United Nations Development Programme

Project title: Reduction and elimination of POPs and other chemical releases through implementation of environmentally sound management of E-Waste, healthcare waste and priority U-POPs release sources associated with general waste management activities		
Country: Kingdom of Jordan	**Implementing Partner: Ministry of Environment**	**Management Arrangements:** National Implementation Modality (NIM)
UNDAF/Country Programme Outcome*:* Country Programme Outcome*:* 5) Government and national institutions have operationalized mechanisms to develop and implement strategies and plans targeting key cultural, environmental and disaster risk reduction issues (including a transition to a green economy) at national and sub-national levels		
Expected CP Outcome: 5) Government and national institutions have operationalized mechanisms to develop and implement strategies and plans targeting key cultural, environmental and disaster risk reduction issues (including a transition to a green economy) at national and sub-national levels (same as UNDAF) **Expected CPAP Output(s):** 5.2) National institutions are better able to manage integrated ecosystems, cultural and natural heritage in a sustainable and participatory manner 5.4) Government is able to operationalize national green economy action plan in a gender sensitive and inclusive manner Output 2: Key Government and non-Government actors have capacities to undertake gender-sensitive management of natural resources in a climate-resilient manner in targeted governorates		
UNDP Strategic Plan Output: Outcome 1: Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded. Output 1.3. Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste. Indicator 1.3.1: Number of new partnership mechanisms with funding for sustainable management solutions of natural resources, ecosystem services, at national and/or sub-national level, disaggregated by partnership type. Output 2.5: Legal and regulatory frameworks, policies and institutions enabled to ensure the conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national legislation. Indicator 2.5.1: Extent to which legal or policy or institutional frameworks are in place for conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems. Indicator		

UNDP Social and Environmental Screening Category:	**UNDP Gender Marker: 2**
Atlas Project ID/Award ID number: 00105137	**Atlas Output ID/Project ID number: 00106383**
UNDP-GEF PIMS ID number: 5667	**GEF ID number: 9189**
Planned start date: January 1, 2018	**Planned end date: January 1, 2023**
LPAC date:	

Brief project description: Brief project description: The project, through the implementation of a highly sustainable and replicable approach for the integrated and sound management of electronic (e-waste), hazardous, health-care and municipal solid waste categories, will achieve the avoidance of releases of U-POPs, PBDEs and CO2, contributing at the same time to the development of the waste circular economy elements based on the 3R (Reduce, Re-use, Recycle) approach principles. The project is designed with the three (3) components:

- Project Component 1: Development of an environmentally sound management (ESM) system for E-waste, which has the objective to improve and enforce the E-waste regulation in the country, and to develop capacity for the collection and disposal of POPs contaminated E-waste products and end-of-life articles;

- Project Component 2: Achievement of environmentally sound healthcare waste management (HCW), which has the objective to build on the existing potential of the country to further improve and extend the current HCW practices, including training, certification and procurement of HCW waste treatment technology;

- Project Component 3: Development of waste diversion/resource recovery capacity for reduction in U-POPs emissions, accompanied by GHG related improvements, with the objective to demonstrate minimization in the amount of municipal waste (containing potentially hazardous fractions such as plastic etc) improperly dumped or disposed of through recycling techniques and application of reverse-derived fuel (RDF) principles in modern qualified cement kiln industry, including improved management of hazardous waste through establishing of a public/private partnership.

The project will bring not only environmental benefits, but also substantial social protection benefits through the implementation of a dedicated gender mainstreaming plan and involvement of local communities in the activities related to the circular recycling economy.

FINANCING PLAN	
GEF Trust Fund	USD 5,090,000
UNDP TRAC resources	USD 150,000
Cash co-financing to be administered by UNDP	-
(1) Total Budget administered by UNDP	**USD 5,240,000**
PARALLEL CO-FINANCING (*all other co-financing that is not cash co-financing administered by UNDP)*	
UNDP	USD 75,000

Cash	USD 44,961,522
In-kind	USD 19,705,486
(2) Total co-financing	**USD 64,742,008**
(3) Grand-Total Project Financing (1)+(2)	**USD 69,982,008**

SIGNATURES		
Signature: print name below	**Agreed by Government**	**Date/Month/Year:**
Signature: print name below	**Agreed by Implementing Partner**	**Date/Month/Year:**
Signature: print name below	**Agreed by UNDP**	**Date/Month/Year:**

I. TABLE OF CONTENTS

List of Acronyms and Abbreviations

BAT	Best Available Technology
BEP	Best Environmental Practice
BGR	Federal Institute for Geosciences and Natural Resource
CO	Country Office
EBRD	European Bank for Reconstruction and Development
ESM	Environmentally Sound Management
GEF	Global Environmental Facility
GHG	Green House Gas
GoJ	Government of Jordan
HCF	Health Care Facilities
HCW	Health Care Waste
HCWM	Health Care Waste Management
HW	Hazardous Waste
ICT	Information and Communication Technologies
JOD	Jordanian Dinar
JOHUD	The Jordanian Hashemite Fund for Human Development
LCD	Liquid Crystal Display
MoEnv	Ministry of Environment
MOH	Ministry of Health
MSW	Municipal Solid Waste
MTR	Mid Term Review
NGO	Non-Governmental Organization
NIP	National Implementation Plan of the Stockholm Convention on POPs
PBDE	Poly Brominated Diphenyl Ether
PC	Personal Computer
PCDD/F	Poly Chlorinated Dibenzo Dioxin / Furan
PIR	Project Implementation Report
POPs	Persistent Organic Chemicals
PPP	Public Private Partnership
PSC	Project Steering Committee
RDF	Refuse Derived Fuel
RSCN	Royal Society for conservation of Nature
SW	Solid Waste
TE	Terminal Evaluation
TEq	Toxicity Equivalent (for dioxin and furans)
TOC	Theory of Change
TV	Television

UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNIDO	United Nations Industrial Development Organisation
U-POPs	Unintentionally produced POPs
USD	United States Dollar
WEEE	Wasted Electric or Electronic Equipment
WHO	World Health Organization

II. DEVELOPMENT CHALLENGE

The global environmental problems, root causes and barriers that need to be addressed

With the exception of the municipal waste sector, which – especially in the Great Amman Municipality – benefits of a reasonably organized collection and of the availability of MSW disposal structures, the management of waste in Jordan still lacks of a comprehensive regulation and organization. As a consequence, a sustainable market of waste recycling and disposal services is missing, and very few jobs are created (most of which being low income, informal recycling nature related to municipal waste). The difficulties in waste management have been in the recent years made more severe by the huge increase (around 2.5 million) of unofficial population hosted in the country's territory as a consequence of the Syrian conflict, which is making the planning of the sector's current problematic and occupational issues even more severe. As far as the environmental consequences of the poor management of waste are concerned, these are both local and global. At local level, the improper segregation and treatment of healthcare waste, the limited availability of technologies and know-how for the treatment of hazardous waste, and the large amount of municipal waste still being burned in the open all result in a high level of chemical and microbiological pollution.

The situation has also obvious global effects that manifest due to the release of U-POPs caused by the accidental or intentional open burning of waste, and by the release of POPs, mostly brominated flame retardants contained in improperly dumped E-waste. Below, a short summary of the situation concerning the management of healthcare, hazardous, municipal waste and E-waste categories has been outlined.

The baseline scenario and any associated baseline projects

Municipal Solid Waste (MSW). The total MSW generation in Jordan has increased from 1.5 million tons per year in 2000 to about 2.0 million tons per year in 2010. In 2015, the total MSW generation by the residential population has reached the amount of 2.6 million tons of MSW, and is expected to reach up to 6.0 million tons by 2039. The most recent data with average generation rate in 2015 was 0.99 kg/cap/day in the urban areas and 0.87 kg/cap/day in the rural areas. The existing MSW collection coverage is estimated at about 90% and 70% for urban and rural areas, respectively. The segregation of the plastic, organic and paper components of MSW is currently very poor. In Amman, one recycler is currently collecting around 500 t/month of paper (6,000 t/year) whilst the collection of plastic slew significantly down due to a collapse in the recycled plastic's market value associated with the decrease in oil prices.

Previously carried out studies[1] showed that in 2012, out of the total MSW volume generated in Jordan nearly 50% was organics, 16% plastics, 15% papers and cardboards, and the residual fractions included glass, metal and other miscellaneous types of household wastes. Calculated in tons of waste produced in 2016, this corresponds to 0.416 million tons of plastic, 0.39 million tons of paper, and 1.3 million tons of organic waste. Only for plastic and paper that means a yearly value of the waste being disposed in the landfill in the order of 150 million USD/year (plastic being sold to international recyclers at 200 JOD/tons and paper at 190 JOD/ton). Considering that plastic is purchased from collectors at around 180 JOD/tons and paper at around 70 JOD/Tons, the net profit that can be generated from a better segregation and recycling of paper and plastic in Jordan could theoretically amount to 50 million JOD.(1 JOD = 1.41 USD as of May 2017).

Obviously, this market value is theoretical as not all the plastic and paper can be collected and recycled. However, it gives an idea of the financial potential of waste recycling.

If the MSW as a whole is processed into refuse derived fuels (RDF), based on the figures provided by Lafarge/Holcim Jordan, the company would have a calorific value in the order of 1,500 to 1,800 kcal per ton. Coal, which is currently used by cement kiln factories in Jordan in the order of 100 USD/ ton, has a calorific value of 8,500 Kcal per kg. Based on the calorific value data, MSW waste may therefore have a market value as fuel for

[1] Jordan Solid Waste Management,eng. Wafa' Daibes, Ministry of Environment, 2015 (workshop presentation)

cement kiln in the order of 20 USD/ton (resulting in around 50 million USD /year as an estimated amount of the value of the municipal waste stored yearly in the landfills in Jordan).

Therefore, whilst it obvious that the recycling of plastic and paper is the best environmental and financial option, nevertheless the presence of a market for RDF waste would allow to generate income from waste even when the recycling of the plastic is not profitable. The synergy between the use of some waste as RDF and the recycling of it could therefore guarantee that a minimum financial value is generated from waste processing even when the market value of waste is going down.

Most of MSW daily deliveries are diverted to the closest landfills and/or dumpsites. 85% of MSW disposal utilizes landfill facilities, 10% is diverted for recycling and 5% disposed of by open dumping.

Eighteen (18) official landfills are currently operating in Jordan for MSW that generally meet basic sanitary standards but are lacking in modern environmental protection features and operating practice: four (4) of the landfills operate in the Northern Region, five (5) in the Central Region and nine (9) in the Southern Region of Jordan. Fires are common at the landfills and in the open dumping sites. The new inventory of U-POPs carried out under the NIP update estimated that around 46 g/TEq are generated yearly from open burning processes, including open burning of MSW.

Hazardous Waste. There are no reliable estimates on the generation of hazardous waste in Jordan. Based on the Mediterranean Environmental Technical Assistance program[2], the yearly generation of hazardous waste in Jordan was 25,600 tons annually by 2015. However, following the Sweepnet report[3], the industrial hazardous waste generation, based on records of the Ministry of Environment (MoEnv), is calculated as 45,000 tons per year. This difference between the estimates may also result from the fact that the classification of HW categories established by the Basel Convention is not fully implemented in the country, and therefore the basis for calculations is uncertain.

The MoEnv is the national focal point for chemicals and hazardous waste management (among which is the hazardous, medical and pharmaceutical waste). Within the overarching Environmental Protection Law No. 52/ 2006, the management of hazardous waste is currently covered by the Hazardous Materials Management Regulation No. 24/ 2005, and by the Instruction for Hazardous Waste Management and Handling – 2003. Apparently, the enforcement of the legislation of Hazardous Waste in the country is ineffective or missing, therefore the amount of hazardous waste properly collected and disposed is low.

Currently, the only facility for the management of Hazardous waste is the storage site in Swaqa. The site has been visited during the Project Preparation Stage, and the following outlines the general observations:

1) Swaqa was established in the 1980s. The site utilizes a fenced area of 500 hectares for the reception, storage and ultimately the treatment and disposal (landfilling) of hazardous waste. The site is located at approximately 120 km South East of Amman in a remote area of desert, not connected to utilities.
2) Swaqa is managed by the Ministry of Environment, which applies a gate fee to the hazardous waste stored therein in the following manner:
    - 296 JOD/Ton for organic solid waste, hydrocarbon sludge, organic sludge, petroleum waste, and organic chemical waste;
    - 173 JOD/ton for organic liquid waste;
    - 99 JOD/ton for the solidification and landfilling of inorganic solid waste;
3) Facilities at Swaqa include storage structures, a number of lined basic landfill cells and evaporation lagoons for waste acids. Some of the structure (for instance the storage buildings) are in relatively good conditions, whilst others (like the landfills and the lagoons) are visibly not properly managed and already require heavy maintenance or reclamation.
4) The majority of materials arriving at the site are randomly piled in the open due to actual infrastructure limitation and undergo severe weathering due to the meteorological conditions of the site (wide daily and seasonally temperature variations, strong wind/rain episodes during winter).

2 http://siteresources.worldbank.org/EXTMETAP/Resources/HWM-JordanP.pdf

3 Sweepnet, Country Report on the Solid Waste Management in Jordan, April 2014

5) Wastes, currently being deposited at the site, are primarily pharmaceutical in origin (on average 1,700 m3/year), much of it non-hazardous, newly expired product. There is also barrelled solvent waste of various types, expired pesticides, medical and laboratory chemical wastes, and smaller quantities of hydrocarbon sludge, miscellaneous contaminated solid industrial waste and packaging, wastes from metals and battery manufacturing, and WEEE from recently established public collection programs.
6) Swaqa is poorly maintained. Basically, no waste management operations are carried out at the site. One day per week, two workers are in charge of accepting and registering the waste entering the site. They fill a hazardous waste manifest and direct the unloading and storage operations.
7) Based on the record of MoEnv, around 500,000 JOD are collected yearly from the site's activity, for an amount of waste collected yearly in the order of 4,000 tons since 2012.
8) The road to the Swaqa site, which has been built specifically for the site, is in good condition and allow trucks of large size to access the site.
9) In the recent years, there have been numerous fires at the site which were going on for several hours before being extinguished due to the absence of proper fire extinguishing equipment and procedures on site.

Based on the above, it became evident that the management of hazardous waste is not sustainable from the financial, environmental and social standpoints. In the absence of a sound enforcement, most of the hazardous waste is not properly collected and managed. The government currently does not have technical resources for an effective management of the Swaqa site, and, in addition, its role as a provider of disposal services in Swaqa conflicts with the role of regulatory and inspection authority.

From the financial standpoint, it would be much more effective to delegate the management of the site to a separate entity (even through a Public-Private Partnership), enforce the regulation on hazardous waste, and establish a moderate levy on the amount of hazardous waste generated by the industry. Considering the potential amount of HW generated yearly that would represent a much more substantial income in comparison with the current income generated by Swaqa. From the environmental standpoint, if the law enforcement is effective, that could prompt and force the industry to re-think their manufacturing procedures to reduce the amount of hazardous waste generated.

The MoEnv established a cooperation with the Government of Germany on a four-stage plan for the management of hazardous waste in general, and for the remediation and revamping of the Swaqa site in particular[4]. The cooperation aims not only at improving the Swaqa's interim storage, but also at enhancing the entire Jordan's Hazardous Waste Management System. The cooperation is articulated in the four steps:

- Phase 1: Clean-up, preparation and obligatory measurements on site (estimated cost: 377,500 JOD)
- Phase 2: Clean-up operation to clear the site from uncontrolled dumped hazardous waste as a) immediate safety measures for the staff and b) preparation measure for the remediation and long-term professional HW operation at Swaqa, including the export of all accumulated pharmaceutical waste for incineration (estimated cost: 2,795,000 JOD)
- Phase 3: Remediation of the complete site after the clean-up and before starting the newly management operations (cost to be estimated)
- Phase 4: Long term site operations and development, including an external specialized private entity. Beside professional services, such entity shall also develop a "Vision for Swaqa" plan to assist with gradual transformation of the site into an integrated hazardous waste management centre for the whole region, including knowledge-transfer and education approaches, local capacity building, job creation etc. (estimated cost: sustainable PPP to be established)

E-Waste.

E-waste policy in Jordan. The government has already prepared a draft of the "Electronic and electrical waste management instructions (last update 2014)", which however was not approved yet. The objective of these "instructions" is to regulate the procedures for the management of electronic and electrical equipment and waste to achieve their safe and sound management with reduced or minimal environmental and health implications.

4Letter of intent for an integrative Hazardous Waste Management in Jordan.

The instructions include the following description of functions/roles and definitions:

- Collection Centre: The places designated and approved by the Ministry of Environment for the collection of electrical and electronic waste.
- Consumer: User of electrical and electronic equipment
- Electrical and electronic waste: Waste from electrical and electronic equipment including its components, parts and accessories.
- Generator: Any person or consumer who undertake activities or is responsible for activities that contribute to the production of electrical and electronic waste or the person who owns the electronic and electrical waste.

With respect to main provisions of the instructions, the following provides more of the general information on the e-waste handling related rules and procedures:

- Import of e-waste into the country is fully banned.
- All generators, transporters, recyclers, exporters must register in the Ministry of Environment and get a special identification number as an approved facility adhering to environmental performance standards.
- Recycling and treatment facilities register in the Ministry of Environment and must declare the treatment technologies they use, quantities of e-waste they receive for processing/handling and final destination of the waste.
- All producers and importers of electrical and electronic equipment must provide the Ministry with the list of equipment imported and/or distributed in the local market.
- Generators of e-waste must separate e-waste from other types of waste and shall make an agreement with licensed recycling facility for dismantling and recycling of such end-of-life equipment.
- Components or parts that cannot be recycled or processed locally, can be exported.
- Each licensed facility has to provide a list of the electrical and electronic equipment that is dealt with annually to the Ministry of Environment.

Despite these rules and procedures attempting to set the overall framework in place to start addressing the e-waste's national situation, they are however still affected by a number of shortcomings that need to be resolved, namely:

- The polluter-pays principle and its governing and guiding elements are not included in the policy;
- A tariff system needed to enable the take-back system is not defined;
- Principles of such take-back system's model are not well explained in the policy as there are more than 96 different types of electronic and electrical waste which are listed in the policy subject to its conditions;
- E-waste's related economics/cost structures of management and handling processes have not been developed for any of the life-cycle stages. For instance, the costs of e-waste collection, transportation, processing, dismantling, and disposal are not proposed.
- The roles and responsibilities of the stakeholders are not well defined in the documentation,
- No incentives scheme for all stages of E-waste management/ life-cycle is proposed,
- Any bridging between the formal and informal E-waste recycling sectors is missing from discussion and not currently addressed in the policy

E-waste generation in Jordan. Reliable data concerning E-waste generation in Jordan are extremely limited. Based on data reported in the Step Initiative[5], the generation of E-waste is estimated at 30,000 t/year, and the annual pro-capita E-waste generation is estimated at 4.5 kg /Year level. This amount is considered relatively high even for most developing countries.

In 2015, a study has been published for the estimation of potential E-waste generation in Jordan[6]. The study was based on a survey covering a pool of 1,050 respondents, with 78% feedback rate. The study provides a useful

5 http://www.step-initiative.org/Overview_Jordan.html

6 Saidan, M; Tarawneh, A. Estimation of potential E-waste generation in Jordan. Ekoloji 24, 97, 60-64 (2015)doi: 10.5053/ekoloji.2015.25

insight into the amount and lifespan of different electronic equipment, namely cell phones, personal computers (PC), TV, refrigerators and washing machines.

The data concerning information and communication technology (ICT) equipment, i.e. the type of equipment which may be more likely contaminated by POPs-based flame retardants is reported below:

Product	Average weight	Average Lifespan (year)
Cell Phone	0.113	2
PC	17	4
TV	20	6

The estimated amount of waste ICT accumulated in the period 2007 – 2015 is calculated in the above-mentioned study as following (a total of 43,310 tons):

- TV of 29,650 tons;
- PC of 13,158 tons;
- Mobile phones of 502 tons.

Based on market share data on CRT (cathode tube) monitor versus LCD (liquid display) monitors[7] it may be assumed that the percentage of waste-category CRT monitors was in the order of 50% of the total amount of TV sets in 2007 and no more than 5% in 2015. However, the weight of a CRT monitor is roughly twice the weight of an LCD monitor, therefore based on the data reported in the article, it may be estimated that the accumulated amount of waste CRTs in Jordan until 2015 is in the order of 9,600 tons.

Following the Swiss Federal Laboratories for Material Science and Technology (EMPA) guidelines[8], the average amount of brominated plastic in the ICT equipment (desktop and laptop PCs, mobile phone) is 18%. In this fraction, the average concentration of c-PBDEs has been estimated, based on data from EMPA, at 0.225 kg/t. The estimated amount of c-PBDEs from end-of-life ICT equipment can be calculated as 43,310 tons * 0.18 * 0.225/1,000 = 1.75 tons.

Based on the Stockholm Convention's guidance documents on PBDE inventory[9], the plastic content in CRT monitors may be estimated to around 30% of their weight; and the c-PBDE content may be estimated as around 0.87-2.54 kg per ton of the weight of the plastic. For Jordan, the above converts into a theoretical amount of c-PBDE in the order of around 2.5 to 7.3 tons.

Healthcare Waste

Jordan is known for its advanced and comprehensive medical system and facilities which are considered one of the best in the region. The system consists of 105 hospitals with 12,545 beds with:

- Thirty-one (31) hospitals (39% of beds) are operated by the Ministry of Health (MoH).
- Twelve (12) hospitals are military (19% of beds).
- Two (2) hospitals (8% of beds) are associated with universities.
- Sixty (60) hospitals (34% of beds) are private.

7 Can LCD be overthrown? IHS Markit, http://blog.ihs.com/q22-can-lcd-be-overthrown, accessed march 17, 2017

8 http://ewasteguide.info/material_composition

9 Guidance for the inventory of polybrominated diphenyl ethers (PBDEs) listed under the Stockholm Convention on Persistent Organic Pollutants. UNIDO, UNITAR, UNEP, Secretariat of the Stockholm Convention. July 2012

Additionally, there are an estimated 1,120 medical clinics and 378 dental clinics operating in the country. In theory, Health Care Waste (HCW)'s generation volumes are estimated based on a rate of 0.6 kg/day/bed to be 7-7.5 t/day, 226 t/monthly or 2,745 t/year noting that it does not include the full amounts generated from outpatient clinics and dental facilities, nor does it include waste generation from emergency medical facilities being established by international donors in the refugee camps in proximity to the Syrian border.

The medical waste composition is classified to contain 75-90% of solid waste, which is generated from the administrative departments, associated food courts, and good housekeeping such as plastics, paper, cardboards, etc. However, 10-25% of the generated total waste are the infectious medical waste requiring special treatment.

Based on data supplied by MoH Tables 1 and 2 below summarizes the current profile of medical facilities

Table 1. Number of Hospitals and Beds.

Sector	**No of Hospitals**	**No of Beds**
Public / Ministry of Health	31	4,866
Military/Royal Medical Services	12	2,439
University Hospitals	2	1,035
Private	60	4,205
Total	**105**	**12,545**

Table 1. Geographic Distribution of Hospitals and (Theoretical) Healthcare Waste Generation

	Northern Region	**Central Region**	**Southern Region**	**Total**
No of Hospitals	24	69	12	105
No of Beds	2,470	9,107	968	12,545
Estimated Daily HCW Generation[10] (t)	1.48	5.46	0.58	7.5
Estimated Monthly HCW Generation[11] (t)	44.4	163.8	17.4	226
Estimated Annual HCW Generation (t)[12]	540.2	1,992.9	211.7	2,745

Many hospitals in the national hospital system, profiled above, have an active HCWM capacity and access to disposal facilities, either on-site or as coordinated across the system, although there is variability in data applicable to the collection of actual amounts treated versus that generated. Initially, most facilities or clusters were equipped with small basic incinerators; however, as in most countries, the incineration technology used was recognized as being of relatively low quality in terms of currently accepted environmental performance standards, particularly the capability to control air emissions. Additionally, the ability to maintain and operate these facilities reliably is the re-current issue, as is the public resistance to their operation in hospitals themselves and in urban areas. While no systematic emission testing has been undertaken, application of the UNEP Tool Kit emission factors, as part of the current NIP update work on U-POPs inventory, suggests that healthcare waste incineration is a significant source of PCCD/F emissions (10 g TEQ/year), particularly noting this is typically occurring within hospital sites located in urban areas, and there are some concerns about the accuracy of the emission factors actually applied suggesting this quantity is underestimated.

10 Using 0.6 kg/ bed.day

11 Using (30) days

12 Using (365) days

The number of health care centres and labs are summarized in the following Table:

Table 2. Number of health care centres and labs in Jordan.

Health Care Centres/ Labs	Details	Total number
Ministry of Health centres	- 95 Comprehensive Health Centres - 375 Primary Health Centres - 205 Secondary Health Centres - 448 Mothers and Children Centres - 378 Dental clinics	1,501
Private Medical Centres and Emergency Centres		77
Private Medical Labs	- 394 Licensed Labs - 81 HIV Testing Labs - 221 Thalassemia Testing Labs	696
Pharmaceutical Research Centres		7
Pharmacies		2,157
Drugs Stores		282
Medicines Factories		25
Cosmetics Factories and Medical Consumables		119

MoH and the other hospital operators have generally recognized the limitations of the conventional, previously manufactured incineration technology, and, over the past several years, have initiated a strategy of both replacing small on-site incinerators with non-combustion alternatives, principally, autoclave units, equipped with shredding and sterilization capacity, and, alternatively, centralizing capacity in larger, better equipped incineration units, more appropriately located. Overall, Jordan has 21 operational/operable HCW incineration units and 20 non-combustion HCW treatment units, primarily autoclaves, most of which are equipped with shredding components. The overall coverage of HCW generation is estimated at 86% although this is qualified by only estimated data received from some private and the military hospitals.

Closure of small sub-standard incinerators is largely complete in private hospitals with conversion to on-site non-combustion treatment and disposal technology in some cases, but also with visible increasing number of outsource contracting to incinerators or non-combustion facilities elsewhere as an interim step prior to actual installation of non-combustion units. Current investment planning by MoH involves future addition of five (5) autoclaves with shredding and sterilization, and potential extra three (3) more units to be financed by international donors, for an overall amount of around 3 million USD in the infrastructural investments.

Further, a number of similar units are planned for installation for the military hospital system, combined with three (3) relatively new larger incineration units in the MoH system which are to be retained subject to technical evaluation and performance testing.

The arrangement of a contract MoE between a private commercial operator (Nasser Investments/Clean City) owning two incinerators (a rotary kiln unit (5-8,000 t/year total capacity) located at the Ghabawi landfill along with a newly purchased smaller conventional HCW batch incinerator was not successful due to difficulties to provide to the disposal facility with the contracted amount of waste to be treated, and hence to ensure the financial sustainability of disposal operations.

Baseline projects.

The government of Jordan, in cooperation with international organizations (like the UN agencies) and with the bilateral support of the governments of other countries has undertaken in the recent years a number of projects aiming at improving the management of waste in specific sectors. Among these, the most relevant are:

- The World Bank projects for the gas recovery at the Amman Landfill[13]
- The EBRD Waste to Energy project[14]
- Jordan - Amman Solid Waste Management and Carbon Finance Project (English)[15].
- The German cooperation on Solid Waste Management[16]
- A number of initiatives supported by GIZ (https://www.giz.de/en/worldwide/360.html), including among others, the following projects: Waste to positive energy, (https://www.giz.de/en/worldwide/39818.html); Support to solid waste management in refugee hosting communities (https://www.giz.de/en/worldwide/28778.html); Sludge management in Jordan: Sustainability through innovation (https://www.giz.de/en/worldwide/41405.html)
- The Canadian Embassy financed waste management project being administered by UNDP in Northern Jordan,
- Bilateral funding of HCW infrastructure, particularly that associated with incremental impacts of refugee and migrant populations from the Kuwait and potentially Gulf Funds;
- Regional and global activities/networking platform provided by EMPA.

Consistency with National Priorities

The project is fully consistent and will indeed complement the priority activities for which the Jordan National Budget Law (work programme) for 2016 to 2018 allocated a budget: NIP update, quality and quantity of hazardous waste; monitoring of leachate from different landfills, control and monitor of the quality of groundwater potentially impacted by landfills including HW landfills; monitor of residues of pesticides – including POPs - in the environment and in the food chain; rehabilitation of the Al Akaidir landfill; increase the effectiveness of reuse and recycling of Solid Waste; programme to deal to with emergency caused by Hazardous Chemicals or Hazardous waste; Programme to reduce the impact to manure flies; rehabilitation of the Swaqa hazardous waste storage facilities; international tendering for a central facility for the treatment of hazardous waste including POPs waste based on PPP and BOOT (Built on operate transfer).

In addition, the project is fully consistent with the Jordan priorities sanctioned through the ratification of the Stockholm Convention, Basel Convention and Minamata convention, like:

- The continuous building of the capacity for ESM of POPs including PCBs.
- The development of the capacity for the collection and management of end-of-life computing equipment and others EE-waste potentially contaminated by POPs and other hazardous substance
- Monitoring of soil in areas surrounding landfills.
- The initial assessment of Mercury.
- The update of the Information system for the management of Hazardous Substance (update the software)
- The establishment of a “one stop” Universal Window at Custom for the hazardous manifest to be used for the import/export of hazardous good or hazardous waste

The Project is therefore consistent with and constitutes an integral part of national strategies, priority plans and its current development priorities related to environmental protection as well as social and economic development. In terms of the three current primary chemicals related Conventions (Stockholm, Basel, Rotterdam), all of which Jordan is a party to and an active participant in, the Project directly addresses strengthening national compliance, something that is a major priority of the country. It has a primary objective of reducing and eliminating POPs and other chemicals releases along with addressing control of trade issues associated with things like E-waste and used

13 http://www.worldbank.org/projects/P107410/jo-amman-landfill-gas-recovery?lang=en

14 http://www.ebrd.com/news/2015/ebrd-helps-jordan-transform-waste-into-energy-.html

15 http://www.worldbank.org/projects/P104960/jo-amman-solid-waste-management-carbon-finance?lang=en

16 Country report on the solid waste management in Jordan. German Cooperation, Deutsche Zusammenarbeit, 2014

EEE, and generally promoting current overall solid and hazardous waste management approaches consistent with maximizing beneficial use and minimizing traditional disposal. In that regard, the Project is also well timed to support the implementation the new National Solid Waste Management Strategy. It also develops a linkage to GHG reductions through the development of environmentally sound RDF applications which is in line with Jordan's overall climate change mitigation policies and strategies. With regard to national development and specifically the country's situation in the region, the Project fits well into Jordan's proactive and humanitarian policies related to accommodating refugees and economic migrants in a manner that both provides appropriate sanitation and medical services while ensuring maintenance of national and ultimately international standards in these areas.

III. STRATEGY

Theory of Change of the project. In developing the theory of change of the project, the following common issues and driving forces have been considered:

Waste value as driving force for the project. The most important financial support to projects on waste management should come from the enhancement of the waste value chain itself (through preventing, minimizing, recycling and through the increase of the disposal efficiency). The financial support provided by the GEF for the project should be considered only as the catalytic resource to be used for initial investments and starting up specific activities. In the current case, non-sustainable financial sources (like the gate-fee which is charged to waste generators who dispose or store their waste in the Swaqa site, where waste are mostly improperly disposed) should be replaced by wider in scope and more sustainable ones – like a moderate level taxation of the income generated through proper waste recycling at industry level or waste disposal supported by a better enforcement of the regulation.

Absence of a properly designed and enforced regulatory system. In spite of the driving force represented by the value of the waste, no sustainable management of waste can be put in place if a proper regulatory system, based on laws and guidelines, is not put in force. This is a common issue for all the 4 waste streams (E-waste, health care waste, municipal waste and hazardous waste) being addressed by the 3 project components. To be sustainable, a regulation needs to be carefully designed and budgeted; the budget sources and modalities for its enforcement need to be identified; penalties and incentives need also to be included, and a proper inspection system need to be implemented.

Competing interests. In waste management projects, there are always competing interests that need to be carefully composed with the best solution for both the community and the environment. In the current project, competing interests may be observed between waste recycling activities and the generation / use of RDF, as the segregation of some valuable waste components (organic waste, plastic and paper) from the bulk of the municipal waste will reduce the calorific value of the waste potentially used for waste to energy. For instance, whilst in Jordan the market for recycled paper is currently high, the market for recycled plastic, due to the low price of oil, is very low. However, the calorific value of plastic is comparatively high, at the same time, therefore an agreement between material and energy recyclers could play a significant role in balancing the financial risk associated with the fluctuation of the waste prices.

A second line of competition has been observed between the disposal of hazardous waste in Swaqa, which represents an income for the government, and the disposal of hazardous waste through commercial incinerators or co-incineration. However, the current disposal in Swaqa cannot be considered sustainable due to the very poor waste management procedure adopted. Therefore, whilst from one side, the amount of hazardous waste properly treated in the country should increase after proper enforcement of the legislation (with a resulting potential increase of taxable income), from the other side the Swaqa facility should be remediated and dedicated only to the storage of rather stable hazardous waste requiring minimum maintenance. It would also be advisable to shift the management of Swaqa from purely state owned to a PPP arrangement, with the state party in charge of supervision and control, and the private party in charge of the site operation.

A third line of competition has been observed among different HW disposal modalities: centralized disposal through private facilities (centralized incinerators or cement kilns); waste disposed directly in the hospital facility through sub-standard incineration or autoclave; waste re-distributed among hospitals. These modalities are currently not completely monitored or supervised, therefore the waste incompletely treated by the hospital

facilities themselves easily ends up in municipal landfills at very low cost for the hospitals, whilst the investments represented by the large facilities established for the treatment of waste are penalized by the unfair competition represented by the improper waste management.

External factors. The Syrian crisis, which has resulted in the presence of one and half million refugees hosted within the Jordanian territory, represents a powerful external factor impacting the Jordan's society in general, and its waste management system in particular. As a solution, the project could maximize the values associated to the presence or refugees on the territory (namely by integrating the additional waste stream in the waste value chain), minimize the impact by involving the refugee population in waste recycling activities (in the three sectors of plastic, paper and organic waste), and demonstrate ESM of health care waste even in hospitals located in the territories where the presence of the refugees is higher.

TOC diagram. The theory of change for the project is summarized in Figure 1 below. The TOC does not include the quantitative aspects (budget, waste quantities, timeframe) associated to the project activities, which are instead detailed in the project description and in the project result framework. It only explains the rationale for project design and implementation.

Linkage and coordination with other GEF projects

The following projects related to the POP or Chemical and waste focal areas are currently ongoing in Jordan with the technical and financial support from the GEF:

1. GEF ID 5092: Enabling Activities to Review and Update the National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (POPs) (UNIDO). The interaction with this project will consist mainly in the mutual exchange of information related to the U-POPs inventory, with specific reference to the Health Care Waste sector and the incineration and open burning of waste. Although the NIP update is in its last stage of implementation, the project has been coordinating with the NIP update team and the government in order to ensure that the priorities identified so far are compliant and appropriately aligned with the project's objectives.
2. GEF ID 4124: Implementation of Phase I of a Comprehensive PCB Management System (UNDP). The interaction with this project is limited, as there will be no activities related to PCB equipment or waste. The coordination will mainly concern the legislative framework, with specific reference to the classification handling and disposal of hazardous waste.
3. GEF ID 9302: Strengthen National Decision Making towards Ratification of the Minamata Convention and Build Capacity towards Implementation of Future Provisions. The proposed project would not directly deal with mercury waste. However, mercury related issues are indeed related with at least 2 project components: Component 1 (E-waste) and Component 2 (Health Care waste). The project will therefore exchange information on mercury related issues in the course of implementation of these 2 components, with the main purpose to coordinate on the drafting of policies and strategies related to mercury in E-waste management and to mercury devices' alternatives (thermometers, sphygmomanometers) in the health-care sector.

As the project will also allow for the reduction of GHG release through an improved recycling of municipal waste, it will also coordinate with ongoing GEF projects under the Climate Change focal area, namely:

4. GEF ID 6935: Jordan's First Biennial Update report (UNDP). The Update Report project was to assist the Hashemite Kingdom of Jordan in the preparation of its First Biennial Update Report (FBUR) as part of Jordan's fulfilment of the obligations under the United Nations Framework Convention on Climate Change (UNFCCC) and its associated implementation mechanisms.
5. GEF ID 9204: A Systemic Approach to Sustainable Urbanization and Resource Efficiency in Greater Amman Municipality (GAM) (UNDP). This project is intended to assist the Greater Amman Municipality (GAM), which is also one of the partner of the proposed project, to improve the quality of life for its citizens and comply with the National Energy Efficiency Action Plan (NEEAP) via support for more sustainable resource-efficient urban planning and targeted low-carbon interventions in the municipal buildings and street lighting sub-sectors.

4. The proposed alternative scenario and GEF focal area strategies.

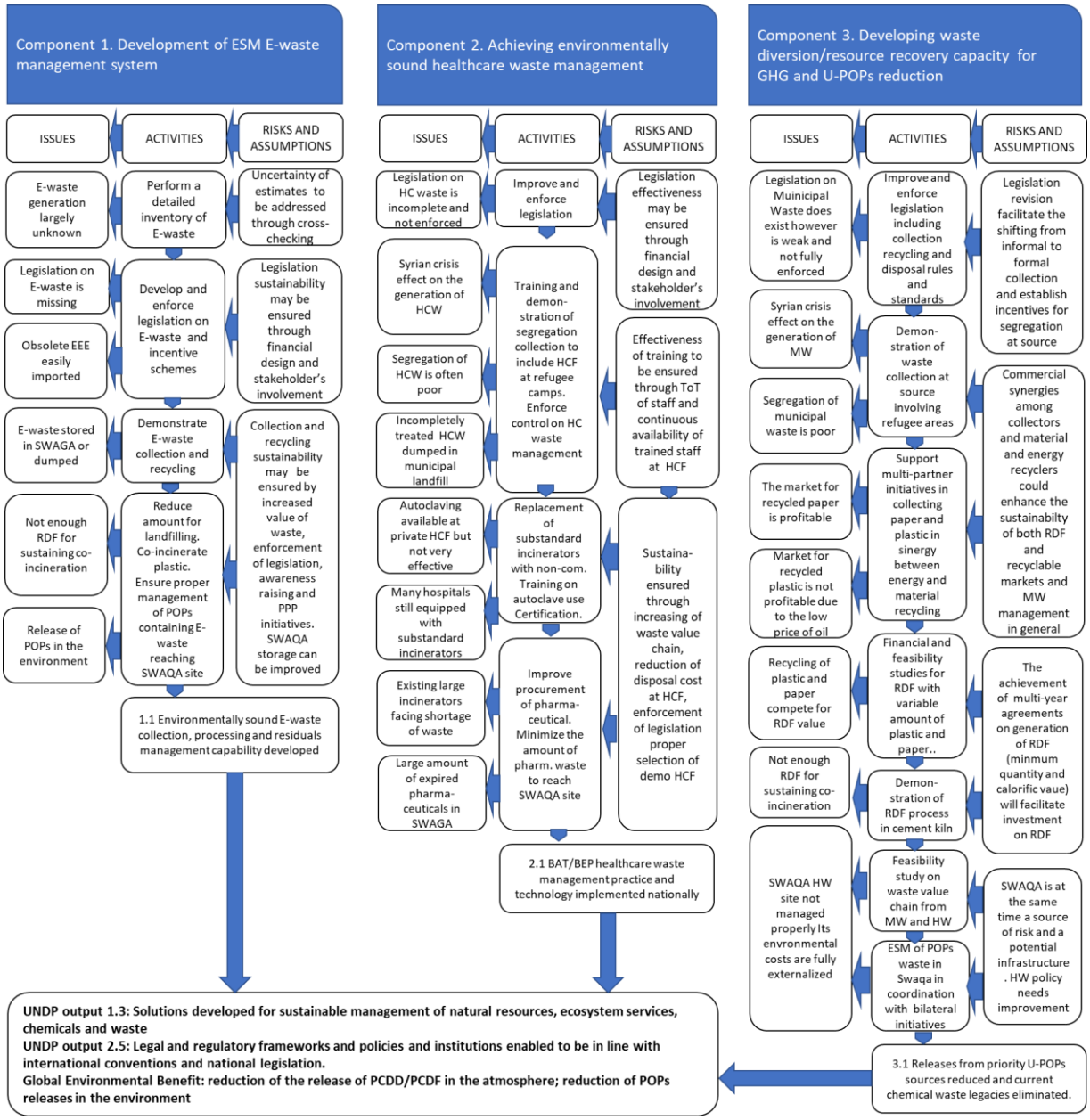
The proposed Project, as outlined in detail in the next section (Expected results), is intended to address several specific priorities related to E-waste, health-care waste (HCW), municipal waste and hazardous/chemicals waste management including POPs in a manner consistent with the GEF-6 Programming Strategy applicable to the Chemicals and Waste Focal Area.

More specifically, the project is compliant with the strategic objective CW2 "Reduce the prevalence of harmful chemicals and waste and support the implementation of clean alternative technologies/substances", program 3 "Reduction and elimination of POPs", with focus on the reduction of emission of unintentional POPs (U-POPs) as from Article 5 of the Stockholm Convention, and the environmentally sound management of POPs-containing wastes in accordance with the Basel Convention and its relevant technical guidelines. To this end, the project envisages three main components:

- **Component 1**: Development of ESM E-waste management system
- **Component 2**: Achieving environmentally sound healthcare waste management/ BAT/BEP healthcare waste management practice and technology implemented nationally
- **Component 3**: Developing waste diversion/resource recovery capacity for GHG and U-POPs reduction/ Effective waste diversion/resource recovery capacity from HW and SW streams developed with associated GHG and U-POPs release reduction achieved

Further, the project attempts to look into a range of issues from an integrated perspective, with elements of circular economy included in its design, specifically on e-waste and plastic re-use.

Figure 1 Diagram of the project Theory of Change



5. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and co-financing;

In the Table 3 below, the incremental and additional cost reasoning underpinning the project are summarised.

Table 3. Baseline project components and Incremental cost reasoning.

Baseline project components	**Incremental reasoning as from alternative scenario (GEF project components)**
Management of E-waste The country has only relatively recently begun to address the issue of E-waste in a systematic way with participation in a number of internationally funded national and regional initiatives (including those funded the Basel Convention) undertaking the evaluation of the status of E-waste management systems in the Arab countries generally. These include a study work by the Centre for Environment and Development for the Arab Region and Europe (CEDARE), and inputs into the United Nations University StEP Program[17]. The government has already prepared a draft of the "Electronic and electrical waste management instructions (last update 2014)", which however was not approved yet, and needs to be upgraded to reflect polluter-pay, support tariffs and associated incentive mechanisms/principles. There is limited capacity for treatment, segregation and disposal of E-waste in Jordan. No substantive baseline project is really undergoing, except of only one company that has some capacity on the segregation and collection of E-waste, and is currently planning to invest for the expanding of its capacity. However, in the absence of a proper regulation on E-waste, these investments will not materialize.	**Component 1** The project intends to support the country in the revision, approval and enforcement of the current draft national legislation on E-waste. As in the current draft POPs are not explicitly considered, the revision of the legislation will also include specific provisions related to the identification and management of E-waste streams potentially contaminated by POPs. In the alternative scenario, the project also intends to design and demonstrate an incentive mechanism aimed at overcoming the current financial gaps affecting the collection of E-waste. The financial mechanism should also support the establishment of infrastructures and technologies for the collection, segregation and management of E-waste in Jordan. The improvement of the regulatory framework and development of technical capacity will be reinforced by a well designed awareness raising campaign, targeted to the different groups of professionals, environmental authorities and consumers.
Total Co-financing: USD 5,414,042 JoCycle (a private company in the sector of E-waste recycling) will provide capital investment in equipment for an amount of 146,892.66 USD, and in kind investment for an amount of 566,384.18 USD. The Government of Jordan will contribute with a capital investment consisting in the E-waste storage site in Swaqa of USD 706,214, with an associated operational cost of USD 200,000. 30% of the co-financing provided by Clean City (USD 3,794,551.69 -- capital investment and planned investment: USD 2,164,516, and in kind investment (operational cost): USD 1,630,035.) for the upgrading and operation cost of incinerator: of the total capital	**GEF grant for Component 1** USD 1,000,000

[17] http://www.step-initiative.org/World_UN_Cooperation_between_Basel_Convention_and_StEP_Initiative.html

Baseline project components	Incremental reasoning as from alternative scenario (GEF project components)
investment and planned investment: USD 7,215,053.68 and in kind investment (operational cost): USD 5,433,451.98	
Management of Health Care waste Several activities were undertaken in Jordan on the improvement of the healthcare waste management. One of the main achievement was the replacement of a number of small sub-standard incinerators with shredders and autoclaves. This has occurred mainly in the private sector, whilst most of the hospitals in the public sector still rely on small incinerators. Overall, Jordan has 21 operational/operable HCW incineration units and 20 non-combustion HCW treatment units. The current legislation on HCW is not completely enforced, and the control on the final fate of HCW is therefore not ensured. From one side, this results in a situation where incompletely treated HCW are often sent to the municipal landfills. On another side, this prevents the establishment of a market-based system for the disposal of HCW management: the arrangement of a contract between MoENV and a private commercial operator (Nasser Investments/Clean City) owning two incinerators (a rotary kiln unit (5-8,000 t/year total capacity) located at the Ghabawi landfill along with a newly purchased smaller conventional HCW batch incinerator was not successful due to difficulties to provide the contracted amount of waste to be treated. Current investment planning by MoH involves the addition of five (5) autoclaves with shredding and sterilization and potential addition of three (3) more units financed by international donors.	**Component 2** The alternative scenario which will materialize with the implementation of the proposed project will further support the country in accelerating the shifting from an unsafe management of healthcare waste toward the implementation of their more efficient and environmentally sound management. This will occur through a number of directions: 1) Extending the effort - already initiated in the private sector – to replace sub-standard incinerators (releasing a significant amount of PCDD/Fs) with non-combustion sterilization technology to the public sector. The project intends also to provide solutions to the difficulties found in the use of currently commissioned sterilization technologies. Under the project, at least then (10) health-care facilities (HCFs) will be provided with non-combustion sterilization devices and technical support to operate them according to international standards. 2) At the same time, the project will provide a continuous formal training on healthcare waste management in a number of selected healthcare facilities to improve the management and segregation of healthcare waste to optimize generation quantities, in view of the sterilization with non-combustion technologies. 3) The project will assist in the upgrade and certification of disposal facilities (high temperature incineration) that can complement the overall management of healthcare waste disposal capacity in Jordan, and may also be used for the disposal of other hazardous waste streams. 4) The project will also establish a Public-Private partnership for the management of healthcare waste, based on the preliminary agreement with generators of HCW on HCW quantities and fee to secure the amount of waste to be treated for ensuring its sustainability.
Co-financing from baseline **The total co-financing of USD 22,030,508** will be achieved as follows: The Ministry of Health will contribute with capital investments in the incinerator, autoclaves, transportation vehicles, infrastructure for medical waste (MW) storage	**GEF grant for Project Component 2:** USD 2,300,000

Baseline project components	Incremental reasoning as from alternative scenario (GEF project components)
for the amount of USD 4,237,288.14, and with salaries, fuels and electricity, operational costs, maintenance costs, containers and bags for the amount of USD 10,593,220.34. The Royal Medical Services will contribute with capital investment in autoclaves during project formulation, purchasing new equipment and maintenance cost for the amount of USD 4,800,000 and with salaries and training for an in-kind amount of USD 300,000. Jordan University of Science and Technology (JUST) will contribute with the capital asset and maintenance of the HCW Incinerator amounting to USD 1,400,000 and with salaries amounting to USD 700,000.	
Management of solid waste and hazardous waste Jordan cannot rely yet on modern technologies and infrastructures for the environmentally sound management of hazardous waste which is being generated/accumulated. Currently, the only facility for the management of Hazardous Waste is the storage site in Swaqa. This is basically an unattended storage site where hazardous waste are in most cases stockpiled without too much control or even dumped. The enforcement of the legislation of Hazardous Waste in the country is ineffective or missing, therefore the amount of hazardous waste properly collected and disposed is low, and a market-based system for hazardous waste disposal services is completely missing. In other words, the cost for hazardous waste treatment is almost completely externalized. A number of initiatives have been undertaken with bilateral support to solve the environmental issues associated with the Swaqa site and to improve, implement and enforce in an effective way the regulation on Hazardous Waste. The MoEnv established cooperation with the Government of Germany on a four-stage plan for the management of hazardous waste in general, and for the remediation and revamping of the Swaqa site in particular. The cooperation aims not only at improving the Swaqa interim storage, but also at enhancing the entire Jordan Hazardous Waste Management System. On the side of municipal waste management, the key issue which the GoJ is currently trying to resolve are the limited capacity for differential collection and recycling of specific waste stream (plastic, paper, glass, organic), and the issue of open burning of waste in landfill or in the field. Most of municipal solid waste (MSW) daily deliveries are diverted to the closest unsanitary landfills and/or dumpsites. 85% of the MSW disposal utilizes conventional sanitary landfill facilities, 10% is diverted for recycling and 5% disposed by open dumping. The following bilateral project are currently implemented in Jordan with the	**Component 3** The main purpose of the proposed project on the side of hazardous waste management is to strengthen and enforce the regulatory framework and to create a supporting structure and a solid strategy for the management of hazardous waste, accompanying, at the same time, the rehabilitation and integration of the Swaqa site in a more comprehensive system for hazardous waste management. This will encompass the following activities • Training of waste generators on the minimisation, classification and management of hazardous waste including the guidance on environmentally sound management (ESM) of waste developed under the Stockholm and Basel Conventions, and the adoption of manufacturing process leading to reduced generation of hazardous waste; • Implementation of procedures for the early identification of hazardous waste potentially contaminated by POPs both at source and at the Swaqa site; • Labelling, repackaging and safeguarding of hazardous waste potentially contaminated by POPs currently stored at Swaqa for an overall amount of around 300 tons of waste safeguarded. On the side of U-POPs prevention from the open burning and improper disposal of municipal waste, the project will move in three (3) directions: 1) active prevention of open burning (and associated release of PCDD/Fs) by increasing the door-to-door collection of recyclable waste and ensuring they are placed on the market of recyclable waste. This will be achieved through an articulated programme involving preliminary surveys, training and sensitization campaigns for the general public and the recyclers, implementation and replication, surveillance of

Baseline project components	Incremental reasoning as from alternative scenario (GEF project components)
purpose to improve the municipal waste management: World Bank's projects for the gas recovery at the Amman Landfill; EBRD-funded Waste to Energy project; Amman Solid Waste Management and Carbon Finance Project; German cooperation on Solid Waste Management.	activities at identified open burning sites. 2) demonstration of the generation and use of the refuse-derived fuel (RDF) (to be undertaken in al Tafila region, where a significant potential for the use of RDF may be established). This will entail the definition of the regulatory framework and technical standards for the utilization of RDF in qualified cement kilns (such as Lafarge/Holcim), including RDF's composition; supporting investment needed for the pre-processing (selection, packaging) of municipal waste to be used as RDF; demonstration of the collection, pre-treatment and burning (usage) of a significant amount of RDF. Through this activity, a sustainable system will be established which, properly integrated with recycling activities, will prevent a significant amount of waste from being dumped in landfills subjected to open burning. 3) Prevention of open burning through a combination of surveillance, access control and automated monitoring of landfill sites. All the activities described below will be properly integrated with ongoing bilateral projects, like the GIZ initiatives on hazardous and municipal waste.
Co-finance from baseline **The overall co-financing of USD 36,995,338.64** is achieved in the following way: The Government of Jordan will provide co-financing consisting in the Swaqa budget (cash co-financing deriving from the disposal fee collection) amounting to USD 1,212,429.3, and with the assets related to the infrastructures in the Swaqa site amounting to USD 2,824,858.7. In addition to in kind co-financing related to salaries and operational cost: 479,096.68 USD Ministry of Municipal affairs for the management of solid waste: 21,186,440.68 FES provides USD 1,026,129.94 on related activities (cash). 70% of the co-financing provided by Clean City (USD 8,853,953.96) for the upgrading and operation cost of incinerator: of the total capital investment and planned investment: USD 7,215,053.68 and in kind investment (operational cost): USD 5,433,451.98 Lafarge company will provide co-financing for the use of RDF as follows: Investment cost = 706,214.69 USD Operational cost= 706,214.69 USD	**GEF grant for Component 3:** USD 1,400,000

IV. RESULTS AND PARTNERSHIPS

6. Expected Results:

Project Component 1: Development of ESM E-waste management system

This Component's overall purpose as is to develop a sustainable E-waste management system inclusive of operational environmentally sound collection, processing and residuals management capability.

Outcome 1.1 Environmentally sound E-waste collection, processing and residuals management capability developed

In terms of outputs and activities this outcome would cover institutional support for the finalization, adoption and initial implementation the proposed national E-waste policy and the refinement and implementation of a supporting regulatory framework, development and adoption of economic instruments and financial mechanisms required to ensure a sustainable market driven system, support the creation of operational partnerships to build and operate the basic collection and primary processing infrastructure required for the system and underpin all of the above with effective public consultation and awareness activities.

Output 1.1.1 Effective policy implementation and regulatory control for ESM of E-waste in place.

Under this output, the following activities will be undertaken:

1) Assistance to MoEnv in completing the development of the E-waste management policy and the basic supporting regulatory framework in the form of an Instruction on e-waste management. The following aspects will be further addressed to ensure that the E-waste policy is sustainable and in line with the Stockholm Convention requirements:

    - Classification of E-waste based on the potential content of POPs and other harmful substances;
    - Rules regulating the import of used electrical and electronic equipment (EEE);
    - Rules regulating the responsibilities of manufacturers and retailers;
    - Sound implementation of the polluter pay principle;
    - Specification of practical management aspects, like take back systems by type of E-waste, collection modalities (private customers or large offices), responsibility of the key actors (manufacturers, retailers, owners);
    - Establishment of a system of environmental permits and licensing for collectors and waste processors, with "pull-push" measure to gradually phase out the uncontrolled collection / recycling and promote formal recycling activities.

2) Development of an E-waste dynamic inventory database for management purposes. This will entail the development of an E-waste baseline, the ascertainment of market-based and lifecycle based waste flow, and the identification of waste recycling and disposal needs and capacity. The E-waste inventory shall be conducted in cooperation with the following parties: Ministry of Environment, Ministry of Municipal Affairs, Customs department, Chambers of Industry and Trade, JISM, RSS, etc.
3) Strengthen the cooperation with the Basel Convention's Regional Centre on the aspects related to the compliance with the Basel Convention (import and export of E-waste and used EEE).
4) Develop regulatory guidance documents on the E-waste management operations, with special focus on the E-waste possibly contaminated by POPs substances.

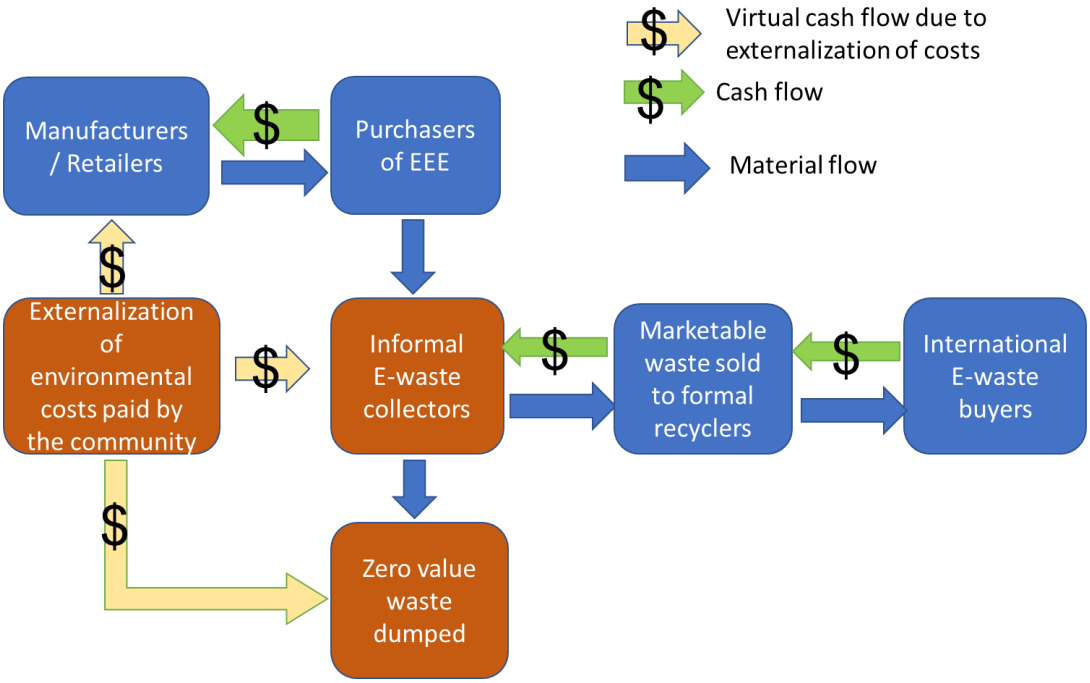
Output 1.1.2 - Sustainable financial and business mechanism supporting E-waste management established and implemented

This project output intends to assist the Government of Jordan in the designing and implementing a financial mechanism which can make the collection and recycling of E-waste a sustainable activity from both the environmental and financial standpoint.

The key issues in the financial and environmental sustainability of E-waste management are related to the different market values associated with different E-waste components: some E-waste parts - like for instance memory cards, chargers, cardboards from mobile phones - have the highest market value, followed by cardboard from other communication equipment, copper from cables, steel and aluminium from frames; whilst other E-waste components, like plastic casings, or glass screen from CRT have usually a zero market value and are at the same time the parts most likely contaminated by POPs or heavy metal.

Informal collectors very often manually dismantle the wasted electronic equipment, followed by simply dumping of low-value components and selling of high value components to operators who, in turn, sell these components to international recyclers (mostly to China or Europe). In this way, the environmental costs are fully externalized and the income generated by the recycling of E-waste does not translate in any benefit for the environment or the society (see Figure 2 below).

Figure 2: Current E-waste management modality



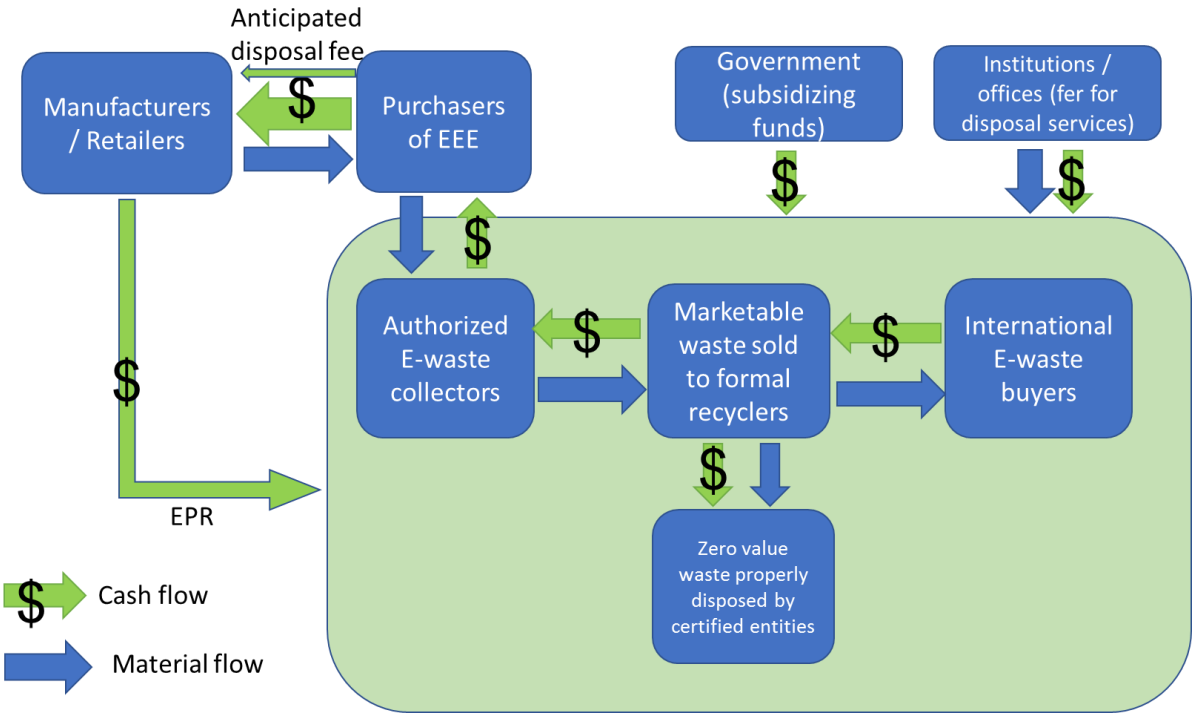
Any financial mechanism for the management of E-waste should go hand in hand with the establishment and enforcement of the E-waste regulation, and should aim at the internalization of the environmental costs of the overall E-waste management and the sustainability of the E-waste management chain.

The main purpose of the financial mechanism is to ensure that the externalized environmental cost of the E-waste management can be internalized making the entire E-waste management chain sustainable and profitable. The financial mechanism should only benefit the formal E-waste processors, so that it can even work as an additional incentive for informal processors to get registered under the E-waste permitting scheme.
In the course of meetings with MoEnv during project preparation, it has been clarified that one of the options preferred by the government would be the establishment of an “anticipated waste management fee” to be

collected by the government and then made available for the establishment of a more sustainable E-waste management system. Such fee could be collected either through the retailers, based on a specific percentage of the cost of the EEE item sold; or may be disbursed by the manufacturers through an Extended Producer Responsibility scheme. In both cases, it is likely that the additional costs associated to the fee would be in the end borne by the customers of the EEE, which should therefore be compensated through financial or non-financial measure to incentivize the disposal of the end-of-life equipment (for instance, through discounts or fidelity awards for returning a used item when purchasing a new one). Other financial supports may be the direct subsidy to the E-waste system, or the establishment of a disposal fee (through official bidding system) to be paid by large offices / institutions when they need to replace large amount of obsolete office equipment with new equipment. All these mechanisms may be established simultaneously to increase the internalization of environmental costs and progressively phase out the informal collection modality (Figure 3).

This output is intended to support the process of choosing and implementing the approach finally selected at the national level. This would cover activities such as i) testing the feasibility of the options including issues of practicality and collectability of waste product; ii) fine tuning the level of charge (or fee) to be applied and at what point in the manufacturing/supply chain; iii) developing the administrative mechanism of receiving such revenues and disbursing it to the service providers on a competitive and transparent basis; and iii) establishing the operational mechanisms of independent supervision by stakeholders and operation supported by reporting and audit.

Figure 3. Expected effect of incentive mechanisms on the sustainability of the E-waste management system



Output 1.1.3 - E-waste collection and primary processing capability established

This Output covers the initial development of required capacity to provide environmentally sound management of domestic E-waste generation recognizing that what currently exists is largely an informal system with a few

demonstration public collection points for waste articles and only two identifiable formal E-waste service providers (City of Amman and JoCycle).

Under this component, a collection scheme (co-financed by the government) will be demonstrated. That will entail one or more of the following options:

- Expansion of the current limited voluntary collection system available to the general public, largely based on the placement of accessible collection containers at secure but accessible locations;
- Collection infrastructure to be based within large institutions such as government offices, university and military facilities, utilizing the IT equipment supply and facility management services in those organizations;
- The landfill based diversion system described in Component 3 below where E-waste segregation would be part of the system being piloted and promoted at landfills.

At the same time, under this output a competitively selected proposal from private sector or municipal service providers to develop basic primary processing facilities will be supported.

This will have as a key objective the segregation of E-waste components containing or contaminated by POPs or other toxic substances. That will imply the proper arrangement of the recycling operation and the establishment of measures to prevent the exposure of workers to these substances daily operating within recycling facilities.

In terms of equipment to be established, that could involve a conveyor belt, cyclone separators, or, in general, equipment that can be used for a more efficient and safe dismantling of E-waste and its segregation into streams of different market value. That will also include the demonstration of X-Ray Fluorescence detectors (XRF) for spot determination of brominated plastic material after segregation.

On the side of the improvement of workplace environment, this may encompass proper training and use of PPEs and information on the chemical properties of the substances used or recycled in the process, as well as the establishment of proper ventilation and air cleaning system.

It is envisaged that under this output, at least 600 tons of plastic potentially contaminated by PBDE is collected and properly disposed in the course of project implementation, with an estimated c-PBDE content ranging from 276 to 652 kg (see table below).

Table 4. E-waste collection targets and associated estimated amount of c-PBDE segregated.

Number of CRT TV set	30,000	#	Weight of ICT equipment	2,000	Tons
Overall weight (25kg each)	750	tons	Plastic content (18%)	360	Tons
Plastic content (30%)	225	tons	estimated PBDE content	81	Kg
min PBDE content (kg)	195.75	kg			
max PBDE content (kg)	571.5	kg	c-PBDE segregated (min-max)	Kg 276.75	Kg 652.5

Output 1.1.4. Awareness and human resource strengthening for E-waste management delivered

This output will be mainly addressed at reinforcing and supporting the activities envisaged under Outputs 1.1.2 and 1.1.3, to increase collection rate of E-waste, with focus on the waste stream more likely contaminated by POPs or other hazardous substances. This output will also include gender mainstreaming activity envisaged under GM plan of Component 2. (See Gender mainstreaming in E-waste Sector in Annex M – Gender Mainstreaming plan)

Under this output, the following activities will be implemented:

- Development of information material on E-waste recycling and on the collection schemes established under the project. This material will be made available in the industrial/commercial sectors, large administrative offices, through the Internet resources, and at the sites where the collection points have or will have been established;
- Specially designed meetings, workshops and training events for key stakeholders, with the purpose to communicate the content and impact of the new regulation on E-waste under preparation, the related obligations/responsibilities and opportunities for the investors, as well as the general issue of the E-waste. It is envisaged that at least 2 conference events will be held in the course of project implementation.
- Broadcasting of short programmes on E-waste, POPs and the GEF activities supported by the national TV channels.

The level of awareness achieved on E-waste will be measured at project starting and at project end by means of a KAP (Knowledge, Attitude and Practice) survey.

Project Component 2: Achieving environmentally sound healthcare waste management

Outcome 2.1. BAT/BEP healthcare waste management practice and technology implemented nationally.

The purpose of this Component/Outcome is to accelerate modernization of the country's HCW system specifically in relation to addressing environmental performance deficiencies associated with existing sub-standard on-site incineration. This would be done both by accelerating replacement of in-hospital incineration units with BAT/BEP non-combustion options and qualifying/upgrading newer larger incineration facilities to act as collective disposal facilities. Additionally, the component would seek to improve and optimize the efficiency and operating performance of the overall HCW system through introduction of source based training and certification of HCW operations and investigate other business models for operation involving further contracting out of HCW services from source through to environmentally sound disposal as appropriate.

Output 2.1.1. Program of replacement of small sub-standard incineration facilities in 10 hospitals with non-combustion shredding/sterilization/autoclave units fully implemented.

The project will draft and agree upon technical specifications for the non-incineration technologies intended for selected Health Care facilities, based on specifications developed by the preceding GEF/UNDP/WHO/HCWH Global Medical Waste project with specific respect to non-incineration HCW management systems that are consistent in waste handling approach and performance with the Stockholm Convention (SC)'s BAT/BEP Guidelines.

Non-incineration technologies that meet the SC's BAT/BEP guidelines and international standards will be selected for project sites through a competitive international bidding process in accordance with applicable UNDP rules and regulations. The project team will work with the staff of the project health-care facilities to integrate the new technologies into the overall HCWM system.

The pilot facilities which will be supported with new non-incineration facilities for the treatment of their waste are tentatively listed in Table 6. These hospitals will be also selected as pilot HCF for the technical assistance described under output 2.1.3. In this way, the facilities will not only receive upgraded and safe-for-operation technologies for the treatment of health-care waste, but will be also provided with the necessary capacity to ensure that the waste is managed in an environmentally sound way from the moment of its generation.

The amount of PCDD/F directly avoided under this output ranges from around 3 g/Teq/year (assuming that currently only the hazardous waste is incinerated) to up to 10 g/Teq/year (assuming that all the waste generated by the hospital is currently either incinerated or openly burnt).

Output 2.1.2. Qualification to demonstrate international performance of high capacity incineration facilities providing regional services undertaken.

This output, although placed under Component 2 (health-care waste), is also relevant to Component 3 (Hazardous and Solid Wastes). As explained in the baseline, in Jordan there is an unexploited capacity for the thermal destruction of hazardous waste consisting in rotary kiln incinerators and in the co-incineration potential in cement kilns. Both these technologies are potentially capable to operate in compliance with the requirement of the Stockholm convention, however the investment and operational cost associated to such equipment can be sustained only if sufficient amounts of waste to be processed are secured.

This output will therefore envisage the following activities:

1. Identification of the minimum standards needed for a technology to be certified as a hazardous waste disposal technology, compliant with the Stockholm Convention;
2. Identification of the equipment needed for upgrading the technology up to the technical requirement of the Stockholm (SC) or Basel (BC) conventions (including waste pre-treatment and storage);
3. Selection of the technologies to be subjected to qualification testing to demonstrate their compliance with the SC and BC technical standards;
4. Development of Proof of Performance testing protocol for at least 2 plants to be certified: this could typically involve the characterization of the health-care or other hazardous waste to be treated, identification of sampling points (of ashes from fabric filters, flue gas, waste water). It is important, at this stage, to identify the list of wastes (and their respective Basel convention's codes) which could be represented by the test protocol, so that after testing the facilities can be authorized to undertake the disposal of such wastes.
5. Procurement and contracting of certified laboratories capable to perform the sampling operations (including stack samples with iso-kinetic methods) and laboratory analysis of PCDD/Fs, in compliance with the following:
    a. For the sampling of flue gas, USEPA Method 0023A, European method EN 1948-1 or equivalent;
    b. For PCDDs/PCDFs analysis, USEPA Method 1613B, USEPA Method 8290 or European method EN 1948 2-3;
6. Carrying out of the proof of performance testing activities, data analysis and issuance of permits limited to specific type / category of health-care waste and hazardous waste;
7. Certification of the technologies that passed the test for undertaking the disposal of the list of wastes identified under point 4.

Output 2.1.3. Training and formal certification program for in-hospital waste management personnel developed and implemented.

The project will support ten (10) Health Care Facilities (HCFs) in Jordan in introducing best environmental practices (BEP) for the sound Health-care Waste Management. The HCFs will function as demonstration and training sites to support` capacity building for the other HCFs operating in the country, or associated with future investments plans as a trigger of the current program. The financial sustainability of these initiatives will be duly assessed during project implementation and in the course of the mid-term and terminal evaluation.

The strategy for the training and formal certification program will be designed in the following manner: initially, based on the experience of other similar projects implemented before, it is envisaged that a team of 2 to 3 part-time HCW consultants will be needed to cover all the planned HCFs. The intensive training will be carried out by a dedicated international consultant and will last around one week. The international consultant will continue to provide on-demand support to the national experts throughout the duration of this project component as required on specific aspects related to the health-care waste management such as general infection control, occupational safety, waste segregation at source, required equipment use (labelled buckets, needle cutters etc), advisory support to the medical waste management systems at particular HCFs etc.

The list of HCFs which have been tentatively selected for this output are the same selected for the replacement of obsolete incinerators, reported in Table 5 below.

Table 5. List of health-care facilities to receive non-incineration HCW disposal technologies.

HCF	Location	No. of Beds	Type of waste treatment	Segregation rate (%)	Notes	Emission factor	Tons of waste generated per day	PCDD/F released in one year (g TEq PCDD/F)	PCDD/F released if only HW is incinerated (g TEq PCDD/F)
Al Hussein Hospital	Al Balqa'a governorate/ As Salt	152	Very old medical waste incinerator located in the hospital	70%	Located in residential area and does not meet standards. No emissions control measures.	40,000	0.0912	1.33	0.40
Queen Rania Hospital	Wadi Mousa/ Maa'n Governorate	72	Very old medical waste incinerator located in the hospital	70%	Used to incinerate medical waste generated in the hospital and receives waste from all medical centres in Wadi Mousa and from Al Tafilah governorates. No emissions control measures; temperature of the incinerator does not meet the required standards.	40,000	0.0432	0.63	0.19
Public Karak Hospital	Karak Governorate	165	Medical waste incinerator located in the hospital	65%	Used for MW in Karak Hospital and medical centres in Karak in addition to Jordan Valley (Ghor) Hospital. No emission control measures in place.	40,000	0.099	1.45	0.51
Prince Hussein Ibn Abdullah II Hospital	Ain Basha/ Al Balqa governorate	120	Medical waste sent to Zarqa Public Hospital	70%	Incinerator is inappropriate and currently it is out of service.	40,000	0.072	1.05	0.32
Princess	Moadi/ Balqa'a	58	Very old	75%	Service for the medical	40000	0.0348	0.51	0.13

Iman Hospital	governorate		incineration unit located in the same hospital		waste generated from the hospital in addition to medical centres in Al Moadi area, with no emissions control measures in place.				
Princess Salma Hospital	Theban/ Madaba governorate	38	Small incineration unit in Hospital	75%	Used for Medical waste generated in the hospital and medical centres in the same area. No emissions control measures, does not meet the standards	40,000	0.0228	0.33	0.08
Prince Hamza hospital	Amman	442	MW transported to JUST incinerators/ Irbid governorate	70%	Hospital incinerator is out of service.	40,000	0.2652	3.87	1.16
Dr. Jameel Totanji Hospital	Amman	140	Medical waste sent to autoclaves in Al Bashir Hospital/ Amman	70%	Hospital incinerator is out of service.	40,000	0.084	1.23	0.37
Princess Raya Bnt Al Hussein Hospital	Irbid Governorate	94	MW sent to JUST incinerators	85%	Incinerator provided with basic APCS	3,000	0.0564	0.06	0.01
Public Jerash Hospital	Jerash Governorate	116	JUST incinerators	75%	Incinerator provided with basic APCS	3,000	0.0696	0.08	0.02
Total								**10.54**	**3.18**

These HCFs will sign a Memorandum of Understanding with UNDP and the Government of Jordan (GoJ) where the specific obligation of the parties (the HCF and the Project) will be agreed. In addition, when missing, an HCWM committee will be established in each HCF, identifying the staff in charge of HCWM processes and making sure compliance with best applicable standards of operation.

1) The first task to be undertaken will be baseline's evaluation of the situation in the selected HCFs. This will be undertaken by the national HCWM consultants in collaboration with the HCWM committee of each hospital. The baseline evaluation will be carried out using standardized I-RAT tools widely adopted in similar projects.
2) Once the baseline and the needs of each HCF have been clearly identified, an HCWM policy and procedures (including monitoring) and a procurement plan for the HCF will be prepared.
3) The equipment and consumables needed necessary for better implementation of the improved HCWM will be procured. That will include: bins, carts, color-coded plastic bags, posters, PPEs for workers.
4) The HCWM consultant will provide an initial training to the HCF staff (in several sessions, compatibly with the agenda of the staff; very likely the joint training of staff from several project HCFs if necessary). The content of the training will be largely based on the WHO's Blue Book on HCWM.
5) After the initial training, technical assistance will be provided to the HCWM staff of each HCFs on a periodic basis (at least weekly) to verify and monitor the status of the HCWM in each facility, and to propose solutions to overcome the difficulties found. The objective will be to capacitate the project facility staff in best practices related to HCWM (which includes, but is not limited to general infection control systems, waste minimization (incl. sound purchasing and stock management), reuse and recycling, waste segregation, storage and transport (on-site and off-site), waste treatment and disposal).
6) At least yearly, the situation of the HCF in terms of their HCWM will be reassessed based on the I-RAT tool.
7) At the end of the project, the HCFs will be assessed by means of the guidance document "Measurements and Documentation" as developed under the GEF/UNDP/WHO Global Medical Waste Project to provide a before and after snapshot of the project's impact which can be used to spur project replication in other areas of the country.

Output 2.1.4 Development of optimized waste management service provider arrangements through private public partnerships pursued

As this is an area where some previous attempts have already failed (namely: the contracting of disposal service providers for the disposal of healthcare waste was not successful as the committed amount of waste to be treated was never achieved), this output will build on such previous lessons learnt and experience, envisaging the following activities:

1) Identification and securing of the underlying market basin. The first step will be to identify a sufficient number of HCFs which will rely on the service providers, to ensure their technical and financial sustainability. These HCFs (including likely the ones participating in output 2.1.3, plus others to be identified) will commit to have their HCW collected and disposed of by the service providers, at an agreed fee. The HCFs will also agree to adopt environmentally sound management of HCW, and to undergo periodical inspections by the project staff.
2) Setting up of a Public Private Partnership (PPP). This may take the form of a consortium, a utility company, or any other legal form suitable under the national legislation, and may be participated by the government, the customers (the HCFs) and the disposal facility. The selection of the disposal facility to take part in the consortium will be subjected to national procurement procedures. Likely, the disposal facility may be one of the facilities which underwent testing and certification under output 2.1.2., or other disposal facilities already authorized.

3) Procurement of equipment needed for the proper working of the PPP. This may include the procurement of three (3) refrigerated trucks, compliant with UNECE/ADR rules, for the safe transportation of medical waste from the client HCFs to the centralized facility;
4) Systems for the online tracking of health-care waste;
5) Coordination on the procurement of the equipment for temporary storage of waste (i.e. bins, cart) and their disinfection equipment (see output 2.1.3 above)
6) Implementation of the PPP (based on the fee system agreed under bullet point 1 above) and reporting.

Component 3: Developing waste diversion/resource recovery capacity for GHG and U-POPs reduction

Outcome 3.1. Effective waste diversion/resource recovery capacity from HW and SW streams developed with associated GHG and U-POPs release reduction achieved

This component addresses several priority chemicals waste and U-POPs release issues associated with waste management generally along with potential GHG release reduction and avoidance. This is done through support for demonstration of modern SW and HW management practice improvement based on waste diversion and qualification of environmentally sound recycling, resource recovery and energy from waste options. It further links to the other Project components, particularly Component 1, and supports substantive national and international initiatives related to SW and HW management.

Output 3.1.1 Sustainable prevention of open burning through minimization, segregation, landfill surveillance in pilot waste basin and pilot MSW landfill.

(Note: Previous Output 3.1.1 entitled "Open burning associated with smaller landfills assessed and effective prevention measures implemented" is merged with Output 3.1.2 entitled "Pilot MSW landfill operation optimized to provide for effective diversion to environmentally sound management through treatment, recycling and/or resource recovery")

Based on thorough discussions with stakeholders carried out during the Project Preparation Stage, it has been agreed that Outputs 3.1.1 and 3.1.2 should be operationally merged in only one output.

The current U-POPs inventory prepared with UNEP Tool Kit identifies open burning occurring in sub-standard MSW landfills as the main PCCD/Fs release issue in the country. Currently, it is estimated that at least 45% of the municipal waste is dumped in the open in Jordan, and a large amount if this waste is subject to open burning episodes either purposely or accidentally.

The impact of the increased number of refugees on the amount of waste which is dumped in the open and subsequently burnt is unknown, but likely substantial.

There are a number of reasons causing the open dumping processes and the subsequent open burning of waste:

1) Continued open dumping process is the obvious consequence of the lacking or failed operations of currently available waste management infrastructures and services, further exacerbated when the knowledge concerning the potential benefits of the recycling economy and minimization at source is lacking; this happens not only in developing countries, but also in developed countries during waste management crisis. In Jordan, open burning occurs often as a result of accumulation of waste after major short or long holidays (Ramadan).
2) Open dumping of waste leads directly to open burning, as often the open burning is the last resort adopted by the community (which dumps their waste in the vicinity of their residential area) to reduce the volume of the waste, to "disinfect" the waste, and to fight the presence of unwanted animals (rodents, snakes etc.);

3) Open burning is often used by communities of waste scavengers living on/near landfills to reduce the volume of the "non-recyclable" waste (organic waste, wood, damaged paper, etc.) after a certain area of the landfill has been already exploited;
4) Open burning is a common practice adopted by farmers for reducing the volume of crop residue; in this case, together with the vegetal waste, very often other residues (tires, pesticide containers) are burnt;

The consequences of open burning of waste are several and explained in more details below:

1) *Land degradation*: the areas where open burning of waste become very quickly a degraded area losing any economic value;
2) *Air pollution*: fumes from waste burning are an encyclopaedia of the most toxic pollutants: dioxins and furans, heavy metals, polycyclic aromatic hydrocarbons, as well as CO2, CO, nitrogen and sulphur oxides, acids (HCl and HF). The costs associated to the health impact for the population are another important factor.
3) *Poverty and displacement*: Only the poorest community will stay in areas where open burning is frequent. Therefore, open burning is often associated to a change in the composition of local population.
4) *Degradation of the recycling economy*: Open burning of waste break the cycle of waste recycling. After partial burning, the waste becomes toxic and cannot be recycled anymore. The net loss of value may be calculated, as a minimum, in 20 USD/ton of waste (the calorific value of the waste), however it may be ten (10) times higher if the burning involves recyclable waste like plastic or paper. Considering, however, that partially burnt waste becomes hazardous waste, to the loss of value associated to the waste, the cost for disposal of hazardous waste value should be further subtracted. Therefore, open burning may result in hidden costs of around 300 / 400 USD per ton of waste burnt in the open.

Summarizing the above listed aspects, the open burning of waste is the consequence of a general waste management system challenges (lacking of infrastructures, lacking of knowledge, illegal activities), bringing further social problems (poverty, missed revenues from the waste recycling, sickness from improper works and lack of safety measures, resulting land degradation and population displacements). The environmental aspects (releases of U-POPs and other contaminants) are only some of the problems associated to open burning of waste.

In this sense, this output intends to approach the open burning issue in a holistic manner, trying, from one side, to understand the cause of waste open burning in the specific pilot area of Al Akaidir, and, from the other side, to start piloting solutions which have the necessity to start from the main driving force – the waste economy.

Therefore, the following activities will be carried out under this output:

A. Knowledge:

- Collection of updated information in the pilot area regarding the key waste indicators: presence of a waste management system (segregation, collection, recycling, disposal); population dynamics; presence of dumpsites.
- Assessment of the potential scale of the recycling economy from the demo area, based on the estimated generation of waste by waste component.
- Undertaking a survey through interviews and questionnaires for the population of selected municipality where the door-to-door collection of waste will be demonstrated, including statistics on waste pickers, to understand their knowledge concerning the waste economy (minimisation – segregation - recycling) and their attitude towards waste as a good (as generators, recyclers or potential operators).

B. Training, Intervention design and procurement of services / equipment.

With the involvement of local administration and the community, an intervention plan will be designed which will include:

- Provision of training on waste minimization, collection and recycling to a selected number of operators (for instance, NGOs or community based organizations operating in the area to be selected through competitive bidding where linkages with communities of waste scavengers could be established who may find interest in in door-to-door collection operation.
- Designing of a pilot door-to-door collection of waste streams, involving at least 1,000 generators;
- Identification of generators (per project's targets) and provision of awareness raising material to each of them;
- Identification of clients (buyers) for the separate streams of recovered waste with a calorific value (plastic, paper, organic waste) that would be otherwise burnt. These buyers could be at the same time be considered for managing the storage of recyclable waste fractions;
- Procurement of waste segregation related tooling/supportive materials to the target generators, including also waste minimization related tooling (for instance, multi-use fabric bags to replace disposable plastic shoppers). That would typically include instruction for waste segregation and segregation bin. That could also include a "reward" prize for the best segregators and the best collectors;
- Designing a surveillance system to prevent open burning of waste at specific landfill, and procure the related equipment;
- Designing infrastructural improvements of one or more small landfills or existing accumulation centres to be accepted as a recovery and recycling centre (storage for organic waste, separate storages for plastic, glass, metal and paper), storage for non-recyclable;
- Drafting a cash/flow and business plan of the intervention.
- Based on the design above, identification of equipment/tools to be procured for the segregation, collection and improvement storage of waste, and undertake procurement of that equipment to support practical demonstration approaches.

The future important prospect related to these initial supporting measures is related to a local capability to transform manual processing of waste into more automated business once it is clear that economically sustainable processes in this field are possible.

C. Operation.

The operation part will involve the collection of the different waste streams, their safe accumulation in the storage areas; upgrading the storage areas of waste recyclers / buyers to expand capacities; improving trade relations with the main operators / traders of recyclable waste fractions.

At the same time, the operational aspects will involve the designing and implementation of a surveillance system at selected landfill sites to prevent / monitor the open burning of waste. This will entail both conventional measures (security guarding and restriction of accesses) and advanced system (thermal imaging cameras).

D. Assessment, replication and scaling up:

This will involve the preparation of an environmental and financial analysis consisting of:

- Budget analysis, based on the business plan and cash flow updated with actual expenses and income, to verify the financial sustainability of the activity
- Surveys at waste generators, to be undertaken simultaneously with the collection of waste, to understand recycling vs. minimization prospects

- Surveys at selected landfills to monitor the open-burning rate of incoming waste
- More accurate calculation of the U-POPs prevented, based on the amount of waste diverted from dumping / landfilling

Based on the "Jordan Solid Waste Management" report[18], an amount of around 0.9 kg / person of MSW is generated daily. Assuming that 1,000 generators (family houses) on average have 5 persons per generator, around 5,000 x 0.9 = 4.5 tons of waste would be generated daily, amounting to roughly 1,650 t/annually. While the U-POPs emission factor for fires at waste dump (UNEP Toolkit, 2012) is 300 µTeq/t of waste burnt, and if this quantity of 1, 650 tons, if not diverted, would be end in open burning processes, the maximum amount of U-POPs release avoided through door-to-door collection and recycling would be in the order of 0.5 gTeq/year. Depending on the location and the proportion of MW burnt in the open, this figure would obviously change.

The proposed activity will be integrated specifically with the major upgrading initiative planned for the Al Akaidir landfill and potentially other activities as part of the National Solid Waste Management Strategy, particularly where closure and consolidation of small sub-standard landfills into larger engineered landfills is undertaken. This will also be implemented in coordination with other bilateral initiatives, like the waste management bilateral project undertaken with the support of the German government.

Output 3.1.2. Inventory, labelling and safeguarding of hazardous waste potentially contaminated by POPs in synergy with bilateral activities aimed at improving the HW management in Jordan, (replacing previous output 3.1.3 "Elimination of primary stockpiles of chemical waste at the national hazardous waste storage site supported")

Considering the bilateral technical assistance activities already programmed for the Swaqa site, and the fact that the elimination of current stockpiles and the remediation of the site cannot start until the flow of hazardous waste entering the site is better regulated, it is not considered advisable to include, among project activities, at this stage any direct elimination of stockpiles with support of the GEF grant funds as this will not lead to any practical result.

Starting from the assumption that reaching synergy with all the stakeholders and bilateral initiatives is a mandatory pre-requisite to ensure that any waste management activity at Swaqa will be sustainable, the following activities, which will ultimately lead to a better implementation of the rehabilitation of the Swaqa site, will be carried out:

1) Training of waste generators on the minimisation, classification and management of hazardous waste including the guidance on environmentally sound management (ESM) of waste developed under the Stockholm and Basel Conventions, and the adoption of manufacturing process leading to reduced generation of hazardous waste;
2) Implementation of procedures for the early identification of hazardous waste potentially contaminated by POPs both at source and at the Swaqa site;
3) Labelling, repackaging and safeguarding of hazardous waste potentially contaminated by POPs currently stored at Swaqa for an overall amount of around 300 tons of waste safeguarded.

This component will be carried out in strict coordination with the GIZ bilateral initiatives on hazardous waste, which have the following broad objectives:

- Strategic planning for hazardous waste management in Jordan, to ensure the long-term sustainability of the hazardous waste management for the treatment of hazardous waste not recommended for the storage in Swaqa;
- Establishment of a Public-Private entity for the management of the hazardous waste;

18 Country report on the solid waste management in Jordan. German Cooperation, Deutsche Zusammenarbeit, 2014

- Establishment of a database and license management for all the hazardous waste producers in Jordan, waste management firms and disposal facilities.

Output 3.1.3. National energy from waste management capability though utilization of waste derived fuel in commercial cement kilns developed and qualified.

Based on the outcome of the PPG activities, the following obstacles were discovered to the development of collection schemes and related infrastructures for the use of RDF (Refuse Derived Fuel) generated from Municipal Solid Waste for fuel in cement kilns:

1) To be sustainable, a large daily amount of RDF of fairly stable composition needs to be guaranteed. As cement kiln works on a continuous basis and needs relatively stable properties of the fuel, which also constitutes an important part of the raw material, discontinuity in the supply of RDF would not be acceptable. For this reason, cement kilns are currently unwilling to invest in the infrastructure needed for the processing of RDF.
2) On the other side, the Government is reluctant to invest in the collection and segregation of RDF if a market outlet for it is not secured.
3) Local cement kiln firms proposed to the Government to develop capacity for at least 120 tons per day replacing an equivalent amount of coal. Depending to the property of RDF and its calorific value, one ton of RDF can be valued at 15 to 20 JOD (from 21 to 28 USD), therefore the development of this capacity would imply an income for the municipality of around 0.9 to 1.2 million USD per year.
4) Assuming an average PVC content in the RDF in the order of 1%, the amount of PCDD/Fs which can be avoided through co-processing in cement kiln compared to the amount which will be released in case of uncontrolled burning would amount to 8 g Teq/yr [19]

The project intends, therefore, to overcome these difficulties by providing support a demonstration of RDF to be implemented in the Al Tafila region, where a large cement kiln is located not far from a municipal landfill. This support could be catalytic for the starting up of operation involving the generation and use of RDF.

The following will be achieved under this output:

1) The selection and technical evaluation/qualification of potential industry partners;
2) Definition of the regulatory framework and technical standards for the utilization of RDF in cement kiln, including RDF composition;
3) Supporting investment needed for the pre-processing (selection, packaging) of municipal waste to be used as RDF;
4) Demonstration of the collection, pre-treatment and burning of an amount of RDF equivalent to at least one month of operation of the selected cement kiln factory (estimated in 3600 tons based on the figures proposed above). The partnership with cement industries will materialize in a MoU which will be consolidated at project inception.
5) Based on the experience achieved under point 3) above, definition of a TOR for the long-term provision of services of collection, pre-processing and burning of RDF, through the provision of a secured amount of RDF

[19] Gullett, B. K , P. Lemieux, C . Winterrowd, D. Winters. 2000. PCDD/F Emissions from Uncontrolled, Domestic Waste Burning. Presented at Dioxin '00, 20th International Symposium on Halogenated and Environmental Organic Pollutants & POPs, held Aug 13-17 at Monterey, CA. Corrected revision of short paper in Organohalogen Compounds 46:193-196.

Linkage among project component and outputs.

Although the three components of the project will be carried out independently, these will generate important synergies.

First of all, the testing certification of the disposal facilities under output 2.1.3 will ensure that a certified technical capacity for the disposal of different streams of hazardous waste (healthcare waste, E-waste, hazardous waste) is in place. This will represent an important asset, not only within the project time life but also – and more importantly – after the project end with the perspective of a more integrated management of hazardous waste through the country.

As far as the synergy among project component is concerned, the different streams generated by the implementation of Component 1 (Brominated plastic from E-waste), Component 2 (Hazardous component of healthcare waste, either untreated or sterilized) or Component 3 (Hazardous waste entering and stored in the Swaqa site) can all be potentially treated with the facilities certified under component 2.1.2.

Important synergies will be also established, during project implementation and with the perspective of the project activity sustained after the project's end, in the field of RDF demonstration (output 3.1.3) and prevention of open burning of waste (output 3.1.1). Here the integration between the recycling of MSW components (plastic, paper, organic waste) and the production of RDF will ensure that the financial risk associated to the fluctuation of waste market is at least partially addressed through the establishment of an RDF market.

ii. Global Environmental Benefits.

Based on the estimates carried out in the course of Project Preparation Stage, the following Global Environmental Benefit can be calculated as direct result of project implementation or replication:

Chemicals	**Direct GEB achieved through project implementation**	**GEB achieved through replication and continuation after project end**
C-PBDE releases in the environment prevented through collection and segregation of E-waste	600 tons of plastic from e-waste potentially contaminated by c-PBDE, with an amount of c-PBDE estimated from 276 to 652 kg	Up to 5 t of PBDE through the continuation of policies for collecting and disposing CRT monitors
U-POPs release prevented through implementation of Environmentally Sound Management of Health Care Waste	3 to 11 g/Teq yr as the direct result of project implementation, assuming demonstration will start at the end of the 3rd yr of project implementation the PCDF amount would be in the order of 6 to 22 gTeq	Same amount projected for the entire lifespan of the equipment (as a minimum 10 yrs) multiplied by a replication factor of 2: 120 to 440 gTeq
U-POPs release prevented through avoidance of open burning and demonstration of RDF	0.3 gTEq as the direct result of demonstration of recycling of municipal waste with diversion from landfills. 0.7 gTeq as the direct result of the demonstration of RDF (one month collection of RDF)	Recycling of municipal waste may have a very high replication factor if its profitability is demonstrated. Conservatively, a replication factor of 50 is assumed, with a potential avoidance reaching 15 g/Teq in 10 yrs RDF would have as a minimum a replication factor of 12 x 10 (12 months/yr multiplied by the minimum expected lifespan of infrastructure calculated in 10 yrs) therefore the PCDD/F avoidance can reach 88 gTeq
CO2 release prevented	During the project implementation, the uncontrolled burning of around 4,600 t of municipal waste (1,000 tons from	Adopting the same replication factor above, the CO2 saving projected for 10 yrs after project end could range from

	recycling and 3,600 tons from RDF demonstration) will be avoided, with a saving ranging from 3,220 to 5,520 tons of CO2 (0.7 to 1.2 t of CO2 for each t of waste burned)	337,500 to 578,400 t of CO2 avoided

iii. Partnerships:

On the governmental side, the main partner of the project is the Ministry of Environment (MoE), which is the Government Body in charge of the legislation on chemicals and waste, and which is also the focal point of the Stockholm, Basel, Rotterdam and Minamata Conventions.

Another key project partner is the Ministry of Health, which is the Government Body in charge of the management of the health-care system in the country.

The project will also work closely with a number of other institutional bodies and private associations, which are listed in the table below.

At the inception stage, the role of all the project partners will be defined in detail, and the relevant NGOs will be identified and involved in project activities based on their specific field of interest.

iv. Stakeholder engagement:

The following table identifies the principle institutional, industry, academic, international and civil society stakeholders with whom initial consultations have occurred and those that will be followed up with during the project's implementation stage. The role of each stakeholder is described regarding the project and at large (other) in the table.

Stakeholder Organization	Role
Institutional Stakeholders	
Ministry of Environment (MoE)	**Project:** National Executing Agency of the project, coordinates action among partners and ensures the smooth implementation of the entire project in JORDAN. It should also ensure the smooth coordination with the other project funded by the GIZ to rehabilitate SWAGA. MoE should involve rangers in training activities (output 1.1.4) **Other:** Stockholm/Basel/Rotterdam/Minamata Conventions' as well as ICCM focal points, national policy and project implementation coordination, regulation development, licensing and enforcement applicable to hazardous substances and waste management as well operator of national HW facilities.
Ministry of Health (MoH)	**Project**: Key partner in the implementation of Component 2, ensures the coordination among hospitals and regulatory framework/standard operating procedures for HCWM. **Other:** Monitoring of impacts of chemical pollutants on public health nationally and at a local level. Regulatory responsibility for HCW facilities in cooperation with MoE Supervision, technical oversight and financing for operating HCW facilities in the public sector.
Ministry of Planning and International Cooperation	**Project:** It ensures the communication among Ministries involved in the project, key partner in Component 1, especially Outputs 1.1.1 and 1.1.2 **Other:** Responsible for overall policy planning in the country Policy level approvals of international projects and national co-financing obligations

	GEF Focal Point
Customs Department	**Project:** Key partner to be trained on best practices regarding hazardous waste management, importation/exportation (POPs, mercury, etc.) in particular in the sector of e-waste (output 1.1.4) to reduce open-burning practices **Other:** Controlling goods' movements and transportation across national borders in conformity with the current regulations in force. Front line enforcement in relation to border control of hazardous, poisonous, dangerous, and banned materials/chemicals in collaboration with MoE and MoIT. Contribution in controlling the commercial activities to prohibit illegal businesses under the current regulations in force.
Royal Medical Services	**Project**. The Royal Medical Services will be involved in the implementation of project activities related to Component 2 of the project. The RMC will insure the coordination of relevant project activities among military hospitals. **Other:** Supervision, technical oversight and financing for operating HCW facilities in the hospitals in Military sector
Private Hospital association	**Project.** The Private Hospitals' association will be involved in the implementation of project activities related to Component 2 of the project. Private hospitals' staff will also take part in project and knowledge sharing activities related to the segregation of HCW and the use of non-combustion plant for their treatment. The Private Hospital association will ensure the coordination of relevant project activities among private hospitals. **Other:** Participate in waste segregation and collection initiatives, participate in awareness raising activities.
Jordanian association of engineers	**Project.** This offers technical expertise on the implementation of project activities dealing with waste segregation and disposal with specific reference to Component 1 (E-waste) and Component 3 (recycling of MSW). The association will also support the project in disseminating the knowledge on best practice and technologies through the mobilisation of their thematic committees.
Ministry of Municipal Affaires	**Project:** Key partner who should lead Output 3.1.1 related to open-burning assessment and who should be involved in Outputs 1.1.1 (E-waste) and 3.1.1 **Other:** Provide the municipalities and common services council with finance including MSW. Regulate and monitor municipal affaires.
Local Municipal Governments including Greater Amman Municipality (GAM)	**Project:** Involved in all implementation parts of the project and in training/awareness raising activities. GAM is an important player in E-waste management **Other:** Operational responsibility role in the provision of delivering of MSW services including collection, waste diversion and landfill disposal, applying restrictions on the acceptance of targeted waste and hazardous processing residuals at landfills, and supporting disposal of non-hazardous waste residuals.
Aqaba Special Economic Zone Authority (ASEZA)	**Project**: Key player in the implementation of activities related to Components 1 and 2 in the region, offers analytical and advisory services for food and environment through internationally accredited Physical, Chemical and Microbiological Laboratories of BEN HAYYAN, operating under two interdependent units; the food laboratory and the environment laboratory **Other:** Monitoring and controlling, e-waste and HCW in Aqaba region. Licensing new facilities for e-waste.
Principle Industrial/Private Sector Stakeholders	
Producers/Distributors/Re	**Project:** implement policies and regulation related to the management of e-waste and support the e-waste financial mechanisms. The possibility to establish collection

tailers/consumers of EEE	capacity and primary processing for e-waste **Other:** Financial support for E-waste management activities as mandated under national policy.
Formal sector E- waste private sector service providers (GAM and JoCycle)	**Project:** Key partner for the implementation of Component 1 (especially outputs 1.1.2 and 1.1.3), need to be trained (output 1.1.4), JoCycle could conduct some trainings **Other:** Provision of licensed facilities and technical capability for the collection, transportation, handling, storage, processing, and residuals disposal.
Informal E-waste sector service providers	**Project:** Key partner for the implementation of Component 1 (especially outputs 1.1.2 and 1.1.3), need to be trained (output 1.1.4) **Other:** Currently the principal E-waste management service providers and future human resource base for the formal sector
Private sector HW and HCW service providers	**Project:** Key partner for the implementation of Component 2 (especially 2.1.4) **Other:** Providers of contracted out HCW collection and disposal
Amman Chamber of Industry and other Chambers	**Project:** Key partner for the implementation of Component 1 (especially outputs 1.1.2 and 1.1.3) and 3 (3.1.2) **Other:** Representation of business sector related waste management issues
Jordan Association of Cement Producers	**Project:** Key partner for the implementation of Component 3 (output 3.1.4) **Other:** Development of use of waste as replacement fuel
Academic Institutions	
Jordan University of Science & Technology (JUST)	**Project:** Key partner for the implementation of Component 2 (Output 2.1.2). It could also be involved in the conduction of training activities (Outputs 1.1.4 and 2.1.3) **Other:** Active involvement in regional HCW and environmental monitoring service provision
Jordan University	**Project: potential** partner for the implementation of Component 2 (Output 2.1.2). It could also be involved in the conduction of training activities (Outputs 1.1.4 and 2.1.3) **Other:** Educate students and staff, develop technological methods and encourage research and post graduate studies in the field of e-waste and HCW
International Organizations	
WHO	The project will coordinate with WHO on all the aspects related to the protection of human health, and the management of healthcare waste with specific reference to the implementation of specific guidance developed by WHO on the matter. Recognizing the important role WHO has on the health matters related to the refugee crisis, the project will also coordinate with WHO on the matter.
UNEP	As UNEP developed a number of guidance documents on the management and inventory of POPs, with specific reference to new POPs in E-waste, the project will coordinate with UNEP on all the matter related to the use of that guidance in project implementation and training.
GIZ	**Project:** Key partner for the implementation of component 3 (3.1.2 and 3.1.3) **Other:** Potential bi-lateral donor supporting SW practice upgrading
Canadian Embassy	Bi-lateral donor supporting SW practice upgrading
Civil Society and NGOS.	
Royal Scientific Society (RSS)	Research and technological studies institute Analysis of emissions and waste streams

	Inspection of electrical and electronic devise entered to Jordan

v. Mainstreaming gender:

A survey on the issue of gender mainstreaming in the environmental and waste management sectors is reported in Annex 6.

Based on the outcome of the survey, a gender mainstreaming action plan has been developed, and integrated in the Project Result Framework and Project Budget. The gender mainstreaming action plan with budget is reported below.

vi. South-South and Triangular Cooperation (SSTrC):

The project will establish cooperation (in term of mutual exchange of information or visit to project sites with the following projects:

The Egypt GEF/UNDP project "Protect Human Health and the Environment from Unintentional Releases of POPs Originating from Incineration and Open Burning of Health Care- and Electronic-waste" (GEF 4392), which is currently in the implementation stage, and with the GEF/UNDP project "Reducing UPOPs and Mercury Releases from the Health Sector in Africa" (Ghana, Madagascar, Tanzania) recently approved .

Both the project cover similar activities and the exchange of experience and expertise will bring significant mutual benefit for their implementation.

vii. Knowledge Management.

This project will complement the previous efforts and support the MoEnv and GAM in designing and applying a better waste management approaches, including those for E-waste, HCW and plastic/RDF. It will use the available institutional resources such as the organizational units for public awareness and communication established by GAM that utilize radio messages, leaflets, poster campaigns, lectures and school projects. In addition, the efforts were done by other donors and local NGOs were several awareness campaigns have been conducted to increase the awareness of the population. JOHUD, with support from GIZ and BGR has focused one of its Queen Alia Campaigns on littering issues, also the RSCN initiatives that tackle littering consistently.

Knowledge management is the process of collecting, use, managing and sharing the data. This project will work on collecting all information available on waste management and develop a comprehensive database with a user interface. It will include rigorous data quality efforts to reconcile inconsistent data between different sources if any, and to store and maintain all historical and current data including decisions of waste management. The database will be developed through consultations and meetings with MoEnv's personnel to assess their data management needs, data needed in each department, and establish the kinds of queries and types of analysis the database should provide. After the database is completed and authorized it will be installed directly into the concerned departments. Following with training sessions on how to use the new database, and help the staff to integrate the database into their day-to-day activities with UNDP technical support and supervision. It will enhance the data management mechanisms and produce reports to support decision making. UNDP will set a plan to include the transitional change in employees behaviour to use technology as a decision making tool.

UNDP will set a new approach to share and collect data in the waste management field. In our society people need motivation to share work results and experiences, UNDP will create mechanisms to encourage them to share their work in waste management. This will feed in the database and the sustainability of work and initiatives.

During the project implementation, the project team will keep active participation in other stakeholders' activities, meetings, committees and networking to maintain continuous knowledge sharing and lessons learned's exchange. The project activities will include seminars and workshops to ensure dissemination of information and findings with stakeholders, partners and interested people. A steering committee will be established consisting of members from donors, stakeholders and governmental and private entities, to have regular meetings to share findings and exchange experiences.

The project will initiate a Community of Practice (CoP), gathering a group of stakeholders who share the same profession of waste management. CoP will provide a platform that will enhance knowledge sharing about the waste management in the municipalities, landfills' operation and good practices, and recycling activities and to understand the overall waste management system's setup in Jordan. The committee will consist of interested stakeholders related to waste management issues including academics, government entities, private sector, and NGOs. The Community of Practice approach will be achieved through well-designed and subject dedicated meetings, networking, and collaboration with different stakeholders.

Several workshops and trainings will be conducted through the project implementation period. Developed guidebooks, training material, briefs will be disseminated to all participants in trainings and workshops. These events will include all stakeholders and donors, governmental and private entities. It aims to share the project objectives and progress and transfer the knowledge. Consequently, transparency of all components is ensured and will help to have a comprehensive cooperation between all sectors to achieve better waste management approach.

Project documents and deliverables will be published on the UNDP website, where it is easy accessed by anyone at any time. Documents will be in both languages English and Arabic to be available for all users including locals and international donors. The project will work with MoEnv to add a link on the Ministry's central website that leads to the project documents on UNDP website. This will lead researchers and interested people to find the needed information and have it shared with the public. Project activities will be publicized as well through press releases in the local newspapers, and social media.

Knowledge sharing will open up a dialogue to help embrace change and encourage ideas and insights sharing, which often lead to innovation and changing behaviours for example for littering, recycling and reducing waste.

The results of the project can also be presented in any of relevant regional or global meetings, including the triple Chemical convention's Conference of Parties during specially organized side-events.

V. FEASIBILITY

i. Cost efficiency and effectiveness:

The wide-scope collaboration with stakeholders which is envisaged under this project will ensure that some of the project activities can be carried out with substantial co-financing and investment contribution from the partners, bringing therefore significant savings and cost efficiency to the project.

This is, for instance, the case of the collaboration with the Jordanian Television, which will contribute at no charge with the broadcasting of project material and awareness raising information.

The cooperation with recyclers and industries which are interested in the development of a market for recycled waste implies that equipment needed for project activities will be developed or made available by project partners. This is the case of part of the investment needed by the cement industry sector to co-process Refused Derived Fuel, or by providers of hazardous waste disposal services to upgrade their equipment up to the standards required by the Basel and Stockholm conventions. However, the most

important aspect of the project is to look into the initial organization of the waste economy which is hoped to trigger economy-wide consultations and solution seeking for longer term sustainability and additional private and public investments in this area.

In general, however, cost efficiency and effectiveness will be ensured at each stage of the project by adoption of tender-based (quality for affordable costs) UNDP procurement procedures for all the activities, including the selection of consultancy services, and testing and procurement of technologies, based on the best quality/cost ratio.

UNDP has accumulated significant experience worldwide on the procurement and testing of technical services (for instance, management of international consultancies, testing of equipment, disposal services for POPs contaminated materials). This approach always resulted in attractive quality/cost ration.

ii. Risk Management:

As per standard UNDP requirements, the Project Manager will monitor risks quarterly and report on the status of risks to the UNDP Country Office. The UNDP Country Office will record progress in the UNDP ATLAS risk log. Risks will be reported as critical when the impact and probability are high (i.e. when impact is rated as 5, and when impact is rated as 4 and probability is rated at 3 or higher). Management responses to critical risks will also be reported to the GEF in the annual PIR. Project risks are summarized in Annex I. The role of the Project Steering Committee is also needed for inclusion here visavis risks review and adaptive management principles.

iii. Social and environmental safeguards:

UNDP follows special SESP (Social and environmental safeguards) requirements, and a dedicated summary tool on key risks and required measures to mitigate those has been formulated which will be followed during the project's implementation time.

Environmental and social grievances will be reported to the GEF in the annual PIR.

iv. Sustainability and Scaling Up:

The entire project has been designed with the support of all partners and stakeholders with the main goal of being sustainable and to constitute the first pillar of a wider activity. In terms of the three components of sustainability (environmental, financial and social) the following can be affirmed:

- The project is environmentally sustainable as its goal is to promote the implementation of the 3R approach on waste (Reduce, Reuse, Recycle) in the target waste streams and simultaneously to reduce the release of U-POPs and other POPs into the environment. In addition, through the implementation of this project, a significant reduction of the emission of CO2 will be achieved through the prevention of burning of waste.
- The project will bring not only environmental benefits but also social benefits. The right to have access to a safe and healthy environment is sanctioned by the Universal Declaration of Human Rights. A specific gender mainstreaming plan has been integrated throughout all project component, and the activities related to the recycling of waste will generate – although at pilot stage – income and job opportunities for the local communities which will also benefit of specific training and awareness raising activities. At a higher level, the establishment of a market-based waste management system will represent a business opportunity for the providers of disposal services who, although already operating in the country, are currently facing issues due to the unfair competition deriving from the persistence of substandard waste disposal practices.

- From the financial standpoint, it has to be noted that the GEF contribution has to be considered only as a catalytic support which will unlock the potential already existing in the waste value chain. In the course of the project design, it has been observed that a significant amount of resources coming from waste are currently unexploited: this is the case of the recycling of plastic, paper, organic waste for which a market does exist but which is hindered by a poor organization of waste collection and segregation; potential clients of RDF waste (cement factories) are available to purchase the RDF at a price proportional to its calorific value, but cannot still have access to this resource; the generator of hazardous waste are already use to pay a fee for the storage of these waste, but most of these financial resources are currently unused. The project will closely work with all private and governmental parties to unlock these potential.

Giving the above, it is also easy to understand how the project can be scaled up. Indeed, it will become evident in the course of project implementation that, although most of the activities undertaken at small scale are not highly profitable, the same activities may become extremely profitable when scaled up. This is the case, for instance, of the centralized disposal of non-recyclable hazardous waste, of the production and use of RDF, of the collection and placing on the market of recyclable waste streams. At the small scale, all these activities suffer from an unfavourable ratio between fixed cost and revenues. At the larger scale, the relative importance of fixed costs decreases. By analysing the cash flow in the waste sectors targeted by the project, it will be possible to gather information for designing more profitable waste management intervention.

v. Economic and/or financial analysis:

The project is piloting a number of activities which have the potential to generate an income which can partially compensate the incremental cost of the environmentally safe management of waste. The following data, gathered in the course of project preparation and already introduced in other part of the project document, can provide a preliminary picture of the market potential of waste recycling in the different sectors:

1. Yearly, an amount of around 0.416 million tons of plastic, 0.39 million tons of paper, and 1.3 million tons of organic waste are disposed in landfills or burn. Only for plastic and paper that means a yearly value of the waste being disposed in the landfill in the order of 150 million USD/year (plastic being sold to international recyclers at 200 JOD/tons and paper at 190 JOD/ton).
2. Considering that plastic is purchased from collectors at around 180 JOD/tons and paper at around 70 JOD/Tons, the maximum net profit that can be generated from a better segregation and recycling of paper and plastic in Jordan could theoretically amount to 50 million JOD.(1 JOD = 1.41 USD as of May 2017).
3. Based on the calorific value data, MSW waste may have a market value as fuel for cement kiln in the order of 20 USD/ton (resulting in around 50 million USD /year as an estimated amount of the value of the municipal waste stored yearly in the landfills in Jordan). This amount is largely additional to the profit which may be generated through recycling.
4. The current income deriving from the Swaqa gate fee is in the range of 88 to 296 JOD, however due to the limited enforcement of the legislation on hazardous waste, the actual income is much smaller than the potential income which may derive for an effective enforcement of the legislation; moreover, due to the poor management of the Swaqa facilities, the hidden environmental cost are higher than the income achieved.
5. It may be calculated that each ton of waste improperly burnt in the open or as a result of fire in landfill has an associated hidden cost of around 300 to 400 USD/ton.
6. For both the medical waste and the management of E-waste the project will mainly generate an internalization of cost, rather than an income, although some of the optimisation generated in the segregation of E-waste may in the end result in the access to a wider market for the operator. The two sectors will need a significant subsidy to be achieved either through the establishment of a waste management fee or – in the case of E- waste – the development of an incentive mechanisms.

VI. PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s): SDG1: End poverty in all form everywhere. SDG3: Good health and Well being. SDG 9: Industry, innovation and infrastructure. SDG 12: Responsible consumption and production SDG5: Achieve gender equality and empower all women and girls; SDG13: Climate Action, SDG9: Industry, Innovation and Infrastructure, SDG11: Make cities inclusive, safe, resilient and sustainable

This project will contribute to the following country outcome included in the UNDAF/Country Programme Document5) Government and national institutions have operationalized mechanisms to develop and implement strategies and plans targeting key cultural, environmental and disaster risk reduction issues (including a transition to a green economy) at national and sub-national levels

This project will be linked to the following output of the UNDP Strategic Plan:

Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.
Output 2.5: Legal and regulatory frameworks, policies and institutions enabled to ensure the conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national legislation.

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
Project Objective: Protection of human health and the environment through reduction and elimination of POPs, and other chemicals through implementation of environmentally sound management (ESM) for e-waste, healthcare waste and priority U-POPs release sources associated with general waste management activities	Indicator 1: Number of new partnership mechanisms with funding for sustainable management solutions of natural resources, ecosystem services, chemicals and waste at national and/or subnational level.	Public – private partnership in the management of hazardous and municipal waste, initiative are needed and the government is moving in this direction. Technical and financial support to achieve this objective is needed.	Public private partnership designed, including financial analysis and cash-flow. Pilot schemes for collection, disposal and recycling of different waste streams (E-waste, MSW, HW, HCW) designed in detail.	Public private partnership implemented, subsidized for the first year and financially sustainable for the subsequent years. Pilot schemes for collection, disposal and recycling of different waste streams (E-waste, MSW, HW, HCW) piloted	The government is strongly committed on the implementation of a more sustainable management of waste, including the shifting from the status of public operators to the status of control authority, supervisor and regulators.
	Indicator 2 Extent to which legal or policy or institutional frameworks are in place for conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems.	Policies and regulation on E-Waste are missing. Policies and regulation on HW, MSW and HCW need substantial improvement and enforcement	Amendment of existing regulation, policies and strategies, or new regulation when needed, fulfilling the requirement of the Stockholm Convention will be drafted and submitted to the government and key stakeholders for approval.	Amendment of existing regulation, policies and strategies, or new regulation when needed, fulfilling the requirement of the Stockholm Convention approved and enacted.	There is a strong commitment from the Government on the development of a more comprehensive and coherent legislation on waste management. This is also in consideration of the benefit that this can bring to the society in term of reduced health impact and creation of jobs.
	Indicator 3. Amount of POPs, U-POPs and mercury uses and release avoided at project implementation and predicted at replication	There are very limited actions in place to reduce the release of U-POPs and mercury associated to the	Detailed design and completion of the procurement of the interventions envisaged in the sectors of Health Care Waste, E-Waste, Hazardous Waste,	Implementation of the pilot interventions envisaged in the sectors of Health Care Waste, E-Waste, Hazardous	All the main stakeholders involved in the management of the different waste streams (Health Care Waste, E-Waste, Hazardous Waste) are committed to the design and pilot of more sustainable waste management schemes, aware that

		open burning or incineration of waste. Currently, U-POPs from HW incineration and from uncontrolled burning of waste are by far the two largest sources of U-POPs	Municipal Solid Waste, with the certification of large disposal facilities (incinerators and cement kiln) the replacement of obsolete incinerators in the HC sector, the demonstration of door to door collection of MSW and of RDF production.	Waste, Municipal Solid Waste, with the certification of large disposal facilities (incinerators and cement kiln) the replacement of obsolete incinerators in the HC sector, the demonstration of door to door collection of MSW and of RDF production.	this could bring benefit in term of development and wealth.
	Indicator 4. Evidence that gender mainstreaming and equal opportunities have been ensured for job opportunities and access to knowledge and training	Because of the very strong gender division of labour in this sector along with cultural carriers, far more men than women get jobs in waste management in Jordan	Women encouraged to take part in all project activities. Criteria and indicators for gender mainstreaming adopted in all project activities (awareness raising, staff recruitment, training). Participation to project activities disaggregated by gender	Recruitment of project staff, awareness raising, pilot activities and training conducted in compliance with the gender mainstreaming plan developed.	The resource allocated for gender mainstreaming will allow a higher and more sustainable efficiency of project core actions aimed at implementing ESM of waste management and reducing POPs.
Project Component 1: Development of ESM E-waste management system *Outcome 1.1 Environmentally sound E-waste collection, processing and residuals management capability developed*	Indicator 5: Level of awareness achieved through project implementation on E-waste, measured by means of KAP (Knowledge, Attitudes and Practices) surveys at baseline and project end.	Only limited awareness raising initiatives carried through limited demonstrative E-waste collection campaigns	10 high level meetings including roundtable and discussions on E-waste among policy makers and stakeholders within project midterm. One regional meeting on E-waste within project midterm among policy makers and stakeholders Baseline KAP questionnaire survey completed. 4 awareness raising activities with NGOs support conducted.	Further 10 high level meeting and 2 regional meeting on E-waste by project end. Further 4 awareness raising activities on E-waste with NGOs support conducted. Raising awareness workshops with E-waste formal and informal operators conducted. Terminal KAP questionnaire survey completed	Awareness of E-waste issues is a key driver in ensuring the sustainability of E-waste management at all level
	Indicator 6. Availability of a legislation or an official guidance on POPs and E-waste published and enacted.	A draft of the "Electronic and electrical waste management instructions (last	The Jordan E-waste management policy, which includes requirements on POPs, upgraded with the	The Jordan E-waste management policy, which includes requirements on POPs, approved and	Legislation sustainability may be ensured through sound financial design and stakeholder's involvement

		update 2014)", prepared by the Government is not yet approved and needs substantial improvement, including clear reference to POPs in E-waste.	involvement of key public and private stakeholders. A set of financial mechanisms and incentives designed as part of the E-waste management policy.	enacted. At least one incentive scheme (anticipated disposal fee; EPR, collection incentives) demonstrated by the end of the project.	
	Indicator 7. Amount of POP (U-POPs, c-PBDE, deca-BDE, PFOS) release prevented through proper collection and disposal of E-waste.	Currently there is no organized collection of E-waste whatsoever and hence no care about possible POP-containing E-waste. A theoretical amount of c-PBDE in the order of around 2.5 to 7.3 tons calculated at PPG stage.	A collection scheme, co-financed by the government, including one or more of the options listed under output 1.1.3, designed in detail including budget planning and cash flow.	A collection scheme, co-financed by the government, is piloted with the collection of at least 600 tons of plastic from E-waste contaminated by PBDE.	Collection and recycling sustainability can be ensured by increased value of waste, enforcement of legislation, awareness raising and PPP initiatives
Component 2 Achieving environmentally sound healthcare waste management *Outcome 2.1 BAT/BEP healthcare waste management practice and technology implemented nationally*	Indicator 8: number of HCF successfully implementing the ESM of health care waste.	Segregation of HCW is practiced in many hospital but not effectively controlled or sustained. Presence of small incinerators at several HCFs is a disincentive for the segregation of HCW.	Memorandum of Understanding signed and HCW committees established in all the project HCF. Baseline evaluation conducted by means of I-RAT conducted for all the selected HCFs. HCW plan agreed for all the HCFs. Technical assistance on ESM of HCW started in all the project HCFs. First reassessment of the HCFs conducted by means of the I-RAT tool	Continuation of technical assistance on ESM of HCW started in all the project HCFs. Final reassessment of the HCFs conducted by means of the I-RAT tool conducted. Final evaluation of U-POPs releases prevented through segregation of waste conducted.	Effectiveness of training can be ensured through ToT of staff and continuous availability of trained staff at HCF Sustainability of HCWM may be ensured through increasing of waste value chain, reduction of disposal cost at HCF, enforcement of legislation proper selection of demo HCs
	Indicator 9: number of high capacity incineration or co-incineration successfully certified for the disposal of hazardous waste and POPs containing waste.	At least 2 medium size incinerators potentially compliant with SC BAT	Detailed plan for Proof of Performance test for at least 2 incinerators or cement kiln agreed and approved.	Proof of Performance test for at least 2 incinerators or cement kiln carried out with a range of	Testing and certification of incinerators for their compliance with the Stockholm Convention BAT / BEP is a key step in for the establishment of environmentally

		requirements, plus cement kilns facilities, needing testing and certification.	Inspections of candidate plants and need assessment carried out. Support for the upgrade of the candidate plant to fulfil SC BAT/BET ensured to 2 plants.	different HCW, E-waste and HW carried out. Successful plants certified and permitted.	sound waste disposal capacity in the country.
	Indicator 10: Amount of U-POP release prevented through enhanced management of healthcare waste.	3.18 to 10.54 g Teq / yr of PCDD/F released by the candidate facilities estimated at PPG stage. Incineration of E-waste considered the 2nd biggest source of U-POPs in the NIP.	Modality of replacement of substandard incinerators in the selected HCF (replacement with non-combustion equipment or with centralized services) agreed for all the project HCFs. Baseline release of U-POPs reassessed. TORs for the new equipment drafted and advertised. Procurement of non-combustion facilities or external waste disposal services started.	Procurement of non-combustion equipment for replacing sub-standard incinerators completed and new equipment installed and teste. External waste disposal services with certified disposal facilities contracted At least 90% of the baseline U-POPs release permanently avoided through adoption of non-combustion equipment or disposal in certified plants	Improvement in the HCF waste segregation capacity, further replacement of substandard incinerator in public sector with non-combustion technologies integrated by disposal services with certified incinerators is the only sustainable way to achieve a substantial reduction of PCDD/F release in the environment from HCW management.
Component 3- Developing waste diversion/resource recovery capacity for GHG and U-POPs reduction *Outcome 3.1 Effective waste diversion/resource recovery capacity from HW and SW streams developed with associated GHG and U-POPs release reduction achieved*	Indicator 11: Level of awareness achieved through project implementation on Hazardous Waste and Municipal Solid Waste, measured by means of KAP (Knowledge, Attitudes and Practices) surveys at baseline and project end.	Limited awareness raising initiatives carried out in baseline projects, mostly focused on the management of organic waste	Awareness raising and involvement of the community of ___ with at least 1000 generators involved in the demonstration of waste collection.		Effective and targeted Hazardous waste and Municipal Solid Waste awareness raising campaigns can boost a substantial shift from the unsafe or even illegal management of waste to an environmentally sound management which can create jobs and preserve the environment.
	Indicator 12: Generator of hazardous waste trained on the minimisation and ESM of waste potentially contaminated by POPs. E-waste stored at Swaqa and other POPs waste inventoried, labelled and safeguarded for future disposal in coordination with bilateral initiatives.	Waste potentially contaminated by POPs including E-waste are not properly managed at Swaqa.	At least 100 generators of hazardous waste trained on Stockholm and Basel convention on hazardous waste, as well as on the minimization of hazardous waste generation and their	At least 300 tons of E-waste potentially contaminated by POPs and other POPs waste identified, labelled and safeguarded for future disposal in	Training at source may be extremely effective in preventing the generation and improper disposal of hazardous waste. The safeguarding activity at the Swaqa site will be effective if carried out with other initiatives (including bilateral ones) aimed at a better management of hazardous waste

			ESM	certified facilities.	and at a rehabilitation of the Swaqa site..
	Indicator 13: Amount of U-POP release prevented through diversion of municipal waste, through recycling and RDF in certified facilities.	Uncontrolled burning of waste is the biggest source of U-POPs identified in the NIP (around 52 g/TEq /yr)	Pilot door to door collection designed and contract with potential recyclers agreed. Procurement of materials for waste minimization, collection and recycling completed. Surveillance system to prevent burning at selected landfills designed and implemented.	Implementation of the pilot collection and recycling scheme as detailed in output 3.1.1, with an estimated reduction of at least 0.3g Teq / year of PCDD/F through waste diversion and open burning prevention.	Open or uncontrolled burning of waste is only the symptom of a wider social problem which can be addressed through the development of the waste value chain, establishment of a capillary waste management system, awareness raising and community-driven control of the territory.
Component/ Outcome 4 Knowledge Management and M&E	Indicator 14: Number and quality of project monitoring and planning reports drafted and submitted with reference to the M&E plan.	N/A	Inception activities carried out, project management structure implemented. Project reporting and planning established and implemented	Project reporting and planning continued until project end	Proper project monitoring and planning is crucial for a successful implementation of the project
	Indicator 15: Number and quality of project audit and evaluation reports drafted and submitted with reference to the M&E plan.	N/A	Mid Term Evaluation and auditing activities carried out	Terminal Evaluation and auditing activities carried out	Evaluation based on agreed and measurable indicators is key for understanding the level of achievement, learning lessons and identifying best practices.
	Indicator 16: Presence of a knowledge management system established and sustained	N/A	KM system including project website established (to be completed in the 1st year of project implementation out.	Terminal reporting completed and submitted to GoJ, UNDP and GEF.	Making the information generated by the project available will enhance sustainability and replication of project activities.

VII. MONITORING AND EVALUATION (M&E) PLAN

The project results as outlined in the project results framework will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. While these UNDP requirements are not outlined in this project document, the UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GEF-specific M&E requirements (as outlined below) will be undertaken in accordance with the GEF M&E policy and other relevant GEF policies.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including the GEF Operational Focal Point and national/regional institutes assigned to undertake project monitoring. The GEF Operational Focal Point will strive to ensure consistency in the approach taken to the GEF-specific M&E requirements (notably the GEF Tracking Tools) across all GEF-financed projects in the country. This could be achieved for example by using one national institute to complete the GEF Tracking Tools for all GEF-financed projects in the country, including projects supported by other GEF Agencies.

M&E Oversight and monitoring responsibilities:

Project Manager: The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Manager will inform the Project Board, the UNDP Country Office and the UNDP-GEF RTA of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

The Project Manager will develop annual work plans based on the multi-year work plan included in Annex A, including annual output targets to support the efficient implementation of the project. The Project Manager will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. gender strategy, KM strategy etc..) occur on a regular basis.

Project Board: The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

Project Implementing Partner: The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes, and is aligned with national systems so that the data used by and generated by the project supports national systems.

UNDP Country Office: The UNDP Country Office will support the Project Manager as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office will initiate and organize key GEF M&E activities including the

annual GEF PIR, the *independent mid-term review* and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; that annual targets at the output level are developed, and monitored and reported using UNDP corporate systems; the regular updating of the ATLAS risk log; and, the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the GEF PIR and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. annual GEF PIR quality assessment ratings) must be addressed by the UNDP Country Office and the Project Manager.

The UNDP Country Office will retain all M&E records for this project for up to seven years after project financial closure in order to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).

UNDP-GEF Unit: Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Directorate as needed.

Audit: The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects.[20]

Additional GEF monitoring and reporting requirements:

Inception Workshop and Report: A project inception workshop will be held within two months after the project document has been signed by all relevant parties to, amongst others:

a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project implementation;
b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
c) Review the results framework and finalize the indicators, means of verification and monitoring plan;
d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP in M&E;
e) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; Environmental and Social Management Plan and other safeguard requirements; the gender strategy; the knowledge management strategy, and other relevant strategies;
f) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and
g) Plan and schedule Project Board meetings and finalize the first-year annual work plan.

The Project Manager will prepare the inception report no later than one month after the inception workshop. The inception report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board.

GEF Project Implementation Report (PIR): The Project Manager, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual GEF PIR covering the reporting period July (previous year) to June (current year) for each year of project implementation. The Project Manager will ensure that the indicators included in the project results framework are monitored annually in advance of the PIR

[20] See guidance here: https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx

submission deadline so that progress can be reported in the PIR. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR.

The PIR submitted to the GEF will be shared with the Project Board. The UNDP Country Office will coordinate the input of the GEF Operational Focal Point and other stakeholders to the PIR as appropriate. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

GEF Focal Area Tracking Tools: The Chemical and Waste GEF Tracking Tool will be used to monitor global environmental benefit results.

The baseline/CEO Endorsement GEF Focal Area Tracking Tool(s) – submitted in Annex D to this project document – will be updated by the Project Manager/Team and shared with *the* mid-term review consultants and terminal evaluation consultants (not the evaluation consultants hired to undertake the *MTR* or the TE) before the required review/evaluation missions take place. The updated GEF Tracking Tool(s) will be submitted to the GEF along with the completed Mid-term Review report and Terminal Evaluation report.

Independent Mid-term Review (MTR): An independent mid-term review process will begin after the second PIR has been submitted to the GEF, and the MTR report will be submitted to the GEF in the same year as the 3rd PIR. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the MTR report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Centre (ERC). As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final MTR report will be available in English and will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and approved by the Project Board.

Terminal Evaluation (TE): An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Project Manager will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Centre. As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board. The TE report will be publicly available in English on the UNDP ERC.

The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan, and will upload the final terminal evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP IEO will undertake a quality assessment and validate the findings and ratings in the TE report, and rate the quality of the TE report. The UNDP IEO assessment report will be sent to the GEF IEO along with the project terminal evaluation report.

Final Report: The project's terminal PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

Mandatory GEF M&E Requirements and M&E Budget:

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[21] (US$)		Time frame
		GEF grant	Co-financing	
Inception Workshop	UNDP Country Office	USD 20,000 including national and international travel		Within two months of project document signature
Inception Report	Project Manager	None	None	Within two weeks of inception workshop
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP Country Office	None	None	Quarterly, annually
Monitoring of indicators in project results framework	Project Manager	23,200		For five years
GEF Project Implementation Report (PIR)	Project Manager and UNDP Country Office and UNDP-GEF team	None	None	Annually
NIM Audit as per UNDP audit policies	UNDP Country Office	Per year: USD 5,000		Annually or other frequency as per UNDP Audit policies
Lessons learned and knowledge generation	Project Manager			Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Manager UNDP CO	None		On-going
Addressing environmental and social grievances	Project Manager UNDP Country Office BPPS as needed	None for time of project manager, and UNDP CO		
Project Board meetings	Project Board UNDP Country Office Project Manager			At minimum, annually
Supervision missions	UNDP Country Office	None[22]		Annually

[21] Excluding project team staff time and UNDP staff time and travel expenses.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[21] (US$)		Time frame
		GEF grant	Co-financing	
Oversight missions	UNDP-GEF team	None[22]		Troubleshooting as needed
Knowledge management as outlined in Outcome 4	Project Manager	Covered under project component 1 to 3 and coordinated by PMU		On-going
GEF Secretariat learning missions/site visits	UNDP Country Office and Project Manager and UNDP-GEF team	None		To be determined.
Mid-term GEF Tracking Tool to be updated by (add name of national/regional institute if relevant)	Project Manager	USD 10,000		Before mid-term review mission takes place.
Independent Mid-term Review (MTR) and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 26,450		Between 2nd and 3rd PIR.
Terminal GEF Tracking Tool to be updated by (add name of national/regional institute if relevant)	Project Manager	USD 10,000		Before terminal evaluation mission takes place
Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 26,450		At least three months before operational closure
Translation of MTR and TE reports into English	UNDP Country Office	USD 8,900		
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		*USD 150,000*		

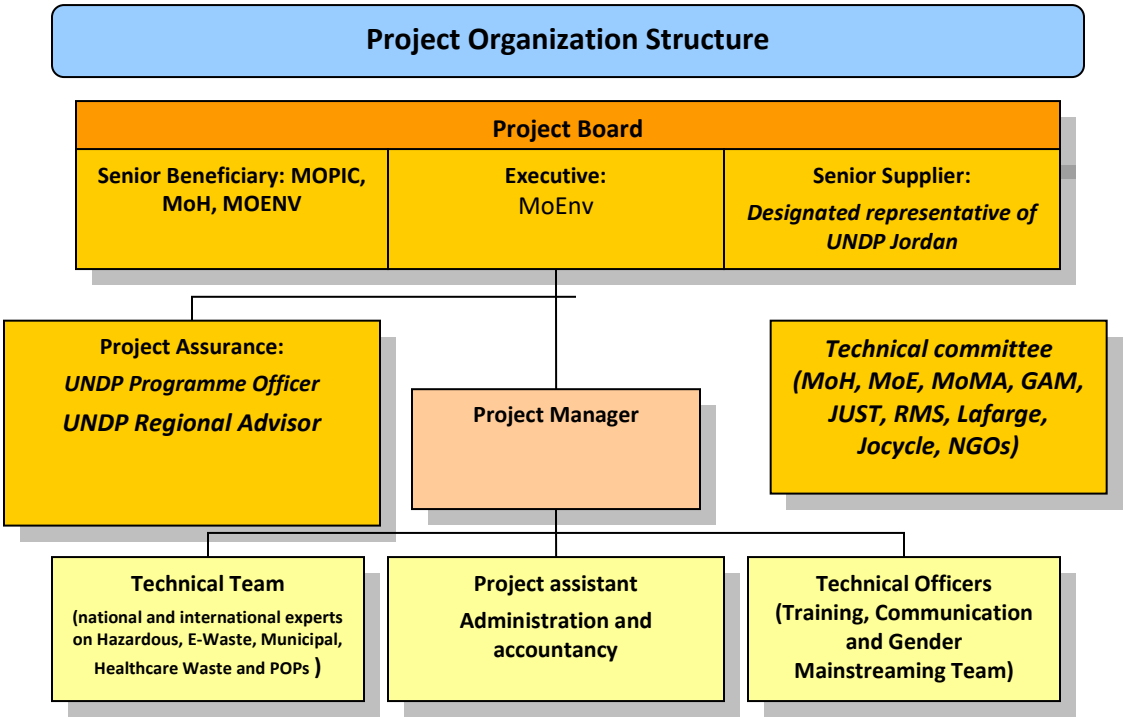
VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

Roles and responsibilities of the project's governance mechanism:

The project will be implemented following UNDP's national implementation modality, according to the Standard Basic Assistance Agreement between UNDP and the Government of Jordan and the Country Programme.

The **Implementing Partner** for this project is the Ministry of Environment (MoEnv) of the Kingdom of Jordan. The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources.
The project organisation structure is as follows:

[22] The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.



The **Project Board is** responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Manager. The terms of reference for the Project Steering Committee are contained in Annex.

The Project Technical Committee will be composed by technical experts and representatives of the stakeholders involved in the project. It has the purpose to provide technical recommendations on all the stages of project implementation, and to support the project manager with the technical views of the key stakeholders. The following will be tentatively the participant of the project technical committee: Ministry of Health, Ministry of Environment, Ministry of Municipal Affair, Roya Medical Services, Jordan University of Science and Technology, Great Amman Municipality, Lafarge, E-waste recyclers (JoCycle), NGOs.

The **Project Manager** will run the project on a day-to-day basis on behalf of the Implementing Partner within the constraints laid down by the Project Board. The Project Manager function will end when the final project terminal evaluation report, and other documentation required by the GEF and UNDP, has been completed and submitted to UNDP (including operational closure of the project).

Project Assurance: UNDP provides a three – tier supervision, oversight and quality assurance role – funded by the GEF agency fee – involving UNDP staff in Country Offices and at regional and headquarters levels. Project Assurance must be totally independent of the Project Management function. The quality assurance role supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed.

The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. This project oversight and quality assurance role is covered by the GEF Agency.

The **project assurance** role will be provided by the UNDP Country Office specifically. Additional quality assurance will be provided by the UNDP Regional Technical Advisor as needed.

The project will be carried out with the support of three teams as following:

A technical team with the task to coordinate / undertake the technical activities listed under the three project components, and related to the management of E-waste, Healthcare waste, Hazardous waste, Municipal waste and relate legislation. It is envisaged that the technical team will be composed by at least one (1) national expert on municipal waste and recycling, two (2) national experts on Healthcare waste, one (1) national expert on Hazardous waste and one (1) national expert on E-waste. These experts will be in charge of carrying out or supervise specific project outputs, based on TORs which will be developed in the course of project inception.

An administrative team, with the task to ensure the accountancy and administration of the project in compliance with the rules of UNDP and the Government of Jordan. The administrative team will be composed by one administration assistant, based at MoEnv.

A team in charge of organizing and coordinating training, communication and awareness raising event. The team will be composed by one staff in charge of coordinating communication and awareness raising event, and one staff in charge of supervising and coordinating the implementation of the gender mainstreaming plan.

Governance role for project target groups:
Both the PMU and the PSC will implement mechanisms to ensure ongoing stakeholder participation and effectiveness with the commencement of the Project by conducting regular stakeholder meetings, issuing a regular project electronic newsletter, conducting feedback surveys, implementing strong project management practices, and having close involvement with UNDP Jordan as the GEF implementing agency.

UNDP Direct Project Services as requested by Government (if any):
The UNDP, as GEF Agency for this project, will provide project management cycle services for the project as defined by the GEF Council. In addition, the Government of Jordan may request UNDP direct services for specific projects, according to its policies and convenience. The UNDP and Government of Jordan acknowledge and agree that those services are not mandatory, and will be provided only upon Government request. If requested the services would follow the UNDP policies on the recovery of direct costs. These services (and their costs) are specified in the Letter of Agreement (Annex 8). As is determined by the GEF Council requirements, these service costs will be assigned as Project Management Cost, duly identified in the project budget as Direct Project Costs. Eligible Direct Project Costs should not be charged as a flat percentage. They should be calculated on the basis of estimated actual or transaction based costs and should be charged to the direct project costs account codes: "64397- Services to projects – CO staff" and "74596-Services to projects COE for CO".

Agreement on intellectual property rights and use of logo on the project's deliverables and disclosure of information**:**
In order to accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[23] and the GEF policy on public involvement[24].

[23] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

[24] See https://www.thegef.o rg/gef/policies_guidelines

Project management*:*

The project will be implemented following UNDP's national implementation modality (NIM) according to the Standard Basic Assistance Agreement (SBAA) between UNDP and the Hashemite Kingdom of Jordan*,* and the Country Programme Action Plan (CPAP). The Implementing Partner for this project is the Ministry of Environment and is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources.

A Project Board (PB) will be established to provide strategic, long-term guidance for the project and provide consultations whenever needed. The PB will make recommendations on issues such as the prioritization of project activities, shifts in strategic direction when required and help to secure project partnerships with other relevant institutions. The PB will meet twice a year and include representatives from Ministry of Planning and International Cooperation (MOPIC), UNDP, MoEnv & MOH, other key stakeholders may be invited to join the board if necessary.

A Project Management Unit (PMU) will carry out the day-to-day management of the project. The Project Manager will report to UNDP, the implementing partner and the Project Board . The PMU will be supported by two Technical Officers and an Administrative/financial Assistant. The project personnel will be selected on a competitive basis in accordance with the relevant UNDP rules and procedures. The Project Manager will be supported by international and national experts taking the lead in the implementation of specific technical assistance components of the project. The PMU will be responsible for the planning and overall management of project activities including project reporting, accounting and monitoring, recruitment, procurement and services solicitation, supervision of the implementing partners and managing project resources. It will be accountable to UNDP for the production of outputs, the achievement of project objectives and the use of project resources. It will facilitate dialogue and networking between the partners and utilize relevant expertise to support the project.

The project assurance role will be provided by the Head of the Environment and climate change portfolio, UNDP CO.

The project will establish a *Technical committee* to offer support and guidance to the implementation of the project in accordance with the project document and annual work plan. The technical committee will meet on quarterly basis and will include representatives from MoEnv (chair) and all relevant stakeholders.
The project will be implemented in close coordination and collaboration with all relevant government institutions, private companies and NGOs, as well as with other related relevant projects in the region. UNDP will support implementation by monitoring the project budget and project expenditures, contracting project personnel, experts and subcontractors, undertaking procurement, and providing other assistance upon request of the IP. The UNDP-CO will also monitor the project's implementation and achievement of the project outcomes and outputs, and will ensure the proper use of UNDP/GEF funds.

The project will also draw upon the substantial expertise of the National partners and actors (academia, UN specialized agencies in the region, MoEnv, MoH) as well as internal UNDP expertise at the national, regional and global levels".

IX. FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is USD 69,982,008. This is financed through a GEF grant of USD 5,090,000, and USD 150,000 in cash co-financing to be administered by UNDP and USD 64,742,008 in co-financing. UNDP, as the GEF Implementing Agency, is responsible for the execution of the GEF resources and the cash co-financing transferred to UNDP bank account only.

Co-financing: The actual realization of project co-financing will be monitored during the mid-term review and terminal evaluation process and will be reported to the GEF. The planned co-financing will be used as follows:

Ministry / company	Co-financing type	Co-financing amount (USD)	Item description	Risks	Risk mitigation measures
Ministry of Environment	*Cash*	1,412,429	Swaqa Budget	No significant risk as the budget is already allocated in cash	Following up and update on budget allocation at inception
	Cash	2,824,859	Assets in Swaqa	Risk of deterioration of assets in case of delay of project starting	MoE, which is the main project stakeholder, is the owner of these assets, and committed to ensure assets functionality until project start
	Cash	706,214	E-waste storage site (Hangars)		
Ministry of Municipal Affairs	Cash	21,186,441	Budget for the management of solid waste in landfills	No significant risk as the budget is already allocated in cash	Following up and update on budget allocation at inception
Ministry of Health	Cash	4,237,288	Capital investment in incinerator, auto-claves, vehicles, infrastructure for MW storage	Risk of deterioration of assets in case of delay of project starting	MoH, which one of the key stakeholders, is the owner of these assets, and committed to ensure assets functionality until project start
Royal Medical services	Cash	2,800,000	Capital investment in autoclaves during 2015-2016	No significant risk as the investment has been recently finalized	
	Cash	1,400,000	Purchasing new equipment	No significant risk as the budget is already allocated in cash	Following up and update on budget allocation at inception
	Cash	600,000	Maintenance cost		

			for new equipment		
Jordan University of Science and Technology (JUST)	Cash	1,000,000	MW incinerator	Risk of deterioration of assets if unused due to the poor enforcement of legislation on HCW	The co-financing of these assets will be reassessed at project start. However, as the co-financing provided is redundant, the risk for the project is limited
	Cash	240,000	Vehicles for MW transportation	Depreciation in case of delay of project starting	
	Cash	90,000	Spare parts	No significant risk as the budget is already allocated in cash	Following up and update on budget allocation at inception
	Cash	70,000	Filters	No significant risk as the budget is already allocated in cash	Following up and update on budget allocation at inception
Lafarge	Cash	706,215	Investment cost to execute technical requirements for the RDF facility	No significant risk as the company consider the RDF fuel as a profitable alternative energy	An agreement among the municipality generating RDF and Lafarge is necessary

JoCycle (private)	Cash	146,893	Capital investment in equipment	JoCycle is committed in continuing the business. Residual risk associated to the sustainability of their business in the absence of proper legislation on E-waste	Continuous contact with Jocycle to confirm their sustainability and commitment for the duration of project. Following up on budget allocation at inception
Clean city (private)	Cash	4,390,194	Capital investment in incinerators	The assets (incinerators and ancillary parts) are currently operational, however if unused for long time they could degrade	Continuous contact with Clean City to verify the status of their plant. The timely implementation of the project will reduce the risk of asset deterioration
	Cash	2,824,859	Planned investment for the next five years	Risk of not materializing of investment in case the legislation on HW is not properly enforced	The timely implementation of the project, with specific reference to improvement enforcement of HW legislation, will reduce the risk
Future Environmental services	Cash	1,026,130			
Ministry of Environment	In kind	706,214	Salaries and training (include all drivers) and incentives. Vehicles, operation cost	No risk except Incomplete - inconsistent accounting of in kind co-financing	An accounting system for co-financing will be established at inception.

Ministry of Health	In kind	10,593,220	Salaries, fuels and electricity, operation cost, maintenance cost, containers and bags		
Royal Medical services	In kind	300,000	Salaries and training		
Jordan University of Science and Technology (JUST)	In kind	700,000	Salaries		
JoCycle (private)	In kind	566,384	Salaries, trainings and awareness campaigns, database, ISO certification)		
Clean city (private)	In kind	5,433,452	Operational cost for the coming 5 years		
Lafarge	In kind	706,215	Operational cost necessary to feed the ovens with RDF		

Budget Revision and Tolerance: As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board. Should the following deviations occur, the Project Manager and UNDP Country Office will seek the approval of the UNDP-GEF team as these are considered major amendments by the GEF:

a) Budget re-allocations among components in the project with amounts involving 10% of the total project grant or more;
b) Introduction of new budget items/or components that exceed 5% of original GEF allocation.

Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).

Refund to Donor: Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the UNDP-GEF Unit in New York.

Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP. On an exceptional basis only, a no-cost extension beyond the initial duration of the project will be sought from in-country UNDP colleagues and then the UNDP-GEF Executive Coordinator.

Operational completion: The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have

already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

Financial completion: The project will be financially closed when the following conditions have been met:

a) The project is operationally completed or has been cancelled;
b) The Implementing Partner has reported all financial transactions to UNDP;
c) UNDP has closed the accounts for the project;
d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

The project will be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the UNDP-GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

X. TOTAL BUDGET AND WORK PLAN

Total Budget and Work Plan			
Atlas Proposal or Award ID:	00105137	Atlas Primary Output Project ID:	00106383
Atlas Proposal or Award Title:			
Atlas Business Unit	JOR10		
Atlas Primary Output Project Title	Reduction and elimination of POPs and other chemical releases through implementation of environmentally sound management of E-Waste, healthcare waste and priority U-POPs release sources associated with general waste management activities		
UNDP-GEF PIMS No.	5667		
Implementing Partner	Ministry of Environment (MoEnv)		

GEF Component/Atlas Activity	Responsible Party (Atlas Implementing Agent)	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Year 1 (USD)	Year 2 (USD)	Year 3 (USD)	Year 4 (USD)	Year 5 (USD)	Total (USD)	See Budget Note:
Project Component 1: Development of ESM E-waste management system	MoEnv	62000	GEFTF	71200	International Consultants	$13,000	$13,000	$13,000	$9,100	$3,900	$52,000	1
				71300	Local Consultants	$44,600	$44,600	$44,600	$18,000	$8,000	$159,800	2
				72100	Contractual services Companies	$88,640	$346,040	$76,140	$76,140	$76,140	$663,100	3
				75700	Training, workshop, meetings	$15,000	$15,700	$10,000	$10,000	$0	$50,700	4
				71600	Travel for project staff	$15,800	$14,000	$17,000	$14,000	$3,500	$64,300	5
				74500	Miscellaneous	$2,500	$2,400	$2,400	$1,400	$1,400	$10,100	6
					Sub total	$179,540	$435,740	$163,140	$128,640	$92,940	$1,000,000	
Component 2 Achieving environmentally sound healthcare waste management	MoEnv	62000	GEFTF	71200	International Consultants	$19,500	$19,500	$13,000	$13,000	$3,250	$68,250	7
				71300	Local Consultants	$29,750	$63,700	$63,700	$63,700	$53,900	$274,750	8
				72100	Contractual services Companies	$146,500	$596,500	$816,500	$216,500	$70,000	$1,846,000	9
				75700	Training,	$7,500	$8,000	$8,000	$5,500	$8,000	$37,000	10

					workshop, meetings							
				71600	Project staff travel	$3,500	$20,950	$12,950	$20,950	$8,950	$67,300	11
				74500	Miscellaneous	$1,100	$1,500	$1,400	$1,400	$1,300	$6,700	12
					Sub total	$207,850	$710,150	$915,550	$321,050	$145,400	$2,300,000	
Component 3- Developing waste diversion/resource recovery capacity for GHG and U-POPs reduction	MoEnv	62000	GEFTF	71200	International Consultants	$20,150	$13,650	$20,150	$0	$0	$53,950	13
				71300	Local Consultants	$23,100	$25,900	$25,900	$25,900	$25,900	$126,700	14
				72100	Contractual services Companies	$15,550	$419,800	$219,800	$219,800	$219,800	$1,094,750	15
				75700	Training, workshop, meetings	$14,000	$10,000	$14,000	$5,000	$10,000	$53,000	16
				71600	Project staff travel	$20,600	$15,600	$12,600	$8,600	$8,600	$66,000	17
				74500	Miscellaneous	$1,100	$1,200	$1,100	$1,100	$1,100	$5,600	18
					Sub total	$94,500	$486,150	$293,550	$260,400	$265,400	$1,400,000	
Monitoring and Evaluation	MoEnv	62000	GEFTF	71200	International Consultants	$0	$0	$18,200	$0	$18,200	$36,400	19
				71300	Local Consultants	$9,000	$9,000	$13,000	$9,000	$13,000	$53,000	20
				75700	Training, workshop, meetings	$10,000	$0	$0	$0	$0	$10,000	21
				71600	Project staff travel	$6,200	$2,100	$7,600	$2,100	$7,600	$25,600	22
				74100	Professional services	$5,000	$5,000	$5,000	$5,000	$5,000	$25,000	23
					Sub total	$30,200	$16,100	$43,800	$16,100	$43,800	$150,000	
Project Management	MoEnv	62000	GEFTF	71300	Local Consultants	$38,000	$38,000	$38,000	$38,000	$38,000	$190,000	24
				74596	Services for project GOE	$10,000	$10,000	$10,000	$10,000	$10,000	$50,000	25

					for CO							
					Total Management	$48,000	$48,000	$48,000	$48,000	$48,000	$240,000	
					Project Total	$560,090	$1,696,140	$1,464,040	$774,190	$595,540	$5,090,000	

Budget notes

1. International consultant for providing technical advice on the compliance of E-waste regulations with international conventions. (650 USD/day for 5 days /year for three years) International consultant with experience on incentive mechanisms in the waste sector to provide technical assistance and supervision (650 USD/day x 10 days/year x 4 years) International consultant to develop TORs and provide assistance on procurement of E-waste processing equipment (650 USD/day x 5 days / yr for three years) , International consultant for sharing international experience in -waste collection, processing and training on best environmental practices and technologies (10 days at 650 USD);
2. National consultants on regulatory, financial and waste management issues 350 USD/day for 76 days per year National consultants to develop the administrative structure for the implementation of incentive mechanism, including liaising with enterprises and retailers to develop EPR (500 USD/week x 10 weeks x 4 years) National consultants to provide technical assistance on the development of bidding document, and supervise the testing and operation of the equipment (500 USD/day x 16 working days/yr);
3. USD 14,000 professional services for the building of an E-waste platform, 4,000 USD/yr for the maintenance of the E-waste platform 3,000 USD/yr for translation services. Establishing collection systems for E-waste at retailing shops. Placement and management of E-waste collection containers (10,000 USD/Yr). Establishment of process-segregation equipment including quick testing for BFR at an E-waste recycling factory (269,900 USD). Collection and transport of E-waste with specific focus on E-waste contaminated by PBDE (20,000 USD/yr). Translation services (2,000 USD/yr) Implementation of the Communication plan for E-waste, including 3,000 USD/yr for translation in the first 2 years;
4. USD 10,000/yr for the first three year for the discussion of new regulation on E-waste, including meeting with BCRC One meeting for bidding evaluation (5,000 USD) 5,700 USD for logistic and training as envisaged under Gender mainstreaming plan, section II;
5. National and international travels for project staff. One international travel/yr for one international consultant 1,500USD/trip plus 300USD/day x 5days DSA + 1,000USD terminal expenses. 5 national travel/yr for national consultants per year assumed 100USD local transport + 600 USD accommodation each trip National travels for project staff. 3 national travel/yr for national consultants per year assumed 100USD local transport + 600 USD accommodation each trip;
6. Unforeseen expenses, communication, consumables, etc. Unforeseen expenses, communication, consumables, etc. Management, reporting, conducting procurement processes;
7. International consultant to assist in development of TOR based on HCF needs and to assist in bidding evaluation and equipment testing and similar tasks (5days/yr x 5 yrs at 650USD/day) International consultant to prepare proof of performance plan for disposal facilities and TORs, and to assist on procurement issues and supervising testing (15 days/yr at 650 USD/day for the first 4 yrs) 1 international consultant to provide 2 TOT sessions on HCW (including communication aspects), 10 days/ year for the first two years at 650 USD/day;
8. National consultant to coordinate on procurement issues and to work with the international consultant on equipment testing and delivery / installation supervision (25 working days/yr at 350 USD/day) National consultant to facilitate the work of national / international laboratories undertaking the test, to coordinate with the owners of the facilities to be tested and to work with the GoJ on permitting related issues (30 working days /yr at 350 USD/day) 2 national consultants part time to manage training and technical assistance in 10 project healthcare facilities 72 working days*350 USD x 2x 4 yr) - to be supported by gender mainstreaming expert (2w/yr at 500

USD/wk) National consultant to develop a TOR for healthcare management service, survey for identification of market basin, preliminary agreement with potential clients (HCFs), definition of a PPP scheme (20 wks at 500 USD/wk);

9. Procurement of at least 6 small sets of healthcare disinfection and pretreatment systems (100,000 USD each) and 2 large HCW disinfection and pretreatment system (350k USD each). As an alternative one set of incinerators upgrading up to SC BAT requirement if feasible instead of the 2 large disinfection facilities. Translation services (3,000 USD/yr) Contractual services to laboratory to perform proof of performance testing of at least 2 facilities (43,000 USD/facility) Provision of equipment and services to prepare the facilities for testing and for possible upgrade (50,000 USD/Facility) Procurement of equipment consisting in special waste bins, carts, plastic bags, sharp boxes, communication tools (6,500 USD) for the pilot HCFs (assumed a total of 200 USD/bed for 1,400 beds) Procurement of 2 refrigerated cars for HCF transportation (max 25,000 USD each) and development of tracking system for medical waste with barcode (30,000 USD);
10. One technical meeting /yr on the implementation of technologies at HCFs (3,000 USD/yrX4yrs Two workshops to introduce testing methodologies and results. Training and workshops including communication plan activities (7,400 USD) on medical waste integrated with HCW training Meetings with relevant stakeholder to agree with PPP scheme - meeting for bid evaluation;
11. National and international travels for project staff. One international travel/yr for one international consultant 1,500 USD/trip plus 300USD/day x 5days DSA + 1, 000 USD terminal expenses. 5 national travel/yr for national consultants per year assumed 100 USD local transport + 600 USD accommodation each trip National and international travels for project staff. One international travel/yr for one international consultant 1,500 USD/trip plus 300 USD/day x 5days DSA + 1,000 USD terminal expenses. 5 national travel/yr for national consultants per year assumed 100 USD local transport + 600 USD accommodation each trip Transportation expenses for national consultant (50 USD/months x 12 months x 4 x 2)+ travel and accommodation expenses for international consultant (2 missions). Travel for project staff;
12. Unforeseen expenses, communication, printing, etc. Unforeseen expenses, communication, printing, etc. Unforeseen expenses, communication, printing, etc.;
13. An international consultant to work with National consultant and local NGOs on the Knowledge, Training and Design activities of this output and to carry out Budget Analysis and U-POPs prevention analysis (30 days at 650 USD over 3 years). International consultant to provide assistance on technical specification for procurement of waste repackaging services and supervision (5 days at 650 USD/day for 3 yrs) International consultant to assist in the development of TORs related to RDF recycling (technical specs of RDFs, equipment needed for RDF processing, selection of the RDF processing facility) (48 days at 650/day);
14. Part time National consultant to develop TORs with the support of IC and coordinate activities relate to Knowledge, Training and Operation under this output (37 days/yr at 350 USD/day) A national consultant to supervise labeling and repackaging activities and to facilitate the work of the service provider (20 days at 350 USD/day for 5 yrs) National consultant to develop technical specification related to RDF recycling (technical specs of RDFs, equipment needed for RDF processing, selection of the RDF processing facility) and to coordinate and supervise activities related to RDF (77 days at 350 USD/day);
15. Procurement of segregation kits and plastic bags for 1000 waste generators (families) (5USDkit + 0.25 USD plastic bag kit x weekx1,000 57,000 USD). A waste management company or a NGO to ensure door to door collection services for 4 yrs(150,000 USD) of plastic, paper, glass and organic waste. Upgrading of storage facilities for plastic and paper (100,000 USD). Hygiene facilities under gender mainstreaming plan (10,000). Establishment of processing facilities for organic waste (65,750 USD). A NGOs or a consultancy is recruited to undertake surveys foreseen under this output (Knowledge Training and Design). 20,000 USD and Gender Mainstreaming activities (32,000 USD). Service of labeling and repackaging of hazardous waste contaminated or potentially contaminated by POPs Financial and technical support for the development of equipment needed for the pre-processing of RDF (150,000 USD) and to the collection of at least 500 ton of RDF (50,000 USD/yr)x4 yrs;
16. Training and workshops covering also communication plan related activities (9,700 USD) Two training sessions for the generators of hazardous waste One trainings on RDF aspects: U-POPs avoidance, GHG avoidance, legal and technical aspect, financial aspect, improvement of collection, (5,000 USD) one workshops for bid assessments and one for the evaluation of results (5,000 USD each);
17. One mission for an international consultant plus local travel for national staff. One mission/yr for international consultants (1,500 round trip to Jordan, 300 USD/day DSA, 1000 USD terminal expenses)+ 4 trips per year for national project staff (100 USD transportation + 600 USD accommodation)x4 Two missions/yr for the

international consultants (1,500 round trip to Jordan, 300 USD/day DSA, 1,000 USD terminal expenses)+ 4 trips per year for national project staff (100 USD transportation + 600 USD accommodation)x4;

18. Unforeseen expenses, communication, printing etc.;
19. International mid-term evaluation consultant (28 days at 650 USD/day). Independent terminal evaluation consultant (28 days at 650 USD/Day);
20. National consultants to undertake project monitoring and supervise KM activities in compliance with project indicators (10 days/yr at 500 USD/day). National consultants to prepare and update GEF tracking tool). (8 days/yr at 500 USD/day) Independent national mid-term and terminal evaluation consultant (8 days each at 500 USD/day));
21. Inception workshop (USD 10,000);
22. Two international missions for evaluation consultant (1,500 USD trip+300 USD*10 days DSA+1,000 USD terminal expenses). One international missions for international experts at inception (1,500 USD trip + 300 USD x 5 DSA + 1,000 USD terminal expenses). Travel expenses in Jordan for national evaluation consultant and PMU staff;
23. Financial audit;
24. Project management staff;
25. Budget line "Direct Project Costs" will be utilized to cover the costs of UNDP services on procurement, recruitment, etc. Direct project costs will be charged according to GEF rules on DPCs. Please see Annex F. Direct project cost – GOE, Direct project cost – staff: Direct Project Costs (DPC) are the costs of administrative services (such as those related to human resources, procurement, finance, and other functions) provided by UNDP in relation to the project. Direct project costs will be charged based on the UNDP Universal Pricelist (UPL) or the actual corresponding service cost, in line with GEF rules on DPCs. The amounts indicated here are estimations, however as part of annual project operational planning the Direct Project Costs would be defined and the amount included in the yearly budgets. The account 64398 can only be used for operational cost per transaction; it is not a flat fee;

Summary of Funds:

	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Amount Year 5	Total
GEF	644,140	1,681,690	1,435,940	751,390	576,840	**5,090,000**
UNDP (administered)	30,000	30,000	30,000	30,000	30,000	**150,000**
UNDP (in-kind)	15,000	15,000	15,000	15,000	15,000	**75,000**
Government	9,353,333.33	9,353,333.33	9,353,333.33	9,353,333.33	9,353,333.33	**46,766,667**
Private sector	3,580,068.36	3,580,068.36	3,580,068.36	3,580,068.36	3,580,068.36	**17,900,342**
TOTAL	**13,622,541.69**	**14,660,091.69**	**14,414,341.69**	**13,729,791.69**	**13,555,241.69**	**69,982,008**

XI. LEGAL CONTEXT

This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the SBAA (or other appropriate governing agreement) and all CPAP provisions apply to this document. Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

The implementing partner will put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried; as well as assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP/GEF hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document

Any designations on maps or other references employed in this project document do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

XII. MANDATORY ANNEXES

Annex 1: Multiyear Workplan

Annex 2: Monitoring plan

Annex 3: Evaluation plan

Annex 4: UNDP Risk log

Annex 5: TOR for key project personnel

a. Chairman of board/ National project Director

b. project Manger

c. member of technical team

d. Accountant secretary of project management

f. Member of communication and gender mainstreaming team.

Annex 6: Gender mainstreaming action plan

Annex 7: Standard Letter of Agreement on the Provision of Support Services

Annex 8. DESCRIPTION OF UNDP COUNTRY OFFICE SUPPORT SERVICES

Annex 1: Multi Year Work Plan:

Task	Responsible Party	Year 1				Year 2				Year 3				Year 4				Year 5			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Project Component 1: Development of ESM E-waste management system																					
Outcome 1.1 Environmentally sound E-waste collection, processing and residuals management capability developed																					
Output 1.1.1 Effective policy implementation and regulatory control for ESM of E-waste in place																					
Output 1.1.2 - Sustainable financial and business mechanism supporting E-waste management established and implemented:																					
Output 1.1.3 - E-waste collection and primary processing capability established:																					
Output 1.1.4 - Awareness and human resource strengthening for E-waste management delivered:																					
Component 2 Achieving environmentally sound healthcare waste management																					
Outcome 2.1 BAT/BEP healthcare waste management practice and technology implemented nationally																					
Output 2.1.1 Program of replacement of small sub-standard incineration facilities in 10 hospitals with non-combustion shredding/sterilization/autoclave units fully implemented:																					
Output 2.1.2 Qualification to demonstrate international performance of high capacity incineration facilities providing regional services undertaken:																					
Output 2.1.3 Training and formal certification program for in-hospital waste management personnel developed and implemented:																					

Output 2.1.4 Development of optimized waste management service provider arrangements through private public partnerships pursued:																					
Component 3. Developing waste diversion/resource recovery capacity for GHG and U-POPs reduction																					
Outcome 3.1 Effective waste diversion/resource recovery capacity from HW and SW streams developed with associated GHG and U-POPs release reduction achieved																					
Output 3.1.1 Sustainable prevention of open burning through minimization, segregation, landfill surveillance in pilot waste basin and pilot MSW landfill. (previous 3.1.1+3.1.2)																					
Output 3.1.2 Inventory, labelling and safeguarding of hazardous waste potentially contaminated by POPs in synergy with bilateral activities aimed at improving the HW management in Jordan (previous 3.1.3)																					
Output 3.1.3 National energy from waste management capability though utilization of waste derived fuel in commercial cement kilns developed and qualified. (previous 3.1.4)																					
Component 4: Monitoring and Evaluation																					

Annex 2: Monitoring Plan:

The Project Manager will collect results data according to the following monitoring plan.

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project Objective: **Protection of human health and the environment through reduction and elimination of POPs, and other chemicals through implementation of environmentally sound management (ESM) for e-waste, healthcare waste and priority U-POPs release sources associated with general waste management activities**	Indicator 1: Number of new partnership mechanisms with funding for sustainable management solutions of natural resources, ecosystem services, chemicals and waste at national and/or subnational level.	*Indicates whether the expected partnership have been established and effectively lead to an Environmentally Sound Management of Waste in Jordan*	*Baseline reports* *Project progress reports* *MoEnv reports* *Others*	Annually Reported in DO tab of the GEF PIR		*Assessment of the report and comparison with qualitative and quantitative targets.*	***Assumption**: Institutions and private stakeholders aware of the social, economic and environmental importance of ESM of waste* ***Risks**: Partnerships not fully sustainable on the financial or environmental side; competing interest not completely resolved;*
	Indicator 2 Extent to which legal or policy or institutional frameworks are in place for conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems.	*Number of legislation and guidance documents pertaining to the implementation of an Environmentally Sound Management of waste, developed, drafted and endorsed by the government*	*Baseline reports* *Project progress reports* *Draft of regulations and guidelines*	Annually		*Assessment of the report and comparison with qualitative and quantitative targets.* .	***Assumption**: comprehensive report drafted and made available, structured in such a way that the assessment can be easily made.* *Draft regulation prepared in such a way to be sustainable and addressing Stockholm Convention requirements.* ***Risks**: lack of baseline data. Limited commitment from the legislator to implement new regulations*

	Indicator 3. Amount of POPs, U-POPs and mercury uses and release avoided at project implementation and predicted at replication	*Measured or estimated reduction of POPs, U-POPs and mercury based on the comparison with the baseline, adopted recognized monitoring or estimation procedures*	*Baseline reports* *Project progress reports* *Interviews and site survey*	Annually Reported in DO tab of the GEF PIR		*Assessment of the reports and comparison with qualitative and quantitative targets.*	***Assumption**: data on POPs and mercury reduction and relevant indicators available and reliable.* ***Risks**: social and economic benefits not fully developed within project timeframe*
	Indicator 4. Evidence that gender mainstreaming and equal opportunities have been ensured for job opportunities and access to knowledge and training	*This indicator measures the change in term of gender mainstreaming with respect to equal access to job, information and training in comparison with the baseline*	*Interviews and questionnaire surveys.* *Composition of project staff.* *Information on male and female recruited for job position generated by the project* *Training an awareness raising reports*	At Mid Term and Project End		*Assessment of the available documentation and survey result in comparison with the gender mainstreaming action plan*	

Outcome 1.1 Environmentally sound E-waste collection, processing and residuals management capability developed	*Indicator 5: Level of awareness achieved through project implementation on E-waste, measured by means of KAP (Knowledge, Attitudes and Practices) surveys at baseline and project end.*	*This indicator measures the increase on awareness based on questionnaire surveys and interviews.*	*Awareness raising event reports* *Awareness raising materials.* *Questionnaire surveys at beginning and end of the project*	*Annually* *Reported in DO tab of the GEF PIR*		*Assessment of the reports and comparison with qualitative and quantitative targets.* *Assessment of awareness raising materials and their compliance with Environmentally Sound Management of E-waste and project objectives.*	***Assumption:*** *awareness raising reports, questionnaire survey reports, and awareness materials and made available, structured in such a way that the assessment and comparison with project target can be easily made. Interviews and questionnaire surveys carried out on a sufficient number of persons.* ***Risks:*** *answers from interviews and questionnaire incomplete or inconsistent.*
	Indicator 6. Availability of a legislation or an official guidance on POPs and E-waste published and enacted.	*This indicator measures whether the upgraded legislation has been indeed drafted and enacted*	*Draft legislation and guidance on POPs and E-Waste.* *Official act of endorsement and enactment of the regulatory document* *Meeting minutes and mission reports*	*At midterm and at project end*		*Assessment of the draft regulation and reports, and comparison with qualitative and quantitative targets.* *Verification of the authenticity of the official endorsement and enactment of the regulation and comparison with the requirement of Stockholm and Basel Conventions.*	
	Indicator 7. Amount of POP (U-POPs, c-PBDE, deca-BDE, PFOS) release prevented through proper collection and disposal of E-waste.	*Measured or estimated reduction of POPs, U-POPs based on the comparison with the baseline, adopted recognized monitoring or*	*Baseline reports* *Project progress reports* *Interviews and site survey*	Annually Reported in DO tab of the GEF PIR		*Assessment of the reports and comparison with qualitative and quantitative targets.*	***Assumption****: data on POPs reduction and relevant indicators available and reliable.* ***Risks****: Inconsistent data on E-waste collection and disposal. Amount of E-waste potentially contaminated by POPs significantly different from the expectations.*

		estimation procedures					
Outcome 2.1 BAT/BEP healthcare waste management practice and technology implemented nationally	Indicator 8: number of HCF successfully implementing the ESM of health care waste.	*This indicator is aimed at confirming that selected HCFs effectively agreed to participate in the demonstration of ESM of HCW*	*Memorandum of Understanding signed with selected HCFs* *Meeting minutes* *Project progress reports*	Annually		*Assessment of MOU with reference to Stockholm Convention requirements and project target. Verification of the authenticity of MOU and signature*.	***Assumptions:*** *officially endorsed MOU and reports Environmentally Sound Management of HCW made available and written in such a way that comparison with SC requirements and project objectives can be easily carried out.* ***Risks****. MOU not signed / not fully implemented or monitored by the participating HCFs*
	Indicator 9: number of high capacity incineration or co-incineration successfully certified for the disposal of hazardous waste and POPs containing waste.	*This indicator measures whether the expected number of high capacity disposal plants have been tested for compliance with the SC BAT guidelines*	*Proof of performance test protocols and reports.* *Sampling and analysis report.* *Survey report at candidate facilities*	Reported in DO tab of the GEF PIR		*Comparison of the technical reports with the methodology set under relevant technical standards for sampling and analysis of PCDD/F and with BAT/BEP requirements for the incineration of waste.* *Site survey and inspection during Proof of Performance testing.*	***Assumption.*** *Proof of performance test protocols and reports, sampling and analysis report, survey report at candidate facilities are available and written in compliance with international standards on monitoring of large disposal facilities.* ***Risks****. Failure in adopting the required standard (US-EPA or EU) for sampling and analysis of PCDD/F from industrial stacks. Measured emissions exceeding the SC standard.*
	Indicator 10: Amount of U-POP release prevented through enhanced management of healthcare waste.	*Measured or estimated reduction of U-POPs and mercury based on the comparison with the baseline (I-RAP), adopted recognized*	*Baseline and implementation I-RAP reports* *Project progress reports* *Interviews and site survey*	Annually Reported in DO tab of the GEF PIR		*Assessment of the I-RAP reports and comparison with qualitative and quantitative targets.* *Assessment of the final reports on successful implementation of ESM of HCW in Healthcare Facilities.*	***Assumption****: data on POPs and mercury reduction and relevant indicators available and reliable.* ***Risks****: Inconsistent data on HW segregation and amount. Amount of HW collected and segregated significantly different from the amount expected at project design.*

		monitoring or estimation procedures					
Outcome 3.1 Effective waste diversion/resource recovery capacity from HW and SW streams developed with associated GHG and U-POPs release reduction achieved	Indicator 11: Level of awareness achieved through project implementation on Hazardous Waste and Municipal Solid Waste, measured by means of KAP (Knowledge, Attitudes and Practices) surveys at baseline and project end.	*This indicator measures the increase on awareness based on questionnaire surveys and interviews.*	*Awareness raising event reports* *Awareness raising materials.* *Questionnaire surveys at beginning and end of the project*	*Annually* *Reported in DO tab of the GEF PIR*		*Assessment of the reports and comparison with qualitative and quantitative targets.* *Assessment of awareness raising materials and their compliance with Environmentally Sound Management of MSW, HW and project objectives.*	***Assumption:*** *awareness raising reports, questionnaire survey reports, and awareness materials and made available, structured in such a way that the assessment and comparison with project target can be easily made. Interviews and questionnaire surveys carried out on a sufficient number of persons.* ***Risks:*** *answers from interviews and questionnaire incomplete or inconsistent.*
	Indicator 12: Availability of a sustainable public/private entity and an officially approved strategic plan for the management of hazardous waste in Jordan	*Indicates whether the expected public private entity have been established and effectively lead to an Environmentally Sound Management of Hazardous Waste in Jordan*	*Baseline reports* *Project progress reports* *MoEnv reports* *Others*	Annually Reported in DO tab of the GEF PIR		*Assessment of the report and comparison with qualitative and quantitative targets.*	***Assumption****: Institutions and private stakeholders aware of the social, economic and environmental importance of ESM of hazardous waste and willing to cooperate with complementary roles in the establishment of an HW Public-Private Entity.* ***Risks****: Partnerships not fully sustainable on the financial or environmental side; competing interest not completely resolved;*
	Indicator 13: Amount of U-POP release prevented through diversion of municipal waste, through	*Measured or estimated reduction of U-POPs and mercury based on the comparison with the*	*Baseline reports* *Project progress reports* *Interviews and site survey*	Annually Reported in DO tab of the GEF PIR		*Assessment of the reports and comparison with qualitative and quantitative targets.*	***Assumption****: Proxy data on U-POPs reduction and relevant indicators available and reliable.* ***Risks****: Data concerning collection of waste from the pilot activities (segregation*

	recycling and RDF in certified facilities.	*baseline, adopted recognized monitoring or estimation procedures*					*and RDF) not collected or inconsistent*
Project Outcome 4	Indicator 14: Number and quality of project monitoring and planning reports drafted and submitted with reference to the M&E plan.	*Collection of minute and reports during inception and meetings of the PSC. Collection of project management report at UNDP or PMU offices. Direct interviews with persons in charge.*	Quarterly	*Project Steering Committees, UNDP, GOJ*	*Inception report, PIRs, AWP and QWP, APR and QPR, meeting minutes*	***Assumptions**: Key project management and monitoring steps carried out timely. Project started within expected deadline. Project Steering Committee and Project Management Unit established timely and working effectively.* ***Risk:** delay in project approval, signature and starting. PSC and PMU not effective in the day to day management and monitoring of the project.*	
	Indicator 15: Number and quality of project audit and evaluation reports drafted and submitted with reference to the M&E plan.	*Measures whether TE has been properly carried out.*	*Independent consultants*	After 2nd PIR submitted to GEF and after final PIR submitted	*PMU, UNDP, Project Steering Committees.*	*Mid Term and Terminal evaluation report.*	***Assumptions.** Project activities carried out within the timeframe set. Independent evaluators and auditors will carry out their evaluation task timely, effectively and independently.* ***Risks:** delay in project activities and in carrying out evaluations. Terminal evaluation reports not available.*
	Indicator 16: Presence of a knowledge management system	*Measures whether the Knowledge Based System*	*Providers of web based services, PMU, UNDP*	*Annually*	*PMU, UNDP, Project Steering Committees.*	*Website, information system.*	***Assumptions**: Website and information system, have been developed and are available.* ***Risks**: delay in carrying out*

	established and sustained	*has been implemented.*					*knowledge management system, incompleteness of reporting*
Mid-term GEF Tracking Tool (if FSP project only)	N/A	N/A	Standard GEF Tracking Tool available at www.thegef.org Baseline GEF Tracking Tool included in Annex.	After 2nd PIR submitted to GEF		Completed GEF Tracking Tool	
Terminal GEF Tracking Tool	N/A	N/A	Standard GEF Tracking Tool available at www.thegef.org Baseline GEF Tracking Tool included in Annex.	After final PIR submitted to GEF		Completed GEF Tracking Tool	
Mid-term Review (if FSP project only)	N/A	N/A	To be outlined in MTR inception report	Submitted to GEF same year as 3rd PIR	*Independent evaluator*	Completed MTR	
Environmental and Social risks and management plans, as relevant.	N/A	N/A	Updated SESP and management plans	Annually	Project Manager UNDP CO	Updated SESP	

Annex 3. Evaluation Plan:

Evaluation Title	Planned start date Month/year	Planned end date Month/year	Included in the Country Office Evaluation Plan	Budget for consultants	Other budget (i.e. travel, site visits etc.)	Budget for translation
Mid Term Evaluation	After submission of the 2nd PIR, not later than 30 months after project start	Not later than 35 months after project start	Yes	20,000	3,450	3,000
Terminal Evaluation	After submission of the 4th PIR, not later than 1 months after project end	Not later than 6 months after project end	Yes	20,000	3,450	3,000
			Total evaluation budget	USD 52,900		

Annex 4. UNDP Risk Log

Project risks					
Description	**Type**	**Impact & Probability**	**Mitigation Measures**	**Owner**	**Status**
The process of regulatory improvement too slow or complex to be completed within project timeframe	Regulatory	I = 3. P = 3	The project will privilege working on sub-law od official guideline documents which can be drafted and endorsed in a shorter time in comparison with new laws	GoJ and UNDP	Not available at this stage
The enforcement of legislation on waste management is not ensured during project implementation.	Management	I = 3. P = 3	Specific support on how to conduct inspection and verification of compliance with the existing or new legislation on waste management will be provided by the project, to the staff of the same authorities which will be in charge of inspection a control after project end.	GoJ and UNDP	Not available at this stage
Financial mechanisms piloted during the project in the E-waste and hazardous waste sector are not sustained after project end	Financial	I = 4. P = 3	A financial analysis of the proposed incentive mechanism, involving the key stakeholders, will be carried out as part of project activity to verify in advance its sustainability after project end.	GoJ and UNDP	Not available at this stage
The informal sector business model will dominate the capture of E-waste thus limiting access to E-waste by formal sector	Technical	I = 4. P = 3	One of the purposes of the incentive mechanism is exactly to promote the shifting of informal collection to formal collection, and to render less and less competitive the informal collection.	GoJ and UNDP	Increasing. Will be reverted by project activities
Limited amount of POPs contaminated waste identified in the E-waste collected, therefore project target is missed	Technical	I = 2. P = 3	The project will mainly focus on the E-waste that, based on the UNEP guidance document, are more likely to be contaminated by POPs (C-PBDE, PFOS). A large variability on the POPs concentration in these waste is expected, and the project will generate information useful for the future management of these waste.	GoJ and UNDP	Not available at this stage
The procurement of health care waste disinfection systems takes more time than envisaged	Technical	I = 3. P = 2	Development of technical specification will be anticipated at early stage of the project implementation. UNDP benefits of a worldwide experience in the procurement of these technologies.	GoJ and UNDP	Not available at this stage
Healthcare system reverting to more traditional incineration technology for the disposal of HCW due to difficulties found in operating sterilization equipment	Technical	I = 4. P = 3	In the course of PPG, it has been understood that some of the steam disinfection equipment were problematic. Through lesson learning and technical assistance, the project will identify existing issues and select the equipment which is not prone to these issues.	GoJ and UNDP	Increasing. Will be reverted by project activities
Hospital facilities not completely collaborative in the implementation of BEP procedures	Technical	I = 3. P = 2	The training in the hospital will not overlap with day to day activities, but will instead facilitate the waste management activities and allow for financial saving, and reduce infectivity risk. This is generally very well accepted by the participating	GoJ and UNDP	Not available at this stage

Project risks					
Description	**Type**	**Impact & Probability**	**Mitigation Measures**	**Owner**	**Status**
			facilities		
HTI plants failing to achieve the pollutant emission level required for international certification.	Technical	I = 4. P = 3	A detailed check of the status of the plants to be tested will be undertaken by international experts to verify that the plants have a significant probability to pass the test. Plant failing the preliminary check will be not selected for testing. Technical specification on how to improve the plants to ensure compliance with the SC BAT will be provided before undertaking the tests.	GoJ and UNDP	Increasing. Will be reverted by project activities
Collection of recyclable municipal waste not achieving the target, of recyclable waste collected not completely placed on the market.	Technical	I = 2. P = 2	There is a specific activity aimed at securing the market of recyclable waste before undertaking the demonstration of door to door collection. Moreover, the integration with RDF demonstration will ensure that in any case, any waste collected can be place in the market.	GoJ and UNDP	Stable. Will be lowered by project activities
Partnerships with disposal service providers (HTI, Recyclers, cement factories, municipality) not effective	Management	I = 3. P = 3	At PPG, extensive discussion with the potential partners have been hold, and their needs have been understood and duly integrated in the project. Continuous exchange with these partners will ensure the success of their participation.	GoJ and UNDP	Not available at this stage
Gender mainstreaming plan not successfully implemented	Management	I = 2. P =3	To ensure the success of gender mainstreaming plan, specific activities have been budgeted and a dedicated staff will be in charge of verifying that the gender mainstreaming tasks are properly implemented and understood.	GoJ and UNDP	Not available at this stage
Low attendance of training activities	Management	I = 2. P = 4	As training activities and awareness raising are a key component of this project, a dedicated staff will be in charge of supervising ad coordinating all the training activities and the implementation of the communication plan as well.	GoJ and UNDP	Not available at this stage
Climate change effect endanger project activities or infrastructures	Environmental	I = 2. P = 1	The project will contribute to the mitigation of climate change, through avoidance of CO2 emission achieved through the prevention of uncontrolled burning of waste. The project will not develop new infrastructures, and will rely in infrastructures which are not prone to climate change effects like floods	GoJ and UNDP	Increasing. Will be reverted by project activities

Annex 5:TOR for key project personnel

Project Title	**Reduction and elimination of POPs and other chemical releases through implementation of environmentally sound management of E-Waste, healthcare waste and priority U-POPs release sources associated with general waste management activities**
Title	Chairman of the Project Board /National Project Director
Contractual Modality	Part time – 5 years / (from co-financing sources)
Duty Station	Amman with travel in Jordan
Supervision	Government of Jordan, Ministry of Environment.

Duties and responsibilities

Overall, **t**he NPD will be accountable to both the Government and the UNDP. The main duties and responsibilities are:

- Ensures that the expected results of the project are of satisfactory, substantive quality and that they contribute to the achievement of the intended UNDP Strategic Plan Outputs which are:
    - Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.
    - Output 2.5: Legal and regulatory frameworks, policies and institutions enabled to ensure the conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national
- Summon and chair the quarterly meetings of the Project Board, and ensure that the minutes of the meetings are timely prepared, circulated, reviewed and approved by all the components of the project boar.
- Provide direction and support to the Project Management Unit through continuous exchanges and coordination with the Project Manager, with the specific purpose to (i) approve project work plans, TORs and reports, (ii) follow-up on the implementation of recommendations made by regular project reviews and/or external evaluations, and (iii) launch internal reviews and evaluations as/if needed.
- Ensures that project resources, national as well as international, are effectively utilized for their intended purposes through the (i) verification of project budgets and payments, (ii) approval of budget revisions within the agency flexibility limit, (iii) follow-up on the implementation of recommendations made by external audits and (iv) launch of internal audits as/if needed.
- Ensures that counterpart funds are made available by the Implementing Partner in sufficient quantities and in a timely manner to support project implementation.
- Ensures that project parties, particularly national parties fully participate in project implementation, effectively collaborate in project activities and duly benefit from project results.
- Ensures that the results achieved and lessons learned by the project are properly documented, proactively disseminated to and duly shared with all project parties, particularly national parties.

- Selects, arranges for the appointment of and supervises the Project Manager, in consultation with UNDP, to make sure that the PM and other national project staff are empowered to effectively perform their day-to-day project duties.
- Selects, arranges for the appointment of International Consultants, in consultation with UNDP, to make sure that international project personnel contribute expert inputs of the highest quality to the expected outputs of the project.
- Represents the Implementing Partner at major project reviews, evaluations, audits and other important events.
- Provide regular updates to the PSC.

Project Title	**Reduction and elimination of POPs and other chemical releases through implementation of environmentally sound management of E-Waste, healthcare waste and priority U-POPs release sources associated with general waste management activities**
Title	National Project Manager
Contractual Modality	Full time – 5 years.
Duty Station	Amman with travel in Jordan
Supervision	NPD, Ministry of Environment.

Duties and responsibilities

Overall, the PM will be responsible for the day-to-day running of the project, including overall coordination, planning, management, implementation, monitoring & evaluation and reporting of all project activities, as follows:

- Prepare and update project work plans, and submits these to the NPD and UNDP for clearance.
- Participate in quarterly work planning and progress reporting meetings with the NPD, PMU, and UNDP;
- Ensure that all agreements with implementing agencies are prepared, negotiated and agreed upon.
- Prepare TORs for key inputs (i.e. personnel, sub-contracts, training, and procurement) and submits these to the NPD and UNDP for clearance, and administers the mobilization of such inputs.
- With respect to external project implementing agencies/ sub-contractors:
    a. ensuring that these agencies mobilize and deliver the inputs in accordance with their letters of agreement or contracts, and
    b. providing overall supervision and/or coordination of their work to ensure the production of the expected outputs.
- Assume direct responsibility for managing the project budget by ensuring that:
    a. project funds are made available when needed, and are disbursed properly,
    b. expenditures are in accordance with the project document and/or existing project work plan,
    c. accounting records and supporting documents are properly kept,
    d. required financial reports are prepared,
    e. financial operations are transparent and financial procedures/regulations for NIM projects are properly applied; and
    f. S/he is ready to stand up to audits at any time.
- Assume direct responsibility for managing the physical resources (e.g. vehicles, office equipment, and furniture) provided to the project by UNDP.
- Supervise the project staff and local or international short-term experts/consultants working for the project.
- Prepare project progress reports of various types and the Final Project Report as scheduled, and organizes review meetings and evaluation missions in coordination with UNDP.

- Report regularly to and keeps the NPD and UNDP PO up-to-date on project progress and problems.

Required Qualifications

- University degree (preferably post-graduate degree) in environment management, chemicals or related fields;
- Knowledge of Result-based management and at least 5 years of experience in project management and implementation;
- Strong analytical skills, good inter-personal and team building skills – Leading skills;
- Full time availability for project management duties;
- Excellent knowledge of English and Arabic.
- Familiarity with technical assistance projects and UNDP programme in Joran is an asset.

Project Title	**Reduction and elimination of POPs and other chemical releases through implementation of environmentally sound management of E-Waste, healthcare waste and priority U-POPs release sources associated with general waste management activities**
Title	Members of the Project Technical Team
Contractual Modality	Part – time. One – year, renewable framework contract to be activated base on project needs.
Duty Station	Amman with travel within Jordan
Supervision	PMU Project Manager

Duties and responsibilities

This assignment is for the members of the Project Technical Team who will be recruited with the objective to provide PMU with technical assistance and advice on specific technical activities to be carried out under the Project, to help on routine technical coordination and supervision and to prepare or assist in the preparation of relevant project documentation and training materials. The members of the Technical Team will work under overall supervision of Project Manager.

The technical team is composed by the following Members:

- Expert on Hazardous Waste (one expert) in charge of activities concerning the management of hazardous waste envisaged under component 3 of the project;
- Expert on Municipal Waste (one expert) in charge of activities concerning the management of municipal waste envisaged under component 3 of the project;
- Expert on Healtcare Waste (two experts) in charge of technical assistance and training activities to be conducted at the project Health Care Facilities
- Expert on E-waste (one expert) in charge of activities concerning the management of E-waste

The specific task and workload of each member of the technical team will be identified on a yearly basis during the preparation of the Annual Project Work-Plan and at Project inception. In general, the member of the technical team will be however in charge of the following:

- Assisting PMU in the overall technical management and coordination of the activities relevant to their specific field of expertise;
- Prepare Training materials and conduct training;
- Provide technical support to PMU in participating in meetings with UNDP and the Project Board
- Providing comments on project implementation progress at different stages;
- Assisting PMU in drafting Term of References for all the services and equipment to be procured under the project;

- Assisting PMU in drafting technical reports and management reports like the Project Implementation Reports, (PIR), Annual and Quarterly Progress Reports (APR, QPR) and Annual and Quarterly Workplans (AWP, QWP);
- Assist PMU in drafting minutes of the meetings with special reference to the relevant technical parts;
- Perform site visits and inspections at project implementation sites during various implementation stages
- Provide comments on the reports related to the technical activities and review the related plan under the Project to ensure their technical feasibility and most appropriate measures and actions taken.
- Supervise the work of service provider to guarantee the quality and consistency of the reports and deliverables, and help them finalize reports before their dissemination to concerned parties;
- Timely and proactively provide recommendation for the improvement of all project activities.

Duration of this assignment, duty station and expected places of travel

This is a part time framework assignment of the duration of one year. The number of working days for year term will be decided in the Project Annual Work-Plan based on project needs. The contract may be renewed yearly for maximum 5 years (the duration of the Project) on the basis of the satisfactory evaluation of the performance of the work carried out by the member of the technical Teamin the preceding year.

Required qualifications

The members of the Technical Team shall have as a minimum the following qualifications:

- Advanced degree (Master of Science as a minimum) in Engineering, Industrial Chemistry, Environmental Science, Biology.
- Sound experience on POPs and on the Stockholm Convention, and Basel Convention
- At least 3 year experience in the field of waste management (E-Waste, Healthcare Waste, Municipal Waste, Hazardous Waste), or in projects related to the implementation of Stockholm Convention on POPs, or in the management of hazardous chemicals and waste;
- Previous experience as supervisor / Technical Officer in projects related to environmental protection or hazardous waste management is an asset.
- Previous experience in the implementation or supervision of projects related to the management and disposal of POPs or PCBs is an asset.
- Excellent knowledge of English and Arabic.

In addition, the component of the Technical Team should be independent and should not have any personal interest related to project activities which may hinder their independency and which may distort or bias their performance.

Project Title	**Reduction and elimination of POPs and other chemical releases through implementation of environmentally sound management of E-Waste, healthcare waste and priority U-POPs release sources associated with general waste management activities**
Title	Accountant Secretary of the Project Management Unit
Contractual Modality	Full time – one year renewable for up 5 years.
Duty Station	Amman with travel within Jordan
Supervision	PMU Project Manager

Duties and responsibilities

This Account Secretary Position has two roles: as an Administrative Assistant and as an Accountant with the following duties:

As a Project Administrator

- Provide assistance in the operational management of the project according to the project document and the NEX procedures.
- Undertake all preparation work for procurement of office equipment, stationeries and support facilities as required;
- Provide support in preparing project events, including workshops, meetings (monthly, quarterly and annual), study tours, trainings, etc., as required.
- Take care of project telephone, fax, and email system;
- Assist with preparation of TORs and contracts for consultants for project activities.
-

b. As a Project Accountant

- Prepare quarterly advance requests to get advance funds from UNDP in the format applicable.
- Assist the PM and NPD in project budget monitoring and project budget revision.
- Set up accounting system, including reporting forms and filling system for the project, in accordance with the project document and the NEX procedures;
- Maintain petty cash transactions. This includes writing of receipts, preparation of payment request form, receipt and disbursement of cash and clearance of advances;
- Prepare cheques and withdraw money from the bank;
- Prepare project financial reports and submit to PC and NPD for clearance and furnish to UNDP as required;
- Enter financial transactions into the computerized accounting system;
- Reconcile all balance sheet accounts and keep a file of all completed reconciliation;
- Check and ensure that all expenditures of projects are in accordance with NIM procedures. This includes ensuring receipts to be obtained for all payments;
- Check budget lines to ensure that all transactions are booked to the correct budget lines;
- Ensure documentation relating to payments are duly approved by the NPD;
- Bring any actual or potential problems to the attention of the NPD;

- Follow up bank transfers. This includes preparing the bank transfer requests, submitting them to the bank and keeping track of the transfers;
- Ensure Petty Cash to be reviewed and updated ensuring that there is up-to-date records;
- To continuously improve system & procedures to enhance internal controls to satisfy audit requirements.
- Ensure that bank statements be collected from the banks on the 2nd working day of each month;
- Ensure that bank accounts should be reconciled and reported on or before 3rd of each month;
- Prepare monthly bank reconciliation statement, including computation of interests gained to be included into reports.
- Maintain the inventory file to support purchases of all equipment/assets.
- Undertake other relevant matters assigned by the NPD.

Required Qualifications

- University degree in accounting, finance or related fields;
- Solid experience of budgeting, planning and reporting on foreign funded projects; and experience with international auditing requirements.
- Good secretarial skills and good organizational capacity;
- Knowledge in administrative and accounting procedures of the Government
- Good computer skills in common word processing (MS Word), spreadsheet (MS Excel), and accounting software.
- Excellent knowledge of English and Arabic.

Project Title	**Reduction and elimination of POPs and other chemical releases through implementation of environmentally sound management of E-Waste, healthcare waste and priority U-POPs release sources associated with general waste management activities**
Title	Member of the Communication and Gender Mainstreaming team
Contractual Modality	Part time – one year renewable for up to 5 years.
Duty Station	Amman with travel within Jordan
Supervision	PMU Project Manager

Duties and responsibilities

This assignment is for the members of the Communication and Gender Mainstreaming (CGM) Team who will be recruited with the objective to provide PMU with the assistance necessary to ensure the effective implementation of training, communication plan and gender mainstreaming plan.

The members of the CGM Team will work under overall supervision of Project Manager.

It is expected that the team is composed by two Members:

- One member in charge of Gender Mainstreaming aspects;
- One member in charge of overall coordination of training and communication plan.

The specific task and workload of each member of the CGM Team will be identified on a yearly basis during the preparation of the Annual Project Work-Plan and at Project inception. In general, the member of the CGM team will be however in charge of the following:

As far as Training activities are concerned:

- Assist PMU in designing, coordinating and managing training and workshop events based on project needs and deadlines;
- Establish quality criteria and format requirement for training with specific reference to format and content of training material, consistency with the training objectives, evaluation of training results;
- Coordinate training activities to ensure that the training material is of good quality and is delivered and translated in due time
- Follow up with trainers and the project Technical Team to verify that training and workshop deliverables (minutes, certificates of attendance, pre and post training tests, feedback questionnaires if any) are delivered in due time.

As far as Awareness and Communication plan activities are concerned:

- Assist PMU in designing, coordinating and managing communication and awareness raising event in compliance with the project Communication an Awareness Raising plan
- Establish quality criteria and format requirement for Communication and Raising Awareness initiatives, specific reference to the criteria of target-oriented communication, consistency with the Stockholm Convention on POPs, evaluation;
- Coordinate with the technical Team and the national and international expert to ensure that the Communication plan requirements is duly integrated into project activities as envisaged by both the communication plan itself and the project Result Framework.
- Follow up with service providers (in example, developed of project website) and the project Technical Team to verify that communication and awareness raising deliverables are delivered in due time an in the required language.
- Assist in the development and implementation of a KAP (Knowledge, Attitude and Practice) survey at baseline and at project end to verify the impact of communication and awareness raising initiatives.

As far as Gender Mainstreaming activities are concerned:

- Assist PMU in designing, coordinating and managing Gender Mainstreaming activities in compliance with the project Gender Mainstreaming Plan
- Provide the PMU with expertise and knowledge on gender mainstreaming issues in chemical and waste management.
- Participate with national and international technical staff an gender mainstreaming expert in training related to Gender Mainstreaming in chemical and waste management.
- Coordinate with the technical Team and the national and international expert to ensure that the Gender Mainstreaming plan criteria and requirements are duly integrated into project activities as envisaged by both the Gender Mainstreaming plan itself and the project Result Framework.
- Perform site visit and meetings at project implementation sites (for instance, health care facilities) to verify the level of implementation of the Gender Mainstreaming plan into these activities.
- Communicate with national and international experts on technical, legal and social matter to raise their understanding and awareness on gender mainstreaming aspects.
- Assist in the development and implementation of a questionnaire surveys at project baseline and at project end to verify the impact of gender mainstreaming initiatives.
- Excellent knowledge of English and Arabic.

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Required qualifications

The members of the CGM team shall have as a minimum the following qualifications:

- Advanced degree (Master of Science as a minimum) in Social Science, Science of Communication, Political an Social Science or equivalent.
- Sound knowledge of UNDP criteria and guidelines concerning knowledge management and Gender Mainstreaming in chemical management are required.
- Experience on POPs and on the Stockholm Convention, and Basel Convention are an asset.
- At least 3 year of experience in activities related design, implementation or coordination of training, awareness raising or gender mainstreaming initiatives as relevant are necessary.
- Excellent knowledge of English and Arabic.

Annex 6: Gender mainstreaming action plan

I. Project component: E-Waste *Gender mainstreaming in E-waste sector*							
#	**Gender-related activity**	**Indicator**	**Target**	**Baseline**	**Budget**	**Timeline**	**Responsibility**
I.1	*Conduct regular meetings mostly attended by women leaders in **upper** and **middle** class communities discussing the E-waste management services and suggestion how it can be improved*	-Several meetings held that includes women members of the diverse communities - At least 200 persons (100 men, 100 women) are aware of the project and clear about their concerns and needs	60% of participants in meetings are women; 40% are men from local communities	Zero involvement of community members in waste management services decisions	5 meetings, 300 USD for each Total 1,500	Meetings to be conducted in the first quarter of the project	Ministry of Environment and UNDP Amman Office
I.2	*Conduct regular meetings mostly attended by women leaders in **poor** communities discussing their needs and evaluate the E-waste management services provided*	-Several meetings held that includes women members of the diverse communities - At least 20 persons (10 men, 10 women) are aware of the project and clear about their concerns and needs	60% of participants in meetings are women; 40% are men from local communities	Zero involvement of community members in waste management services	5 meetings, 300 USD for each Total 1,500	Meetings to be conducted in the first quarter of the project	Ministry of Environment and UNDP Amman Office
I.3	*Conduct 2 days training for women and men from the different local communities on how to deal with E-waste and measures of the right disposal and collection (around 4 trainings 30 participants per each)*	-At least 120 women and men who received the training acquired the skills. - At least 50% women and men who acquired the skills applied the new disposal and collection measures in their daily life	Women and men from chosen local communities	Women and men at local communities do not have any knowledge about E-waste, they need more awareness on how to deal with such waste and the right disposal	- 15 USD/ person/day - 400 USD for logistics/training Total 5,200 USD	Second quarter of the project	UNDP Amman Office
I.4	*Form a committee from local communities' women to help collect E-waste at neighborhood level and*	Committee established that include women from local community	Women from chosen local communities	No exciting E-waste committee in the local society	500 USD for the committee meetings	Second quarter of the project	UNDP Amman Office, E-waste stakeholders, MoEn, GAM

	contact the concerned authority for disposal and treatment						
II. Project component: Medical Waste *Gender mainstreaming in Medical waste sector*							
II.1	*Conduct 2 days training for cleaning females and males working at health care facilities (hospitals) on how to deal with medical waste* *Target at least 4 hospitals*	-At least 80 females and males who received the training acquired the skills. - All trained females and males who acquired the skills applied the new disposal and collection measures in the facility they work in.	Cleaning worker females/males	There is no proper sorting and treatment for medical waste, cleaners need to be trained on the dangerous material they are dealing with, how to be cautious and safety-alert, and learn the right disposal measures	- 15 USD/ person/day - 400 USD for logistics/training Total 4,000 USD	Second quarter of the project	UNDP Amman Office, MoH, private companies for treating medical waste
III. Project component: Solid waste *Gender mainstreaming in solid waste sector*							
III.1	*During the planned meetings (I.1 and I.2) with upper, middle and poor class from local communities, the team will introduce the solid waste management issue and include it into the in discussion. It aims to give general introduction about waste services and emphasis on the importance of the right disposal.*						
III.2	*Establishment of a committee from stakeholders and donors with participation of women to ensure women's effective participation*	Committee established that includes women	At least 35% of committee members are women	No existing committee	The approximate cost for logistics 2,000 USD	To be established in the first quarter of the project	Ministry of Environment and UNDP Amman Office
III.3	*Conduct one gender sensitization seminar to highlight gender issues in waste management and the need for women's involvement in implementation of these services*	- One seminar conduct per year - At least 50% seminar participants understood about gender issues and the need for women involvement	Participants in the seminar to be governmental officials, NGOs, women associations and Community members	No gender seminars have been conducted tackling waste management	5 seminars 2,000 USD per each Total 10,000 USD	One seminar per year during the project period	Ministry of Environment and UNDP Amman Office
III.4	*Select an appropriate*	NGO and social	NGOs and social	NGO and social	Budget will be	Selected in the first	UNDP Amman Office

	NGO or social workers for implementation of gender related needs and actions for waste management	workers are finalized for the activities implementation and collaboration	workers	workers are always in the field close to the people and have access to societies	allocated based on the activities the NGO will implement	quarter of the project	
III.5	*Prepare material to create awareness about the project, keeping the city clean, how women can contribute to waste reduction, promote for cleanliness and sanitation from women's perspective*	Awareness material was developed and approved by the UNDP Amman Office and MoEn and disseminated	Areas targeted by the project	No special package of awareness material for the POPs project has been developed yet	Estimated cost for developing the material, design and printing is 10,000 USD	First quarter of the project	Consultant - UNDP Amman Office
III.6	*Incorporate conditions for equal employment opportunities with emphasis on women equal pay*	Signed contract with the targeted entities indicating that it is mandatory to employ women for equal pay	Women workers, private and government entities	No legislations at the local level address equal employment opportunities for women and men, especially in waste management sector	1,000 USD for meetings	Ongoing work	MoEn, UNDP, Ministry of Labor, private sector
III.7	*Conduct 4 days training for women on alternative livelihood using recyclable materials for home use, Maybe in the future to connect women with NGO for marketing their products*	-At least 60 women who received the training acquired the skills. - At least 50% women who acquired the skills were involved in livelihood activities from recyclable material	Unfortunate women in indigenous communities	Women associations train women on new skills but not on using recycling materials to produce new products	5,000 USD for training logistics and trainers	Second quarter of the project	Consultant-UNDP Amman Office, MoEn
III.8	*Employ women for solid waste management as supervisors for collection activity*	Women were working as supervisors for solid waste collectors	Unfortunate women at indigenous communities	Women are hired as cleaners inside the governmental premises but not as supervisors in the field	1,000 USD for preparation/ agreements meetings	Ongoing work	UNDP Amman Office, GAM, MoEn
III.9	*Create favorable environment for women who work in solid waste*	Facilities are in place, Women involved in solid waste collection	Women solid waste collectors	No women working in the field therefore no custom women	To be estimated by a contractor	Second- third quarter of the project	UNDP Amman Office, GAM, MoEn

	collection by installing basic facilities at the sites, such as tap for drinking water, small washing place, toilets	were comfortable with all the facilities provided to them and are using these facilities		facilities excite			
Total budget allocation:				***41,700 USD*** *(Plus budget for activities I.5 and I.10)*			

Annex 7. Standard letter of Agreement on the provision of support services.

STANDARD LETTER OF AGREEMENT BETWEEN UNDP AND THE GOVERNMENT FOR THE PROVISION OF SUPPORT SERVICES

Reduction and elimination of POPs and other chemical releases through implementation of environmentally sound management of E-Waste, healthcare waste and priority U-POPs release sources associated with general waste management activities

Project number 00106383

Excellency,

1. Reference is made to consultations between officials of the Government of *Jordan* (hereinafter referred to as "the Government") and officials of UNDP with respect to the provision of support services by the UNDP country office for nationally managed programmes and projects. UNDP and the Government hereby agree that the UNDP country office may provide such support services at the request of the Government through its institution designated in the relevant programme support document or project document, as described below.

2. The UNDP country office may provide support services for assistance with reporting requirements and direct payment. In providing such support services, the UNDP country office shall ensure that the capacity of the Government-designated institution is strengthened to enable it to carry out such activities directly. The costs incurred by the UNDP country office in providing such support services shall be recovered from the administrative budget of the office.

3. The UNDP country office may provide, at the request of the designated institution, the following support services for the activities of the programme/project:

(a) Identification and/or recruitment of project and programme personnel;

(b) Identification and facilitation of training activities;

(c) Procurement of goods and services;

4. The procurement of goods and services and the recruitment of project and programme personnel by the UNDP country office shall be in accordance with the UNDP regulations, rules, policies and procedures. Support services described in paragraph 3 above shall be detailed in an annex to the programme support document or project document, in the form provided in the Attachment hereto. If the requirements for support services by the country office change during the life of a programme or project, the annex to the programme support document or project document is revised with the mutual agreement of the UNDP resident representative and the designated institution.

5. The relevant provisions of the Standard Basic Assistance Agreement (SBAA) between the Authorities of the Government of Jordan and the United Nations Development Programme (UNDP), signed by the Parties on 1976 (the "SBAA") including the provisions on liability and privileges and immunities, shall apply to the provision of such support services. The Government shall retain overall responsibility for the nationally managed programme or project through its designated institution. The responsibility of the UNDP country office for the provision of the support services described herein shall be limited to the provision of such support services detailed in the annex to the programme support document or project document.

6. Any claim or dispute arising under or in connection with the provision of support services by the UNDP country office in accordance with this letter shall be handled pursuant to the relevant provisions of the SBAA.

7. The manner and method of cost-recovery by the UNDP country office in providing the support services described in paragraph 3 above shall be specified in the annex to the programme support document or project document.

8. The UNDP country office shall submit progress reports on the support services provided and shall report on the costs reimbursed in providing such services, as may be required.

9. Any modification of the present arrangements shall be effected by mutual written agreement of the parties hereto.

10. If you are in agreement with the provisions set forth above, please sign and return to this office two signed copies of this letter. Upon your signature, this letter shall constitute an agreement between your Government and UNDP on the terms and conditions for the provision of support services by the UNDP country office for nationally managed programmes and projects.

Yours sincerely,

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Signed on behalf of UNDP
Sara Ferrer Olivella
Country Director

_____

For the Government
H.E. Dr. Imad Fakhoury
Minister of Planning and International Cooperation
Ministry of Planning and International Cooperation
Amman – Jordan

Annex 8. Description of UNDP country office support services

1. Reference is made to consultations between the Ministry of Planning and International Cooperation, the institution designated by the Government of Jordan and officials of UNDP with respect to the provision of support services by the UNDP country office for the nationally managed programme or project **"Reduction and elimination of POPs and other chemical releases through implementation of environmentally sound management of E-Waste, healthcare waste and priority U-POPs release sources associated with general waste management activities"**, project number **00106383**

2. In accordance with the provisions of the letter of agreement signed and the programme support document (*project document*), the UNDP country office shall provide support services for the Programme as described below.

3. Support services to be provided:

Support services	Schedule for the provision of the support services	Cost to UNDP of providing such support services (where appropriate)	Amount and method of reimbursement of UNDP (where appropriate)
1. Services related to HR (including but not limited to): o Service contract selection and recruitment including; o Project Manager and project assistant o 1 national expert on municipal waste and recycling. o 2 national experts on health care waste o 1 national expert on hazardous waste o 1 national expert on communication and awareness raising activities o 1 national expert on Gender mainstreaming. o 1 international consultant. o Staff HR & Benefits Administration & Management o LMS support (annual fee) o Leave monitoring o Issuing UN ID card	Ongoing throughout implementation when applicable	As per the pro-forma costs: 45 days over 60 months of G5 HR Assistant: $5,000	UNDP will directly charge the project upon receipt of request of services from the Implementing Partner (IP)
2. Services related to procurement (including but not limited to): o Procurement of IT equipment: • Data show • PCs • Printers o Procurement of office furniture o Procurement of goods,	Ongoing throughout implementation when applicable	As per the pro-forma costs: 100 days over 60 months of Procurement Associate: $20,000 30 days over 60 months of Procurement Manager: $13,000	As above

equipment and support services-contractual services • Contracting national laboratories for the analysis of emissions from healthcare waste incinerators • Procurement of equipment and goods. E.x auto-claves, shredding and sterilization units for hospitals			
3. Services related to Finance (including but not limited to): o Payments process o F10 settlements o Tendering	Ongoing throughout implementation when applicable	As per the pro-forma costs: 45 days over 60 months of G5 Finance Assistant: $5,000 30 days over 60 months of G7 Finance Associate: $7,000	As above
Total		**50,000 $**	

4. Description of functions and responsibilities of the parties involved:

UNDP will conduct the full process while the role of the Implementing Partner (IP) will be as follows:

- The Implementing Partner will send a timetable for services requested annually/ updated quarterly
- The Implementing Partner will send the request to UNDP for the services enclosing the specifications or Terms of Reference required
- For the hiring staff process: the IP representatives will be on the interview panel,
- For Hiring CV: the IP representatives will be on the interview panel, or participate in CV review in case an interview is not scheduled