

GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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General Project Information

Project Title

Reduced risks on human health & the environment through reduction of POPs & U-POPs in Eswatini

Region

Eswatini

GEF Project ID

11272

Country(ies)

Eswatini

Type of Project

FSP

GEF Agency(ies):

UNDP

GEF Agency ID

6728

Executing Partner

Eswatini Environment Authority

Executing Partner Type

Government

GEF Focal Area (s)

Chemicals and Waste

Submission Date

4/13/2023

Project Sector (CCM Only)

Taxonomy

Focal Areas, Chemicals and Waste, Emissions, Persistent Organic Pollutants, Unintentional Persistent Organic Pollutants, New Persistent Organic Pollutants, Sound Management of chemicals and waste, Open Burning, Waste Management, eWaste, Hazardous Waste Management, Eco-Efficiency, Mercury, Disposal, Plastics, Best Available Technology / Best Environmental Practices, Influencing models, Strengthen institutional capacity and decision-making, Deploy innovative financial instruments, Transform policy and regulatory environments, Stakeholders, Private Sector, SMEs, Individuals/Entrepreneurs, Type of Engagement, Information Dissemination, Partnership, Consultation, Participation, Communications, Awareness Raising, Strategic Communications, Behavior change, Public Campaigns, Indigenous Peoples, Civil Society, Community Based Organization, Non-Governmental Organization, Local Communities, Beneficiaries, Gender Equality, Gender results areas, Participation and leadership, Access to benefits and services, Knowledge Generation and Exchange, Gender Mainstreaming, Sex-disaggregated indicators, Women groups, Gender-sensitive indicators, Capacity, Knowledge and Research, Innovation, Enabling Activities, Capacity Development, Learning, Adaptive management, Indicators to measure change, Theory of change

Type of Trust Fund

GET

Project Duration (Months)

60

GEF Project Grant: (a)

4,935,000.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

468,825.00

Agency Fee(s) Non-Grant (d)

0.00

Total GEF Financing: (a+b+c+d)

5,403,825.00

Total Co-financing

31,140,000.00

PPG Amount: (e)

PPG Agency Fee(s): (f)

| | |
|---|------------------------------------|
| 150,000.00 | 14,250.00 |
| PPG total amount: (e+f) | Total GEF Resources: (a+b+c+d+e+f) |
| 164,250.00 | 5,568,075.00 |
| Project Tags | |
| CBIT: No NGI: No SGP: No Innovation: No | |

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? (iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B “project description”. (max. 250 words, approximately 1/2 page)

The project intends to ensure an integrated solid waste management towards zero waste and circular economy vision for Eswatini. Main focus of the waste streams in this project includes healthcare waste, E-waste and plastic waste, The project will help reduce pollutions of chemicals and waste, improve health and livelihoods of general population and workers through a gender-responsive approach, and foster green growth through public and private partnership in the services of the waste management and circular business particular SMEs.

To this end, in the healthcare sector the project will ensue upstream a reduction of hazardous waste through better segregation and pilot green procurement of healthcare consumable and devices; and by replacing the practice of open burning or incineration in substandard incinerators with a network of non-combustion treatment systems, supported by a dedicated logistic.

A circular economy approach will be taken in managing plastic packaging, electronics, appliances, and other consumer products. Project will scale up the successful experiences from UNDP accelerated lab and Small Grant Programme on behavior change to reduce the consumption of single use plastics (SUP) and increase recycling of packaging materials. Project will also promote take-back programme of electronics and appliances for recycling. Capacity building of waste sorting at households to segregate wet (organic) wastes and dry wastes for composting and recycling will be piloted. Hazardous chemicals and waste identified from the waste streams will be segregated for the sound disposal. Circular business model suited for the local market and SMEs will be promoted through providing initial incentives and technical assistance.

The revision and upgrade of the existing regulatory framework, plans and guidelines related to solid waste management, hazardous chemicals, healthcare waste, circular economy and EPR scheme will create the enabling environment for the actions listed above. In addition, institutional capacity building, awareness of the stakeholders and women empowerment, south-south cooperation will be supported and facilitated by the project for improving governance, sustainability and further scaling up of the best practices in the whole country including urban and rural areas. Potential synergies with other on-going and planning investments and initiatives in the country will be pursued to create more decent job opportunities particular for women and poor to improve equality.

Indicative Project Overview

Project Objective

The project intends to ensure an integrated solid waste management towards zero waste and circular economy vision for Eswatini. Main focus of the waste streams in this project includes healthcare waste, E-waste and

plastic waste, The project will help reduce pollutions of chemicals and waste, improve health and livelihoods of general population and workers through a gender-responsive approach, and foster green growth through public and private partnership in the services of the waste management and circular business particular SMEs. To this end, in the healthcare sector the project will ensue upstream a reduction of hazardous waste through better segregation and pilot green procurement of healthcare consumable and devices; and by replacing the practice of open burning or incineration in substandard incinerators with a network of non-combustion treatment systems, supported by a dedicated logistic. A circular economy approach will be taken in managing plastic packaging, electronics, appliances, and other consumer products. Project will scale up the successful experiences from UNDP accelerated lab and Small Grant Programme on behavior change to reduce the consumption of single use plastics (SUP) and increase recycling of packaging materials. Project will also promote take-back programme of electronics and appliances for recycling. Capacity building of waste sorting at households to segregate wet (organic) wastes and dry wastes for composting and recycling will be piloted. Hazardous chemicals and waste identified from the waste streams will be segregated for the sound disposal. Circular business model suited for the local market and SMEs will be promoted through providing initial incentives and technical assistance. The revision and upgrade of the existing regulatory framework, plans and guidelines related to solid waste management, hazardous chemicals, healthcare waste, circular economy and EPR scheme will create the enabling environment for the actions listed above. In addition, institutional capacity building, awareness of the stakeholders and women empowerment, south-south cooperation will be supported and facilitated by the project for improving governance, sustainability and further scaling up of the best practices in the whole country including urban and rural areas. Potential synergies with other on-going and planning investments and initiatives in the country will be pursued to create more decent job opportunities particular for women and poor to improve equality.

Project Components

Component 1. Enabling environment, including policy, regulations, and sustainable financing, for a transition to a circular economy in Eswatini

| | |
|----------------------------|-------------------|
| Component Type | Trust Fund |
| Technical Assistance | GET |
| GEF Project Financing (\$) | Co-financing (\$) |
| 550,000.00 | 540,000.00 |

Outcome:

Outcome 1: waste management regulation improved.

Outcome 2: NIP updated

Output:

Output 1.1: Regulatory tools for the establishment of EPR and circular economy drafted and enacted

Output 1.2: National Healthcare Waste Management Guidelines updated.

Output 1.3: Institutional strengthening of relevant institutions dealing in waste management[CDB1]

Output 1.4: Enforcement strategies for implementation of updated regulatory framework

Output 2.1: inventory of POPs updated.

Output 2.2: NIP priorities established.

Output 2.3: Updated Eswatini NIP endorsed and submitted to the Stockholm Convention secretariat

[CDB1] Inserted by CO in response to last minute question GEF focal point.

Component 2: Circular management of plastic materials EEE and organic materials in Eswatini

| | |
|----------------------------|-------------------|
| Component Type | Trust Fund |
| Technical Assistance | GET |
| GEF Project Financing (\$) | Co-financing (\$) |
| 1,700,000.00 | 400,000.00 |

Outcome:

Outcome 3: Circular Economy of plastic products and Electric and Electronic Equipment (EEE) and organic waste communicated and implemented and women entrepreneurship in CE promoted.

Output:

Output 3.1: awareness on plastic circularity raised and behavior related to plastic production and consumption changed.

Output 3.2. Women entrepreneurship in the sector of circular economy promoted.

Output 3.3: Awareness on circular economy options for EEE and WEEE raised

Output 3.4. Collection of WEEE with segregation and disposal of PBDE contaminated plastic carried out.

Output 3.5: infrastructures and logistic for the door-to-door collection of plastic waste implemented in at least 2 regions of Eswatini.

Output 3.6: recycling and reuse of plastic materials established

Output 3.7: Waste sorting at households and best practices through composting and material recycling in Eswatini established

Component 3: Environmentally sound management of healthcare waste in Eswatini

| | |
|----------------------------|-------------------|
| Component Type | Trust Fund |
| Technical Assistance | GET |
| GEF Project Financing (\$) | Co-financing (\$) |
| 2,100,000.00 | 28,423,000.00 |

Outcome:

Outcome 4 - HCW management improved with a lifecycle perspective.

Outcome 5 - Environmentally sound management of mercury in the healthcare sector established

Output:

- Output 4.1. Women access to jobs and women entrepreneurship in the HCW sector ensured.
- Output 4.2: training for the upstream management of healthcare waste carried out.
- Output 4.3: Equipment for HCW collection, storage and transport deployed and demonstrated.
- Output 4.4: technologies for HCW pretreatment established in main healthcare facilities.
- Output 4.5: centralised technologies for HCW disposal established.
- Output 5.1: training on mercury management, with focus on mercury containing equipment, carried out.
- Output 5.2: sustainable alternatives to mercury containing equipment implemented.
- Output 5.3: Facilities for mercury waste permanent storage established.

Component 4: Project Knowledge Management and M&E

| | |
|----------------------------|-------------------|
| Component Type | Trust Fund |
| Technical Assistance | GET |
| GEF Project Financing (\$) | Co-financing (\$) |
| 200,000.00 | 100,000.00 |

Outcome:

Outcome 6. Knowledge management and knowledge sharing at national and international level established

Output:

- Output 6.1.: A knowledge hub to promote circular economy concepts in healthcare waste management established.
- Output 6.2. Multimedia and events to promote circular economy concepts and share project result for the general population, the private sector and the environmental authorities carried out
- Output 6.3 A project website developed and maintained.

M&E

| | |
|----------------------------|-------------------|
| Component Type | Trust Fund |
| Technical Assistance | GET |
| GEF Project Financing (\$) | Co-financing (\$) |

150,000.00

100,000.00

Outcome:

Outcome 7. M&E and adaptive management applied to capture lessons learned from project, including inception workshop.

Output:

Output 7.1. Project inception meeting held, and inception report drafted

Output 7.2. Project Monitoring ensured through project lifetime.

Output 7.3 Project Mid Term Review and Project Terminal Evaluation carried out

Component Balances

| Project Components | GEF Project Financing (\$) | Co-financing (\$) |
|---|----------------------------|----------------------|
| Component 1. Enabling environment, including policy, regulations, and sustainable financing, for a transition to a circular economy in Eswatini | 550,000.00 | 540,000.00 |
| Component 2: Circular management of plastic materials EEE and organic materials in Eswatini | 1,700,000.00 | 400,000.00 |
| Component 3: Environmentally sound management of healthcare waste in Eswatini | 2,100,000.00 | 28,423,000.00 |
| Component 4: Project Knowledge Management and M&E | 200,000.00 | 100,000.00 |
| M&E | 150,000.00 | 100,000.00 |
| Subtotal | 4,700,000.00 | 29,563,000.00 |
| Project Management Cost | 235,000.00 | 1,577,000.00 |
| Total Project Cost (\$) | 4,935,000.00 | 31,140,000.00 |

Please provide justification

PROJECT OUTLINE

A. PROJECT RATIONALE

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

A1- The global environmental problems.

The environmental contamination associated with poor management of waste – either municipal, industrial, or sanitary – is a global issue. It's not only plastic waste -although that is clearly a global emergency now: the improper disposal of several other waste categories - including E-waste, healthcare waste, end of life vehicles, chemical waste – may impact the environment far away from the site where such waste are dumped. For instance, open burning, or the burning in sub-standard incinerators of healthcare waste is well known for being one of the main sources of PCDD/F; electric and electronic waste (WEEE) and end of life vehicles (ELV) may contain not only several species of heavy metals, but also POPs flame retardants (PBDEs, PBB, etc.) in high concentrations, as well as ozone depleting substances (ODS). Mercury contained in waste (like broken thermometers and sphygmomanometers) of from industrial waste, due to its geochemical cycles may be transported globally through atmosphere and water. Some building waste – for instance insulation foams (EPS and XPS), and materials painted with chloro-rubber paint, may also contain chlorinated and brominated POPs.

The mismanagement of waste affects negatively the economy, as it prevents the re-use of re-cycle of valuable materials which instead ends up in the environment, affecting not only the environmental quality but also hindering key economic activities like tourism, fishery and agriculture. At the same time, mismanagement of waste is more frequent in areas where the absence of infrastructures – transportation, water and electricity networks – prevents the efficient collection, transportation, treatment and recycling of waste. Therefore, a perverse loop does exist between poverty and waste mismanagement which are mutually reinforced.

A2. Eswatini: Economy, Geography, Demography, Climate

Geography. Eswatini is a landlocked country located in Southern Africa, bordered by South Africa and Mozambique. Eswatini has an area of 17,363 square kilometres. The major regions of the country are Lowveld, Midveld and Highveld. The greatest distance from north to south is 120 miles and from east to west is roughly 90 miles. The terrain largely consists of mountains and hills, with some moderately sloping plains. The lowest point is the Great Usutu River at 21 metres, and the highest is Emlembe at 1,862 metres.

Economy. Eswatini's economy is closely tied to South Africa, with 85% of imports and 60% of exports dependent on South Africa. The main production in Eswatini is sugarcane. The country is the fourth largest producer of sugar in Africa and is 25th in production in the world, with an overall sugarcane production amounting to 722,000 tons per year.

Eswatini mining facilities include the Bulembu asbestos mine (27 700t in 1998), the Maloma colliery and two aggregate quarries at Kwalini and Tonkwane. Minerals account for 2% of Swaziland's GDP as well as 2% of export earnings. Currently, Eswatini's mineral sector is governed under a policy drawn up prior to Swaziland's independence.

Eswatini is a member of the Common Monetary Area (CMA) along with Lesotho, Namibia, and South Africa. Under the CMA, the domestic currency, the Eswatini Lilangeni, is pegged to the South African rand, which is also legal tender in the country.

Poverty in Eswatini is still high with 36.1% of the population of 1.2 million living below the international \$2.15 poverty line in 2016 and 2017.

Population. As per the last census, the current population of Eswatini in 2023 is **1,210,822**, a **0.76% increase** from 2022. The largest share of the population of Eswatini lives in rural area (79.2% in 2021) In the same year, around 20.8% of Swazi lived in the 24 urban areas (Dlamini, et al., 2017).

A3. Access to electricity and water in Eswatini

Availability of utilities (water and electricity) and good transportation infrastructures are key factors in ensuring an efficient and safe management of waste. Some disposal technologies are particularly demanding in term of water and electricity consumption – for instance autoclaving - whilst incineration relies more on the availability of fuel. A brief analysis of the access to utilities and infrastructures is reported below:

- **Access to electricity.** Based on data collected by World Bank in 2020, in Eswatini 92% of the population in urban areas has access to electricity, against 79.7% of the population located in rural area^[1]
- **Availability of water.** In term of access to water, although universal access to safe water and sanitation is part of Eswatini's National Development Strategy (NDS, 2016), the country remains behind its established goal of achieving 100 percent water supply and sanitation coverage by 2022. Based on World Bank data, only 24.1% of the population has access to basic handwashing facilities and only 71% has access to at least basic drinking water services^[2].

Eswatini and International conventions

Stockholm Convention on POPs. Eswatini is party of the Stockholm Convention on Persistent Organic Pollutants since 2006 and has submitted the National Implementation Plan for the SC in November 2010.

Basel convention: Eswatini is a party to the Basel and signed the Bamako Convention and participated in Rio de Janeiro in 1992 where it supported the provisions of Agenda 21 amongst other declarations and statements of principle, such as the Rio Declaration on Environment and Development. Agenda 21 is a global plan of action supported by the United Nations which calls for the improvement of environmental information for decision-making

Eswatini is also signatory of other Multilateral Environment Agreements related to chemical management, including the Montreal; Bamako Convention on the Import into Africa and the Control of Trans-boundary Movement and Management of Hazardous Waste Within Africa; UNFCCC, the Rotterdam Convention, and the Minamata Convention on mercury.

Regulatory framework on waste

The Environmental Management Act (EMA) 2002, through the Waste Regulations of 2000, the Litter Control Regulations of 2011, and the Plastic Control Regulations of 2021, are the primary legal instrument regulating waste management in Eswatini. These regulations under EMA give EEA the mandate to enforce and regulate waste management in Eswatini: however, there is generally poor enforcement and implementation of these regulations due to various reasons, for example, insufficient capacity of EEA.

The 2002 National Solid Waste Management Strategy (NSWMS) was only partially implemented (for instance, a waste information system has never put in place, and the waste management plans, when submitted by local authorities were not followed through by the central government). Another NSWMS developed in 2016 was never implemented.

Therefore, in 2022, under the UNDP project “Waste Management for Improved Livelihoods And Resilience Project” a “**National Integrated Waste Management Pollution Prevention and Control Strategy**” has been developed. This is envisaged as roadmap for the revision and implementation of the 2002 SWMS, including the development of a National Waste Information System, the implementation of the principles of circular economy and of an EPR mechanism, the implementation of the waste hierarchy, mainstreaming gender aspect through empowerment and participation of diverse groups of women and men in waste management.

Regulatory framework on Healthcare Waste. In 2013 the Ministry of Health (MOH) developed a five-year National Implementation Strategy (NIS) for the development of a robust and sustainable HCWM System in Eswatini to guide stakeholders on deciding priority interventions in their respective areas of competency and interest. In the same year, the government drafted the National Healthcare Waste Management guidelines to provide practical information regarding safe, efficient and environment-friendly waste management options. The guidelines serve as a useful guide in planning, implementation, monitoring and evaluation of healthcare waste management programs of all healthcare facilities (HCFs) and other health related establishments. In 2014, National HCWM Standard Operating Procedures consisting of step-by-step instructions to assist workers in implementing the various policies, standards and guidelines were drafted.

The World Bank and European Union provided both technical and financial support for the development of the National Healthcare Waste Management Policy Note, 2018. The finalization of the National Regulations on Health Care Waste Management is, however, still in a draft form. There is currently the need to update the guidelines to align them with the new regulation.

In 2022, the Ministry of Health, under guidance of the World Health Organization, and within a loan agreement supported by the World Bank, has developed the “National Health Care Waste Management Strategic Plan” (NHCWMSP) for 2022 – 2027 to further guide the execution of activities within the healthcare industry.

HCWM related regulations and guiding documents (including legislation, code of conduct, Management Plan, Policy, Standards, etc.) have been found available and enforced in 61% of HCFs.

There is need to ensure wide distribution of related HCWM legislation and further ensure enforcement of same. Despite the stipulated organizational structure in the HCWM guidelines, there is no clearly documented organizational structure at regional and national levels. Around 67% of HCFs have designated HCWM officers although often the deployed members of staff for HCWM duties were engaged in other chores apart from waste management.

1. Waste management

Although urban residents produce greater waste than rural people per capita, in absolute terms the amount of waste generated by rural residents is higher, as the rural population in Eswatini is much larger than the urban population.

Based on the SoER report, the national waste generation estimates by category are as follows:

1. The total (national) amount of waste generated per annum is 238,341 tonnes; of which 100,933 tonnes (42%) are generated in urban areas, and 137,409 tonnes (58%) are produced in rural areas.
 - In term of recycling or reuse, 21,993 tonnes are recycled/reused in urban areas while 48,093 tonnes recycled/reused in rural areas, for an overall amount of 70,086 tonnes (29%) of waste which are recycled or reused on a yearly basis. It should be noted that there is not a clear definition of recycling or reuse under the Eswatini regulations on waste, therefore the modality of recycle or reuse are largely unknown. The relative proportion of different waste categories in 2021 is as follow: 93,144 tonnes of organic waste; 44,281 of plastic waste; 20,105 tonnes of glass. There are no available data related to the generation of hazardous waste, except healthcare waste (see section below).

2. Healthcare waste

The healthcare service delivery system of the Eswatini Health Sector is organized in a four-tier system: i) National Referral Hospitals; ii) Regional Hospitals; iii) Primary Health Care facilities including Health Centers, Public Health Units (PHUs), Rural Clinics and a network of outreach sites; iv) Community Based Care where Rural Health Motivators (RHM), Faith-based Health Care Providers, Volunteers and Traditional Practitioners provide care, support and treatment. In 2017 a total number of 327 HCFs was registered.

Health care waste management in Eswatini has improved due to interventions from previous projects such as the health care waste management plan for Eswatini developed for the Health, HIV/AIDS and TB Project.

Current challenges in HCW management include the prevalence of sub-standard or non-functional incinerators, fuel shortages to operate the incinerators, poor waste segregation, treatment and disposal practices in some health care facilities, HCW frequently burnt in the open or disposed by unlicensed operators.

The COVID-19 pandemic resulted in more waste being generated than can currently be handled, this has simultaneously resulted in inadequate storage space, containment receptacles, and vehicles for collecting hazardous waste from health care facilities without on-site treatment.

Recently (“Assessment Of Waste Management Practices In Public Health Centres” (Bhekiwe V. Hlope-Dlamini, 2021) the Government of the Kingdom of Eswatini, during the COVID-19 outbreak, has assessed waste management practices in 19 public health centres which are used as vaccination sites. This involved the review of the existing health care waste management (HCWM) practices and their compliance with international standard. Based on the data reported in such survey, the 24 largest healthcare facilities in Eswatini (number of beds ranging from over 400 to 10) accommodate an overall number of 2459 beds, of which 2048 from hospitals, 203 from clinics and 208 from health centers. From such data it has been extrapolated that in the year 2019, the average amount of medical waste incinerated was in the order 0.67 kg per bed per day. The amount of waste burnt in the open is unknown. It is likely that the amount of waste generated per hospital is larger than the amount incinerated, as part of the waste is normally disposed of in pits located in the backyard of the hospitals or burnt in the open.

Assuming that the average figures calculated from the data generated in that survey apply to all the healthcare facilities in Eswatini, the overall amount of healthcare waste incinerated would be in the order of $0.674 \times 2459 \times 385 = 603.6$ t/y. In term of release of PCDD/F, adopting the emission factor proposed by the UNEP toolkit (UNEP 2013), that would correspond to a release in the environment of around 24 g of PCDD/F per year.

This amount is probably an underestimation as does not cover waste generated by pharmacies, dental clinics, healthcare services without beds, veterinary clinics.

It should be considered that, in term of absolute quantity, the amount of waste incinerated is very low: it is in the order of 1.6 ton/day, an amount which theoretically may be accommodated by two small-size incinerators or two mid-size autoclaves. Beside the lack of availability of modern technologies for HCF disposal, and the limited capacity to operate larger, more modern facilities compared to the ones currently in use in the healthcare facilities other key issues are:

- Limited capacity and awareness of the procedures related to the safe disposal of healthcare waste.
- Discontinuous / ineffective segregation of waste at source to reduce the quantity of hazardous healthcare waste;
- Lack of vehicles for the transportation of waste, and periodic fuel shortage issues^[3];
- Discontinuous or low-quality access to water and electricity;
- The logistic aspects related to the storage and transportation of waste to the centralized treatment centers: in term of transportation infrastructure, whilst the main towns in Eswatini are connected by a good road network, secondary roads are often in poor condition and the connection with villages and rural areas is difficult.

3. Plastic WASTE

Based on a report prepared for UNDP by Urban-Econ, Nikela and Toma Now^[4], there are two formal plastic waste processing/treatment facilities/operations in Eswatini, of which one manufactures plastic bags and the other produces plastic pellets. However, in most of the cases plastic waste is predominantly baled and then sold to bulk buyers for export toward the South African market.

Transportation and labour costs are generally considered as the leading operational costs.

The management of plastic waste management in Eswatini is extremely poor. Based on research published in 2020^[5] the situation of plastic waste in the country can be summarized as follows:

1. Regulations attempts related to the banning or restriction of single use plastic failed and were dropped “due to the opposition from commerce and industry, as well as defiance and protest from retails, groceries and plastic industry.” That include the withdrawal of the plastic bag tax policy that was introduced in 2015 by the Eswatini Environment Authority (EEA) namely the Environment Management Act, Control of Plastics Bags Regulation Notice of 2015.
2. Infrastructures for the management of municipal waste are scarce, and only concentrated in urban areas, although even in urban areas, the collection of plastic waste is not efficient. There are no infrastructures for the collection and disposal of municipal waste in the rural areas.

3. Usage of SUP is continuing to rise at a very fast pace. In 2016, the average number of single-use plastics bags issued out for free by large franchises in the country (Boxer, Shoprite, Spar and Super Spar Stores) amount to 1,790,000 plastic bags per month.
4. the Kingdom of Eswatini have very few properly constructed (Engineered) landfills and the distribution of landfills and dumping sites in the Kingdom is a matter of concern. As such, the country is characterized by dumping of waste in prohibited sites which contributes to environmental deterioration. Rural Eswatini has no formal dumping sites.
5. Using population census data and the poverty index of each enumeration area, the study estimated that the total amount of waste generated per annum is 238,341 tonnes, with 100,933 tonnes (42%) generated in urban areas while 137,409 tonnes (58%) is generated in rural areas.
6. Open burning of plastic waste is still the most common waste management practice in Eswatini (average of 94% of the household surveyed), followed by disposal in pits in the backyard (which from time to time are anyway either accidentally or intentionally burnt)
7. Recycling / reuse of plastic waste is extremely limited and carried out by consumers, as there are no plastic recycling facility in the country.

4. E-waste

There are no official statistics related to the generation of E-waste in Eswatini. A pilot project on E-waste management was funded by the European Union as a part of the technical assistance of the Secretariat of the Basel Convention and is implemented by the Swaziland Environmental Authority (SEA). [\[6\]⁶](#)

Although the project has not yet delivered an inventory E-waste, it provided indeed useful figures and facts related to the amount of electrical equipment imported, used and out-of-use, and the most common management modalities.

In Eswatini there are no formal E- waste collection systems. Scrap metal collectors do not specifically focus on e-waste but on any type of metal-containing waste.

Generally, e-waste volumes from private households are still moderate and there is a common consumer behavior of not giving away obsolete devices because they are considered to be still having value. Therefore, there is quite an important “hidden storage” of E-waste in the country.

The current ratio between in-use (new and old) and not in-use equipment is very high with all the item traced in the report. The equipment not in use are either not functional or broken and should be therefore considered waste. Almost all the in-use equipment are 2-5 years old, and therefore near their end-of-life stage. There is no EPR policy or any form of taking back end of life products when selling new one. This should be established as a matter of urgency to avoid the dumping in the environment of end of life electrical or electronic equipment.

Based on data found In the UNEP report (as provided from the custom authority), since 2011 the following electric and electronic equipment were imported in Eswatini:

| | |
|---|-----------|
| Air conditioners | 83,779 |
| Portable digital data processors / laptop | 3,186,853 |

| | |
|---------------------------------|-----------|
| Microwave ovens | 7,256,283 |
| Printers, scanner, facsimile | 631,591 |
| CRTs/TV set | 418,767 |
| Straight tube fluorescent lamps | 21,600 |

Of interest is the amount of CRT/TV sets still in the country. CRT plastic casing are the equipment which is more likely to be treated with POPs flame retardants; furthermore, CRTs screen contains a large amount of lead and are very difficult to be recycled or disposed of. Based on the results of a project being carried out by UNIDO in the Philippines, the average content of PBDE in CRT plastic casing was found in the order of 8g PBDE/kg, whilst the average weight of a CRT plastic casing was estimated in the range of 2.5 to 3.2 kg^[17]. Based on that estimate, it may be expected that the CRT monitors purchased in Eswatini contain an overall amount of PBDE ranging from 8.4 to 10.7 tons.

5. Organic waste

Organic waste in Eswatini. Based on data reported by the report “Waste management and Livelihoods Value Chain Business Model”, organic waste is the most produced household waste sub-category across all the areas i.e., rural, peri-urban and urban (see figure below).

Despite the large amount of organic waste generated, the composting of municipal waste in Eswatini is virtually absent. There are currently no known initiatives either at community level or industrial level for the composting of organic waste from household.

Electricity from organic waste in Eswatini. The amount above does not include agricultural waste or the waste generation from the sugar processing, which is the leading industry in Eswatini. Sugarcane bagasse, i.e. the material that remains after crushing sugarcane to extract their juice, amount to around 280 kg per ton of sugarcane processed. (Rabelo, 2011). The energetic content of 1 ton of sugarcane bagasse is comparable to around 598 liters of diesel oil. Based on FAO, for each ton of sugar cane cut it is possible to obtain approximately 120 kg of sugar, 38 kg molasses, 36 kg of filter mud and 250 kg of bagasse, 60 kg of straw and 100 kg of tops.

Indeed, in Eswatini, almost 100% of the electricity generated in is from hydropower and sugarcane-based biomass cogeneration. Ubombo Sugar Limited was the first independent power producer in ESwatini to supply biomass power to the national grid. On average it produces 165 gigawatt hours (GWh) of electricity annually, of which about 60GWh is supplied to the national grid under a commercial power supply agreement with the state-owned Eswatini Electricity Company (EEC). the Royal eSwatini Sugar Corporation, developed the 47 megawatt Simunye Sugar Cogeneration Plant in multiple phases over the years. It is producing power to support its own production processes and excess electricity is shared with residents of surrounding villages.

The country’s total installed generation capacity in 2014 was about 180MW, according to its Energy Master Plan 2034. Biomass made up 106MW, hydropower 61.5MW, diesel 9MW and local coal-fired power plants 2.2MW.

The generation of electricity from sugarcane is however facing several challenges:

1. Sugar industry decline: the sugarcane industry in Eswatini is projected to a significant decline from now to 2050.

2. Electricity from biomass is considered as a “bridging technology” by many climate scientists, which has to be replaced by fully renewable sources like solar and wind.
3. Electricity from biomass can generate air pollution if the APCS of the plants is not efficient or up to the standards.

In this perspective, it is important to find more sustainable alternatives for the use of sugarcane bagasse which may use not only its energy content, but also its material. Using sugarcane in organic waste composting as a compost enhancer is now quite widespread^[8] Sugarcane bagasse can be used as organic waste component in several composting process with the effect to increase the quality of the compost and to generate large amount of good quality natural fertilizer to be used in agriculture.

Baseline projects

In the table below, a summary of ongoing baseline projects in Eswatini, together with a short description related to its relevancy to the proposed project is provided. The purpose of the table is to identify synergies and coordination opportunities which could facilitate the implementation of this project and the achievement of its objectives.

| Baseline projects | Implementation period | Relevance to the proposed project |
|---|-----------------------|---|
| <p>Kingdom of Eswatini: Water Supply and Sanitation Access Project. (World Bank)</p> <p>The objective of this project is to increase access to improved water supply and sanitation services in targeted areas of Eswatini.</p> <p>The project has four components. (1) Resilient water access and management to increase potable water supply coverage in the Shiselweni region, improve long-term management of water resources, investment planning, and sustainability of water supply service provision; and build resilience to climate and disaster risks, with a focus on droughts. (2) Improve Sanitation Access component will build on the ongoing work that has been done by the EHD on appropriate technology/sanitation service delivery for rural domestic sanitation in the three tinkhundla (Zombodze, Hosea, and Shiselweni I) that will benefit from improved access to water service</p> <p>The project envisages to achieve the following objectives: Increase the number of people provided with access to improved water sources and improved sanitation services; reach people through hygiene awareness campaign; provide health centers and schools with improved water access and sanitation services; build sanitation facilities in schools and health centers; construct water pipelines.</p> | 2020-2025 | <p>The project is obviously relevant to the healthcare waste component of this project, either directly (as it intends to provide healthcare facilities with improved water access and sanitation services) and indirectly (as it intends to provide improved water access and sanitation services in the rural areas where small health center exist). Coordination should be ensured between this project and the WB project so that health centers which are provided with sanitation services and improved water access may also be provided with small autoclave equipment to sterilize waste, reducing therefore the risk of infection and/or the dumping and open burning of HCW in the environment.</p> |

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| <p>World Bank “Health System Strengthening for Human Capital Development in Eswatini”</p> <p>The objective of the Health System Strengthening for Human Capital Development in Eswatini Project for Eswatini is to improve the coverage and quality of key reproductive, maternal, neonatal, child and adolescent health (RMNCAH), nutrition and Noncommunicable Disease (NCD) services in Eswatini.</p> | 2020-2025 | <p>The project is complementary to the component 2 of the proposed project. Coordination of the proposed project with the WB project, to ensure that improved HCF also can benefit of an improved HCW management would be therefore very beneficial.</p> |
| <p>World Bank “Network Reinforcement and Access Project for Eswatini “</p> <p>This project aims at improving the reliability of electricity supply and increase access to electricity services in targeted areas of the country (Nhlangano II, Lavumisa, and the Shiselweni region) and align the distribution network with present and projected electricity demand.</p> | 2019-2024 | <p>Coordination should be ensured between this project and the WB project on the electric network so that areas with improved access to electric network will be prioritized for the establishment of waste treatment centers.</p> |
| <p>UNDP: Waste Management for Improved Livelihoods and Resilience Project.</p> <p>The project is a COVID-19 Green Recovery initiative. The project objective is to address the challenge of waste management in Eswatini and empower MSMEs, particularly women and youth, to regain sources of income to improve livelihoods, reduce levels of poverty and improve their overall wellbeing. The project has two interlined outputs towards realization of the objective namely; Output 1: Inclusive strategy developed to strengthen waste sector policy, legislation, institutional coordination and capacity building; and Output 2: Sustainable innovative solutions developed and implemented for women and youth. .</p> <p>Under the same project the initiative Vukani BoMake has established a cottage factory that produces masks, bedding, sanitary wear, underwear, and children’s clothing using waste from the textile factories in Matsapha. The cottage factory, which is based in Manzini on land donated by the municipality, hires 40 people including women, Persons with Disabilities, and the youth</p> | | <p>Under this project,in 2022, a “National Integrated Waste Management Pollution Prevention and Control Strategy” has been developed. This is envisaged as roadmap for the revision and implementation of the 2002 SWMS, including the development of a National Waste Information System, the implementation of the principles of circular economy and of an EPR mechanism, the implementation of the waste hierarchy, mainstreaming gender aspect through empowerment and participation of diverse groups of women and men in waste management.</p> |
| <p>UNEP Disposal of PCB Oils Contained in Transformers and Disposal of Capacitors Containing PCB in Southern Africa (executed by Africa Institute in the 12 countries of Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland (now Eswatini), Tanzania, Zambia and Zimbabwe in partnership with Southern African Power Pool (SAPP).</p> | Ongoing (30/06/2024) | <p>The project is relevant to the activities envisaged under component 1, related to the update of the National Implementation Plan of the Stockholm Convention on Persistent Organic Chemicals.</p> |
| <p>The Phatsa Sakho Nawe Campaign is an experiment conceived and facilitated by the UNDP Eswatini Accelerated Lab in conjunction with Eswatini Environment Authority (EEA). The campaign ‘Plastic Free weekends’ aimed at encouraging people to reduce use of plastics during the weekends of the month of December 2020 and January 2021. Due to success of the project increased interest, the Campaign was extended beyond the January 2021 date and weekends.</p> | Ongoing (extended indefinitely beyond 2021) | <p>The Phatsa Sakho campaign is very synergic with the activities envisaged under component 2 related to the avoidance of SUP, and the project indeed can build on such campaign to further extend its reach and scope.</p> |

[1] <https://data.worldbank.org/indicator/EG.ELC.ACCS.UR.ZS?locations=SZ>

[2] <https://data.worldbank.org/country/eswatini>

[3] See <https://ewn.co.za/2023/01/05/disruptions-erupt-across-eswatini-petrol-stations-amidst-fuel-shortage-crisis>

[4] Urban-Econ, Nikela and Toma Now (2022) Waste management for improved livelihoods and resilience in Eswatini: Sustainable Value Chain Business Model. Prepared for UNDP under the “WASTE MANAGEMENT AND LIVELIHOODS PROJECT OUTPUT II”

[5] Sizwe M. Nxumalo, Sizwe D. Mabaso, Siphon F. Mamba, Saico S. Singwane, Plastic waste management practices in the rural areas of Eswatini, Social Sciences & Humanities Open, Volume 2, Issue 1, 2020, 100066, ISSN 2590-2911,

<https://doi.org/10.1016/j.ssaho.2020.100066>.

[6] UNEP (2018). Swaziland E-waste management pilot project. E-waste flows in Swaziland - progress report.

[7] Carlo Lupi. Report On PBDE Policies In The Philippines- ISA Contract Agreement 51483. Prepared for UNIDO, may 28, 2022.

[8] <https://compost-turner.net/composting-technologies/sugar-mill-waste-management.html>

B. PROJECT DESCRIPTION

Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. 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 PIF guidance document. (Approximately 3-5 pages) see guidance here

B.3 Project Theory of Change.

The project intends to boost a systemic change in the waste management in Eswatini, and particularly in the three critical areas of healthcare waste, plastic waste and E-waste, with the associated reduction of POPs and U-POPs. In each sector, actions are envisaged to improve knowledge, awareness, equal gender opportunity and benefits, logistic for collection and waste transportation, circularity (through avoidance, recycling and disposal technologies) and enhancement of the current regulation. This is summarized in the table below.

Furthermore, the project will undertake the update of the NIP on POPs, to set priorities related to the management of POPs in the country, including their implications on the waste management.

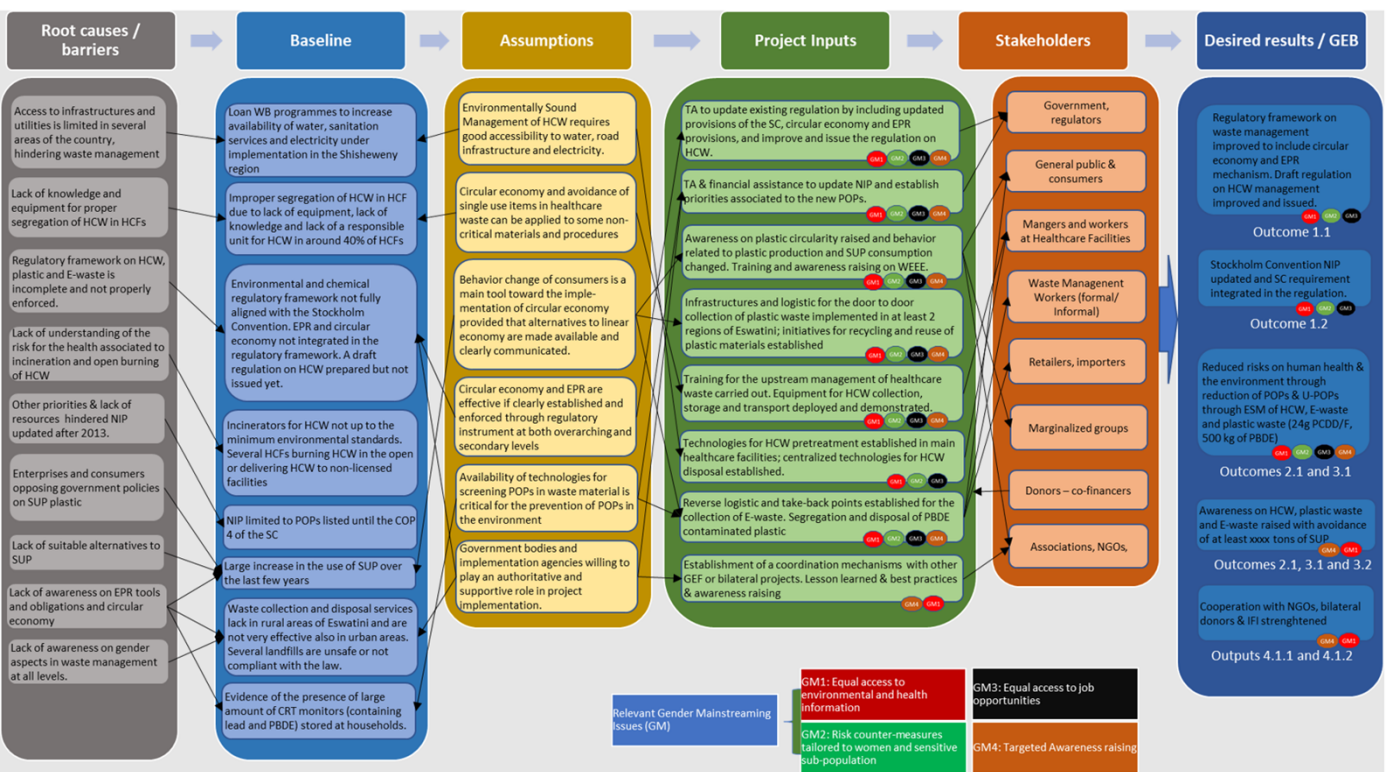
| | Healthcare Waste | Plastic Waste | E-Waste | Organic waste | Synergies and differences |
|---------------------------------------|--|---|---|--|--|
| 1.) Increase knowledge and awareness: | Provide training for operators through direct and training for trainers on the pre-segregation of hazardous vs non-hazardous components of healthcare waste in the hospital, to reduce | Raise awareness, mostly at the community level on alternative to plastic and modalities to reduce the use of Single Use Plastic Products (SUPP); increase the | Increase the awareness on the risk associated with E-waste (mostly at household and community level), the modality for E-waste collection and the economic benefits that could come from a proper recycling of E- | Increase the awareness on the benefits of composting of organic waste, and how to achieve a good quality composting. | Awareness raising activity for consumers and households will target both E-waste and plastic waste whilst awareness raising for healthcare waste will be |

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| | the overall amount of hazardous waste. | knowledge on the benefits related to the door to door collection of segregated plastic waste compared to the re-collection from landfills; introduce the value of different plastic materials and the recycling options. | waste. Disseminate knowledge related to the presence of POP Brominated Flame Retardants and other hazardous substances in E-waste. | Increase the knowledge on the integration among industrial-level composting of agricultural organic waste, including sugarcane bagasses, and the organic waste generated by households at municipal level, to significantly reduce landfill use and find environmentally sound sources for agricultural fertilizers. | mostly workers in the HCFs. Training related to recycling and disposal technologies will be mostly for entrepreneurs and operators in the waste management sector. |
| 2) Implement logistic options for waste collection and transportation: | By mapping cluster of healthcare facilities all the 4 regions of Eswatini including micro/small, medium and large facilities with the purpose to identify the best logistic modality to ensure that hazardous healthcare waste is delivered timely (within one day from generation) to the facilities which can disinfect them. Logistic-related equipment for healthcare waste would be coloured bags, bins, carts; as well as shelters to prevent HCW to be exposed to meteorological agents; vehicles for the delivery of HCW from the point of generation to the point of treatment. | By establishing collection points, with the support of informal collectors, where plastic waste can be stored and classified, pending the transportation to large storage and packaging area and the selling to waste brokers. Logistic equipment to be provided by the project would be carts and bins for the segregate collection of plastic waste. | Implementing reverse logistic through establishing cooperation with retailers, on the basis of sell one, take one and by promoting the collection of E-waste kept at home through the implementation of rewarding mechanisms. Collected E-waste will be shipped to international or national recycling centers. | Through the establishment of home-composters reduce demand for waste transportation by reducing the amount of waste to be delivered to landfills Identify logistic options for the establishment of centralized, industrial level composter processing both household and agricultural organic waste. | The three waste typologies have different logistic needs. HCW need to be transported to the treatment facility in the shortest time. Plastic waste needs to be collected at source (households) or through specific collection points and be diverted to dedicated storage areas before being delivered to landfills. E-waste requires a “reverse logistic approach” which envisage the cooperation of retailers and importers. |
| 3) Deployment of technologies for the environmentally safe recycling and disposal of waste | Small disinfection technologies (autoclave, microwave or chemicals with shredders) to be established in mid-size healthcare facilities; one disinfection center with large capacity to be established in a large hospital facility to replace incineration), interconnected by the proper logistic as from the point above, with the avoidance of at least 24gPCDD/F per year | Introduce technologies procedures and materials to prevent the use of Single Use Plastic Products (SUPP). Support the recyclers who already manufacture recycled pellets with better quality plastics and upgraded technology equipment to increase the manufacturing | Providing the existing E-waste processors with knowledge for separating hazardous waste components (including POP-containing plastic casings) and safely dismantling E-waste in the recyclable fractions; supporting the environmentally safe disposal of POPs or lead containing components (eg CRT monitors and casings). Collect | Assessment of the technological options for both household composters and large-scale composters, to provide the project with the best technological options taking into account the specificity of the country and the characteristics of the organic waste to be composted. | Non-combustion technologies (autoclave or microwave) deployed to replace substandard incinerators or open burning to prevent the generation of PCDD/F. Pellet recycling for plastic waste to be improved through better separation of plastic categories |

| | | | | | |
|---|---|--|--|---|--|
| | | capacity and quality. Introduce technology to prevent the recycling of PBDE containing plastic. | | | and better quality of plastic waste. E-waste treatment technologies will mostly include dismantling technologies and segregation of POPs and heavy metal containing components |
| 4) Improve and enforce the current regulation on waste: | In line with the HCW strategic plan 2022-2027, finalize and promulgate the HCWM regulations considering circular economy and waste minimization/recycling The draft regulations will be further reviewed to incorporate circular economy, waste minimization aspects, mercury and POPs prevention. | Introduce the concept of circular economy, and implement the EPR as a financial and incentive mechanism to reduce the manufacturing and placing on the market of Single Use Plastic. Introduce clear definition and technical rules related to SUP, recycling standards, segregation modalities. Introduce and enforce regulation on waste collection. | Circular economy and EPR to cover E-waste as one of the priority sectors. Establish rules for the collection of end-of-life EEE products in retailer shops. Establish rules and standards for the content of hazardous chemicals (flame retardants, heavy metals) in EEE products. Establish rules for the segregation and disposal of plastic contaminated by POP flame retardants. | Provisions and technical guidelines on organic waste management are currently missing in the waste management regulation in Eswatini. Therefore, the project will establish general rules for the quality of compost for agricultural use and the type of waste which can undergo composting, in the general framework of enhancing circularity of organic materials. | Circular economy concept to be introduced consistently in the overarching regulation on waste and detailed in the specific downstream regulation for the 3 sectors. EPR for product waste to cover at least end of life EEE and plastic packaging, to be subsequently extended to other products including medical products. |
| 5) availability of infrastructures and utilities (good quality water, continuous access to electricity, safe roads) | Availability of good quality water, electricity and safe road is critical for the proper transportation and treatment of medical waste. The project to consider implementation in areas where such aspects are already available or under improvement (i.e., WB projects in the Shisheweni region) | Collection of plastic waste is not critically dependent on the accessibility to electricity and water and can be carried out also in underserved rural areas. Safe storage to accumulate plastic waste pending transportation to recycling facilities is needed. Recycling of plastic waste requires access to water and electricity. | Collection of E-waste is not critically dependent on the accessibility to electricity and water and can be carried out also in underserved rural areas. Safe storage arranged at retailer shops to accumulate E-waste pending transportation to recycling facilities is needed. Recycling/dismantling of E-waste requires access to water and electricity. | Small-scale, household based composters does not depend on the accessibility to electricity, water or road transport, and are perfectly suitable for underserved rural areas. A large-scale industrial composter instead needs to be established in a well-served area, like for instance the vicinity of a sugar factory | Availability of infrastructures and utilities is a key requirement for waste management; however health care waste is more critically dependent on that in each phase of their management. Safe storage is critical to preserve the commercial value of waste. |
| 7) Implement an information system on waste management, POPs and U-POPs | Establish procedures for and enforce the regular monitoring of healthcare waste generation at HCF level. Assign responsibility for the submission and collection of data at regional and central level. Establish a | Establish procedures for and enforce the regular monitoring of the amount of SUPP placed on the market in Eswatini by administrative region. Establish a | Establish procedures for and enforce the regular monitoring of the amount of EEE placed on the market in Eswatini by administrative region. Conduct surveys and establish a database related to end-of-life | Sugarcane factories can easily contribute to the implementation of an information system on the use of their organic waste for purposes like electricity | There is an evident synergy among sectors in the establishment of a waste information system, and data providers (municipalities, healthcare facilities, industry) could greatly |

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|--|---|--|--------------------------------|--|---|
| | database related to healthcare waste management to be updated periodically. | database related to the SUPP placed on the market, plastic waste collection, plastic waste recycling or export | EEE and hidden storage of WEEE | generation or composting. A municipal-level information system should include all the main categories of recyclable waste | benefit from the access to such source of data. |
|--|---|--|--------------------------------|--|---|

Figure 2. Project theory of change



Component 1. Enabling environment, including policy, regulations, and sustainable financing, for a transition to a circular economy in Eswatini.

Under this component, the main regulation related to waste management in Eswatini will be assessed to identify gaps and areas of potential improvement, with the general purpose to introduce the concept of circular economy as an overarching principle, to detail the modality for the implementation of circular economy in the secondary level regulations, and to introduce Extended Producer Responsibility for priority products, like general packaging and E-waste. Under this component the guideline on Healthcare Waste Management will be also updated and endorsed. Furthermore, the National Implementation Plan for the Stockholm Convention will be updated Based on the finding of the updated NIP, the downstream regulation will be amended to be fully consistent with the Stockholm Convention. The successful implementation of this component requires a strong willingness from the relevant institutions (first of all the EEA and MOH) to improve the current regulatory framework through a participatory process which involve stakeholders at all levels in the society as well as strengthened capacity.

Outcome 1: waste management regulation improved. Based also on the findings and recommendations provided by the “UNDP: Waste Management for Improved Livelihoods and Resilience Project.”, this outcome envisages the upgrading of the current regulatory framework on waste management by improving the provisions related to waste hierarchy, waste collection, circular economy and extended producer

responsibility. Furthermore, the current “National Health Care Waste Management Guidelines”, issued in 2013, will be updated and reissued. This outcome envisages the achievement of the following outputs:

Output 1.1: Regulatory tools for the establishment of EPR and circular economy drafted and enacted

Output 1.2: National Healthcare Waste Management Guidelines updated.

Output 1.3: Institutional strengthening of relevant institutions dealing in waste management

Output 1.4: Enforcement strategies for implementation of updated regulatory framework

Outcome 2: NIP updated. Under this outcome an updated NIP, including revised inventory of the 12 initial POPs, plus the inventory of the additional POPs covered by the amendment of the Stockholm Convention after the submission of the Swaziland NIP in (namely deca-BDE, PFOAs, PCN, HBCDD, HCB, SCPP, and Dicofol) will be developed and submitted to the Stockholm Convention Secretariat. 59. The NIP update process will enable Eswatini to establish inventories of products and articles containing new POPs and to identify priorities for each POP. Strong emphasis will be placed on the participation of the private sector and civil society to ensure their active involvement in the undertaking of the NIP update. This outcome will be achieved through the following outputs:

Output 2.1: inventory of POPs updated.

Output 2.2: NIP priorities established.

Output 2.3: Updated Eswatini NIP endorsed and submitted to the SC secretariat.

Component 2: Circular management of plastic materials and EEE in Eswatini.

Under this component the project will enhance the circularity of specific products and materials through avoidance, collection at source, material classification and improved reuse and recycling. This component concerns both the plastic coming from packaging products, with focus on Single Use Plastic, and plastic coming from WEEE (for instance, plastic casings from electric and electronic equipment). Furthermore, specific activities for enhancing the circular economy of WEEE components will be implemented to ensure that the collected WEEE can be processed in a safe way, their valuable components are stored and packaged for selling and shipping to interested recycling companies, and the contaminated / hazardous component are disposed of or destroyed in an environmentally safe way. This will for instance entails the identification of PBDE and other POP-BFR contaminated plastic from CRT monitors for their safe segregation, storage and disposal.

Outcome 3 Circular Economy of plastic products, Electric and Electronic Equipment (EEE) and organic waste communicated and implemented and women entrepreneurship in Circular Economy promoted. A circular economy approach will be taken in managing plastic packaging, electronics, and appliances under this component. One of the most important aspects in waste management is creating the awareness in public and consumers to facilitate a change toward more sustainable behaviors. However, awareness raising implies always the availability of solutions: it is pointless to communicate a problem without at the same time offering a solution. For this reason, under this outcome the project will at the same time provide information on the environmental impact of unsustainable behavior and will offer alternative solutions.

As Eswatini as the lowest WBL2022 score in the region related to the Women Entrepreneurship, under this Outcome, the project will take the opportunity to favor women entrepreneurship in the creation of business

and jobs related to Circular Economy. To ensure that, any activity involving the creation of jobs or enterprises under this component will be subjected to a careful scrutiny to ensure that women can enjoy the same right to access to job opportunities as men, including, as suggested by the WB,

- access to credit easier for women by prohibiting gender-based discrimination in financial services,
- allow women to sign a legally binding contract in the same way as men
- allow women to register a business in the same way as a men
- and allow women to open a bank account in the same way as a men

On the side of SUP (Single Used Plastic), the project will advocate behavioral changes which may result in a reduced consumption of plastic items (i.e., plastic bags, bottled water, plastic packaging) which may be adopted even in the absence of packaging alternatives, for instance, avoidance of plastic bags through re-use of carrying capacity (i.e. bringing its own reused bags when shopping). It may be noted that some solution which may be perfectly practicable in urban settlements may be problematic in rural areas or vice-versa. The project will establish cooperation with informal collectors to ensure, from one side, that they will help in diverting the flow of plastic waste going to landfills, and to other side, to make profitable for them the collection of plastic waste which would be normally disregarded as non-considered recyclable. This will be undertaken in the following way:

- In urban settlements: enhance the collection of plastic waste from offices, supermarkets and hotels, through dedicated take back campaigns for the collection of used plastic container which may be compensated with rewards for the purchasing of other products. That will envisage the establishment of agreement with key supermarket chains, as well as logistic arrangement for the temporary deposit and transportation of plastic waste to recyclers.
- In rural areas, local communities can be supported with collection tools, providing key infrastructures (storage/deposits), training on how to enhance the quality of plastic waste, and logistic support for transportation to plastic recyclers. Cooperation with ongoing initiatives to boost their performance in terms of plastic collection, enhance the quality of plastic waste collected, and to facilitate the signature of agreements with recyclers (for recyclable plastic)

Through this activity, the project envisages to collect at least 1000 tons of plastic properly classified in the main polymer categories, and to prevent the use of at least 500 tons of SUP.

Under this outcome the project will also promote the collection of end-of-life EEE, with specific reference to WEEE that may be contaminated by POPs (i.e. CRT monitors), through the establishment of a reverse logistic approach and take-back options, involving retailers of electric and electronic materials and the development of rewarding schemes. Training and infrastructures for the safe dismantling of end-of-life EEE, including the use of XRF handheld devices for the identification of brominated plastic will also be delivered. The project intends to collect and dispose in an environmentally safe modality 40,000 to 50,000 end of life CRT containing an estimated amount of 1 ton of PBDE in their plastic casing.

As far as organic waste is concerned, the project intends to establish a zero-waste, community driven approach through the segregation at home and composting of organic waste, to divert such waste from landfills or open burning. This approach will be based on other successful initiatives UNDP has put in place in other projects, like for instance the project “Communities Contribute to Cutting Organic Waste in Landfills” in Trinidad and Tobago, where a GEF small grant fund was used to complete the country’s first community-led composting project in which compost from 16 households were collected over a 4 month-period and

converted into compost, which is used in the community garden^[1]. This pilot will be replicated in Eswatini at a larger scale involving at least 1000 households which will undertake segregation of organic waste and composting. That will include awareness raising initiatives, training, procurement and deployment of the “home composters”, and follow-up of the composting initiative over the project duration.

In addition to that, and with a synergic approach, the project will explore the feasibility of an industrial-level composter which can accept both agricultural waste (including sugarcane bagasse) and organic waste collected in urban areas, where the house-composting is more challenging. A financing mechanism, based also on potential PPP involving the sugarcane industry, will be explored. The project will carry out the feasibility study of a composting facility, its detailed design, and a detailed business and financing plan, and more specifically:

- Generation of organic waste from household in Eswatini, in terms of quality and quantity, assessed.
- Generation of organic waste from agriculture and industry in Eswatini, with focus on the sugarcane crop and sugar industry, in terms of quality and quantity, assessed.
- Awareness raising and training for household-based composting of organic waste.
- Community-level composting of organic waste implemented
- Feasibility study and detailed design of an industrial scale composter for the simultaneous processing of agricultural and household organic waste carried out

This Outcome will be therefore completed through the achievement of the following outputs:

Output 3.1: awareness on plastic circularity raised and behavior related to plastic production and consumption changed.

Output 3.2. Women entrepreneurship in the sector of circular economy promoted.

Output 3.3: Awareness on circular economy options for EEE and WEEE raised

Output 3.4. Collection of WEEE with segregation and disposal of PBDE contaminated plastic carried out.

Output 3.5: infrastructures and logistic for the door-to-door collection of plastic waste implemented in at least 2 regions of Eswatini.

Output 3.6: recycling and reuse of plastic materials established

Output 3.7: Waste sorting at households and best practices through Composting and material recycling of organic waste in Eswatini established

Component 3: Environmentally sound management of healthcare waste in Eswatini.

Under this component the project will improve HCW management from a lifecycle perspective, including the minimization and classification of healthcare waste to reduce the overall amount of hazardous and infectious waste, the logistic arrangement for the timely delivery of hazardous healthcare waste to waste pretreatment

facilities, the deployment of environmentally safe technologies for the treatment and disposal of healthcare waste at both local (medium size HCF) and central (large size HCF or HCW management center) The project will also envisage the replacement of mercury containing devices (thermometers and sphygmomanometers) with non-mercury devices, and a facility for the permanent, safe storage of mercury containing waste.

In accordance with the current guidelines on healthcare waste management in Eswatini, the project intends to improve the management of healthcare waste starting from the procurement of healthcare materials, improvement of the segregation, colour-coding and packaging, collection and storage, pretreatment inside the healthcare facilities, transportation to licensed treatment facilities, and off-site treatment and disposal.

The main challenges which may be faced in this component are lacking dedicated personnel, lack of dedicated HCWM units, limited access to water and electricity in some rural areas, and issues related to transportation. All these challenges will be properly considered in the design and implementation of this component to ensure its success and sustainability.

Outcome 4 HCW management improved with a lifecycle perspective. Under this outcome, the project intends to move toward a zero-waste approach, through a better segregation of non-infectious, recyclable waste from the infectious/hazardous healthcare waste. This component envisages the training of healthcare professionals of selected healthcare facilities, based on the WHO bluebook on HCW and the Eswatini guidance on HCW, covering a cluster composed of small clinics and healthcare centers located in rural areas and larger hospitals, for at least 1500 beds distributed over the different typologies of healthcare facilities. Equipment and consumables for the colour-code segregation of HCW and their safe storage pending pre-treatment will be provided.

Given the outstanding role of nurses in the management of healthcare facilities, and the severe issue found in the country related to the access to job and entrepreneurship for women, the project will ensure – through procurement rules - that all the new job positions generated under this component, (including consultancies and enterprise work) will be attributed to women. For this reason, a specific output has been included to promote women access to jobs and women entrepreneurship in the sector of Healthcare Waste Management.

The project will deploy small scale waste pre-treatment technologies to a selected number of healthcare facilities which may serve as intermediate treatment centers for clusters of small healthcare centers and clinics located in the area, to prevent the incineration of healthcare waste or the burning of HCW in the open. At least 15 small scale autoclave or microwave devices will be deployed. Furthermore, the project will provide a technology for the establishment of a central facility for the treatment and disposal of hazardous healthcare waste generated by the HCF above. The mapping of the distribution of small, intermediated facilities in relation to the central facility and the road infrastructure will be developed to optimize the transportation from small facilities (not equipped with treatment technologies) to intermediate facilities (equipped with small capacity treatment technologies) and the central facility to be established by the project. This to ensure that HCW will be transported via the quickest or shortest possible route, which should be planned before the trip begins.

In Eswatini, the availability of utilities like water and electricity and safe transportation can be challenging in some areas. In such a situation, a combination of centralized and de-centralized disposal of healthcare waste would provide the safest and most reliable solution. Generally, larger-scale disposal technologies are more efficient, have a reduced environmental impact, and a lower treatment cost compared to small-scale disposal technologies. Additionally, staff at centralized facilities are more skilled in waste treatment as they are dedicated to the task full time. Therefore, healthcare facilities connected to a centralized facility through a reliable transportation system would achieve savings and more safety by relying on a centralized system.

However, small-scale de-centralized systems at the level of healthcare facilities may still be necessary for several reasons. For example, to ensure the disinfection of healthcare waste when their transportation cannot

be arranged timely, to provide healthcare waste treatment for very small-scale clinics located in the area, or to ensure the immediate treatment of highly infectious waste. The project aims to establish a self-regulating network of technologies of different capacity and scope to ensure the prompt and safe treatment of the generated healthcare waste in any condition.

Regarding treatment technologies, small-scale equipment established at healthcare facility level would generally include a small autoclave or microwave technology supplemented by a shredder. On the other hand, a centralized facility could host a range of technologies, including larger steam-high-pressure autoclaving, safe storage, and specific treatment processes for different kinds of liquid waste, pharmaceutical waste, safe storage for radioactive waste, and mercury waste pending their shipment to the final storage site. However, the project will not support the establishment of incinerator, plasma, or pyrolytic plants due to the lack of monitoring capacity for U-POPs (PCDD/F) in the country. Additionally, the investment needed for a medium-scale incinerator compliant with the Stockholm convention BAT/BEP guidelines is too high to be supported with project resources.

This outcome envisages the completion of the following outputs:

Output 4.1. Favoring women access to jobs and women entrepreneurship in the HCW sector

Output 4.2: Training for the upstream management of healthcare waste carried out

Output 4.3: Equipment for HCW collection, storage and transport deployed and demonstrated

Output 4.4: Technologies for HCW pretreatment established in main healthcare facilities

Output 4.5: Centralised technologies for HCW disposal established

Outcome 5 - Environmentally sound management of mercury in the healthcare sector established.

Under this component, mercury devices (thermometers and sphygmomanometers) will be replaced by the most suitable options for the given purposes. Mercury contact thermometers will be replaced by alcohol thermometers, or electronic thermometers. Non-contact thermometers – like infrared thermometers – have been widely used for public access control during the Covid 19 epidemic. Analogic, manual sphygmomanometers although more complex to be used have the great advantage of not requiring a battery. The introduction at facility level of non-mercury thermometers and sphygmomanometers entails a training where the aspect related to the calibration, reliability, battery management and end of life management of the devices need to be covered. Furthermore, the training course will cover emergency measures to be undertaken in case of breaking of mercury devices, to prevent the dispersion of mercury an exposure of healthcare professional and patients. Mercury containing devices will be replaced with non-mercury devices in all the healthcare facilities covered under Outcome 3.1. Procedures for the safe storage and disposal of mercury containing waste, and a storage facility for the permanent containment of mercury waste will be established under this component. This component will be based on the following outputs:

Output 5.1: training on mercury management, with focus on mercury containing equipment, carried out

Output 5.2: sustainable alternatives to mercury containing equipment implemented.

Output 5.3: Facilities for mercury waste permanent storage established.

Component 4: Project Knowledge Management.

This component will ensure that the knowledge generated under the project will be made available to the public, the stakeholders, and will be shared with institutions implementing similar project in other countries, through a dedicated knowledge hub. A Communication Strategy and Plan will be developed during PPG

stage to ensure that there is targeted communication with key stakeholders – the strategy will be supported by a stakeholder engagement plan that will ensure that the target audience is well defined. The plan will identify actions that need to be taken to ensure there is strategic outreach, awareness raising and dissemination of the project results. The component will also establish a repository of project documentation and reports to be used for management and evaluation purposes. Equal access for women and men to the knowledge generated by the project will be ensured.

Under this component, specific care will be dedicated to ensure that the current gender disparities in Eswatini, of which the most relevant to this project are:

- laws affecting women's decisions to work and women's pay,
- laws affecting women's work after having children,
- constraints on women starting and running a business,

are at least partially addressed.

As the project has specifically reserved some job opportunities to women, (under Output 3.2. Women entrepreneurship in the sector of circular economy promoted and Output 4.1. Women access to jobs and women entrepreneurship in the HCW sector ensured) .under component 4 the information on how to access such opportunities will be provided and disseminated. Component 4 will also include sections related to the specific risk for women and children associated to exposure to POPs and U-POPs, safety at work with specific reference to waste management topics, and the role of women in the development of the country Circular Economy.

The project will therefore need to promote and support actions aimed at facilitating the involvement of women in the establishment of business and to ensure that women will be favored in the access to job opportunities created by the project. For this reason, two specific outputs have been included under Component 2 and 3 of the project, with the aim to ensure that women will have a facilitated access to job positions created under the project and will be strongly facilitated in the establishment of enterprises related to Circular Economy and Health Care Waste Management:

Outcome 6. Knowledge management and knowledge sharing at national and international level established. Under this outcome, a knowledge hub to exchange experience in healthcare waste management, with specific reference to projects supported under GEF Chemical and Waste focal area, will be established. The knowledge hub will be established in the first year of project implementation, to gather best practices and lesson learned under similar project and use them in project implementation and monitoring. Multimedia materials, online and in presence events, printed materials will be developed to promote circular economy concept, favor behavior change to reduce the consumption of single use plastic, inform about the presence of POPs in products and chemicals. A project website, with a differentiated access policy, will be developed and maintained to store project reports and materials for both internal management and communication purposes. This outcome will envisage the achievement of the following outputs:

Output 6.1 A knowledge hub to promote circular economy concepts in healthcare waste management established

Output 6.2. Multimedia and events to promote circular economy concepts and share project result for the general population, the private sector and the environmental authorities carried out

Output 6.3 A project website developed and maintained

Component 5. M&E.

The project will be monitored and evaluated following GEF Guidelines, as well as applicable UNDP Rules and Regulations for monitoring and oversight. The monitoring will include the development of the GEF Tracking Tools at different stages of project implementation; the analysis of project achievements against the objectively verifiable indicators through the preparation of Project implementation Reports (PIRs), Project annual workplans, Project reports, and technical reports.

There will be two evaluation exercises: a Mid Term Review, and a terminal evaluation (TE), which will be carried out by a team of independent evaluators assigned by the Implementing Agency. The project audit will be carried out regularly, as per UNDP Rules and Regulations. A project knowledge management system, where all the project documentation will be stored, will be implemented in a website with personalized access levels for the project partners.

Outcome 7. M&E and adaptive management applied to capture lessons learned from project, including inception workshop

Output 7.1. Project inception meeting held, and inception report drafted

Output 7.2. Project Monitoring ensured through project lifetime

Output 7.3. Project Mid Term Review and Project Terminal Evaluation carried out

Global environmental benefits

The project intends to reduce the release of U-POPs in the environment through the following actions:

In the healthcare waste sector (project component 3):

- Reduction of the use of chlorinated plastic items if reasonably possible, without impacting the effectiveness of the medical procedures.
- Improved classification of waste with the purpose to separate infectious and hazardous waste from recyclable waste, reduce the amount of hazardous waste requiring disinfection or destruction, and increase the recycling of non-hazardous waste;
- Shifting from substandard incineration to safer waste destruction processes by deploying environmentally safe technologies for the destruction of hazardous waste.

The above actions would prevent the release of up to 24 g of PCDD/F per year.

- Furthermore, the project, through the development and enforcement of guidelines for the proper management of healthcare waste, will lead to a complete halt of the open burning of healthcare waste, ensuring that such waste is transported and processed in an environmentally safe way. There are no official figures on the amount of healthcare waste which is burnt in the open, however through the recent survey carried out, emerged that seven out of 19 HCF use this modality of waste disposal. Therefore, it may be safely assumed that an equivalent amount of PCDD/F (24g/yr) could be prevented by halting this modality.

Therefore, if the healthcare waste component of the project is implemented at national level, the project has the capacity to prevent up to 48g PCDD/F per year.

Additional PCDD/F avoidance may be achieved through the improvement of the plastic recycling in the country (Project component 2). Again, from a recent survey it resulted that the practice of open burning of waste is very common in the rural areas, where it is adopted by 96% of the population.

Assuming therefore that all the waste which is not managed (neither landfilled nor recycled), estimated at 106,413 t/yr, is burnt in the open, based on the UNEP 2013 toolkit, the release of PCDD/F may be in the order of 0.2 to 3.2 gPCDD/F per year. This amount could be prevented in the long term if the project establishes a nationwide communication campaign and enforce rules to prevent open burning of waste, and at the same time demonstrate and establish suitable alternatives.

The project will also demonstrate the elimination of around 1 metric ton of PBDE from E-waste, and particularly from CRT monitors (Project component 2). The project aims to collect around 40,000 to 50,000 old CRT monitor, dismantle them in an environmentally sound way, recycle the metal fraction (copper, steel, aluminum), segregate the plastic casing, and incapsulate in an environmentally safe landfill the lead glass. The plastic casings will be tested for bromine concentration (as an indicator of PBDEs or other flame retardants) and if found contaminated, packaged and sent abroad for thermal destruction in HTI plants or through co-processing in cement kilns.

Stakeholders.

In the following table, the list of the main stakeholders identified in the course of PIF development, their role in the country, and their tentative role in project development and implementation is reported. The stakeholders consulted during PIF development are reported in the list provided under section “Stakeholder Engagement”. The stakeholders will be further engaged during PPG stage through stakeholder workshops to ensure that their inputs are considered in the development of the project document and the Stakeholder Engagement Plan. A stakeholder mapping exercise will be conducted as part of the stakeholder engagement strategy to ensure that the list of stakeholders is comprehensive and updated.

| Stakeholder | Role in the country | Expected role in the project |
|--|---|--|
| Ministry of Tourism and Environmental Affairs | The mission of MTEA is to promote and support the tourism industry, wildlife conservation within an environmental framework that enhances amenities, conserves culture, sustains forest management, embraces meteorology and addresses climate change challenges to contribute towards sustainable socio-economic development. | MTEA will be key stakeholder and partner in the project for all the aspects relevant to the development of regulation and policies on POPs and wastes |
| Eswatini Environment Agency | EEA is in charge of advising the Minister in the formulation of policies and regulations, to advise the Minister and the government on matters relating to the protection, conservation and enhancement of the environment and the sustainable management of natural resources, to conduct inspections, monitor compliance and ensure the enforcement of the environmental legislation, to undertake environmental research and promote awareness raising on environmental protection, to implement the EIA regulation. | EEA is the implementing partner of the project, and will provide co-financing and support on the permitting aspects relevant to component 1 and 2 of the project. |
| Ministry of Health | The Ministry of Health (MOH) is responsible for managing waste generated in public and private healthcare facilities (HCFs) through the National Solid Waste Management Strategy (NSWMS). The MOH's Department of Environmental Health is responsible for implementing healthcare waste (HCW) activities and environmental health-related issues at the national and regional levels, while Environmental Health Officers (EHO) at regional and local levels are responsible for ensuring proper waste management at the facility level. The local authorities also provide environmental health services. The national level of the Department of Environmental Health coordinates the responsibilities of the EHOs at different levels. | MOH is a key project stakeholder, will provide co-financing and will be involved in the design and implementation of the component 3 of the project, which is related to the management of healthcare waste, including mercury, and in the revision of the HCW guidelines. |
| Ministry of Labour and Social Security (MOLSS) | The Ministry of Labour and Social Security (MOLSS) in Eswatini is responsible for creating and implementing policies, laws, and regulations related to labor, employment, and social security in the country, including enforcing labor laws and regulations to ensure that employers and employees comply with them, providing social security programs and services to eligible individuals, including pensions, disability | MOLSS is a key project stakeholder and will be involved in all the aspects related to safety in the workplace, rights of workers and mainstreaming of gender aspects at work |

| | | |
|---|--|---|
| | benefits, and survivor benefits, providing training and development opportunities for workers to improve their skills and increase their employability. | |
| Environmental Health Department | In partnership with the Ministry of Labour and Social Security, the Environmental Health Department of the MOH has the responsibility of inspecting and monitoring occupational health and safety in workplaces. This responsibility is governed by the Occupational Safety and Health Act of 2001. | Key project stakeholder, to monitor the health of workers involved in HCW management. |
| Local authorities | The municipality is responsible for collecting general non-risk waste at the local level, and for operating landfills to dispose of Municipal Solid Waste (MSW). The Waste Regulation (2000) requires local authorities to report annually to the MTEA on the amount of household and clinical waste generated and disposed of in their area, as well as on the implementation of their waste management plan. In addition, the local authorities provide local Environmental Health Officers to support identified healthcare facilities (HCFs). | The project will work side by side with municipalities – both in urban and rural areas to pilot SUP avoidance, door to door collection, take back schemes for WEEE (component 2 of the project) |
| Healthcare Facilities | The management of waste within healthcare facilities (HCFs) and the implementation of government policies, laws and regulations are the responsibilities of the managerial levels of the HCFs. The facilities identify the budget needed for waste management, which is then submitted to the regional health offices and processed by the planning unit within the Ministry of Health. The HCWM Policy Note from 2018 outlines the functions of all the relevant stakeholders, and the national HCWM guidelines provide a clear division of responsibilities for managing healthcare waste at the facility level. | The project will cooperate with small, medium size and large healthcare facilities to establish capacity in the HCW management and implement a network for the transport and environmentally safe disposal of HCW and mercury waste. (Component 3 of the project) |
| Waste Management Companies | There are a limited number of waste management companies and recyclers in Eswatini. Some provide waste management services in large municipalities (Eric Slabbert Agencies, Envirowise), other are mainly interested in recycling of scrap metals (Nsimbi Recyclers), textile (Eswatini Waste Centers) | Waste management companies will be assisted to improve their capacity and safe management and will partner the project on specific activities (component 2 of the project) |
| Supermarkets, retailers of electronic equipment | Large supermarket in Eswatini, (like Shoprite Eswatini, Pick n Pay Eswatini, OK Foods Eswatini, Swazi Plaza SuperSpar, SaveRite Eswatini, Woolworths Eswatini, Boxer Superstores Eswatini, Game Eswatini, Mbabane Spar, Mbabane Wholesale & Retail Company) are located mainly in the main cities of the country. They could be contacted to establish strategies for the reduction of single use plastic and plastic collection points. Retailers of electric and electronic goods, like Hifi Corporation Eswatini, OK Furniture Eswatini, Game Eswatini, Joshua Doore Eswatini, House of Sound Eswatini, Electro Sales Eswatini, Jet Eswatini, Cash Crusaders Eswatini, Incredible Connection Eswatini, Rectron Eswatini, House of Computers Eswatini, Computronics Eswatini, Matrix Warehouse Eswatini, TelPro Eswatini, Bantama Technologies Eswatini, Zingisa Computers Eswatini, will be contacted to establish agreement on EPR activities like sell-one-take-one, collection and storage services for WEEE | The project will establish cooperation with supermarkets and retailers of electric and electronic equipment to establish collection points of WEEE on a one-to-one basis and to prevent the use of SUP (component 2 of the project) |
| Manufacturers of plastic articles including SUP | In Eswatini, industries like Swazi Plastics Industries, Future Pipe Eswatini (PTY) Ltd, Luba Plastics Eswatini, Sebenta Plastics Eswatini, Eastern Polymer Industries Eswatini, will be contacted to identify the best options in the sector of recycling of plastic waste and to secure an outlet to high quality plastic waste collected through door to door segregated collection | The project will establish cooperation with plastic enterprises with the purpose to support the replacement SUP manufacturing with other business and to increase recycling capacity (component 2 of the project) |
| Informal waste workers (IWW) | Informal waste workers in Eswatini/Swaziland are often self-employed individuals or small groups who collect and sort recyclable materials from waste dumps and landfills, as well as from households and businesses. They typically sell these materials to intermediaries or recycling companies and earn a living from the income generated. Informal waste workers in Eswatini often face difficult working conditions and low levels of income and may also be exposed to health and safety risks. There is a need for greater recognition of the role of informal waste workers in the waste management sector, as well as for efforts to improve their working conditions and livelihoods. | IWW are a pillar in project implementation. The project will establish cooperation with them in the field of waste collection at source and will try to ensure better working condition and incentive the shifting to a more formal business (component 2 of the project) |
| Environmental NGOs | There are few NGOs in Eswatini active in the environmental sector. These are Eswatini Climate Coalition, Wildlife and Environmental Conservation Society of Eswatini, Eswatini Youth Climate Network. Other NGOs like Green Peace and WWF does not currently operate in Eswatini. The project will endeavour to establish cooperation with the existing environmental NGOs. | NGOs will have a key role in the establishment of relationships with IWW and in the awareness raising on the waste management issue (Component 2 and Knowledge Management) |

| | | |
|------------------|---|--|
| Women Right NGOs | There are several women right associations in Eswatini, including Swaziland Action Group Against Abuse (SWAGAA), Women and Law in Southern Africa Research and Education Trust - Eswatini, The Swaziland Single Mothers Association (SWASMO), Eswatini Women's Consortium, The Swaziland National Association of Teachers (SNAT) Women's League, Lusweti Women's Organisation, The Swaziland Young Women's Network (SYWN), The Eswatini National Council of Women (ENCW), Women's Ink, Young Women's Christian Association (YWCA) | The project will establish cooperation with NGO active on women right associations to ensure a successful mainstreaming of women rights through the implementation of the project (Component 2 and 3 and Knowledge Management) |
|------------------|---|--|

Knowledge management

The prompt circulation of information generated by the project will ensure that project beneficiaries will achieve the maximum benefits from the project activities so that the project impact can be maximized. The project is expected to generate the following information materials and tools:

- a. *Information on alternatives to Single Use Plastic.*
- b. Information related to the inventory of POPs in the country, their associated risk, and POPs-free or less chemically intensive products and material.
- c. *Information on proper management of E-waste, including End of Life CRT monitors.*
- d. *Information on proper management of Health Care Waste.*
- e. *Information and guideline on mercury thermometers, and disposal procedures for mercury thermometers:*
- f. *Management of project documents and reports.* Under the project, a number of technical reports, evaluation reports, training materials, and scientific reports will be generated and made available.
- g. *Findings, lessons learnt, and strategies:* Will be shared among the stakeholders and the project will also collaborate with ongoing projects in the field of POPs, HCWM and plastic waste being implemented under GEF worldwide.

All the above information will be shared adopting targeted-oriented media, workshops online and in presence, websites with differentiated access, broadcasted (web and TV) videos, face-to-face meetings with group of interests and stakeholders.

Policy coherence

The government of Eswatini has recently drafted new strategies related to the waste management to replace the outdated strategies, including the “National Integrated Waste Management Pollution Prevention and Control Strategy” (NIWM-PPCS) (not yet officially endorsed), the “National Health Care Waste Management Strategic Plan” (NHCWMSP) for 2022 – 2027”; the “the National Healthcare Waste Management Policy Note, 2018”.

The project is compliant with the key objectives of the NIWM-PPCS, and more specifically with the Waste avoidance and minimization objective, with the objective to achieve clean communities (urban, peri-urban, or rural) with well-managed and financially sustainable waste management services. The project intends to achieve such objectives through the development of partnerships that enhance the waste value-chain improvements, ensuring that the waste sector contributes to employment and the country’s GDP (circular economy). In doing that, the project will also adopt an inclusive approach to avoid any gender discrimination and ensure the participation of women and youth groups and vulnerable groups.

Concerning the Health Care Waste sector, the project is fully compliant with the objectives to ensure a better segregation of infectious waste at origin, to prevent the unsafe disposal of HCW such open burning, burning in unsafe incinerators, disposal through unlicensed waste operators. The project is fully compliant with the general objective that “International Conventions like the Basel Convention, Bamako Convention and the Stockholm Convention signed by the Kingdom of Swaziland need to be considered and implemented (in the management of HCW)”

The project is obviously compliant with the Stockholm Convention on POPs, which has been ratified by the Government of Eswatini, and intends to provide support in the updating and upgrading of the National Implementation Plan, and to contribute to the Environmentally Sound Disposal of POPs, specifically those found in Waste Electric and Electronic equipment.

The project is compliant with the following country policies directly related to project activities: Environmental Management Act, No.5 2002; Waste Regulations, 2000; Litter Control Regulations, 2011; Plastic Control Regulations, 2021; The National Climate Change Policy, 2016; The Healthcare Waste Management Strategic Plan 2022 – 2027; The National Health Care Waste Management Guidelines (2013)

The project intends to propose an amendment to the Environmental management act 2002 to include in it the definition of “Circular Economy” and the criteria for establishing a Circular Economy approach in the design, manufacturing, use and end of life management of materials in Eswatini.

The project also intends to propose an amendment to the Waste Regulation 2000, to include the principles of Extended producer responsibility to be applied, initially, at least to packaging waste.

The project intends to update the National Health Care Waste Management Guidelines (2013) to make them compliant with the Health Care Waste Management Strategic Plan (2022-2027), the new regulation on Health Care Waste being currently issued by MOH, and concepts related to circular economy and green procurement of medical supply.

Innovativeness and potential for scaling up.

The following activities proposed by the project are innovative for Eswatini, as they were never applied before in the country, although they are based on consolidated procedures and technologies which have been applied in other countries, even under projects supported by the GEF. All the proposed activities are fully scalable.

1. Integrating a circular economy approach and the introduction of the EPR concept and financing tool in the existing regulatory framework may be highly innovative for Eswatini which environmental and waste regulations are dated around 20yrs ago (component 1 of the project). That will imply a new mindset in the cycle of materials, which has a large impact on the environment and society, and the creation of job opportunities. This change in mindset is probably one of the biggest challenges of the project. The project will contribute to a first step toward this goal, which will be having to scaled up in the coming years to ensure its sustainability. UNDP will contribute to the successfully implementation of circular economy through the experience it has already achieved worldwide.
2. Management Healthcare Waste with a systematic and lifecycle approach (component 3) which sees small and remote healthcare facilities, medium and large hospital as part of a whole system connected through a logistic tailored to the local situation and equipped with modern technologies for waste treatment. This vision is highly innovative for the country and at the same time highly adaptive as it will adapt the logistic and the deployment of treatment technologies based on the availability of utilities and access to roads. The project intends to deploy this system countrywide.
3. Behavior change in the manufacturing and use of plastic packaging (component 2). The project intends to pilot behavior change of plastic waste, with special reference to plastic packaging, by introducing alternatives to Single Use Plastic and by piloting door to door collection of waste and adopting a reverse logistic approach with the partnership of shops and supermarket. This will involve IWWs with the purpose to improve their working condition and promote shifting to formal business. This activity will be implemented initially in a municipality, with potential scaling up at country level.

4. Collection of E-waste stream (CRT monitors, component 2) through a reverse logistic approach (integrated with the reverse logistic developed for plastic packaging); their safe dismantling and checking for PBDE contamination through integrated XRF and laboratory analysis, with involvement of IWW in the collection stage. This is a composite activity which combines a social component, and highly technical components (segregation, analysis and disposal of POPs waste). This activity is limited to a target of around 40000 to 50000 CRT monitors but can be easily scalable once piloted and consolidated.

[1] <https://www.undp.org/trinidad-and-tobago/news/communities-contribute-cutting-organic-waste-landfills>

Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. 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

Core Indicators

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) | 547 | 0 | 0 | 0 |
| Expected metric tons of CO₂e (indirect) | 0 | 0 | 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) | 547 | | | |
| Expected metric tons of CO₂e (indirect) | | | | |
| Anticipated start year of accounting | 2025 | | | |
| Duration of accounting | 5 | | | |

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) |
|------------|------------------------------------|--|------------------------------------|-----------------------------------|
|------------|------------------------------------|--|------------------------------------|-----------------------------------|

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) |
|----------------------------------|--|----------------------------------|---------------------------------|
| 1.00 | 0.00 | 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) |
|--|-------------------------------------|--|-------------------------------------|------------------------------------|
| Decabromodiphenyl ether (commercial mixture, c-decaBDE) | 1.00 | | | |
| | | | | |

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) |
|----------------------------------|--|----------------------------------|---------------------------------|
| | | | |

Indicator 9.3 Hydrochloroflurocarbons (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) |
|-------------------------------|---|-------------------------------|------------------------------|
| 1,500.00 | | | |

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) |
|--|--|--|---|
| 48.00 | | | |

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 | 300 | | | |
| Male | 300 | | | |
| Total | 600 | | 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)

Please refer to the section “Global Environmental Benefits”

CI 11: In response to the comment, Indicator 11 has now been changed to include direct beneficiaries only. the direct beneficiaries are 600 people of which 300 women. 500 people will benefit directly through trainings (50% of which women), 100 people will benefit directly from job creation (50% of which women).

Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation- such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the “Project description” section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

| Risk Categories | Rating | Comments |
|------------------------|----------|--|
| Climate | Moderate | In general, project activities intend to reduce the impact on GHG emission through reduction of uncontrolled burning of waste. However, the impacts of climate change including increased intensity and frequency of extreme weather events could impact some of the project activities, including availability of water for autoclaves, risk of flooding of waste storage. The project would therefore adopt proper countermeasures against climate impact at project design. |
| Environment and Social | Moderate | In general, the project aims to improve the working conditions and livelihoods of workers in the healthcare sector and in the waste management sector. The project will adopt an inclusive approach to ensure that Informal Waste Workers can benefit of the project activities, therefore minimizing the risk that marginal peoples are excluded from project benefits. A limited risk is associated to the collection, transport |

| | | |
|--------------------------|----------|---|
| | | and disposal of healthcare waste, although the project intends to reduce the high baseline risk associated with the current situation. |
| Political and Governance | Moderate | The project intends to increase the capacity of the governmental stakeholders (MTEA, EEA, MOH) by providing technical support related to all the decision-making and law-making processes linked to project activities, with specific reference to the drafting and implementation of guidelines and strategies in the healthcare waste, E-waste and household waste management. The GoE obviously retains the power of enacting and enforce regulation and strategies, as well as granting operating permits for any new waste management equipment which would be delivered by the project. |
| Macro-economic | Moderate | The African Development Bank reports that “Eswatini’s public debt level is largely driven by a persistent fiscal deficit. Government has increasingly relied on the domestic market to finance the deficit and has accrued significant domestic arrears. Upside inflation risks include higher food prices and increases in water and electricity tariffs. The projected appreciation of the lilangeni/rand to near pre-pandemic levels is expected to minimize the pass-through effect of oil price increases on inflation.” The effect on project implementation, including delivery of co-financing and increased cost of equipment to be purchased by the project, could be considered from low to moderate |
| Strategies and Policies | Low | The project strategy, objectives and activities are fully aligned with the national policies and strategies on |

| | | |
|--|----------|---|
| | | healthcare waste and waste management and are also fully aligned with the international treaties and convention of which the GoE is party, including the Stockholm Convention on Persistent organic Pollutant and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes. |
| Technical design of project or program | Low | UNDP has a wide experience in the technical design of projects related to management of healthcare waste, circular economy, reduction of plastic waste, inventory and management of POPs, in Africa and worldwide There are no risk associated with the technical design of project. |
| Institutional capacity for implementation and sustainability | Low | The project intends to increase the institutional capacity for project implementation and sustainability by delivering training and technical support to workers, project staff and decision makers, throughout all the project components. The project will also deliver training to implementing institutions on all the matters related to project planning, monitoring, evaluation, financial management including reporting and procurement, in compliance with GEF policies. All the above will reduce significantly the risk associated with Institutional capacity for implementation and sustainability. |
| Fiduciary: Financial Management and Procurement | Moderate | The executing entity has the capacity to conduct procurement of equipment to be purchased by international vendors, to speed up the process and minimize the risk of procurement failure. |
| Stakeholder Engagement | Low | UNDP CO has already undertaken two consultations with the key governmental project stakeholders in the course of PIF drafting. The |

| | | |
|----------------------------------|-------------|--|
| | | executing agency also conducted one consultation with key stakeholders to be involved in the project. Further consultation, involving the private sector and informal waste workers, will be carried out at PPG. UNDP CO has a consolidate experience in stakeholder engagement and consultation achieved in the course of implementation of several project and therefore the risk of low engagement of stakeholders may be considered low. |
| Other | | |
| Financial Risks for NGI projects | | |
| Overall Risk Rating | Substantial | Although there are no specific risks which may be categorized as substantial or high, the concurrency of several risks of moderate level suggests categorizing the overall risk for this project as Substantial, to ensure that the proper safeguard measures will be put in place at project implementation. |

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

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

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 current approach of the GEF in the chemicals and waste strategy is to shift from a chemical by chemical-based approach to a sector-based approach. Consequently, GEF-8 has been structured along four program areas, building on the growing and converging understanding that supply chains and mega trends are the primary drivers of chemical pollution which have severe consequences for human and environmental health.

The GEF 8 Chemical and Waste focal area is driven by the following principles of cost-effectiveness, sustainability, innovation, private sector engagement and promotion of circular economy. The project is compliant with such principles.

The project is also compliant with all the objectives of the GEF 8 C&W focal area:

Objective 1: Creation, strengthening and supporting the enabling environment and policy coherence to transform the manufacture, use and sound management of chemicals and to eliminate waste and chemical pollution:

The project is compliant with Objective 1 of the GEF 8 C&W focal area as it will update the National Implementation Plan of the Stockholm Convention on Persistent Organic Chemicals (Project Component 1); Support the shifting of IWWs to formalized activity in the waste management sector (Project Component 2): Adopt an environmentally safe approach for the management of E-Waste, with specific reference to the collection, pre-processing and disposal of End-of-Life CRT Monitors containing POP Flame Retardants (PBDE) and lead.

Objective 2: Prevention of future buildup of hazardous chemicals and waste in the environment

To minimize and eliminate emissions of unintentionally produced POPs and mercury from major source categories included in the Stockholm and Minamata Conventions, as required by Objective 2, the project aims to introduce and use of best available techniques and best environmental practices in the healthcare sector nationwide in Eswatini, through significant reduction of the quantity of hazardous or infections waste from the healthcare sector by means of a more effective separation of waste; Elimination of the practice of open burning of healthcare waste; replacement of substandard incinerators with BAT/BEP compliant equipment for infectious and hazardous waste elimination; phasing out of the practice of open burning of municipal waste through ensuring an effective collection of municipal waste.

Objective 3: Elimination of hazardous chemicals and waste

The project is compliant with Objective 3 of the C&W focal area as it will prevent plastic casing contaminated by flame retardants from re-entering the material recovery supply chain, through the collection of End-of-Life CRT monitors, safe dismantling, identification of the plastic casing containing POP BRFs, and disposal of such plastic with BAT/BEP compliant technologies (Project component 2).

D. POLICY REQUIREMENTS

Gender Equality and Women’s Empowerment:

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

Yes

Stakeholder Engagement

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

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities:

Civil Society Organizations: Yes

Private Sector: Yes

Provide a brief summary and list of names and dates of consultations

| DATE | NAME | INSTITUTION |
|-------------------|---------------------|-------------|
| 15 September 2022 | Ms. Lindiwe Dlamini | UNDP |

| | | |
|------------------|-------------------------|---|
| | Mr. Isaac Dladla | Eswatini Environment Authority |
| | Mr. Mduduzi Dlamini | Eswatini Environment Authority |
| | Ms. Temndeni Khumalo | UNDP |
| | Ms. Charlotte De Bruyne | UNDP Regional Technical Advisor |
| | Mr. Jefferson Gina | UNDP |
| | Mr. Bongani Nkabinde | Eswatini Environment Authority |
| | Ms. Bianca Dlamini | Eswatini Environment Authority |
| | Mr. Bhekimusa Nxumalo | World Bank, supporting Ministry of Health |
| 16 February 2023 | Ms. Belusile Mhlanga | Eswatini Environment Authority |
| | Mr. Bongani Sigudla | Ministry of Health |
| | Ms. Calsile Mhlanga | Eswatini Environment Authority |
| | Mr. Carlo Lupi | PIF Consultant |
| | Ms. Charlotte De Bruyne | UNDP Regional |
| | Mr. Isaac Dladla | Eswatini Environment Authority |
| | Ms. Lindiwe Dlamini | UNDP Eswatini |
| | Ms. Livia Buzova | UNDP Regional |
| | Ms. Patience Vilane | Eswatini Environment Authority |
| | Mr. Raul Tolmos | Pre-SESP Consultant |
| | Mr. Sifiso Mavuso | Ministry of Health |
| | Ms Simphiwe Dlamini | UNDP Eswatini |
| | Ms Temndeni Khumalo | UNDP Eswatini |
| 03 April 2023 | Ms. Calsile Mhlanga | Eswatini Environment Authority |
| | Mr. Ndimphiwe Shabangu | CANGO |
| | Ms. Bianca Dlamini | Eswatini Environment Authority |
| | Ms. Ndumiso Magagula | Eswatini Environment Authority |
| | Mr. Ian Nxumalo | Eswatini e-waste |
| | Ms. Patience Vilane | Eswatini Environment Authority |
| | Ms. Siphwiwo Nxumalo | Eswatini Environment Authority |
| | Mr. Mangaliso Matiya | Eswatini Environment Authority |
| | Ms Nothemba Msibi | Eswatini Environment Authority |
| | Mr. Bongani Sigudla | Ministry of Health |
| | Mr. Melusi Mavuso | Eswatini Environment Authority |
| | Ms. Thobekile Masilela | Women Unlimited |
| | Ms. Belusile Mhlanga | Eswatini Environment Authority |
| | Mr. Vumeni Tsebelela | MOLSS |
| | Mr. Delisa Mamba | Eswatini Environment Authority |
| | Mr. Carlo Lupi | PIF Consultant |
| | Ms. Simphiwe Dlamini | UNDP |

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

Private Sector

Will there be private sector engagement in the project?

Yes

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

Yes

Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Overall Project/Program Risk Classification

| PIF | CEO Endorsement/Approval | MTR | TE |
|---------------------|-----------------------------|-----|----|
| High or Substantial | | | |

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

Indicative 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 (\$) |
|---------------------------------|------------|---------------------------------|------------------------|-------------------------|----------------------|--------------------------|-------------------|--------------------------------|
| UNDP | GET | Eswatini | Chemicals and Waste | Mercury | Grant | 808,500.00 | 76,808.00 | 885,308.00 |
| UNDP | GET | Eswatini | Chemicals and Waste | POPs | Grant | 2,625,000.00 | 249,375.00 | 2,874,375.00 |
| UNDP | GET | Eswatini | Chemicals and Waste | SAICM | Grant | 1,501,500.00 | 142,642.00 | 1,644,142.00 |
| Total GEF Resources (\$) | | | | | | 4,935,000.00 | 468,825.00 | 5,403,825.00 |

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

150000

PPG Agency Fee (\$)

14250

| GEF Agency | Trust Fund | Country/ Regional/ Global | Focal Area | Programming of Funds | Grant / Non- Grant | PPG(\$) | Agency Fee(\$) | Total PPG Funding(\$) |
|------------------------------|------------|---------------------------------|------------------------|-------------------------|-----------------------|-------------------|-------------------|--------------------------|
| UNDP | GET | Eswatini | Chemicals and Waste | Mercury | Grant | 24,574.00 | 2,335.00 | 26,909.00 |
| UNDP | GET | Eswatini | Chemicals and Waste | POPs | Grant | 79,787.00 | 7,579.00 | 87,366.00 |
| UNDP | GET | Eswatini | Chemicals and Waste | SAICM | Grant | 45,639.00 | 4,336.00 | 49,975.00 |
| Total PPG Amount (\$) | | | | | | 150,000.00 | 14,250.00 | 164,250.00 |

Please provide justification

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 |

Indicative Focal Area Elements

| Programming Directions | Trust Fund | GEF Project Financing(\$) | Co-financing(\$) |
|---------------------------|------------|---------------------------|----------------------|
| CW-2 | GET | 4,935,000.00 | 31140000 |
| Total Project Cost | | 4,935,000.00 | 31,140,000.00 |

Indicative Co-financing

| Sources of Co-financing | Name of Co-financier | Type of Co- financing | Investment Mobilized | Amount(\$) |
|-------------------------|----------------------|--------------------------|-------------------------|------------|
| GEF Agency | UNDP | Grant | Investment mobilized | 600000 |

| | | | | |
|------------------------------|--|-------|----------------------|----------------------|
| Recipient Country Government | Ministry of Health | Grant | Investment mobilized | 10000000 |
| Recipient Country Government | Ministry of Natural Resources and Energy | Grant | Investment mobilized | 20000000 |
| Recipient Country Government | Eswatini Environment Authority (EEA) | Grant | Investment mobilized | 540000 |
| Total Co-financing | | | | 31,140,000.00 |

Describe how any "Investment Mobilized" was identified

GEF-8 Chemicals and Waste PIF

Co-Financing

1. UNDP, \$600,000.00

Project: Waste Management for Improved Livelihoods and Resilience

Background: This is an investment mobilised as it excludes recurrent expenditures. The project seeks to create an enabling environment for a transition to a circular economy in Eswatini through a gap analysis of existing policies, legislation, and capacity, and to develop a National Waste Management Strategy. The project also seeks to develop guidelines for waste management (i.e., collection, storage, sorting, recycling and recovery, transportation, and disposal) including health and safety standards for waste handlers.

Other aligned project activities involve conducting a national waste characterization which established procedures for regular monitoring of the amount of general and hazardous waste generated, awareness raising on challenges and opportunities presented by the transition to a circular economy, promoting women and youth participation in the implementation of waste management solutions, door-to-door awareness for separation at source of general waste. The project had a grant component that supported composting initiatives, managing e-waste, and recycling plastic waste and other waste streams.

2. World Bank, \$10,000,00.00

Project: Health Strengthening and Human Capital Development Project

Background: This is an investment mobilised as it excludes recurrent expenditures. The project activities include updating regulations, policies, and strategies including for the draft Health Bill, professional regulatory bodies, National Quality of Care Framework, public-private partnerships, nutrition, sanitation, and health care waste management (HCWM)—including the capture or combustion of fugitive methane emissions—and health financing. Other project activities that aligned to the PIF include building capacity of health care workers, competency-based and residential trainings for health care workers to deliver high-quality RMNCAH, nutrition, and NCD services across the continuum of care.

3. World Bank, \$20,000,000.00

Project: Network Reinforcement and Access Project for Eswatini

Background: This is an investment mobilised as it excludes recurrent expenditures. This project is financed by a grant that aims at improving the reliability of electricity supply and increase access to electricity services in targeted areas of the country and align the distribution network with present and projected electricity demand. Availability of good quality water, electricity and safe road is critical for the proper transportation and treatment of medical waste. The project to consider implementation in areas where such aspects are already available or under improvement. Availability of infrastructures and utilities is a key requirement for waste management; however, health care waste is more critically dependent on that in each phase of their management.

4. Montreal Protocol, \$590,000.00

Project: HCFC Phase-Out Management Plan for Eswatini (Stage II)

Background: The Montreal Protocol on Substances that Deplete the Ozone Layer of which Eswatini is a signatory to was designed to reduce the production and consumption of ozone depleting substances (ODS) such as Hydrochlorofluorocarbons (HCFCs), to reduce their abundance in the atmosphere, and thereby protecting the earth's fragile ozone Layer. Eswatini's consumption of HCFCs is in the servicing of refrigeration and air conditioning equipment. Having met the targets in the HPMP Stage I of the HCFC phaseout management plan, new set of strategies and activities have been designed through the HPMP Stage II to achieve a 67,5% HCFC reduction by 2025, and complete HCFC phase-out by 2030 with a servicing tail of 2.5% until 2040.

Therefore, the project seeks to provide, achieve, and sustain the HCFC phase-out by promoting the adoption of zero Ozone Depletion Potential and low Global Warming Potential technologies. This qualifies as an investment mobilised as it excludes recurrent expenditures.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

| GEF Agency Type | Name | Date | Project Contact Person | Phone | Email |
|-----------------|------|------|------------------------|-------|-------|
|-----------------|------|------|------------------------|-------|-------|

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

| Name | Position | Ministry | Date (MM/DD/YYYY) |
|----------------------|-------------------------|--|-------------------|
| Ms Khangeziwe Mabuza | Operational Focal Point | PS Ministry of Tourism and Environmental Affairs | 4/12/2023 |

ANNEX C: PROJECT LOCATION

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

Please refer to ANNEX C: PROJECT LOCATION in Library

ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

Final version Pre-SESP_Hazardous waste management Eswatini_13032023

ANNEX E: RIO MARKERS

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

ANNEX F: TAXONOMY WORKSHEET

Please refer to **ANNEX F: TAXONOMY WORKSHEET** in library