dialogue-in-almaty/
40 https://en.kabar.kg/news/new-waste-processing-plant-opens-in-bishkek/

SCP/CE Opportunity: Forest carbon sinks offer significant carbon credit potential (See Box 1)—estimated at USD 250 million to USD 500 million per year over the next 20–30 years. This carbon credit potential can However, realising this potential requires robust MRV systems, REDD+ readiness, and integration with NDC tracking.

5.11. Summary Assessment

A two-tier picture emerges from the sectoral analysis. Waste management, transport, agriculture, AFOLU, cement and steel, and plastics are at least partially covered in NDC 3.0. However, several sectors critical to both economic development and environmental performance remain underrepresented or entirely absent from the NDC framework.

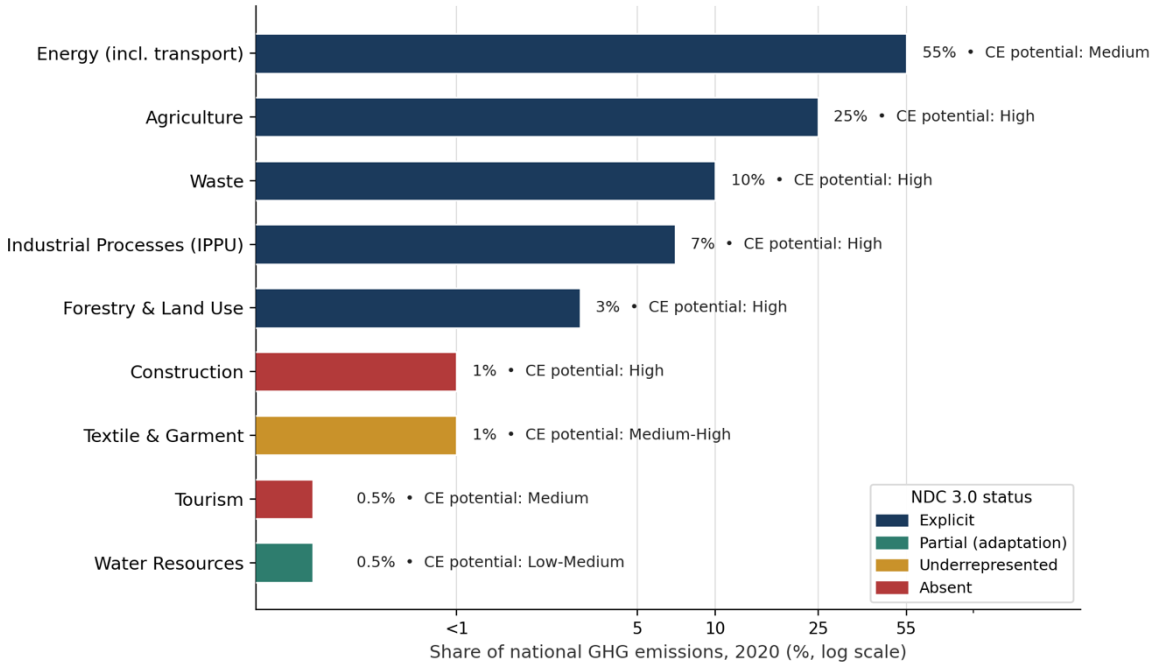


Figure 1: Sectoral GHG Emissions Share and Circular Economy Potential

Box 1: Linking Forest Carbon Credits to the Circular Economy

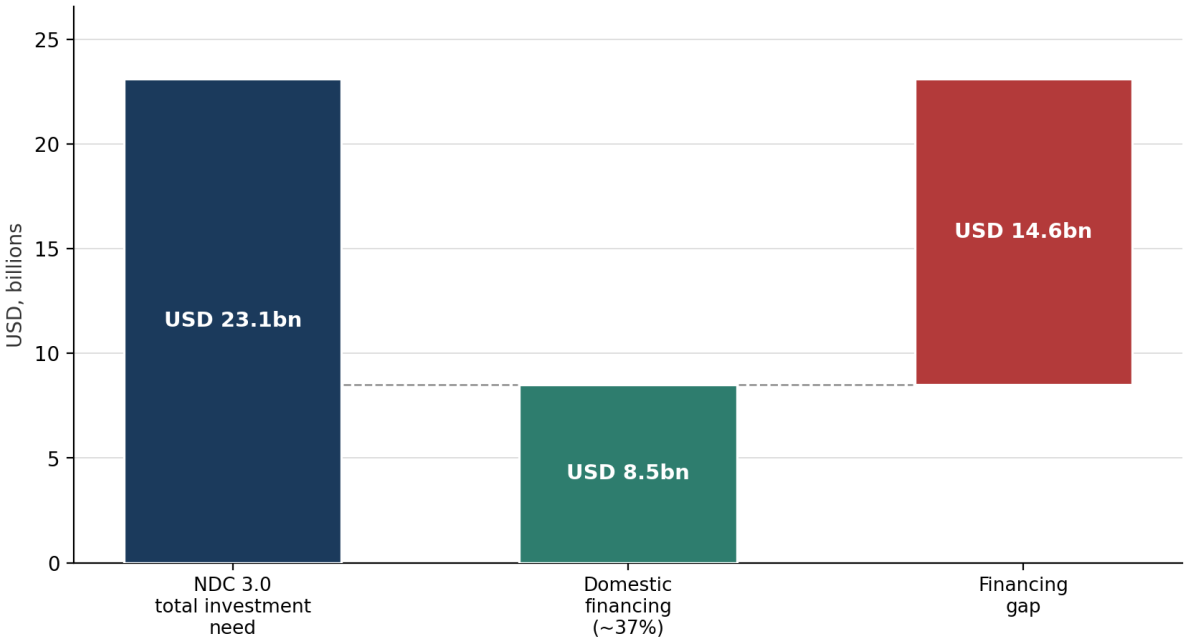
The connection between forest carbon credits and the circular economy lies in the principle of keeping materials and biomass in productive use while simultaneously generating climate and economic value. In a conventional forestry model, harvested timber is used for its primary purpose (sawn wood or pulp) with the residual biomass (branches, bark, sawdust, and other by-products) often discarded, burned, or left to decompose, releasing carbon back into the atmosphere. A circular forestry model, by contrast, valorises these residues through cascading use: sawmill waste becomes feedstock for particleboard or biochar; forest thinnings and harvest residues are converted into bioenergy, compost, or soil amendments; and the carbon sequestered through these processes is quantified, verified, and monetised as carbon credits.

This approach embodies the core circular economy strategies of waste prevention, resource efficiency, and value retention. For example, The Swedish EIP-AGRI Operational Group has developed a certification scheme for carbon credits generated from biochar made from forest residues, creating a functioning market where foresters are financially rewarded for storing carbon in soil. Similarly, a South Korean study on circular forest management demonstrated that integrating wood production, processing, and biomass energy generation, with carbon credits and renewable energy certificates as revenue streams, achieved positive economic feasibility with a net present value of USD 25.3 million. In Vietnam, enterprises are converting agricultural and forestry residues into biochar carbon credits, with estimates suggesting the country could earn USD 3–4 billion annually from biochar credits alone.

In the Kyrgyz context, forest carbon credits can serve as a financial catalyst for circular forestry practices. Revenue from carbon credits can be reinvested in sustainable forest management, reforestation, and the development of local processing industries that utilise forest by-products—creating a self-reinforcing loop where climate finance enables circular practices, and circular practices, in turn, enhance carbon sequestration. This alignment with the bio-circular-green economy framework positions forestry as a sector where climate mitigation and circular economy objectives are mutually reinforcing. Realising this potential, however, requires robust monitoring, reporting, and verification systems to ensure carbon credit integrity, as well as REDD+ readiness and integration with NDC tracking

6. FINANCING THE CIRCULAR TRANSITION: POTENTIAL TO NARROW KYRGYZ REPUBLIC'S CLIMATE FINANCE GAP

The Kyrgyz Republic's climate financing challenge is substantial. According to an assessment of Kyrgyz Republic's financial needs for implementing NDC 3.0, presented at the regional seminar "Supporting the Implementation of NDC 3.0 in Central Asia and the Caucasus" in March 2026, the total cost of implementing the updated NDC is estimated at approximately USD 23.1 billion, with a financing gap of about USD 14.6 billion[41]. The country will be able to cover only an estimated 37% of the required amount using its own resources. Other estimates suggest that at least USD 6 billion will be required to achieve the stated goals with minimal effectiveness, while the total cost of implementing climate and environmental measures has been estimated at USD 10 billion[42].



Source: Author's calculation from the NDC 3.0 investment estimate (USD 23.1bn) and stated 37% domestic financing share cited in this report.

Figure 2. NDC 3.0 Financing Gap: A Waterfall View

This financing gap, compounded by limited concessional funding at scale, challenging institutional coordination, and nascent MRV systems present as significant barriers to NDC implementation. The main policy question, therefore, is how to mobilise the required financing at the scale and speed necessary to meet the country's ambitious NDC 3.0 targets. The circular economy offers a mechanism to address this challenge through reduced material demand, operational cost savings, and new revenue streams.

6.1. How the Circular Economy Can Narrow the Climate Finance Gap

The circular economy functions as a powerful financial lever that can fundamentally reshape the economics of climate action, not simply as an environmental strategy. By reducing material demand, extending product lifecycles, and valorising waste streams, circular economy approaches can achieve climate mitigation at significantly lower cost than conventional linear approaches, while simultaneously generating new revenue streams that can be reinvested in climate action.

41 https://centralasiaclimateportal.org/representatives-of-central-asian-and-caucasian-countries-discussed-mobilizing-resources-for-the-ndc/?__cf_chl_f_tk=YMATvgXvVEeCU.ZwQpp8.iVexDYXZpMhyCI9umv0D28-1782965655-1.0.1.1-j75pHb9KAEMGHXxVfj8EOqWzhoAaB6vcUjK8Rnmb4T0

42 https://en.kabar.kg/news/cop30-kyrgyzstan-advocates-for-separate-funding-programme-for-mountain-ecosystems/

6.1.1. Lowering Capital Requirements

Circular economy strategies directly reduce the cost of achieving NDC targets through lower capital requirements. By reducing the demand for virgin materials and energy, circular approaches lower the scale of investment required in extraction, processing, and manufacturing. The IRP has noted that resource efficiency and circular economy measures can significantly reduce the investment needed for climate mitigation, as they address emissions at source rather than requiring costly end-of-pipe solutions[43].

A transition to circular models in the built environment, for example, could reduce sector emissions by up to 75% by 2050 compared to conventional construction, avoiding the need for costly new infrastructure while achieving the same or better outcomes. The World Bank's Country Climate and Development Report for Kyrgyz Republic highlights that climate-proofing infrastructure, while essential, carries significant costs that could be reduced through circular design principles[44].

6.1.2. Operational Cost Savings

Reduced material and energy consumption translates into lower production costs for businesses. A 2026 study in *Scientific Reports* found that upcycling old garments enhances overall profitability by an average of 5.13% under carbon pricing policies. Such savings free up capital for further climate investments. [45]

In the Kyrgyz context, the Green Economy Development Programme 2025–2029 sets a target of reducing GDP energy intensity by 20% compared to 2022 levels. Achieving this target through energy efficiency and circular approaches would generate significant operational savings across the economy, reducing the cost burden of climate action on businesses and households.

6.1.3. Avoiding Environmental and Social Costs

A full lifecycle approach to plastics management could save the world USD 4.5 trillion in environmental and social costs by 2040[46]. For a country like Kyrgyz Republic, where more than 90% of municipal solid waste is disposed of in outdated landfills and uncontrolled dumpsites, the avoided costs of pollution, health impacts, and land degradation are substantial.

In their publication "What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050", the World Bank has emphasised that "addressing solid waste management will require significant financial resources, but the costs of inaction are far greater". Circular economy approaches that reduce waste generation and valorise waste streams therefore offer a cost-effective strategy for managing both environmental and fiscal pressures.

6.2. Generating New Revenue Streams for Climate Finance

Perhaps more significantly, circular economy approaches create entirely new revenue streams that can be directly channelled into climate action.

6.2.1. Carbon Credits from Circular Interventions

Forestry and land use offer significant potential for carbon credit generation. Kyrgyzstan's national target to double forest cover to 15% by planting 800 million trees could generate carbon credit revenues estimated at USD 250 million to USD 500 million annually over the next 20–30 years. These revenues would contribute to closing the USD 9.3 billion financing gap, potentially covering 2.7% to 5.4% annually, or 27% to 54% over a decade.

43 Global Resources Outlook 2024: Bend the Trend – Pathways to a Liveable Planet as Resource Use Spikes - https://www.unc-clearn.org/resources/library/global-resources-outlook-2024/

44 https://documents1.worldbank.org/curated/en/099111925135075927/pdf/P501004-403078da-de86-448b-8efb-ba4b-893b78ef.pdf

45 Optimizing circular industrial integration for sustainable yarn production with remanufacturing: a carbon policy-based modelling approach - https://www.nature.com/articles/s41598-026-54680-0

46 Turning off the Tap: How the World can End Plastic Pollution and Create a Circular Economy - https://plasticspolicy.port.ac.uk/research/turning-off-the-tap-how-the-world-can-end-plastic-pollution-and-create-a-circular-economy/

Beyond forestry, carbon credits can be generated from waste management interventions (methane capture from landfills, composting, recycling), agricultural improvements (methane reduction through livestock management, nitrous oxide reduction through precision agriculture), and industrial efficiency improvements. The UNFCCC's practical toolbox on "Boosting ambition and implementation of NDCs through circularity[47]" mentions that "circularity provides an important opportunity to help raise both public and private finance and accelerate investments to meet NDC targets".

For Kyrgyz Republic, which has begun work on developing a national carbon trading system in line with Articles 6.2 and 6.4 of the Paris Agreement, carbon markets offer a direct and immediate financing channel for circular economy interventions.

6.2.2. Revenue from Secondary Raw Materials

The development of secondary raw material markets creates economic value from what was previously waste. The Eurasian Development Bank (EDB)'s technical assistance programme, "Development of Sustainable Waste and Secondary Material Management in Kyrgyz Republic," aims to create an environment where "recycling becomes part of the economic system and secondary resources become a source of growth and investment".

The circular economy is projected to create USD 4.5 trillion in economic value by 2030 through reduced waste, innovation, and employment generation, according to the Ellen MacArthur Foundation[48]. For Kyrgyz Republic, For capturing a fraction of this opportunity would contribute to closing the climate finance gap.

6.2.3. Private Sector Investment Attraction

Circular economy projects, when properly structured, can attract significant private investment. The EDB's cumulative portfolio of 319 projects with total investment of USD 19.1 billion demonstrates the scale of financing that multilateral development banks can mobilise for sustainable infrastructure. The circular economy investment tracker reveals that IFC has committed more than USD 1 billion to circular economy-related projects across emerging markets, a model that Kyrgyz Republic can replicate[49].

The Kyrgyz Republic's Green Economy Development Programme 2025–2029 explicitly aims to attract green investments and create conditions for private sector participation in the green transition . By anchoring circular economy projects within this framework, the country can signal investment readiness to international financiers.

6.3. Leveraging Concessional Finance for Impact

6.3.1. The Blended Finance Multiplier Effect

The leverage potential of circular economy investments is high. Blended finance transactions where concessional capital de-risks and attracts commercial investment have demonstrated an average leverage ratio of 1:13.8, with approximately USD 9 of each USD 13.8 representing investment that would not have occurred without risk mitigation support[50].

For Kyrgyz Republic, this leverage effect could mobilise substantial investment. A USD 100 million allocation of concessional finance toward circular economy projects, structured through blended finance mechanisms, could mobilise USD 1.38 billion in total investment, approximately 15% of the USD 9.3 billion financing gap.

47 https://www.learningfornature.org/en/building-circularity-into-nationally-determined-contributions/
48 Ellen MacArthur Foundation. 2013. Towards the Circular Economy Vol. 1: An economic and business rationale for an accelerated transition. https://www.ellenmacarthurfoundation.org/towards-the-circular-economy-vol-1-an-economic-and-business-rationale-for-an
49 IFC Circular Economy Investment Tracker - https://www.ifc.org/content/dam/ifc/doclink/latest/ceit-factsheet.pdf
50 State of Blended Finance 2025 - https://www.convergence.finance/resource/state-of-blended-finance-2025/view

6.3.2. De-risking Instruments for Circular Economy Investments

Circular economy investments often face higher perceived risk than conventional projects due to novel technologies, unproven business models, fragmented value chains, and policy uncertainty[51]. De-risking through appropriate financial instruments is essential to attract commercial capital at scale:

First-loss guarantees: Development finance institutions absorb a defined proportion of portfolio losses, protecting commercial lenders and reducing the perceived risk of circular economy investments. This structure has been used effectively by the World Bank for plastic waste reduction outcome bonds in Ghana and Indonesia and could be replicated in Kyrgyz Republic[52].

Concessional debt: Long-term, below-market-rate debt from development banks lowers the cost of capital for circular economy projects, improving their financial viability. The European Bank for Reconstruction and Development (EBRD) has demonstrated the effectiveness of this approach in financing sustainable infrastructure across Central Asia[53].

Technical assistance grants: Grants for project preparation, feasibility studies, and capacity building reduce transaction costs and help build a bankable project pipeline. The EU SWITCH-Asia Programme, which provides EUR 25 million for SCP and circular economy initiatives across Asia, offers a proven model.

Outcome-based instruments: Investor returns linked to verified environmental outcomes, such as tonnes of waste recycled or tonnes of CO_2 reduced, align financial returns with climate objectives. The World Bank's outcome bond for plastic waste reduction in developing countries provides a replicable model.

6.4. Kyrgyz Republic's Emerging Circular Economy Investment Pipeline

A well-structured investment pipeline is the essential bridge between policy ambition and tangible climate outcomes. For Kyrgyz Republic, translating the circular economy principles embedded in NDC 3.0 and the Green Economy Development Programme 2025–2029 into bankable projects requires a systematic approach to project identification, feasibility assessment, structuring, and financing. The investment pipeline serves multiple critical functions: it signals investment readiness to development financiers and private investors, reduces transaction costs through project preparation support, demonstrates the commercial viability of circular economy approaches, and enables the aggregation of smaller projects into investment-worthy portfolios. Without a robust pipeline of bankable circular economy projects, even the most ambitious policy frameworks risk remaining aspirational. Recognising this imperative, Kyrgyz Republic has begun to develop concrete investment opportunities across its priority circular economy sectors including waste management and secondary materials, forestry and carbon credits, agrifood systems, and construction.

6.4.1 Waste Management and Secondary Materials Infrastructure

The EDB and the Russian-Kyrgyz Development Fund (RKDF) are jointly developing a **Programme for Developing the Secondary Raw Material Market**, which will include a list of pilot projects, mechanisms to optimise logistics, and measures to encourage businesses to actively use secondary raw materials[54].

A feasibility study for a public-private partnership project on sustainable waste management and secondary materials infrastructure is already underway, with EDB financing the analysis of waste volumes and composition, secondary materials market assessment, and the development of financial and legal models[55]. This project will introduce technologies that enable the reuse of secondary materials as part of the economic cycle, creating a source of income for the private partner.

51 Unlocking the circular economy: investment needs, barriers and enabling conditions – European Environment Agency - https://www.astrid-online.it/static/upload/unlo/unlocking-circular-economy_report_2026-th-01-26-015-en-n--2-.pdf
52 Plastic waste reduction-linked bonds, The World Bank - https://thedocs.worldbank.org/en/doc/a8e38e1c4426100de215a-f2a9212e6ed-0340012024/original/Case-Study-Plastic-Waste-Reduction-Linked-Bond.pdf
53 https://www.ebrd.com/home/news-and-events/news/2025/EBRD-sets-an-investment-record-in-Central-Asia.html
54 https://www.akchabar.kg/en/news/eabr-i-rkfr-zapuskayut-razrabotku-programmemy-razvitiya-rynka-vtorichnykh-resursov-v-kr
55 https://www.akchabar.kg/en/news/eabr-posposobstvuet-zapusku-proekta-gchp-po-upravleniyu-otkhodami-v-Kyrgyz Republice

The Cabinet of Ministers has also submitted for public discussion a draft resolution to **ban the landfilling of waste that can be recycled or reused**, including metals, plastics, paper, glass, rubber, textiles, batteries, and electronic components. This regulatory signal provides policy certainty that will de-risk private investment in recycling infrastructure.

6.4.2 Forestry and Carbon Credits

The national initiative to plant 800 million trees, aiming to double forest cover to 15%, creates investment opportunities in sustainable forest management, agroforestry, and forest product value chains. Under the FAO CS-FOR project, reforestation activities are planned for an area of 6,000 hectares, with new forests (spruce, juniper, walnut, pistachio, and poplar) to be planted[56].

The carbon credit revenue potential which is estimated at USD 250–500 million annually, provides a clear financial return stream that can be used to structure investment vehicles. This represents a direct link between circular economy principles (keeping carbon in productive use) and climate finance mobilisation.

6.4.3 Agrifood Circular Bioeconomy

The agrifood sector, which has been recognized as one of the priority sectors for circular economy transformation in central Asia by the Parliamentarian's Platform Dialogue, offers investment opportunities in organic waste valorisation, biogas production, composting, and sustainable agriculture[57]. These investments reduce methane emissions, create alternative energy sources, and generate fertiliser for rural communities.

The Green Economy Development Programme 2025–2029 sets a target of increasing agricultural productivity by 25% compared to the 2022 baseline. Achieving this target through circular approaches including improved manure management, organic farming, and resource efficiency, would simultaneously contribute to NDC mitigation targets and improve rural livelihoods.

6.4.4 Construction and Circular Materials

The construction sector, which surged by 63% in the first half of 2025, presents significant opportunities for circular economy investments. Circular construction standards, material reuse, and recycling of construction and demolition waste can reduce embodied carbon while creating new markets for secondary materials. As noted in the Circular Economy Policy Dialogue with Parliamentarians, "redirecting this momentum toward material reuse, recycling, and designing for circularity from the outset" is essential[58].

As mentioned in the previous chapter of the report, EBRD has highlighted that the construction sector in Central Asia offers significant potential for resource efficiency improvements through circular design, material substitution, and waste minimisation. Building on the momentum of the Green Economy Development Programme, Kyrgyz Republic can position its construction sector as a leader in circular building practices.

56 https://www.fao.org/kyrgyzstan/news/detail/fao-supports-forest-and-pasture-restoration-in-kyrgyzstan-to-strengthen-climate-resilience/en
57 https://switch-asia.eu/news/kyrgyzstan-charts-path-toward-circular-economy-with-focus-on-four-priority-sectors/
58 https://switch-asia.eu/news/kyrgyzstan-charts-path-toward-circular-economy-with-focus-on-four-priority-sectors/

7. RECOMMENDATIONS

A Roadmap for Mainstreaming SCP and CE in Kyrgyz Republic's Climate Ambition

Two key findings emerge from the preceding analysis. First, SCP and CE approaches are present in Kyrgyz Republic's policy landscape across the GEDP 2025–2029, sectoral measures within NDC 3.0, and an emerging pipeline of investment-ready projects in waste, forestry, and construction. Second, the country faces a financing gap of USD 14.6 billion against an estimated USD 23.1 billion NDC 3.0 implementation cost, with domestic resources currently covering only an estimated 37%.

The recommendations below are organised around closing that gap between potential and delivery. They are deliberately structured to build on what already exists, consistent with the "alignment instead of duplication" and "stepwise legislation" principles articulated at the Circular Economy Policy Dialogue with the Parliamentarians' Platform, rather than proposing parallel institutions or instruments. Four pillars organise the recommendations: (i) policy and institutional foundation, (ii) data and monitoring systems, (iii) sector-specific priority action, and (iv) finance mobilisation.

7.1. Policy and Institutional Foundation

Kyrgyz Republic's SCP/CE gap is not one of political will, the GEDP and the four-sector consensus reached at the October 2025 Parliamentarians' Platform Dialogue demonstrate clear high-level commitment. The gap is one of codification: SCP and CE principles operate as an implicit orientation across several programmes rather than as an explicit, cross-referenced policy instrument with its own targets and accountability lines.

Recommendation 1 — Include SCP/CE as an explicit cross-cutting theme in the next NDC update cycle and in a dedicated national strategy. Rather than creating a standalone CE strategy, the most efficient approach is to formalise CE as a chapter within the Secondary Raw Material Market Programme once adopted, supported by a cross-government policy statement giving CE the same institutional standing as the GEDP's other pillars. This would address the gap identified in Chapter 3: NDC 3.0 does not currently feature explicit SCP/CE language despite containing multiple measures consistent with it.

Recommendation 2 — Establish a standing inter-ministerial SCP/CE coordination mechanism, convened under the Cabinet of Ministers or hosted within the relevant environmental authority, with participation from economic, energy, agricultural, and construction bodies. The NDC 3.0 development process demonstrated that broad institutional engagement is achievable in which over 1,000 participants were involved in its preparation — but implementation coordination remains a distinct challenge from consultation. A standing mechanism, rather than project-based coordination, is the more durable fix.

7.2. Data and Monitoring Systems

Recommendation 3 — Develop a national material flow accounting (MFA) system, beginning with the four priority sectors identified through the Parliamentarians' Platform Dialogue (construction, agrifood, textiles, tourism). This would close the evidence gap that currently constrains SCP policymaking and would give the country a baseline against which to measure progress on GEDP targets such as the 30 percent green public procurement share.

Recommendation 4 — Build MRV capacity for both climate and circularity indicators as a joint workstream, rather than as two separate systems. Given that Kyrgyz Republic is already developing a national carbon trading system under Articles 6.2 and 6.4, and that forest carbon credit revenue depends on robust MRV and REDD+ readiness (Section 5.11, Box 1), there is a strong efficiency case for designing MRV infrastructure that serves both NDC tracking and future CE-linked carbon and secondary-material markets simultaneously.

7.3. Sector-Specific Priority Action

Building directly on the sectoral mapping in Chapter 3 and Table 1, near-term action should concentrate where NDC status, economic momentum, and CE opportunity intersect most strongly:

Recommendation 5 — Construction: Introduce a national circular construction standard covering material passports, design-for-deconstruction, and recycled-content requirements, using green public procurement which is already a stated GEDP priority, as the primary implementation lever. Kyrgyz Republic's own experience with rice-husk brick construction (over 300 houses built, rivalling cement in strength) demonstrates domestic technical feasibility; the priority now is regulatory scaling rather than technology piloting.

Recommendation 6 — Waste and Secondary Materials: Accelerate adoption of the draft regulation banning landfilling of recyclable waste (metals, plastics, paper, glass, rubber, textiles, batteries, electronics), and pair it with EPR pilots in at least one priority material stream. This regulatory signal is a precondition for the private investment the EDB/RKDF Secondary Raw Material Market Programme is designed to attract.

Recommendation 7 — Forestry and Carbon Markets: Fast-track MRV readiness for the 800-million-tree reforestation initiative specifically to enable access to the estimated USD 250–500 million in annual carbon credit revenue identified in Chapter 5, currently the single largest quantified revenue stream available to help close the financing gap.

Recommendation 8 — Agrifood and Tourism: Operationalise the findings of the SWITCH-Asia foresight study on Kyrgyz Republic's food and tourism sectors through a pilot programme targeting food-waste reduction and organic-waste valorisation around Lake Issyk-Kul, where both sectors intersect and where infrastructure gaps have already been identified as a constraint.

7.4. Finance Mobilisation

Recommendation 9 — Establish a blended finance facility for CE investment, anchored in concessional capital from existing development partners (EDB, EBRD, EU SWITCH-Asia, etc.). Applied at the leverage ratio demonstrated globally (1:13.8), a strategic allocation of USD 100 million in concessional finance could mobilise over USD 1.3 billion, equivalent to roughly 14 percent of the total financing gap from a single, replicable instrument.

Recommendation 10 — Prioritise outcome-based and de-risking instruments, first-loss guarantees and outcome bonds of the type used in World Bank plastic-waste programmes elsewhere for the waste and secondary-materials pipeline specifically, where the feasibility study already underway with EDB financing provides a near-term vehicle to pilot these instruments in Kyrgyz Republic.

7.5. Sequencing and Implementation Risk

These recommendations are sequenced deliberately. Institutional and data foundations (6.1–6.2) should be prioritised in the near term (0–3 years), both because they are lower-cost relative to infrastructure investment and because they are preconditions for the sectoral and finance recommendations that follow donor-financed instruments and carbon markets alike depend on credible MRV to function. Sector-specific action (6.3) can proceed in parallel where regulatory instruments already exist in draft form, such as the landfill ban, but should be treated as a 2–5 year implementation horizon given the institutional coordination challenges noted in Chapter 3. Finance mobilisation instruments (6.4) are achievable in the near term for waste and forestry, where investment pipelines are already forming, but should be expected to scale over the full NDC 3.0 period to 2035 as MRV systems mature and de-risk larger transactions.

The principal implementation risk lies less in technology than in institutions: Kyrgyz Republic's constraint is less a shortage of policy ambition than a shortage of coordination capacity and verification infrastructure to convert that ambition into bankable, auditable results. Recommendations 2 and 4 should therefore be treated as prerequisites rather than parallel workstreams.

8. CONCLUSION

Kyrgyz Republic's climate policy has undergone significant development over the 2024-2026 period. NDC 3.0, submitted in October 2025 following an inclusive consultation process, sets mitigation targets alongside a just-transition framework. The GEDP 2025–2029 provides sectoral delivery mechanisms. An emerging consensus among parliamentarians, ministries, and development partners has identified construction, agrifood, textiles, and tourism as priority sectors for CE development.

The opportunity to leverage SCP and CE approaches for climate ambition is not contingent on future policy design but already exists within NDC 3.0 as adopted. As the sectoral mapping in Section 4 demonstrates, six of the nine sectors reviewed *namely* buildings and heating, agriculture, waste management, forestry and land use, industry, and transport, contain explicit NDC 3.0 measures compatible with CE interventions. These include energy retrofits and building efficiency standards, methane reduction through improved livestock and manure management, the planned ban on landfilling recyclable waste, the 800-million-tree reforestation programme, industrial carbon-intensity reduction, and electrification of public transport fleets. None require new legal instruments to yield circularity co-benefits. They require CE principles to be applied within implementation of existing commitments. This presents a more actionable starting point than countries where CE remains absent from climate commitments.

The next NDC update cycle offers an opportunity to deepen this integration rather than initiate it. Regional precedent supports this pathway: Kazakhstan and Uzbekistan have each used their NDC 3.0 submissions to position CE principles as cross-cutting elements of mitigation strategy rather than isolated waste-sector measures, and Vietnam has extended CE framing into agriculture and industrial value chains. Kyrgyz Republic is well placed to follow a similar trajectory, converting sectors currently addressed only implicitly or partially *namely* buildings and construction, tourism, and water resources in particular into explicitly framed SCP/CE commitments, supported by the MFA and MRV systems recommended in Chapter 6. Considering this in the next NDC cycle would also allow Kyrgyz Republic to capture two priority sectors, buildings and construction and tourism, that currently not within the NDC coverage despite carrying some of the strongest circularity potential identified in this paper, including the buildings and construction sector's eightfold GDP expansion since 2019 and heavy reliance on imported, carbon-intensive materials.

The case for accelerating this integration rests on both sectoral fit and financing synergies. Technically, circular interventions reduce the material and energy intensity of the same infrastructure, agricultural, and industrial systems that NDC 3.0 targets are built around. CE measures complement mitigation priorities by lowering the cost of achieving them. Financially, this technical efficiency translates into fiscal relevance: against a USD 9.3 billion NDC 3.0 financing gap, CE interventions in forestry, waste, and secondary materials offer some of the more readily quantifiable revenue and cost-avoidance streams available to the country from an estimated USD 250-500 million in annual forest carbon credit potential to the leverage effects achievable through blended concessional finance.

This potential is not contingent on new commitments but the SCP/CE-relevant measures already embedded within NDC 3.0 are themselves investable now. The reforestation programme, the planned ban on landfilling recyclable waste, and the Secondary Raw Material Market under development are existing NDC-linked commitments that development finance institutions can structure investment and blended finance instruments around today, without waiting for more explicit CE framing in a future submission. In this sense, the current NDC 3.0 already functions as a partial de-risking instrument for CE investment: its targets provide the policy certainty and government commitment that investors typically require, while its resource-efficiency-relevant measures provide the pipeline. Strengthening the SCP/CE integration in the next NDC cycle, as discussed above, would expand and formalise this pipeline but the near-term task and the more immediate opportunity for narrowing the financing gap, is to mobilise capital against what NDC 3.0 already commits Kyrgyz Republic to deliver.

Realising this potential now depends less on further diagnosis than on implementation. The gaps identified in this paper including the absence of explicit SCP/CE framing at the level of formal NDC language, limited

MFA, initial stage MRV systems, and institutional coordination that has yet to match the ambition of policy design are well understood by Kyrgyz Republic's own institutions, as reflected in the ongoing development of the Secondary Raw Material Market Programme and the ban on landfilling recyclable waste currently under public discussion. The recommendations in Chapter 6 are intended to support this existing trajectory: sequencing institutional and data foundations ahead of larger capital mobilisation, concentrating sectoral action where NDC alignment and CE opportunity already converge, and using the next NDC cycle as the formal mechanism to consolidate gains made through implementation in the interim.

Kyrgyz Republic is well positioned to demonstrate what several Central Asian NDC 3.0 submissions have signalled in principle but few have yet operationalised: circularity is not a co-benefit of climate ambition awaiting future recognition. It is a set of opportunities already embedded within current commitments and one of the more cost-effective pathways for meeting them.

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