Electronic Waste (E-waste) Management Plan

For the OECS Data for Decision Making Project (OECS DDM)

Project (P174986)

ABBREVIATIONS AND ACRONYMS

BFR	Brominated Flame Retardants
CPU	Central Processing Unit
CSO	Central Statistics Office
DED	Department of Economic Development and Youth Economy
DOF	Department of Finance
EEE	Electrical and Electronic Equipment
EHD	Environmental Health Department/Division
EHS	Environmental, Health, And Safety
EMP	E-Waste Management Plan
ESCP	Environmental and Social Commitment Plan
ESS	Environmental and Social Standard
ESS	Environment and Social Specialist
EU	European Union
EWMP	E-Waste Management Plan
GRE	Grenada
GRM	Grievance Redress Mechanism
ICT	Information and Communications Technology
IRD	Inland Revenue Department
IT	Information Technology
LDC	Less Developed Countries
MOH	Ministry of Health
MOIP	Ministry of Public Infrastructure
PAH	Polyaromatic Hydrocarbons
PCB	Printed Circuit Board
PDO	Project's Development Objective
Pop	Persistent Organic Pollutants
PPE	Personal Protective Equipment
PVC	Polyvinyl Chloride
SIDS	Small Islands Developing States
SMS	Single Messaging System
SLWMA	St. Lucia Solid Waste Management Authority
SVG	Saint Vincent and the Grenadines
US	United States
WB	World Bank
WEEE	Waste of Electrical and Electronic Equipment

Contents

1.0 Introduction and Background

The Government of Saint Lucia (GOSL), with funding from the World Bank, is implementing the OECS Data for Decision Making Project (ODDM) jointly with Grenada (GRE), and Saint Vincent and the Grenadines (SVG). The Project Development Objective (PDO) is to improve the capacity of Participating Eastern Caribbean Countries to: (i) produce and publicly disseminate statistical data for country and regional level analytics;and (ii) to provide immediate and effective response to an Eligible Emergency.

The Electronic Waste (E-Waste) Management Plan (EWMP) is based on ESS1 and ESS3 of the World Bank Environmental and Social Framework and it addresses the management of both hazardous and non-hazardous E-waste resulting from activities under the ODDM. It establishes the specific procedures related to E-waste management which will be implemented throughout all project phases. The EWMP has been developed in accordance with local, regional and international best practices in order to avoid the deterioration of the natural environment and negative impacts on the health and safety of project stakeholders.

1.1 Project Components

The project consists of four components as outlined in Table 1.1

Table 1.1- Project components

Project Component	Description
Component 1: Statistical Modernization and Capacity Building	**This component will support the modernization of the national statistical system by supporting activities that will:** 1. Improve the institutional and technical capacity of the NSO to produce official statistics according to a statistical release calendar, and producing official statistics. 2. Reinforce the national statistical system and its coordination across government ministries and agencies. 3. Modernize information and technology equipment to improve business continuity and the efficiency and quality of statistical operations from data collection to the dissemination of results; and 4. Promote the use of data and statistics and develop a user-oriented system that improves access.
	Subcomponent 1.1: National Statistical Office Development This subcomponent will support the strengthening of the organizational and technical capacity of NSOs to produce official statistics according to a statistical release calendar.
	Subcomponent 1.2: Strengthening the National Statistical System This subcomponent will support progress towards an effective National Statistical System (NSS), with the NSO at its core, to coordinate statistical activities across line ministries and respond to data priorities for policy making.

Project Component	Description
	Subcomponent 1.3: Information Technologies for Statistics This subcomponent will support the acquisition of Information Technology (IT) equipment, software, and accessories to increase efficiency and quality from survey preparation to data collection to dissemination.
	Subcomponent 1.4: Promoting Data Access and Use This subcomponent will support participating countries to improve public access to data and its use to advance development objectives.
Component 2: Data Collection, Analysis, and Dissemination	**This component will support the production of core data products central to the statistical system and some supplemental data to fill other key data gaps identified by participating countries.**
	Subcomponent 2.1: Core Data This subcomponent will support the production of core data collection activities to improve the frequency of data available to monitor and analyze demographic, social, and economic conditions. The core data production activities covered by this project are the following: (i) Population and Housing Census, (ii) Survey of Living Conditions, (iii) Labor Market Statistics, and (iv) Agricultural Census. This subcomponent provides an opportunity to directly improve the availability of sex-disaggregated data.
	Subcomponent 2.2: Supplemental Data This subcomponent aims to help fill other country specific data gaps, by supporting small surveys and/or technical assistance to produce supplemental data.
Component 3: OECS Regional Integration	**This component contributes to the OECS Commission's mandate for regional integration and strengthening of the Regional Statistical System by:** 1. Supporting the creation of the OECS Regional Data Governance Council in charge of providing guidance and harmonization of key data instruments and methodologies to improve quality and comparability of data across member states; 2. Developing and testing innovations suitable for small island states in the Eastern Caribbean; 3. Strengthening regional technical assistance to NSOs and NSSs; and 4. Supporting the generation of regional analytics and their dissemination.
	Subcomponent 3.1: OECS Regional Data Governance Council (RDGC) This sub-component will strengthen the OECS's data governance structure and capacity to harmonize, coordinate and integrate regional data by establishing the RDGC and supporting its operations.
	Subcomponent 3.2: Data Innovation for Small Island Developing States

Project Component	Description
	1. This subcomponent will support experimentation of methodological innovations and alternative data that are promising for small island state contexts.
	Subcomponent 3.3: Regional Technical Assistance and Capacity Building This subcomponent aims to strengthen the capacity of the participating countries to produce high quality harmonized data by providing training and technical assistance to NSO and NSS staff.
	Subcomponent 3.4: Regional Data Aggregation, Analysis, and Dissemination This subcomponent will support the production of regional analytics drawing on the major data production activities financed by this project.
Component 4: Project Implementation	**This component will support project implementation in each country and at the OECS Commission.**
Component 5 – Contingency Emergency Response Component (CERC)	This zero-cost component aims to provide immediate surge funding in the event of a eligible national emergency. The CERC is only triggered in the case of a public emergency and when certain actions, as agreed by the Government and Bank teams, are met. The project will develop CER manual that will be required in case there is the need to activate the CERC component. Based on this manual, a CERC ESMF will be prepared to set out the environmental and social requirements that will be applicable to the set of expenditures eligible for financing under this component. The timeline for the preparation of the CERC-ESMF has been included in the Project's Environmental and Social Commitment Plan.

1.2 Electronic Products to be Procured Under the Project

Electronic products to be procured under the Data for Decision Making Project activities/under the project include laptops, desktops, printers, tablets and other electronic accessories. The exact quantity/number of electronic equipment to be procured is still not ascertained.

1.3 Purpose of an E-Waste Management

An E-Waste Management Plan (EWMP) is used to describe the waste management related issues within the Electrical and Electronic Equipment (EEE) industry sector and specify the best way to address these issues, giving specific actions, targets and timeframes. The aspects related to the generation and management of all types of waste must be considered from the very beginning, during the predesign, contracting, construction, and operational phases. In all cases, provisions shall be taken to minimize waste production and to provide proper management to reduce the impacts that these may have on the environment.

The EWMP, establishes responsibilities in relation to the risks and impacts throughout all project phases, and it shall be implemented consistently with the requirements spelled out in the project's ESMF to avoid negative impacts to stakeholders and livelihood, biodiversity and habitats nearby and surroundings of the project sites and activities.

1.4 E-waste Definition and General Considerations

E-waste is a term used to cover items of all types of electrical and electronic equipment (EEE) and its parts that have been discarded by the owner as waste without the intention of reuse. Although e-waste is a general term, it is considered to cover TV's, computers, mobile phones, white goods (fridges, washing machines, dryers, etc.), home entertainment and stereo systems, toys, toasters, kettles – almost any household or home business item with circuitry or electrical components with power or battery supply. E-waste contains materials that, if mishandled, can be hazardous to human health and the environment, but, most importantly, also materials that are valuable and scarce.

E-waste, as per European Union (EU) directive (WEEE Directive, EU, 2002a), is defined as "Electrical or electronic equipment which is waste including all components, subassemblies and consumables, which are part of the product at the time of discarding." This Directive's electrical and electronic equipment categories are given in Annex II. Basel Convention covers all discarded/disposed materials that possess hazardous characteristics and all wastes considered hazardous on a national basis. Annex I refer to E-waste, which is considered hazardous under Article 1, para. 1(a) of the Convention.

E-waste volumes are growing exponentially simply because of the market demand. The proper treatment of e-waste avoids negative impacts and yields many benefits. E-waste, if not properly treated, can have negative impacts, both on human health and on the environment. However, sustainable treatment of e-waste avoids these negative impacts.

The appropriate handling of e-waste can both prevent serious health and environmental damage and also recover valuable materials, especially for common metals and precious metals. The recycling chain for e-waste is classified into three main subsequent steps: i) collection; ii) sorting/dismantling and pre-processing (including sorting, dismantling and mechanical treatment); and, iii) end processing. All three steps should operate and interact in a holistic manner to achieve the overall recycling objectives.

The main objectives of sustainable e-waste recycling are: i) Treat the hazardous fractions in an environmentally sound manner; ii) Maximize the recovery of valuable materials; iii) Create eco-efficient and sustainable business; and, iv) Consider social impact and local context.

Hazardous Material in E-waste does not pose any environmental and health impacts unless it is dismantled and recycled. A major cause of these impacts is the improper way of dismantling and recovering the material from E-waste in these EEE are released into the environment. The workers involved in dismantling and recycling activities are exposed to this hazardous material. There are a number of chemical and metals in E-Waste as listed in Table 1.3 below.

Table 1.3 Toxic Substances in E-waste

Substance	Occurrence in E-waste
Halogenated compounds	
PCB (polychlorinated biphenyls)	Condensers, Transformers
TBBA (tetrabromo-bisphenol-A) PBB (polybrominated biphenyls) PBDE (polybrominated diphenyl ethers)	Fire retardants for plastics (thermoplastic components, cable insulation) TBBA is presently the most widely used flame retardant in printer circuit boards
Chlorofluorocarbon (CFC)	Cooling unit, Insulation foam
PVC (polyvinyl chloride)	Cable insulation
Heavy metals and other metals:	
Arsenic	Small quantities in the form of gallium arsenide within light emitting diodes
Barium	Getters in cathode ray tubes (CRTs)
Beryllium	Power supply boxes which contain silicon-controlled rectifiers and x-ray lenses
Cadmium	Rechargeable computer batteries, fluorescent layer (CRT screens), printer inks and toners, photocopying-machines(printer drums)
Chromium VI	Data tapes, floppy-disks
Lead	CRT screens, batteries, printed wiring boards, television sets, PC monitors, light bulbs, lamps
Lithium	Li-batteries
Mercury	Fluorescent lamps that provide backlighting in LCDs, in some alkaline batteries and mercury wetted switches
Nickel	Rechargeable NiCd-batteries or NiMH-batteries, electron gun in CRT
Rare Earth elements (Yttrium, Europium)	Fluorescent layer (CRT-screen)
Selenium	Older photocopying-machines (photo drums)
Zinc sulphide	Interior of CRT screens, mixed with rare earth metals

1.5 E-waste Environmental and Health Impacts

Different hazardous materials, as mentioned above, are released during E-waste recycling. Mostly these materials are hazardous chemicals and heavy metals which are released into the environment and pose health risks. Hazardous materials are released when E-waste is dismantled, plastic parts are burnt, metals are recovered through chemical processes and discarded parts are disposed of on land and water under unsafe manner. Owing to unsafe recycling practices, the health of the workers involved in the E-waste recycling operations and communities living in the vicinity of E-waste recycling operations are at risk.

The scrappers usually don't use protective gears. They handle extremely toxic waste with their bare hands. Workers involved with the breaking of the computers are at the risk of inhalation of dust that may contain lead, barium oxide and phosphorus. Lead may cause neurotoxicity, high blood pressure, and muscle pains, and learning disabilities among children. Barium oxide can cause severe skin irritation and ingestion is harmful, and chronic exposure may lead to damage of Central Nervous System (CNS), spleen, liver, kidney or bone marrow.

Mostly the above-mentioned hazardous chemicals and toxic metals are persistent toxic substances (PTSs), which are released in the environment and can enter the food webs. Several PTSs are known to be endocrine disrupters, posing adverse health effects such as reproductive disorders, developmental deformities, and cancer in both humans and wildlife.

Dioxins, released from burning of E-waste are known carcinogens, which accumulate in the human body and may cause changes in the immune system, glucose metabolism and reproductive problems.

Dioxins are persistent organic pollutants (POPs) and they take a long time to break down once they are in the environment. Inhalation of cadmium fumes or particles can be life threatening. Cadmium exposure may cause kidney damage. The International Agency for Research on Cancer (IARC) has classified cadmium as a human carcinogen (group I) on the basis of sufficient evidence in both humans and experimental animals.

Acute mercury exposure may give rise to lung damage. Chronic poisoning is characterized by neurological and psychological symptoms, such as tremor, changes in personality, restlessness, anxiety, sleep disturbance and depression. High mercury exposure results in permanent nervous system and kidney damage. It has also been possible to detect proteinuria at relatively low levels of occupational exposure. Metallic mercury is an allergen, which may cause contact eczema.

The symptoms of acute lead poisoning are headache, irritability, abdominal pain and various symptoms related to the nervous system. People who have been exposed to lead for a long time may suffer from memory deterioration, prolonged reaction time and reduced ability to understand. Acute exposure to lead is known to cause proximal renal tubular damage. Long-term lead exposure may also give rise to kidney damage.

Inorganic arsenic is acutely toxic and intake of large quantities leads to gastrointestinal symptoms, severe disturbances of the cardiovascular and central nervous systems, and eventually death. Populations exposed to arsenic via drinking water show excess risk of mortality from lung, bladder and kidney cancer, the risk increasing with increasing exposure. There is also an increased risk of skin cancer. Studies on various populations exposed to arsenic by inhalation, such as smelter workers, pesticide manufacturers and miners in many different countries consistently demonstrate an excess lung cancer.

Beryllium can cause sensitization, lung and skin disease in a significant percentage of exposed workers.

Calcium chromate, chromium trioxide, lead chromate, strontium chromate, and zinc chromate are known human carcinogens. An increase in the incidence of lung cancer has been observed among workers in industries that produce chromate and manufacture pigments containing chromate.

Exposure to relatively high concentrations of antimony (9 mg/m3 of air) for a longer period of time can cause irritation of the eyes, skin and lungs. As the exposure continues more serious health effects may occur, such as lung diseases, heart problems, diarrhea, severe vomiting and stomach ulcers.

Exposure to Lithium can cause loss of appetite, nausea, vomiting, diarrhea and abdominal pain, headache, muscle weakness, twitching, blurred vision, loss of coordination, tremors, confusion, seizures and coma.

Zinc can cause eminent health problems, such as stomach cramps, skin irritations, vomiting, nausea and anemia. Very high levels of zinc can damage the pancreas and disturb the protein metabolism, and cause arteriosclerosis.

Cobalt dust may cause an asthma like disease with symptoms ranging from cough, shortness of breath and dyspnea to decreased pulmonary function, nodular fibrosis, permanent disability, and death. Exposure to cobalt may cause weight loss, dermatitis, and respiratory hypersensitivity.

The two products of PVC combustion are of particular concern including hydrogen chloride, which is corrosive, highly toxic gas that can burn skin and cause severe, permanent respiratory damage; and dioxin, the most dangerous known man-made carcinogen, which will persist in the environment for a long period of time. PVC is the largest contributor to the world's dioxin burden.

Occupational exposures to high levels of pollutant mixtures containing PAHs have resulted in symptoms such as eye irritation, nausea, vomiting, diarrhea and confusion. Mixtures of PAHs are also known to cause skin irritation and inflammation. Health effects from chronic or long-term exposure to PAHs may include decreased immune function, cataracts, kidney and liver damage (e.g., jaundice), breathing problems, asthma like symptoms, and lung function abnormalities, and repeated contact with skin may induce redness and skin inflammation. Naphthalene, a specific PAH, can cause the breakdown of red blood cells if inhaled or ingested in large amounts.

1.6 Benefits from Sustainable E-Waste Management Practices

Sustainable management practices, i.e., recycling operations, contribute considerably to reducing greenhouse gas emissions. Primary production of metals that are part of E-waste usually is a large contributor to greenhouse gas emissions, i.e., mining, concentrating, smelting and refining, especially of precious and special metals have a significant carbon dioxide (CO2) impact due to the low concentration of these metals in the ores and often difficult mining conditions. But, "mining" of old phones, servers, or old computers to recover the contained metals – if done in an environmentally sound or correct manner – needs only a fraction of energy compared to mining ores in nature.

Recycling of E-Waste equipment reduces the amount of land that has to be set aside specifically as landfill zones which in turn can be used for far more productive and socially beneficial usages such as low-income housing, more farming, or renewable energy power supplies. Recycling means that less money and energy has to be expended for the mining of the various minerals, which are consumed during the manufacturing process for the production of E-Waste equipment.

The environmental footprint of a phone, a computer, and other electronic devices could be significantly reduced if treated in environmentally sound managed recycling operations, which prevent hazardous emissions and ensure that a large part of the contained metals is finally recovered for a new life. This E-Waste Management plan does not include or mandates for the establishment of an E-Waste recycling infrastructure, but points in the direction that; building a sustainable recycling infrastructure creates jobs and contributes to capacity building. The sustainable collection, sorting, manual dismantling, and pre-processing of e-waste could create a significant number of jobs in the countries that would develop this activity.

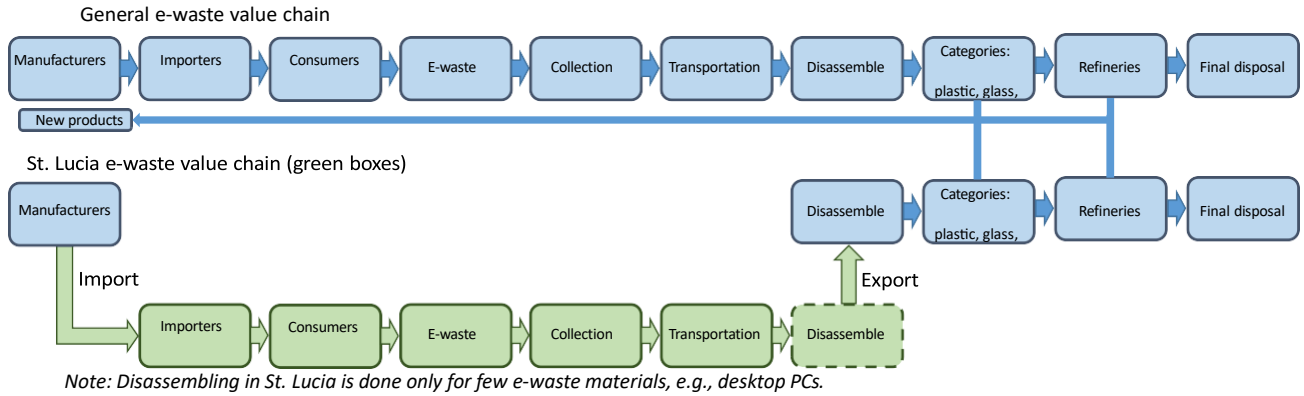
1.7 E-Waste Management in Saint Lucia

St. Lucia's e-waste management system is developing slowly. Currently, there are four e-waste recyclers in St. Lucia that collect and export e-waste without recycling it, *i.e.*, most of the time they pack e-waste as they receive it and export it to overseas refineries, mainly in China and Canada[1]. The

[1] E-waste Management Policy and Regulatory Framework for Saint Lucia.pdf

Basel Convention[2], which St. Lucia adopted in 1994, requires that e-waste be sent to legally established e-waste recycling companies and refineries overseas, in order to comply with international regulations.[2] On island some e-waste is manually disassembled with common tools, but no specialised machinery is used to shred, impact, and fragment or granulate e-waste parts. Thus, the e-waste value chain in St. Lucia is basically limited to collection, storage and exportation. In addition, based on the e-waste management practices in St. Lucia, workers who manually dismantle e-waste products do not face a substantial risk of exposure to toxins because e-waste composed of hazardous substances, such as lead from cathode ray tube (CRT) TVs, is stored and exported without any treatment[3].

Figure 1 below provides a comparison of the general E-waste value chain and the existing situation in St. Lucia



Note: Disassembling in St. Lucia is done only for few e-waste materials, e.g., desktop PCs.

Extracted from the E-waste Management Policy and Regulatory Framework for Saint Lucia

2.0 E-Waste Management Plan (EWMP)

2.1 Objectives of the EWMP are

The main objective of the EWMP is the achievement and subsequent maintenance of sustainable and integrated E-Waste management practices in an effective and efficient manner throughout implementation of the project. In general terms, this EWMP will:

(i) Serve as a tool for the reduction of E-waste generation, as well as for the promotion of reuse and recycling and initiatives to extract value from E-waste.
(ii) Contribute to effective E-Waste Management,
(iii) Ensure use of waste management services that provide reliable collection and management of E-waste, consistently with sound environmental principles, standards, and best practices
(iv) Reduce associated costs to e-waste management activities through efficient e-waste management and disposal activities.
(v) to establish a Standard Procedure to support the management of E-Waste for the DDM project;

[2] Source: http://www.basel.int/TheConvention/Overview/tabid/1271/Default.aspx.

[3] E-waste Management Policy and Regulatory Framework for Saint Lucia.pdf

(vi) To implement a monitoring and supervision mechanism to ensure the EWMP is being implemented properly;

The Waste Management Plan provides a framework for the safe efficient and environmentally sound management of waste produced by the project in compliance with both national and international requirements that govern waste management. The plan contains operational provisions for waste management, including clear steps and budgetary provisions for monitoring overall performance in the management of waste.

2.2 E- Wastes Management During Operational and Closure Phase

This EWMP, will be implemented during the operation, and closure phases and will follow and comply with the ESS1 and ESS3 of the Environmental and Social Framework (ESF) of the World Bank. This EWMP will be adopted and implemented for all project activities and at each project site. It also includes an integrated management approach for electrical and telecommunication waste, that could occur during, upgrade or renewal of installations and infrastructures, as well as during operation and replacement of electrical equipment (computers, servers, cables, etc.). This plan also complies with existing national legislation and regulations.

3.0 Legal and Institutional Framework

In Saint Lucia, a number of Government and statutory agencies have responsibility for environmental management in one form or another under various pieces of legislation.

The following provides a general overview of the agencies, laws and regulations pertaining to various sections that have relevance to waste management. They cover such areas as environmental, and hazardous waste management, public health.

The legal framework supports the development and operations of the EWMP during project implementation, and is based in the local legislature, regulations, resolutions, norms, international treaties, and other legally binding instruments that apply to the project. The legislative basis for waste management in Saint Lucia continues to evolve as understanding of the central importance of sustainable waste management to the country has increased[4]. Nevertheless, there are pieces of legislation that are relevant to waste management:

(1) The Waste Management Act 2004[5] and amendments in 2007 and 2021

The Saint Lucia Waste Management Act (2004) provides for the management of waste. It establishes the Saint Lucia Solid Waste Management Authority (SWMA), provides for waste management planning,

[4] E-waste Management Policy and Regulatory Framework for Saint Lucia.pdf
[5] file:///C:/Users/Admin/Downloads/waste-management-act.pdf

licensing of facilities including waste haulers, regulation of operations, and for powers of authorized officers.

(2) The Public Health Act of 1975 and attendant Regulations to present. No. 10, 11, 12, 13, 14, 15, 16, 18, 20, 21, and 22 of 1978]: Public Health [Disposal of Offensive Matter] Regulations: Industrial Waste Works] Regulations. This Act lays down rules for the promotion and preservation of the health of the inhabitants of Saint Lucia. The Minister may make regulations prescribing all matters required by this Act, such as collection, removal and sanitary disposal of rubbish other offensive matter; and the quality control on food, drugs, cosmetics and devices.

(3) Employees (Occupational Health and Safety Act) Act 10 of 1985 in force from 10 December 1985 (S.I.93/1985). The ACT sets new and improved standards of occupational health and safety in places of employment. And to ensure, so far as is reasonably practicable, that risks of accident and injury to health do not arise as a result of the handling, storage, transport, use and disposal of dangerous substances;

(4) The Finance Act Procurement and Stores Regulation Section 54- Part 6 – Furniture and Office Equipment -Regulation (37) places the responsibility and accounting for, and control of, furniture and equipment for government offices with the Ministry or departments in possession of the said furniture or equipment which, for the purpose of this Part is termed the Controlling Department.

Regulation (38) Master Control Register – explains that the Controlling Department shall maintain a Master Control Register in which shall be recorded all purchases and purchases and issues of furniture and equipment and that the Master Control Register shall include a record of the Departments, institutions and establishments to which furniture and equipment have been issued.

Regulation (39) Inventories – makes accounting officers responsible for ensuring that inventories of furniture and equipment are maintained in all offices, institutions and establishments under their control and to ensure that no item of furniture or equipment is removed from any inventory except on the written authority of the Director of Finance and Planning. Further Accounting Officers are to ensure that all inventories are checked against physical stocks on hand at least once a year and whenever there is any change of the officer in charge of an office, institution or establishment.

Regulation (41) – (1) states that all furniture and equipment shall remain on charge in the Master Control Register and in departmental inventories until authority to write-off has been given by the Director of Finance and Planning and that (2) Obsolete or unserviceable items of furniture and equipment shall be dealt with in accordance with regulation 86.

Part 7- Building, Plant, Equipment and Tools – Regulation (42) Responsibility for plant, equipment and tools- (i) makes Accounting Officers responsible for all buildings, plant, equipment and tools assigned to departments under their control.

(ii) Despite paragraph (1), any officer to whom plant, equipment and tools are issued shall bear personal responsibility for such plant, equipment and tools until they are returned into store or are condemned and disposed in accordance with regulation 86.

Regulation (43) Register to be kept (1) mandates that all items of plant and equipment be entered in a Plant Equipment Register in which shall be recorded-

(a) the description of the plant or equipment;
(b) the name of the manufacturer;
(c) the registration and serial numbers;

(d) the date received;
(e) the source of supply;
(f) any period of warranty; and
(g) ancillary equipment and spares supplied.

Part 13- Condemnation and Disposal of Stores – Regulation (86) (1) mandates that Accounting officers shall ensure that condemned stores authorized to be written off and destroyed are disposed of in the manner directed by the Director of Finance and Planning. (2) The accounting officer concerned shall appoint an officer or officers of his or her Department to carry out the destruction or disposal of the stores. (3) The stock verifier or a member of the board of condemnation shall witness the destruction or disposal of the stores. (4) The accounting officer concerned shall prepare a list of the stores destroyed or disposed of for submission to the director together with a certificate.

3.1 Institutional Framework

This includes the institutions involved in project administration, management, and operations and institutions which provide oversight of the project activities. Each agency will have responsibility for monitoring based on their mandate and the day-to-day responsibilities of their respective institutions. As such, environmental management and monitoring of this project by the public sector will involve several bodies, each with its own statutory responsibilities or other traditional roles. These bodies will work cooperatively, within a coordinated framework, if efficient and effective environmental management from the public sector perspective is to be achieved. The ODDM Project Steering Committee (PSC) also has project implementation oversight. These will be identified, and their roles and responsibilities will be defined during the project operation and closure phases.

The Ministry of Finance, Economic Development and the Youth Economy derives its mandate and functions from The Saint Lucia Constitution Order 1978 and other related subordinate laws, including; the Finance Administration Act, Chapter 15.01 (2005) and acts establishing agencies and auxiliary organisations. As such this Ministry plays a pivotal role in the co-ordination of development planning; mobilisation of public resources; and ensuring effective accountability for the use of such resources for the benefit of all stakeholders.

The Ministry of Finance, Economic Development and the Youth Economy oversees and coordinate the planning and management of the country's financial and economic resources, including those from external sources, utilising suitable consultative mechanisms to deliver a high quality of service to the public, and to contribute to the formulation of appropriate polices, in order to accelerate social and economic development.

The mandate of the Ministry relevant to the project are:

- To ensure that all accounting and administrative functions comply with the Financial Act, Financial Regulations, Procurement and Stores Regulations and Staff Orders through the facilitation of sound management practices.
- To oversee the Financial (Administration) Act and attendant regulations as well as the procurement process to ensure greater transparency and economy in the use of government resources.

Saint Lucia Solid Waste Management Authority (SLSWMA)- The main institution in Saint Lucia responsible for waste management, is the Saint Lucia Solid Waste Management Authority. The Authority, established in 1996 is mandated to 'manage, regulate, control and treat waste either alone or in conjunction with private companies or organizations The Authority is responsible for the provision of coordinated and integrated systems to collect, treat, recycle and dispose of solid waste, including hazardous waste, as well as to manage sanitary landfills. Some of the activities of the SLSWMA, are related to e-waste collection and transportation, as well as to the licensing and approval of waste management facilities.

Presently the Authority, through solid waste management contractors, collects solid waste from residential properties, government/public offices and institutions. Additionally, the Authority makes provision for the disposal of solid waste at two waste management facilities namely the Deglos Sanitary Landfill and the Vieux-Fort Solid Waste Management Facility. Consistent with its mandate it is also responsible to establish and promote a resource recovery system that would serve to divert a number of waste streams away from the landfills resulting in the extension of the life of the landfills.

Ministry of Planning (MOP)- The Waste Management Act 2004 identifies the Ministry of Planning as the Planning Authority of the SLSWMA. As the Planning Authority the ministry's functions include accepting and reviewing applications for the operations of waste management facilities as well as waste haulage licenses. In issuing a Waste Management Facility License, the Ministry will specify conditions for the management of waste during the construction, operation or decommissioning of the licensed facility. The Planning Authority or the Authority may suspend or cancel a Waste Management Facility License or a Waste Haulage License as the case may be, in the event of a violation of a condition of such License, which violation poses an imminent danger of environmental damage. The Planning Authority or the Authority may also give notice to a holder of a Waste Management Facility License or Waste Haulage License requiring the holder to remedy the violation within a period of fifteen days and during that period, the holder's License shall be suspended and, at the expiry of such period, the Planning Authority or the Authority as the case may be, may cancel a License, if the holder fails to remedy the violation. The Planning Authority also has power, during a state of emergency to require any person to take any action that the Authority considers reasonably necessary for the safe management of waste.

Environmental Health Department- The Ministry of Health through its Environmental Health Department, has the responsibility for reviewing plans, monitoring and enforcing public health and sanitation regulations and practices, and promoting public awareness on matters relating to public health and the environment. These include practices that affect health such as food preparation, sanitation, solid waste management, liquid and solid waste disposal, dust and air pollution, water quality, and some occupational health and safety matters.

Other agencies with roles and interest in the management of waste and environmental protection include the Department of Sustainable Development, and the Ministry for Agriculture, Fisheries, Food Security and Rural Development.

The Central Statistics Office- The implementing agency is the Central Statistics Office (CSO). The Statistics Act of 1973 puts the CSO at the center of Saint Lucia's NSS. Under the Act, the CSO is empowered to collect data in a wide variety of statistical areas to inform policy making in a timely and efficient manner. The CSO is a department within the Ministry of Finance, Economic Development and the Youth Economy.

Collectors/Recyclers

Currently, St. Lucia has four e-waste recyclers who provide E-waste collection, transportation, limited handling, storage and shipment abroad of all e-waste received.

3.2 International Conventions

St. Lucia is signatory to a number of International Agreements and Conventions which speak to the management of waste generally and E-waste in particular. In 1994 Saint Lucia became a signatory to the Basel Convention. The overarching objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes. Its scope of application covers a wide range of wastes defined as "hazardous wastes" based on their origin and/or composition and their characteristics, as well as two types of wastes defined as "other wastes" - household waste and incinerator ash.

The provisions of the Convention center around the following principal aims:

- the reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal;
- the restriction of transboundary movements of hazardous wastes except where it is perceived to be in accordance with the principles of environmentally sound management; and
- a regulatory system applying to cases where transboundary movements are permissible.

The first aim is addressed through a number of general provisions requiring States to observe the fundamental principles of environmentally sound waste management (article 4). A number of prohibitions are designed to attain the second aim: hazardous wastes may not be exported to Antarctica, to a State not party to the Basel Convention, or to a party having banned the import of hazardous wastes (article 4). Parties may, however, enter into bilateral or multilateral agreements on hazardous waste management with other parties or with non-parties, provided that such agreements are "no less environmentally sound" than the Basel Convention (article 11). In all cases where transboundary movement is not, in principle, prohibited, it may take place only if it represents an environmentally sound solution, if the principles of environmentally sound management and non-discrimination are observed and if it is carried out in accordance with the Convention's regulatory system.

The regulatory system is the cornerstone of the Basel Convention as originally adopted. Based on the concept of prior informed consent, it requires that, before an export may take place, the authorities of the State of export notify the authorities of the prospective States of import and transit, providing them with detailed information on the intended movement. The movement may only proceed if and when all States concerned have given their written consent (articles 6 and 7).

The Basel Convention also provides for cooperation between parties, ranging from exchange of information on issues relevant to the implementation of the Convention to technical assistance, particularly to developing countries (articles 10 and 13). The Secretariat is required to facilitate and support this cooperation, acting as a clearing-house (article 16). In the event of a transboundary movement of hazardous wastes having been carried out illegally, i.e. in contravention of the provisions of articles 6 and 7, or cannot be completed as foreseen, the Convention attributes responsibility to one or more of the States involved, and imposes the duty to ensure safe disposal, either by re-import into the State of generation or otherwise (articles 8 and 9).

The Convention also provides for the establishment of regional or sub-regional centres for training and technology transfers regarding the management of hazardous wastes and other wastes and the minimization of their generation to cater to the specific needs of different regions and subregions (article 14). Fourteen such centres have been established. They carry out training and capacity building activities in the regions.

The Annex-VIII hazardous waste of the convention lists the following applicable entries to e- waste:

- A1010 metal wastes and waste consisting of alloys of any of the following: antimony, arsenic, beryllium, cadmium, mercury, selenium, tellurium, thalium.
- A1020 waste having as constituents or contaminants, excluding metal waste in massive form, any of the following: antimony compounds, beryllium, beryllium compounds, cadmium, cadmium compound, lead, lead compounds, selenium, selenium compounds, tellurium, tellurium compound.
- A1030 wastes having as constituents or contaminants any of the following: arsenic, Arsenic compounds, mercury, mercury compound, thallium, thallium compounds.
- A1160 waste lead-acid batteries, whole or crushed.
- A1170 unsorted waste batteries excluding mixtures of only list B batteries. Waste batteries not specified on list B containing Annex I constituents to an extent to render them hazardous. [Note: List B batteries include: waste batteries conforming to a specification, excluding those made with lead, cadmium or mercury].
- A1180 waste electrical and electronic assemblies or scraps containing components such as accumulators and other batteries included in list A, mercury- switches, glass from cathode ray tubes and other activated glass and PCB- capacitors or contaminated with.
- A2010 glass waste from cathode ray tubes and other activated glass destined for direct reuse and not for recycling or final disposal.

List B includes B1110 electrical and electronic assemblies (including printed circuit board, electronic components and wires) destined for direct reuse, not for recycling or final disposal.

The Stockholm Convention: The Stockholm Convention on Persistent Organic Pollutants (POPs), requires parties to take measures to reduce or eliminate the unintentional release of POPs such as Hexachlorobenzene, pentachlorobenzene, polychlorinated biphenyls, and polychlorinated dibenzo-p-dioxins and dibenzofurans from open burning of waste.

Other relevant International Treaties focused on E-waste management are The Protocol Concerning Pollution from Land Based Sources and Activities to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (under the Cartagena Convention), and the Programme of Action for the Sustainable Development for Small Island Development States.

Also, as part of international bindings and responsibilities for achieving sustainable development the following International Agencies: United Nations Environmental Program (UNEP), Organization of Eastern Caribbean States (OECS), Caribbean Public Health Agency (CARPHA), Caribbean Alliance for Sustainable Tourism (CAST), can all be approached to provide support for establishing sound practices towards implementation of the EWMP.

3.3 Gaps in National Legislative Framework

There is no specific regulation on e-waste in place in St. Lucia, but there is legislation and regulation on general and hazardous waste. However, some of the activities of the Saint Lucia Solid Waste Management Authority (SLSWMA), created by the Waste Management Act (Act), are related to e-waste collection and transportation, as well as to the licensing and approval of waste management facilities. The Waste Management Act 2004 does not make explicit reference to E-waste, and there are no specific rules and guidelines to regulate E-waste disposal in the Act. However, the Act does refer to hazardous waste, with section 51 (2) (c) stating that the Minister in collaboration with the Planning Authority may make regulations for the collection and treatment of hazardous waste.

A consultancy was commissioned in 2017 for the development of an e-waste management policy and regulatory framework for St. Lucia, including an assessment of current e-waste treatment and a forecast of e-waste volumes and values. The Report from the consultancy included recommendations for the handling of E-waste but these recommendations have not been legislated.

4.0 Recommended Procedures for E-waste Management

This section describes the procedures for E-waste management for the project. Currently there exists on island a system with limited collection capacity as well as a general lack of awareness of the handling of E-waste, no mechanism of retailer take-back and producer takeback, hence, the E-waste management procedure in the document should be followed by the project.

Other hazardous e-waste materials can be generated in small quantities by the project through a variety of activities such as equipment and building maintenance activities and include such items as batteries (such as nickel-cadmium or lead-acid); and lighting equipment, such as lamps or lamp ballasts, etc. These types of waste should also be managed, following the guidance provided in the document.

4.1 E-Waste Prevention Processes

This should be designed and operated to prevent, reduce or minimize, the quantity of e-waste generated and hazards associated with the e-waste generated in accordance with the following strategy: i) Substituting raw materials or parts with less hazardous or toxic materials, or with those where processing generates a lower e-waste volume; ii) Adopting and implementing good housekeeping and operating practices, including inventory control to reduce the amount of E-waste resulting from materials that are out-of-date, off-specification, contaminated, damaged, or are an excess to operational needs; and, iii) Reducing/minimizing hazardous e-waste generation by implementing stringent e-waste segregation to prevent the commingling of non-hazardous and hazardous e-waste from be managed.

4.1.1. Procurement of Electronic Items of a High Quality from Reputable Retailers/Sources

The first mitigation measure is to ensure that all electronic devices are procured from retailers or credible sources, that all devices will have a clear date of manufacture and warranty and the item is of a high quality. This will avoid procurement of poor quality, refurbished, or used second hand electronic devices with a shorter life cycle that leads to a rapid generation of E-waste. All items should be purchased where

applicable, with protective covers and insurance. If possible, retailers or source of electronic items should be engaged where a repair, renewal, recycling or take back scheme option is offered.

4.1.2 Recycling and Reuse

In addition to the implementation of e-waste prevention strategies, the total amount of e-waste may be significantly reduced through the implementation of reuse and recycling plans, which should consider the following elements: i) Identification and reuse/recycling of products that can be reintroduced into the operational processes ii) Investigation of external markets for recycling by other industrial processing operations located in the neighbourhood or region of the facility (e.g., e-waste exchange); iii) Establishing reuse/recycling objectives and formal tracking of e-waste generation and recycling rates; and, iv) Providing training and incentives to employees in order to meet objectives.

4.2 Key Activities / Stages in the E-waste Management Plan

4.2.1 Make an Inventory of the E-waste

The project will make an inventory of its E-waste. The implementing agency will be responsible for developing and updating the E-waste inventory. This inventory should be reconciled with the inventory of the procured ICTs. In some cases, during the implementation of the project, the existing or new ICT equipment would become part of the E-waste, ensuring that the inventory is updated periodically for incorporating any changes with respect to allocation, movement, auction etc. This type of E- waste will also be included in the inventory with the remarks 'Obsolete ICTs' against such E- waste. This inventory will be useful in identifying the quantum of the E-waste collected in the respective departments.

4.2.2 Storage of E-Waste

E-waste from the project will be collected and stored at an identified location/room either by the project or stored centrally where the Department of Finance and the Youth Economy stores its e-waste until it is transported to the SLSWMA landfill where it will be disposed. The room will have the necessary signage to identify the location as a storage facility and outline the necessary precautions.

The e-waste will be properly stored to prevent or control accidental contamination to air, soil, and water resources in areas: i) that prevent the commingling or contact between incompatible e- waste and allow for inspection between containers to monitor leaks or spills; ii) away from direct sunlight, wind and rain in sealed closed containers. Access to hazardous e-waste storage areas should be restricted to only employees who have received proper training. The area should be identified. Periodic inspections of e-waste storage areas and documenting the findings should be carried out.

4.2.3 Transportation of E-Waste

All e-waste containers designated for off-site transportation should be secured and labelled with the contents and associated hazards. This must be properly loaded and secured into transportation vehicles before leaving the storage location.

4.2.4 Treatment and Disposal

If e-waste materials are still generated after the implementation of feasible e-waste prevention, reduction, reuse, recovery, and recycling measures; then, e-waste materials should be treated and disposed of following all measures to avoid potential impacts to human health and the environment. Selected management approaches will be consistent with the specifications of E-waste characteristics and local regulations, and will include treatment and/or disposal at the permitted facilities specially designed to receive the e-waste. Information from the SLSWMA indicate that there are four (4) E-waste processors / recyclers, listed below, which provide E-waste management services to the general public, and three out of the four currently export the materials[6]. However, the Authority explained that currently the E-waste produced by government Departments are mainly stored for extended periods before being disposed at the SLSWMA landfill.

Table 4.: E-waste recyclers in St. Lucia

Recycler	Materials collected
Construction and Recycling Ltd.	Metal, **e-waste**, batteries
Recycle It Ltd.	Metal, plastic, paper/cardboard, glass, **e-waste**, batteries, tires
Renew Saint Lucia Ltd.	Metal, plastic, paper/cardboard, **e-waste**, batteries
Mr. Marcelle	Metal, plastic, **e-waste**

Source: Te-Hsin Tsai, "A Study of Recycling in Saint Lucia", November 2013.

4.2.5 Awareness and Sensitization

Awareness and sensitization of project staff and contractors (as applicable) who will use or install the electronic devices on the proper disposal once they become damaged, irreparable or at their end of life is vital. The project office will include in the sensitization the usefulness and significance of E-waste recycling, and the need for returning all electronic items procured by the project to a collection point that should be identified. Also, project staff should be aware and sensitised that cell phones and computers hold sensitive data/information, which presents security risks if not properly disposed of, and this can lead to lawsuits.

4.3 Special considerations for Monitoring Activities

Monitoring activities associated with the management of hazardous and non-hazardous e-waste should include: i) Regular visual inspection of all e-waste storage collection and storage areas for evidence of accidental releases and to verify that e-waste is properly labelled, and stored; ii)Inspection of loss or

[6] A Study of Recycling in Saint Lucia (2013)

identification of cracks, corrosion, or damage to protective equipment, or floors; iii) Verification of locks, and other safety devices for easy operation (lubricating if required and employing the practice of keeping locks and safety equipment in standby position when the area is not occupied); iv) Checking the operability of emergency systems; v) Documenting results of testing for integrity, emissions, or monitoring stations; vi) Documenting any changes to the storage facility, and any significant changes in the quantity of materials in storage, vii) Regular audits of e-waste segregation and collection practices, viii) Tracking of e-waste generation trends by type and amount of e-waste generated, preferably by facility departments, ix) Characterizing e-waste at the beginning of generation of a new e-waste stream, and periodically documenting the characteristics and proper management of the e-waste, especially hazardous e-wastes; x) Keeping manifests or other records that document the amount of e-waste generated and its destination; xi) Periodic auditing of third party treatment, and disposal services including re-use and recycling facilities when significant quantities of hazardous e-wastes are managed by third parties.

Whenever possible, audits should include site visits to the storage location. Monitoring records for hazardous e-waste collected, and stored, should include: i) Name and identification number of the material(s) composing the hazardous e-waste; ii) Quantity (i.e., kilograms, number of containers etc); iii) Method and date of storing,

4.3.1 Monitoring, Review and Reporting

The implementation of the EWMP will be managed by the PIU according to the implementation section of this plan. Monitoring, review and reporting activities must be performed throughout all phases of the project. It is mandatory to have control of all activities implemented as part of the Plan, by measuring their efficiency, effectiveness, and compliance.

This will assist in preparing the evaluation to address improvement actions if so required. This mechanism will include project supervision and reporting (daily logs, verification and technical, environmental and reports (weekly, monthly, quarterly) as agreed. Some key information that must also be collected include data on:

i) Percentage of registered producers / all producers

ii) Details of official e-waste collection points;

iv) Amount of waste collected and treated.

4.4 Adaptive Management Arrangements

These are defined as alternative managerial actions, different from what was originally planned. These managerial arrangements must be adopted due to unforeseen events during project implementation, which in turn generate a need for an adaptive management approach to address the new and unexpected situations. The EWMP shall be updated in the case an adaptive management arrangement is decided to be needed. All specific details and considerations shall be properly recorded in the Plan.

5.0 Budget and Costs

Each phase of the project must require a budget with associated costs of the development and implementation of EWMP. The budget must consider all management activities, as well as potential procurement of equipment, including personal protective equipment, training of project staff and contractors. These budgets to be prepared in charts showing cost estimations categorized for each management activity presented must also include those contingency expenditures.

The budget should include all financial considerations that are being adopted for the general implementation of all project activities.

6.0 Public Consultation Mechanism

The information provided to the project participants and workers, as well as the users of the buildings and other stakeholders must be provided early on and through appropriate means and formats, so it is accessible in a timely manner. Procedures will be established for solicitation, convening and training to workers and affected areas. Amongst the potential topics to cover are labor ethics, responsibilities and rights, sustainable daily issues and behavior, care for nature and biodiversity, environmental management. Public consultation of project activities must be performed before and during the project implementation, at the design level in the pre-construction phase. This activity is a mandate of ESS10 and requires enabling stakeholder's active participation and will be continuous throughout all the project phases. The result of consultations will be included in Semi-Annual Reports.

7.0 Grievance Mechanism (GM)

The procedures for the GM are based on the ESS10. The project's GM will be used to receive grievances associated with the EWMP. The GM aims to quickly address all relevant grievances to minimize and/or eliminate negative impacts of the project on affected persons. In satisfying its aim, the GM will ensure that grievances are identified early and that the redress mechanisms are appropriate and expeditious, ultimately preventing escalation or un-manageable circumstances. The GM will help to minimize or eliminate conflicts with the potential to compromise the project development objective. The GM will enable the PIU to address grievances against the Project. It must be noted that this GM covers grievances that relate to the impacts that the project will have on its stakeholders, as listed in the Stakeholder Engagement Plan and the Labour Management Procedures.

ANNEXES

Annex 1: Indicative list of EEE which falls within the categories of Annex I

IT AND TELECOMMUNICATIONS EQUIPMENT

Centralised data processing:

- Mainframes
- Minicomputers
- Printer units

Personal computing:

- Personal computers (CPU, mouse, screen and keyboard included)
- Laptop computers (CPU, mouse, screen and keyboard included)
- Notebook computers
- Notepad computers / tablets

Printers
Copying equipment
Electrical and electronic typewriters
Pocket and desk calculators
and other products and equipment for the collection, storage, processing, presentation or communication of information by electronic means
User terminals and systems
Facsimile machine (fax)
Telex
Telephones
Pay telephones
Cordless telephones
Cellular telephones
Answering systems
and other products or equipment of transmitting sound, images or other information by telecommunications

Annex 2: E-waste Inventory for Procurement and Storage

Under Component-1 to 4 of the project various ICTs will be procured for office and administrative use as well as for the collection of data

Under these components different ICTs will be procured such as computers (Laptops & Desktops), tablets, scanners, printers, photocopiers, shredder, UPS, External Hard Devices, USBs, and devices for networking and connectivity (LAN/WAN). All the ICT procured will become obsolete after the end of their useful life and will become E-waste.

The Table-below provides a template for an inventory for the ICT procured under the project.

#	Item	Quantity	Date of Purchase	Registration / Serial No.	Estimated Useful Life
1.	Laptops				
2.	Desktops				
3.	Servers				
4.	Network Printers				
5.	Color Printer				
6.	UPS				
7.	Photocopier				
8.	Shredder				
9.	Flash /thumb Drives				
10.	External Hard Drives				
11.	Tablets				
12.	Universal Serial Bus (USB) 128 GB				
13.	Scanners				
14.	Mobile phones				
15.	Cameras				
16.	Drones				
17.	Calculators				

The Table-below provides a template for an inventory for the ICT placed in storage

Item	Registration No. / Serial No	Date when stored	Storage Location	Comments

Annex 3: Key Activities and Parties Responsible for Implementation of Activities in the E-waste Management Plan

Activities	Responsible Agency	Frequency	Output
Development of initial waste management plan	PIU	Once at start of project	E-waste Management Plan
Identification of E-waste inventory at the start of project	PIU	Once at start of project	Initial E-waste identified and recorded
Liaise with SLSWMA and receiving guidelines of E-waste recycling and disposal	PIU	At start of project	Technical guidance
Capacity building and training staff (awareness raising of staff for E-waste management)	PIU	Throughout implementation as required	Training Report
Procurement of ICT equipment	PIU	Based on the Procurement plan	ICTs Equipment Acquisition
Distribution and operations of ICT equipment	PIU	Based on the Procurement plan	Equipment Distributed
Update IT/ICT Inventory	PIU	Throughout implementation	Updated Inventory
Collection of retired/obsolete ICT equipment	PIU	Once a year (f E-waste generated)	Collected E-waste
Recording E-waste inventory and storing the retired and obsolete E-waste	PIU		Updated E- waste Management Plan and E- waste Inventory
Initiation of E-waste disposal with the approval of the relevant Government Officer and Department.	PIU		
E-waste disposal	SLSWMA,		
Update E-waste inventory	PIU	At end of project	

Annex 4: Template for Certificate for Destruction or Disposal of Stores

I hereby certify that the stores listed have been destroyed or disposed of by (method of destruction or disposal) in accordance with the Director of Finance and Planning's directions as given in (reference to authority)……..dated……..in the presence of the witness who has signed below.

Signed	.....
(witness)	Accounting Officer
Name	Designation
Designation	Department
Date	Date .....".

(5) Copies of the list together with the certificate shall be sent to the Director of Finance and Planning, the Accountant General and the Director of Audit.

Annex 5: List of Recyclers in St. Lucia

_status	zone	name_of_recycler	name_of_business	address	contact_number
Active	Castries South	Kurneil Lynch/Collins Lynch	Renew Saint Lucia	Deglos	719-2575/718-1511
Active	Castries Inner	Albertin Richlieu Jr.	Construction & Recycling Ltd.	Castries	458-2514/584-5256/286-7567
Active	Vieux-Fort	Frank Flood	Recyclene Solutions Limited	St. Jude's Highway	720-7915
Active	Castries South	David Gayle	D & D Recycle Ltd.	Cul De Sac	584-8630
Active	Castries South	Wayne Neale	Greening the Caribbean	Odsan	489-5642
Active	Micoud	Gurprit Singh	Gurprit Singh Recycling	Mon Repos	712-0549
Active	Castries Inner	John James	John James Ship Chandler Recycling Services	La Pansee	384-9416/519-7733
Active	Castries Outer/Dauphin	Kent Desir	St. Lucia Linen Services Ltd.	Union	719-9273/719-9280
Active	Anse La Raye	Wilson Sifflet	St. Lucia Distillers Group of Companies	Roseau	456-3118/456-3100
Active	Castries South	Stephen Antoine	Caribbean Clay Products	Ferrands, Cul De Sac	451-5675/715-6455
Active	Vieux-Fort	Carla Cotter	Chemical Manufacturing & Investment Co. Ltd.	Cedar Heights	454-6133/454-9115
Active	Castries South	Aaron Leon	Leon's Backhoe and Trucking Service	Bexon	719-6923
Active	Vieux-Fort	Larry Cadette	Larry's Scrap Metal	Vieux Fort Town	712-5201/722-3535
Active	Gros-Islet	Hilary Morgan	Biohelps Ltd.	Grande Riviere	451-4180/285-7386

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