

Health Care Risk Waste Management System for Timor-Leste



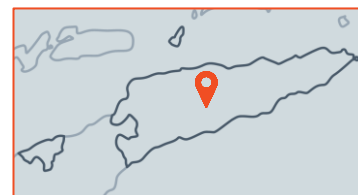
LOCATION SNAPSHOT

Location & description

Project location is Timor-Leste,

Target population is: Estimated 1.3 million/6 Hospitals and +500 clinics (public and private).

Project to be implemented throughout Timor-Leste in each municipality (waste collection) and regionally (waste treatment facility/ies)



1. PROJECT CONTEXT AND RATIONALE

1.1. Sector & Sub-sector(s)

Sector: **Solid waste management**

The activity is classified under the following NACE codes:

- E) Water supply; sewerage, waste management and remediation activities
- 38 - Waste collection, treatment and disposal activities; materials recovery
 - 38.12 - Collection of hazardous waste
 - 38.22 - Treatment and disposal of hazardous waste

1.2. Rationale for PPIP intervention and IFI loan

Just like any other country, healthcare facilities are the main sources of Health Care Risk Waste, however, public facilities are the main generators. According to the NHSSP (National Health Sector Strategic Plan), by 2030, 442 Health Posts with comprehensive health services package are expected to be established at the Suco level, 13 District Hospitals at District level, 5 Referral Hospitals at Regional level and one improved National Hospital, in Timor-Leste. However, investment plans on a responsive and sustainable Healthcare Waste Management appear to be lacking from the strategy.

The existing Referral Hospitals (District Hospitals), including the National Hospital, are equipped with simple incinerators for treatment of limited volumes of health care risk waste, however,

- > Incinerators are frequently out of order or permanently broken down. Factors for breaking down include no incinerator operation training and no skilled hospital staff to repair the incinerators. Also, hospital staffs are not aware of any contractor with the capabilities to repair incinerators in Timor-Leste.
- > There is no documented waste management planning system in place and limited evidence of waste management committees.
- > Segregation and containment practices are generally below minimum standard in that there is virtually no signage present, the only segregation regularly practiced is for sharps. Colour coded bags (liners) and bins are limited in supplies, and storage at some of the hospitals is not adequate.
- > There is no structured training or waste segregation auditing program in place.
- > As a consequence of this, the quantities of waste are not known in details, as it is not measured by the hospitals and records are not kept. Often, wastes are not segregated and due to the incinerators not being operational, waste is being dumped at the on-site dumpsites.

A study from 2020¹ has identified the following key issues regarding health care risk waste for Dili:

¹ Tibar Dumpsite Rehabilitation and Upgrading Project (TDRUP) EIA – Environmental Impact Statement (EIS)

	<ul style="list-style-type: none"> > The type of wastes reflects the type of facilities in question. At the various health facilities, waste is mostly segregated, but it is not done by a dedicated waste management staff and lacking measurement. > For private sectors, the collection is done by a contractor (normally a cleaning service provider company) and for public healthcare facilities the collection is done with their own vehicles. Both sectors are using the ordinary waste disposal sites (Tibar dumpsite) for final disposal of wastes by excavation, burning and back covering with soil. No dedicated treatment facilities are in operation. > Treatment for infectious and pathological liquid wastes is dilution and temporary storing in a septic tank before being pumped out and delivered to a Septage Treatment Plant located next to the Tibar dumpsite. > No specific legislation from the Government to regulate health care risk waste. Waste handling is performed according to internal guidelines (if any). > General trainings are provided but mostly for new staffs and only during the first months at some private clinics/pharmacies. For public staffs, it is likely to be provided in a yearly basis, this, however, is not verified. <p>Due to lack of thorough recording of the waste generation of the health care sector, statistically realistic estimates of the type and volume of waste generated is difficult to establish. Rules and regulations and guidelines related to this specific sector is lacking. Current deficiencies in addressing health care risk waste suggest a need for a strategic documented plan for an integrated system that is designed to better respond to the current and namely future needs.</p>
<p>1.3. Relevance to Strategic Development Plan & overall planning framework</p>	<p>The Ministry of Health is reported to be responsible for the management and regulation of medical wastes, as well as to provide support to the hospitals in terms of Medical Waste Management (MWM), monitor the operation of the medical waste incinerators at the hospitals and monitor private clinics for medical Waste Management activities. However, internal changes of directorates within the MoH over time, makes it difficult to identify the specific department of the Ministry which actually has the responsibility on health care risk waste. Furthermore, comparing the situation on ground with the legal requirements and responsibilities of the authorities indicates a gap and lack of enforcement.</p> <p>The conditions for license, operation and inspection of Private Health Units are defined under Decree-Law no. 18/2004, which has been amended by DL no. 23/2020. In order to correspond to the necessary improvements, the Government of Timor-Leste, through the Ministry of Health (MoH), has established a National Health Sector Strategic Plan (NHSSP) for the period of 2011-2030 as a specific part of the National Strategic Development Plan 2011-2030 (NSDP).</p> <p>The decree law no. 2/2017 of Urban solid waste management system in chapter II article 6 paragraph b) defines Hospital waste. and referring to the decree law no. 38/2020 the creation of national Water and sanitation in article 4 paragraph 1) and 2), based on government resolution no. 8/2012 national policy of basic sanitation</p>
<p>1.4. Relevance to Sustainable Development Goals</p>	<p>The project contributes to the following Sustainable Development Goal(s):</p> <p>Goal 3: Ensure healthy lives and promote well-being for all at all ages</p> <p>Goal 6: Ensure availability and sustainable management of water and sanitation for all</p> <p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable</p> <p>Goal 12: Ensure sustainable consumption and production patterns</p> <p>Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development</p> <p>(See attached table for a more detailed description of contributions to achievement of SDGs)</p>
<p>1.5. Project promoter(s) and institutional set-up</p>	<p>The project promoter is: The Timor-Leste Ministry of Health.</p> <p>The Ministry of Health (MoH) has established a National Health Sector Strategic Plan (NHSSP) for the period of 2011-2030 as a specific part of the National Strategic Development Plan 2011-2030 (NSDP). Bringing the health services closer to the community is one of the key priorities of the Government set out in the above-mentioned NHSSP, which implies investments to inclusively increase the number of qualified human resources and healthcare facilities. According to the strategy, every Suco across the country will be provided with at least one healthcare facility.</p> <p>According to the NHSSP, by 2030, 442 Health Posts with comprehensive health services package are expected to be established at the Suco level, 13 District Hospitals at District level, 5 Referral</p>

Hospitals at Regional level and one improved National Hospital. Besides the public healthcare facilities, private health units such as pharmacies, polyclinics, laboratories, and dental clinics are found in the Country. Investment plans targeting a responsive and sustainable health care risk waste management appear to be lacking from the strategy.

Financing: EIB and another partner – to be determined (GoTL?)



2. INVESTMENT PROJECT INFORMATION

2.1. Scope of proposed project and type of investment measures to be implemented

The general idea of the project is to provide an adequate and safe collection, transport and treatment of health care risk waste for the benefit of the entire Timor-Leste population, in alignment to the extent possible with relevant development plans, SDGs, and relevant safeguards.

The overall objective is to contribute to better public health and reduced adverse environmental impact of health care risk waste management in support of the Strategic Development Plan (SDP 2011-2030) and the National Health Sector Strategic Plan (NHSSP).

Specific objectives are:

- > Reduced adverse environmental impact of health care risk waste management
- > Reduce significantly haphazard dumping of health care risk waste
- > Reduce significantly toxic emissions to air and soil from improper burning of health care risk waste
- > Reduce significantly COVID-19 related health care waste entering the sea
- > Improved stakeholder awareness and acceptance of health care risk waste system
- > Improvement of stakeholder knowledge and capacity in health care risk waste management planning and implementation
- > Improvement of operation of the waste management system

These objectives will be achieved by investments in new and adequate waste management equipment, structures, and plants, supplemented by investments in institutional development, capacity building, and stakeholder awareness/education.

The anticipated investment measures include:

- > Waste storage equipment for intermediate waste storage and source segregation/sorting according to adequate EHS standards at hospitals and other health care institutions
- > Collection vehicles for a national or regional health care risk waste management system
- > Establishment of up to three treatment facilities (probably incinerators), centrally located (possible at the site of sanitary landfills) according to needs.
- > Closure and demolition of existing dilapidated equipment at the hospitals and clean-up of possible on-site dumpsites containing health care risk waste disposed of on site, including ashes from incinerators
- > Education and information activities with the aim to enhance awareness and acceptance of waste systems by staff of public and private producers of health care risk waste
- > Capacity building in health care risk waste management planning and implementation for municipal officers and other stakeholders
- > Establishment of a National/Regional entity for operation of collection, transport and disposal facilities for health care risk waste.
- > Introduction of health care risk waste management tariffs according to the polluter's pay principles within affordable levels.
- > Monitoring of KPI and procedures for sustainable, regular, and quality operation of waste collection, transport, and disposal.

2.2. Level of maturity

Project idea based on stakeholder dialogue and waste management goals of the Strategic Development Plan (SDP 2011-2030) and the National Health Sector Strategic Plan (NHSSP).

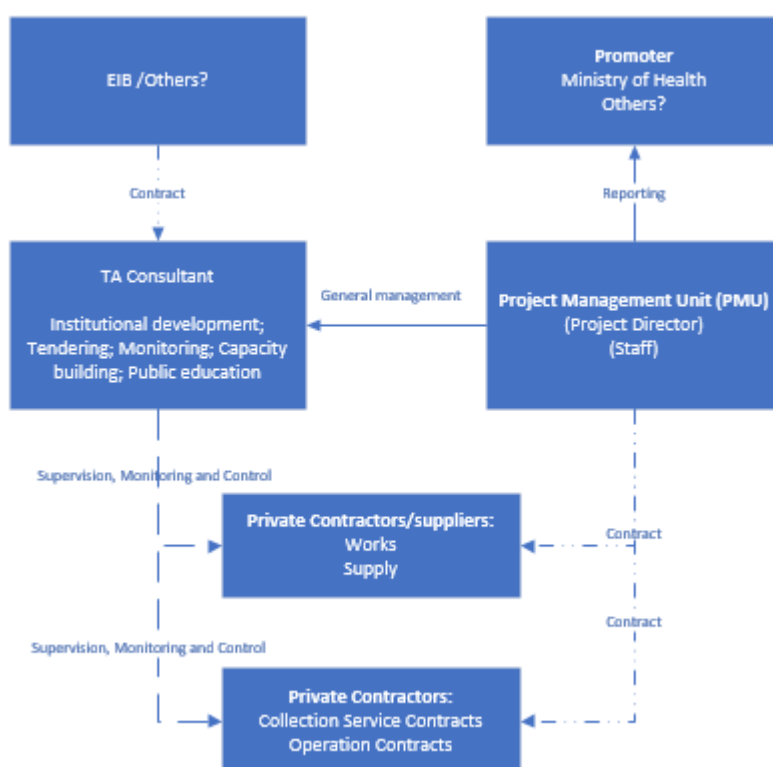
2.3. Approach chosen for project implementation

The proposed Institutional set-up for project implementation is as follows:

PMU

Implementing Agency: Established by the Promotor, comprising representatives from a (possible future) Regional Waste Management Entity and major health care risk waste producers, and supported by a

(Project Management Unit)	Technical Assistance (TA) Consultant to oversee, monitor, and overall management of all components of the project in all phases
TA Consultant:	Institutional development; Tendering; Design review; Monitoring; Capacity building; Staff education
Private Contractors (Implementation phase):	Supply contracts: Contracts with PMU Works contracts: Contracts with PMU
Private Contractors (Operation phase):	Health care risk waste collection and transport: Service contracts with Regional Entity Treatment facilities: Service contracts with Regional Entity and/or Health care risk waste producers



2.4. Identification of preliminary alternatives for the works

Consideration about the strategies in health care risk waste management in general and for final disposal of such waste in particular will be provided in the pre-feasibility study. Several alternatives exist for final disposal of health care risk waste, including sanitary landfilling, incineration/thermal treatment/other techniques. A strategic options analysis will be carried out in the pre-feasibility stage. For the moment, the following options have been identified:

- > Number and location of treatment facilities (one or more)
- > Type of treatment facility (incineration, landfilling, or other)

2.5. Total estimated project investment costs

A **first order** indication of the investment costs is shown below:

Output	Approx. cost (MEUR)
Waste storage equipment at hospitals, clinics and other producers of HCRW	0.1
Collection and transport vehicles for collection/transport of HCRW and additional containers for exchange	0.4

	One central treatment facility for HCRW (including incinerator, building and other infrastructure)	2.3
	Dismantling of dilapidated equipment at hospitals and clean-up of in-situ dumpsites	0.3
	TA project: Institutional developments, including capacity building and public education/information	1.2
	Total	4.3

This cost estimate is based on the assumptions mentioned above (Location & description), and several others. Here, it is assumed that a single treatment facility will be established covering the entire country. A regional solution with e.g. three plants is likely to be more expensive.

2.6. Approach to finance the project

Considering that the EIB's contribution to a project's cost is limited to 50% of the overall investment, the following financing sources have been identified:

- > To be determined during Feasibility Study (PPIP).
- > During operations phase, user payment under affordability constrains is anticipated, however, probably not full-cost coverage.



3. PPIP TECHNICAL ASSISTANCE SUPPORT PARAMETERS

3.1. Provisional schedule for project implementation

The provisional schedule for project implementation is about 20 months, including 6 months for specifications/design and tender dossier, 6 months for procurement and contracting, and 4 months for supply and installation of equipment, and 4 months for training, with overlapping time for institutional build-up.

3.2. Estimated time and resources for PFS and FS

The estimated time and resources required (for the PPIP project) are as follows:

Phase	Time (months)	Level of Effort (person days – KE and Backstopping)	Level of Effort (person days – NKEs)
Pre-Feasibility study	8-10	100	150
Feasibility study	12	150	300
Total	20-22	250	450

3.3. Main barriers to develop the project

The main barriers to develop and implement the project identified at this stage are:

- > Financing sources, including tariff setting, fee collection, billing practices, (to be identified during pre-feasibility study)
- > Institutional set-up, i.e. setting up structures and establish responsibility for operating regional structures (collection system as well as treatment system). To be outlined in PFS study, to be implemented under the Project.

3.4. Estimation of required TA activities to implement the planned investment

The TA activities required to implement the investment include: Institutional development (establishment of relevant entities for ownership and operation of plants/facilities/structures; division of responsibilities between National, regional, and municipal entities); tender procedure, tendering of supply and works contracts, contracting supply and works, review of detailed design, monitoring deliveries of supply contracts, monitoring works contract; preparation of tender dossier for operation contracts/service, tendering and contracting; capacity building, training.



4. SAFEGUARDS AND ELIGIBILITY

<p>4.1. Environmental and Social issues, recommended ESIA needs</p>	<p>A screening of environmental and social aspects will be performed at the pre-feasibility stage; the environmental and social safeguards that may become relevant are listed below:</p> <table border="1" data-bbox="432 322 1461 613"> <tr> <td>Assessment and management of environmental and social impacts and risks</td> <td>Y</td> <td>Involuntary resettlement</td> <td>N</td> </tr> <tr> <td>Pollution prevention and abatement</td> <td>Y</td> <td>Rights and interests of vulnerable groups</td> <td>N</td> </tr> <tr> <td>Biodiversity and ecosystems</td> <td>N</td> <td>Labour standards</td> <td>N</td> </tr> <tr> <td>Climate-related standards</td> <td>Y</td> <td>Occupational and public health, safety and security</td> <td>Y</td> </tr> <tr> <td>Cultural heritage</td> <td>N</td> <td>Stakeholder engagement</td> <td>Y</td> </tr> </table>	Assessment and management of environmental and social impacts and risks	Y	Involuntary resettlement	N	Pollution prevention and abatement	Y	Rights and interests of vulnerable groups	N	Biodiversity and ecosystems	N	Labour standards	N	Climate-related standards	Y	Occupational and public health, safety and security	Y	Cultural heritage	N	Stakeholder engagement	Y
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Climate-related standards	Y	Occupational and public health, safety and security	Y																		
Cultural heritage	N	Stakeholder engagement	Y																		
<p>4.2. Eligibility: Alignment with Paris Agreement</p>	<p>The proposed investment falls within the following sector(s) supported by the EIB Group under the Paris alignment framework (low carbon):</p> <ul style="list-style-type: none"> > Infrastructure and equipment for collection and transport of waste, including vehicles with priority given to low and zero-carbon technology (where both technically feasible and economically viable). Vehicles with fossil-fuel technology shall meet EU Taxonomy criteria for DNSH. > The project involves permanent closure and remediation of small dumpsites, located at hospital grounds 																				
<p>4.3. Eligibility: Alignment with EU Taxonomy</p>	<p>A summary of the technical screening criteria for “substantial contribution” and “do-no-significant-harm” (DNSH) in relation to the six environmental objectives of the EU Taxonomy is shown below.</p> <p>The following project activities are/will be aligned with the EU Taxonomy, as shown below:</p> <table border="1" data-bbox="432 1059 1461 2018"> <tr> <td>Environmental objective</td> <td>Activity: Separate collection and transport of hazardous waste, NACE code E38.12</td> </tr> <tr> <td>Climate change mitigation</td> <td>DNSH: N/A</td> </tr> <tr> <td>Climate change adaptation</td> <td>DNSH: Climate risk and vulnerability assessment performed</td> </tr> <tr> <td>Water and marine resources</td> <td>DNSH: N/A</td> </tr> <tr> <td>Circular economy</td> <td>DNSH: Separately collected waste is not mixed in waste storage and transfer facilities with other waste or materials with different properties.</td> </tr> <tr> <td>Pollution prevention & control</td> <td>Substantial contribution: 1. Hazardous waste is source segregated from non-hazardous waste to be separately collected and transported. Hazardous health care waste includes wastes from natal care, diagnosis, treatment or prevention of disease in humans and animals of the following waste types: <ul style="list-style-type: none"> > Waste whose collection and disposal is subject to special requirements in view of the prevention of infection > Chemicals consisting of or containing dangerous substances > Cytotoxic and cytostatic medicines > Amalgam waste from dental care In addition, the following types of waste should be collected separately to prevent severe impact on human health, safety and environment: <ul style="list-style-type: none"> > Sharps > Body parts and organs including blood bags and blood preserves </td> </tr> </table>	Environmental objective	Activity: Separate collection and transport of hazardous waste, NACE code E38.12	Climate change mitigation	DNSH: N/A	Climate change adaptation	DNSH: Climate risk and vulnerability assessment performed	Water and marine resources	DNSH: N/A	Circular economy	DNSH: Separately collected waste is not mixed in waste storage and transfer facilities with other waste or materials with different properties.	Pollution prevention & control	Substantial contribution: 1. Hazardous waste is source segregated from non-hazardous waste to be separately collected and transported. Hazardous health care waste includes wastes from natal care, diagnosis, treatment or prevention of disease in humans and animals of the following waste types: <ul style="list-style-type: none"> > Waste whose collection and disposal is subject to special requirements in view of the prevention of infection > Chemicals consisting of or containing dangerous substances > Cytotoxic and cytostatic medicines > Amalgam waste from dental care In addition, the following types of waste should be collected separately to prevent severe impact on human health, safety and environment: <ul style="list-style-type: none"> > Sharps > Body parts and organs including blood bags and blood preserves 								
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	<ul style="list-style-type: none"> > Waste whose collection and disposal is not subject to special requirements in view of the prevention of infection, (e.g. dressings, plaster casts, linen, disposable clothing, diapers) > Other chemicals > Other medicines <p>2. Proper collection and handling to prevent leakage of hazardous waste during collection, transport and delivery to the treatment facility which is permitted to treat hazardous waste.</p> <p>3. In the course of collection and transport, hazardous waste is packaged and labelled in accordance with the international and Community standards in force.</p> <p>4. The operator collecting hazardous waste complies with record-keeping obligations including the quantity, nature, origin, destination, frequency of collection, mode of transport and treatment method foreseen set by applicable legislation.</p> <p>6. The activity delivers the waste to economic activities which are substantially contributing to either the transition to a circular economy or pollution and prevention control objectives.</p>
Biodiversity and ecosystems	DNSH: N/A
Environmental objective	<p>Activity: Treatment of hazardous waste as a means for pollution prevention and control, NACE code E38.22</p> <p>Sub-activities: construction, revamping, upgrade, and operation of dedicated facilities for the treatment of hazardous waste, including the incineration of hazardous waste.</p> <p>The following sub-activities are excluded from the scope:</p> <p>1) Disposal operations of hazardous waste e.g., landfilling or permanent storage.</p> <p>2) The construction, revamping, upgrade and operation of non-dedicated facilities incinerating hazardous waste i.e., non-dedicated hazardous waste incinerators that may still be permitted to accept and treat hazardous waste.</p>
Climate change mitigation	DNSH: N/A
Climate change adaptation	DNSH: Climate risk and vulnerability assessment performed
Water and marine resources	Relevant techniques for the activity concerned are deployed as described for the protection of water and marine resources, as set out in the Best Available Techniques Reference Document (BREF) for Waste Treatment.
Circular economy	DNSH: N/A
Pollution prevention & control	<p>Substantial contribution:</p> <p>Compliance (as a minimum) with the requirements defined in the BAT conclusions of the WT and WI BREFs, aiming to optimise the effectiveness and environmental performance of treatment processes for the safe destruction of the hazardous substances present in the waste (as per the implementation of BAT 8 of WI BREF, in case of thermal treatment). Facilities that have been granted a derogation as</p>

per the procedure outlined in IED article 15(4) are not considered as fulfilling the Technical Screening Criteria.

Additional criteria for types of treatment or treatment steps that may have a higher environmental impact are outlined below:

1) Concerning all waste treatment processes (Technical Screening Criteria complementary to BAT 2 of WT BREF):

Pre-acceptance procedures:

In the case of hazardous waste, at least the following information must be gathered:

(Expected) date of arrival at the waste treatment plant.

The contact details of the waste producer and the sector which the waste originates from. The nature of process producing the waste, incl. the variability of the process.

The estimated quantity expected to be delivered to the operator per delivery and per year.

Description of the waste, incl.: composition, hazardous properties of the waste, waste code, the appropriate / suitable treatment route

Acceptance procedures:

In the case of hazardous waste, the following elements are in place:

A reception facility equipped with a laboratory to analyse samples on site and documented analytical standard operating procedures,

Documented sampling procedure consistent with relevant standards (e.g., EN 14899)

Documented analysis of the relevant physico-chemical parameters for the treatment

A dedicated quarantine waste storage area, as well as written procedures to manage non-accepted waste.

Furthermore, the personnel having to deal with the (pre-) acceptance procedures need to be able due to his profession and/or experience to deal with all necessary questions relevant for the treatment of the wastes in the waste treatment facility. The procedures are intended to (pre-) accepting wastes at the waste treatment plant only if an appropriate / suitable treatment (route) is available and the disposal/recovery route for the output of the treatment is determined.

8) Applicable to the (non-combustion) treatment of healthcare waste:

The installation shall implement the best practices defined in the safe management of health care waste from WHO:

https://www.euro.who.int/__data/assets/pdf_file/0012/268779/Safe-management-of-wastes-from-health-care-activities-Eng.pdf

In addition, and in order to ensure that there is no risk of pollution of the environment and no risk for health, the following best practices can be taken into consideration. A non-combustion healthcare waste installation has specific acceptance procedure, monitors and can prove that the following types of healthcare waste are not accepted for treatment: Cytotoxic waste; Pharmaceutical waste; Chemical waste; Radioactive waste.

	Finally, the technologies used have to be certified by an acknowledged body.
Biodiversity and ecosystems	An Environmental Impact Assessment (EIA) or screening has been completed in accordance with Directive 2011/92/EU

The proposed investment may be eligible for the Clean Oceans Initiative under the following sector(s): Collection, pre-treatment and recycling of waste/plastics collected on land, from rivers and from near coastal parts of the sea.

The following proposed activities will contribute to the reducing the quantities of plastic waste being led to the oceans:

- > Waste packaging, storage, collection and transport equipment for segregation and intermediate waste storage and collection/transport vehicles which will ensure total segregation of HCRW from other wastes and provide proper treatment/disposal

These activities will provide proper and safe waste sorting and packaging at the source, separate collection, transport and disposal systems for HCRW which will prevent unsanitary and improper waste disposal in ditches, on land, in rivers or other places where it will probably eventually end up in water system and ultimately in the sea. The project will also provide clean-up of in-situ dumpsites from which waste easily escape to the water environment, thus rendering it less probable that plastic waste will find its way to the ocean.



4.4. Eligibility: Clean Oceans Initiative

Figure 1 Disposal practice for hospital waste, including HCRW, at the Referral Hospital in Baucau. No other method of disposal is in use. Photo taken September 2021 ©COWI

Sustainable Development Goals (SDGs)

Goals and targets	Indicators
Goal 3. Ensure healthy lives and promote well-being for all at all ages	
3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	3.3.3 Malaria incidence per 1,000 population
	3.3.4 Hepatitis B incidence per 100,000 population
<p>The project will provide: Reliant and regular collection of health care risk waste from major producers throughout TL, transport to adequate treatment facilities, thus preventing and/or minimizing illegal dumping, and other environmentally and health threatening disposal practices, including inadequate burning in dilapidated facilities. The project will provide for proper treatment of health care risk waste thus contributing to especially to less spread of hepatitis B and other communicable diseases.</p>	
Goal 6. Ensure availability and sustainable management of water and sanitation for all	
6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	6.3.2 Proportion of bodies of water with good ambient water quality
6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	6.6.1 Change in the extent of water-related ecosystems over time
<p>By reducing illegal dumping, use of environmental unsustainable disposal practices, and improved collection coverage of health care risk waste, significantly less quantities of such waste will be disposed of in or close to fresh water sources, lakes, wells and other places where water can be contaminated, thus contributing to the targets and the general goal.</p>	
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable	
11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities
<p>The project plans from the outset proper collection, transport and disposal of all health care risk waste to be provided for the entire population.</p>	
Goal 12. Ensure sustainable consumption and production patterns	
12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment	12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment
<p>The project plans from the outset proper collection, transport and disposal of all health care risk waste to be provided for the entire population, thus contributing to the goal.</p>	
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	
14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	14.1.1 Index of coastal eutrophication and floating plastic debris density
<p>By providing adequate collection, transport, and disposal of health care risk waste, the amount of such waste being disposed of illegally and not acceptable will dramatically decrease throughout Timor-Leste. The country is surrounded by the sea and no distances to the shoreline are more than 40 km. Since many current dumpsites are prone to flooding and flash-floods, the future risk of waste entering the sea will be dramatically diminished when waste is no longer disposed of in these unsafe places, and these are closed/remediated. Waste related to the on-going COVID-19 pandemic, e.g. face masks, and one-time use protective suits, is of particular interest in this context. Its improper disposal makes it highly likely that much of this waste is currently ending up in the oceans.</p>	