

GEF-8 REQUEST FOR CEO CHILD ENDORSEMENT/APPROVAL

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General Child Project Information

Child Project Title

Eliminating hazardous chemicals from supply chains - Eliminating hazardous chemicals from supply chains in Cambodia

Region	GEF Project ID
Cambodia	11170
Country(ies)	Type of Project
Cambodia	FSP
GEF Agency(ies)	GEF Agency Project ID
UNEP	
Project Executing Entity(s)	Project Executing Type
Ministry of Environment Cambodia	Government
UNDP	GEF Agency
GEF Focal Area (s)	Submission Date
Multi Focal Area	6/26/2024
Type of Trust Fund	Project Duration (Months)
GET	72
GEF Project Grant: (a)	Agency Fee(s) Grant: (b)
6,025,000.00	542,250.00
PPG Amount: (c)	PPG Agency Fee(s): (d)
149,312.00	13,438.00
Total GEF Financing: (a+b+c+d)	Total Co-financing
6730000	28,277,500.00

Project Sector (CCM Only)

Mixed & Others

Rio Markers

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
Significant Objective 1	No Contribution 0	Significant Objective 1	Significant Objective 1

Project Summary

Provide a brief summary description of the project, to offer a snapshot of what is being proposed. The summary should include: (i) what is the problem and issues to be addressed? ii) as a child project under a program, explain how the description fits in the broader context of the specific program; (iii) what are the project objectives, and if the project is intended to be transformative,

how will this be achieved? and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. (max. 250 words, approximately 1/2 page)

The “Eliminating hazardous chemicals from supply chains in Cambodia” (from here on referred to as the “Cambodia child project”) is one of the eight child projects of the Global Environment Facility (GEF) 8 Integrated Programme (IP) 11 “Eliminating hazardous chemicals from supply chains”. The objective of the IP is to promote transformational change in the fashion and construction sectors by replacing resource-intensive processes and materials with sustainable approaches and alternatives and creating and strengthening circular and transparent supply chains.

The two sectors provide significant economic benefits to the nation’s economy each contributing major socio-economic benefits to the population in the country including more than 20% to the Gross Domestic Product (GDP). The fashion sector is a major exporter of its products while construction sector is driven by a construction boom in the country. However, the accelerating growth in the sectors contributes to harmful impacts to human health and the environment given the use of unsustainable material coupled with high resource intensity like energy and hazardous chemicals use, linear supply chains that may be treated and/or contain or reduce harmful chemicals such as persistent organic pollutants (POPs), heavy metals and accompanying greenhouse gas (GHG) emissions. The child project in Cambodia directly influences the sectoral supply chains by its internal (domestic) and external linkages and networks including markets in Asia, European Union (EU), and United States of America (USA). The project will scale the lessons and practices to other countries in Asia and other continents.

The project seeks to identify and reduce/eliminate hazardous chemicals from these significant supply chains by providing opportunity for change in production and use of alternative sustainable materials. The key expected global environmental benefits (GEBs) of the child project will contribute to 89,112 hectares of landscapes under improved practices; mitigating 930,024 Tonnes of GHG emissions; reducing the use and emission of 50,714 Tonnes of chemicals of global concern and their waste; and reducing and avoiding emissions of 25 gTeQ of POPs into the air. This will be achieved through the project components (which map to the value chain stages of the global IP Theory of Change) including (i) Adoption of circular economy approaches and responsible sourcing of materials by local construction and fashion companies/business targeting certification of at least 5 construction and 8 fashion companies/businesses, to new standards/policies; (ii) Adoption of cleaner production practices by at least 10 construction and 10 fashion companies/factories to reduce emissions and hazardous chemical pollution and waste; and (iii) Implementation of post-use 9Rs with piloting of circular reverse logistics system in at least 10 construction and 10 fashion companies/brands/manufacturers. These outcomes will reduce the use of hazardous materials and improve manufacturing processes, through policy, financial and innovation levers being applied through a close partnership with national and international partners with extensive experience in Cambodia on the two sectors.

Child Project Description Overview

Project Objective

Enhance sustainable sourcing from raw materials promoting net zero, nature positive, and pollution-free approaches to scale up fashion and construction sector transformation

Project Components

Circular Economy Approaches and Responsible Sourcing of Materials

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
2,217,437.00	

Outcome:

Local construction and fashion businesses adopt circular economy approaches and responsible sourcing of innovative materials

Output:

- 1.1. Green building certification and construction materials and fashion eco-labelling schemes piloted in local construction buildings and materials and fashion products.
- 1.2. Government and private sector financial incentives identified and piloted for circular construction and fashion supply chains.
- 1.3. Draft Building Code, Decree or Law on Ecolabel and Cambodia Green Certification Building Code (CamGCBC) finalized with inclusion of requirements on sustainable materials and pollution and their responsible sourcing
- 1.4. National Action Plan for marketing existing local sustainable alternatives linked to global Integrated Program (IP) platform developed.

Cleaner Production

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
2,163,527.00	

Outcome:

Construction/ Real estate companies and fashion factories adopt cleaner production practices to reduce emissions and hazardous chemical pollution and waste.

Output:

- 2.1. National capacity building programme for resource efficiency, cleaner production and hazardous chemicals management developed for construction and fashion companies.
- 2.2. Regulatory controls on use of hazardous chemicals and energy sources.
- 2.3. Pilot hazardous chemical and sustainable energy projects for selected small and medium enterprises (SMEs) in fashion & construction sectors.

Post-use 9Rs

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
1,044,036.00	21,000,000.00

Outcome:

Construction and fashion supply chain actors in Cambodia implement circular reverse logistics system

Output:

- 3.1. Innovative solutions identified and piloted for recycling/upcycling materials.
- 3.2. Capacity of national construction and fashion supply chain actors strengthened in application of circular reverse logistic system.

M&E

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
300,000.00	6,000,000.00

Outcome:

Project partners adopt and act upon project results and lessons

Output:

1. Monitoring of project outcomes and outputs to include quarterly financial reporting.
2. Mid-term and terminal evaluations results shared with stakeholders.

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
Circular Economy Approaches and Responsible Sourcing of Materials	2,217,437.00	
Cleaner Production	2,163,527.00	
Post-use 9Rs	1,044,036.00	21,000,000.00
M&E	300,000.00	6,000,000.00
Subtotal	5,725,000.00	27,000,000.00
Project Management Cost	300,000.00	1,277,500.00
Total Project Cost (\$)	6,025,000.00	28,277,500.00

Please provide Justification

PMC of \$300,000 is consistent with the amount approved at PFD stage for this child project.

CHILD PROJECT OUTLINE

A. PROJECT RATIONALE

Describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Since this is a child project under a program, please include an explanation of how the context fits within the specific program agenda.

Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

Global Environmental Problem, Root Causes and Barriers

Environmental risks continue to dominate the risks landscape of the world, being rated by business leaders among the top 10 over the longer term. These risks include natural resource shortages; biodiversity loss and ecosystem collapse; pollution; and extreme weather events leading to chronic health conditions and quality of life of the population.^[1]¹ The value added in the global fashion market (textiles) market is projected to amount to US\$ 141.4 bn in 2024, with a compound annual growth rate of 1.56% expected till 2029 in the sector.^[2]² The construction sector is one of the largest in the world economy, with about \$10 trillion spent on construction related goods and services every year.^[3]³ The fashion and construction sectors, as both an outcome of human consumption and major driver of economy, have significant negative impact on the environment. Persistent Organic Pollutants (POPs) are one of the major contributors to environmental pollution, reaching the environment through agricultural runoff, industrial effluent, urban runoff, drainage system, and deposition from the atmosphere and landfill leachate. Due to their unique characteristics including semi volatility, long half-lives, recalcitrant nature, harmful toxicological impact, long range

transport, transformation and bioaccumulation ability, they became an issue of concern.^{[4]⁴} Therefore, there is a need to address the supply chain systems with respect to POPs, mercury and other global contaminants and the generation of the waste in the two sectors.

Like the other countries participating in the Integrated Program, Cambodia, having construction and fast fashion sector driving the economy is also facing such types of environmental risks in the two sectors. Over the past two decades, Cambodia's economy has undergone profound structural changes, and the country is now one of the fastest-growing economies in the region^{[5]⁵} leading to a gradual decline in poverty rates and inequality^{[6]⁶}. Cambodia's Pentagon Strategy Phase I (2023-2028) and the Cambodian Industrial Development Policy (2015-2025) prioritize garment manufacturing and construction as the driving forces of the country's economic development^{[7]⁷} and anticipate that the industrial sector will maintain its growth momentum in 2024 at ~8.5%. Estimates from Statista project a revenue of US\$ 265.5 million in 2023 alone, with a Compound Annual Growth Rate (CAGR) of 2.87% between 2023-2027 in fashion sector. Online textile and fashion industry portal Fibre 2 Fashion also predicted a 9.2% industry growth in 2023, largely driven by external demand for affordable fast fashion products.^{[8]⁸} The Cambodia construction market size was \$11.6 billion in 2023. The market will achieve an average annual growth rate (AAGR) of more than 6% during 2025-2028 supported by investment in the transport, renewable energy, logistics, and residential sectors.^{[9]⁹} However, the fashion and construction supply chains are very resource and land-use intensive and result in the release of large amounts of chemicals, waste and GHGs, contributing to pollution, climate change, biodiversity loss as well as negative human health impacts. This in turn leads to increased health care costs, lost worker days and income. The major drivers of this problem are fast fashion and construction boom triggered by increase in global population and consumption. Other drivers responsible in Cambodia include inadequate infrastructure, limited domestic apparel industry and replacement of traditional construction methods by global techniques.

The textile sector accounts for almost 70% of Cambodia's export earnings and provides employment to ~800,000 textile and garment workers, of which around 80% are women aged between 16 and 25 who have migrated from rural areas^{[10]¹⁰}. Cambodia's garment exports are primarily divided into two categories: 70% are Cut, Make, Trim (CMT) products while the remaining 30% are products with slightly higher value-added features^{[11]¹¹}, which rely on textile imports from mostly China, Taiwan, Vietnam, South Korea and Japan to meet production needs^{[12]¹²}. Poverty reduction and Cambodia's transition to a lower-middle income country has been largely achieved through the creation of jobs in the textile sector. Production of cotton and other natural fibers is very low in Cambodia. There is also less backward integration to the textile manufacturing processes (yarn spinning, fabric manufacturing). So, Cambodia needs to depend on imports for raw materials and machinery. Only packaging is produced locally. In 2019, around 90% of the fabric was imported from other countries including the People's Republic of China and Vietnam. Cambodia is a significant exporter of apparel,

occupying a ~1% share in the global apparel trade. In 2019, the Textile & Apparel (T&A) exports of Cambodia stood at US\$ 8.5 bn, having grown steadily at a compound CAGR of 13% over the last ten years.^{[13]¹³}

The construction and buildings sector are Cambodia's largest energy consumer (~52%), with residential and commercial buildings consuming 80% of the sector's share^{[14]¹⁴}. In 2023, the sector contributed to the Cambodia's economy^{[15]¹⁵} of about USD 4,506 million, about 15%. The ongoing construction boom is expected to double energy consumption from buildings by 2040^{[16]¹⁶}. Cambodia is expected to soon graduate from its LDC status, losing some favourable conditions in exporting its textile and apparel products to major markets, especially the EU. Initiatives that may be perceived to increase costs (such as adoption of higher environmental and labour standards) may therefore face risks in gathering both private sector and government support. Cambodia has been promoted as an 'ethical producer' in the early 2000s^{[17]¹⁷}, but with the changes in export conditions a shift towards 'competitiveness in global production networks' is underway. To counter such risks, cooperation in a multi-country or regional programme such as the IP can help raise standards in a coordinated manner, for example through exchange of knowledge & best practices between the countries participating in the IP (India, Mongolia, Pakistan) and through the global child project. Furthermore, export markets such as EU, Japan and US are increasingly implementing policies to improve the environmental and health criteria for imported products, such as digital product passports and certification and ecolabel requirements. Cambodia must strengthen its capacity to test, monitor and control the import and use of products and materials containing hazardous chemicals, and tap into markets that require innovative (waste) materials and products.

In catalysing replacement of traditional construction methods and material and linearity of the supply chains in the two sectors with limited capacity and infrastructure. As a result, there is high volume import of 871,536 Tonnes^{[18]¹⁸} of potentially POPs containing fabric and high value construction products into Cambodia. These imported products are completed by locally produced products and materials which are not designed for circularity. Further, the production practices for fashion and construction products/materials are not clean. There is also limited market of innovative products based on waste material as well as both the limited scale sectors. These root cause and problems trigger negative environmental impacts of pollution GHG emissions and loss of biodiversity. Further, the associated health impacts like increased cancer risk, neurological, endocrine and respiratory effects, etc. are threatening the well-being of population.^{[19]¹⁹} The combination of negative environmental and health impacts lead to negative socio-economic impact and the deteriorating quality of life.^{[20]²⁰}

The use of hazardous chemicals in the fashion and construction value chains limit the widespread use of innovative and sustainable materials. Firstly, the lack of transparency on chemical use means that brands, construction companies, architects, civil society organizations and consumers cannot verify nor make informed choices on materials and products based on circularity and sustainability criteria. Secondly,

ineffective policies and poor enforcement hinder the creation of markets for (innovative) products and materials that do not rely on harmful chemicals. In both sectors, incentives for the adoption of sustainable manufacturing and end of life practices could help drive the market for sustainable practices, products and materials, such as through tax incentives, subsidies and regulatory measures. Thirdly, financial and other demand-side incentives do not promote sustainable materials and products. Figure 1 demonstrates the problem tree graphically.

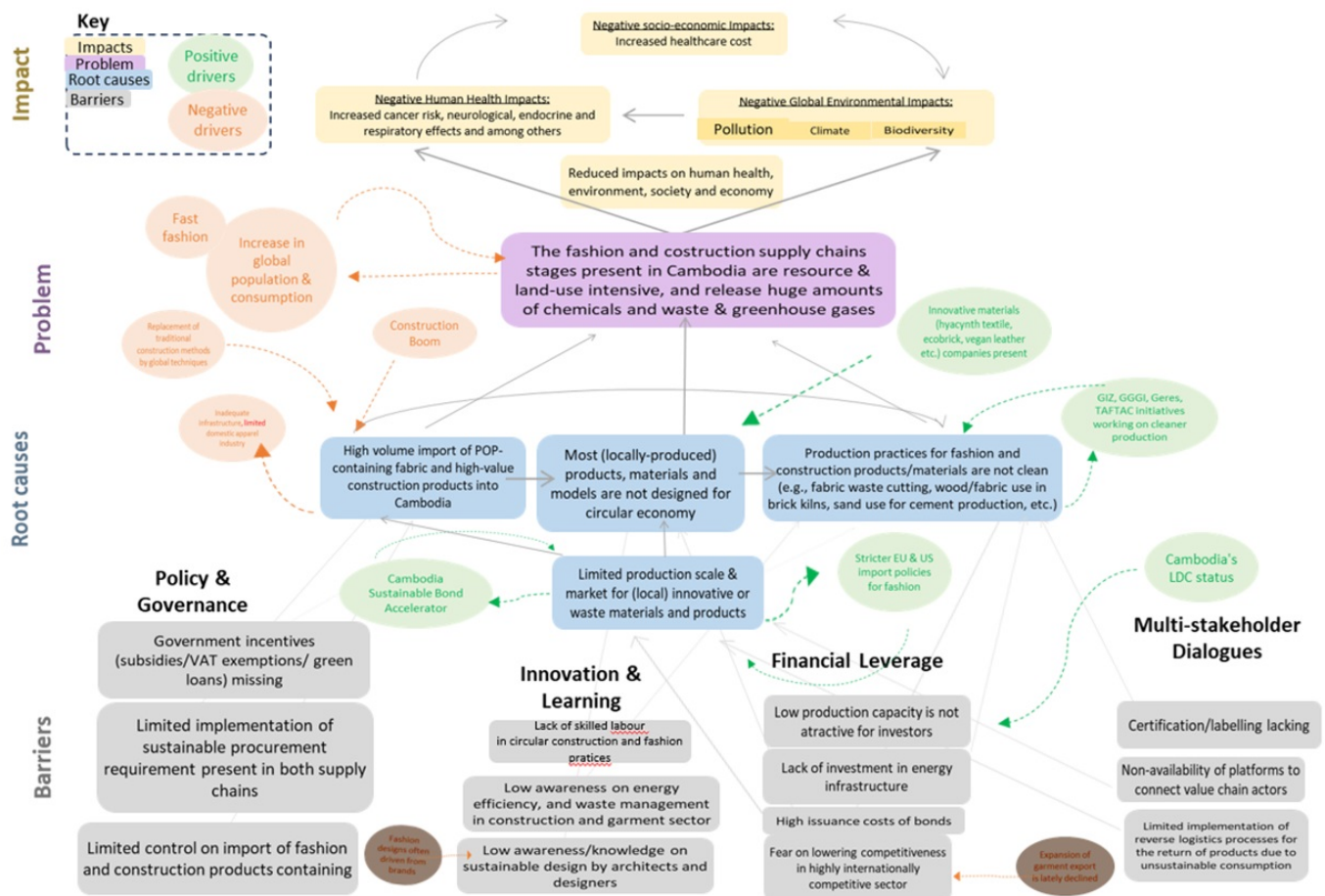


Figure 1: Problem Tree for the Cambodia child project

National Baseline

The following section provides an analysis of the baseline situation in relation to the project development. It provides an overall description of the common practices in the two sectors and their current environmental impacts as per the 'Root causes' in the problem tree above. Following this, an analysis of the four categories of barriers, which map to the IP Transformation Levers, is presented as they apply to both sectors. These are Policy & Governance, Innovation & Learning, Financial Leverage and Multi-stakeholder Dialogues.

Description, practices and environmental problems of the two sectors

Fashion Sector Impacts

Cambodia is the 9th largest garment producer in the world.[\[21\]²¹](#) As of 2018, there were a total of 625 garment exporting factories in the country employing 86% of the industrial labour force.[\[22\]²²](#) Compared to other countries in South-East Asia, the labour pool available to the garment sector in Cambodia is generally younger and cheaper than other countries. The garment industry in Cambodia is heavily CMT focused, relying on textile imports - predominantly from China, Taiwan, Vietnam, South Korea and Japan - to meet production needs.[\[23\]²³](#) In 2017, \$7 billion in garments (approximately 80% of total exports) were exported contributing around 40% to national GDP, 43% of garment exports in 2018 were to EU countries.[\[24\]²⁴](#)

The country's fashion sector relies on imported textiles and produces around 102,152 Tonnes of waste cuttings annually[\[25\]²⁵](#) from the cut, make and trim operations, and majority of this waste is synthetic material. In the fashion sector, biomass is almost exclusively used in boilers to generate thermal energy (steam) for processes such as ironing, washing, drying, colour dyeing, fabric relaxation. Next to wood (73%) some factories also use electricity 19% and fossil fuels (8%) such as HFO (heavy fuel oil), DO (diesel oil) and LPG[\[26\]²⁶](#) for steam generation. Wood, therefore, is the predominant boiler fuel, responsible for deforestation. About 0.8 million tonnes of firewood is used in the garment and brick-making industry.[\[27\]²⁷](#) This growing demand for

fuelwood is mounting pressures on existing forests. The annual consumption of fuelwood in Cambodia is about 6 million tonnes, equivalent to the annual loss of 71,600 hectares of deciduous forests.^{[28]²⁸} Data obtained from the Ministry of Environment indicates that 60% of all industrial waste in landfill comes from the garment industry, equating to around 90,000 Tonnes in 2019.

Innovative materials (hyacinth textile, eco-brick, vegan leather, etc.) are also present in the country as described in Appendix 5c on Stakeholder Engagement Plan. Further, there are two recycling companies in the textile sector. Recycler 1 is a cotton recycler and spinner. It focuses on 100% cotton recycling with a total capacity 1,000 tonnes/month. It produces pre-consumer waste recycled fibre for cotton and exports to China. It is operating since 2023 and is Global Recycled Standard (GRS) certified. Recycler 2 is a poly-cotton recycler with a total capacity of 500 tonnes/month. It recycles pre- and post-consumer waste for T2T or OEY spinning for home textile. It is GRS and Recycled Claim Standard (RCS) certified (India).^{[29]²⁹} AquaBuild is a sustainable building materials start-up using water hyacinths. They produce biodegradable green boards that can be used for various functions such as flooring, ceiling and wall decoration on buildings. This project will create opportunities for them to scale-up their innovation towards designing and development of sustainable products. Their influence will be critical to the project achieving its goals as well as system and market transformation in the sector within the country.^{[30]³⁰}

However, the fashion sector is the country's largest source of water pollution and is responsible for 69% of all hazardous waste generated^{[31]³¹}, which includes discarded cuttings and fabric, leather, rubber, raw material residues, printing ink, effluent treatment sludge and industrial wastewater. Textile waste is also used to fuel brick kilns on the outskirts of Phnom Penh to generate high temperatures, exposing brick makers and communities to unintentional POPs, heavy metals, chlorine bleach, formaldehyde and ammonia^{[32]³²}. The sector also contributes to significant GHG emissions from electricity consumption^{[33]³³} and the burning of fuel wood to generate heat and steam for ironing, washing and dyeing^{[34]³⁴}. Cambodia's garment factories consume ~300,000 Tonnes of fuel wood per year (~40% of the country's total consumption) resulting in the release of 368,000 Tonnes CO₂e. About 6.41 kg of wood is needed to produce 1 kg of charcoal. The biomass loss per year has been estimated to be ranging from 700,000 Tonnes

to 3,200,000 Tonnes per year.[35]³⁵ As most fuel wood (~70%) originates from forest conversion for agriculture or illegal harvesting, the garment industry could be considered responsible for the loss of ~3,500 hectares of forest each year. Initiatives to support sustainable forestry are well established in Cambodia, so linking these with the main industrial users of firewood is an essential step to promote the use of certified or legal logged fuel. Future phases of sustainable forestry and sustainable industrial development initiatives should ensure coordinated planning and implementation.

Women workers comprise over 90% of the garment sector labour force in Cambodia. The garment and footwear industries have provided many employment opportunities to Cambodia's young population, in particular from the rural areas. There is a strong industry preference for employing young women as sewing machine operators which form the bulk of the assembly line workers. These women are between the ages of 15 and 35 years, are less likely to be married compared to women in the general population. Workers living conditions were found to be poor.[36]³⁶ Another negative implication of the garment sector is related to worker's health and working conditions with garment workers reporting being exposed to air and water pollution, extreme heat, pests, floods, fires, etc. resulting in headaches, dizziness, tiredness, difficulty breathing and vomiting.

Construction Sector Impacts

Construction industry contributes 22% of the GDP of Cambodia. Residential, commercial office places and business centre dominate the construction sector in the country.[37]³⁷ It is estimated that a typical range of office floor area (three storeyed) in Phnom Penh is 300 to 1800 square metres with average floor area being 1000 square metres.[38]³⁸ Less than 1% buildings in Cambodia have been certified as green buildings as per the Cambodia Guidelines and Certification for Green Building (CamGCGB). The local construction sector sources raw materials like brick kiln, cement and grid from upstream suppliers within the country. There is no national data available on construction and demolition waste generated in Cambodia.

The brick and cement production sector contributes to significant GHG emissions. The annual fuel consumption in brick kilns is - 250 TJ or 1.4% of fabric waste; 10,557TJ or 58% of wood; 7,061TJ or 39% of Rice Husk; 135TJ or 0.75% of Coal; 74TJ or 0.41% of saw dust. About 26,670 tonnes of coal is believed to be used in industry sector, which is allocated to the cement

plant.[39]³⁹ Estimated 17.6 gTEQ/Kg of uPOPs[40]⁴⁰ are emitted from brick production per year. Use of textile waste containing toxic chemicals as a fuel further increases the health impacts on brick kiln workers[41]⁴¹.0.520 Tonnes of mercury are released by cement production.[42]⁴² No baseline information is available for amount of hazardous chemical containing materials used in construction and fashion sectors.

High water consumption, raw material use, land conversion, chemicals use, and emissions and the generation of construction and demolition (C&D) waste are additional challenges the sector is facing.[43]⁴³ Basic construction materials i.e., cement, clay bricks, PVC pipes, tiles, roof, cement blocks, timber, sand, gravel and fabricated metal products, are locally produced in Cambodia while modern products with higher added value are imported. The production of bricks and cement constitutes the core segments of the construction sector, which is expanding rapidly, boasting a CAGR of 21%. The brick industry in Cambodia (made up of an estimated 464 brick kilns[44]⁴⁴) is closely tied to the construction sector and produces approximately 500 million units per year. Each kiln produces on average 10,000 fired bricks a day through inefficient processes, often using rice husks, garment wastes and firewood to generate the required. The sector's growth has also created a high demand for cement (~10 Million Tonnes/yr). Cambodia's five cement kilns produce approximately 7-9 Million Tonnes annually with the remainder is being imported. Another challenge of the construction sector which causes significant health concerns is the use of asbestos. Following the outcomes of the Progress Report of the National Profile on Asbestos in Cambodia (2022), the Ministry of Labour and Vocational Training (MoLVT) and partners have committed to banning asbestos by 2025 under the third Master Plan on Occupational Safety and Health (2023-2027).

Women make up 30% of the country's construction workforce, yet they are often treated as inferior to their male colleagues. Women in Cambodia's construction industry face unsafe working environments, poor labour rights, unequal pay, sexual harassment and extremely long working hours. Female workers often do not have any personal identification or evidence of their employment.[45]⁴⁵

The German Development Agency (GIZ), Global Green Growth Institute (GGGI), Geres, Textile, Apparel, Footwear & Travel Goods Association (TAFTAC), International Labour Organization (ILO)

are some organizations with on-going initiatives on cleaner production, energy efficiency and sustainable consumption and production in either of the two sectors that have provided the foundation for the current project in Cambodia. Their interventions range from policy, regulatory interventions, sectoral reports to training and capacity building. These initiatives have addressed resource efficiency to some extent. However, the proposed project will address the identified gaps with reference to hazardous chemicals like POPs and uPOPs, with a focus on policy governance, innovations and learning, financial leveraging and multi-stakeholder partnership coupled with gender mainstreaming. It will take a synergistic approach building upon the foundation laid by all the involved organizations.

Analysis of the barriers or IP Transformation Levers

1. Regulatory Perspective and Policy Coherence

Numerous regulatory policies and standards are in place in Cambodia to address issues like energy efficiency in construction sector, and sustainable consumption and production in construction and fashion sectors. At the same time, there are gaps in regulations to deal with hazardous chemicals and waste management in the two sectors. These have been detailed out in the following sections.

Chemicals and waste

Cambodia is a signatory to the Basel, Rotterdam, and Stockholm (BRS) Conventions. However, at present there are no national policies to regulate the hazardous chemicals and waste covered by these multilateral environmental agreements. The initiatives undertaken and planned by the Cambodian government to address hazardous chemicals and waste management are listed below:

- There is a national level inter-ministerial technical working group for coordination of international conventions and agreements related to chemicals. Cambodia has a legal instrument called Prakas which is an interministerial decision, and draft Prakas No. 071 Br. K. B. Sth. gives the working group the mandate to ensure the coordination of all activities in the national framework related to participation of conventions, treaties, protocols, and international agreements related to problems and management of chemicals in order to prevent hazards caused by chemicals on public health and the environment.
- As a party to the Stockholm Convention, Cambodia plans to develop national regulations related to POPs through one of the following two scenarios: (1) An Act on hazardous chemicals management and/or Act on POPs with list of banned/restricted POPs in products/sectors ; (2) Standards/thresholds for hazardous chemicals and/or POPs specifically in each type of products.

Energy Efficiency in Construction Sector

Cambodia has different strategies, policies and guidelines in place focusing on energy efficiency in the construction sector. These are as outlined below:

- A draft Building Code focusing on energy efficiency, safety standards, green concepts, etc. has been developed by the Ministry of Land Management, Urban Planning, and Construction (MLMUPC). The building code checks compliance on building energy regulations including: conducting a design review that checks the energy requirements, ensuring on-site inspections at critical points in the construction process and at the end, implementing testing involving commissioning of equipment, considering post-occupancy evaluations (currently rarely mandatory), periodic monitoring and reporting, applying meaningful penalties for non-compliance, such as withholding design, construction or occupancy approval or using fines, and providing incentives to achieve beyond-code performance.
- The final draft of Cambodia Guidelines and Certification for Green Buildings (CamGCGB), Draft Prakas on CamGCGB implementation, Draft Prakas on establishment of a National Committee for Green Building Cambodia, and decision on the establishment of the Cambodian Green Building Technical Working Group is in place. The CamGCGB and associated prakas and technical working group is administered by the Ministry of Environment, and National Council for Sustainable Development (NCSD). The guidelines and certification scheme address energy and water consumption, and efficient use of natural resources related to buildings. Cambodian energy regulations encompass several key areas: the Regulation on Installation and use of Rooftop Solar Photovoltaic (PV) (March 2024), Regulations on General Conditions for Connecting Solar PV Generation Sources to the National Grid or to Consumer Electrical Systems, and Regulations on General Principles for Regulating Electricity Tariffs. The latter ensures a fair balance between supplier and consumer interests under the Electricity Law. Additionally, the National Energy Efficiency Policy 2022-2030 aims to transform energy consumption, fostering sustainable development.
- The Cambodia National Cooling Action Plan (2022) targets building space cooling, food and healthcare cold chains, mobile air conditioning, and process cooling.

Sustainable Consumption and Production

Cambodia's Roadmap for Sustainable Consumption and Production 2022-2035 has been prepared by the Ministry of Environment. As per the roadmap:

- Draft sub-decree on Eco-label for different product groups has been drafted and consulted with inter-ministerial committee as well as industrial stakeholders.

The eco-labelling scheme envisages to have two standards, one on Quality standard and the other on Environmental Standard. The eco-label standards have been drafted in view of the EU restriction of Hazardous Substances (RoHS).

2. Finance and investment

Cambodia's capital market is still evolving. In March 2023, the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), GGGI and the Securities and Exchange Regulator of Cambodia (SERC), in collaboration with the Credit Guarantee and Investment Facility (CGIF) and GuarantCo, part of the Private Infrastructure Development Group, launched the Cambodia Sustainable Bond Accelerator. The Accelerator aims to facilitate the issuance of green, sustainable, or sustainability-linked bonds in Cambodia by providing technical assistance and financial support. Its overarching goal is to channel financing toward green, sustainable, and net-zero projects in the country, aligning with its climate priorities. Through a blend of technical support, capacity building, and advisory services throughout the issuance and post-issuance phases, the initiative seeks to: improve issuers' compliance with international thematic and sustainability-linked bond standards, encourage climate-focused investments while combatting greenwashing, stimulate issuers' interest in transitioning from traditional to thematic and sustainability-linked bond issuance, and reduce issuance costs while bolstering Cambodia's debt market. The priority sectors include energy, smart agriculture, clean transportation, and green buildings.^[46]⁴⁶

3. Partnerships and multistakeholder dialogues

Numerous partners are actively engaged in initiatives targeting the fashion and construction sectors in Cambodia.

- GIZ, through its funded FABRIC project, endeavours to facilitate the shift towards improved social and environmental practices in the textile industry. This includes advocating for workers' rights, fostering regional knowledge exchange via digital platforms, and enhancing awareness of eco-friendly sourcing and production methods through digital Climate Action Trainings.
 - The EU-sponsored Switch Garment project focuses on reducing sustainable energy costs within Cambodia's garment sector to enhance competitiveness. Working in tandem with TAFTAC and Geres, the initiative utilizes regulatory measures, market incentives, and technological and financial solutions to drive progress.
 - The Model Green Factory Program (MGFP) is developed by EU-Switch Garment project team as a regulatory guideline document and a voluntary supporting tool to TAFTAC member factories
-

for going green. MGFP aims at guiding factories in the garment industry become greener by introducing sustainable energy interventions, sustainable waste management, gender, and social inclusion. This voluntary program will commence with piloting energy component first which will eventually encompass the sustainable use of resources including management of waste and water in the garment industry. This guiding document will help the relevant stakeholders in implementing the MGFP led by TAFTAC in collaboration with Cambodian Garment Training Institute (CGTI).

- ILO's Better Factories program operates in Cambodia to enhance working conditions in export garment factories through independent monitoring, training, and advisory services.
- United Nations Industrial Development Organization (UNIDO) spearheads projects in Cambodia to bolster industrial sustainability and resource efficiency through the implementation of environmentally sound technology.
- As part of the Partnership for Action on Green Economy (PAGE), Cambodia collaborates with various agencies to promote sustainable practices and green job opportunities within the garments value chain, synergizing efforts with ILO, UNIDO, and GIZ.
- Representing the fashion and construction sectors are industry associations like TAFTAC, EuroCham Cambodia, Board of Engineers Cambodia (BoEC), Board of Architects (BAC), and Architects Association of Cambodia.
- Key private sector entities include Chip Mong Insee Cement Corporation (CMIC), championing sustainability in the construction supply chain, and Shun Wei Fang Zhi Ke Co., Ltd., specializing in textile recycling to mitigate environmental impacts.
- Moreover, Cambodia boasts numerous startups and circular businesses detailed in subsequent sections, contributing to industry sustainability.
- Lastly, various initiatives, such as the Women Empowerment (WE) House, LABs Initiative, and Platform for Accelerating the Circular Economy (P.A.C.E.) program, focus on labour rights, gender equality, and workforce inclusivity in the fashion and construction sectors, offering training and support to workers.
- Ministry of Industry, Science, Technology and Innovation (MISTI) has a Green Industry Award to promote inclusive and sustainable industrial development, incentivizing and rewarding the effort of factories adopting environmentally friendly approaches, especially for women-led businesses.

More information is available in Appendix 5c on Stakeholder Engagement Plan and Appendix 5a and 5b on Gender Action Plan and Analysis.

4. Innovations and learning

In Cambodia, there are multiple businesses within fashion and construction industries focused on advancing their supply chains towards more sustainable and greener operation, by employing circular business models and innovative materials.

Samatoa Lotus Textiles manufactures innovative textiles made of lotus stems using Khmer traditional spinning and weaving technics. They aim to produce Lotus Leather, an innovative vegan leather made of biodegradable materials and vegetal waste. Tonlé Studio is a zero-waste clothing line which reuses garment waste from factories in Cambodia, as well as uses natural dyes, 80% of which come from edible ingredients, such as soy milk and lemon. Studio Dorsu manufactures and exports cotton jersey garments made from remnant and deadstock fabric left over from the garment industry in Cambodia. Likewise, Good Krama produces sustainable fabric from leftover and over-ordered fabrics from local warehouses and reuse them preventing them from entering landfills.

In the construction sector, the Eco-bricks company produces bricks by using 5 to 10 Tonnes of plastic waste per month that is mixed with other raw materials, with every brick using 2kg of plastic. Their bricks last up to 50 years and are five or six times as strong as ordinary bricks, as was tested and verified by the Cambodia Institute of Technology (ITC). Another example is R&S Steel Cambodia Co. Ltd., which is launching fiberglass steel. This material has double the strength of steel, as was verified by the Cambodia ITC, thereby opening new possibilities for structural applications that offer resilience and versatility.

The development of some innovative fashion and construction materials is still in the start-up stage. For example, the Mushroom R&D Kh start-up seeks to introduce a circular model by recycling textile waste into mushroom leather for sustainable fashion. Another example is a company called AquaBuild, which produces sustainable building materials crafted from water hyacinths, such as biodegradable green boards that can be used for flooring, ceiling, and wall decoration on buildings' interior designs.

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B. CHILD PROJECT DESCRIPTION

This section asks for a theory of change as part of a joined-up description of the project as a whole, including how it addresses priorities related to the specific program, and how it will benefit from the coordination platform. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the guidance document. (Approximately 3-5 pages) see guidance here

The Supply Chains IP aims to achieve system transformations at all stages in the fashion and construction value chains by addressing four transformation levers, namely policy and governance, finance, partnerships and as well as innovation and learning.

Through the adoption of circular business approach (**Component 1**), it aims to trigger green building certification and ecolabelling in the two sectors with associated technical requirements of sustainable materials, financial incentives and marketing. This component maps to the IP components 1 and 2 on sustainable business models, and on increasing sustainable sourcing of alternative materials.

This will also be supported by cleaner production (**Component 2**) practices and interventions and post-use 9Rs consisting of implementation of circular reverse logistic system and its institutionalization (**Component 3**) in the fashion and construction supply chain, which map to the IP components 3 and 5 respectively. Since Cambodia is connected to other IP participating countries through their shared supply chains (e.g. key importing countries or suppliers of raw materials and inputs to both value chains), and global actors who influence the value chains, the sustainable sourcing and import controls in Component 1 of the national project will also address the consumption value chain stage (Component 4 of the IP).

During Year 3 of the project, a mid-term review/evaluation will be conducted. At the project's conclusion, terminal monitoring and evaluation (Component 4) will assess project accomplishments and extract key insights. Additionally, quarterly progress and financial reports, annual project implementation reports, gender monitoring reports, and GEBs estimation reports will be generated. Annual meetings of the Project Steering Committee and National Working Group will occur, where annual workplans and revised budgets will be prepared and approved. An overview of the structure of the project is captured in the theory of change below in Figure 2.

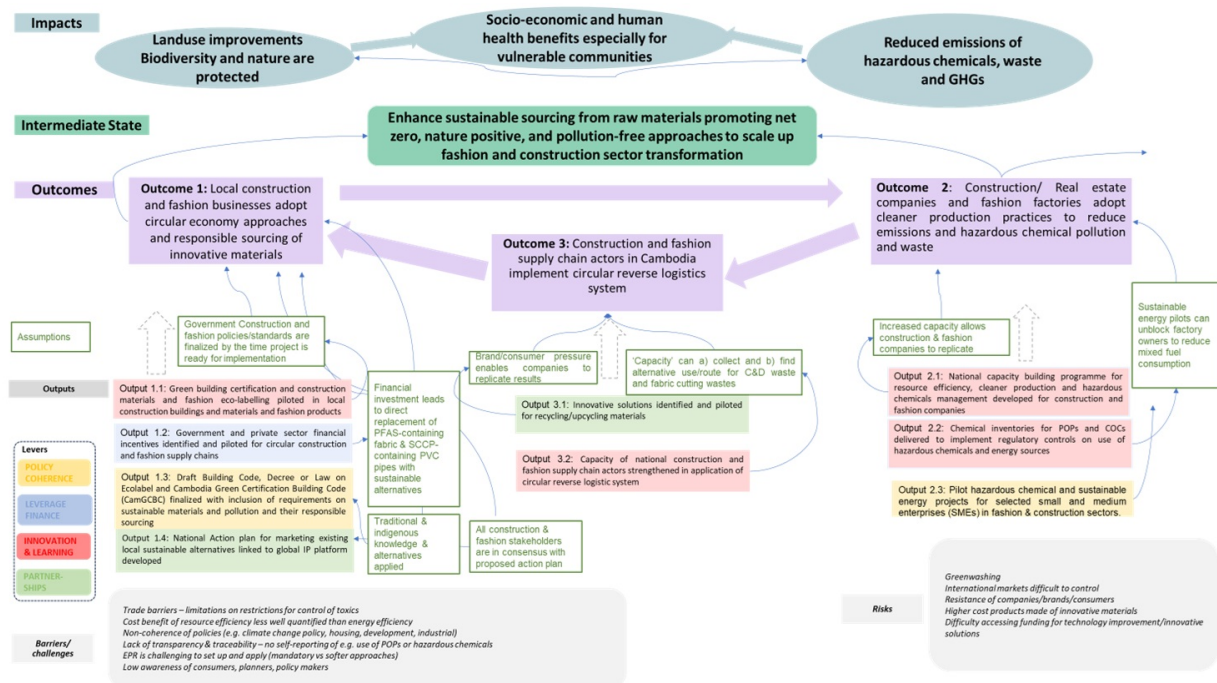


Figure 2: Theory of change for the Cambodia child project

Alternative Scenario

The following sections outline the project components, outcomes, outputs and activities planned to sustainably transform the fashion and construction supply chains.

The project's overall objective is to promote sustainable sourcing of raw materials, advancing net-zero, nature-positive, and pollution-free practices to drive transformation in the fashion and construction sectors. Key success indicators (the GEBs) include the area of landscapes under improved practices, greenhouse gas emissions mitigated, reduction in chemicals of global concern and their waste, decrease in persistent organic pollutants to air, and the number of people benefiting from GEF-financed investments, disaggregated by gender. The IP Programmatic Indicators are: 3A - GEBs on hazardous chemical use, GHG, biodiversity and land degradation, and 1B - Amount/value of innovative materials sourced by companies.

The end-term targets at objective-level encompass enhancing biodiversity through 1696 hectares of improved landscape management, achieving 65,320 hectares of sustainable land management in production systems, reducing 282,683 Tonnes of CO₂e of direct and 2,530,000 Tonnes of CO₂e of indirect emissions. These benefits will be achieved by removing 213 Tonnes of SCCP-containing PVC pipes and 9,080 Tonnes of PFAS-containing fashion waste, reducing 0.104 Tonnes of mercury from brick production, minimizing 12,258 Tonnes of residual plastic waste and 17.10 gTEQ/kg of POPs to air, and benefiting 95,000 people including 63,498 women and 31,501 men.

Assumptions for the targets include: About 10% of fashion waste generated will contain Per- and polyfluoroalkyl substances (PFAS), while 2% of imported fabric will contain PFAS; synthetic fabric cuttings will constitute 60% of total fabric cuttings, and 30% of textile waste will be incinerated; a 40% reduction in the use of materials such as PVC, cement, concrete, and bricks will lead to a corresponding decrease of 40% in harmful sand mining practices and the area affected by sand mining; enhanced construction practices will positively impact 20% of the built environment area; decreasing energy utilization of fly ash can potentially cut greenhouse gas (GHG) emissions by 35%; there will be a 20% annual reduction in unintentionally produced persistent organic pollutants (uPOPs) released from brick production; project interventions will lead to a decrease in hazardous chemical and waste exposure for 10% of individuals employed in both sectors. Risks involve potential delays in project interventions and benefits, as well as challenges related to detecting certain harmful substances in tested materials through laboratory analysis.

The targets will be achieved through the three substantive outcomes: (i) Fashion and local construction businesses embracing circular economy approaches and responsible sourcing of innovative materials; (ii) Fashion factories along with construction and real estate firms, adopting cleaner production methods to minimize emissions and hazardous chemical pollution and waste; (iii) Implementation of circular reverse logistics systems within the fashion and construction supply chains in Cambodia. Every outcome of the project will incorporate gender-responsive awareness initiatives, capacity-building exercises, and training activities. Additionally, technical tools and knowledge products will be developed to disseminate among project participants and broader stakeholders to encourage replication. Key stakeholders will include the relevant ministries like Ministry of Industry, Ministry of Land Management, Ministry of Tourism, Urban Planning & Construction, Ministry of Commerce, partner and other international organizations like GGGI, GIZ, UNIDO, and industrial associations and private sector like TAFTAC, fashion and construction recycling/upcycling companies, and cement and brick manufacturers.

Component 1: Circular Economy Approaches and Responsible Sourcing of Materials

Outcome 1: Local construction and fashion businesses adopt circular economy approaches and responsible sourcing of innovative materials.

This outcome aims to ensure the certification of at least 5 construction and 8 fashion companies under the new green building certification, alongside the adoption of construction materials and fashion eco-labelling schemes by the project's conclusion. Additionally, it targets avoidance of 213 Tonnes of PVC pipes containing Short-Chain Chlorinated Paraffins (SCCPs). Moreover, a total of 95,000 individuals, comprising 63,500 women and 31,501 men, will experience reduced exposure to hazardous chemicals and waste.

The assumptions made for the outcome are as follows: There is strong inclination among **fashion and** construction entities towards embracing circular reverse logistics systems which is a key driver for the project. Furthermore, companies are increasingly incorporating sustainability into their annual reporting, inclusive of circularity and progress towards Sustainable Development Goals (SDGs). The piloting of **eco-labelling schemes for fashion & construction items/ products and** Green Building certification for construction materials in Cambodia is expected to curtail the use of concrete/sand, consequently mitigating harmful sandmining practices and reducing sand-mined area by 40% by Year 6. Enhanced construction practices within the built environment are anticipated to benefit 20% of the total construction area from Year 3 to Year 6. About 48% of PVC pipes utilized in Cambodian buildings are contaminated with Short-Chain Chlorinated Paraffins (SCCPs), with an SCCP content of 8% w/w. Collective outcome interventions will reduce energy consumption by 29% and greenhouse gas (GHG) emissions by 25%. There is a targeted annual reduction of 20% in unintentionally produced Persistent Organic Pollutants (uPOPs) emanating from brick production from Year 3 to Year 6. Moreover, it's assumed that 10% of individuals employed in both sectors will experience reduced exposure to hazardous chemicals and waste due to project interventions.

Potential risks associated with the project outcome are: (i) The potential for delays in the finalization of the green building code and ecolabelling scheme; Potential failure of sampling laboratory analyses to detect the presence of Short-Chain Chlorinated Paraffins (SCCPs), Per- and polyfluoroalkyl substances (PFAS), and plastics in tested materials like PVC pipes, fashion waste, and fabrics.

The outcome 1 will be achieved by below given outputs.

Output 1.1: Fashion and construction eco-labelling schemes and green building certification and construction materials piloted in fashion and local construction buildings and materials.

This output aims to have 5 policies endorsed and implemented by national governments, including a Building Code, a Cambodian Green Construction and Green Building (CamGCGB) standard, regulations for CamGCGB implementation, establishment of a National Committee for **fashion sectors and** Green Building in Cambodia, and an eco-label scheme for **both the fashion and** the construction sectors by Year 6. The other goal is to have certification pilot for 20 buildings, 2 construction materials, and 4 fashion products completed according to the new standards. Assumptions include the finalization of the Building Code, CamGCGB, and eco-labelling schemes for **fashion and** construction sectors will be done during the project implementation. The utilization of traditional and indigenous knowledge and alternatives will be

employed. Risks involve potential delays in finalizing **eco-labelling scheme and** the Building Code, CamGCGB, as well as challenges in identifying suitable buildings for intervention.

Initial implementation of the **eco-labelling schemes for fashion and construction including** green building certification will be done for **fashion and building** products of gender **balanced** construction and fashion companies. Awareness and capacity building will be carried out for the new policies/schemes based on identified gaps.

The organizations to be sub-contracted by MoE, Cambodia to execute the output activities for the **fashion and construction sector**s will be decided during the project inception phase. The implementation will be done in coordination with relevant ministries like Ministry of Land Management, Ministry of Tourism, Urban Planning & Construction, Ministry of Commerce, Ministry of Industry, and organizations like TAFTAC and UNIDO.

The output will be delivered through the following activities.

Activities

- 1.1.1. Review existing international audit/certification and eco-labelling schemes that Cambodian fashion and construction sector producers/companies have to comply with and support the national government in finalising the national eco-labelling and green building schemes that builds upon on the international schemes (either adopting the same category criteria or elements of them).
- 1.1.2. Carry out Life Cycle Assessment (LCA) of current and potential alternative materials. This will guide: a) what processes are most environmentally polluting (and needs to be changed. This would also inform and contribute to Outcome 2 on resource efficiency); and b) what could be suitable alternative materials to further lower the products' environmental impact.
- 1.1.3. Develop gender-responsive criteria for selection of fashion products and buildings that will be assisted in achieving certification.
- 1.1.4. Identify three different fashion products and three different buildings/construction products of gender-balanced companies for initial application e.g. commercial(market)/tourism, MoE buildings, housing, based on criteria developed in Activity 1.1.3 and develop action plan for implementation.
- 1.1.5. Pre-implementation Environmental Audit/Resources efficiency Audit/ Energy Audit of factories of **fashion and construction** sector for implementation of ecolabelling.
- 1.1.6. Support implementation of **eco-labelling schemes and** green building certification for identified **fashion products or export and** buildings and **f.**
- 1.1.7. Post-implementation Environmental Audit/Resources efficiency Audit/ Energy Audit of factories of certified and ecolabel **fashion products and** buildings to identify the gaps in implementation of criteria/guidelines for ecolabelling.
- 1.1.8. Awareness, capacity building and implementation support for **fashion and building** sectors policy or programme based on identified gaps, including targeting women-owned or led businesses for support.
- 1.1.9. Promote certification in SMEs and facilitating the certification of each targeted company.

-
Output 1.2: Government and private sector financial incentives implemented for circular **fashion and construction supply chains.**

- The output aims to have 4 sustainable financing schemes or mechanisms implemented for both sectors, either adopted by the national government or subscribed to by the private sector, along with 4 investors sensitized or identified by Year 6. Assumptions include the incorporation of sustainable financing schemes or mechanisms within government standards and schemes for eco-labelling in the fashion and construction sectors and green building, as well as the dissemination of information on the benefits of these schemes to prompt adoption. Risks involve the possibility that disseminating information on the benefits of sustainable financing schemes may not effectively drive adoption, and that the adoption process itself may be too complex or time-consuming, with costs outweighing benefits and failing to attract subscribers.

The output activities will include identification of gender-balanced start-up fashion and construction companies practicing circular approaches and facilitating such companies receiving identified financial incentives.

The organizations to be sub-contracted by MoE, Cambodia to execute the output activities for the fashion and construction sectors will be decided during the project inception phase. The implementation will be done in coordination with Banks, Ministry of Finance and Economy, Ministry of Industry, Ministry of Urban Planning, Ministry of Women Affair, Ministry of Mines and Energy, Electric Authority of Cambodia (EAC), TAFTAC, and UNIDO.

Activities

- 1.2.1. Identify government and private sector financial incentives like reduced taxation/ subsidies/solar feed-in tariff policy for market transformation of the identified fashion and construction materials/products.

1.2.2. Support to include cost rates for innovative materials within the government schedule of public procurement rates and support implementation of identified financial incentives by national government.

1.2.3. Promote gender-balanced startup companies/enterprise as part of Activity 1.2.2 (identification of gender-balanced start-up fashion and construction companies practicing circular approaches and facilitating such companies receiving identified financial incentive).

Output 1.3: Decree or Law on Ecolabel, Draft Building Code, and Cambodia Green Certification Building Code (CamGCBC) finalized with inclusion of requirements on sustainable materials and pollution and their responsible sourcing

- The success indicators for this output will be measured by the number of technical criteria established for the responsible sourcing of sustainable materials. The output aims to ensure that one Law on Ecolabel, Building Code, Decree, or CamGCBC sufficiently incorporates technical requirements regarding sustainable materials and pollution, including their responsible sourcing, by Year 6. Assumptions include that the Law on Ecolabel or Building Code or CamGCBC encompasses an adequate range of sustainable materials, and that these codes and certification schemes are receptive to and will adopt recommendations proposed by the project. It is also assumed that traditional, indigenous knowledge, and alternative materials are locally available and relevant for mainstream use through the aforementioned regulations. Additionally, it is assumed that the sustainability reporting mechanisms of companies include information on hazardous chemicals and waste. Risks include potential delays in finalizing the Law on

Ecolabel or building code or CamGCBC certification or reluctance from fashion and construction companies to adhere to the technical requirements for sustainable materials, and the possibility that sustainability reporting mechanisms of companies may lack inclusion of hazardous chemicals and waste.

The organizations to be sub-contracted by MoE, Cambodia to execute the output activities for the construction and fashion sectors will be decided during the project inception phase. The implementation will be done in coordination with relevant stakeholders like Ministry of Industry, Ministry of Land Management, Ministry of Urban Planning and Construction, TAFTAC, UNEP, UNIDO, and ChipMong.

Activities

- 1.3.1 Identify all the sustainable materials (e.g. fly ash utilisation) and pollution related criteria and their source (Local/ Imported) along the products' life cycles and using a life cycle approach or existing tools like USEtox, which may be addressed in building code or decree/law on Ecolabel (e.g. requirements of the Cambodia environmental code, Law on construction, ecolabel law, etc.) (linked to Activity 1.2.1).
- 1.3.2 Develop for adoption by national government, the criteria or guidelines for responsible sourcing (Local/ Imported) of selected materials based on locally applicable international best practices including the UN standard protocol for textiles product to increase traceability and transparency along textiles value chains developed by United Nations Economic Commission for Europe (UNECE).

Output 1.4: Action plan for marketing existing local sustainable alternatives linked to global IP platform developed, adopted and implemented by national stakeholders.

The success indicators for this output will be measured by the number of national action plans developed for marketing existing local sustainable alternatives in fashion and construction supply chains within Cambodia. The objective is to have 1 national action plan implemented by the national government for both fashion and construction supply chains by Year 6. Assumptions include the consensus of all stakeholders within the fashion and construction supply chains with the proposed national action plan, as well as the establishment of a Global IP platform by the global coordination project at the time of drafting the national action plan. Risks entail the lack of consensus among stakeholders regarding the proposed national action plan, the absence of a Global IP platform established by the global child project during the drafting phase of the national action plan, and delays in reporting to the national government by supply chain stakeholders.

The output will include developing of gender-responsive awareness raising training module and action plan on POPs containing items for interior designers and fashion companies.

The organizations to be sub-contracted by MoE, Cambodia to execute the output activities for the fashion and construction sectors will be decided during the project inception phase. The implementation will be done in coordination with relevant stakeholders like Construction Industry Association, TAFTAC, Ministry of Industry, Ministry of Land Management, UNEP and UNIDO.

Activities

- 1.4.1 Work with industry (Local or global with local presence) association(s) representing all supply chain actors to develop an action plan and platform for marketing local sustainable materials and the mechanism for its implementation.
- 1.4.2 Support national government and other stakeholders in implementation of action plan e.g. events (national/international participation) in collaboration with global IP and other international platforms.
- 1.4.3 Develop gender-responsive awareness raising training module and action plan on POPs containing items for interior designers and fashion companies.

Component 2: Cleaner Production

Outcome 2: Fashion factories and construction/Real estate companies adopt cleaner production practices to reduce emissions and hazardous chemical pollution and waste.

The indicators of success for this outcome will be measured by the number of beneficiaries in both sectors (companies/factories) adopting best practices and technologies in cleaner production, as well as the reduction and avoidance of chemicals and wastes. The outcome aims to have at least **10 fashion and 10 construction** companies/factories transition to cleaner production methods. Additionally, the target includes sustainable land management covering an area of 2,800 hectares, with a direct avoidance of 94,227.6 Tonnes of CO₂e emissions over a 6-year accounting period starting from Year 1. Other targets involve the removal or disposal of 3,480 Tonnes of PFAS containing imported fabric, a reduction of 0.104 Tonnes of mercury, and a decrease of 16.5 gTEQ/kg of POPs emitted into the air.

Assumptions include the efficient rollout and implementation of project interventions focusing on energy efficiency and cleaner production practices. It's also assumed that companies are willing to transition to cleaner and sustainable production practices. Additionally, it's assumed that companies/factories publish annual sustainability reports that include information on circularity and progress towards Sustainable Development Goals (SDGs). Regulatory controls on non-renewable energy sources and piloting sustainable energy projects are expected to reduce firewood use and preserve forest area by 20% annually from Year 3 to Year 6. Other assumptions involve the presence of PFAS in fashion waste and imported fabrics, collective project interventions reducing energy consumption by 29% and GHG emissions by 25%, a 20% annual reduction in unintentionally produced POPs from brick production, and 30% of textile waste being burned.

Risks include slow adoption of cleaner production and energy-efficient practices, barriers in financing and time required for adoption, and the potential failure of sampling laboratory analyses to detect certain chemicals in tested materials and products.

The outcome 2 will be achieved by below given outputs.

Output 2.1: National capacity building programme for resource efficiency, cleaner production and hazardous chemicals management developed and implemented for **fashion and construction companies.**

The effectiveness of this output will be evaluated based on several key metrics: the number of technical tools developed, the number of end-users/beneficiaries trained, and the percentage of beneficiaries disaggregated by gender. The overarching goal is to implement 1 action plan (for resource efficiency and cleaner production training) by the national government for **fashion and construction** companies by Year 6. Additionally, the target is to train a minimum of 95,000 individuals by Year 6, with an aim to include 63,498 women and 31,501 men in this training initiative.

It is assumed that **fashion and construction** chain stakeholders are willing and motivated to participate and deliver the inventory, capacity-building mechanisms (including the development of technical tools), and proposed action plan. Moreover, it is assumed that all supply chain actors possess and are willing to share available data on hazardous chemical use and raw material sourcing. However, risks include the possibility that not all supply chain actors possess or are willing to share data on hazardous chemical use and raw material sourcing, disagreements among construction and fashion chain stakeholders regarding the inventory, technical tools, and proposed action plan, delays in reporting to the national government by supply chain stakeholders, and potential barriers related to financing and time constraints for implementing the action plan and capacity-building mechanism. These are addressed through other outputs, notably Output 2.2 on regulatory measures.

The organizations to be sub-contracted by MoE, Cambodia to execute the output activities for the construction and fashion sectors will be decided during the project inception phase. The implementation will be done in coordination with relevant stakeholders like **Ministry of Industry**, Ministry of Land, Ministry of Planning and Construction, Construction Industry Association, TAFTAC, UNEP, UNIDO, SMEs e.g. brick/cement industries.

Activities

- 2.1.1 Identify fashion and construction sector manufacturing companies that directly import and buy chemicals (plastic pellets or dyes or pipes and other products, upholstery, carpets, paints, floor tiles, etc.) and develop hazardous chemical use and raw material sourcing inventory (link to Output 1.3) and hazardous chemicals management plan including replacement of hazardous chemicals using LCA approach and existing tools such as USEtox.
- 2.1.2 For fashion and construction sectors, adapt existing tools and training materials like GIZ cleaner production training manual/standard operating procedures (SOPs)/code of conduct and USEtox in the context of resource to reduce emission and hazardous chemical pollution and waste in line with national policies/standards and develop action plan for adoption by fashion and construction companies
- 2.1.3 Identify relevant national stakeholders and build their capacities to implement the hazardous chemicals management plan for two groups of chemicals of concern (CoC) identified based on country-specific GEBs, and the resource efficiency and cleaner production training action plan.

Output 2.2: Regulatory controls developed on use of hazardous chemicals and energy sources.

This output aims to establish regulatory support to improve chemical and energy management practices across the whole industry sectors.

Certain assumptions underlie this objective namely that regulations and standards regarding the prohibition or control of Persistent Organic Pollutants (POPs) and feasibility studies will be completed by the time the proposed project is set for implementation. Risks associated with this endeavour include potential delays in finalizing POPs regulations and standards, as well as completing feasibility studies. Additionally, there is a high risk due to the necessity of regularly revising standards, given that the project's duration spans only six years.

The organizations to be sub-contracted by MoE, Cambodia to execute the output activities for the **fashion and construction** sectors will be decided during the project inception phase. The implementation will be done in coordination with relevant stakeholders like TAFTAC, UNEP, UNIDO, Ministry of Industry, Ministry of Planning, Ministry of Land Management, Ministry of Energy, Electricity Authority of Cambodia.

Activities

- 2.2.1 Development of draft regulation for banning/controlling use of POPs and in conducting stakeholder consultation for finalising the draft regulations
- 2.2.2. Development of draft standards for controlling use of POPs in line with drafted regulation and conducting stakeholder consultation for finalising the draft standards.
- 2.2.3. Support Ministry of Energy in conducting feasibility study to develop incentives (tariff vs subsidy) and mechanism for promoting use of solar PV in textile industries.
- 2.2.4. Based on feasibility study results, support Ministry of Energy in implementation of enforcement plan for existing renewable energy regulations.

Output 2.3: Pilot hazardous chemical and sustainable energy projects for selected small and medium enterprises (SMEs) in fashion & construction sectors.

The success of this output will be assessed by the number of best practices (pilot projects) developed. The objective is to have a minimum of **8 fashion and 4 construction** small and medium enterprises (SMEs) pilot sustainable energy projects.

Several assumptions underlie this objective. Firstly, it is assumed that the project interventions will begin to demonstrate impact by Year 3 for the **and fashion and construction** SMEs, with these figures expected to double by Year 6. Secondly, it is contingent upon the willingness of **fashion and construction** SMEs to engage in piloting sustainable energy projects. Additionally, it relies on SMEs either publishing annual sustainability reports or incorporating sustainability, including chemical reporting, into their annual or sustainability reports. Furthermore, if such reports are produced, they are expected to encompass information on circularity and progress towards Sustainable Development Goals (SDGs).

However, there are associated risks. These include the possibility of higher operating costs for the pilot projects, slow adoption of sustainable energy practices by the SMEs, potential fluctuations in the number of participating SMEs during project implementation, reluctance of SMEs to publish annual hazardous chemical reports or sustainability reports, and the risk that if such reports are published, they may lack comprehensive information on circularity and progress towards SDGs.

Awareness raising will be carried out for piloted projects in selected cement, brick and textile manufacturing SMEs.

The organizations to be sub-contracted by MoE, Cambodia to execute the output activities for the **fashion and construction** sectors will be decided during the project inception phase. The implementation will be done in coordination with relevant stakeholders like TAFTAC, UNEP, UNIDO, ChipMong, Ministry of Industry, Construction Industry Association, Brick manufacturers.

Activities

- 2.3.1 Identify the pilot projects and the types of intervention for SMEs to reduce, replace or eliminate use of existing hazardous chemicals and energy source materials based on assessments/GEBs (link to uPOPs, mercury and biodiversity GEF indicators).
- 2.3.2 Mapping and identification of SMEs and chemicals used including POPs and COC suppliers and develop the inventories of COC/alternative materials in fashion and construction sectors.
- 2.3.3. Develop financing options analysis and business plan for identified pilot projects in **textile and construction companies** (finance; link to output 1.4 and output 1.2).
- 2.3.4 Facilitate pilot identified projects **in selected textile, cement, and brick** manufacturing SMEs and also their brand clients along with awareness raising.
- 2.3.5 Conduct post-implementation assessment of pilot projects and develop recommendations/lessons learned for replication in the country e.g. GEBs/local environmental benefits/ costs vs. Incentives (link to M&E component).

Component 3: Post-use 9Rs

Outcome 3: Fashion and construction supply chain actors in Cambodia implement circular reverse logistics system.

The success of this outcome will be evaluated through several key metrics: the number of companies/brands/manufacturers implementing circular reverse logistics systems, and the amount of chemicals and waste reduced and avoided. The target is to have a minimum of **10 fashion and 10 construction** companies/brands/manufacturers implement circular reverse logistics systems.

Several assumptions underlie these goals. It's assumed that companies/brands/manufacturers may be initially reluctant to adopt circular reverse logistics systems. Furthermore, it's contingent upon these entities to publish annual sustainability reports or include sustainability in their annual reports, with a requirement that such reports encompass information on circularity and progress toward Sustainable Development Goals (SDGs). Innovative solutions like alternative material eco-bricks are expected to reduce sand usage in brick making by 1% by Year 6.

Various risks are associated with these assumptions, including potential fluctuations in the number of companies/brands/manufacturers implementing circular reverse logistics systems, reluctance of these entities to adopt such systems, the possibility of non-disclosure of sustainability efforts in annual reports, and the risk that laboratory analysis may not detect certain harmful substances in tested materials and products.

The outcome 3 will be achieved by below given outputs.

Output 3.1: Innovative solutions identified and piloted for recycling/upcycling materials including reverse logistics.

The assessment of this output's effectiveness will rely on the number of best practices (innovative solutions) implemented. The goal is to identify and implement 4 best practices in the **fashion and construction** sectors by Year 6. An assumption is made that innovative solutions, such as utilizing recycled materials or reducing the production volumes through circular business models, will be identified and prepared for upcycling demonstration.

However, there are associated risks. These risks include the potential for delayed identification of innovative solutions for upcycling recycled materials, solutions not being ready for demonstration upon identification, and limitations in the testing and production of upcycled materials.

The output will include supporting piloting and scaling-up of identified innovative solutions through technical and viability assessment and in implementation of gender-responsive awareness campaign and marketing platform to promote recycling/ upcycling and sustainability with recycling companies, brands and supply chain actors. As the technical and viability assessment studies are underway, the selection and utilization of materials during the operations of the fashion and construction industries will apply best practices throughout the product life cycle and industrial processes.

The organizations to be sub-contracted by MoE, Cambodia to execute the output activities for the **fashion and construction** sectors will be decided during the project inception phase. The implementation will be done in coordination with relevant stakeholders like TAFTAC, UNEP, UNIDO, ChipMong, Ministry of Industry, Private Construction & Fashion Recycling/Upcycling/Downcycling Brands/Companies, and Textile Waste Recycling Company.

Activities

- 3.1.1 Identify/select the **fashion and construction** brands and businesses recycling/ upcycling waste material and implementing reverse logistics.
- 3.1.2 Support in piloting and scaling-up of identified innovative solutions in terms of technical and viability assessment in collaboration with brands, manufacturer and recycling/upcycling/reverse logistics companies (e.g. designer classes, link with Component 1).
- 3.1.3 Work with the above identified Cambodian brands and their international brand clients to align their marketing practices with the principles outlined in the UNEP UNFCCC Sustainable Fashion Communication Playbook and develop and implement gender-responsive awareness campaign and marketing platform for their promotion.

Output 3.2: Capacity of **fashion and national construction** supply chain actors strengthened in application of circular reverse logistic system.

The effectiveness of this output will be assessed by the number of **fashion and construction** supply chain actors trained on circular reverse logistic systems, as well as the percentage of beneficiaries disaggregated by gender. The target is to train at least 8000 individuals by Year 6, with 60% being women and 40% men.

Several assumptions support this target. Firstly, a Training of Trainers program will be developed in Year 2, followed by quarterly trainings from Year 2 to Year 6. Each quarterly training session will aim to train at least 50 individuals representing various stages of both supply chains. Additionally, it is assumed that the development and implementation of these trainings will be timely, skilled trainers will be available, both trainers and the targeted audience will be ready for the training, and consent from province-level government agencies will be obtained in a timely manner to conduct trainings in their regions. Associated risks include potential delays in the development and implementation of trainings, a shortage of skilled trainers, lack of readiness among trainers and the targeted audience, and delays in obtaining consent from province-level government agencies to conduct trainings in their regions.

Capacity and training needs assessment will be carried out for **fashion and construction** supply chains ecosystem actors. Training module with gender-responsiveness will be developed for **fashion and construction** industry professionals/workers across the value chains based on needs identified. Further, guidance will be made on effective segregation of POPs contaminated/ hazardous waste streams from bulk waste.

The organizations to be sub-contracted by MoE, Cambodia to execute the output activities for the **fashion and construction** sectors will be decided during the project inception phase. The implementation will be done in coordination with relevant stakeholders like TAFTAC, UNEP, UNIDO, Construction industry actors, Waste Processing SMEs, Ministries of Land Management, Urban Planning & Construction, Ministry of Industry, municipalities/urban local bodies, Academia, Phnom Penh Municipal Administration.

Activities

- 3.2.1 Establish the upstream and downstream **fashion and construction** supply chain material flow and relevant stakeholders by mapping each block of the chain and application of simple input-output analysis in Cambodia, including financial aspects (costs for disposal of C&D and fashion waste and linkage to Output 1.2 on financial incentives). The material flow analysis and mapping will cover fittings that may contain POPs as well as bulk C&D waste, e.g. electronics, upholstery, junction boxes, coatings/paints, etc. (These fittings will not be utilized under project intervention.)
- 3.2.2 Map the existing testing, sorting and recycling infrastructure/facility/protocol and that required for co-processed/ recycled / alternative materials along the **fashion and construction** value chain and actors.
- 3.2.3 Based on activity 3.2.1 and 3.2.2, carry out capacity and training needs assessment for **fashion and construction** supply chains ecosystem actors and provide recommendations to create enabling environment for upcycling and recycling/waste management companies, including collection and sorting. Link to the Building Code section on waste; possibility of landfill tax; land parcels at landfill site for segregation; asbestos working group. Including consultations/ awareness raising/ training of the industries involved.
- 3.2.4 Develop and implement gender-responsive training module for **fashion and construction** industry professionals/workers across the value chains based on needs identified under activity 3.2.3 for recycling/waste management. Further, develop guidance on effective segregation of POPs contaminated/ hazardous waste streams from bulk waste.

Component 4: Monitoring and Evaluation

Outcome 4: Project partners adopt and act upon project results and lessons.

This outcome aims to ensure that project partners adopt and implement project results and lessons. The success of this outcome will be measured by evidence of continuous improvement and changes implemented by the Project Steering Committee (SC). The target is for SC members to demonstrate that learning has been effectively integrated into programming. It is assumed that SC members will actively participate in committee activities.

The outcome 3 will be achieved by below given outputs.

Output 4.1: Monitoring of project outcomes and outputs to include quarterly and annual reporting.

- The effectiveness of this output will be assessed by the number of quarterly and annual progress reports, annual gender monitoring reports, annual technical reports on the estimation of Gender Equality Benefits (GEBs), and annual workplans with revised budgets completed. The target is to produce 24 quarterly reports, 5 Progress Implementation Reports (PIRs), 6 gender monitoring reports, 6 technical reports on GEBs estimation by Year 6, and 6 annual workplans with revised budgets if necessary. An assumption is made that there is existing high-quality project management experience within the country. MoE, Cambodia will be responsible for delivery of this output.

Activities

-
- 4.1.1 A complete set of quarterly progress and financial reports.
- 4.1.2 Annual Work plans, Budget and Project Implementation Reviews.
- 4.1.3 Annual technical reports on GEBs estimation.
- 4.1.4 Annual gender, stakeholder engagement, knowledge and communications strategies monitoring reports.

Output 4.2: Mid-term and terminal evaluations results shared with stakeholders

- The assessment of this output's effectiveness will rely on the number of independent reviews shared. The target is to produce 1 Terminal Evaluation and a total of 6 project Steering Committee (SC) meetings. It is assumed that there will be regular reporting by the Executing Agency (EA) and project country. However, there is a risk of inadequate project management support at the country level. MoE, Cambodia will be responsible for delivery of activity 4.2.3 of this output while UNEP GEF Chemicals and Waste Unit will implement activities 4.2.1 and 4.2.2.

Activities

-
- 4.2.1 Mid-term evaluation report
- 4.2.2 Terminal evaluation report
- 4.2.3 Annual project steering committee meeting reports

The proposed activities in all the Components as outlined above, are designed to be sustained after the lifetime of the project, as they include establishing new norms and tools which will outlive the project duration (green building certification, ecolabeling schemes, guidelines for alternative materials,

regulations to ban or control POPs in materials, sustainable financial incentives for recycling and upcycling waste materials, a national action plan promoting local sustainable alternatives). The activities will also build capacity locally, both training beneficiaries but also creating and reinforcing networks of experts and trainers in the country (training modules/SOPs for resource efficiency and cleaner production). These initiatives will be endorsed and adopted by the national government, underscoring the ownership of the executing agency or national partner. They will subsequently be implemented across fashion and construction companies/brands to ensure long-term sustainability and widespread adoption of project outcomes beyond the initial implementation phase. Through the participation in the Integrated Programme, the lessons and successes from Cambodia will be disseminated for further scale up; and by linking the Cambodia national project with the other participating projects in the region (Mongolia, Pakistan) and within value chains that Cambodia participates in, the project will also create regional and international networks that will sustain the project results and replication beyond the lifetime of the project.

Institutional Arrangement and Coordination with Ongoing Initiatives and Project.

Please describe the Institutional Arrangements for the execution of this child project, including framework and mechanisms for coordination, governance, financial management and procurement. This should include consideration for linking with other relevant initiatives at country-level (if a country child project) or regional/global level (for coordination platform child project). If possible, please summarize the flow of funds (diagram), accountabilities for project management and financial reporting (organogram), including audit, and staffing plans. (max. 500 words, approximately 1 page)

Appendix 7 - Institutional Arrangement and Coordination with Ongoing Initiatives and Project

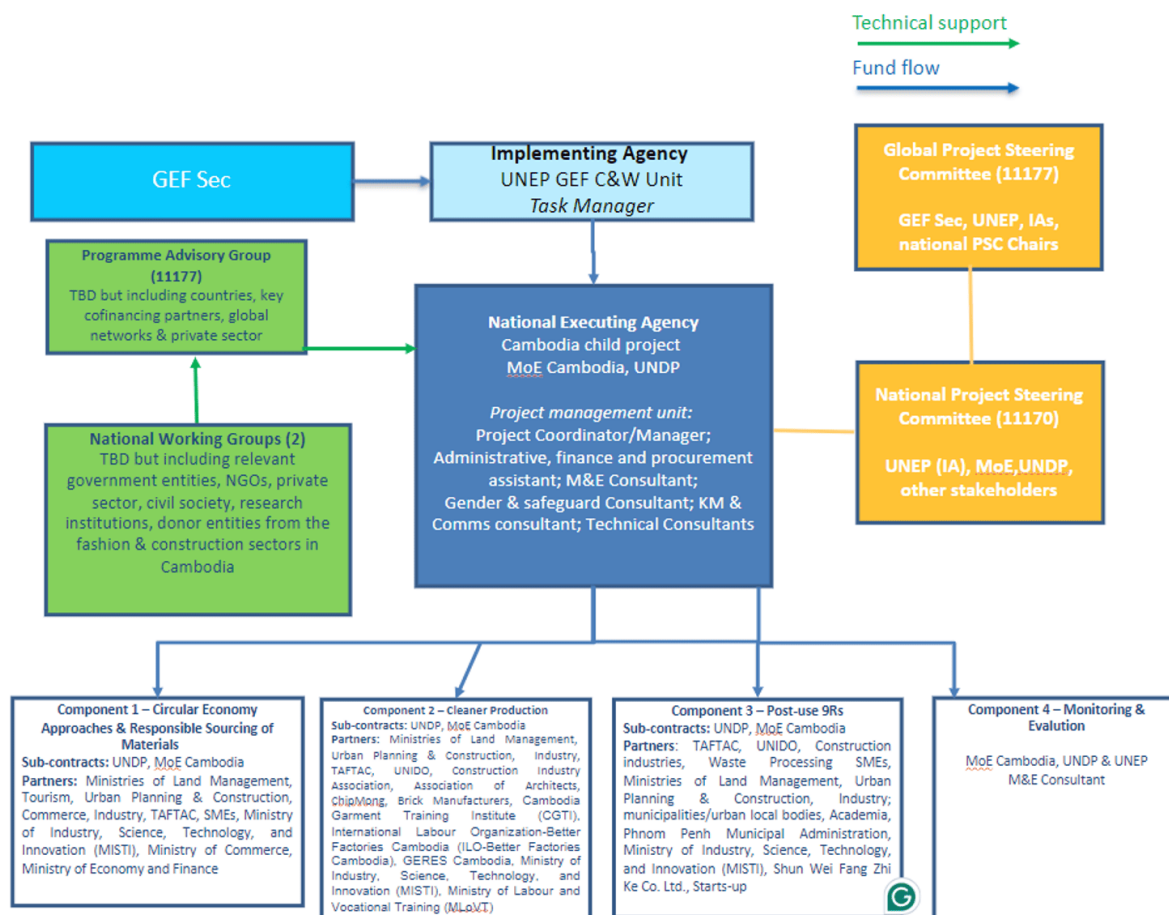
The present child project is part of the Integrated Programme on supply chains, which is a multi-agency initiative that builds on the experiences of several GEF Implementing Agencies' (IAs) projects and programmes. As Lead Agency for the programme, UNEP will be responsible for the overall programme coordination and ensuring the integration of results from both national and regional level. This appendix provides additional information in relation to the institutional arrangements described under section B in the project document.

The following diagram outlines the proposed structure of the child project, the implementation and execution modality, as well as the relationship to the programme.

1. Overview of Institutional Arrangements

The below figure provides an overview of the project's institutional arrangements. In the sections below, the roles and responsibilities of the different project entities will be described.

Figure 1: Project Governance Structure



1. Project Donor

The Global Environmental Fund (GEF) is the project donor and will be responsible for dispersing funds to the Implementing Agency (IA). The IA will be accountable to the GEF for annual financial and progress reporting.

2. Implementing Agency (IA)

The United Nations Environment Program Global Environment Facility Chemicals and Waste Unit (UNEP-GEF C&W Unit) will be the IA for the child project and be responsible for the overall project supervision, overseeing project progress and monitoring and evaluation of project activities (midterm review and terminal evaluation). It will be responsible for quality assurance procedures, organize the contracting of the Executing Agency (EA), and the review and clearance of their quarterly expenditure and progress reports. The IA will participate in the PSC Meetings and ensure decisions are compliant with the GEF and UNEP's rules. The unit will directly receive project funds from the GEF Secretariat and yearly validate and finalise project implementation reports (PIRs) and submit them to the GEF. The IA will also take part in the Project Steering Committee

(PSC) as a member with decision rights and can request PSC to meet outside of the planned schedule as deemed necessary.

UNEP's comparative advantage is its mandate to coordinate the work of the UN in the area of environment, and its experience as a successful and efficient IA specializing in regional and global activities. UNEP's expertise includes proof of concept, testing of ideas, and the best available science and knowledge to form the basis of GEF investments. UNEP also serves as the Secretariat to three of the Multilateral Environmental Agreements (MEAs) (Basel, Rotterdam and Stockholm (BRS), Minamata and Strategic Approach to International Chemicals Management (SAICM)), for which GEF is the/a financing mechanism.

3. Country

As the main owner and beneficiary of the child project, the Cambodia government representative(s) and GEF OFP will have a guiding role in their national child project. The country is participating in multiple IPs in addition to the Supply Chains IP and will ensure coordination in the delivery of all IPs to maximise cross-fertilization; and also provide efficient oversight of the progress of the child project.

4. Executing Agency (EA)

UNEP has positive past-experiences of working with the identified executing agency, Ministry of Environment on the following projects:

- Environmentally sound management of electronic and electrical wastes
- Promotion of action against plastic litter in Asia
- Enabling activities for the Stockholm Convention on Persistent Organic Pollutants (POPs)- National Implementation Plan for Cambodia
- Review and Update of the National Implementation Plan for the Stockholm Convention on POPs in the Kingdom of Cambodia
- Integrated SC toolkit to improve the transmission of information under Article 07 and Article 15
- Pollutant Release and Transfer Register in Cambodia Phase I (PRTR I)
- Implementation of the POPs Monitoring Plan in the Asian Region
- Global Project on the Implementation of PRTRs as a tool for the POPs reporting, dissemination and awareness raising for Belarus, Cambodia, Ecuador, Kazakhstan, Moldova, and Peru
- Institutional Strengthening in Cambodia for efficient and coordinated implementation of the Chemicals and waste management international agreements

- Project on Management of Mercury and Mercury-containing waste
- Development of National Action Plan for Artisanal and Small-Scale Mining sector in Cambodia
- Mercury Initial Assessment

Cambodia possesses in-country resource capacity within its fashion and construction sectors, both of which play pivotal roles in the national economy and substantially contribute to the country's GDP. However, the Ministry of Environment and other relevant public institutions face limitations in developing policies or regulations concerning the management of chemicals and hazardous substances, including specific Persistent Organic Pollutants (POPs). Although the government and major scientific/technological institutions have experience with analytical techniques and equipment, there is inadequate infrastructure and capacity for chemical analysis of POPs in fashion products, construction materials, and similar items.

Consultations with stakeholders from the fashion and construction sectors during the Project Preparation Grant (PPG), including engagements with the Ministry of Environment and Cambodia's scientific community, reveal deficiencies in capacity regarding hazardous chemicals and POPs management. As part of proposed project activities, there is a planned assessment to determine specific capacity needs, such as testing infrastructure, within these sectors.

Furthermore, the project aims to address identified gaps by enhancing the expertise of domestic sector specialists through collaboration with international experts as an integral part of the project team. This collaborative approach seeks to integrate domestic technical and scientific knowledge with international best practices, protocols, and standards. The goal is to facilitate the adoption and expansion of improved practices across Cambodia's fashion and construction sectors.

A Harmonized Approach to Cash Transfers (HACT) assessment of Ministry of Environment, Kingdom of Cambodia was conducted by UNDP in January 2022 with overall low risk assessment results.

The Project Cooperation Agreement (PCA) will be signed between the IA and the Ministry of Environment, Kingdom of Cambodia, which will be the national Executing Agency (EA) in the project country.

In order to ensure adequate coordination with the EA, UNEP will establish a coordination meeting on a quarterly basis where the EA will report on their project progress. In addition, the project will establish clear communication channel available to both the EA and UNEP to guarantee that the project staff from both EA have access to information and reporting tools. The EA will provide the following goods and services (see Figure 1):

Project management

1. Efficient and timely preparation and execution of project activities
2. On-the-ground coordination to facilitate project execution
3. Establishment of a Project Management Unit (PMU) in charge of the day-to-day management of the project. The PMU will be composed of key project staff including the National Project Coordinator, Administrative and Finance Assistants, and Monitoring and Evaluation Consultant/Officer. They will be directly under the EA's supervision.
4. Consultations and preparation of project annual budget, workplan, forecast and procurement plan and their submission to the PSC members for endorsement.
5. Facilitate coordination meetings and other related dialogues with the guidance of the PSC.
6. Identify, develop, and foster contacts and relationships that will be beneficial for the project
7. Quarterly expenditure report and progress reporting to the IA.
8. Prepare and submit the annual PIR and co-finance report to the IA for compilation.
9. Secretariat to the National Project Steering Committee (PSC), National Working Groups (2), and participation in Global PSC meeting and Programme Advisory Group.
10. Prepare documents for the PSC (For example: status of expenditures, workplans, ToRs for consultants and sub-contractors, agenda) and the minutes of the PSC meetings and circulate for approbation.
11. Take PSC minutes and circulate for approbation followed by sharing of approved minutes with PSC members.

Technical components

1. Recruitment, contracting and management of national and international consultants as outlined in the project budget and in line with ToRs created in consultation with the PSC and review of outputs and overall supervision and management.
2. Review, assess and approve reports from the consultants and sub-contractors based on issued ToRs.
3. Organization of national meetings, consultations and events including national workshops and trainings.
4. Contracting of international and national organizations for the delivery of project outputs under components 1, 2, and 3 as detailed in project workplan in Appendix 8. Sub-contracting organizations to be decided after stakeholder consultation during project inception phase.

5. Project Steering Committee (PSC)

The PSC will be the project's superior governing body responsible for monitoring progress and taking corrective action as needed to ensure the project achieves the desired results. It will be established at the inception phase. MoE Cambodia will act as the Chair to the PSC and provide regular project updates to the PSC. The PSC meeting will take place every year back-to-back with the NWG meetings. The role of the PSC is to provide overall guidance and direction to the project, ensuring it remains within any specified constraints; monitor progress and risks and corrective actions; review and approve annual workplan and budget in accordance with the approved project document and propose adjustments to the project's workplan or budget, if needed; approve the ToRs of the PMU (once, during the 1st PSC meeting); discuss and approve ToRs for consultants and sub-contractors; and ensure coordination with other initiatives at national and regional levels; and ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest or breaches of UNEP or GEF policies, including addressing any grievance or stakeholder responses received.

The decision-making members of the PSC will include the following:

- Implementing Agency (1)
- Elected representative of the MoE, Kingdom of Cambodia (1) – Chair
- Other ministries, etc.

The PMU staff will serve as the Secretariat and provide meeting minutes, annual workplans and budgets for endorsement and regular progress reports. Additional stakeholder representatives from academia, non-governmental organizations (NGOs) and other relevant areas may be invited to join the PSC during the project execution as experts or observers, including members of the National Working Groups (see below). These will be confirmed during project inception and might include relevant national initiatives, and/or co-financing partners. At all times, the PSC and its activities will comply with the policies, conditions and regulations of the UNEP and the GEF.

The PSC members will support the establishment of national working groups, one for each of the fashion and construction sectors and every project activity and assign responsibilities amongst national government departments; select and nominate relevant project stakeholders; evaluate and assess the progress of the project; and provide advice, policy and institutional guidance to the implementing and executing agencies. In this regard, relevant governmental institutions will be requested to allocate the necessary human and technical resources to support project implementation through the PSC, where it does not already exist. The Terms of References (TORs) for a PSC will be developed during the inception phase of the project.

6. National Working Groups (NWGs)

In order to support project execution and ensure that the outputs of the project are aligned with national priorities and that project activities are coordinated among national stakeholders within

the scope of the project, the project country will appoint members to the **National Working Groups (NWGs)** for the fashion and construction sectors. The NWGs shall provide guidance to the National Project Coordinator contracted by the project, in the execution of project activities. In this regard, there will be two NAGs, one each for the fashion and the construction sector. Members of each NWG are listed below but will be revisited and reconfirmed by the PSC in its first meeting with an emphasis to include more civil society and relevant national initiatives. The National Focal Points of the Basel, Stockholm, Rotterdam and Minamata Conventions should also be represented on the NWG. These lists are not exhaustive and are subject to change based on the decisions of the National Governments and administrative changes which may occur within Governments. Generally, relevant government entities, non-governmental organizations (NGOs), private sector, civil society, research institutions, and relevant national initiatives or donor entities are included.

National Working Group for Fashion Sector Membership List (at least one person from the following organizations):

Cambodia

- Ministry of Environment – Chairperson
- Ministry of Industry, Science, Technology Innovation (MISTI)
- Ministry of Commerce
- Other relevant ministries/departments
- Inter-ministerial technical working group to implement conventions/protocols, and agreements related to chemicals and waste
- Inter-ministerial technical working group to implement conventions, protocols, and agreements related to environmental protection
- Textile, Apparel, Footwear & Travel Goods Association in Cambodia (TAFTAC)
- Relevant manufacturers associations
- Institute of Standards of Cambodia
- Private sector - textile companies/textile waste recycling companies and brands
- Start-ups and circular businesses
- Incubators/Accelerators
- Producer Responsibility Organization (PROs)

-
- Recyclers, informal sector, etc.
 - NGOs
 - Local communities, including indigenous groups
 - Technical experts
 - Women-based organisations/SMEs involved in the fashion sector
 - The National Focal Points of the Basel, Stockholm, Rotterdam and Minamata Conventions should also be represented on the NWG
 - Donor organisations and related co-finance institutions

National Working Group for Construction Sector Membership List (at least one person from the following organizations):

Cambodia

- Ministry of Environment – Chairperson
- Ministry of Land Management, Urban Planning and Construction
- Other relevant ministries/departments
- Inter-ministerial technical working group to implement conventions/protocols, and agreements related to chemicals and waste
- Inter-ministerial technical working group to implement conventions, protocols, and agreements related to environmental protection
- National Committee for Green Building Cambodia
- The Board of Engineers Cambodia (BoEC), Board of Architects, Cambodia (BAC), Architects Association of Cambodia (AAC)
- Relevant manufacturers associations
- Institute of Standards of Cambodia
- Start-ups and circular businesses
- Incubators/Accelerators

- Private sector – construction companies
- PROs
- Recyclers, informal sector, etc.
- NGOs
- Local communities, including indigenous groups
- Technical experts
- Women-based organizations/SMEs involved in the construction sector
- Research and Academia
- The National Focal Points of the Basel, Stockholm, Rotterdam and Minamata Conventions should also be represented on the NWG
- Donor organisations and related co-finance institutions

The NWG members will not be contracted by the project. They will be appointed in each country at the discretion of the Government and in accordance with the ToR which will be developed at the project's inception and approved by the PSC. The NWG will assist, when needed, in the selection of the national consultants and experts.

A Chair (or two Co-chairs) and a National Focal Point shall also be appointed for each NWG by the National Government and shall also be qualified and function in accordance with the ToR which will be developed at the project's inception. The Chair will be responsible for arranging and chairing meetings of the NWG. The focal point will be responsible for coordinating the day-to-day management of project activities in the country and for liaising with the project team and national stakeholders. The Chair of the NAGs and the National Project Coordinator shall also belong to the national and the global Project Steering Committee (PSC) and shall represent their country's interests at the PSC meetings.

The NWG shall meet at their discretion and shall consult other national stakeholders when required.

ToRs for key personnel

Table 1. ToRs for key personnel

<i>Position Titles</i>	<i>Tasks to Be Performed / Deliverables</i>	<i>Related workplan/budget activity</i>
Project Coordinator	<ul style="list-style-type: none"> • Manage overall day-to-day coordination of project activities and ensure timely and efficient delivery according to the project document and work-plan • Monitor the budget according to the budget plan and co-finance plan • Prepare and submit the annual project implementation report (PIR) and co-finance report to the Implementing Agency for compilation • Quarterly expenditure and progress reporting against the annual workplan and budget to the Implementing Agency- • Coordinate with GEF Secretariat, Implementing Agency, as well as relevant GEF programmes • Development, monitoring and delivery of annual procurement plans • Manage all procurement and sub-contracting of delivery partners • Recruit and supervise project personnel/consultants and ensure quality of deliverables • Act as Secretariat for the Project Steering Committee (PSC), preparing meetings and reports as needed • Annual workplan and budget and procurement plans Prepare documents for the PSC (For example: status of expenditures, annual workplans, annual forecasts, annual budget, budget revisions, procurement plans, ToRs for consultants and sub-contractors, agenda) and the minutes of the PSC meetings and circulate for approbation • Take PSC minutes and circulate for approbation followed by sharing of approved minutes with PSC members • Facilitate coordination, national working group and other project meetings and related dialogues with the guidance of the PSC. 	PMC, all components

	<ul style="list-style-type: none"> Identify, develop, and foster contacts and relationships that will be beneficial for the project 	
National Gender and Safeguard Ceonsultants	<ul style="list-style-type: none"> Lead the implementation and updating of the child project Gender Action Plan Monitor project activities related to gender Provide technical advice to child project gender focal points Lead thematic coordination meetings focused on gender 	Component 1 Output 1.1, Output 1.2; Component 2, Output 2.1; Component 3, Output 3.1, Output 3.2
National Knowledge Management and Communications consultant	<ul style="list-style-type: none"> Lead the implementation and update of the national child project's knowledge management (KM) and communications strategy. Develop digital analytics metrics to monitor and analyse the effectiveness of the KM and communications strategy and the knowledge products and communications products. Curate knowledge products and communications products from the child project and other fashion and construction value chain stakeholders relevant to the child project. Provide guidance to national experts and practitioners to collaboratively develop and improve child project knowledge products and tools. Support the organization of webinars and trainings, including disseminating relevant knowledge products. Liaise with the gender, technical, and training and capacity building consultants to ensure gender, knowledge product and communication findings are captured and mainstreamed in KM and communication products with good design work. Facilitate outreach and coordination with technical experts, value chain experts, relevant stakeholders and adhoc working groups support the development and review of knowledge products and to organize peer reviews. 	Component 1, Output 1.1, Output 1.2, Output 1.4; Component 2, Output 2.1, Output 2.2; Component 3, Output 3.1, Output 3.2

	<ul style="list-style-type: none"> • Prepare and hold consultations, working sessions or exchange sessions to inform the development of the knowledge products. • Organize training sessions for child project and relevant stakeholders • Coordinate with different supply chain stakeholders to leverage existing knowledge for training purposes • Establish and maintain a roster of experts to provide targeted assistance • Conduct assessments of training effectiveness and relevance • Collaborate with relevant partners, including universities, industry associations, and governmental agencies, to optimize training outcomes and resource utilization 	
National Technical/Policy Consultants (Fashion and Construction)	<ul style="list-style-type: none"> • Fashion sector expert <ul style="list-style-type: none"> ◦ C1: <ul style="list-style-type: none"> ▪ Identify three different fashion products for initial application and roll out e.g. waterproof jacket, handbag, pants, and develop action plan for implementation ▪ Support implementation of eco-labelling scheme for identified fashion products for export ▪ Awareness, capacity building and implementation support for fashion sector policy or programme based on identified gaps ▪ Develop for adoption by national government, the criteria or guidelines for responsible sourcing (Local/Imported) of selected materials based on locally applicable international best practices ▪ Support national government and other stakeholders in 	Component 1,2,3

		<p>implementation of action plan for marketing local sustainable materials e.g. events (national/international participation) in collaboration with global IP and other international platforms</p> <ul style="list-style-type: none"> ▪ Develop gender responsive awareness raising training module and action plan on POPs containing items for fashion companies <p>○ C2:</p> <ul style="list-style-type: none"> ▪ Identify fashion sector manufacturing companies that directly import and buy chemicals (plastic pellets or dyes or pipes and other products, upholstery, carpets, paints, floor tiles, etc.) and develop hazardous chemical use and raw material sourcing inventory (link to Output 1.3) and hazardous chemicals management plan including replacement of hazardous chemicals. ▪ For fashion sector, adapt existing GIZ cleaner production training manual/standard operating procedures (SOPs)/ code of conduct in the context of resource to reduce emission and hazardous chemical pollution and waste in line with national policies/standards ▪ Identify relevant national stakeholders and build their capacities to implement the hazardous chemicals management plan for two chemicals of concern (CoC), 	
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	<p>and the resource efficiency and cleaner production training action plan</p> <ul style="list-style-type: none"> ▪ Support Ministry of Environment with development of draft standards for controlling use of POPs in line with drafted regulation and conducting stakeholder consultation for finalising the draft standards ▪ Based on feasibility study results, support Ministry of Energy in implementation of enforcement plan for existing renewable energy regulations ▪ Identify the pilot projects and the types of intervention particularly for SMEs based on assessments/GEBs e.g. technology/process optimization/materials/resource/ waste management, etc. (link to uPOPs, mercury and biodiversity GEF indicators) <p>○ C3:</p> <ul style="list-style-type: none"> ▪ Identify/ select the fashion brands and recyclers recycling, upcycling or downcycling waste material (e.g. Nets from made from fibre derived from water hyacinth, all the list of baseline existing companies which are producing alternative material) ▪ Support identified innovative solutions in collaboration with brands, manufacturer and recycling companies (e.g. designer classes, link with Component 1) 	
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	<ul style="list-style-type: none"> ▪ Map the existing testing infrastructure/facility/protocol and that required for co-processed/recycled/alternative materials along the fashion value chain and actors ▪ list of deliverables ○ C2: list of deliver <ul style="list-style-type: none"> • Construction sector experts: <ul style="list-style-type: none"> ○ C1 list ○ C2 list... ○ C1: <ul style="list-style-type: none"> ▪ Identify three different buildings for initial application and roll out e.g. commercial(market)/tourism, MOE buildings, housing, and develop action plan for implementation ▪ Support implementation of eco-labelling scheme for identified buildings for export ▪ Awareness, capacity building and implementation support for building sectors policy or programme based on identified gaps ▪ Develop for adoption by national government, the criteria or guidelines for responsible sourcing (Local/Imported) of selected materials based on locally applicable international best practices ▪ Support national government and other stakeholders in implementation of action plan e.g. events (national/international participation) in collaboration with global IP 	
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	<p>and other international platforms</p> <ul style="list-style-type: none"> ▪ Develop gender responsive awareness raising training module and action plan on POPs containing items for interior designers <p>○ C2:</p> <ul style="list-style-type: none"> ▪ Identify construction sector manufacturing companies that directly import and buy chemicals (plastic pellets or dyes or pipes and other products, upholstery, carpets, paints, floor tiles, etc.) and develop hazardous chemical use and raw material sourcing inventory (link to Output 1.3) and hazardous chemicals management plan including replacement of hazardous chemicals ▪ For construction sector, adapt existing GIZ cleaner production training manual/standard operating procedures (SOPs)/ code of conduct in the context of resource to reduce emission and hazardous chemical pollution and waste in line with national policies/standards ▪ Identify relevant national stakeholders and build their capacities to implement the hazardous chemicals management plan for two chemicals of concern (CoC), and the resource efficiency and cleaner production training action plan ▪ Support Ministry of Environment with development of draft 	
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	<p>standards for controlling use of POPs in line with drafted regulation and conducting stakeholder consultation for finalising the draft standards</p> <ul style="list-style-type: none"> ▪ Based on feasibility study results, support Ministry of Energy in implementation of enforcement plan for existing renewable energy regulations ▪ Identify the pilot projects and the types of intervention particularly for SMEs based on assessments/GEBs e.g. technology/process optimization/materials/resource/ waste management, etc. (link to uPOPs, mercury and biodiversity GEF indicators) <p>○ C3:</p> <ul style="list-style-type: none"> ▪ Identify/ select the construction companies and recyclers recycling, upcycling or downcycling waste material including recycled uncontaminated plastic bricks production ▪ Support identified innovative solutions in collaboration with brands, manufacturer and recycling companies ▪ Map the existing testing infrastructure/facility/protocol and that required for co-processed/recycled/alternative materials along the construction value chain and actors <ul style="list-style-type: none"> • Gather information on technical information like material selection and material sourcing required under different 	
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	<p>activities of relevant outputs for the fashion and construction industries–</p> <ul style="list-style-type: none"> • Identify strategies and best practices related to material selection and usage in both value chains and compile a comprehensive resource– • Consult with technical experts and engineers to supplement research findings, and engage with stakeholders to gather input and feedback– • Coordinate with relevant experts and stakeholders to plan matchmaking events between materials and users– 	
International Technical/Policy Consultants (Fashion and Construction)	<p>Fashion consultant</p> <p>Comp 1:</p> <ul style="list-style-type: none"> • Identify all the sustainable materials and pollution related criteria and their source (Local/ Imported) which may be addressed in decree/law on Ecolabel <p>Comp 2:</p> <ul style="list-style-type: none"> • Support Ministry of Environment with development of draft regulation for banning/controlling use of POPs and in conducting stakeholder consultation for finalising the draft regulations • Support Ministry of Environment with development of draft standards for controlling use of POPs in line with drafted regulation and conducting stakeholder consultation for finalising the draft standards <p>Construction consultant</p> <p>Comp 1:</p> <ul style="list-style-type: none"> • Identify all the sustainable materials and pollution related criteria and their source (Local/ Imported) which may be addressed in building code or decree/law on Ecolabel <p>Comp 2:</p> <ul style="list-style-type: none"> • Support Ministry of Environment with development of draft regulation for 	

		<p>banning/controlling use of POPs and in conducting stakeholder consultation for finalising the draft regulations</p> <ul style="list-style-type: none"> • Support Ministry of Environment with development of draft standards for controlling use of POPs in line with drafted regulation and conducting stakeholder consultation for finalising the draft standards 	
National Financial Consultant		<ul style="list-style-type: none"> • Comp 1: <ul style="list-style-type: none"> • Identify government and private sector financial incentives like reduced taxation/subsidies/solar feed-in tariff policy for market transformation of the identified construction and fashion materials/products • Support to include cost rates for innovative materials within the government schedule of public procurement rates and support implementation of identified financial incentives by national government • Promote gender led startup companies/enterprise as part of Activity 1.2.2 (identification of gender led start-up fashion and construction companies practicing circular approaches, and facilitating such companies receiving identified financial incentive) Comp 2: <ul style="list-style-type: none"> • Develop financing options analysis and business plan for identified pilot projects in construction and textile companies (finance; link to output 1.4 and output 1.2) 	
Monitoring and Evaluation Consultant		<ul style="list-style-type: none"> • Support the preparation, review and submission of Executing Agency progress reports including quarterly and annual progress reports to Implementing Agency • Support preparation of Inception Report and other reports as per M&E budget • Track progress of child projects against GEF Core Indicators and development and tracking against programmatic indicators • Develop standard progress report template and get inputs from sub-contracting 	Comp 4, Output 4.1 and Output 4.2

	<p>agencies and consultants and compile results</p> <ul style="list-style-type: none"> • Provide technical advice to child project on reporting to the global child project • Supporting in preparing annual PIR and contribute to mid-term and terminal reviews 	
Administrative, finance and procurement assistant	<ul style="list-style-type: none"> • Producing quarterly and annual progress and financial reports • Administering payments, contracts, and procurements for the national executing agency 	Comp 1, Comp 2 and Comp 3
Sub-contracts – national/international		
National/International Organization 1 (fashion and construction sectors)	<ul style="list-style-type: none"> • Output 1.1 <ul style="list-style-type: none"> • Pre-implementation Environmental Audit/Resources efficiency Audit/ Energy Audit of factories of construction and fashion sector for implementation of ecolabelling • Post-implementation Environmental Audit/Resources efficiency Audit/ Energy Audit of factories of certified and ecolabel buildings and fashion products to identify the gaps in implementation of criteria/guidelines for ecolabelling • Promote certification in SMEs and facilitating the certification of each targeted company Output 1.2 <ul style="list-style-type: none"> • Identify (number) virgin materials/ energy efficient/ other materials and carry out material flow analysis/ Life Cycle Assessment (LCA) for selected eco-labelled products and certified buildings e.g. PVC pipes and/brick/cement/wood easily replaceable by recyclable/ alternative materials based on long-term socio-economic and environmental cost & benefit assessment (including GEBs) • Identify government and private sector financial incentives like reduced taxation/ subsidies/solar feed-in tariff policy for market transformation of the identified construction and fashion materials/products 	Comp 1

	<ul style="list-style-type: none"> Support to include cost rates for innovative materials within the government schedule of public procurement rates and support implementation of identified financial incentives by national government. <p>Output 1.3</p> <ul style="list-style-type: none"> Identify all the sustainable materials (e.g. fly ash utilisation) and pollution related criteria and their source (Local/ Imported) which may be addressed in building code or decree/law on Ecolabel (e.g. requirements of the Cambodia environmental code, Law on construction, ecolabel law, etc.) (linked to Activity 1.2.1) <p>Output 1.4</p> <ul style="list-style-type: none"> Work with industry (Local or global with local presence) association(s) representing all supply chain actors to develop an action plan for marketing local sustainable materials and the mechanism for its implementation 	
National/International Organization 2 (fashion and construction sectors)	<p>Output 2.1</p> <ul style="list-style-type: none"> Identify fashion and construction sector manufacturing companies that directly import and buy chemicals (plastic pellets or dyes or pipes and other products, upholstery, carpets, paints, floor tiles, etc.) and develop hazardous chemical use and raw material sourcing inventory (link to Output 1.3) and hazardous chemicals management plan including replacement of hazardous chemicals For fashion and construction sectors, adapt existing GIZ cleaner production training manual/standard operating procedures (SOPs)/ code of conduct in the context of resource to reduce emission and hazardous chemical pollution and waste in line with national policies/standards Identify relevant national stakeholders and build their capacities to implement the hazardous chemicals management plan for 	Comp 2

	<p>two chemicals of concern (CoC), and the resource efficiency and cleaner production training action plan</p> <p>Output 2.2</p> <ul style="list-style-type: none"> • Support Ministry of Energy in conducting feasibility study to develop incentives (tariff vs subsidy) and mechanism for promoting use of solar PV in textile industries • Based on feasibility study results, support Ministry of Energy in implementation of enforcement plan for existing renewable energy regulations <p>Output 2.3</p> <ul style="list-style-type: none"> • Identify the pilot projects and the types of intervention particularly for SMEs based on assessments/GEBS e.g. technology/process optimization/materials/ resource/ waste management, etc. (link to uPOPs, mercury and biodiversity GEF indicators) • Pilot identified projects in selected cement, brick and textile manufacturing SMEs along with awareness raising • Conduct post-implementation assessment of pilot projects and develop recommendations/lessons learned for replication in the country e.g. GEBS/local environmental benefits/ costs vs. Incentives (link to M&E component) 	
<p>National/International Organization 3 (fashion and construction sectors)</p>	<p>Output 3.1</p> <ul style="list-style-type: none"> • Awareness campaign with gender inclusion to promote recycling/ upcycling and sustainability with recycling companies, brands and supply chain actors <p>Output 3.2</p> <ul style="list-style-type: none"> • Establish the upstream and downstream construction and fashion supply chain material flow and relevant stakeholders by mapping each block of the chain and application of simple input-output analysis in Cambodia, including financial aspects (costs for disposal of C&D and fashion waste and linkage to Output 1.2 on financial 	Comp 3

	<p>incentives). Include fittings that may contain POPs as well as bulk C&D waste, e.g. electronics, upholstery, junction boxes, coatings/paints, etc.</p> <ul style="list-style-type: none"> Based on activity 3.2.1 and 3.2.2, carry out capacity and training needs assessment for construction and fashion supply chains ecosystem actors and provide recommendations to create enabling environment for recycling/waste management companies. Link to the Building Code section on waste; possibility of landfill tax; land parcels at landfill site for segregation; asbestos working group. Including consultations/ awareness raising/ training of the industries involved Develop and implement training module with gender inclusion for construction and fashion industry professionals/workers across the value chains based on needs identified under activity 3.2.3 for recycling/waste management. Further, develop guidance on effective segregation of POPs contaminated/ hazardous waste streams from bulk waste 	
Training and capacity building consultant	<ul style="list-style-type: none"> Organize training sessions for child project and relevant stakeholders. Coordinate with different supply chain stakeholders to leverage existing knowledge for training purposes. Establish and maintain a roster of experts to provide targeted assistance. Conduct assessments of training effectiveness and relevance. Collaborate with relevant partners, including universities, industry associations, and governmental agencies, to optimize training outcomes and resource utilization 	<p>Comp 1, output 1.1 and output 1.4; Comp 2, output 2.1, output 2.2; Comp 3, output 3.1 output 3.2</p>

Will the GEF Agency play an execution role on this child project? Yes

If so, please describe that role here and the justification.

UNDP will support execution through provision of technical expertise and services for the construction sector in the light of UNDP's prior experience and achievements in the construction sector and contribution to the baseline projects.

Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing (max. 500 words, approximately 1 page)

The European Union (EU), UNIDO, International Labour Organization (ILO) funded relevant programmes and projects have been carried out in Cambodia in the fashion and construction sectors like the EU-Switch Garment Project, GIZ FABRIC Project, ILO Better Factories Cambodia programme. Further, Cambodia is currently updating the National Implementation Plan (NIP) on POPs under the Global NIP (GEF ID 10785) with UNEP. The project is expected to be finalized in 2025 and will provide estimates of POPs inventory including of new POPs and the action plans for their management. Moreover, GIZ has developed an e-learning module on chemical management under the FABRIC project, which is being implemented in 6 Asian countries including Cambodia. The GEF 11170 Cambodia child project will adapt this existing GIZ module in the context of resource efficiency to reduce emission and hazardous chemical pollution and waste in line with national policies/standards and develop action plan for its adoption by the fashion and construction companies. The child project will identify and scale-up up existing innovations solution projects in the country for recycling/upcycling fashion and construction waste materials. Overall, these projects will provide valuable data and guidance in the execution of present project activities. Overall, these projects will provide valuable data and guidance in the execution of project activities. The GEF 11170 Project will build on the results of work conducted through these and other international, regional and national initiatives, existing knowledge management platforms and south-south collaboration approaches in order to capitalize on existing information, strategies and lessons learned. Coordination with other IPs, such as the Green and Blue Islands, will be conducted through the Global Child project (GEF 11177). Entities contacted during the PPG phase will be invited to participate in the project meetings as observers and as members of national working groups which will be established to support the development of different activities. Terms of References (ToRs) will also be developed for members of these working groups.

Table On Core Indicators

Core Indicators

Indicate expected results in each relevant indicator using methodologies indicated in the GEF-8 Results Measurement Framework Guidelines. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
67016	89112	0	0

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
4,496.00	6,586.00		

Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
62,520.00	82,526.00		

Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Documents (Document(s) that justifies the HC VF)

Title

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)	282683	424024	0	0
Expected metric tons of CO₂e (indirect)	506000	506000	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)				
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)	282,683	424,024		
Expected metric tons of CO₂e (indirect)	506,000	506,000		
Anticipated start year of accounting		2025		
Duration of accounting		6		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 9 Chemicals of global concern and their waste reduced

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
9,028.10	13,939.72	0.00	0.00

Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)

POPs type	Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
Short-chain chlorinated paraffins (SCCPs)	5,548.00	319.56		
Perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride	3,480.00	13,620.00		

Indicator 9.2 Quantity of mercury reduced (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
0.10	0.16		

Indicator 9.3 Hydrochlorofluorocarbons (HCFC) Reduced/Phased out (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.4 Number of countries with legislation and policy implemented to control chemicals and waste (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Indicator 9.5 Number of low-chemical/non-chemical systems implemented, particularly in food production, manufacturing and cities (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Indicator 9.6 POPs/Mercury containing materials and products directly avoided

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.7 Highly Hazardous Pesticides eliminated

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.8 Avoided residual plastic waste

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
49,033.00	18,387.36		

Indicator 10 Persistent organic pollutants to air reduced

Grams of toxic equivalent gTEQ (Expected at PIF)	Grams of toxic equivalent gTEQ (Expected at CEO Endorsement)	Grams of toxic equivalent gTEQ (Achieved at MTR)	Grams of toxic equivalent gTEQ (Achieved at TE)
16.50	25.76		

Indicator 10.1 Number of countries with legislation and policy implemented to control emissions of POPs to air (Use this sub-indicator in addition to Core Indicator 10 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Indicator 10.2 Number of emission control technologies/practices implemented (Use this sub-indicator in addition to Core Indicator 10 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	100,000	63,498		
Male	90,000	31,501		
Total	190,000	94,999	0	0

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

Core Indicator 4.1 The project will bring 1,234 ha of land under directly improved management until the time of the Terminal Evaluation (TE, i.e., during the 6 years of the project duration plus 2 more years when the transformative nature of the project interventions will be demonstrated) through piloting of Green Building certification and construction materials eco-labelling scheme by local construction companies, assuming improved practices will cover 40% of the baseline licensed sand mining area of 2,320 ha (928ha) along the Mekong and Bassac rivers. In addition, cleaner production and sustainable energy pilots will improve construction practices in the built environment directly on 1,152 ha of land by TE, assuming new practices are adopted by 20% of the total annual construction area of around 9,600,000 m² from year 3 of the project (768ha). For the fashion sector, the project will implement policy controls on the use of forest firewood and pilot projects on sustainable energy reducing firewood use and preserving forest area. This will bring 4,200 ha of forest land under indirect improved practices by TE.

Core Indicator 4.3 The Mekong and Bassac rivers have a high biodiversity value, construction is one of the main causes of biodiversity loss in Cambodia. The project will pilot innovative solutions for recycling construction materials that will reduce use of concrete, 27% of which is composed by sand that is mined from the Mekong delta. The project assumes that 1% of these biodiversity and landscape impacts are related to sand mining, i.e. 62,520ha, and thus lead to 82,526 ha of indirect improvement of Mekong delta area by TE.

Core indicator 6.7 (direct): The piloting of green building certification and construction materials eco-labelling scheme, adoption of cleaner production practices by local construction companies, and piloting sustainable energy projects by replacing clinker with up to 15% to 20% fly ash assuming 9 Tonnes of cement production capacity use about 8.5 Tonnes of clinker in cement industry and by usage of fly ash bricks replacing 0.36 Million Tonnes of fuel wood will help reduce 424,024 Tonnes of CO₂e GHG emissions in brick and cement production (at TE).

Core indicator 6.8 (indirect): For the fashion sector, regulatory controls on the use of energy sources like forest firewood and pilot projects on sustainable energy reducing 430,000 Tonnes of firewood use in the whole country will result in GHG emissions reduction of 506,000 Tonnes of CO₂e assuming an emission factor of 1.6 kg per kg of wood burned and assuming 300,000 Tonnes of wood burnt every year for six years.

Core Indicator 9.1: By implementing a Green Building certification and construction materials eco-labelling scheme, local construction companies in Cambodia aim to decrease the usage of short chain chlorinated paraffin (SCCP)-containing polyvinyl chloride (PVC) pipes and other materials. The anticipated reduction is estimated at 319.56 Tonnes (at TE) from a baseline amount of 13,315.2 Tonnes, assuming that 48% of the 27,740 Tonnes of PVC pipes used in buildings contain detectable amounts of SCCPs. This projection considers an 8% chlorinated paraffin content and a 5% annual reduction starting from the third year of the project.

In the fashion sector, innovative solutions for recycling/upcycling fashion waste materials are expected to contribute to a reduction of 8,400 Tonnes of PFAS-containing fashion waste (at TE) compared to a baseline of 140,000 Tonnes. This estimate assumes a 10% PFAS content in the fashion waste and a 10% annual reduction from the third year of the project.

Furthermore, regulatory controls on the use of hazardous chemicals in imported fabric are projected to decrease the importation of PFAS-containing fabric by 5,220 Tonnes (at TE) from a baseline of 870,000 Tonnes. This forecast is based on a 2% PFAS content and a 5% annual reduction from the third year of the project.

Core Indicator 9.2: Piloted projects focusing on sustainable energy for small and medium enterprises (SMEs) within the construction sector, along with regulatory measures to transition energy sources such as coal to renewable energy in cement production, are anticipated to reduce mercury emissions from cement production by 0.156 Tonnes. This reduction is based on a baseline of 0.520 Tonnes of mercury released by cement production and a 5% annual reduction from the third year of the project.

Core Indicator 9.8: The implementation of innovative solutions for recycling/upcycling materials is expected to lead to a reduction of waste cuttings production by 18,387.36 Tonnes at TE. This projection assumes that 60% of the baseline amount of 102,152 Tonnes of fabric cuttings contain synthetic polymer, with a 10% annual reduction from the third year of the project.

Core indicator 10: Sustainable energy pilot projects for construction SMEs are forecasted to reduce the use of synthetic fashion waste in brick production and consequently decrease emissions of 21.12 gTEQ/kg uPOPs from brick production by TE. This projection is in comparison to a baseline of 17.6 gTEQ/kg uPOPs emitted from brick production per year, assuming a 20% annual reduction from the third year of the project.

In addition, the piloting of innovative solutions for recycling/upcycling materials, such as uncontaminated plastic brick production and upcycled furniture, is expected to reduce uPOPs emissions by 1 gTEQ/kg at TE. This estimation is derived from a baseline of 0.17 Tonnes of plastic waste generated in Cambodia in 2016 and assumes

the production of 54,750 eco-bricks per year , thereby reducing 136.87 Tonnes of plastic waste per year from the third year of the project.

Moreover, regulatory controls on the use of energy sources such as textile waste are projected to reduce the burning of synthetic textile waste and emissions of 3.64 gTEQ/kg of uPOPs at TE. This estimate is based on the assumption that 30% of the fabric waste is burnt, generating 0.000000099 gTEQ/kg of uPOPs , with a 20% annual reduction from the third year of the project.

Core indicator 11: Cambodia's expanding construction industry, which employs between 175,000 and 200,000 workers (20–40% female) , and the garment industry, which employs between 600,000 and 925,000 workers with 75.9% being women , stand to benefit from the project. At least 20% of these workers, totalling 95,000 individuals (63,498 women and 31,501 men), are expected to benefit from reduced exposure to hazardous chemicals.

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	Moderate	Unexpected disruptions due to Natural Disasters - Cambodia is prone to floods but they have not affected construction and fashion supply chains. However, the project will incorporate adaptive measures when developing activities. Considerations will be made for changes in the project execution timeline to minimise the probability of natural disasters affecting the project timeline, thereby delaying project execution. Resilience to these external factors will be factored in the solutions introduced by the project. The project will catalyze the market transformation by usage of alternate materials in fashion and construction sectors which will reduce dependence on forestry i.e., wood and other carbon embodied products. This will trigger and mainstream the GHG mitigation and low carbon activities such as ecolabelling and green building certification in the two sectors.

Environmental and Social	Moderate	<p>Gender Disparities specifically with regards to women being under-represented in leadership and ownership positions Partner and engage with women-led organizations and train women professionals and workers on circular economy approaches, hazardous chemicals and waste management, reverse logistics system, and facilitate such organizations receiving sustainable financial incentives in order to facilitate equity in representation and empower women in leadership within the construction and fashion sectors. The proposed SMEs pilots on sustainable energy and chemicals projects may engender environmental and worker risks. Appropriate E&S assessments will be undertaken to manage risks that can arise from them. Potential social conflicts or resistance to change from certain stakeholders - Partner with relevant government organizations and stakeholders' associations in Cambodia to integrate sustainable and circular economy practices into existing industry regulations or develop new policies/guidance specific to the fashion and construction sectors. - Government, supply chain, and related stakeholders will be engaged as described in the Stakeholder Engagement Plan. Awareness campaign is planned to raise interest among key stakeholders. There will be active engagement of UNEP and partner networks to reach out to key stakeholder groups, to build interest and sustain focused efforts. The proposed SMEs pilots on sustainable energy and chemicals projects may engender environmental and worker risks. Appropriate E&S assessments will be undertaken to manage risks that can arise from them.</p>
Political and Governance	Low	<p>Change in administration or reshuffling of ministerial portfolios - Delay in implementation of identified activities due to changes in administration or reshuffling of ministerial portfolios and time lag in understanding of project objectives, outcome and activities has been envisaged as low risk. - Since the project is aligned to national strategies and priority areas, the project management unit will be equipped with presentation, reports and information on other knowledge products as part of monitoring and reporting. Any corrective measure suggested by political & governance hierarchy will be addressed promptly.</p>
INNOVATION		
Institutional and Policy	Low	<p>Gaps and lack of integration of sustainable and circular economy practices in existing policies or regulations specifically in the</p>

		<p>Cambodia fashion and construction sector - Partner with relevant government agencies in Cambodia to integrate sustainable and circular economy practices into existing industry regulations or develop new policies/guidance specific to the fashion and construction sectors. - Share best practices and success stories from other IP child projects countries with similar contexts to demonstrate the positive impacts of sustainable policies in the fashion and construction industries.</p>
Technological	Moderate	<p>Lack of infrastructure/facility/protocol for testing co-processed/recycled/alternative materials along the construction and fashion value chains The project will be looking at mapping and strengthening existing testing infrastructure/ facility/protocol required for co-processed/recycled/ alternative materials along the construction and fashion value chains. Training workshops and awareness campaigns will build capacity within the industry. Fashion and construction sector data collection and monitoring challenges especially in informal sectors Partner and engage with line ministries and sector associations for data collection and monitoring. Train industry professionals and workers on circular economy approaches including data collection and monitoring. Logistics challenge and extra costs related to reverse logistics While recovery of certain raw materials (such as metal) may be lucrative, there may be logistics challenge and extra costs related to additional recovery and transport efforts to reuse materials and make them available on demand and the scale needed may not be easy to overcome and be associated with extra costs. Two reverse logistics companies, Chip Mong and Shun Wei have been partnered with under the project to help guide and scale-up reverse logistics pilots in other SMEs in the two sectors. The involvement of these two companies and planned regulatory interventions and business viability will help overcome the above risk.</p>
Financial and Business Model	Moderate	<p>Lack of sustainable financial incentives/investment mechanisms - Recommendations for sustainable financial incentives/mechanisms appropriate for Cambodia will be identified and implemented. Lowering of market competitiveness - Stricter national environmental and health policies/standards to monitor and control use of hazardous chemicals in fashion and construction materials and products may result in lowering Cambodia's market competitiveness in these two sectors. However, the export markets such as EU, Japan and US are increasingly implementing policies</p>

		to improve the environmental and health impact of the two supply chains. Therefore, to deal with this, Cambodia must strengthen its capacity to test, monitor and control the import and use of products and materials containing hazardous chemicals, and tap into markets that require innovative (waste) materials and products. The project will pilot such innovative solutions and sustainable financial mechanisms, and support in development and enforcement of related policies/standards.
EXECUTION		
Capacity	Moderate	Lack of expertise or experience within local partner(s) for the fashion and construction sectors - Partner with international organizations like GIZ Cambodia, Global Green Growth Institute (GGGI), UNDP, UNIDO (to be decided during project inception phase) with proven expertise that can provide technical assistance and capacity building for the local partners Chip Mong Insee Cement Corporation; Textile, Apparel, Footwear & Travel Goods Association in Cambodia; and Shun Wei Fang. - Strengthen the capacity of the local project partners through stakeholder engagement, trainings, and sharing best practices in sustainable construction and fashion.
Fiduciary	Low	Gaps in not utilizing funds of delay in execution as per the intended timelines and not achieving value/or not properly accounted the disbursement/ expenditures. - Ministry of Environment, Cambodia has prior extensive experience of implementing similar projects with bilateral, multilateral and other donor agencies with mainstreamed accounts and accountability mechanisms. - Robust M&E mechanism has been formulated as Component 4 of the project. - Fiduciary risk management plan will be a part of the implementation plan prepared during inception phase of the project.
Stakeholder	Moderate	Difficulty engaging key stakeholders in the Cambodia fashion and construction sectors, particularly small and medium-sized enterprises (SMEs) - Conduct comprehensive stakeholder mapping to identify all relevant actors, including industry associations, designers, manufacturers, retailers, and consumers. - Apply gender action plan to ensure engagement of women and to avoid marginalization of vulnerable groups. - Develop a tailored engagement strategy for each stakeholder group, considering their specific interests and concerns. - Partner with local fashion and

		construction industry leaders to champion the project and encourage participation. - Offer incentives for participation, such as access to knowledge products, capacity building workshops on sustainable practices, and green financing opportunities tailored to the Cambodia context. - Address stakeholder concerns proactively through transparent communication and collaborative problem-solving.
Other	Moderate	Unexpected disruptions: Pandemics etc. - Develop a robust contingency plan outlining alternative approaches in case of unforeseen circumstances. - Build flexibility into the project design to allow for adjustments as needed. - Maintain strong communication channels with stakeholders to ensure coordinated responses to disruptions.
Overall Risk Rating	Moderate	Overall risk rating is moderate. Identified risks will be monitored and revised yearly to ensure adequate management and adaptation.

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Explain how the proposed interventions are aligned with GEF- 8 programming strategies, including the specific integrated program priorities, and country and regional priorities, Describe how these country strategies and plans relate to the multilateral environmental agreements, such as through NDCs, NBSAPs, etc.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how.

(max. 500 words, approximately 1 page)

The Eliminating Hazardous Chemicals from Supply Chains IP is fully aligned with the GEF 8 programming strategy as one of the eleven Integrated Programs. It is a multi-focal area program delivering integrated solutions to address multiple environmental challenges and achieve higher visibility and momentum through connecting different environmental, social and economic agendas. The IP is designed to explicitly address the four transformation levers identified by the GEF and STAP.

Similarly, the Cambodia child project has been designed in alignment with the GEF 8 strategy. It adopts sector-wide approach for the fashion and construction industries rather than taking a chemical-by-chemical approach and through this will be able to engage targeted stakeholders and audiences more effectively.

The project presents consistency with Cambodia's national priorities as outlined in the Pentagonal Strategy Phase I for Growth, Employment, Equity, Efficiency and Sustainability: Building the Foundation Towards Realizing the Cambodia Vision 2050, Environmental and Natural Resources Code, National Strategic Plan on Green Growth 2012-2030, Cambodian Sustainable Development Goals (CSDGs) Framework (2016-2030), National Circular Economy Strategy and Action Plan (2021), Circular Strategy on Environment 2023-2028, Cambodia's Roadmap for Sustainable Consumption and Production (2022-2035), Implementation of GFT Sector Development Strategy 2022-2027 and Industrial Transformation Roadmap for Textile and Apparel Industry 2023-2027.

More specifically, the project will, directly and indirectly, contribute to the following SDGs: SDG5, SDG 6, SDG8, SDG9, SDG 12, SDG 13 and SDG 17.

Component 1 will support piloting of green building certification and construction materials and fashion eco-labelling schemes by local construction and fashion businesses, piloting of financial incentives for circular construction and fashion supply chains, develop criteria or guidelines for responsible sourcing of alternative materials, and establish marketing mechanism for existing local sustainable alternatives.

Components 2 will develop national capacity building programme for construction and fashion supply chains, and pilot chemical management approaches and sustainable energy projects for SMEs. Component 3 will support selected innovative solutions for recycling/upcycling materials and build capacity of national supply chain actors to apply circular reverse logistic system.

Currently, no national policies contradict the intended project outcomes.

The project will build upon, link and contribute to the existing work from UNEP in the construction sector including its work on Cities and Climate Change Mitigation, and the fashion (including textiles) sector under the MTS. Specifically from a chemicals and waste perspective, such as the One UNEP textile project under which UNEP's textile sector related work is captured. This includes the Innovative Business Practices and Economic Models in the Textile Value Chain (InTex), and reducing uses and releases of chemicals of concern, including POPs, in the textile sector (GEF ID 10523: Asia Textiles).

The project directly contributes to all outcomes under UNEP's Programme of Work Sub-programme on Chemicals and Pollution, while also linking to the nature action and climate action pillars. In particular, the MTS outcomes to which the project will contribute are 3A, 3B and 3C.

Within the Chemicals and Pollution Action sub-programme, the project contributes directly to the Programme Coordination Project (PCP) “Circularity in Sectors”, whose objective is to scale up the adoption of circularity policies and practices in key sectors and systems to reduce releases of pollutants to air, water, soil and the ocean.

The project will directly contribute to Target 7 (b) and (c) of the Kunming-Montreal Global Biodiversity Framework by reducing the emissions of highly hazardous chemicals and synthetic fabric waste cuttings production.

D. POLICY REQUIREMENTS

Gender Equality and Women’s Empowerment:

We confirm that gender dimensions relevant to the project have been addressed during Project Preparation as per GEF Policy and are clearly articulated in the child Project Description (Section B).

Yes

1) Does the project expect to include any gender-responsive-measures to address gender gaps or promote gender equality and women's empowerment?

Yes

If the child project expects to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment, please indicate in which results area(s) the project is expected to contribute to gender equality:

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision-making; and/or

Yes

Generating socio-economic benefits or services for women.

Yes

2) Does the child project's results framework or logical framework include gender-sensitive indicators?

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during Project Preparation as required per GEF policy, their relevant roles to project outcomes has been clearly articulated in the Child Project Description (Section B) and that a Stakeholder Engagement Plan has been developed before CEO endorsement.

Yes

Select what role civil society will play in the Project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body ; Yes

Executor or co-executor; No

Other (Please explain)

Private Sector

Will there be private sector engagement in the Child project?

Yes

And if so, has its role been described and justified in section B “Child project description”?

Yes

Environmental and Social Safeguards

We confirm that we have provided information regarding Environmental and Social risks associated with the proposed child project or program, including risk screenings/ assessments and, if applicable, management plans or other measures to address identified risks and impacts (this information should be presented in Annex E).

Yes

Please provide overall Project/Program Risk Classification

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
	Medium/Moderate		

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described during Project Preparation in the Project Description and that these activities have been budgeted and an anticipated timeline for delivery of relevant outputs has been provided. This includes budget for linking with and participation in knowledge exchange activities organized through the coordination platform.

Yes

Socio-economic Benefits

We confirm that the child project design has considered socio-economic benefits to be delivered by the project and these have been clearly described in the Project Description and will be monitored and reported on during project implementation (at MTR and TER).

As described in part A (global environmental problems) of the main CEO endorsement document, hazardous chemicals are released all along the fashion and construction value chains and expose the workers, local communities and consumers. The contamination migrates offsite from the facilities through workers, the facilities' effluents and emissions (wastewater and uPOPs), the use of sector products, their disposal and as recycled products, into the local and global environment. Through the project interventions including pilot projects and policies/standards and regulations to ban/control POPs in materials, workers in both the sectors will be directly benefitted by a reduction of exposure to hazardous chemicals. Reduced exposure will lead to increased productivity, as health impacts are avoided.

The implementation of recycling/upcycling waste material innovative solution pilots and hazardous chemical alternative and sustainable energy pilot projects will also deliver socioeconomic benefits. Indirectly, these pilots and interventions are expected to bring much higher socio-economic benefits to the millions of other workers in the fashion and construction sectors, through a combination of demonstrating the feasibility and preferability of the reduction of hazardous chemical use, a gradual shift in perception about the risk and dangers (environmental, social and health) of continuing to work with these chemicals.

Thus, a combination of enforcement of regulations, scalable pilots and interventions, awareness raising, engagement with many different value chain stakeholders, and the increasing availability of alternatives, is expected to contribute to large scale shifts in governments, small and medium enterprises (SMEs), global suppliers, global buyers, and other stakeholders' decisions, which will also support global environmental objectives.

ANNEX A: FINANCING TABLES

GEF Financing Table

Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
UNEP	GET	Cambodia	International Waters	International Waters: IW IP Contributions	Grant	1,867,750.00	168,098.00	2,035,848.00
UNEP	GET	Cambodia	Chemicals and Waste	CW IP Contributions	Grant	4,157,250.00	374,152.00	4,531,402.00
Total GEF Resources (\$)						6,025,000.00	542,250.00	6,567,250.00

Project Preparation Grant (PPG)

Was a Project Preparation Grant requested? true

PPG Amount (\$) 149312

PPG Agency Fee (\$) 13438

GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
UNEP	GET	Cambodia	International Waters	International Waters: IW IP Contributions	46,287.00	4,166.00	50,453.00
UNEP	GET	Cambodia	Chemicals and Waste	CW IP Contributions	103,025.00	9,272.00	112,297.00
Total PPG Amount (\$)					149,312.00	13,438.00	162,750.00

Please provide Justification

N/A

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)
Total GEF Resources					0.00

Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
Hazardous Chemicals IP	GET	6,025,000.00	28277500
Total Project Cost		6,025,000.00	28,277,500.00

Confirmed Co-financing for the project, by name and type

Please include evidence for each co-financing source for this project in the tab of the portal

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Private Sector	Shun Wei Fang Zhi Ke Ji Co., Ltd	In-kind	Recurrent expenditures	15000000
Private Sector	Chip Mong Insee Cement Corporation	In-kind	Recurrent expenditures	12000000
Recipient Country Government	Ministry of Environment, Kingdom of Cambodia	In-kind	Recurrent expenditures	1277500
Total Co-financing				28,277,500.00

Please describe the investment mobilized portion of the co-financing

Shun Wei fang ZhiKe Ji Co. Ltd. and Chip Mong Insee Cement Corporation have provided co-finance letters, which partly describe the nature and allocation of in-kind contributions. The co-finance letter from Ministry of Environment, Kingdom of Cambodia is expected to be received during the week of 21 October 2024. The in-kind contributions will include manpower, office rent & infrastructure, utilities, office supplies, preparation cost (inception period), among other things.

ANNEX B: ENDORSEMENT

GEF Agency(ies) Certification

GEF Agency Coordinator	Date	Project Contact Person	Telephone	Email
GEF Agency Coordinator	6/26/2024	Victoria Luque	002542076244	victoria.luque@un.org
Project Coordinator	6/26/2024	Neha Dharmshaktu		neha.dharmshaktu@un.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Please attach the Operational Focal Point endorsement letter(s) with this template.

Name of GEF OFP	Position	Ministry	Date (MM/DD/YYYY)
Mr Tin Ponlok	Secretary of State	Ministry of Environment	4/3/2023

ANNEX C: PROJECT RESULTS FRAMEWORK

Please indicate the page number in the Project Document where the project results and M&E frameworks can be found. Please also paste below the Project Results Framework from the Agency document. For the Integrated Programs' global/regional coordination child project, please include the program-wide results framework, inclusive of results specific to the coordination child project. For any country child project, please ensure that relevant program level indicators are included.

11170 - Appendix 3: Logical Framework

Project Element	Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	UNEP Relevant PoW Outcomes	Relevant SDG target(s) and indicators
Objective Enhance sustainable sourcing	Area of landscapes under improved practices (hectare)	There is no national data available on construction and	Mid-Term Targets: landscapes: (direct benefit): 192 ha	Project reports, Project Implementation Reports (PIRs)	Assumptions: (see Core Indicators section of CEO ER for full assumptions)	UNEP MTS 2022-2025. Pollution and Waste Pillar;	SDG Target 12.1 Indicator: 12.1.1

from raw materials promoting net zero, nature positive, and pollution-free approaches to scale up fashion and construction sector transformation	<p>Amount of greenhouse gas emissions Mitigated (metric ton of CO₂)</p> <p>Chemicals of global concern and their waste reduced (metric ton of toxic chemicals reduced)</p> <p>Persistent organic pollutants to air reduced (gram of toxic equivalent gTEQ)</p> <p>People benefiting from GEF-financed investments disaggregated by sex</p> <p>IP Programmatic Indicators:</p> <p>3A - GEBs on hazardous chemical use, GHG,</p>	<p>demolition waste generated in Cambodia. The country's fashion sector relies on imported textiles and produces around 140,000 Metric Tonnes of waste cuttings annually from the cut, make and trim operations, and majority of this waste is synthetic material. The brick and cement production as well as fashion sector contributes to significant GHG emissions. The construction and fashion materials have been found to be contain hazardous chemicals like POPs.</p>	<p>Indirect benefit: 700 ha</p> <p>GHG: 70,670.7 tonnes avoided (direct): 37,950 Tonnes of CO₂e (indirect);</p> <p>53.26 Tonnes of SCCP</p> <p>2,270 tonnes of PFAS</p> <p>0.026 Tonnes of mercury reduced</p> <p>3064.56 Tonnes of residual plastic waste avoided</p> <p>4.12 gTEQ/kg of POPs to air reduced</p> <p>Beneficiaries:</p> <p>Female: 31,749</p> <p>Male: 10,500</p> <p>Total: 47,500</p> <p>End of Project target:</p> <p>Landscapes 928 ha direct +768 ha</p> <p>Indirect: 62,520 + 2,800 ha</p> <p>GHG Direct : 282,682.8</p>	<p>Country level reporting</p> <p>Terminal Evaluation</p>	<p>Reduction of use of material like PVC, cement, concrete and bricks will reduce harmful sandmining practices and sandmined area by 40%</p> <p>Improved construction practices will benefit 20 % of built environment area.</p> <p>Reducing energy consumption will reduce firewood use and preserve forest area</p> <p>10% of fashion waste generated contains PFAS and 2% of imported fabric contains PFAS.</p> <p>60% of fabric cuttings are synthetic & 30% of textile waste is burned</p> <p>Use of fly ash can reduce GHG emissions by 35%</p> <p>20% annual reduction in uPOPs released from brick production</p> <p>10% of people employed in both sectors will</p>	<p>Chemicals and pollution action thematic subprogramme; Towards a pollution-free planet Strategic Objective</p> <p>2025 Outcomes: 3A, 3B, 3C</p> <p>Direct Outcomes: 3.1, 3.4, 3.5, 3.6, 3.8, 3.9, 3.12, 3.13, 2.14</p>	<p>SDG Target 12.4 Indicators: 12.4.1; 12.4.2</p> <p>SDG Target 12.5: Indicator: 12.5.1</p> <p>SDG Target 12.6: Indicator: 12.6.1</p>
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	biodiversity and land degradation		<p>Indirect: 2,530,000</p> <p>POPs: 213 tonnes SCCPs;</p> <p>9,080 Tonnes PFAS</p> <p>0.104 Tonnes of mercury reduced</p> <p>12,258.24 Tonnes of residual plastic waste avoided</p> <p>17.10 gTEQ/kg of POPs to air reduced</p> <p>Beneficiaries:</p> <p>Female: 63,498</p> <p>Male: 31,501</p> <p>Total: 95,000</p>		<p>have reduced exposure to hazardous chemicals and waste due to project interventions</p> <p>Risks:</p> <p>Project interventions and hence benefits are delayed</p> <p>Sampling laboratory analysis results do not detect presence of SCCPs, PFAS, plastics in tested materials like PVC pipes, fashion waste, fabrics</p>		
Outcome 1- Local construction and fashion businesses adopt circular economy approaches and responsible sourcing of innovative materials	<p>No. of companies accredited/certified/standard compliant</p> <p>Amount of products containing hazardous chemicals avoided</p> <p>IP Programmatic Indicators:</p>	<p>There is no reported information available on the number of construction and fashion companies certified to new standards/policies and using sustainable alternative materials as these standards/policies are still in</p>	<p>Mid-term target:</p> <p>At least 2 construction and 4 fashion companies certified</p> <p>53 Tonnes of SCCP contaminated PVC pipes avoided</p> <p>Final-term target:</p>	<p>Annual sustainability report of the companies</p> <p>Project reports, Project Implementation Reports (PIRs)</p> <p>Country level reporting</p> <p>Terminal Evaluation</p>	<p>Assumptions:</p> <p>Willingness of construction and fashion companies to adopt circular models</p> <p>Companies publish annual sustainability reports which cover circularity.</p> <p>Piloting Green Building certification and construction materials eco-labelling will reduce use of</p>	<p>Direct Outcomes: 3.5, 3.6, 3.6, 3.9, 3.12, 3.13, 3.14</p> <p>Indicators (Chemicals and Pollution Action): (i), (ii), (iv)</p>	<p>SDG 9: Target 9.3</p> <p>SDG 12: Target 12.2</p> <p>Target 12.5</p> <p>Target 12.6</p>

	<p>3A - GEBs on hazardous chemical use, GHG, biodiversity and land degradation</p> <p>1A Number/ proportion and types of product lines made using innovative or sustainable materials or to new standards/ norm</p> <p>1B - Amount/ value of innovative materials sourced by companies</p>	<p>draft stage.</p> <p>The country's fashion sector relies on imported textiles and produces around 140,000 Metric Tonnes of waste cuttings annually from the cut, make and trim operations, and majority of this waste is synthetic material. The brick and cement production as well as fashion sector contributes to significant GHG emissions. The construction and fashion materials have been found to contain hazardous chemicals like POPs.</p>	<p>At least 5 construction and 8 fashion companies certified</p> <p>213.04 Tonnes of Persistent SCC P contaminated PVC pipes used avoided</p> <p>Beneficiaries:</p> <p>Female: 63,498.8</p> <p>Male: 31,501</p> <p>Total: 95,000</p>	<p>Information on proof of 3rd party certification available with Ministry of Environment, Cambodia</p>	<p>concrete/sand in construction</p> <p>48% of PVC pipes used in buildings are contaminated with SCCPs and the SCCP content is 8% w/w.</p> <p>Certified buildings reduce energy consumption by 29% and GHG emissions by 25%.</p> <p>Risks</p> <p>Delay in finalization of green building code and ecolabelling scheme.</p> <p>Sampling laboratory analysis results do not detect presence of SCCPs, PFAS, plastics in tested materials like PVC pipes, fashion waste, fabrics</p>		
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Output 1.1: Green building certification and construction material and fashion eco-labelling schemes piloted in local construction and fashion buildings and material and fashion products	No. of new gender mainstreamed green building certification and construction and fashion eco-labelling schemes prepared Number of products/materials/buildings certified to new schemes	Four draft schemes exist but are not finalized (draft Building Code; Final draft of Cambodia Guidelines and Certification for Green Buildings; Draft Prakas on CamGCGB and a National Committee for Green Building). Cambodia's Green Building Technical Working Group Cambodia's Roadmap for Sustainable Consumption and Production 2022-2035 Draft Sub-decree on Eco-label	Mid-term target: 4 gender mainstreamed policies (1 Building Code and 1 CamGCGB, 1 prakas on CamGCGB implementation, 1 prakas on National Committee establishment for Green Building Cambodia) endorsed and adopted by the national governments (by Y3) Pilots on 10 buildings, 1 construction material and 2 fashion products underway including by women-led businesses Final-term target: 5 policies (4 above plus 1 eco-label scheme for construction and fashion sectors) endorsed and adopted by national governments Pilots complete for 20	Final standards/scheme/regulations published by the national governments	Assumptions: Building Code and CamGCGB and ecolabelling schemes for construction and fashion sectors will be finalized by the time the proposed project is ready for implementation. Application of Traditional & indigenous knowledge & alternatives. Risks Delay in finalization of Building Code and CamGCGB and eco-labelling scheme. Inability to identify buildings for intervention.	Direct Outcomes: 3.6, 3.8, 3.9, 3.12 Indicators (Chemicals and Pollution Action): (i), (ii), (iv)	SDG 12: Target 12.2 - Target 12.5 -
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			buildings, 2 construction materials and 4 fashion products including by women-led businesses				
Output 1.2: Government and private sector financial incentives identified and piloted for circular construction and fashion supply chains	No. of sustainable financing mechanisms established for circular construction and fashion supply chains No. of investors sensitized/opportunities identified	No reported information is available on sustainable government and private financing mechanisms/incentives and on investors for circular construction and fashion sectors.	Mid-term target: 2 sustainable financing schemes 2 investors sensitized/identified for both sectors by Y3 End of project: 4 sustainable financing schemes/mechanisms/incentives for both sectors adopted by national government or being available/subscribed by private sector including by women-led businesses 4 investors sensitized/identified	Final schemes/mechanisms published/notified by the national government. Government/private sector annual report Formal communication of interest by investors	Assumptions: Dissemination of information on benefits will trigger the adoption of the sustainable financing scheme Risks Dissemination of information on benefits of sustainable financing scheme is unable to trigger adoption of the scheme, if sustainable financing scheme adoption process is too complex/time-taking/its costs outweigh the benefits to attract the subscribers	Direct Outcomes: 3.6, 3.8, 3.9, 3.12, 3.14 Indicators (Chemicals and Pollution Action): (i), (ii), (iii), (iv)	SDG 9: Target 9.3 SDG 12: Target 12.2 - Target 12.5 - Target 12.6
Output 1.3: Technical requirements on sustainable material	No. of technical criteria on responsible sourcing of sustainable materials prepared	No baseline information is available for amount of hazardous chemical containing	Mid-term target: Nil Final-term target:	Annual sustainability report of certified companies/brands	Assumptions: Certification and ecolabelling schemes will be open to receiving and adopting recommendations	Direct Outcomes: 3.6, 3.9, 3.12 Indicators (Chemicals and Pollution Action): (i), (ii), (iii), (iv)	SDG 12: Target 12.6 -

s and pollution and their responsible sourcing adequately reflected in Draft Building Code/Decree or Law on Ecolabel / Cambodia Green Certification Building Code (CamGCBC)		materials used in construction and fashion sectors in Cambodia	1 Building Code or Decree/Law on Ecolabel or CamGCBC adequately reflecting technical requirement on sustainable materials and pollution and their responsible sourcing by Y6		Traditional & indigenous knowledge & alternatives are available locally and relevant for mainstream use Sustainability reporting mechanism of companies is inclusive of hazardous chemicals and waste	calcs and Pollution Action) : (i), (ii), (iv)	
Output 1.4: National Action Plan for marketing existing local sustainable alternatives linked to global IP platform developed	No. of national action plan prepared for marketing existing local sustainable alternatives in construction and fashion supply chains in Cambodia	No national action plan exists in Cambodia for marketing existing local sustainable alternatives in construction and fashion supply chains	Mid-term target: 1 gender inclusive national action plan drafted and endorsed by national government for both construction and fashion supply chains by Y3 Final-term target: 1 gender inclusive national action plan implemented by national government for both	National action plan endorsed and published by the national government Action plan implementation monitoring report of the national government for both sectors	Assumptions: All construction and fashion supply chain stakeholders are in consensus with the proposed national action plan Global IP platform established by the global child project at the time the national action plan is being drafted Timely reporting to the national government by supply chain stakeholders	Direct Outcomes: 3.5, 3.6, 3.8, 3.9, 3.12, 3.13 Indicators (Chemicals and Pollution Action) : (i), (ii)	SDG 12: Target 12.2 Target 12.5 -

			construction and fashion supply chains by Y6				
Outcome 2 - Construction/ Real estate companies and fashion factories adopt cleaner production practices to reduce emissions and hazardous chemical pollution and waste	<p>No. of beneficiaries (companies/factories) adopting best practices/technologies (cleaner production practices)</p> <p>Amount of chemicals and wastes reduced and avoided</p> <p>IP Programme Indicator</p> <p>Brands/companies that participate and adopt IP solutions and market they represent</p>	<p>Fashion sector</p> <p>Biomass is almost exclusively used in boilers to generate thermal energy (steam). Wood is the predominant boiler fuel (73%), and most of the wood is sourced from unmanaged sources (77%).</p> <p>Total wood consumption was estimated at 633,891 tonne annual of which 488,096 tonne is obtained from unmanaged sources</p> <p>Construction sector:</p> <p>Annual Fuel consumption in brick kilns is - 250 TJ or</p>	<p>Mid-term target:</p> <p>5 construction and 5 fashion companies/factories adopt cleaner production</p> <p>Direct emissions avoided: 23,556.9 Tonnes of CO₂e;</p> <p>870 tonnes of PFAS avoided</p> <p>0.026 Tonnes of mercury reduced</p> <p>4.13 gTEQ/kg of POPs to air reduced</p> <p>Final-term target:</p> <p>At least 10 construction and 10 fashion companies/factories adopt cleaner production</p> <p>Area of landscapes under sustainable land management in production systems (indirect</p>	<p>Means of verification</p> <p>Annual sustainability report of the companies/manufacturers/brands</p> <p>Project reports, Project Implementation Reports (PIRs)</p> <p>Country level reporting</p> <p>Terminal Evaluation</p>	<p>Assumptions:</p> <p>Efficient roll out and implementation of project interventions on energy efficient and cleaner production practices</p> <p>Willingness of the companies to transition to cleaner production and energy efficient/sustainable production practices.</p> <p>Companies/factories publish annual sustainability reports</p> <p>Regulatory controls on use of non-renewable energy sources and piloting sustainable energy projects will reduce firewood use</p> <p>10% of fashion waste generated in Cambodia contains PFAS.</p> <p>2% of fabric imported into Cambodia contains PFAS.</p>	<p>Direct Outcomes: 3.1, 3.4, 3.6, 3.8, 3.9, 3.12</p> <p>Indicators (Chemicals and Pollution Action) : (i), (ii), (iv)</p>	<p>SDG 9: Target 9.3</p> <p>Target 9.4</p> <p>SDG 12: Target 12.2</p> <p>Target 12.5</p> <p>Target 12.6</p> <p>Target 12.7</p> <p>Target 12a</p>

		<p>1.4% of fabric waste; 10,557TJ or 58% of wood; 7,061TJ or 39% of Rice Husk; 135TJ or 0.75% of Coal; 74TJ or 0.41% of saw dust are burnt.</p> <p>About 26,670 tonnes of coal is believed to be used in industry sector, which is allocated to the cement plant</p>	<p>benefit): 2,800 ha</p> <p>Direct emissions avoided: 94,227.6</p> <p>Tonnes of CO₂e;</p> <p>3,480 tonnes of PFAS avoided</p> <p>0.104 Tonnes of mercury reduced</p> <p>16.5 gTEQ/kg of POPs to air reduced</p>		<p>Project interventions can collectively reduce energy consumption by 29% and GHG emissions by 25%.</p> <p>30% of textile waste is burned.</p>		
Output 2.1 – National capacity building programme for resource efficiency, cleaner production and hazardous chemicals management developed for construction and fashion	<p>No. of technical tools developed</p> <p>No. of end-users/beneficiaries trained</p> <p>% of beneficiaries disaggregated by gender</p>	<p>GIZ has developed an e-learning module on chemical management (“e-REMC” training – Resource Efficient Management of Chemicals) to support process of sustainable chemical management. The module has been developed under the</p>	<p>Mid-term target:</p> <p>1 technical tool (1 resource efficiency and cleaner production training manual/standard operating procedures (SOPs)/code of conduct developed and endorsed by national government for construction and fashion companies by Y3</p> <p>End of project:</p>	<p>Action plan implementation monitoring report of the national government for both sectors</p>	<p>Assumptions:</p> <p>All construction and fashion chain stakeholders are in consensus with the capacity building mechanism including technical tool developed</p> <p>All supply chain actors have and share available capacity building mechanism and tools on hazardous chemical use and raw</p>	<p>Direct Outcomes: 3.1, 3.6, 3.9, 3.12</p> <p>Indicators (Chemicals and Pollution Action) : (i), (ii), (iv)</p>	<p>SDG 12:</p> <p>Target 12.2 -</p> <p>Target 12.7 -</p>

companies		<p>project, "Promoting Sustainability in the Textile and Garment Industry in Asia (FABRIC)", which is being implemented in 6 Asian countries including Cambodia.</p> <p>There is no reported available information on hazardous chemical/ POPs use and raw material sourcing inventory developed for the fashion and construction sectors in Cambodia.</p>	<p>Roll out implementation of 1 gender inclusive action plan (for resource efficiency and cleaner production training) by national government for construction and fashion companies by Y6</p> <p>At least 95,000 people trained by Y6 (63,498 women and 31,501 men)</p>		<p>material sourcing</p> <p>All construction and fashion chain stakeholders are in consensus with the technical tools developed</p> <p>Timely reporting to the national government by supply chain stakeholders</p> <p>Barrier in financing and time for implementation of capacity building mechanism can be addressed</p>		
Output 2.2: Regulatory controls developed on use of hazardous chemicals and energy	No. of new policies/standards prepared	There is no existing regulation on ban/control on use of POPs in fashion and construction sectors.	<p>Mid-term target:</p> <p>1 regulation and 1 standard banning/control use of POPs notified by the national government; 1 feasibility study conducted to develop</p>	Regulation and standards published by the national government; feasibility study report	The regulation and standard for banning/control use of POPs and feasibility study will be finalized by the time the proposed project is ready for implementation.	<p>Direct Outcomes: 3.6, 3.8, 3.9, 3.12</p> <p>Indicators (Chemicals and</p>	<p>SDG 12:</p> <p>Target 12.2 -</p>

<i>sources</i>		Existing Cambodian energy regulations include: the Regulation on Installation and use of Rooftop Solar Photovoltaic (PV) (March 2024), Regulations on General Conditions for Connecting Solar PV Generation Sources to the National Grid or to Consumer Electrical Systems, and Regulations on General Principles for Regulating Electricity Tariffs.	incentives (tariff vs subsidy) and mechanism for promoting use of solar PV in textile industries. End of project: 1 regulation and 1 standard banning/controlling use of POPs fully enforced by the national government; 1 incentive mechanism implemented for promoting use of solar PV in textile industries.		Risks Delay in finalization of POPs regulation and standards and completing of feasibility study. High risk due to need for revising regularly standards as project is only for 6 years duration.	Pollution Action) : (i), (ii), (iv)	Target 12.5
Output 2.3: Pilot hazardous chemical and sustainable energy projects	Number of best practices (pilot projects) developed	No pilot projects on sound management of chemicals in Cambodia	Mid-term target: At least 2 construction and 4 fashion SMEs pilot sustainable chemicals and energy projects including	Annual sustainability report of the companies/manufacturers/brands	Willingness of construction and fashion SMEs to pilot sustainable energy projects. Operating costs for the pilot projects enable	Direct Outcomes: 3.1, 3.4, 3.6, 3.9, 3.12	SDG 9: Target 9.4 SDG 12:

for selected small and medium enterprises (SMEs) in fashion & construction sectors			<p>women-led businesses</p> <p>End of project:</p> <p>At least 4 construction and 8 fashion SMEs pilot sustainable chemicals and energy projects including women-led businesses</p>		<p>access to finance to permit adoption of sustainable energy practices</p> <p>Regulations incentivize SMEs to proactively adopt sustainable pilots</p>	<p>Indicators (Chemicals and Pollution Action): (i), (iii), (iv)</p>	<p>Target 12.2 - By 2030, achieve</p> <p>Target 12.5 -</p>
Outcome 3 - Construction and fashion supply chain actors in Cambodia implement circular reverse logistics system	<p>Number of companies/brands/manufacturers implementing circular reverse logistics system</p> <p>Amount of chemicals and wastes reduced and avoided</p> <p>IP Programmatic indicator</p> <p>1A Number/proportion and types of product lines made using innovative or sustainable materials or to new standards/norm</p>	<p>There are 2 fashion material recycling companies in Cambodia.</p> <p>There is no national data available on construction and demolition waste generated in Cambodia. The country's fashion sector relies on imported textiles and produces around 140,000 Metric Tonnes of waste cuttings annually</p>	<p>Mid-term target:</p> <p>At least 5 construction and 5 fashion companies/brands/manufacturers implement circular reverse logistics system</p> <p>Direct emissions avoided: 23,556.9</p> <p>Tonnes of CO₂e;</p> <p>1,400 tonnes of PFAS waste avoided</p> <p>3064.56 Tonnes of residual plastic waste avoided</p> <p>Final-term target:</p> <p>At least 10 construction and 10 fashion companies/brands/manufacturers implement circular reverse logistics system</p>	<p>Annual Audit/Code of conduct of factories required by buyers/ ILO Better Factory / TAFTAC / Annual sustainability report</p> <p>Project reports, Project Implementation Reports (PIRs)</p> <p>Country level reporting</p> <p>Terminal Evaluation</p>	<p>Companies/brands/manufacturers public annual sustainability reports or include sustainability as part of their annual report and if yes, then if it is inclusive of information on circularity and progress towards SDGs</p> <p>Innovative solutions like recycled plastic eco-bricks will reduce use of sand in brick making and hence sandmined area by 1% by Y6.</p> <p>10% of fashion waste generated in Cambodia contains PFAS.</p> <p>2% of fabric imported into Cambodia contains PFAS.</p>	<p>Direct Outcomes: 3.1, 3.6, 3.8, 3.9, 3.12</p> <p>Indicators (Chemicals and Pollution Action): (i), (ii), (iv)</p>	<p>Target 12.2 - s</p> <p>Target 12.7 -</p> <p>Target 12.a</p>

	Stakeholders (consumers and/or private sector) that are informed and empowered	from the cut, make and trim operations, and majority of this waste is synthetic material. The brick and cement production as well as fashion sector contribute to significant GHG emissions. The construction and fashion materials have been found to contain hazardous chemicals like POPs.	<p>nds/ manufacturers implement circular reverse logistics system</p> <p>Area of landscapes under sustainable land management in production systems (indirect benefit): 62,520 ha</p> <p>Direct emissions avoided: 94,227.6</p> <p>Tonnes of CO₂e;</p> <p>5,600 tonnes of PPFAS waste avoided</p> <p>12,258.24 Tonnes of residual plastic waste avoided</p> <p>0.6 gTEQ/kg of POPs to air reduced</p>		<p>60% of fabric cuttings in Cambodia contains synthetic materials/plastic polymer.</p> <p>Use of fly ash can reduce GHG emissions by 35%.</p> <p>Project interventions can collectively reduce energy consumption by 29% and GHG emissions by 25%.</p> <p>30% of textile waste is burned</p>		
Output 3.1: Innovative solutions identified and piloted for recycling/upcycling materials	Number of best practices (innovative solutions) implemented	10 building best practices and 20 fashion best practices available in Cambodia related to recycling/upcycling of waste materials	<p>Mid-term target:</p> <p>2 best practices in construction and fashion sectors identified and implemented by Y3</p> <p>Final-term target:</p>	Audit/Code of conduct of factories required by buyers/ ILO Better Factory / TAFTAC / Annual sustainability report	<p>Assumptions:</p> <p>Innovative solutions using recycled materials identified and ready for upcycling demonstration Testing and production of upcycled material</p>	<p>Direct Outcomes: 3.1, 3.6, 3.8 3.9, 3.12</p> <p>Indicators (Chemicals and Pollution Action)</p>	<p>Target 12.2 -</p> <p>Target 12.7 -</p>

			4 best practices in construction and fashion sectors identified and implemented by Y6			: (i), (ii), (iv)	
Output 3.2: Capacity of national construction and fashion supply chain actors strengthened in application of circular reverse logistic system	No. of construction and fashion supply chain actors trained on circular reverse logistic system % of beneficiaries disaggregated by gender	GIZ has piloted circular approaches to foster textile waste recycling in Cambodia in collaboration with recycler, brands and manufacturers. They have also facilitated public and private stakeholders to do policy advocacy on enabling circularity.	Mid-term target: Atleast 4000 people in Y3 (60% women, 40% men) End of project: Atleast 8000 people in Y6 (60% women, 40% men)	Final Training reports endorsed by national government	Assumptions: Each quarterly training will target at least 50 people representing different stages of both supply chains. Timely development and implementation of trainings. Availability of skilled trainers. Readiness of trainers/targeted audience. Timely consent from province-level government agencies to carry out trainings in their regions.	Direct Outcomes: 3.1, 3.6, 3.9, 3.12 Indicators (Chemicals and Pollution Action) : (i), (ii), (iv)	Target 12.2 - Target 12.a
Outcome 4: Project partners adopt and act upon project results and lessons	Evidence of continuous improvement and changes implemented by Project Steering Committee (SC)	No of reports	End of project: Project Steering Committee (SC) members demonstrate learning has been integrated into programming	Mid-term Review (MTR) report	Assumption: Active participation in SC by members	Direct Outcomes: 3.13 Indicators (Chemicals and Pollution)	SDG 12: Target 12.2 -

						Action): (i)	Target t 12.5 -
Output 4.1. Monitoring of project outcomes and outputs to include quarterly financial reporting	Number of quarterly and annual progress reports, annual gender monitoring report, annual technical reports on estimation of GEBs and annual workplan and budget completed	No reports yet, strong reporting and Monitoring and Evaluation (M&E) procedures in place by the Implementing Agency	Mid-term target: 12 quarterly reports 2 PIRs 3 gender monitoring reports 3 technical reports on GEBs estimation 3 annual workplans and revised budget (if needed) (By Y3) End of project: 24 quarterly reports 5 PIRs 6 gender monitoring reports 6 technical reports on GEBs estimation 6 annual workplans and revised budget (if needed)	Quarterly reports, PIRs, gender monitoring reports, technical reports on GEBs estimation, annual workplans and revised budget (if any)	Assumption: High quality project management experience exists in the country	Direct Outcomes: 3.13 Indicators (Chemicals and Pollution Action): (i)	SDG 12: Target t 12.2 - Target t 12.5 -
Output 4.2:	Number of independent	No reports available	Mid-term 1 MTR	MTR and regular reports	Assumption: Regular reporting by EA	Direct Outco	SDG 12:

Mid-term and terminal evaluations results shared with stakeholders	reviews shared		3 project SC meetings End of project 1 TE Total 6 project SC meetings		and project country Risk: lack of adequate PM support at country level	mes: 3.13 Indicators (pollution action): (i)	<i>Target 12.2</i> - <i>Target 12.5</i> -
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ANNEX D: STATUS OF UTILIZATION OF PROJECT PREPARATION GRANT (PPG)

Provide detailed funding amount of the PPG activities financing status in the table below:

Project Preparation Activities Implemented	GETF/LDCF/SCCF Amount (\$)		
	Budgeted Amount	Amount Spent To date	Amount Committed
Others	18,000.00	0.00	0.00
UNEA6 Textile Exhibition	12,000.00	13,217.40	0.00
PPG Coordinator	21,312.00	15,984.00	5,328.00
National Consultants	58,000.00	30,000.00	28,000.00
Sample collection and analyses	18,000.00	18,000.00	0.00
National workshops	20,000.00	10,000.00	10,000.00
Bank fees and admin costs	2,000.00	1,500.00	500.00
Total	149,312.00	88,701.40	43,828.00

ANNEX E: PROJECT MAP AND COORDINATES

Please provide geo-referenced information and map where the project interventions will take place

Location Name	Latitude	Longitude	GeoName ID
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Kingdom of Cambodia	11.56	104.9	
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Location Description:

Activity Description:

Please provide any further geo-referenced information and map where project interventions are taking place as appropriate.

Map 1. Showing Cambodia



Map 2. Showing Cambodia and its position in relation to Southeast Asia



ANNEX F: ENVIRONMENTAL AND SOCIAL SAFEGUARDS DOCUMENTS INCLUDING RATING

Attach agency safeguard datasheet/assessment report(s), including ratings of risk types and overall project/program risk classification as well as any management plans or measures to address identified risks and impacts (as applicable).

Title

11170 - Annex F - SRIF

ANNEX G: BUDGET TABLE

Please upload the budget table here.

Proj. UNEP BUDGET LINE/OBJECT OF EXPENDITURE		ALLOCATION PER COMPONENT - UNEP						RESPONSIBLE EA
		Total	Component 1	Component 2	Component 3	M&E	PMC	
		US\$	US\$	US\$	US\$	US\$	US\$	
PROJECT PERSONNEL COMPONENT								MoE
1100	Project Personnel							
1101	Project Coordinator	107 000	0	0	0	0	107 000	
1102	Staff cost UNDP	128 400	42 800	42 800	42 800			
1199	Sub-Total	235 400	42 800	42 800	42 800	0	107 000	
1200	Consultants w/m							
1201	National Technical/Policy Consultant for construction sector	241 545	93 164	103 273	45 108	0	0	
1202	National Technical/Policy Consultant for fashion sector	641 545	376 545	186 000	79 000	0	0	
1203	International Technical/Policy Consultant for construction sector	180 516	67 036	74 954	38 526	0	0	
1204	International Technical/Policy Consultant for fashion sector	33 000	25 000	8 000	0	0	0	
1205	National Gender and Safeguard Consultant	43 550	19 550	12 000	12 000	0	0	
1206	National Knowledge Management and Communications Consultant	51 585	21 585	10 000	20 000	0	0	
1207	Monitoring and Evalutation Consultant	72 000	0	0	0	72 000	0	

1208	National Financial Consultant	46 000	20 000	15 000	11 000	0	0	MoE
1299	Sub-Total	1 309 741	622 880	409 227	205 634	72 000	0	
1300	Administrative Support							
1301	Administrative, finance and procurement assistant	60 000	0	0	0	0	60 000	MoE
1399	Sub-Total	60 000	0	0	0	0	60 000	
1600	Travel on official business (for EA)							
1601	Travel for construction sector	115 624	49 209	42 497	23 918	0	0	UNDP
1603	National travel for fashion sector	141 856	69 856	31 000	41 000	0	0	MoE
1604	International travel for fashion sector & global IP meetings	156 500	84 500	2 000	70 000	0	0	MoE
1699	Sub-Total	413 980	203 565	75 497	134 918	0	0	
1999	Component Total	2 019 121	869 245	527 524	383 352	72 000	167 000	
SUB CONTRACT COMPONENT								
2100	Sub contracts (UN Organizations) (*not relevant)							
2101	Technical services for construction sector	626 029	217 176	354 598	54 255	0	0	UNDP
2199	Sub-Total	626 029	217 176	354 598	54 255	0	0	
2200	Sub contracts (SSFA, PCAs, non UN) (*not relevant)							
2201	Technical services for fashion sector under component 1	649 500	649 500			0	0	MoE
2202	Technical services for fashion sector under component 2	985 005		985 005		0	0	MoE
2203	Technical services for fashion sector under component 3	315 045			315 045	0	0	MoE
2299	Sub-Total	1 949 550	649 500	985 005	315 045	0	0	

2999	Component Total	2 575 579	866 676	1 339 603	369 300	0	0	
TRAINING COMPONENT								
3200	Group training (field trips, WS, etc.)							
3299	Sub-Total	0	0	0	0	0	0	
3300	Meetings/conferences							
3301	National Working Group meetings-Fashion	54 000	0	0	0	54 000	0	MoE
3302	National Working Group meetings-Construction	42 000				42 000		
3303	Inception Workshop and Steering Committee meetings	92 000	10 000	10 000	10 000	62 000	0	MoE
3304	Construction sector trainings, workshops and awareness campaigns	156 750	63 066	61 900	31 784	0	0	UNDP
3305	Fashion sector trainings, workshops and awareness campaigns	622 000	325 000	162 000	135 000	0	0	MoE
3399	Sub-Total	966 750	398 066	233 900	176 784	158 000	0	
3999	Component Total	966 750	398 066	233 900	176 784	158 000	0	
EQUIPMENT and PREMISES COMPONENT								
4100	Expendable equipment (under 1,500 \$)							
4101	Office consumables	26 800	0	0	0	0	26 800	MoE
4102	Office supplies	11 200					11 200	UNDP
4199	Sub-Total	38 000	0	0	0	0	38 000	
4200	Non expendable equipment							
4201	Computer, fax, photocopier, projector and other audio visual aides	35 400	0	0	0	0	35 400	MoE
4299	Sub-Total	35 400	0	0	0	0	35 400	

4999	Component Total	73 400	0	0	0	0	73 400	
MISCELLANEOUS COMPONENT								
5200	Reporting costs (publications, maps, NL)							
5201	Translation	80 000	22 000	12 000	46 000	0	0	MoE
5203	Reports development	74 100	21 000	17 500	35 600	0		MoE
5203	Translation (UNDP)	57 000	19 000	19 000	19 000	0	0	UNDP
5204	Reports development (UNDP)	49 450	21 450	14 000	14 000	0		UNDP
5299	Sub-Total	260 550	83 450	62 500	114 600	0	0	
5300	Sundry (communications, postages)							
5301	Communications (postage, bank transfers, etc)	14 000	0	0	0	0	14 000	MoE
5302	Communications	9 600					9 600	UNDP
5399	Sub-total	23 600	0	0	0	0	23 600	
5500	Monitoring and evaluation							
5501	Financial audit	36 000	0	0	0	0	36 000	MOE
5502	Mid term Review	30 000	0	0	0	30 000	0	UNEP IA
5503	Final Evaluation	40 000	0	0	0	40 000	0	UNEP IA
5599	Sub-total	106 000	0	0	0	70 000	36 000	
5999	Component Total	390 150	83 450	62 500	114 600	70 000	59 600	
Grand Total		6 025 000	2 217 437	2 163 528	1 044 036	300 000	300 000	

Please explain any aspects of the budget as needed here

ANNEX I: RESPONSES TO PROJECT REVIEWS

From GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF.

11169 – Council & STAP Comments

Comment	How these comments are addressed during the PPG
Germany	
appreciates the foreseen transparency of material contents and awareness raising for workers on the health risks of the chemicals and products they work with.	Thank you.
Introducing more sustainable materials and processes is regarded as very challenging in both supply chains. The final proposal shall explain which activities can be targeted in an integrated manner and how actors in both sectors might learn from each other.	The three child projects which address both sectors (Ecuador, Cambodia, Global) will be the most integrated and explicitly address this. The global child project will be organized to maximise learnings – please see the KM strategy appendix
The PFD states that the empowerment and inclusion of vulnerable groups will be prioritised and further specifies individual cooperation partners. The final proposal shall outline relevant factors and concrete objectives for successfully empowering women and indigenous groups throughout the project.	The IP-wide stakeholder engagement process to develop the stakeholder plan will be led by the global child project and ensure vulnerable groups are engaged. Inputs from all child projects will be consolidated to analyse the factors and objectives as requested.
Appreciates the planned establishment of a shared knowledge repository. The final proposal shall include a strategy for covering diverse local contexts and solutions, also considering knowledge by local and national governments as well as development agencies and NGOs beyond the UN system.	The KM strategy of the coordination child project covers national and local knowledge and solutions. Child projects to actively share local solutions and knowledge with the coordination project as per the defined M&E and reporting schedule.
Component 4 – behaviour change: The proposal explains that consumers for global textile supply chains are predominantly high-consumption markets largely in the Global North. We	These issues will be addressed by the global child project, which will review both

request a more detailed clarification on i) which the mechanisms deploying international consumer markets are, and ii) how the selected transformation levers may influence these consumer markets (refer as well to recent market trends such as the European due diligence act as well as the upcoming Carbon Border Adjustment Mechanism).	consumer communications/ marketing trends (e.g. UNEP's recent playbook on fashion communication) as well as regulations in importing regions. The specific European acts are duly noted.
Component 5 – reverse logistic: Post-consumer and post-production waste are either mixed up or used as synonyms. Clearly differentiate these two strategies and review, if post-consumer waste is correctly placed under component 5 or rather should be moved under component 3	This observation is noted and the national child projects are taking a coordinated approach to have a consistent definition. Post-consumer waste will be kept in Component 5.
✓ Japan Comments	
Country selection: While the construction industries exist in any country, textile industries are concentrated in certain countries. Justifications are not adequately provided in terms of country selection on textile supply chains.	The IP countries were selected based on a competitive EOI process, which included a criterion on the relative importance of the country's sector in the global value chains. Child projects will clearly justify the country selection in the Rationale section of the CEO ER.
Structure: While some private investments are envisaged, they are very vague, and all project components are technical assistance. Justifications are not adequately provided to achieve the project objective.	Private investments have been confirmed during PPG phase and range from brand investments to commercial and public financial instruments. They have been further described in the cofinancing letters for the child projects.
Components: Although 9Rs are mentioned, more enhanced resource efficiency and circularity along with value chains should be highlighted more from design to recycling, to reduce pollution, GHG emissions, and biodiversity loss.	Child projects will highlight the contribution of circularity and resource efficiency concepts in support of all five components from design to end of life.
GEBs: Given that the project structure is based on TA, the expected GEBs (direct) seem very ambitious. Better to explain the rationale more clearly that this program can achieve such outcome	See response above on TA/ investment and impact.
Switzerland Comments	

<p>The theory of change, it is not understandable or logic how the program components are contributing to the goal of the program and how they are linked with each other.</p> <p>Activities planned are missing.</p> <p>Indicators and the predicted amount of savings are not really justified and plausible and the stakeholder analysis is missing/weak. Could you provide more information?</p>	<p>A revised ToC will be produced by each child project. An updated TOC for the IP has been developed by the Lead Agency as the basis for the Programmatic M&E strategy.</p> <p>Activities are not usually included in TOC as it would crowd the diagram and be unreadable. They will be described in the Project Description & Workplan sections of each child project.</p> <p>The GEBs methodology is robustly applied during PPG including through sampling and analysis of chemicals in products.</p> <p>Stakeholder analysis has been deepened in the PPG phase and is presented as an IP-wide stakeholder engagement plan with roles for each child project.</p>
<p>United Kingdom Comments</p>	
<p>While it is valuable to reference the triple planetary crises of climate change, pollution and biodiversity loss in reference to the IP on “Eliminating Hazardous Chemicals from Supply Chains”, it is also helpful to underscore these interlinkages throughout the other Integrated Programmes (and indeed, focal areas). Adding a short line to that effect in the introduction to the work programme, or under the section on the IPs (paras 38 – 39) could be helpful in this regard</p>	<p>This comment on the work programme documentation will be considered by GEF Sec.</p>
<p>United States Comments</p>	
<p>India: We believe the Ministry of Chemicals and Fertilizers should be incorporated into this proposal.</p>	<p>To be considered by UNIDO.</p>
<p>STAP Comments (response already provided in the final PFD submission):</p>	
<p>Consider developing a narrative of plausible futures that considers the potential effects drivers of change and their associated uncertainties on achieving the project's</p>	<p>During the PPG, it will be ensured that the rational section in each child project</p>

<p>goal, and use this to inform intervention options across the value chain and the different national child projects. See STAP's primer on future narratives for more guidance.</p>	<p>will include a narrative of plausible futures that considers the potential effects drivers of change and their associated uncertainties on achieving the project's goal. Each child project will use this to inform intervention options across the value chain.</p>
<p>Ensure that all child projects address each aspect of the supply chain with appropriate actions toward achieving the transformational levers.</p>	<p>The child projects as a whole do address all supply chain elements, however due to budget limitations, in some cases the child projects may not address all supply chain stages, in order to enable substantial results (e.g. the Trinidad MSP).</p>
<p>Recognize gender, Indigenous Peoples and Local Communities, and youths in the ToC, including in the overall project impacts and the example of activities. Pay extra attention to how to incorporate ILK into the child projects, where engagements take time and sensitivity.</p>	<p>Gender, Indigenous Peoples and Local Communities, and Youths aspects are recognised in child project ToCs. The PPG will pay attention to the engagement of Indigenous Peoples so that Indigenous learning and knowledge can be adequately incorporated into relevant child projects.</p>
<p>We encourage all child projects to analyze policies across the various sector within their countries to understand where conflicting policies can hinder the achievement of the expected outcomes and ensure these are addressed appropriately. See STAP's paper on policy coherence for more guidance.</p>	<p>Each child project will analyse policies in its selected sector(s) to understand where conflicting policies can hinder the achievement of the expected outcomes and ensure that these are addressed appropriately in the project intervention. One of the selection criteria for the EoIs was the willingness of submitting country to address these conflicting and hindering policies</p>
<p>Undertake a detailed analysis of the innovation in the program. Also, consider how the child projects can</p>	<p>Each child project will actively identify innovations during</p>

<p>demonstrate the many innovations highlighted in the PFD. Also, ensure that the global child project incorporates these innovations in its capacity building, technical assistance, knowledge management and learning aspects, awareness-raising, and advisor activities to help disseminate these solutions within the program and to countries outside the program. This will be essential for transformational change.</p>	<p>PPG and engage partners relevant to ensure their demonstration during the project implementation. The global child project will actively liaise with the other child projects during PPG so that its proposed intervention will serve the child projects, their identified innovations, and disseminate these best practices and lessons learnt inside and outside the program.</p>
<p>We encourage the program to follow through in tracking the transformational change impact of the program using the selected indicators.</p>	<p>The monitoring and Evaluation activities to be developed for the program will utilise the program indicators designed to track transformational change.</p>
<p>Provide more information on how the GEBs across the IP were estimated, including the underlying assumptions.</p>	<p>During the PPG, the program GEB methodology is further refined and applied by child projects according to the specific interventions being planned. The child projects will provide a detailed description of their GEB calculations in their projects proposals, including underlying assumptions.</p>
<p>Recognize the local environmental benefits that can be generated through the project and put in place provisions to track, measure and report these and the socioeconomic co-benefits. Please see STAP's paper on incorporating co-benefits in GEF's investments for guidance.</p>	<p>The program and child projects have identified further co-benefits during the PPG and ensure provisions are put in place to track measure and report these and the socioeconomic co-benefits.</p>

