CEO Endorsement (CEO) entry - Full sized Project Child – GEF - 7

ISLANDS-Caribbean Incubator Facility

Part I: Project Information

Name of Parent Program
Implementing Sustainable Low and Non-Chemical Development in SIDS (ISLANDS)

GEF ID
10258

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
ISLANDS-Caribbean Incubator Facility

Countries

Regional, Antigua and Barbuda, Barbados, Belize, Dominican Republic, Guyana, Suriname, Trinidad and Tobago, Bahamas, St. Kitts and Nevis, St. Lucia, Latin America and Caribbean

Agency(ies)

IADB

Other Executing Partner(s)

Basel Convention Regional Centre - Caribbean (BCRC) + GIZ + Private Companies

Executing Partner Type

Private Sector

GEF Focal Area

Chemicals and Waste

Taxonomy

Focal Areas, Chemicals and Waste, Sound Management of chemicals and waste, Pesticides, Plastics, Best Available Technology / Best Environmental Practices, Persistent Organic Pollutants, Uninentional Persistent Organic Pollutants, New Persistent Organic Pollutants, Disposal, Waste Management, eWaste, Hazardous Waste Management, Industrial Waste, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Deploy innovative financial instruments, Convene multi-stakeholder alliances, Transform policy and regulatory environments, Stakeholders, Type of Engagement, Participation, Partnership, Private Sector, SMEs, Large corporations, Individuals/Entrepreneurs, Local Communities, Civil Society, Non-Governmental Organization, Communications, Awareness Raising, Beneficiaries, Gender Equality, Gender results areas, Access to benefits and services, Gender Mainstreaming, Women groups, Sex-disaggregated indicators, Gender-sensitive indicators, Capacity, Knowledge and Research, Knowledge Generation, Workshop, Capacity Development, Knowledge Exchange, Conference, South-South, Peer-to-Peer

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 0

Submission Date

2/26/2021

Expected Implementation Start
8/3/2021

Expected Completion Date
7/31/2026

Duration
36In Months

Agency Fee($)
900,000.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CW-2-3	Sound management of chemicals and waste addressed through strengthening the capacity of sub-national, national and regional institutions and strengthening the enabling policy and regulatory framework in these countries	GET	10,000,000.00	75,000,000.00
		Total Project Cost($)	10,000,000.00	75,000,000.00

B. Project description summary

Project Objective

The general objective of this child project is to support the sustainable management of hazardous Chemicals and Wastes (C&W) in the Caribbean. Its specific objectives are: (i) to finance the development and strengthening of policy, legal, regulatory, and financial frameworks, tools, and instruments; and (ii) to channel financing to the private and public sectors to advance the sustainable management of hazardous C&W. A Facility will be created to support private sector companies and public sector entities to move towards a safe chemical development pathway. The Facility will deploy funding through two financing instruments: i) non-reimbursable technical assistance, and ii) investments grants that will directly assist blended finance investments or raise concessionality of possible IDB loans to Governments and the private sector.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

1. Financing policy and regulatory enabling processes to safely manage hazardous C&W	Technical Assistance	1. Participating countries have developed policy, strategy, legal and institutional enabling environments for public and private sector investments. 2. Participating countries have developed capacities to support, guide and facilitate the safe management of C&W	1.1. Five policies and legislation proposals developed to support the safe management of hazardous chemicals and wastes at national and regional levels. 1.2. Five national/regional strategies developed to guide and facilitate the adoption and implementation of C&W policies and legislation 1.3. Five national/regional institutions strengthened to enforce C&W and relevant environmental laws and regulations 1.4. Two existing inter-agency coordination mechanisms strengthened 1.5. Five institutional capacity assessments and recommendations developed	GET	700,000.00

2. Improving the bankability of hazardous C&W public sector projects	Technical Assistance	1. The technical quality and bankability of hazardous C&W projects is improved. 2. Public sector financing targeting C&W management is increased in participating countries	2.1. Four pre-feasibility and feasibility studies developed 2.2. Two environmental impact analyses conducted 2.3. Two C&W Management Plans developed 2.4. Two technical designs developed	GET	1,200,000.00	13,500,000.00
3. Supporting small and medium size private sector investments in sustainable management of C&W	Investment	1. Private sector investment in sustainable C&W management among small and medium size companies is increased in participating countries	3.1. Two open innovation calls (challenges) for SMEs/Startups launched for Participating Countries 3.2. Ten projects proposals submitted for approval to IDB Lab´s Donors Committee (Board of Directors) 3.3. Ten small and medium-sized private sector enterprises developing sustainable management of chemicals and waste techniques in Participating Countries.	GET	5,000,000.00	9,500,000.00

3.4. Five women-led SMEs/Startups in Participating Countries supported

3.5. Ten cutting edge technologies contributing to reduce chemicals and waste developed and/or deployed under eligible projects in Participating Countries (including 4 emission control technologies)

3.6. Twenty local partners engaged in the challenges/projects

3.7. Ten innovative project implementation mechanisms designed

3.8. Ten innovative business models contributing to the sustainable management of chemicals and waste in Participating Countries.

4. Supporting large private sector investments in sustainable management of C&W	Investment	1. Private sector investment in sustainable C&W management among large size companies is increased in participating countries	4.1. Four market studies, technical designs, feasibility studies, environmental assessments and mitigation plans developed 4.2. Two large private sector enterprises implementing sustainable management of chemicals and wastes in Participating Countries. 4.3. Two cutting-edge technologies contributing to reduce chemicals and waste implemented in large private sector enterprises in Participating Countries	GET	2,500,000.00	49,450,000.00

5. Designing applied knowledge mechanisms for partnership building	Technical Assistance	1. Knowledge is managed as an asset and partnerships are built in participating countries and is shared at the regional and global levels, through the CCKM Child project, to support the introduction of best practices, approaches and technologies in all SIDS.	5.1. Six knowledge needs assessment/surveys undertaken to identify gaps and stakeholder needs 5.2. Four informative/training sessions held 5.3. Three knowledge materials disseminated 5.4. Two knowledge partnerships built	GET	200,000.00	
Monitoring & Evaluation	Technical Assistance	The project's monitoring and evaluation strategy is implemented	One intermediate evaluation conducted One termination evaluation conducted One financial audit conducted	GET	60,000.00	
				Sub Total ($)	**9,660,000.00**	**72,450,000.00**
Project Management Cost (PMC)						
				GET	340,000.00	2,550,000.00
				Sub Total($)	**340,000.00**	**2,550,000.00**
				Total Project Cost($)	**10,000,000.00**	**75,000,000.00**

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
GEF Agency	Inter-American Development Bank (BID Lab)	Loans	Investment mobilized	5,000,000.00
GEF Agency	Inter-American Development Bank (BID Invest)	Loans	Investment mobilized	50,000,000.00
GEF Agency	Inter-American Development Bank	Loans	Investment mobilized	15,000,000.00
Private Sector	SMEs & Large Companies	Other	Investment mobilized	5,000,000.00
			Total Co-Financing($)	**75,000,000.00**

Describe how any "Investment Mobilized" was identified

Co-financing resources will be mobilized under the Investment Components of the Child Project (Components 2, 3 and 4). Different mobilizing strategies were followed and will continue to be followed depending on the specifics of each component. To mobilize public sector investments under component 2, the IDB team has held policy dialogues with government counterparts in several participating countries, who have showed interested in investing in the C&W agenda. Several consultations with public sector counterparts also took place during the PPG phase. To mobilize private sector investments from SMEs under component 3, the Inter-American Development Bank, through BID Lab, its SMEs and innovation arm, will launch an open innovation challenge to identify companies willing to scale up innovative solutions around C&W management. BID Lab will co-finance GEF's resources on a 1:1 ratio and request a similar co-financing from the benefited companies. To mobilize private sector investments from large companies under component 4, the Inter-American Development Bank, through BID Invest, its private sector window, will process private sector loans. Several discussions with potential companies have taken place during the PPG phase. Co-financing amounts include resources expected to be allocated to project management/administration (PMC for GEF purposes). Due to high co-financing amounts, which will be leveraged mostly through large private sector loans (Component 2), we have estimated a PMC (for co-financing resources) of up to 3.4%. When it comes to large private sector projects/loans, administration costs are typically lower than public sector ones. PMC is typically not higher than 1%. In that sense, the breakdown of PMC allocated to co-financing resources has been estimated as follows: Component 2 = up to US$ 1,5000,000 Component 3 = up to US$ US$ 500,000 Component 4 = up to US$ 550,000

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
IADB	GET	Regional	Chemicals and Waste	POPs	10,000,000	900,000
				Total Grant Resources($)	**10,000,000.00**	**900,000.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? No

Includes reflow to GEF? No

F. Project Preparation Grant (PPG)

PPG Required **false**

PPG Amount ($)	PPG Agency Fee ($)
300,000	27,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
IADB	GET	Latin America and Caribbean	Chemicals and Waste	POPs	300,000	27,000
				Total Project Costs($)	**300,000.00**	**27,000.00**

Please provide justification

Endorsement letters from countries request 300k as PPG.

Core Indicators

Indicator 5 Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	0.00		

Indicator 5.1 Number of fisheries that meet national or international third party certification that incorporates biodiversity considerations

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

Type/name of the third-party certification

Indicator 5.2 Number of Large Marine Ecosystems (LMEs) with reduced pollutions and hypoxia

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

0	0	0	0

LME at PIF	LME at CEO Endorsement	LME at MTR	LME at TE

Indicator 5.3 Amount of Marine Litter Avoided

Metric Tons (expected at PIF)	Metric Tons (expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
	125,000.00		

Indicator 9 Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
0.00	21.52	0.00	0.00

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

POPs type	Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
Tetrabromodiphenyl ether and pentabromodiphenyl ether		3.72		

Indicator 9.2 Quantity of mercury reduced (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
	17.80		

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

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

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

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

	13

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

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

Indicator 9.6 Quantity of POPs/Mercury containing materials and products directly avoided

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
	11,090.00		

Indicator 10 Reduction, avoidance of emissions of POP to air from point and non-point sources (grams of toxic equivalent gTEQ)

Grams of toxic equivalent gTEQ (Expected at PIF)	Grams of toxic equivalent gTEQ (Expected at CEO Endorsement)	Grams of toxic equivalent gTEQ (Achieved at MTR)	Grams of toxic equivalent gTEQ (Achieved at TE)
	113.60		

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

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

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

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
	5		

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		1,489,382		
Male		1,489,382		
Total	0	2978764	0	0

Part II. Project Justification

1a. Project Description

a) GLOBAL ENVIRONMENTAL AND/OR ADAPTATION PROBLEMS, ROOT CAUSES AND BARRIERS THAT NEED TO BE ADDRESSED

Global Environmental and/or Adaptation Problems

The sound management of chemicals and hazardous waste throughout their lifecycle and waste is crucial for the protection of human health and the environment. Globally, municipal solid waste (MSW) generation is estimated to be 2.01 billion tonnes per year according to latest data of 2016, and this figure is expected to rise to 2.59 billion tonnes per year by 2030 and to 3.40 billion tonnes by 2050. In terms of global waste composition, 44% of all waste is organic waste (food and green), 17% paper and cardboard, 12% plastics, 5% glass, 4% metal, and the remaining 18% is comprised of rubber and leather, wood and other types of waste[1]. Waste composition varies considerably by income level - the percentage of organic matter in waste decreases as income levels rise so in developing countries, including SIDS, organic waste accounts for the largest fraction of all waste. Solid waste in OECD states consists mainly of recyclables, followed by organics.[2]

Due to their small size and narrow resource bases, SIDS are import-dependent economies. On a per capita basis, waste generation in SIDS is rising. In 2014 it was slightly lower than in OECD countries (1.29 kg/capita/day, compared to 1.35 kg/capita/day), but as of 2019 it is 2.3 kg/capita/day, 48% higher than that of OECD countries[3]. However, the large number of tourists often skews the per capita waste generation of the permanent population[4]. As SIDS continue import-dependent development pathways, the quantities and variety of products that are being imported will continue to rapidly increase leading to the generation of a large variety of different types of hazardous and toxic wastes that SIDS do not have the installed capacity or required treatment facilities to address alone[5].

The disposal of non-biodegradable materials, and industrial and agricultural chemicals poses an increasing challenge[6]. The excess amount of waste produced by tourism[7], an important economic sector for most SIDS, generates additional challenges. In the Caribbean, the approximately (pre-pandemic) 75 million-night stays per year are estimated to generate as much as 166 million tons of tourism-related waste annually[8]. This massive amount of waste generated by the industry stresses the already limited and often basic final disposal (landfill/open dumping) infrastructure. Additionally, the complexity and level of hazard of waste streams such as e-waste, pesticides, asbestos, used oil, items containing heavy metals and biomedical wastes is adding pressure and complexity to local waste management systems, since facilities for their treatment and disposal are often not adequate or directly not in place[9]. This can be observed in Caribbean SIDS like Antigua and Barbuda where important investments have been made in the establishment and operation of municipal waste management systems and related infrastructure, however more complex and hazardous waste streams (health care waste, e-waste, mercury containing wastes, pesticides) pose challenges for their recycling, treatment and disposal, so more sophisticated in-country or abroad systems need to be set up urgently.

SIDS' environments are also particularly vulnerable to pesticide damage (including POPs and Highly Hazardous Pesticides (HHPs)). The close physical and cultural relationship of the islands with the marine and mangrove environments makes these countries even more susceptible to the adverse effects of pesticide run-off. SIDS are rich in biodiversity hotspots including primary rainforests and coral reefs. Pollution and sedimentation negatively affect the marine environments by damaging coral reefs, killing fish and reducing the recreational value of beaches. For instance, in 2010 coastal sediments in the Caribbean with high concentrations of chlordecone (a POP used for 30 years in banana production) were identified as the source of contaminated fish and lobsters that local communities depend on. The Global International Waters Assessment[10] pointed out that the use of agro-chemicals within the agricultural sector is a source of significant damage to both surface and groundwater resources and highlighted the indiscriminate and improper disposal of agricultural wastes (including stockpiles of obsolete pesticides as well as empty pesticides containers) as a priority issue.

Governance is a crucial institutional enabler to implement the complex frameworks needed for effective waste management. Most SIDS structure their environmental and waste legislation based on international agreements and regional, sub-regional and national policy initiatives. Uptake and implementation of legislation varies across countries and sectors. Waste-specific regional and sub-regional bodies to facilitate attaining a critical mass for delivery would be beneficial. A greater focus on reduction and reuse rather than recycling and disposal in legislation would also lessen the amount of waste needing to be dealt with by SIDS[11]. Audit and enforcement of legislation and regulations are also important components of effective waste management. While many legislative tools have enforcement provisions, they are generally poorly enforced. Some of the lack of enforcement is a reflection of the lack of capacity and coordination at the end of life of materials as well as the low levels of expertise of operators and the competition among priorities for government officials and departments[12]. Implementation of policy is often constrained by financial challenges to initiate and maintain integrated waste management programs that lead to a circular economy. Most legislation is targeted at safer waste disposal, but SIDS struggle financially to achieve that objective. Additionally, it is expensive to send recyclable materials such as plastic bottles to markets where the economic value can be extracted. Even at the operational level, a sustainable charging system for waste services remains a challenge for many SIDS communities. However, while the costs of financing waste development policies can be high, the often-invisible costs of inaction are considerably greater. These costs include the loss of ecosystems, acceleration of climate change effects, loss of national revenue (in the area of tourism, for example), and the cost of healthcare for affected populations. Those costs are commonly borne by society rather than the polluters. In Palau for example, poor solid waste management results in pharmaceutical costs, time in hospital and lost labor costs of over US$700,000 per year, or US$36 per individual, per year. The SIDS Waste Outlook 2019 suggests that waste reduction can save SIDS municipalities between US$35 and US$400 per ton, depending on the location and the waste management technologies used. Funding for waste management initiatives can come from international funding bodies, the private sector or community contributions. One of the emerging mechanisms is through Public-Private-Partnerships, which can be challenging to establish but might present opportunities for infrastructure planning and improvements. However, whatever is chosen, there must be clear win-win outcomes for the recipients and the funding providers.

Barriers to be addressed

According to the Global Waste Management Outlook (2015), SIDS face several region-specific barriers to improved and sound chemicals and waste management. These include:

- **Significant waste generated by the tourism industry.** For example, Antigua and Barbuda accepts an average of 360 tons of waste per year from cruise ships while Saint Lucia accepts 1,786. This additional waste places a significant burden on the limited infrastructure of SIDS, making it even harder to improve the management of chemicals and wastes.
- **Lack of regulations and adequate regulatory and institutional frameworks** to manage the import of products which are challenging to dispose of and to enforce relevant legislation.

- **Limited recycling opportunities.** The issue of economies of scale has always proven to be a deterrent to engaging in recycling activities. Given the limited available space, shipping waste between islands seems, at first glance, like a promising solution. The cost of transporting waste between Caribbean islands is very high probably due to low connectivity between islands and poor port infrastructure[13]. High costs to transport small amounts of waste[14] to a regional hub may limit the profitability of established material recovery or repurposing initiatives, and there is difficulty engaging shipping companies to find solutions for this issue.
- **Limited availability of land.** In many SIDS, land for waste management activities is limited through customary land tenures. Caribbean countries are often forced to establish final disposal sites in coastal areas to minimize per capita waste haulage costs from towns or cities which are typically also located along the coast, as well as to take advantage of more level coastal terrain for disposal. Coastal landfill sites are a particularly acute issue for SIDS because of limited land availability, proximity to oceanic waters and waterways and potential leaching to coastal resources such as beaches, reefs, wetlands and groundwater sources, all of which are important for both local populations and the vital tourism sector. Significant health and environmental issues that can result from mismanaged coastal landfill sites include strong odors, pollution from storm-water runoff, lack of leachate control, poor access roads, scavenging and lack of security.[15]
- **Lack of technical capacity and infrastructure** to safely collect, manage, store and dispose of wastes and chemicals has posed a challenge to the Caribbean. In many Caribbean SIDS, waste collection (not to mention separation) services are inadequate, or non-existent, and open burning of accumulated waste is widely practiced, or wastes are disposed of in water bodies. In many cases the most prevalent method of disposal is open and uncontrolled dumping, which leads to human health problems, as well as risks to the marine ecosystems and resources, and other sensitive land areas and watercourses.
- **Climate change and natural disasters** are a threat to the Caribbean as all the participating countries have low lying coastal areas with dense populations. Slow onset impacts of climate change such as sea level rise together with projected increases in frequency and severity of storms and other climate related events, pose a significant threat to waste management processes, systems and facilities, including landfills, which are often located in vulnerable areas. In addition, natural disasters such as earthquakes, tsunamis, hurricanes, landslides and volcanic eruptions can also significantly affect SIDS, not only by putting existing facilities and systems at risk but also through the generation of large quantities of waste requiring management. Such disaster waste includes not only debris from the disaster-affected areas but also waste resulting from relief items.
- **Education and awareness on chemicals and waste management is limited in the Caribbean Region**. Oftentimes in the Caribbean, there is a lack of general awareness on issues of waste and chemicals management related to best available technologies, best practices, process optimization and also about the environmental, health and safety implications related to improper use, disposal and management of these products.
- **High share of informal economies in the sector**. The high presence of informal recyclers is a notable characteristic of chemicals and waste management in the Caribbean region. Informal recyclers are highly dependent on current waste management practices which include high levels of waste generation, limited source segregation and few low-cost options for the environmentally sound management of hazardous waste streams[16]. The displacement of informal recyclers is a challenge that will have to be addressed in all countries.

Additional Region-Specific Barriers to the Sound Management of Chemicals and Wastes

- **Limited information collection and exchange**: Detailed information on the quantities and flows of chemicals and products that may be harmful throughout their lifecycle is seldom collected and analyzed by relevant authorities in Caribbean SIDS.
- **Lack of private sector engagement:** The inability to form economies of scale has always proved to be a deterrent to engaging private sector stakeholders in recycling activities.

- **Lack of chemicals and waste financial mechanisms:** The amount of knowledge regarding how to design financial mechanisms to support reductions in chemicals and pesticides use while building improved production is very limited. There are no practical models that provide governments, producers, and suppliers a framework upon which to formulate financial structures designed to incentivize sustainable practices. There is little access to expertise needed to provide innovative economic models in the region to show that a reduction in the use of pesticides can improve production and profitability, both directly as well as through the reduction of external risks.

- [1]
- Kaza, Silpa, Lisa Yao, Perinaz Bhada-Tata, and Frank Van Woerden. 2018. What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050

[2] Mohee, R., Mauthoor, S., Bundhoo, Z., Somaroo, G., Soobhany, N., Gunasee, S. (2015). Current status of solid waste management in small island developing states: A review. Waste Management, 43, 539-549 - https://doi.org/10.1016/j.wasman.2015.06.012

[3] United Nations Environment Programme. (2019). Small Island Developing States Waste Management Outlook. International Environmental Technology Centre, Nairobi, Kenya. Retrieved from https://clmeplus.org/app/uploads/2020/03/SIDS_WMO.pdf

[4] Mohee, R., Mauthoor, S., Bundhoo, Z., Somaroo, G., Soobhany, N., Gunasee, S. (2015). Current status of solid waste management in small island developing states: A review. *Waste Management, 43*, 539-549 - https://doi.org/10.1016/j.wasman.2015.06.012

[5] Cleaner Pacific Strategy, https://www.sprep.org/attachments/Publications/WMPC/cleaner-pacific-strategy-2025.pdf

[6] GEO SIDS Outlook 2014

[7] Global Waste Outlook (2018), https://www.unenvironment.org/resources/report/global-waste-management-outlook

[8] GEO SIDS Outlook 2014

[9] Global Waste Outlook (2018), https://www.unenvironment.org/resources/report/global-waste-management-outlook

[10] GIWA (2006) Regional Assessment 3a – Caribbean Sea/Small Islands Assessment

[11] SIDS Waste Outlook, 2019

[12] SIDS Waste Outlook, 2019

[13] Sánchez, R. J., & Wilmsmeier, G. J. (2009). Maritime sector and ports in the Caribbean: the case of Caricom countries. Santiago, Chile: United Nations Conference on Trade and Development

[14] It has been mentioned anecdotally by regional industry professionals that the cost of transporting waste just between neighbouring Caribbean islands can be more expensive than transporting waste from Caribbean to Asian countries.

[15] Seadon, J., & Giacovelli, C. (2019). Small Island Developing States Waste Management Outlook. (J. Seadon, Ed.). United Nations Environment Programme

[16] Kaza, S., Yao, L., Bhada-Tata, P., & Van Woerden, F. (Eds.). (2018). What A Waste 2.0. World Bank Group. Retrieved from http://documents.worldbank.org/curated/en/697271544470229584/pdf/132827-PUB-9781464813290.pdf

b) THE BASELINE SCENARIO & ANY ASSOCIATED BASELINE PROGRAMS

[1]

1. Anticipated synergies between ongoing chemicals and waste initiatives in the Caribbean[1]

There are several initiatives within the Caribbean basin that support the sound management of chemicals and waste and, therefore, the objectives of the ISLANDS project. The Metabolism of Islands program is currently conducting research on waste and resource flows including e-waste on Aruba, Barbados, Cuba, Grenada, Jamaica and Trinidad and Tobago. The International Maritime Organization (IMO) is also currently undertaking initiatives aimed at improving the region's compliance under the International Convention for the Prevention of Pollution from Ships (MARPOL), Cartagena and London Conventions in relation to the transporting of hazardous wastes, some of which are included in the ISLANDS project. Further collaboration can also be made with the Cartagena Convention Secretariat in areas of mutual benefits through complementary projects on international waters and nutrients as well as marine litter and wastewater management. Initiatives under the current Plastic Waste Free Island (PWFI) project, funded by the Norwegian Agency for Development Cooperation (NORAD) and being executed by the International Union for Conservation of Nature (IUCN) regional office for Mexico, Central America and the Caribbean, can complement the anticipated benefits of the GEF ISLANDS project. The PWFI, which focusses on the elimination of plastics from the islands, is being implemented in three Caribbean countries, Antigua and Barbuda, Grenada and Saint Lucia and is part of a lager initiative that includes the Pacific Islands as well. Similar projects for the management of chemicals and waste in the Caribbean basin are also currently being undertaken by the US Environmental Protection Agency specifically in Puerto Rico and the US Virgin Islands. Projects on municipal waste management are also being funded by the USAID in the Dominican Republic as they seek to improve the waste management system currently in place. Collaborations here could mean great strides in the overall management of hazardous chemicals and waste across the Caribbean region.

There is work also being undertaken in the private sector. Individual companies and organizations have been embarking on the drive to better manage chemicals and waste in the Caribbean. For example, there is currently exploration in the use of microwave technology as an alternative to incineration and autoclaving for the management of waste through Reliable Solutions Caribbean (RS Caribbean). The possibilities offered by this company are potential alternatives to explore under the ISLANDS Program. The Florida Caribbean Cruise Association hae been working with members to ensure effective management of chemicals and waste from their ships. In the manufacturing sector, the MSC foundation is setting the stage with their work on projects aimed at recycling plastics to create building materials within the Caribbean. In Guadalupe work has also been ongoing for the pretreatment of electronic waste and the recycling of food oils into biodiesel. In the Dutch Caribbean, possibilities exist to work with companies in Aruba to replicate an existing motor oil/tyre recycling plant within the ISLANDS project countries as a regional approach to deal with the issue of used tyres and used oil.

It is important to highlight that initiatives and activities financed under IDB's Child Project will complement activities and targets established under UNEP's Child Project 10279 (Implementing Sustainable Low And Non-chemicals Development in Small Island Developing States (ISLANDS) -Caribbean Child Project), increasing the overall impact of GEF's Global Islands Program (10185) in the Caribbean region.

2. Chemicals and waste baseline in the participating countries of this child project[2] [3]

Across participating countries of this Child Project there is a lack of clearly outlined waste management strategic plans and formal registration of waste operators. Common barriers are also related to human and financial constraints, and in some instances the political will to take these issues forward unless there is some pecuniary benefit in such. All countries have noted deficiencies in human resource capacity and access to technology and financing as major constraints in the chemicals and waste agenda. In many instances, expanded mandates have been given to bodies constituted decades before (and in some cases new bodies) with minimal resources, including legislative support, to transition seamlessly into the new roles, particularly as it relates to human and financial resources. The comingling of waste is also a major problem for the participating countries. For example, there is no specific system of collection and treatment of empty pesticide containers and as such it is generally comingled with the municipal solid waste and disposed of in the landfill. Most of the project territories do not practice proper procedures for decontaminating and safely disposing agricultural plastics. Generally speaking, agricultural plastics

are combined with the regular plastic waste stream. The cost factor for national recycling has been cited as a deterrent to efficient recycling operations in some countries and has led to the closure of some facilities. Regional approaches to recycling have been suggested as options for consideration to address these key issues; one example that could be explored is the PET recycling operation in Martinique. The GEF ISLANDS project presents itself to be an asset to assessing the feasibility of regional approaches to waste reduction through recycling as a viable alternative to landfilling. This is particularly recommended as private and public partners in many of the participating countries have shown potential for the development of feasible waste management alternatives.

Waste streams and management practices

A summary of the waste streams that are of most concern for the project countries and thus this ISLANDS Child project are shown in the table below.

Table 1: Main waste streams for participating countries

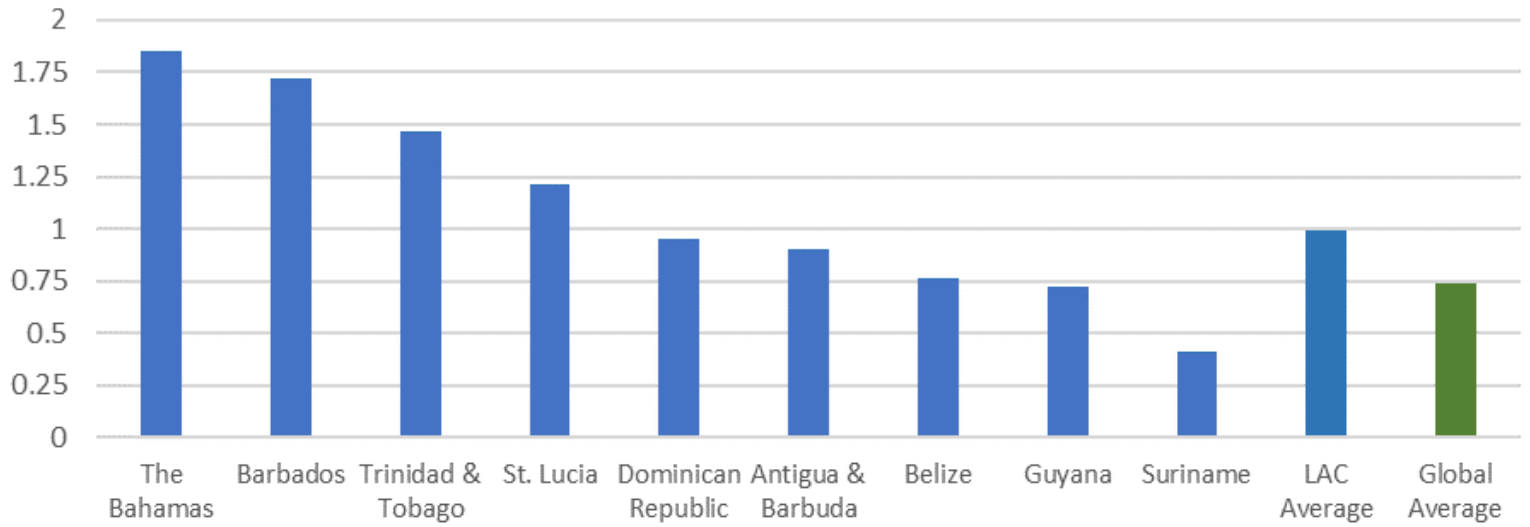
Waste Type	Comments[4]
Agricultural Plastics	Though many of the countries practice triple rinse technique, and burial, these wastes are sometimes combined with the general waste stream. This increases the risks to human and environmental health from their chemical content
Other plastics	13-23% of the total waste stream in the project countries is made up of plastic film, plastic PET bottles, plastic HDPE bottles, and polyvinyl chloride (PVC) pipes. Due to a lack of infrastructure and resources, much of this is not currently being recycled.
Waste electrical and electronic equipment (WEEE)	This is a new and fast-growing waste steam being considered in many Caribbean countries but there is very little data currently available on totals and impact. There is evidence in some countries like Antigua and Barbuda of burning of this waste stream as waste pickers look to extract copper and other high value metals from the plastic bulks.
End of life vehicles	Caribbean countries lack the legislative framework to ensure that vehicles are disposed of in an environmentally sound manner. End of life vehicles are in most cases subject to very informal recovery efforts or are left to decay in abandoned areas. The volume of non-depolluted vehicles pileup around landfills and other dump sites and represent a large pollution potential. The countries under this project do not have any end of life management system for vehicles.
Used Tyres	For many Caribbean Countries the management of waste tyres represents a long-standing issue that has not been sufficiently addressed. Alternative uses, such as being shredded and used as landfill cover or as fuel in the local cement kiln have been initiated. However, the costs associated with alternative uses have been prohibitive. Thus, for most project countries, tyres are either stockpiled or disposed of within the sanitary landfill. This waste item is one to be considered for a regional waste management solution. Over 55,000 tons of used tired are produced per year in the project countries.
Waste Oil	Management of waste oils has been inadequate in most Caribbean Co

	untries. This is due to a lack of infrastructure and facilities for the colle ction and processing of the waste oil as well as the absence of a legisl ative and enforcement system. Information on used oil usage has not been readily available from a waste management perspective
Used lead acid batteries	There is functional market driven recycling of this waste stream. Howe ver, in most of the project countries it is not a regulated industry. This i s something that needs to be addressed in all countries.
Products containing POPs POPs pesticides Products containing polybromin ated diphenyl ethers (PBDE) Other Hazardous Chemicals	All project countries have completed their various inventory reports rel ated to POPs. Most have banned pesticides containing POPs however some local sites still remain contaminated. Some countries still have s tockpiles of POPs containing pesticides for various uses however mos t have instated bans on their importation. Existence of products contai ning PBDE are also limited in each of the participating countries.
Products containing mercury	Mercury containing products throughout the project countries are prim arily dental amalgam fillings, laboratory and chemical equipment, batt eries, thermometers, electrical switches and relays as well as electrica l switches for gears. In Guyana and Suriname, mercury is also used in the metal and gold extraction industries.

Waste management practices in the project countries remain less than adequate in most cases. Whilst improvements are being made, there are still critical areas that require addressing. These include disposal practices, source separation and recycling, leachate treatment and energy recovery. Solid waste systems in the Caribbean region are in the process of modernization, but practices vary based on income level. There is no waste incineration, waste-to-energy or anaerobic digestion of waste currently taking place in the project countries. A significant amount of waste is still dumped, burned, or used as animal feed within the region, however, waste in each of the project countries is primarily disposed of through landfilling methods (open, converted or sanitary landfills). However, some countries have made some improvements. For example, Belize has developed a world class landfill site (Mile 24) and transfer station system and Barbados has established a public private partnership for a material recovery facility and transfer station. Despite these developments in both Belize and Barbados, the collection system is challenged with insufficient fleet equipment to adequately manage the workload. Other countries are much more challenged as it is for example the case of Saint Kitts & Nevis and Antigua & Barbuda who have reverted to open dumpsites because their landfill sites have reached capacity.

Improper waste management is impacting the health, environment and the economies of all the project countries. The structural stability of the current dump sites, that is, their capacity to withstand natural disasters without significant damage, is also an issue, especially given the frequency of natural disasters in the Caribbean. This is particularly concerning as together the participating project countries, generate over 1.5 million tons of waste on a yearly basis. The municipal per capita waste generation in the project countries shows an average that in some cases exceeds the regional and global average. Existing landfills have compactors at the sites to ensure optimal compaction of waste and the extension of the life of the landfill, however most sites do not have water tenders for dust and fire controls. This situation increases the risk of prolonged landfill fires and increases the opportunity for production of unintentional persistent organic pollutants (UPOPs). As a more sustainable way forward, many of the participating countries have sought to begin source-separation programs with intent to reduce the waste going to the landfills. Recycling is an option being investigated in many countries as part of a waste management program and recycling rates are highest for materials such as aluminum, paper, and plastic. However, recycling is in its infancy within the Caribbean islands with many existing challenges.

Figure 1. Municipal solid waste generation per capita in participating countries



Waste Collection and Handling Mechanisms

Most participating countries have adopted modern technology in the collection of wastes. Most jurisdictions utilize compactor trucks of varying sizes to collect waste. It should be noted however, that in some parts of Guyana and Suriname, open tray trucks are still being used to collect municipal solid waste. These are generally in rural areas and outside of main city centers. While some of the project countries such as Guyana and Saint Kitts and Nevis identify storage mechanisms within their legislation, there is no enforcement and/or no standardization of waste storage systems, especially for the residential sector. In the project countries, residential waste is put out at the curbside in bags, boxes, bins and containers of varying dimensions. One of the very prevalent forms of storage by the residential sector is the use of plastic shopping bags. In doing so, the resident minimizes the cost for the purchase of garbage bags for the storage of waste. In all cases of residential waste collection, the waste is loaded onto trucks by the attendants who work alongside the truck driver. These attendants are responsible for lifting and emptying the bins where applicable or placing the bags of garbage into the trucks. There are no automated systems for loading waste into the collection vehicles within the project countries. Such systems depend on the standardization of the bins, which has been a main impediment in its implementation. Overall, there is opportunity to further automate the collection of waste through the use of standardized bins in conjunction with bin lifting mechanisms attached to the equipment. This would reduce the amount of manual lifting involved in the waste collection operations. Such automation is common in North America and Europe and has also been utilized in Caribbean territories of Martinique and Guadeloupe.

There are no source separation methods embedded within legislation within project countries. However, there exists pilot recycling programs and volunteer programs within several of the countries. Most notably, programs have been established in Antigua and Barbuda, Saint Lucia and Trinidad and Tobago although with limited amounts of success. This lack of success has been attributed to the lack of supporting legislation and enforcement, combined with a lack of sustained public education.

Whilst the responsibility for municipal waste collection remains with the central or local government authorities, the collection of industrial, commercial and institutional waste is generally left for the private sector companies. Whilst these private sector companies charge a fee for their service, this fee usually only covers the cost of collection, with the cost of disposal still being borne or in some cases subsidized by the government.

Table 2: Summary of Waste Collection and Recycling in participating countries

Country	Waste Collection	Recycling

	Public	Private	Formal	Informal
Antigua and Barbuda	In house fleet of vehicles available	Private contractors use to supplement	No	Yes – Used Oil, Lead acid batteries, e-waste ELV, PET/ HPDE Plastics
Barbados	In house fleet of 40 trucks	Private contractors exist for industrial waste	Yes -PET /HPDE Plastics Paper	Yes – Used oil, lead acid batteries, e-waste, glass, metals
Belize	Yes – Primarily the local councils	Yes – Particularly in Belize City waste removal is outsourced	No	Yes – plastics, metals, glass, paper
Dominican Republic	Yes- Municipality and National District		Yes- plastics, glass, aluminium, cardboard	Scrap metal, used tyres
Guyana		Yes – this happens in an ad hoc way. No registration	No	Yes – lead acid batteries, e-waste, metals, glass, cardboard
Saint Kitts and Nevis		Yes -	No	Limited- scrap metal, used oil, e-waste, plastics
Saint Lucia	Yes – In house fleet	Yes – 11 Private contractors to supplement	No	Yes – e-waste, scrap metal, plastics, paper
Suriname	Outsourced through Ministry of Public Works – 28 contractors currently		No -	Yes – Plastics, scrap metals, paper,
Trinidad and Tobago	Yes 44 companies contracted by Government	Yes Numbers not stated. Formal registration system does not exist	Yes – Paper and Glass e-waste	Yes – Used oil, lead acid batteries, Plastics
The Bahamas[5]	TBD	TBD	TBD	TBD

Waste Disposal and Treatment

All the project countries utilize basic landfilling methods for the final disposal of waste. Landfilling methods range from open dumping as in the case of Suriname and some parts of Guyana, to engineered sanitary landfill sites as in the case of Belize and Barbados. A number of countries have been able to convert open dumpsites by implementing some engineering features into the sites. Table 2 above provides a summary of the landfill sites and components of these sites within the project countries.

Several countries, including Trinidad and Tobago, Saint Lucia, Saint Kitts and Nevis and Barbados have considered Waste to Energy options. However, in most cases, this consideration was as a result of unsolicited proposals received from interested investors, rather than a systematic and measured approach to waste disposal options, with an in-depth feasibility study undertaken to guide decision making. There are two exceptions to this however, in Suriname and Trinidad and Tobago. In Suriname, through the GEF regional project "Design and Assessment of the BAT - BEP Solid Waste Demonstration Project", a brief feasibility study was conducted on Waste to Energy systems compared to a sanitary landfill. The results indicated that the sanitary landfill was more economically feasible and provided the least risk to implementation because of its simplicity compared to a waste-to-energy system sanitary landfill. Additionally, the study showed that the costs to construct a WTE facility must be all borne upfront, whereas a sanitary landfill can be developed in 5-year phases which spreads the cost out over a much longer period. In Trinidad, similar to Suriname, a feasibility study was conducted and presented in IDB's "A Unique approach for Sustainable Energy in Trinidad and Tobago". The analysis indicated that WTE treatment was not viable under the current conditions. It identified the following obstacles to WTE:

· The price of electricity generation in T&T is very low. Income from electricity sale will not be sufficient to achieve a reasonable ROI for the investment, as well as ensure sufficient income for maintenance and operation of the plants.

· With the current subsidies for electricity from natural gas, alternative forms of energy generation including WTE cannot compete.

· Regulations in T&T limit the possibility of private investors for electricity generation. In order to allow feeding electricity into the grid, T&TEC must be majority shareholder in the project based on the existing regulations. This limits the attractiveness for private investors.

· The current waste disposal fees are too low (approximately TT$100/t) to finance and maintain WTE plants.

· There is a strong informal sector (scavengers) working at the landfill sites generating income for their families. These scavengers are expected to show strong resistance technical waste treatment technologies in the case where these technologies will eliminate their sources of income.

Notwithstanding this, the government proceeded to issue a tender for a WTE facility at its Beetham Landfill Site to replace its landfill there. The tender is currently in the evaluation stage. According to the timeline provided in the tender documents, the time frame identified for the completion of the tender evaluation was December 2019.

Waste Recovery and Recycling

Of the project countries, Barbados, Suriname and Trinidad and Tobago possess elaborate facilities for the processing of waste materials prior to shipment to recycling companies. In other countries, there are only basic amenities for recycling, such as storage facilities as well as baling/shredding machines. Generally, the level of technology employed in recycling ranges from rudimentary, as in the case of many private recyclers, to sophisticated, as in the case of a few government sponsored facilities. Rudimentary technology refers to manual sorting techniques without the use of conveyors, and simple compaction equipment and shredders. Sophisticated technology refers to horizontal balers with self-loading systems and automated units (as in the case of Barbados and Trinidad), as well as wash plants which clean and shred PET providing a higher quality product (as in the case of Trinidad). The Caribbean has not yet invested in state-of-the-art equipment that includes automated sorting systems that utilize optical sorters and density separators.

Table 3: Summary of Waste Recovery and Recycling in Project Beneficiary Countries

COUNTRY	Waste Stream								
	ULAB's	E-Waste	Glass	Metals	Paper	Plastic	Used Oils	Tyres	ELV's
Antigua and Barbuda	Private Sector	NGO	None	Private Sector	None	NGO	None	Gov't	None
Barbados	Private Sector	Private Sector	EPR	Private Sector	Private Sector	EPR	Private Sector	Gov't	Gov't
Belize	Gov't	Private Sector	Private Sector	Private Sector	Private Sector	Private Sector	Gov't	Gov't	None
Dominican Republic		None							
Guyana	Private Sector	Private Sector	Private Sector	Private Sector	Private Sector	None	None	Gov't	None
Saint Kitts and Nevis	Private Sector	Private Sector	None	Private Sector	None	None	Gov't	Gov't	Gov't
Saint Lucia	Private Sector	None	None	Private Sector	None	None	Private Sector	Gov't	None
Suriname	Private Sector	Private Sector	Private Sector	Private Sector	Private Sector	Private Sector	None	None	None
Trinidad and Tobago	Private Sector	Private Sector	Private Sector	Private Sector	Private Sector	Gov't	Private Sector	Gov't	None
The Bahamas[6]	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

3. Private sector waste management business baseline in participating countries[7]

Private sector investment in the waste management business is diverse and reflects more of a waste brokerage service with sales of materials to external recyclers. There are only a handful of instances where established businesses are doing more than just recovering the waste and exporting it. It is anticipated that any expansion of business capacity in the CARICOM region by the private sector to invest in the environmentally sound management of one or more of these waste streams will begin with low quantities and ramp up as the capacity to recover each waste stream is enhanced through public education and awareness to enhance source segregation and recovery, governments creating the enabling environment for the circular economy model to take root and grow, legislation to enable recycling initiatives such as deposit-refund systems and non-economic and economic incentives, and the removal of barriers to the movement of feedstock materials derived from waste material between countries.

The table below summarizes the quantities of waste produced by each waste stream and country based on those previously presented which were of most concern for the project countries. The values provided in the last column of the table for the estimated tonnage of each waste stream available for recovery, reuse, repurposing, conversion and recycling in the CARICOM Region (24 countries) is based on a conservative estimate from the reported quantities per country.

Table 4. Summary of waste quantities generated in the participating countries

Waste Type	Waste Distribution per Country by Tonnage										Total Volumes	Rank	Average per country	Conservative Total / Caricom Region (24 countries)
	Antigua & Barbuda	Barbados	Belize	Dominican Republic	Guyana	Suriname	Saint Lucia	Saint Kitts & Nevis	Trinidad & Tobago	The Bahamas [8]				
	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes		Tonnes	Tonnes
WEEE	1,100.00	800.00***	4,668	73,878	8,962	7,175	2,002	700	14,586	TBD	113,871	3rd	4,443.7	120,000.00
Plastics	18,062	50,839	7,634	156,226	16,800	18,181	10,439	1,380	139,460	TBD	419,021	2nd	46,557.9	788,400.00
Agriculture Plastics	34.20#	0.21#	29.17	unknown	5.38	12.31	30	0.06#	24	TBD	135.33	9th	15.04	406.00
Waste Oil	232.70**	476.40	211	10,530	826	818	233	188	99,120*	TBD	112,635	4th	12,515	306,300.00
Used Tyres	1,330.00	2,698	1,200	38,412	4,680	4,632	1,322	1,066	8,602	TBD	63,942	5th	4,509.7	76,600.00
Organic Fibre and Fiber Board	69,472	152,519	22,503	903	69,600	87,590	51,008	52,020	337,640	TBD	843,253	1st	93,694.8	2,527,000.00

*Estimates as actual data is not available or has not been willingly supplied.
**This does not include the quantities of sludge, oil rags and filters which end up in the landfill per year.
*** An additional 240T/yr is collected by private sector recyclers other than the SBRC.
#Estimates as actual data is not collected or is not readily available for this waste stream.

On the basis on the quantities of waste generated, an analysis of the activities currently happening in each of the project countries and a literature review of technologies that would support private sector investment in the environmentally sound management (ESM) of W&Cs in the participating countries, the following five waste streams are being proposed as potential areas in which private sector investment could prove feasible on the basis of current interest and recycling capacity and on the basis of their generation from a number of interlinked sectors:

· **Used Lubricating Oils** – This category of waste is generated in large quantities from the transportation sector, the electricity generation sector and the industrial sector. The conversion of waste lube oils back into base oils that will go back into producing new lubricating oils is a well-established technology elsewhere in the world. In the Caribbean, a regional approach using a center/s for oil recovery and recycling, has the potential to be an extremely lucrative investment opportunity for an SME type private sector investor. The analysis of private sector investment in the ESM of waste oils suggests that such investment would be in best available technologies (BAT).

· **Plastics –** This category of waste is generated in very large quantities mainly from the food and beverage sector. In fact, it is one of the most abundant wastes by volume in the project countries. Single use plastics including Styrofoam and polystyrene food containers have been one of the most prevalent sources of this category of waste. As outlined by Roach (2020), single use plastics are problematic simply because of the sheer volume of plastics that are consumed within these countries and the general lack of recycling facilities that exists, combined with a lack of enforcement of litter regulations. An exception to this is Barbados which has effective beverage container deposit refund legislation in place and established recycling facilities in operation. In the recycling

of plastics, there are four levels of recycling ranging from incineration to recovery of energy, to the creation of new products that have a high value comparable to the original products. The analysis of potential private sector investment in the ESM of plastics was primarily on investment in BAT. Investments in the ESM of plastics are feasible both at a national and regional levels.

· Used and End-of-Life Tyres – This category of waste is generated in very large quantities from the transportation sector in the region and their disposal in landfill and open dumpsite throughout the Caribbean poses both a human health problem and a storage issue as they take up a large amount space in a landfill. The recovery of materials from used tyres, primarily rubber, is well established worldwide. There are a number of opportunities that can be realized in the Caribbean context and through a regional initiative, to generate employment in downstream manufacture of coastal protection structures and artificial reef structures from the whole tyres or tyre slices, to the manufacture of rubberized coatings, road paving materials, playground infill material, foundation insulation materials, asphaltic oils, all from tyre crumble. The first stage in the manufacture of tyre crumble is via slicing the tyres up into 15cm long strips using specialized machinery, which is currently on the ground in some parts of the Caribbean. The analysis of private sector investment in the ESM of waste tyres suggests that such investment would be in BAT.

· Used and End-of-Life Electronic and Electrical Equipment (e-waste) – This category of waste is generated from a very wide range of economic activities, ranging from household waste generation to sophisticated ICT generated waste. The e-waste recovery, conversion and recycling sector is well developed internationally and lends itself to providing local and regional economic activity in equipment disassembly, component materials recovery, and materials recycling. Materials like copper wire, glass and plastics can be recovered and recycled inter regionally, while the recovery of precious metals like gold and platinum from circuit boards can contribute to a profitable extra regional market. The ESM of e-waste can also include cleaner production technologies for reducing or replacing component parts that contain persistent organic pollutants (POPS) and while the Caribbean does not manufacture cellular phones and computers and printers, it can influence Extended Producer Responsibility initiatives through brand distributors to recover materials for repurposing or recycling. The analysis of private sector investment in the ESM of e-waste suggests that such investment would be more in best environmental practices (BEP) and less in BAT.

· Organic Waste – This category of waste, while not falling under the ambit of the waste and chemicals conventions, comprises over 70% of the total waste streams going to landfills in the Caribbean. These wastes are easily combustible and lead to the fairly rapid spread of landfill fires. Their highly flammable nature is their contribution to the generation of UPOPS by fueling landfill fires that burn certain types of plastics and nitrated and sulphonated materials. Organic wastes are derived from a wide variety of sources and comprise vegetable and animal matter which can add value to a waste conversion processes aimed at creating new products like biochar and compost that have a high value to agricultural and horticultural business activities. Biochar is charcoal used as a soil amendment for both carbon sequestration and soil health benefits. Biochar is stable, solid, rich in carbon and can endure in soil for thousands of years. Like most charcoal, biochar is made from biomass via pyrolysis. Further, organic waste also includes sargassum seaweed which has become a perennial problem to all of the countries in the Caribbean. This algae blooms in massive quantities in the south-western Atlantic and borne by winds and currents moves northward in the Atlantic and into the Caribbean Sea, stranding on the windward coasts of Caribbean countries. The costs to clean the beaches and the loss to tourism are significant. The post-collection and processing of sargassum into other products can assist in cost recovery for cleanup efforts. This is another “low hanging fruit” that can lend its support to SME investment in both BEP at a country and/or regional level and for SME investment in BAT for new and innovative technologies to make downstream products. The benefit of investment in conversion of organic waste into value added products lies in its diversion away from the landfills extending landfill life and avoiding landfill fires.

Some baseline information about these priority waste streams in the participating countries is currently available – a summary is presented below:

· E-waste: The Antigua and Barbuda E-waste Management Center is not currently functioning because of delays in obtaining a warehouse facility from which to operate. In the absence of a warehouse from which to operate, no collection and processing of E-waste is taking place currently. E-Waste is stockpiled at the landfill site. In Barbados, E-waste is currently collected by Caribbean E-waste and B's Recycling for processing and shipment to overseas markets. Belize currently processes around 15 tonnes of E-waste annually and exported to USA, Taiwan or Japan although no formalized collection system is in place. In Guyana, Eternity Investments processes some E-waste, mainly motherboards. In Saint Kitts and Nevis, a private entity, Admirals, collects some e-waste for processing and export. In Saint Lucia, most E-waste ends up at the landfill sites, however, there is one civil society imitative – Greening the Caribbean – which is making concerted efforts to change this status quo. In Suriname, E-waste is processed by BAP Environmental Services, items are dismantled, and motherboards are shipped. In Trinidad and Tobago, a number of companies are approved by the Environmental Management Authority for the recycling of E-Waste. The leader among them is Piranha International Limited which provides Technology End-of-Life asset management services including re-marketing, redeployment, recycling, and computer disposal.

· Recyclable plastics: In Antigua and Barbuda, ABWREC is currently involved in the processing and sale of recycled PET and HDPE plastics - about 18 tonnes of plastics are being recycled per year out of approximately 18,000 tonnes being landfilled, representing a recovery rate of about 0.1%. Like other companies involved in global recycling of PET bottles, ABWREC has faced the challenge of low commodity prices and the ban imposed by China on the purchase of PET scrap. They have had to seek alternative markets at much reduced prices, which has affected the viability of the recycling program. In Barbados, most plastics can be diverted towards recycling/reusing thanks to the Returnable Containers Act (1987) which places a deposit on beverage containers. Belize used to process approximately 1000 tonnes per annum of waste plastics for export to markets in China. However, with the closure of the market in China, this is being relooked. Plastics are a major contributor to the recycle business in the Dominican Republic. However, recycling plants only operate between 40-45% of their capacity due to gaps in collection of recyclable materials from municipal solid waste. Same situation happens in Suriname, where Amreco and Foundation Suresur (the two main entities involved in the recycling of plastics) processed approximately 210 tonnes of plastics in 2017 which were exported to China. Amreco is now rethinking its plastic processing activities following the closure of markets in China. In Trinidad and Tobago, the Recyclable Solid Waste Collection Project (iCARE Project), is presently focused on the recovery of beverage containers for primary processing including PET Plastic bottles, drink cartons, aluminum cans and glass bottles. Via the project's collection network and with increasing public participation an estimated 60,000 kgs of recyclables are collected and processed quarterly.

· Automotive Oils: Antigua and Barbuda, used oils are commingled with other wastes and sent to the landfill. Themba Biofuels Ltd, is one firm trying to change this by taking waste vegetable oil and turning it into high quality biodiesel for transportation and standby power generation. TB has diverted more than 400 tonnes of waste oil from the landfill and they are instrumental in school outreach programmes designed to encourage high school students to pursue science and technology. In Barbados, used automotive oil is a source of fuel in some industrial processes. It is collected by Machinery and Allied Engineering Services and transported to the relevant industries for reuse as a fuel - in particular, the Mount Gay Rum distillery utilizes the used automotive oil in their boilers. In Belize, spent automotive oils are currently used as a fuel source in smelting activities. The automotive oils are collected by the Department of Environment, in order to prevent/minimize the contamination of the environment through their improper disposal. In Dominican Republic, waste oil is disposed of with wastewater or comingled with municipal waste in landfills and informal dump sites. In Saint Kitts and Nevis, landfill sites were equipped with holding tanks for used oil, but the designated tanks are at capacity. The sites continue to receive used oil in storage pits dug into the landfill sites but no processing or export of used oil is currently taking place. In Saint Lucia, Saint Lucian Linen Services Limited is authorised to collect used oil throughout the island which is reprocessed and utilized in the company's boilers or otherwise used in the boilers at the Saint Lucia Distillers. In Trinidad and Tobago, the main company involved in the treatment of automotive oils is Oil Mop Services Limited which uses a process plant to converts the spent oil into a usable blend, through an ultra-filtration system. Oil Mop provides an oily waste collection service for its commercial, industrial and institutional clients where the waste oil is collected for a fee.

· Waste tyres: Antigua and Barbuda does not have any recycling or processing of tyres currently taking place and tyres are received at the landfill sites where they are stockpiled. NSWMA has recently acquired a shredder which will be used to shred the tyres to be buried at the landfill site or mixed with asphalt for road paving through a MoU with the Ministry of Works. Barbados is currently researching this recycling option, the options including their conversion to rubberized asphalt or to use them as a fuel source. Dominican Republic has legislation to enable the use of end-of-life tyres as a fuel substitute in cement kilns across the country although only one cement manufacturer successfully uses waste tyres to fuel its kilns. For the most part, end-of-life tyres are comingled with municipal solid waste at the landfills or informal dump sites. In Guyana, waste tyres are currently received at the landfill site and stockpiled. The government, through the Ministry of Public Infrastructure, is in the process of installing a new 160 tonne per hour asphalt plant that will be able to utilize waste tyres along with plastic bags and plastic bottles. Saint Lucia currently collects and shreds wastetyres at the Deglos Landfill Site. The shredded tyres were at one time utilized as landfill cover, but due to the fire threat posed, the material is now being buried on site. In 2015, the T&T state-owned company invested in a heavy-duty shredder for waste tyres and several tyre dealers have subscribed to the tyre shredding program although the majority of tyres still remain uncollected and end up in unauthorized dumps throughout the country. The company is currently unable to recycle the shredded tyres at this point, and the shredded pieces are disposed of at the Beetham Landfill Site.

4. Institutional, legal and regulatory chemicals & waste (C&W) baseline in participating countries[9] [10]

As former British colonies, most of the participating countries of the project (Antigua and Barbuda, Barbados, Belize, Guyana, Saint Kitts and Nevis and Trinidad and Tobago) inherited a legal and regulatory framework governing waste management that is based on the English Common Law, while the Dominican Republic and Suriname both have legal systems based on the Civil Law and Saint Lucia has a hybrid legal system that is partly of the Common Law legal system as well as the Civil Law legal system prevalent throughout Europe and Latin America. Given the prevalence of the English system, at least seven of the participating countries have legal and regulatory frameworks governing chemicals and waste management developed akin that developed in England and therefore based on public health concerns. In effect, these seven countries, as crown colonies with colonial legislatures, enacted essentially similar public health legislation to deal with waste issues and in all of them, some public health body was empowered to remove waste from households and premises and deposit it in a suitable place.

Many of the provisions of these public health enactments are outdated as many of the social and economic activities and the premises they were enacted to regulate no longer exists (e.g. knacker's yards and bath houses). Despite this fact however, most of these public health enactments are still in effect in the respective territories, as evidenced recently by both Guyana and Trinidad and Tobago making public health regulations under these Acts to address issues occasioned by the COVID-19 pandemic in their countries. In some countries which have kept these public health laws, outdated provisions have been somewhat amended in a piecemeal fashion, in an attempt to keep up with the times environmentally, but in so doing, in some cases they have further complicated the waste management legal landscape by introducing provisions which conflict jurisdictionally with those in more recent enactments providing for municipal regulation of wastes as well as for protection of the environment generally. Also, most of these waste management and environmentally related public health laws referred primarily to municipal solid waste management. However, with the gradual development of various industries in the Caribbean besides those in the agricultural sector; Caribbean countries eventually began legislating, through environmental protection enactments, for the regulation of various types of waste, including hazardous waste being deposited on land, in rivers and oceans in their jurisdictions. While containing the same substance generally, these environmental protection enactments were brought into force at varying periods of time and were structured differently in the various countries. Their appropriateness however, for treating with the various types of wastes including hazardous wastes, varies from country to country and may be

judged by the minimum requirements recommended for such legislation by the Global Waste Management Outlook (GWMO). The GWMO recommends that these environmental protection laws and regulations “define basic concepts such as waste and hazardous waste, clearly allocate responsibilities, set standards of environmental performance of facilities and operations, and state sanctions in cases of non-compliance and violation”.

Antigua and Barbuda, Belize, Dominican Republic, Guyana, Suriname and Trinidad and Tobago have environmental protection legislation that regulates most aspects of pollution. These enactments are however completely lacking in Barbados, Saint Kitts and Nevis and Saint Lucia. While Saint Kitts and Nevis does have the National Conservation and Environmental Protection Act, regulations for pollution caused by wastes are almost non-existent. In relation to these environmental protection enactments, like most other enactments in the participating countries, lacking in practice is the necessary institutional capacity and resources for effective monitoring, inspection and enforcement of their provisions.

Unlike the development of waste management law, the development of chemicals management law in the participating countries was largely influenced by the international community’s decision to establish workable legal frameworks for sound chemicals and waste management at the global level through multilateral environmental agreements (MEAs) such as the Basel, Rotterdam, Stockholm and Minamata Conventions. The participating countries have varying degrees of legal relationships with these MEAs. They may have signed on to the treaty, acceded to it (which has the same legal effect as ratification) or may have converted the treaty into domestic law by bringing it into force in the particular jurisdiction on a certain date.

Table 5. Status of Ratification of the Participating Countries with the BRSM Chemical Related MEAs

Chemical Related MEA	Antigua and Barbuda	Barbados	Belize	Dominican Republic	Guyana	Saint Kitts and Nevis	Saint Lucia	Suriname	Trinidad and Tobago	The Bahamas
Basel Convention	Accession 5 Apr. 1993 Entry into Force 4 Jul. 1993	Accession 24 Aug. 1995 Entry into Force 22 Nov. 1995	Accession 23 May 1997 Entry into Force 21 Aug. 1997	Accession 10 Jul. 2000 Entry into Force 8 Oct. 2000	Accession 4 Apr. 2001 Entry into Force 3 Jul. 2001	Accession 7 Sep. 1994 Entry into Force 6 Dec. 1994	Accession 9 Dec. 1993 Entry into Force 9 Mar. 1994	Accession 20 Sep. 2011 Entry into Force 19 Dec. 2011	Accession 18 Feb. 1994 Entry into Force 19 May 1994	Accession 12 Aug. 1992 Entry into Force 10 Nov. 1992
Rotterdam Convention	Accession 23 Aug. 2010 Entry into Force 21 Nov. 2010	Signature 11 Sep. 1998 Ratification10 Aug. 2020 Entry into Force 6 Jan 2021	Accession 20 Apr. 2005 Entry into Force 19 July 2005	Accession 24 Mar. 2006 Entry into Force 22 June 2006	Accession 25 Jun. 2007 Entry into Force 23 Sep. 2007	Accession 14 Aug. 2012 Entry into Force 12 Nov. 2012	Signature 25 Jan. 1999	Accession 30 May 2000 Entry into Force 24 Feb. 2004	Accession 16 Dec. 2009 Entry into Force 16 Mar. 2010	No action
Stockholm Convention	Signature 23 May 2001 Accession 10 Sep. 2003 Entry into Force 17 May 2004	Accession 7 Jun. 2004 Entry into Force 5 Sep. 2004	Signature 14 May 2002 Ratification 25 Jan. 2010 Entry into Force 25 April 2010	Signature 23 May 2001 Ratification 4 May 2007 Entry into Force 2 Aug 2007	Accession 12 Sep. 2007 Entry into Force 11 Dec. 2007	Accession 21 May 2004 Entry into Force 19 Aug. 2004	Accession 4 Oct. 2002 Entry into Force 17 May 2004	Signature 22 May 2002 Accession 20 Sept. 2011 Entry into Force 19 Dec. 2011	Accession 13 Dec. 2002 Entry into Force 17 May 2004	Signed 20 Mar. 2002 Ratification 3 Oct. 2005 Entry into Force 1 Jan. 2006
Minamata Convention	Accession 23 Sep. 2016	No action	No action	Signature 10 Oct. 2013 Ratification 20 Mar. 2018	Signature 10 Oct. 2013 Ratification 24 Sep. 2014	Accession 24 May 2017	Accession 23 Jan. 2019	Accession 2 Aug. 2018	No action	Accession 12 Feb. 2020

The seven (7) common law participating countries, being largely agricultural societies, were familiar with pesticides and the danger posed by their use. Only Barbados and Trinidad and Tobago however, had enacted legislation which pre-dates the chemical related MEAs to treat with pesticides, particularly the Basel, Rotterdam and Stockholm Conventions. As the countries in the Caribbean became more aware of the dangers posed by hazardous chemicals as well, they utilized amendment processes to update their pesticides laws with new provisions on toxic chemicals or enacted new legislation in the form of pesticides and toxic chemicals control enactments. Trinidad and Tobago is one country that kept its original pesticides legislation and built on it to make provisions for the regulation of toxic chemicals. Unlike the earlier public health laws, with outdated provisions, the pesticides laws, being of a newer vintage, serve as an adequate enabling platform on which to erect a new legal and regulatory framework focused on the environmentally sound management of chemicals.

As we can see, one of the important identified barriers to improved chemicals and waste management in the Caribbean is, the "lack of regulations and adequate regulatory and institutional frameworks to manage the import of products which are challenging to dispose of as wastes. The institutional framework to facilitate the enforcement of the legislation is absent or incomplete and is key to the effective implementation."[11] As part of the project preparation and design phase of this child project, an assessment of legislative and regulatory frameworks for chemicals and waste management was conducted for the participating countries. Main conclusions of this exercise are as follows[12]:

· The project countries generally are in need of updated and consolidated legislation which satisfy Basel, Stockholm, Rotterdam and Minamata (BRS&M) Conventions obligations, particularly in chemicals and hazardous waste management.

· Three (3) of the project countries are not party to the Minamata Convention and two (2) have not ratified the Rotterdam Convention.

· In quite a few instances, the Conventions or obligations have not been placed into domestic law, which would allow for effective implementation.

· The project countries each have similar frameworks, based on similar colonial histories, with all but Suriname and Dominican Republic having been former British Colonies.

· There are also notable consistencies in the institutions with responsibility for chemicals and waste management. For example, a Pesticides Toxic and Chemicals Control Board (or equivalent) has been established in each of the project countries, and a Solid Waste Management Authority in five (5) of the project countries, with one (1) currently debating a bill on such and two (2) providing an entity responsible for solid waste collection and disposal other than it being a Governmental function.

· There is a lack of adequate and efficient waste management policies and practices in relation to recycling, chemical and hazardous waste, particularly in handling, imports, exports and transportation within all the countries. Outdated legislation is a constant, as well as the need for consolidation of the legislative regime to truly give effectiveness to the provisions particularly in relation to chemicals and waste management, trade, customs, and standards and labelling.

· There is a heavy need for Global Harmonized System of Classification and Labelling of Chemicals (GHS) implementation updates, as well as technical assistance with regard to developing chemical and waste management standards. This creates challenges for the synchronization of enforcement and monitoring efforts between regulatory agencies. Additionally, there is need for comprehensive legislation to provide the levels of collaboration and harmonization that GHS entails. The gap analysis confirms there is no systematic national approach to hazard classification and labelling and no law which addresses the requirements of GHS from a national perspective. In other words, chemicals and chemicals in products are not regulated beyond labelling.

· There is a great need for financial and technical assistance in the institutional aspect, as many of the project countries lack the resources due to financial constraints and lack of political awareness of how critical compliance with the Conventions is.

· The lack of technical capacity influences the analytical, monitoring and enforcement aspects, which are necessary to make sure that there is true effectiveness in the environmental protection regime of the project countries.

· It is important that these countries bring about greater political and national awareness to the importance of these issues and work to update their legislation, particularly in relation to Customs and Excise dealing with the import and export of hazardous waste.

· A targeted position by these countries to enlist the requisite technical assistance from donor partners would be critical to the success of this exercise.

5. Circular Economy versus Linear Economy for the chemicals and waste (C&W) sector in participating countries [13]

Low- and middle-income countries still face major challenges in ensuring universal access to waste collection services, eliminating uncontrolled disposal and burning, and moving towards environmentally sound management for all waste. Waste management in participating countries remains stuck in the linear economy paradigm. One “characteristic of the linear economy concept is that waste, as a side result of the production process, is discarded into the environment. The concept is based on the principle: take, make, consume, discard and it assumes boundlessness and easy availability of material resources.”[14]

The preferred laws for regulating chemicals and waste management in the linear economy are “direct regulations” or what is popularly termed the “command and control” approach. That is, waste management is achieved by virtue of state sanction for establishing rules of conduct or procedure through legislation, and inducing consent and compliance through implementation, including enforcement. In waste management, the command-and-control approach has been necessary to ensure that public health and the environment are protected, particularly from the impact of waste containing hazardous substances. Indeed, it is recognized that the waste industry as we currently know it only exists because of legislation – otherwise waste would be dumped at the lowest cost. [15] The laws and regulations governing economic activities in the chemicals and waste sector, particularly those in use in the linear economy, have been broadly criticized however, for their mostly prescriptive intent and environmental and economic inefficiencies. These laws and regulations are usually reflective of the policy instruments that are devised for environmental management generally but less so the chemicals and waste sector. Traditional policy options used in developing countries are usually command and control or market-based options. Command and control policy tools are regulatory measures that seek to directly discourage behavior with negative environmental impacts but have shortcomings in that they are reliant on monitoring and evaluation, enforcement capacity and administration in the form of laws, regulations, standards, permits, licenses, sanctions, etc.[16]

Examples of *command and control* regulations to discourage pollution can be found in the various environmental protection and pesticide and toxic chemicals enactments in the participating countries. The following table provides some examples of certain economic activities which negatively affect the environment and are therefore taxed and/or penalized in the various countries.

Table 6. Economic Activities Taxed or Penalized in Command and Control Regulations in participating countries

Country	Economic Activity	Tax and/or Penalty
Antigua and Barbuda	Air Emissions	Pollution Control Permit Fee and Pollution Levy, (*Env. Prot. & Mgt. Act, sec. 35*)
Barbados	Waste Management	Fees for collection and disposal of refuse (*Sanitation Services Authority Act 1978*, sec. 7)
Belize	Ozone Depleting Substances	Fee of three hundred dollars per ton of CFC quota for license or permit, Prohibition of Manufacture of Ozone Substances, (*Environmental Protection (Pollution) Regulations*, reg. 47 (2)).
Dominican Republic	Effluents to Water	Usage Fees for discharge of Pollutants (Art. 70 *General Law on the Environment and Natural Resources*)
Guyana	Non-point Source of Water Pollution	Recovery of all costs and expenses from the person responsible for occurrence of spill or accidental discharge polluting waters, (sec. 23 5(3) (*Water Quality Regulations).*
Saint Kitts and Nevis	Transport	Env. Levy on all motor vehicles imported; (*Environment Levy (Used Motor Vehicle) Ac)*, sec. 4 (1)).
Saint Lucia	Use of Natural Resources	Fees for license to abstract water; (*Water and Sewerage Act*, sec. 12 (1)).
Suriname	Noise	The following is punishable with a fine of not more than fifteen guilders: he who generates noise that can disturb the night's rest (art. 502 (2) *Criminal Law 1910*)
Trinidad and Tobago	Use of Natural Resources	Fees for license for petroleum operations (*Petroleum Regulations 1970*, reg. 22).
The Bahamas[17]	TBD	TBD

The Circular Economy on the other hand, while maintaining the activities of the linear economy at its core, adds a feedback circle that returns the collected and recycled waste into the production cycle as a valuable raw material. Depending on technological characteristics, a single type of waste may be recycled several times and reused in subsequent cycles of production processes. The circular economy model that seems to be most influential in introducing the concept and programs in the Caribbean is that used by the European Union (EU) based on that developed by the Ellen McArthur Foundation. In this version, "a Circular Economy is restorative and regenerative by design and aims to keep products, components, and materials at their highest utility and value at all times". The concept distinguishes between technical and biological cycles. A Circular Economy is a continuous positive development cycle that preserves and enhances natural capital, optimizes resource yields, and minimizes system risks by managing finite stocks and renewable flows. It works effectively at every scale.[18] The EU model/concept is suggesting a fundamental policy change in making the transition from linear to circular about focusing regulation away from waste and re-focusing regulation on the chemical waste-content of the product. In a circular economy, products maintain their potential to create value for as long as possible. Products have a long lifetime, due to a durable design. In case a product breaks, it is repaired. When a consumer no longer needs a product, it is passed on and reused by another consumer, or products are shared from the outset. Products that are discarded after their first technical or economical lifecycle are updated or refurbished and begin another life cycle, or if this is not possible their materials are recycled with a minimum of remaining resources ending up in energy recovery. During production and use, products consume the minimum amount of resources such as energy or water that is needed to fulfill their functions. Consumable products such as food, drinks, cosmetics and detergents are also produced with the minimum impact on resources and consumed so as to leave as little waste as possible. Emissions into the environment and impacts on the climate are minimized across the whole life cycle. As a whole, this results amongst others in less use of resources, less waste, more jobs in repair and recycling sectors and monetary savings, while maintaining the services provided by products.[19]

A CE strategy could help SIDS "leapfrog' to a more sustainable development pathway that avoids locking in resource-intensive practices and infrastructure. Much economic activity in SIDS revolves around sorting and reusing waste. However, higher-value, employment-generating opportunities for reuse and remanufacturing are yet to be captured. The existence of circular activities in developing countries provides excellent political 'entry points', which could enable governments, the private sector, civil society and other actors to promote innovative economic models. There is a window of opportunity in which to align the efforts of development organizations and partner countries. Donors are exploring how the agenda should be aligned with the Sustainable Development Goals (SDGs) and the Paris Climate Agreement. Wider international cooperation on the CE could involve trade partnerships, regional hubs or pilot zones.

The transition to a circular economy is a systemic change. For this transition to take place, the Caribbean region will need new technologies, processes, services and business models.[20] The ISLANDS Project becomes most crucial for SIDS in general and the participating Caribbean countries in particular to make a resolute attempt to achieve the framework requirements for integrated chemicals and waste management in the linear economy while simultaneously making the transition to the circular economy. Crucial to this undertaking is an enabling legislative and regulatory framework governing the economic activities in the chemicals and waste sector.

Indeed, for businesses – both waste generators and the waste management industry – to plan their operations and investments into the future, they need 'regulatory certainty'. This entails the passing of coherent and clear legislation (laws and derived regulations, including incentive and sanction measures) and fair and consistent enforcement. The overarching legislation required by business practitioners in the circular economy is that governing the recovery of resources from waste. If new resources are to be extracted from the priority waste streams identified in the section above[21] in sufficient quantities and in a sustained manner, the requisite laws and regulations must be in place to ensure this. The legislative framework for encouraging such investments in the Caribbean Region includes laws and regulations which govern the recovery of resources from waste. This may be achieved by introducing legislation which provides for the following actions:

· Banning disposal (landfilling) of municipal waste or certain waste fractions from which resources such as materials and energy can be recovered, including organic waste, recyclable material streams or combustible waste

· Setting landfill diversion targets which specify the percentage of waste to be processed in a way different than disposal

· Setting target recycling rates for specific waste streams to be reached within a certain time frame, especially where there are existing viable markets for those recyclables

· Banning waste incineration with and without energy recovery

· Raising waste fee collection rates to encourage backyard composting and increasing landfill and incineration fees to discourage landfilling

· Establishing the end of waste criteria which determines under which conditions a waste material ceases to be designated as waste and obtains the status of a product. This includes the establishment of the quality protocols and standards for recycled materials and compost produced from waste.

This type of legislation, especially that setting target recycling rates for certain waste streams, "sends a clear signal to local administrators and the public about the importance of recovery value as a policy goal but also provides the legal certainty required for future private sector planning and investments in recycling and energy recovery facilities." In particular, this type of legislation will assure investors in the participating countries who are involved with the

business of used lubricating oil, plastic bottles due for return to manufacturers through environmental levy laws, used and end-of-life tyres, used and end-of-life electronic and electrical equipment, and organic wastes, that their long-term interests are being considered and ensured through a continued and sustainable supply of resources recovered from waste.

Legislation will also be required for enforcing households and businesses to separate recyclables from their general waste using negative economic instruments such as fines. In so doing, investors in the participating countries will be assured that the resources they require from household and business waste does not end up in landfills. Positive economic instruments to encourage such separation could also be used. They include waste fee reductions for persons who separate continuously, participation in prizes/lotteries for separating, eco points/green points, cash rewards etc. These positive economic instruments may be provided by either the private companies or the waste authorities or in combination.

Also required will be legislation on waste prevention and sustainable consumption and production (SCP). Such legislation will complement those already in place in the participating countries such as pesticides and toxic chemicals laws, which bans and restricts certain chemicals from entry and use in those countries. While these laws are primarily targeted at designers and manufacturers of products, it is also aimed at importers to ensure that they opt for the use of non-hazardous materials in their product

Another waste prevention measure, but of a quantitative nature, is the legislative banning of certain products that end up accumulating in the environment and overflowing in landfills as a result of their indiscriminate use. One such product in the participating countries is single use plastic bags or plastic carrier bags. Of the world's thirty largest per capita polluters of this type of plastic, ten are of the Caribbean region; with Trinidad and Tobago producing 1.5 kilograms of plastic waste per person per day, the highest in the world. This is the perfect opportunity to enact take-back legislation in Trinidad and Tobago for manufacturers of plastic bags along with regulations requiring that they dispose of them in an environmentally safe manner. As of January 1st, 2020, single-use plastics and polystyrene were banned in Jamaica, Belize, Barbados, the Dominican Republic, Grenada, Trinidad and Tobago and the Bahamas, with the main objective of preventing ocean pollution which directly affects different marine species.

Finally, there must be new regulations on waste handlers including waste generators, governmental agencies in charge, and service providers in waste collection, transport, treatment and final disposal. With increasing private investments in the chemicals and waste sector for example, there will have to be a concomitant level of public investments in new landfills which will now accept only the residues from the pre-treatment of waste as the resources are extracted. This will necessitate the establishment of more engineered landfills conducing to the sustainability of the circular economy. This could lead to the formalization of steady jobs for waste pickers throughout the region, many of whom are women, who may be employed to sort recoverable and reusable materials that may be used for secondary products. The transformation from waste pickers to resource recovery personnel would be accompanied by the necessary training for these persons, along with the other societal benefits enjoyed by other workers such as social security, health insurance, etc.

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[1] Baseline Chapter for UNEP's ISLANDS Child Project, 2019

[2] Roach, Ronald, Draft Baseline Chapter on Waste Generation, GEF ISLANDS PPG Phase, BCRC-Caribbean

[3] Roach, Ronald, Draft Baseline Chapter on Current Waste Management Activities and Institutional Capacity, GEF ISLANDS PPG Phase, BCRC-Caribbean

[4] Details on the types of waste and amounts per participating island can be found in the Waste Generation report prepared by Mr. Ronald Roach for the BCRC under the Project Preparation Phase of the GEF UNEP ISLANDS Child Project

[5] Baseline information for the Bahamas is currently being developed under a separate Child Project and will be incorporated at the implementation stage of this project.

[6] Baseline information for the Bahamas is currently being developed under a separate Child Project and will be incorporated at the implementation stage of this project.

[7] Edward Bahaw, David Alexander, Ahmad A Khan (2020). Private Sector and Investment Opportunities Analysis Report for the Identification of Private Sector Investment Opportunities for the Environmentally Sustainable Management of Waste and Chemicals in the Caribbean Region

[8] Baseline information for the Bahamas is currently being developed under a separate Child Project and will be incorporated at the implementation stage of this project.

[9] Mark A. Usher (2020), Preliminary Findings report on the Legal and Regulatory Analysis to Support Investments in Chemicals and Waste Management

[10] Baseline Chapter for UNEP's ISLANDS Child Project, 2019

[11] Baseline Chapter for UNEP's ISLANDS Child Project, 2019

[12] St. Hill, R.; *Legal and Institutional Capacity Report*; BCRC-Caribbean and UNEP; March 2020

[13] Mark A. Usher (2020), Preliminary Findings report on the Legal and Regulatory Analysis to Support Investments in Chemicals and Waste Management

[14] M. Drljaca: The Transition from Linear to Circular Economy (Concept of Efficient Waste Management); and V. Banja: *Quality System Condition for Successful Business and Competitiveness*, Association for Quality and Standardization of Serbia; 2015

[15] Global Waste Management supra, p. 135

[16] Attzs et al; Survey and Assessment of Environmental Taxes in the Caribbean; Inter-American Development Bank; 2014

[17] Baseline information for the Bahamas is currently being developed under a separate Child Project and will be incorporated at the implementation stage of this project.

[18] Caribbean Waste Management Conference supra at note 12

[19] European Commission – Staff Working Document; *Sustainable Products in a Circular Economy – Towards an EU Product Policy Framework contributing to the Circular Economy*; Brussels, 2019

[20] Backes, C,; Law for a Circular Economy; Utrecht Center for Water, Oceans and Sustainability Law; (UCWOSL); Eleven International Publishing; 2017

[21] Priority waste streams identified were: Used Lubricating Oils, Plastics, Used and End-of-Life Tires, Used and End-of-Life Electronic and Electrical Equipment (E-waste), and Organic Wastes

C) THE PROPOSED ALTERNATIVE SCENARIO WITH A BRIEF DESCRIPTION OF EXPECTED OUTCOMES AND COMPONENTS OF THE PROJECT

1. Baseline summary

Antigua and Barbuda, Belize, Dominican Republic, Guyana, Suriname and Trinidad and Tobago have environmental protection legislation that regulates most aspects of pollution. These enactments are however lacking in Barbados, Saint Kitts and Nevis and Saint Lucia. While Saint Kitts and Nevis does have the National Conservation and Environmental Protection Act, regulations for pollution caused by wastes are almost non-existent. In relation to these

environmental protection enactments, like most other enactments in the participating countries, lacking in practice is the necessary institutional capacity and resources for effective monitoring, inspection and enforcement of their provisions. Unlike the development of waste management law, the development of chemicals management law in the participating countries was largely influenced by the international community's decision to establish workable legal frameworks for sound chemicals and waste management at the global level through multilateral environmental agreements (MEAs) such as the Basel, Rotterdam, Stockholm and Minamata Conventions. The participating countries have varying degrees of legal relationships with these MEAs. They may have signed on to the treaty, acceded to it (which has the same legal effect as ratification) or may have converted the treaty into domestic law by bringing it into force in the particular jurisdiction on a certain date. The conclusion is that one of the important identified barriers to improved chemicals and waste management in the Caribbean is, the lack of regulations and adequate regulatory and institutional frameworks to manage the import of products which are challenging to dispose of as wastes. The institutional framework to facilitate the enforcement of the legislation is absent or incomplete and is key to the effective implementation. Main conclusions of the assessment of legislative and regulatory frameworks for chemicals and waste management conducted for the participating countries are as follows:

· The project countries generally are in need of updated and consolidated legislation which satisfy Basel, Stockholm, Rotterdam and Minamata (BRS&M) Conventions obligations, particularly in chemicals and hazardous waste management.

· Three (3) of the project countries are not party to the Minamata Convention and two (2) have not ratified the Rotterdam Convention.

· In quite a few instances, the Conventions or obligations have not been placed into domestic law, which would allow for effective implementation.

· There are also notable consistencies in the institutions with responsibility for chemicals and waste management. For example, a Pesticides Toxic and Chemicals Control Board (or equivalent) has been established in each of the project countries, and a Solid Waste Management Authority in five (5) of the project countries, with one (1) currently debating a bill on such and two (2) providing an entity responsible for solid waste collection and disposal other than it being a Governmental function.

· There is a lack of adequate and efficient waste management policies and practices in relation to recycling, chemical and hazardous waste, particularly in handling, imports, exports and transportation within all the countries. Outdated legislation is a constant, as well as the need for consolidation of the legislative regime to truly give effectiveness to the provisions particularly in relation to chemicals and waste management, trade, customs, and standards and labelling.

· There is a heavy need for Global Harmonized System of Classification and Labelling of Chemicals (GHS) implementation updates, as well as technical assistance with regard to developing chemical and waste management standards. This creates challenges for the synchronization of enforcement and monitoring efforts between regulatory agencies. Additionally, there is need for comprehensive legislation to provide the levels of collaboration and harmonization that GHS entails. The gap analysis conducted confirms there is no systematic national approach to hazard classification and labelling and no law which addresses the requirements of GHS from a national perspective. In other words, chemicals and chemicals in products are not regulated beyond labelling.

· There is a great need for financial and technical assistance in the institutional aspect, as many of the project countries lack the resources due to financial constraints and lack of political awareness of how critical compliance with the Conventions is.

· The lack of technical capacity influences the analytical, monitoring and enforcement aspects, which are necessary to make sure that there is true effectiveness in the environmental protection regime of the project countries.

· It is important that these countries bring about greater political and national awareness to the importance of these issues and work to update their legislation, particularly in relation to Customs and Excise dealing with the import and export of hazardous waste.

The overarching legislation required by waste and chemicals practitioners in the circular economy is that governing the recovery of resources from waste. If new resources are to be extracted from the priority waste streams identified in this child project in sufficient quantities and in a sustained manner, the requisite laws and regulations must be in place to ensure this. The legislative framework for encouraging such investments in the Caribbean Region includes laws and regulations which govern the recovery of resources from waste. This may be achieved by introducing legislation which provides for the following actions:

· Banning disposal (landfilling) of municipal waste or certain waste fractions from which resources such as materials and energy can be recovered, including organic waste, recyclable material streams or combustible waste

· Setting landfill diversion targets which specify the percentage of waste to be processed in a way different than disposal

· Setting target recycling rates for specific waste streams to be reached within a certain time frame, especially where there are existing viable markets for those recyclables

· Banning waste incineration with and without energy recovery

· Raising waste fee collection rates to encourage backyard composting and increasing landfill and incineration fees to discourage landfilling

· Establishing the end of waste criteria which determines under which conditions a waste material ceases to be designated as waste and obtains the status of a product. This includes the establishment of the quality protocols and standards for recycled materials and compost produced from waste.

The current barriers in the legal framework for transitioning to a circular economy are found in legal provisions regulating chemicals and waste management in the participating countries which discourage the use of waste as a resource. These are regulatory obstacles that hinder the realization of economic opportunities in the circular economy in that they do not consider waste to be a resource, they create uncertainties in the waste resource supply stream, they lock waste resources away from investments on the grounds of environmental and health concerns, and they inhibit the easy national and transboundary movement of waste resources which is required for the success of any waste to product enterprise.

The current waste management laws in the participating countries define “garbage”, “litter” and “waste” as unwanted commodities that should be disposed of in a proper place or else they become “nuisances” which threatens human health and the environment. There is no contemplation in those definitions of there being anything of value once they have been collected and transported to their final place of deposit. In fact, these definitions are so confident that they have expressed the total worthlessness of the objects they have confined to the open dumps or landfills, that in some cases, prohibitions are made for any person to retrieve any of those items from where they were finally deposited. As such, the waste management paradigm of the participating countries operates through the “throw-away” and “final disposal” mindset. This ingrained mindset buttressed by the legal definitions encompassing this concept of waste is one of the very real barriers to transitioning to a circular economy in the participating countries. While this unfortunate mindset is slowly changing as various recycling initiatives have taken root, new definitions for ‘litter”, “garbage” and “waste” as valuable commodities from which secondary resources may be extracted to make new products will go a long way in changing the mindset and behavior of citizens in adapting to a new status of waste in the circular economy.

Another legislative barrier hindering the transition to a circular economy is legislation that lacks clarity as to what constitutes an end-of-life product that may contain resources that may be recovered for manufacturing new products; in other words, when is waste not waste. Such legislative guidance would be most helpful in assisting the generator of domestic waste in at-source separation, removing the valuable waste containing resources for re-use from those destined

for final disposal. Besides ensuring a reliable supply of waste resources, such legislation would also regulate standards for end-of-life products that may be re-used in terms of providing for consumer protection and health and safety among other concerns. Without specific legislation, many waste streams end up as mixed waste where high-quality recycling costs are higher than the income from its recycled materials (e.g. in the field of plastic packaging)".

A third legislative barrier to transitioning to a circular economy is the conflict with chemicals and hazardous waste management laws which may deem certain chemicals and hazardous waste streams required for businesses in the circular economy as banned or severely restricted products. As such, businesses would not be able to easily access waste resources to manufacture into new chemical formulations or products. It will therefore be necessary to have legislation that allows business to access hazardous chemicals and waste once it is proven that they can handle such in an environmentally safe manner.

Finally, the obligations arising from international MEAs such as the Basel Convention, if not coordinated with the legitimate requirements of investors in the circular economy to import hazardous chemicals and waste as part of their business operations, could prove to be obstacles to trade in light of the trade requirements of the Revised Treaty of Chaguaramas (RT), establishing the CARICOM Single Market and Economy. In circumstances where one of the participating countries which is a member of the CARICOM Single Market and Economy implements article 4 (5) of the Basel Convention by prohibiting the export of hazardous chemicals and waste to a non-Party, but that non-Party is also a member of CARICOM Single Market and Economy; that country prohibiting the export may be investigated for using the provisions of the Basel Convention for anti-competitive cross-border business conduct under article 173 of the RT.

2. Project context [1] [2]

Caribbean SIDS are facing varying degrees of low growth, high debt, significant environmental vulnerabilities, and limited resilience to shocks. The countries of the Caribbean are small and can be categorized as service-based economies reliant mainly on tourism and financial services. Some larger countries such as Guyana, Belize and Trinidad and Tobago produce oil/gas, minerals, and agricultural goods, and have had an overall better economic performance. They are small economies, very open to international trade, and highly exposed to natural disasters and economic shocks. Small size constrains the achievement of economies of scale and economic specialization. Waste management has been traditionally funded through international grants or has been an underfunded externality. Governments have been very traditional when approaching this sector, either providing it with minimal prioritization or relying on external solutions.

Several consultation sessions were held during the PPG phase of the ISLANDS program in the context of the various child projects. Caribbean consultations took place in May 2017 in Belize City (Belize), in July 2018 and 26 –28 August 2019 in Port of Spain (Trinidad and Tobago) as well as virtually at least 2 times in 2020. The consultations with governments during project development identified a series of common national priorities which this child project aims to address across the participating countries. These include:

· Legislation on chemicals and waste management

· Managing tyres, management of electronics (E-Waste), End of life vehicles (ELVs), Used Lead Acid Batteries (ULABs) through integrated waste management

· Improved control on import of products to the countries

· Support the design of sanitary engineered landfills to ensure the safe management of chemicals and waste covered by the chemicals and waste MEAs

· Management/elimination of POPs/HHPs from the countries

· Improve capacity in taking evidence-based decision that support sustainable food production systems

· Identification, assessment, validation of alternative products and chemicals

· Innovative financial mechanisms to implement the above-mentioned priorities

The goal of this Child Project is to support these priorities, but to also support innovation in waste management and changes in policy and investment behavior. To achieve this in the chemicals and waste sector, the value propositions of chemicals and waste management need to incorporate both the true total costs of inadequate management and potential revenue streams from benefit flows. These include:

· Public health and concern for the safety and welfare of the population.

· The resource value of waste, which allows people to make a living from discarded materials through foraging at landfills.

· Circular economy waste management which seeks to move from dealing with waste as an end of pipe issue towards a more holistic resource management.

· Innovative new legal and institutional frameworks that enable partnerships and cost/benefit sharing.

· Climate change and its impact on health, sea level rise and inundation of contaminated sites.

In addition to the specific priorities of participating countries, all countries in the Caribbean, Pacific and Indian Ocean regions also confirmed the need to address a set of issues/priorities common across all SIDS. These include:

· Better management of land-based sources of marine litter, including the potential to take informed decisions on/phase out of use of single use plastics

· Better management of electronics and improved access to recycling technologies

· Systems to address huge increases in waste volumes produced following natural disasters such as cyclones, hurricanes, and tsunamis

· Improve customs regulations and controls on import of hazardous chemicals and goods containing future hazardous waste

· Reduce risks from pesticide use, specifically phasing out Highly Hazardous Pesticides (HHP) linked to less environmental pollution, to lower chemical residues in food and exposure during application

· Improved management of used oil waste, e-waste, pneumatic tyres, and end of life vehicles

· Phase-out of mercury containing products and devices in line with the Minamata Convention phase-out deadline of 2020

· Improved management of waste streams that can lead to the releases of Hg, new POPs, UPOPs, or marine litter, etc., including WEEE management, Healthcare Waste Management and Municipal Waste Management through the engagement of the private sector, introduction of BAT/BEP and introduction of import bans/restrictions (Hg containing products, single use plastics, etc.)

· Reduced risks from pesticide use, specifically phasing out Highly Hazardous Pesticides (HHP) linked to less environmental pollution, to lower chemical residues in food and exposure during application.

The Child Project's theory of change (Figure 2) has been developed around three complementary approaches, which serve to address the barriers to sound chemicals and wastes management faced by Caribbean SIDS. These three approaches are:

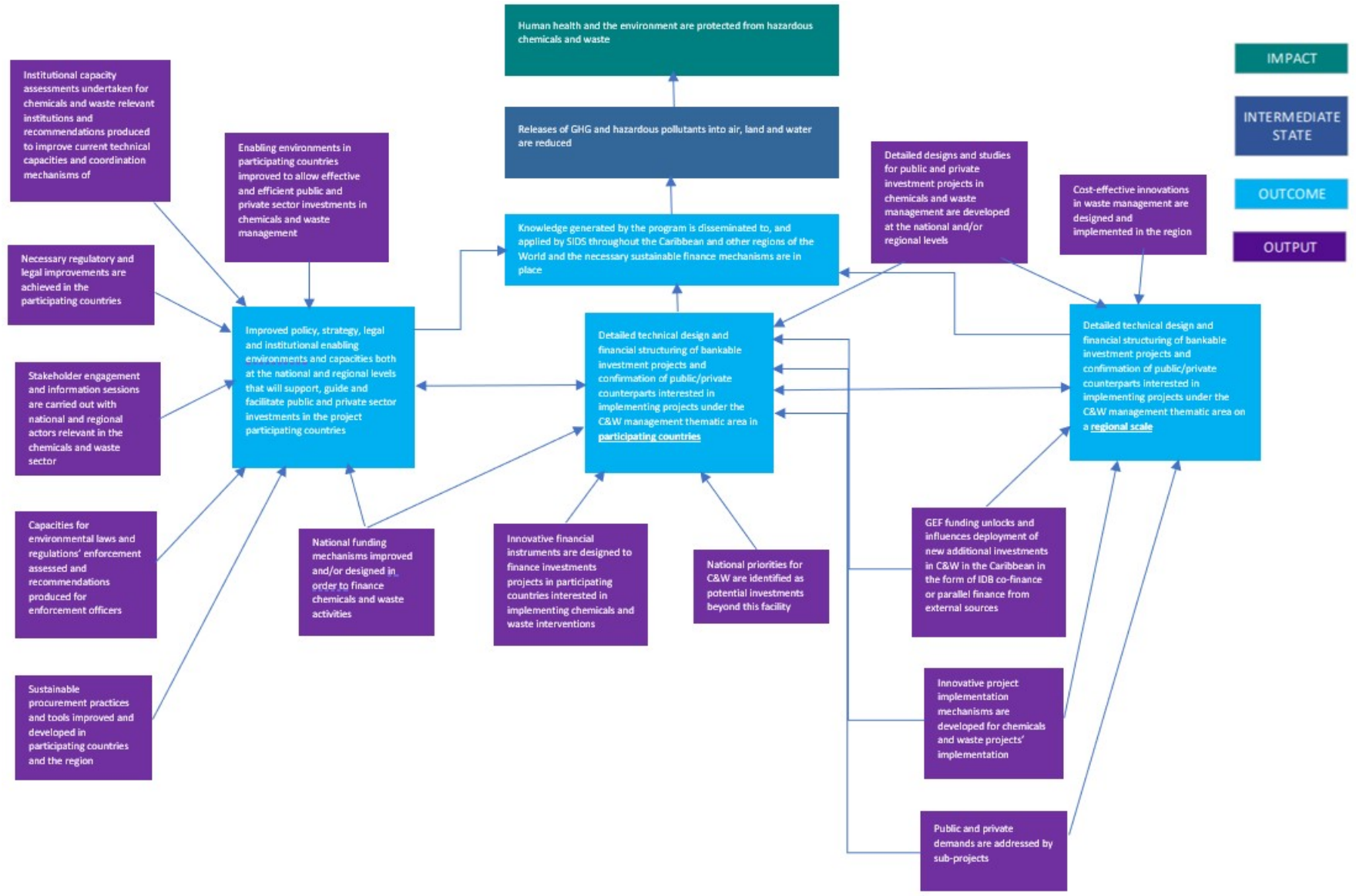
· Avoiding future imports and use of chemicals and waste which cannot be disposed of in Caribbean SIDS;

· Treating chemicals and waste that are currently present in Caribbean SIDS and cannot be disposed of under existing conditions or using existing infrastructure; and

· Developing systems, including circular approaches, to ensure that those chemicals and subsequent wastes which cannot be avoided are used safely with capacity for recycling or environmentally sound disposal at end-of-life.

The integrated approach responds to and reflects the child project and full programmatic theory of change by focusing on interventions in line with the identified drivers including public health concerns; responding to climate change and sea level rise (through future proofing infrastructure); that tourism requires a clean environment; and the need to protect ecosystems.

Figure 2: Theory of Change Diagram



As part of the PPG phase for this child project, several studies were commissioned in order to (1) identify private sector investment opportunities by assessing projects that would lend themselves to private sector investment for the environmentally sound management (ESM) of waste and chemicals (W&Cs) with the objective of generating a project pipeline for the IDBG focusing on different maturity levels and the related requirements to achieve the necessary bankability or structuring for funding, including the associated risks; (2) undertake legal research and a literature review of the chemicals and waste management sector in the participating countries, including an assessment of legal and regulatory gaps, opportunities and barriers to unlocking investments, and providing

recommendations for improved legal frameworks focusing on market creation; and (3) assess the current gender context and situation in the participating countries and design a gender-responsive plan to be applied, whenever possible, to each of the sub-projects financed by the Incubator Facility and that will also support the Gender actions under the GEF ISLANDS global platform for the participating countries.

The legal and regulatory study reviewed aspects related to (1) the public health enactments for the collection and disposal of waste in all participating countries, as well as (2) the municipal solid waste management enactments, (3) the environmental planning and protection laws, (4) the international waste management laws (i.e. the Basel, Minamata, Stockholm and Rotterdam Conventions), (5) the legal frameworks for chemicals management, (6) the pesticide and toxic chemical enactments, and (7) the existing types of regulations and policy tools utilized in chemicals and waste management activities to protect the environment and provide health and safety conditions (direct regulation or command and control policy tools). It also analyzed the necessary market-based laws and regulations for transitioning to circular economy (laws and regulations which govern the recovery of resources from waste). The study posits that the gaps in the legal framework for transitioning to a circular economy are occasioned by the non-compliance of the various waste management, environmental, pesticides and toxic chemicals laws of the participating countries with the obligations of the Basel, Rotterdam and Stockholm Conventions. It also suggests that the barriers in the legal framework for transitioning to a circular economy are found in legal provisions regulating chemicals and waste management in the participating countries which discourage the use of waste as a resource. Based on this thorough analysis, the study provided a set of recommendations for a market-based legal framework for the chemicals and waste sectors in the participating countries. These recommendations can be summarized as follows[4]:

· Participating countries should develop legal and regulatory frameworks for integrated waste management. That is, where there is no waste management law in place, such as in Guyana, Trinidad and Tobago and Suriname, a framework legislation for integrated waste management be developed and enacted in each country. In developing this framework legislation, it is recommended that the fragmented pieces of legal provisions in old public health, littering, town and municipality laws, such as in Barbados, be repealed in favor of the new enactment.

· Where there are waste management enactments such as in Antigua and Barbuda, Belize, Dominican Republic, Saint Kitts and Nevis, and Saint Lucia; these enactments should be amended to include all the elements necessary for integrated waste management in a circular economy.

· Participating countries should update their legal and regulatory frameworks to include all the elements necessary for integrated chemicals management in the circular economy.

· At the juncture where participating countries have reached the optimal level of integrated chemicals and waste management, they should revise both their waste management and chemicals management legislations to incorporate the necessary elements for resource recovery in the circular economy.

The primary focus of the private sector study was to analyze investment opportunities in the ESM of W&Cs which the SMEs in the Caribbean have already invested in, or were willing to invest in, or were willing to expand their existing operations to invest in. The stakeholder consultations undertaken as part of this study with SMEs in the participating countries also provided an appreciation of the challenges they face and the lessons they have learned along the way and which have been used in the formulation of the recommendations to facilitate a greater ease of doing business by the SMEs investing in the ESM of W&Cs. Emphasis was given to the identification of wastes that can be classified as a recoverable resource or as a feedstock into a process, thereby adding value to an existing product chain which can stimulate new entrepreneurial activity in the SME and Civil Society sectors. In-depth analyses of investment in plant, equipment and machinery that will only be used to destroy wastes and chemicals (such as incineration and waste to energy type solutions) thereby reducing the value the waste stream may have as a resource to stimulate downstream economic activity was ruled out. Instead, the current waste and chemicals recovery and recycling landscape in eight out of the project beneficiary countries[5] was evaluated, identifying gaps that exist in relation to the ESM of specific waste streams. Based on an analysis of the activities being done in each of the project beneficiary countries and the literature review of technologies that would support private sector investment in the ESM of W&Cs in the Caribbean context, five waste streams were identified as immediate priority on the basis of

current interest and recycling capacity in the Caribbean, and on the basis of their generation from a number of interlinked sectors. The final decision to focus on these five priority waste streams was confirmed and agreed upon during discussions hosted by the BCRC-Caribbean with the Project Working Committees of eight of the project beneficiary countries over a two-week period in May 2020. The following are the five waste streams identified as the priority streams that are of relevance in the Caribbean context and requiring immediate attention due to the quantities produced at both the national and regional levels, their significant impacts on human health, environmental conservation and management, their impacts on tourism related business activities; and for fostering economic diversification[6]: (1) Used Lubricating Oils; (2) Plastics; (3) Used and End-of-Life Tyres; (4) Used and End-of-Life Electronic and Electrical Equipment (e-waste); and (5) Organic Wastes.

It is anticipated (although subject to change based on financing demands) that the nominal budget to be provided by the GEF for supporting investment in the environmentally sound management (ESM) of wastes and chemicals (W&Cs) will be deployed as follows: (i) 50% to SMEs development (ii) 25% to integrate C&W considerations in larger corporation's operations and (iii) 25% to integrate C&W considerations into public sector operations.

The economic analyses of the five priority waste streams identified for special consideration revealed favorable internal rates of return on investments ranging from 23% in 4 years in the case of waste plastics to 53% in 2 years in the case of waste tyres. A summary of the economic analyses on the five waste streams is provided in the Table below. The investment in BEP for the ESM of E-Waste is of the lowest overall cost with a favorable internal rate of return of 39% in 3 years.

Table 7. Summary of the economic analyses on the five priority waste streams

Investment Type	Waste Stream Input	Process	Output	Capex Cost (USD)	OPEX Cost	Timeframe for ROI
BATNEEC	Waste Automotive Oil	Purification & Processing	Hydraulic Oil, Diesel & Asphalt Flux	$1,702,807	$3,160,340	49% NPV in 2 years
BATNEEC	Waste tyres	Shredding	Rubber Powder, Recovered Metal & Fiber	$888,116	$2,065,899	53% NPV in 2 years
BATNEEC	Organic Waste	Composting	Organic Mulch, Biochar & Biogas	$1,189,286	$1,374,177	36% NPV in 3years
BATNEEC	Waste Plastic	Shredding &, Extrusion	Plastic Pellets, Plastic Lumber	$4,338,929	$2,339,945	23% NPV in 4 years
BEP	E-Waste	Dismantling	Recovered Plastic and metals	$35,714	$53,066	39% NPV in 3 years 53% NPV in 2 years

Most Caribbean countries have adopted modern technology in the collection of wastes but there are no source separation methods embedded within the legislation of project countries. There exist some pilot recycling programs and volunteer programs within several of the countries. Most notably, programs have been established in Saint Lucia and Trinidad & Tobago with limited amounts of success. The lack of success has been attributed to the lack of

supporting legislation and enforcement, a restrictive enabling environment to support investment in the ESM of W&Cs, combined with a lack of sustained public education. For any serious private sector investment interest in the ESM of W&Cs to take root, the governments of the Caribbean Region must create the enabling environment for this to occur by:

· Recognizing waste materials as a resource that can be used as feedstock to a repurposing and/or conversion manufacturing process.
· Enacting policies and appropriate legislation to restrict the importation of certain types of materials (for instance single use plastics) and to guarantee the import of a reliable supply of feedstock into the country.

· Creating a favorable business investment climate that would see the ease of doing business improved using economic and non-economic incentives and favorable legislation.

· Supporting the revision of tax regulations to facilitate investment in the ESM of W&Cs similar to the incentives applicable to tourism, oil and gas and foreign direct investment in countries.

· Establishing a system for development type financing as opposed to strict commercial type financing to support the emerging private sector investments in the ESM of W&Cs.

· Fostering a supportive environment for investment through the creation of economic and non-economic instruments to support the long-term investment in materials recovery and product manufacture in a volatile resource recovery market.

· Engaging the private and civil society sectors in the value of investment in the ESM of W&Cs through general and targeted awareness and training programs.

· Guaranteeing the local supply of feedstock materials through public education and awareness campaigns.

· Modernizing the waste recovery, transportation, interim storage and final disposal management systems at a national level by introducing transfer stations and sorting centers in key areas in the medium term and source segregation in the long term with dedicated curbside pick-up for sorted waste streams.

The preliminary investment analysis conducted in this PPG phase highlights the small scale of operation of existing waste management businesses across project countries. Several challenges face these operators and there is a compelling need for government support to promote the growth of the sector. Most waste processing private sector organizations in the global market focus on the extraction of crude materials from waste streams within their host country for export to foreign markets. Given the large volume of waste generated in the region, there is ample opportunity for the establishment of integrated waste processing operations on specific waste streams in various project countries. The operations should be organized such that each waste stream is processed at a centralized plant which caters to the region to capitalize on economies of scale. Despite all these challenges, the resilient business operators possess a wide range of investment plans with a strong requirement of external financing. These have the potential to be the first-round candidates for loans and grants under the IDB Child component of the GEF ISLANDS Project.

3. Objectives of IDB's Child Project

The Global GEF ISLANDS Program overarching objective is to support Small Island Developing States (SIDS) to enter a safe chemical development pathway by strengthening their ability to control the flow of chemicals, products, materials into their territories and to unlock resources for the long-term management of chemicals and waste, including integrated chemicals and waste management, in SIDS. The geographical scope of the Global GEF ISLANDS Program is limited to SIDS from the Atlantic/Caribbean, Indian Ocean and Pacific regions. The Global Program is composed of child projects - the Caribbean Program will be

supported by three child projects. A UNEP/FAO-implemented child project for nine (9) Caribbean countries will work with government agencies such as regulators, customs, and import departments on the regulatory framework for chemical and waste management but will also identify potential investment opportunities in the region arising from these reforms. A similarly designed UNEP implemented project developed for three (3) Caribbean countries (The Bahamas, Cuba and Dominica) will strengthen their ability to control the flow of chemicals, products, materials into their territories and to unlock resources for long term management of chemicals and waste including integrated chemicals and waste management. These child projects will also work together with participating countries to implement several interventions with the overarching aim of disposing of harmful chemicals and materials in an environmentally sound manner, including the collection, safeguarding, export and disposal of PCBs, obsolete pesticides and chemicals, DDT stockpiles and selected mercury added products. Finally, the UNEP child projects include a component on establishing effective circular and life-cycle management systems in partnership with the private sector, which will be done in close communication with this IDB Group-implemented Child Project.

Of the twelve (12) Caribbean countries participating in GEF's Global ISLANDS Program, this IDB Group-implemented child project will help create or expand investments by the private and public sector in ten (10) Caribbean countries in chemical and waste management and provide direct support to these investments through potential IDB, IDB Lab or IDB Invest projects. The participating countries are: Barbados, The Bahamas, Belize, Dominican Republic, Guyana, Suriname, Trinidad and Tobago, Antigua and Barbuda, Saint Kitts and Nevis and Saint Lucia.

Under this framework, the main objectives of the project are: i) to develop and strengthen the legal, regulatory and financial frameworks, tools and instruments needed to enable public and private investments around sustainable chemicals and hazardous waste management in the Caribbean; and ii) finance and co-finance public and private sector investments aimed at improving the safe management of chemicals and waste.

A Facility will be created to provide support, in the form of technical assistance and investment grants, for the design and implementation of bankable projects that require additional resources to (1) finalize technical designs, feasibility studies, additional assessments (market, environmental, and social); (2) structure/enable specific implementation mechanisms (e.g. PPPs) and/or specific financing mechanisms (e.g. bonds, results based financing); (3) leverage additional co-financing to expand current operations which can be blended to support large-scale investments in the C&W sector; (4) create the necessary enabling environment for C&W investments to be feasible and attractive for both the public and private sectors; and (5) de-risk investments. IDB's child project will also allocate funding towards knowledge management and information dissemination activities that will help increase the capacity in the region to implement C&W projects, share experiences and best practices at the global level, and support the creation of strategic partnerships and resource mobilization strategies.

The Facility will support the Global GEF ISLANDS Program by assisting SIDS in transforming the management of chemicals and waste in support of multiple chemicals related multi-lateral environmental agreements (including the Basel, Rotterdam, Minamata, and Stockholm Conventions, the Montreal Protocol and Strategic Approach to International Chemicals Management-SAICM). By using the Conventions as an entry point to improve capacity for import monitoring and customs, to improve policy and legislation pertaining to chemicals and wastes, introducing best practices and approaches for SIDS in chemicals and waste management (e.g. building capacity for export, creating sustainable opportunities for circular local waste management and treatment systems and supporting infrastructure; phasing-out products that results in hazardous wastes, etc.), and mobilizing finance, the Facility will support the IDB Group's efforts to accelerate the sustainable development of the Caribbean and help participating countries to comply with global governance requirements. This Facility will provide early-stage financing (through non-reimbursable technical assistance and investment grants) to develop and integrate innovative solutions into the management of chemicals and waste in different economic sectors. It will support enterprises and public interventions that move towards a safe chemical

development pathway while generating jobs and economic growth. These jobs should be sustainable, and market driven, phasing out the current subsidy approach as part of a longer-term strategy.

The various departments within the IDBG (IDB, IDB Invest and IDB Lab) will have access to the Facility's grant resources. The resources will be utilized with the expectation that technical assistance resources will lead to actual investments and will, therefore, ensure pre-identified projects with pre-identified clients that are already in conversations with IDB departments (private and public) reach a readiness stage where they can be approved, implemented and/or financed. Resources will be available to the IDB teams that are engaged in these projects and wish to undertake analyses, activities, and assessments to (1) mainstream the sound management of chemicals and waste into their projects which requires additional resources to ensure it is effectively done and aligned with the GEF ISLANDS Program; or (2) invest and implement in specific chemicals and waste management activities but require additional grant resources to finalize their investment proposals.

4. Project Structure and Eligible Subprojects/Activities

Resources from the Facility will be approved on a case-by-case basis (subprojects) using pre-established eligibility criteria that the IDB has defined in coordination with GEF. The Bank will utilize its existing platforms and initiatives such as the Natural Capital Lab and the Bank's Sustainable Islands Platform. among others, to support technical programming and project identification. The blending of resources from the GEF, IDB Invest, IDB Lab and the IDB will support the development and piloting of new business models, tools, and methodologies to assist public and private sector clients in planning the chemicals and waste agenda in a sustainable manner. The programming of resources with beneficiary countries will be done in close coordination with the relevant Bank Departments and Country Offices of the Vice Presidency of Countries, and in alignment with country programming and country strategies, following the procedures already in place in the Bank. Projects will be complementary and build upon regulatory reform work being done by UNEP/FAO in the other child project for the Caribbean and build upon or complement the activities undertaken by these projects in the management of Chemicals and Waste.

Emphasis will be also given for this Facility to create a platform and a space to foster and support innovation, experimentation, opportunities to scale up and the creation and dissemination of knowledge in the context of the environmental and sound management of chemicals and waste in participating countries and the Caribbean region.

The Facility will provide technical assistance and investment grants to support the development and integration of innovative solutions around chemicals and waste. The Facility's official name under IDB systems is: **Caribbean Incubator Facility for the Sustainable Management of Hazardous Chemicals and Wastes** and will be processed as operation RG-O1674.

By supporting both the public and private sector, the Facility will accelerate the safe management of chemicals and waste in the Caribbean while creating jobs and economic growth. It is expected that the grant resources provided by GEF may be combined with or directly assist blended finance investments or raise concessionality of potential IDB loans to the public sector.

The Facility will deploy funding through two financing instruments: i) non-reimbursable technical assistance, and ii) investments grants. The use of non-reimbursable technical assistance and/or investment grants will be defined by the financial needs of each subproject approved under this Facility. Each subproject will be approved internally by IDB's internal counterpart (IDB Lab, IDB Invest or IDB), and may also include co-financing by the specific counterpart leading the design of each subproject.

Types of products that will be funded by the facility may include, but are not limited to:

· Financial incentives such as investment grants for Small and Medium Size private sector enterprises (SMEs) and large private sector companies willing to invest in chemicals and waste management

· Capacity building activities to increase productivity and incorporate sustainability best practices and technologies

· Acquisition of cutting edge and affordable technologies/equipment.

· Pre-fesibility and Feasibility studies for public and private interventions in the management of chemicals and hazardous waste

· Development of policy proposals and legislation around hazardous chemicals and waste

· Management and Financial strategies

· Market assessments

· Designing of gender action plans

· Environmental impact assessments and mitigation plans

Eligibility Criteria: Eligible activities to be financed under subprojects should support countries and clients to enter a safe chemical development pathway by strengthening their ability to control the flow of chemicals, products, materials into their territories and to unlock resources for the long-term management of chemicals and waste, including integrated chemicals and waste management. Sub-projects to be financed under the Facility must demonstrate the following to qualify as eligible for funding:

· Client is a Government or private sector entity from one of the 10 countries that endorsed the GEF proposal[7]

· Capacity to deliver at least one global environmental benefit as per the GEB's indicators established by the GEF's chemical and waste focal area (Annex A)

· Technical, financial, environmental and social feasibility validated by IDB's specialists;

· Compliance with IDB's risk assessments and policies, including Environmental and Social Safeguards;

· Not classified as Category "A" under IDB's Environmental and Social Safeguards Policy;

· Commitment to comply with IDB's and GEF's reporting and accountability requirements;

· Capacity or potential to generate jobs.

· High levels of co-financing or parallel financing, at least 1:2 ratio;

· Long-term sustainability plans, including financial exit strategies;

· Innovative application of financial mechanisms, business models, partnerships and approaches;

· Potential for replicability or scalability.

· Projects must demonstrate alignment with the following topics, sectors and investment fields: establishment of standards and build capacity to control/limit and prevent the import of hazardous chemicals; promotion and development of sustainable procurement practices and tools such as green procurement guides, extended producer responsibility approaches, etc.; development of regional and national hazardous chemicals and wastes management strategies, policies and legislation; improving the technical, institutional and enforcement capacities at the regional and national levels; awareness rising and information/knowledge dissemination; improving the enabling environment for public and private sector investments in C&W; development of management and destruction/stabilization strategies for C&W; development of market-based laws and regulations for transitioning to circular economy; development of legislation and standard operating procedures for the creation and improvement of public sector financing mechanisms for C&W; improvement of existing mechanisms for C&W financing; development of institutional capacity assessments and recommendations for C&W management; provision of technical assistance to support private sector engagement in the C&W sector; design and structuring of innovative project implementation mechanisms for de-risking of investments and innovative financial structures/mechanisms/tools/etc.; Waste Electrical and Electronic Equipment (WEEE); Electrical and Electronic Equipment (EEE); End-of-Life Vehicles (ELVs); mercury containing products; Used and End-of-Life Tyres; Plastics; Used Lubricating Oils.

Sectors and companies that have a negative impact on society or the environment or those that are not eligible to receive funding from the IDB (e.g. tobacco companies or producers of alcoholic beverages) are not eligible for funding under this Facility.

The life cycle of IDB's child project will be up to five years (60 months) after the Facility is officially approved by the IDB Board. The Facility may be extended following IDB and GEF policies and procedures. The Facility will be open for additional contributions from external donors as long as these donors accept the conditions outlined in this Facility Document or any other conditions established by the IDB and/or GEF.

5. Facility components and activities, and expected outputs and outcomes

The IDB child project will be structured in the following five components:

- Component 1: Financing policy and regulatory enabling processes and building capacities to safely manage hazardous C&W (US$ 700,000)

Outcome 1: Participating countries have developed policy, strategy, legal and institutional enabling environments for public and private sector investments; and have developed capacities to support, guide and facilitate the safe management of C&W.

This component of the Facility will be focused on working with national government counterparts such as Ministries, statutory bodies and/or waste management agencies with responsibility for chemicals/hazardous waste management. The financial support will be provided to countries that are willing to increase their public funding commitments towards the safe management of chemicals and waste in the region. Financing will be targeting the scaling up of public initiatives but also the business-enabling environment for engaging the private sector in the transition towards a sustainable management of chemicals and waste in the selected countries.

Activities eligible to be financed under this component are expected to be aligned with the following thematic areas[8]:

· Regional and/or national level activities geared towards the creation of the necessary enabling environment to allow countries to manage C&W, including those activities arising from the outcomes and recommendations of the legislative, infrastructure and institutional capacity assessments undertaken as part of GEF ISLANDS Child Projects 2 and 6. Special attention will be given to activities related to the priority waste streams identified under this child project.

· Regional and/or national level activities that will support the necessary market-based laws and regulations for transitioning to circular economy (laws and regulations which govern the recovery of resources from waste). The activities will include closing the gaps in the legal framework for transitioning to a circular economy occasioned by the non-compliance of the various waste management, environmental, pesticides and toxic chemicals laws of the

participating countries with the obligations of the Basel, Rotterdam and Stockholm Conventions. They will also provide support to overcome the barriers in the legal framework for transitioning to a circular economy found in legal provisions regulating chemicals and waste management in the participating countries which discourage the use of waste as a resource.

· Development of necessary legislation and standard operating procedures for the creation and improvement of public sector financing mechanisms to ensure resources are allocated to C&W management and investment in participating countries. Success factors and lessons learned from existing mechanisms such as the Green Fund in T&T or the Sustainable Island Resource Framework Fund in Antigua & Barbuda will be used to inform this activity. This includes the review of existing mechanisms with the objective of optimizing their use and expanding its financing options to ensure C&W activities are included as well as the creation of completely new financial instruments.

· Development of in-depth analyses on current challenges in participating countries related to enforcement of chemicals and waste or relevant environmental laws and regulations, given that enforcement is one of the main and most common challenges in these countries. Based on these analyses, “books of rules and principles of enforcement” can be developed for selected countries in an effort to provide guiding information and tools for enforcement officers. Potential target audiences could be environmental police/officers in environmental protection/management agencies, and customs and border control officers.

· Adoption and customization of sustainable procurement practices and tools such as green procurement guides, extended producer responsibility approaches, etc for participating countries and at the regional level, including the recommendations produced under UNEP’s ISLANDS Child Project, with the objective of controlling and decreasing the amount of goods and services imported that contain hazardous materials which contribute to the challenges of managing C&W. Special attention will be given to the priority waste streams studied under this child project.

· Improvement of institutional capacities, coordination, consultation and collaboration mechanisms or bodies, including the clarification and identification of responsibilities and mandates of all agencies and institutions involved in C&W management. This includes undertaking institutional capacity assessments and developing recommendations to improve the current technical capacities and coordination mechanisms of existing agencies as well as identifying ways of improving current processes and operations.

Component 1 will contribute to the following UNEP/FAO project outcomes:

- Outcome 1: Countries have in place effective mechanisms to control chemicals, materials and products that lead to the generation of hazardous waste
- Outcome 2: Harmful chemicals and materials present and/or generated in the countries are being disposed of in an environmentally sound manner
-

- Component 2: Improving the bankability of hazardous C&W public sector projects (US$ 1.2 million)

Outcome 2.1: The technical quality and bankability of hazardous C&W projects is improved in participating countries

Outcome 2.2: Public sector financing targeting C&W management is increased in participating countries

This component of the Facility will be focused on working with national government counterparts such as Ministries, statutory bodies and/or waste management agencies with responsibility for chemicals/hazardous waste management to improve the technical quality and bankability of chemicals and hazardous waste public sector projects. The financial support will be provided to countries that are willing to increase their public funding commitments towards the safe management of chemicals and waste in the region. Financing will be targeting the design, implementation and scaling up of public sector investments in the transition towards a sustainable management of chemicals and waste.

Activities eligible to be financed under this component are feasibility and feasibility studies, data collection, and technical designs and other types of studies that improve the bankability of chemicals and hazardous waste public sector projects

The following is a tentative pipeline of projects for Component 2 identified during project preparation phase[9]:

· The IDB infrastructure loan operations in the Caribbean could be a strategic umbrella to "blend" GEF resources from this facility. Thorough conversations with IDB team leaders, loan operations such as a Housing loan in Trinidad and Tobago could have significant demand to make use of GEF resources to integrate chemicals and waste considerations into housing development in T&T.

· Health and Logistics (Ports) can also be a sector to be considered in 2021.

· Environmental Policy Based Loans (PBLs) are also windows of opportunities to improve governance and institutional management in the chemicals and waste sector. The GEF grant resources from this facility could be used to finance institutional improvements that would result in new frameworks for the sustainable management of chemicals and waste in the Caribbean.

· GEF resources from this facility could also finance technical cooperation projects to generate bankability for a loan operation that prioritizes chemicals and waste management. If there is an official interest from a country, funds could be approved to support structuring and preparation of a loan operation. For example, there would be an opportunity to provide support programs for initiatives such as the Roof to Reefs Program in Barbados, given that one of its pillars is the reduction of waste (liquid and solid) reaching the marine environment.

The Gender Action Plan developed during the design phase will be applied to eligible subprojects and activities to ensure that gender targets, guidelines and strategies are properly incorporated.

Component 2 will contribute to to the following UNEP/FAO project outcomes:

- Outcome 1: Countries have in place effective mechanisms to control chemicals, materials and products that lead to the generation of hazardous waste
- Outcome 2: Harmful chemicals and materials present and/or generated in the countries are being disposed of in an environmentally sound manner

- Component 3: Supporting the design of and access to financing for small and medium private sector investments in sustainable C&W management (US$ 5 million)

Outcome 3: Private sector investment in sustainable C&W management among small and medium size companies is increased in participating countries

Private sector companies vary in size and in stages of development. Each stage of growth faces a variety of challenges and requires different capital contributions from investors and financiers to address the balance between risk and return[10]. Funding for private sector to overcome these challenges in the Caribbean is relatively short and when it comes to small and medium size private sector engagement in the safe management of C&W, these funds are even more scarce or inexistent.

This component will focus on addressing the barriers faced by small and medium size companies when financing projects/investments aligned with the priority waste streams and technologies assessed as part of the PPG phase and presented in previous sections. Funding under this component will be applied to address existing technical and financial barriers to unlock and influence deployment of new additional investments in C&W in the Caribbean. Opportunities for private investing in C&W are expected to be revealed as well as the financing appetite that is projected to move beyond the limits of this facility. Global Environmental Benefits are expected to be financed and generated in a longer term under these investments along with the creation of green jobs which will support the economic recovery of the region.

This grant facility will deploy funding through technical assistance, contingent recovery grants and, whenever possible, investment grants to SMEs. Technical assistance grants will be designed in the context of subprojects and may be co-financed by the IDB-Lab.

Activities eligible to be financed under this component are expected to be aligned with the following:

· Technical assistance for the development of technical designs, pre-feasibility analyses, training to increase productivity and incorporate sustainability best practices and technologies, environmental assessments and mitigation plans, acquisition of cutting edge and affordable technologies, market studies, linkage to high-value markets or to value chain actors, and other assessments to support private sector engagement in the C&W sector. This activity will aim to finalize mature project proposals currently under development with the IDB Group, including those in IDB's Sustainable Islands Platform, those identified through the upcoming Blue-Tech 4 Waste on waste management or any other Bank platform or channel.

· Design and structuring of innovative project implementation mechanisms for de-risking of investments such as, but not limited to, sustainable PPP frameworks[11] and/or innovative financial structures/mechanisms/tools/etc such as, but not limited to, private sector and/or public sector thematic bonds (e.g. green/sustainable/blue/gender bonds) and results-based financing.

IDB Lab[12] is designing the second edition of the Blue-Tech Challenge focusing on Chemicals and Waste management in the Caribbean (a.k.a. Blue-Tech 4 Waste). The Challenge will identify, select, and approve investments that will be partially financed by this Facility. The Challenge is expected to leverage approximately US$10 million in non-reimbursable and reimbursable instruments from non GEF resources. Technical assistance combined with loans will be the main financial instrument to be applied through these investments.

Component 3 will contribute to to the following UNEP/FAO project outcome:

- Outcome 3: Build-up of harmful materials and chemicals is prevented through establishment of effective circular and life-cycle management systems in partnership with the private sector

- Component 4: Supporting the design of and access to financing for large private sector investments in sustainable C&W management (US$ 2.5 million)

Outcome 4: Private sector investment in sustainable C&W management among large size companies is increased in participating countries

Private sector companies vary in size and in stages of development. Each stage of growth faces a variety of challenges and requires different capital contributions from investors and financiers to address the balance between risk and return[13].

This component will focus on addressing the barriers faced by large companies when financing projects/investments aligned with the priority waste streams and technologies assessed as part of the PPG phase and presented in previous sections. Funding under this component will be applied to address existing technical and financial barriers in order to unlock and influence deployment of new additional investments in C&W in the Caribbean. Opportunities for private investing in C&W are expected to be revealed as well as the financing appetite that is projected to move beyond the limits of this facility. Global Environmental Benefits are expected to be financed and generated in a longer term under these investments along with the creation of green jobs which will support the economic recovery of the region.

This grant facility will deploy funding through technical assistance, contingent recovery grants and, whenever possible, investment grants to large companies. Technical assistance grants will be designed in the context of subprojects and may be co-financed by the IDB-Invest.

Activities eligible to be financed under this component are expected to be aligned with the following:

· Technical assistance for the development of technical designs, pre-feasibility analyses, training to increase productivity and incorporate sustainability best practices and technologies, environmental assessments and mitigation plans, acquisition of cutting edge and affordable technologies, market studies, linkage to high-value markets or to value chain actors, and other assessments to support private sector engagement in the C&W sector.

· Design and structuring of innovative project implementation mechanisms for de-risking of investments such as, but not limited to, sustainable PPP frameworks[14] and/or innovative financial structures/mechanisms/tools/etc such as, but not limited to, private sector and/or public sector thematic bonds (e.g. green/sustainable/blue/gender bonds) and results-based financing.

Component 4 directly contributes to the following UNEP/FAO project outcome:

- Outcome 3: Build-up of harmful materials and chemicals is prevented through establishment of effective circular and life-cycle management systems in partnership with the private sector.

The following is a tentative pipeline of projects for Component 4 identified during project preparation phase:

IDB Invest[15]

The IDB Invest Tourism team has showed interest in combining GEF resources from this facility with a possible credit operation with a company from the tourism industry. Current economic circumstances might affect the conditions and size of the possible credits but should also increase the opportunity to integrate chemicals and waste considerations in the possible project design. The initial conceptual idea was to make GEF resources available to improve performance on site management of chemicals and waste in the hotel and cruise industry. In this case GEF resources would be used as technical assistance to design a component on chemicals and waste and potentially pilot initial interventions.

The use of GEF resources in recovery plans for the Tourism industry in the Caribbean in the form of a regional effort could also be an opportunity for funds available in this facility. In case a regional facility is designed for the tourism industry in the Caribbean, the funds from this facility could be available to support interventions on chemicals and waste management that are aligned with the investment criteria defined for this facility.

- Component 5: Designing applied knowledge mechanisms for partnership building (US$ 200,000)

Outcome 5: Knowledge is managed as an asset and partnerships are built in participating countries and at the regional level

The knowledge generated under the investments of this facility are assets that need to be managed. These assets will be the key to implement transformational changes in sectors that are responsible for the unsustainable use of chemicals in the Caribbean region and most especially in the participating countries. Private sector development relies on quality data to assess risks and opportunities. The knowledge asset generated by this facility is expected to fill a part of the informational gap that blocks the flow of private capital to projects focused on the sustainable practices around chemicals and waste.
This component will focus on supporting the knowledge management requirements of the global program while bridging the knowledge generated by IDB and UNEP/FAO child projects in the Caribbean. The major pillars of this component will mainly focus on 1) Managing knowledge as an asset; 2) Collecting the knowledge generated by the sub-projects financed under the Facility; 3) Creating the appropriate communication and sharing mechanisms; and 4) Supporting the establishment of new partnerships and funding sources.

Specific activities to be funded will include through technical assistance are:

· In collaboration with the CCKM project, managing knowledge as an asset by identifying the knowledge needs from stakeholders, mainly focused on private investors and donors, and working on the knowledge generated by the sub-projects to address the needs from strategic stakeholders

· Collecting the knowledge produced under this Facility's subprojects by creating communication channels with counterparts involved in the implementation of said sub-projects

· Sharing the knowledge obtained by creating effective sharing and communication channels with the stakeholders

· Bridging the knowledge obtained in the IDB and UNEP/FAO child projects by monitoring the knowledge generated in both projects and building combined knowledge products to be offered to stakeholders using the programmatic guidance of the CCKM project

· Communicating with the global platform to ensure that the knowledge generated by the IDB child project is shared with the global stakeholders

· Provide inputs and report on key programmatic indicators to the CCKM project for the annual program reporting

· Supporting partnership building and new resource mobilization strategies to accelerate the transformational change in sectors involved in chemical and waste.

Component 5 will contribute to to the following UNEP/FAO project outcome:

- Outcome 4: Knowledge generated from the Child Project is disseminated to Participating Countries and the CCKM and applied by SIDS

6. Strategic alignment with UNEP and FAO ISLANDS Child Projects

The ISLANDS global program's overarching objective is to support small island developing states (SIDS) to enter a safe chemical development pathway by strengthening their ability to control the flow of chemicals, products, materials into their territories and to unlock resources for the long-term management of chemicals and waste, including integrated chemicals and waste management, in SIDS. The geographical scope of the Global GEF ISLANDS Program is limited to Caribbean, Indian Ocean and Pacific countries. The Global Program is composed of child projects - the Caribbean Program will be supported by three child projects. Child Project 3 is a UNEP/FAO-implemented child project that will work with government agencies such as regulators, customs, and import departments on the regulatory framework for chemical and waste management but will also identify potential investment opportunities in the region arising from these reforms. A similarly designed UNEP implemented project developed for the Bahamas, Cuba and Dominica (Child project 6) will strengthen their ability to control the flow of chemicals, products, materials into their territories and to unlock resources for long term management of chemicals and waste including integrated chemicals and waste management. Lastly, this IDB Group-implemented project (Child project 2) will help create or expand investments by the private and public sector in chemical and waste management and provide direct support to these investments through potential IDB, IDB Lab or IDB Invest projects. The IDB child project has been specifically designed in a way that it reinforces synergies and collaboration with the other ISLANDS Child Projects in the Caribbean, especially with UNEP/FAO's Child project 3. It directly contributes to at least 4 of its outcomes by financing activities that will lead to setting up mechanisms to control chemicals and waste generation, supporting the environmentally and sound disposal of chemicals and waste, establishing effective circular and life-cycle management systems in partnership with the private sector, and ensuring that the knowledge generated from the project is disseminated regionally and globally.

The expectation is that both these child projects will be mutually beneficial and will therefore feed off and into each other. Therefore, a key aspect and objective of this child project is to ensure that areas of potential synergies and collaboration are clearly identified and established. The following table aims to explain how this will be ensured:

Table 8. Synergies and opportunities for collaboration between the IDB and UNEP/FAO child projects

UNEP/FAO Child Project activity	Synergy with IDB Child Project
Activity 1.1.1 - Assess relevant legislation, infrastructure, and institutional capacities to manage hazardous chemicals in materials, products and wastes at national and regional levels	Outputs of this exercise will be utilized to inform eligible activities under Component 1, especially those directly related to creating the necessary enabling environment to allow countries to manage C&W
Activity 1.1.2 - Specific hazardous chemicals and wastes policies and legisl	The implementation of this activity will require consultation and coordination with the IDB child project which also aims at developing necessary legislation and related documents although specifically for the creation and impro

ation developed to support management at national and regional levels	vement of public sector financing mechanisms to ensure resources are app ropriately allocated to C&W management. In those cases where there is pot ential for overlap or replication coordination will be ensured to avoid this
Activity 1.1.3 - National strategies (one per country) developed for adoption and implementation of the model policies and legislation	Synergies will be ensured by ensuring this child project utilizes the results a nd recommendations coming out of the national working sessions planned under this UNEP activity (especially for activities under Component 1 such as the development and customization of sustainable procurement practice s and tools) and that outputs from the IDB child project are provided and us ed by the UNEP/FAO child project as inputs into the national strategies to b e developed
Activity 1.2.1: Conduct a Training Needs Assessment (TNA) for implementa tion of the Chemicals and Wastes MEAs	The TNA report will be used by the IDB child project to inform activities und er Component 1, especially as it relates to the identification of institutional challenges in countries that directly impact enforcement capacities and too ls
Activity 1.2.2: Develop a “Training of Trainers” programme to extend the cap acity in key agencies mandated with the implementation of and the monitor ing of Chemicals and Wastes MEAs	Select counterparts and stakeholders involved in the implementation of acti vities and projects financed by IDB’s child project will be invited to participat e in the training programs conducted under the UNEP/FAO child project
Activity 1.2.3: Develop training material and conduct training for the gaps id entified from the Training Needs Assessment	
Activity 1.2.4: Develop, adapt or utilize an online training platform which is d esigned to promote sustainability	
Activity 1.2.5: Develop and implement an awareness raising programme on Chemicals and Wastes MEAs Training Platform	This activity will greatly benefit the IDB child project’s target audience by rai sing awareness about the importance of C&W management in the region an d disseminating the information about opportunities for financial assistanc e and objectives of the Facility. It will be also ensured that all materials deve loped are publicly available to all stakeholders, including the private sector which is a key part of the target audience of IDB’s child project
Activity 1.3.1 – Develop a formal mechanism for inter-agency collaboration and communication as it relates to the trade of restricted or controlled che micals, products and waste and management of data generated by relevant agencies	This activity will inform activities under Components 1 and 5 of IDB’s child p roject, especially those aimed at improving institutional capacities, coordin ation, consultation and collaboration mechanisms or bodies (such as Instit utional Capacity Assessments). At the same time, outputs produced as part of IDB’s child project will inform this UNEP/FAO activity

Activity 1.3.2 – Improve capacity of customs and border control agencies for the identification of trade in restricted and prohibited hazardous chemicals, products containing chemicals and waste	This activity will be coordinated with activities under Component 1 (such as those related to improving enforcement capacities and tools). Outputs of both child projects will be shared to contribute to each other's results.
Activity 1.4.1 – Develop two (2) regional standards and create national road maps to support countries with future development and implementation of labelling and product standards for relevant chemicals and products	Outputs of this activity will inform activities of IDB's child project where applicable
Activity 1.4.2 – Detailed multi-institutional assessment of current implementation of GHS, gap analysis and recommendations as it relates to capacity to respond and control chemicals imports at the borders	Outputs of this activity will inform activities of IDB's child project where applicable
Activity 1.5.1 - Assess enabling environment for Sustainable Procurement in countries and determine which products lend themselves to such policy	This activity will inform the implementation of activities under Component 1 of IDB's child project, especially those related to the development and customization of sustainable procurement practices and tools. Outputs from the IDB child project will be also provided to and used by the UNEP/FAO child project for the development of this activity
Activity 1.5.2 - Assess and select sustainable suitable alternatives to PFAS, POP-PBDEs, SCCPs/PCBs/PCNs and mercury added products	Outputs of this activity will inform activities of IDB's child project where applicable
Activity 1.5.3 - Training and sensitization of stakeholders and consumers on the benefits of Sustainable Procurement	This activity will benefit the IDB child project's target audience by raising awareness about the importance and relevance of sustainable procurement in the region. It will be also ensured that all materials developed are publicly available to all stakeholders, including the private sector which is a key part of the target audience of IDB's child project
Activity 2.1. – Develop management and destruction/stabilisation strategies to eliminate PCBs, obsolete pesticides and chemicals, DDT stockpiles and selected mercury added products	These activities have the potential of informing potential projects that could be financed through the Facility of IDB's child project (Component 2, 3 and 4) so coordination will be ensured in that regard
Activity 2.1.2 – Elimination of obsolete chemicals, PCBs, DDT and mercury added products through safeguarding, centralization and destruction/stabilisation.	
Activity 2.1.3 – Awareness campaign to promote or apply BAT/BEP to minimize UPOPs emissions from open burning	
Activity 2.2.1 – Develop roadmaps for the preparation and implementation of national hazardous waste management strategies in nine (9) project cou	

ntries	
Activity 2.2.2 – Establish regional guidelines for the management of various hazardous waste streams specific to the Caribbean Region in nine (9) proje ct countries.	This activity has the potential of informing potential projects that could be fi nanced through the Facility of IDB's child project (Components 2, 3 and 4) s o coordination will be ensured in that regard. Also, the priority waste stream s identified as part of IDB's child project could inform the selection of those waste sector scenarios chosen under the UNEP/FAO activity for the develo pment of these guidelines
Activity 2.2.3 – Assess hazardous waste management in the rural areas an d develop a model hazardous waste management strategy	This activity has the potential of informing potential projects that could be fi nanced through the Facility of IDB's child project (Component 2) so coordin ation will be ensured in that regard
Activity 3.1.1 - Feasibility assessment for EEE management, focussing on E PR and a Regional Approach	These activities have the potential of informing potential projects that could be financed through the Facility of IDB's child project (Components 1 and 2) given that E-waste is one of the priority east streams identified so coordinat ion will be ensured in that regard
Activity 3.1.2 - Extended Producer Responsibility (EPR) system for environm entally sound management of WEEE developed in the project countries	
Activity 3.1.3 - Improve the Capacity of WEEE Management through a regio nal approach	
Activity 3.2.1 - Material Flow, Economic and Technical Assessment in order to design ELVs management scheme, considering a regional approach	This activity has the potential of informing potential projects that could be fi nanced through the Facility of IDB's child project (Component 2, 2 and 4) so coordination will be ensured in that regard
Activity 3.2.2 - Improve ELVs treatment capacity	This activity will greatly benefit the IDB child project's target audience by bui lding capacity on ELVs treatment in the region. It will be ensured that all ma terials developed are publicly available to all stakeholders, including the priv ate sector which is a key part of the target audience of IDB's child project. S elect counterparts and stakeholders involved in the implementation of activ ities and projects financed by IDB's child project will also be invited to partic ipate in the training programs conducted under the UNEP/FAO child project Also, the roadmap to be developed for establishing the adequate and suffici ent ELVs management infrastructure for at least three (3) Project Countries has the potential of informing potential projects that could be financed thro ugh the Facility of IDB's child project (Components 2, 2 and 4) so coordinati on will be ensured in that regard

Activity 3.2.3 - Demonstrate improvement of three (3) existing national ELV treatment facilities	This activity has the potential of informing potential projects that could be financed through the Facility of IDB's child project (Components 2, 2 and 4) so coordination will be ensured in that regard
Activity 3.3.1 - Assess plastic waste generation from the cruise ship sector in the DR, identifying ways to process cruise ship plastic streams parallel to municipal waste in an environmentally sound manner	This activity has the potential of informing potential projects that could be financed through the Facility of IDB's child project (Components 3 and 4) so coordination will be ensured in that regard
Activity 3.3.2 - Assess the material flow of PVC wastes from selected sectors in 3 pilot countries and identify environmentally sound management options	This activity has the potential of informing potential projects that could be financed through the Facility of IDB's child project (Components 2, 3 and 4) so coordination will be ensured in that regard
Activity 4.1.1 - Information Communication	This activity will greatly benefit the IDB child project's target audience by informing and disseminating information to key stakeholders in the C&W sector. It will be ensured that all materials developed are publicly available to all stakeholders, including the private sector which is a key part of the target audience of IDB's child project
Activity 4.1.2 Development of knowledge products relating to all key training and developed guidelines	This activity will greatly benefit the IDB child project's target audience by producing knowledge products including but are not limited to: Guidelines for updating restricted and prohibited import lists; Regional strategy for implementation of 8-digit or 10-digit HS Codes for specified mercury added products; RoadMap for national and regional response to the addition of new POPs to the SC Convention; Pre-screening and inspection guidelines for the identification of imports of mercury added products; Training plan and supporting material to build customs and border control agencies' capacity; and Roadmaps for development of standards and monitoring and enforcement of new standards. It will be ensured that all materials developed are publicly available to all stakeholders, including the private sector which is a key part of the target audience of IDB's child project
Activity 4.1.3 Raising awareness on plastic pollution among Caribbean youth through implementation of the Tide Turners Challenge Badge	This activity will greatly benefit the IDB child project's target audience by raising overall awareness about the importance of plastic pollution management in the region. It will be ensured that all materials developed are publicly available to all stakeholders, including the private sector which is a key part of the target audience of IDB's child project
Output 4.2 - FAO Global [illegible]	This activity will greatly benefit the IDB child project's target audience by raising overall awareness and producing knowledge about the importance of [illegible]

Output 4.2 - FAO Global component (focused on developing and enhancing global instruments for strengthening the decision-making process in relation to agrochemicals. Key knowledge products will be produced and fed into the UNEP/FAO's child project. This component will also focus on development of regionally focused learning products which will be linked to the SAICM Knowledge Platform)	C&W management in the region and disseminating the information about opportunities for financial assistance and objectives of the Facility. It will be ensured that all materials developed are publicly available to all stakeholders, including the private sector which is a key part of the target audience of IDB's child project. Select counterparts and stakeholders involved in the implementation of activities and projects financed by IDB's child project will also be invited to participate in the training programs conducted under the UNEP/FAO child project

From the table above, it can be noted that the majority of synergies between these 2 child projects arise under Component 1. However, as indicated for some of the activities, all relevant outputs from the UNEP/FAO child project that can be used to inform and improve activities carried out under Components 2, 3 and will also be utilized, depending on the final projects selected for financing under the Facility and the specific demands arising in those projects' contexts.

Lastly, in an effort to create overarching collaboration and synergies and recognizing that resources available to both child projects are limited, efforts to advance the C&W agenda in all participating countries will be made and forces will be joined under both child projects by (when possible) one covering activities/countries that the other could not allocate resources for due to budget constraints, as long as the activities to be implemented are in line with the objectives and expected results of both child projects.

7. Strategic alignment with existing IDB programs

The IDB will also utilize its existing platforms and initiatives to support technical programming and project identification to assign and utilize the resources under this Facility. Some of those platforms and programs expected to establish linkages and synergies with this child project are presented below:[16]

IDB Sustainable Islands Platform

The Inter-American Development Bank (IDB) has developed the Sustainable Islands Platform (SIsP) to promote sustainability among island territories through innovative development pathways under three program pillars: Blue Economy, Circular Economy and Climate Resilience. Island territories are constrained by multiple challenges, including limitation of scale for action, limited access to freshwater, susceptibility to natural disasters while having limited capacity to respond to and recover from such disasters, vulnerable economies dependent on narrow resource bases and reliance on few, distant markets for international trade, reliance on limited economic industries (i.e. tourism), and limited means available to responsibly utilize natural resources on a sustainable basis. These characteristics make SIDS highly sensitive to external financial and economic shocks. Overcoming these challenges requires a paradigm shift from the perspective of islands as small, land-based economies to significant and essential ocean-based economies. Through this platform, the IDB is encouraging island leaders to re-imagine integrated sustainability solutions that examine the linkages and interactions between their economies, societies, and the environment within the context of an oceanic development space. The participating islands territories are all SIDS and islands belonging to continental countries geographically located in the Caribbean Sea.

This child project and the Facility that is to be created will support the transition to a more environmentally sound management of wastes and chemicals in participating countries[17]. The activities linked to that objective will also directly contribute to the Climate Resilience pillar of SIsP by reducing GHG emissions; to the Circular Economy pillar by promoting the reusing, recycling and repurposing of wastes; and to the Blue Economy pillar by reducing the amount of waste and chemicals that end up in the ocean causing pollution problems and other related issues.

Compete Caribbean Partnership Facility (CCPF)[18]

The Compete Caribbean Partnership Facility (CCPF) is a private sector development program that delivers innovative and practical solutions that stimulate economic growth, increase productivity and foster innovation and competitiveness in 13 countries across the Caribbean region. The CCPF is a partnership between the Caribbean Development Bank (CDB), the Inter-American Development Bank (IDB) and the UK Department for International Development (DFID). CCPF is focused on reigniting economic growth in the Caribbean by increasing productivity, fostering innovation and by positioning regional products and services competitively in the global market. Through competitions, CCPF invites and selects project proposals to demonstrate the kinds of investments and activities that private sector companies can adopt to achieve these results. It operates under 2 pillars:

Pillar 1 - Productivity & Innovation in Private Sector Firms: technical assistance for projects that enhance productivity and competitiveness of Caribbean businesses under four areas:

- Cluster Operations: initiatives that overcome barriers related to economies of scale and competitiveness.
- Innovations Funds: initiatives aimed at resolving low productivity.
- Technology Extension Services: technical assistance to improve business management processes and production processes.
- Entrepreneurship: Technical assistance to institutions that provide entrepreneurial support.
-
- Pillar 2 - Enhancing the Business and Innovation Climate: technical assistance is granted for activities that enhance the legal, institutional, and regulatory framework for business and innovation:

- Studies aimed at identifying constraints to competitiveness, productivity, innovation and job creation.
- Reforms aimed at improving the World Bank's Ease of Doing Business Index ranking.
- Sector level reform, capacity assessment and institutional strengthening that promotes private sector development.
- Expert advice for the implementation of policy reforms to improve business and innovation climate.

The CCPF and the objectives of this child project are fully aligned with each other and therefore it is expected that strong synergies will be built between programs, especially as it relates to opportunities for co-financing, collaboration between projects and pipeline programming and definition. The resources from this Facility can be blended with resources from the CCPF for private sector investments in chemicals and waste management related projects at the regional and national level, for participating countries.

IDB Financial Innovation Lab [19]

Leveraged co-financing from public and private sources has emerged as a policy priority among international environment and development agencies. The Financial Innovation LAB is a place to exchange ideas about financing techniques for climate change mitigation and adaptation investments. Its main objective is to create investment vehicles and financial structures that maximize private sector leverage and optimize the use of donor's funds, such as the (Clean Technology Fund, Global Environmental Facility, Green Climate Fund and more). One of its key premises is that public money should not be used for direct investing, but for de-risking. That is, donor resources should be carefully applied to absorb certain risks that constrain private sector involvement in green financing. For this purpose, the Financial Innovation LAB combines a variety of financial tools, such as guarantees, blended loans, first loss structures, insurance vehicles, etc.

The Financial Innovation LAB offers great opportunities for collaboration with this child project, especially as it relates to those activities focused on structuring and designing innovative implementation structures for projects (e.g. PPPs) as well as innovative financing instruments and tools that will help to de-risk certain investments in the chemicals and waste management sector in participating countries. There is also space to explore results-based financing schemes for eligible projects under this Facility.

IDB Lab and the Blue-Tech 4 Waste Challenge [20]

As stated in sections above, the IDB Lab will be one of the IDB Group departments expected to have access to this Facility. IDB Lab is the innovation laboratory of the IDB Group, the leading source of development finance and know-how for improving lives in Latin America and the Caribbean (LAC). IDB Lab mobilizes resources to develop innovative projects and early stage ventures with a potential for impact and great scale, benefiting populations that are vulnerable due to economic, social, or environmental factors. Since 1993 IDB Lab has approved more than US$ 2 billion in projects deployed across 26 LAC countries. As of October 29, 2018, IDB Lab is the new identity of the Multilateral Investment Fund (MIF). Within the possibilities of collaboration between the IDB Lab and this child project, there is one in particular that is expected to establish synergies in terms of the project programming exercise previously mentioned. That is the Blue-Tech 4 Waste. This challenge is basically a call for proposals under a specific preselected topic (for example the last call for proposals was done under the topic of the Blue Economy) with the purpose of identifying firms and organizations looking to pilot and scale up business models that use cutting edge technologies to contribute to the pre-selected topic. The challenge seeks to support business models that apply new technologies to deliver products and/or solutions that foster the long-term sustainability in target countries. Qualifying entities are then considered to receive financing and/or technical assistance to implement the activities outlined in their applications and project proposals. Qualifying entities also become part of the IDB Group's network of global innovators working in the Caribbean region poised to exchange knowledge, expertise, best practices, and with ample opportunities to participate in IDBG's related regional networking events.

IDB Lab is currently designing the second edition of the Blue-Tech Challenge focusing on Chemicals and Waste management in the Caribbean (a.k.a. Blue-Tech 4 Waste). The Challenge will identify, select, and approve investments that are expected to be partially financed by this Facility.

IDB Natural Capital Lab[21]

IDB's Natural Capital Lab (NatCap Lab) serves as a one-stop shop for the IDB Group to drive innovation in the conservation, landscape, regenerative agriculture, biodiversity, and marine ecosystem finance spaces. It seeks to bridge the gap between traditional environmental and financial actors from the public and private sectors to incubate, accelerate, and scale new solutions to pressing problems. The Natural Capital Lab is a risk-tolerant hub within the IDB Group. Given that the solutions to many natural capital problems are cross-cutting, it pursues an agenda of blended finance projects with all parts of the IDB Group (IDB, IDB Invest, IDB Lab), in addition to its own projects, knowledge, and strategic partnerships. The NatCapt Lab offers different options for engagement, among which Donors can support the Lab by contributing to the Lab's pool of funds for projects, knowledge, and operations; Corporations can join forces with the Lab by jointly developing projects to value and conserve natural capital within their operations or supply chains, by using and scaling technologies or solutions incubated by the Lab, or by contributing to the Lab's fund; Implementing Partners can join forces with the Natural Capital Lab to jointly develop projects, to source pipeline, or to become strategic partners in dialogues; and Entrepreneurs can receive funding, mentor other Natural Capital Lab companies, or participate in calls for proposals.

The objectives of this child project and those of the NatCap Lab are fully aligned with each other and therefore it is expected that strong synergies will be built between programs, especially as it relates to opportunities for co-financing, collaboration between projects and pipeline programming and definition. The activities expected to be implemented under this child project will contribute to the removal of chemicals and waste form the environment therefore contributing directly to the main objective of the NatCap Lab of preserving the region's environment and natural capital. At the same time, the NatCap Lab can help incubate, accelerate, and scale new solutions for environmentally sound management of chemicals and waste, which is the main objective of this child project.

[1] Baseline Chapter for UNEP's ISLANDS Child Project, 2019

[2] Edward Bahaw, David Alexander, Ahmad A Khan (2020). Private Sector Pipeline of Operations Report for the Identification of Private Sector Investment Opportunities for the Environmentally Sustainable Management of Waste and Chemicals in the Caribbean Region

[3] Additional diagrams on Problem Tree and Objective Tree available in Annex II.

[4] Detailed information can be accessed in the Final Recommendations Report prepared by Mark Usher for the BCRC-Caribbean as part of the PPG phase of this project.

[5] At the time this study was undertaken, no engagement, stakeholder counterpart nomination or communication from the Dominican Republic had been received by any of the parties involved in the ISLANDS program (UNEP, IDB, BCRC-Caribbean) so therefore it was omitted from this analysis.

[6] It is recognized that the current COVID-19 crisis has revealed some additional challenges in the C&W sector that had not been considered from the onset of the ISLANDS program and the child projects' design. However, issues linked to medical waste such as used surgical equipment, sharps, and biowaste are currently of global concern. With the advent of the current pandemic, this kind of waste has significantly increased as well as improperly discarded personal protective equipment, sanitizer, and gloves, which can lead to pollution of oceans and coastal areas. To the extent possible, this child project will incorporate this type of waste as part of the activities to be financed by the Facility in regard to the pre-selected priority waste streams.

[7] Eligible Businesses must be local but may partner with a foreign institution

[8] These thematic areas are also aligned with the recommendations offered by the national project counterparts in the participating countries who were surveyed at the end of the design phase of this project, in addition to the validation workshops and other consultative sessions held as part of the PPG phase. More information on this data collection exercise can be consulted in Annex I.

[9] This is a tentative list of possible investments to be financed under Component 1. The investments would still have to be evaluated for approval based on the investment criteria listed in this document. The list of investments may change over time and based on circumstances.

[10] http://www3.weforum.org/docs/WEF_From_Funding_to_Financing.pdf

[11] PPPs are being proposed in light of the following recommendation made by the private sector consulting team that looked into private sector opportunities and investments in participating countries during the child project design phase: "The IDB Lab component will encourage a combination of local and international investment in the ESM of W&Cs and targets a 50/30/20 split of resources between SMEs, local corporations and the public sector. The IDB Lab funds would therefore lend themselves to supporting Public/Private/Civil Society Sector partnerships that yield a net positive global environmental benefit." Dominican Republic, one of the participating countries just recently passed a Bill specifically targeting PPPs (https://www.lexology.com/library/detail.aspx?g=3ac44b50-6ddf-4da9-ab1b-0edb9a974207) and therefore indicating its interest in these types of frameworks. Sustainable PPPs are a new twist to the traditional PPP frameworks that can be used to meet wider environmental and social goals. Currently there are multiple platforms that provide assistance related to these types of PPPs and how to structure them, such as the International Institute for Sustainable Development (e.g. https://www.iisd.org/system/files/publications/ppp_financing.pdf), the World Bank PPP Legal Resource Center (e.g. https://ppp.worldbank.org/public-private-partnership/climate-smart/climate-smart-ppps-further-reading-and-resources) or the PPP Knowledge Lab (https://pppknowledgelab.org/tools/tools-design-sustainable-ppp-project). Other Thematic PPPs are those labeled as green, blue, etc depending on the focus they have. Some examples can be found here: http://www.finance.gov.sc/uploads/resources/Media%20Kit%20PPP%20Final.pdf

http://blue-finance.org/wp-content/uploads/2018/03/Press-Release-RDO-Blue_Finance-HD.pdf

http://cpicfinance.com/wp-content/uploads/2019/02/CPIC-Blueprint-Public-Private-Partnership-for-Marine-Protected-Areas-by-Blue-Finance-1.pdf. Lastly, there are already examples of Waste (and even harzardous materials) PPPs that could be replicated as part of this project. Information can be accessed here: https://www.ifc.org/wps/wcm/connect/97a0af43-441a-4528-bf39-9a7b1af1d7c7/Handshake12_WastePPPs.pdf?MOD=AJPERES&CVID=lKbDLHE

https://ppp.worldbank.org/public-private-partnership/sector/solid-waste

http://www.imo.org/en/OurWork/PartnershipsProjects/Documents/Ship%20recycling/WP2b%20Business%20Case%20Approach.pdf

[12] IDB Lab is the innovation laboratory of the IDB Group. It mobilizes financing, knowledge, and connections to catalyze innovation for inclusion in Latin America and the Caribbean supporting innovative projects and early stage ventures with a potential to generate impact on a large scale. It promotes innovation and entrepreneurship ecosystems and systematizes and disseminates knowledge to connect ideas and scale their impact.

[13] http://www3.weforum.org/docs/WEF_From_Funding_to_Financing.pdf

[14] PPPs are being proposed in light of the following recommendation made by the private sector consulting team that looked into private sector opportunities and investments in participating countries during the child project design phase: “The IDB Lab component will encourage a combination of local and international investment in the ESM of W&Cs and targets a 50/30/20 split of resources between SMEs, local corporations and the public sector. The IDB Lab funds would therefore lend themselves to supporting Public/Private/Civil Society Sector partnerships that yield a net positive global environmental benefit.” Dominican Republic, one of the participating countries just recently passed a Bill specifically targeting PPPs (https://www.lexology.com/library/detail.aspx?g=3ac44b50-6ddf-4da9-ab1b-0edb9a974207) and therefore indicating its interest in these types of frameworks. Sustainable PPPs are a new twist to the traditional PPP frameworks that can be used to meet wider environmental and social goals. Currently there are multiple platforms that provide assistance related to these types of PPPs and how to structure them, such as the International Institute for Sustainable Development (e.g. https://www.iisd.org/system/files/publications/ppp_financing.pdf), the World Bank PPP Legal Resource Center (e.g. https://ppp.worldbank.org/public-private-partnership/climate-smart/climate-smart-ppps-further-reading-and-resources) or the PPP Knowledge Lab (https://pppknowledgelab.org/tools/tools-design-sustainable-ppp-project). Other Thematic PPPs are those labeled as green, blue, etc depending on the focus they have. Some examples can be found here: http://www.finance.gov.sc/uploads/resources/Media%20Kit%20PPP%20Final.pdf

http://blue-finance.org/wp-content/uploads/2018/03/Press-Release-RDO-Blue_Finance-HD.pdf

http://cpicfinance.com/wp-content/uploads/2019/02/CPIC-Blueprint-Public-Private-Partnership-for-Marine-Protected-Areas-by-Blue-Finance-1.pdf. Lastly, there are already examples of Waste (and even harzardous materials) PPPs that could be replicated as part of this project. Information can be accessed here: https://www.ifc.org/wps/wcm/connect/97a0af43-441a-4528-bf39-9a7b1af1d7c7/Handshake12_WastePPPs.pdf?MOD=AJPERES&CVID=lKbDLHE

https://ppp.worldbank.org/public-private-partnership/sector/solid-waste

http://www.imo.org/en/OurWork/PartnershipsProjects/Documents/Ship%20recycling/WP2b%20Business%20Case%20Approach.pdf

[15] IDB Invest is the private sector arm of the IDB Group and aims to be the partner of choice for the private sector in Latin America and the Caribbean. It works with beneficiary member countries and has the ability to provide them with customized financing solutions and expert advice tailored to their specific industry and market.

[16] Official website: https://www.sustainableislandsplatform.org/about/

[17] Eligible countries from those included in this child project are: Barbados, Belize, Dominican Republic, Saint Lucia, and Trinidad & Tobago.

[18] Official website: https://www.competecaribbean.org

[19] Official website: https://www.iadb.org/en/financial-innovation-lab/financial-innovation-lab

[20] Official website: https://bidlab.org/en/about

[21] Official website: https://www.iadb.org/en/environment/natural-capital-lab

D) ALIGNMENT WITH GEF FOCAL AREA AND/OR IMPACT PROGRAM STRATEGIES

This IDB Child Project is in alignment with the GEF-7 investment framework, as well as the GEF-7 principles of cost-effectiveness; sustainability; innovation; private sector engagement; promotion of resource efficiency (including circular economy approaches); and building on the use of existing networks.

GEF-7's chemicals and wastes approach focuses on sectors as an entry point to change, rather than taking a chemical-by-chemical approach. In response, the Project's components were designed to facilitate meeting the aims of the investment framework in the Caribbean through engaging with specific sectors.

In Component 1, the project will focus on assisting countries with instituting legislative measures to implement the chemicals and waste MEAs, control imports and emissions. In Components 3 and 4, the project will support subprojects aimed at reducingemissions and releases through chemical and waste disposal in the private sector. In Component 5, the project will generate, communicate and share the knowledge developed from the above components among SIDS, through the Communication, Coordination and Knowledge Management (CCKM) Child Project.

Also, across a sample of Caribbean countries, an estimated 322,745 tonnes of plastic goes uncollected each year, resulting in 22% of households discarding waste in waterways or on land where it can end up in waterways ("Marine Pollution in the Caribbean: Not a Minute to Waste", World Bank, 2019). According to the United Nations Environment Programme (UNEP, 2014), 92% of marine litter in the Caribbean comes from land-based sources, as compared to the global average of 80%". Given the sheer magnitude and pervasiveness of this problem, ocean and coastal clean-ups are coming too little, too late. Reversing the tide with marine plastics requires preventing them from entering the ocean through the 5 Rs: rethink, redesign, reduce, reuse, and recycle. The solution requires eliminating plastics that do not serve a purpose (e.g. plastic straws), improving collection and waste management systems, and promoting innovative alternatives. The solutions require addressing the entire plastic value cycle: material engineering, product and process design, consumer use and behavior, and collection systems and recycling. This circular economy approach to marine plastics not only reduces marine debris but it also reduces greenhouse gas emissions through reduced fossil fuel extraction, reduces hazardous chemical emissions through both improved end-of-life practices to capture and properly dispose of these substances, and reduces hazardous chemical emissions through redesigned materials and products. Given the transboundary nature of marine plastics, global and regional alliances building on public-private partnerships are critical to the solution, such as the recently proposed Global Plastic Action Partnership put forward by the World Economic Forum, UN Environment, World Resources Institute, UN Friends of the Ocean, and other key global players. Global non-governmental organization campaigns play a critical role and include the Trash Free Seas Alliance led by Ocean Conservancy, Plastic Pollution Coalition, Litterati, 5 Gyres, Plastic Soup Foundation, Beat the MicroBead and the Ocean Plastic Lab. Global efforts and commitments need to be tied to national action, such as ensuring materials standards align with recycling facilities and policies encourage use of recycled material.

The circular economy approach to an ocean problem such as marine plastics is well-aligned with the GEF commitment to promoting global environmental benefits, including protecting biodiversity, reducing greenhouse gas emissions, and minimizing hazardous chemical emissions. Recognizing the relevance of this issue to the GEF agenda, the GEF has highlighted marine plastics within the GEF-7 strategy under the International Waters and Chemicals and Waste Focal Areas. In considering the existing and emerging players and alliances in this frontier space, there are several strategic intervention points for GEF that relate to the major phases of the plastic life cycle:

· Material and design engineering - promoting the use of recycled content & alternative sources of feedstock for plastics and redesigning products to foster reuse, recycling, shared use, and extended life through innovation awards, incubation, investor services, infrastructure for circular supply chains, industry standard setting, alliance building, and national policies and incentives to enable circular material flows;

· Consumer use - changing the behavior of individuals and businesses that use plastic (e.g. restaurants) to catalyze demand for sustainable products and processes as well as to foster reuse, repair, remanufacturing, and recycling through awareness raising and national policies and incentives; and

· Recovery and recycling - improving efficient waste collection, tracking, management, and trade markets to prevent improper incineration and discharge into waterways and promoting recycling of material back to the first intervention point through market analyses, hot spot analyses, awareness programs, financial models, information systems, and national policies and incentives.

This project is proposing a set of investments aligned with key objectives and priorities of the GEF such as those directly related to the Chemicals and Waste Focal Area and also those linked to the International Waters - Marine Litter/Plastics Focal Area, as well as the Circular Economy approach described above in order to maximize Global Environmental Benefits (GEB). It is envisioned that this project will contribute to a reduction in marine litter currently found in the participating project countries reducing also overall marine pollution from land-based sources and tackling the transboundary challenges associated.

GEF investments in the chemicals and waste focal area seek to prevent a toxic legacy through both reducing existing stockpiles and preventing the use and emissions, both current and future, of the chemicals covered under the Minamata and Stockholm Conventions. The proposed project is consistent with the main objectives of the GEF's Chemicals and Waste Focal Area of (1) Eliminating the most harmful chemicals covered by the Stockholm and Minamata Conventions and the Montreal Protocol; and (2) Achieving broader sound management of chemicals and waste through its support to the Strategic Approach to International Chemicals Management (SAICM). It is also consistent with the objectives of the latest replenishment of the GEF (GEF-7) by promoting a shift to more sustainable production and consumption processes and given its strong focus on private sector engagement and public-private partnerships including supporting the enabling environments for industry to adopt better technologies and practices aimed at becoming more environmentally sustainable. Lastly, it is aligned with the objective of developing sustainable financing at the national/regional level to sustainably eliminate chemicals covered under the Conventions and at the same time facilitate the sound management of chemicals and waste. The GEF-7 results framework has set out its GEB targets in the following terms:

· Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (thousand metric tons of toxic chemicals reduced)

· Reduction, avoidance of emissions of POPs to air from point and non-point sources (grams of toxic equivalent gTEQ)

The Facility to be established under this project is designed to provide support to the selected Caribbean countries to improve chemicals and waste management in line with international commitments and national plans. By addressing objectives of the Stockholm and Minamata Conventions and SAICM, the program will look to broaden the scope of interventions to address the wider chemicals and waste management issues in these countries.

The project also seeks to strongly mainstream gender into the proposed investments as outlined in the gender action plan and gender analysis report, both provided in annexes to this CEO endorsement document.

E) INCREMENTAL/ADDITIONAL COST REASONING AND EXPECTED CONTRIBUTIONS FROM THE BASELINE, THE GEFTF, LDCF, SCCF, AND CO-FINANCING

As stated in section C.4, the objectives of IDB's child project are: i) to develop and strengthen the legal, regulatory and financial frameworks, tools and instruments needed to enable public and private investments around sustainable chemicals and hazardous waste management in the Caribbean; and ii) finance and co-finance public and private sector investments aimed at improving the safe management of chemicals and waste. Despite growing awareness on the issue of chemicals and waste in the Caribbean region with many taking well-publicized but unilateral action on some specific issues - mostly around single-used plastics, a coordinated approach for more complex waste issues is still lacking. It is also evident that waste management is a priority topic for Caribbean countries, but very few incentives have been put in place. The IDB child project is presenting a scenario where private sector will be further developed to finance more sustainable results. The IDB Facility will finance interventions with the private sector from SMEs to large corporations that will mobilize additional and long-lasting finance for the generation of GEBs. The IDB Group has already been working towards developing a pipeline of operations in the form of investments to public and private sectors in the Caribbean as well as grants. It is envisioned that the IDB, IDB Invest and IDB Lab will have access to this Facility. The resources will be utilized with the objective of finalizing and structuring mature investments and will therefore ensure selected projects (private and public) reach a readiness stage where they can be approved, implemented and/or financed. Resources will be available to the IDB teams that are engaged in these projects and wish to undertake analyses, activities, assessments, etc in order to (1) mainstream the sound management of chemicals and waste into their projects which requires additional resources to ensure it is effectively done and aligned to the GEF ISLANDS Program; or (2) invest and implement in specific chemicals and waste management activities but require additional grant resources to finalize their investment proposals. Projects will be complementary and build upon regulatory reform work being done by UNEP/FAO in the other child projects for the Caribbean. GEF grants may be combined with or directly assist Blended Finance investments as well as used in the public sector to raise concessionality of possible IDB loans to Governments. The blending of resources from the GEF, IDB Invest, IDB Lab and the IDB will support the development and piloting of new business models, tools, and methodologies to assist public and private sector clients in planning the chemicals and waste agenda in a sustainable manner.

F) GLOBAL ENVIRONMENTAL BENEFITS (GEFTF) AND/OR ADAPTATION BENEFITS (LDCF/SCCF)

The GEF is the financial mechanism for the Minamata Convention on Mercury and the Stockholm Convention on Persistent Organic Pollutants (POPs) and provides funding for the Strategic Approach to International Chemicals Management (SAICM). GEF investments in the chemicals and wastes focal area seek to prevent a toxic legacy through both reducing existing stockpiles and preventing the use and emissions, both current and future, of the chemicals covered under the Minamata and Stockholm Conventions. The GEF 7 results framework has set out its GEB targets in the following terms:

· *Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (thousand metric tons of toxic chemicals reduced)*
· *Reduction, avoidance of emissions of POPs to air from point and non-point sources (grams of toxic equivalent gTEQ)*

The ISLANDS program is designed to provide support to SIDS to improve chemicals and waste management in line with international commitments and national plans. The program is the first integrated attempt to assist SIDS across several regions to address chemicals and waste issues at the sectoral level. By addressing objectives of the Stockholm and Minamata Conventions and SAICM, the program will look to broaden the scope of interventions to address the wider chemicals and waste management issues unique to SIDS. This will also be achieved through ensuring the GEF investment is fully integrated with the large number of other ongoing and planned interventions across the regions in this sector.

Using a broad array of national and regional interventions, in accordance with the GEF mandate, the investments financed by the Facility to be established through this Caribbean Child Project will lead to the following measurable global environmental benefits:

· Elimination and avoidance of hazardous chemicals in Caribbean SIDS (including POPs, Hg, pesticides and other hazardous chemicals including those contained in products);
· Improved chemicals and wastes management in Caribbean SIDS leading to reduced releases of POPs, UPOPs, Hg and other hazardous chemicals/releases to the global environment;
· Disposal of obsolete stockpiles of chemicals that are POPs, including the improved management and treatment of mercury containing products;
· Through the management of land-based sources of waste, address the issue of chemicals and products in oceans and pollution of coral reefs, mangroves, and other fragile water systems;
· Replacement of POPs, mercury and relevant HHPs used in the global food supply chain, with alternatives, preferably non-chemical alternatives;
· Reduction in generation of non-biodegradable and hazardous waste generated and landfilled through diversion of recyclables and reusable material.

The IDB Caribbean child project, through a combination of regional and country level activities, is anticipated to:
· Reduce/eliminate a combined of 11,090 metric tons of Mercury and POPs containing materials and products.
· Avoid the emissions of 113.6 g TEQ of POPs to air from point and non-point sources
· Prevent 125,000 tons of marine litter (plastic pollution)

G) INNOVATIVENESS, SUSTAINABILITY AND POTENTIAL FOR SCALING UP

The current health crisis has revealed that sustainable and responsible investments should be considered as a less volatile option for investors compared to traditional investments. The Caribbean region expects sustainable investments to become an important source of solutions for their development finance needs. The Facility that will be created under this child project will provide the early-stage financing (through investment grants and contingent recovery grants) and technical assistance required to develop and integrate innovative solutions into the management of chemicals and waste across different economic sectors in the participating countries. The Facility will support enterprises and public interventions that move towards a safe chemical development pathway while generating jobs and economic growth. These jobs should be sustainable, and market driven, phasing out the current subsidy approach as part of a longer-term strategy. The sustainability of the investments will be addressed by ensuring the necessary co-financing resources are secured and through the market and feasibility studies to be done as part of the detailed design of specific investments. This will support the “proof-of-concept” process and ensure that the necessary demand and supply a certain market needs exists prior to making the investments. National level investments will have the potential of being replicated in other Caribbean neighboring countries, and also in other SIDS with similar characteristics and opportunities. For those investments being done at a regional level the potential for replication will be focused on other similar regions such as the Pacific. Knowledge exchange, south-to-south learning and information dissemination will be ensured for these purposes.

To date, the GEF has not yet financed a holistic project relating to chemicals and waste management in SIDS. Therefore, the ISLANDS programme, by its very nature, is innovative. Furthermore, the ISLANDS Programme is unique in its geographical and topical scope with thirty (30) SIDS participating from three (3) regions. The combined comparative experience that is brought by the different GEF implementing partners to the program, coupled with the involvement and contributions made by key regional partners, ensures a wide range of perspectives without giving up the focused and unique qualities of each partner. In this way, the programme ensures that the identified barriers are addressed through adequate and relevant interventions, sourced from a broad range of expertise.

The ISLANDS program is focused on developing robust public-private sector partnerships, combined with national level sustainable financial mechanisms. This approach will be optimized through the direct involvement of the IDB as a co-financer and implementing agency for this Caribbean Child Projects. It is expected that this Child Project will be executed parallel to the UNEP/FAO Child Project and the outputs of the latter will support the enabling framework for this project’s objective of creating sustainable and effective public and private sector investments in chemicals and waste management. Close collaboration with other agencies, and donor-funded chemicals and wastes activities in the regions is expected to create additional synergistic solutions based on coordination of the public and private sectors. This allows for an innovative approach to waste management that builds on new technologies and approaches, rather than duplications of the often expensive waste management solutions found in larger countries, without sacrificing the concept of waste as a resource.

Individually, Caribbean SIDS do not have sufficient resources to develop and maintain economically viable infrastructure projects to manage all waste streams at the local or national level. As such, most wastes continue to be landfilled and the economic value contained in waste is not realized. For a region so far characterized by fragmented waste management practices, regionally-focused solutions are an innovative approach to sustainable and scaled up activities for environmentally sound chemicals and waste management. However, comprehensive regional collaboration on chemicals and waste management, including between the European Overseas Territories and independent countries, has not existed on a significant scale until now. The ISLANDS Child Projects will identify and develop innovative regional solutions, such as material recovery hubs, which would support increased regional capacity to manage generated waste streams on a larger-scale. Solutions developed at the regional level ensure sharing of knowledge, resources and lessons learned. The Child Project envisions innovative solutions will run parallel with the establishment of effective circular and life-cycle management systems in partnership with the private sector. This would assist in minimizing the quantities of difficult to manage waste streams ending up in landfills, especially e-waste and end-of-life vehicles.

The Child Project will take advantage of technological advancements to engender stakeholder participation in executed activities. The effectiveness of using virtual platforms to conduct remote meetings was demonstrated during the COVID-19 pandemic when meetings had to be conducted remotely due to travel restrictions put in place to protect countries. Moving forward, where possible, project meetings and consultations will be conducted remotely to engage as many stakeholders as possible without bearing the costs associated with regional travel. Similarly, an online training platform will be developed through UNEP/FAO's child project that will also benefit this child project with the objective of hosting online training material that can be accessed by regional stakeholders during and after the project's execution.

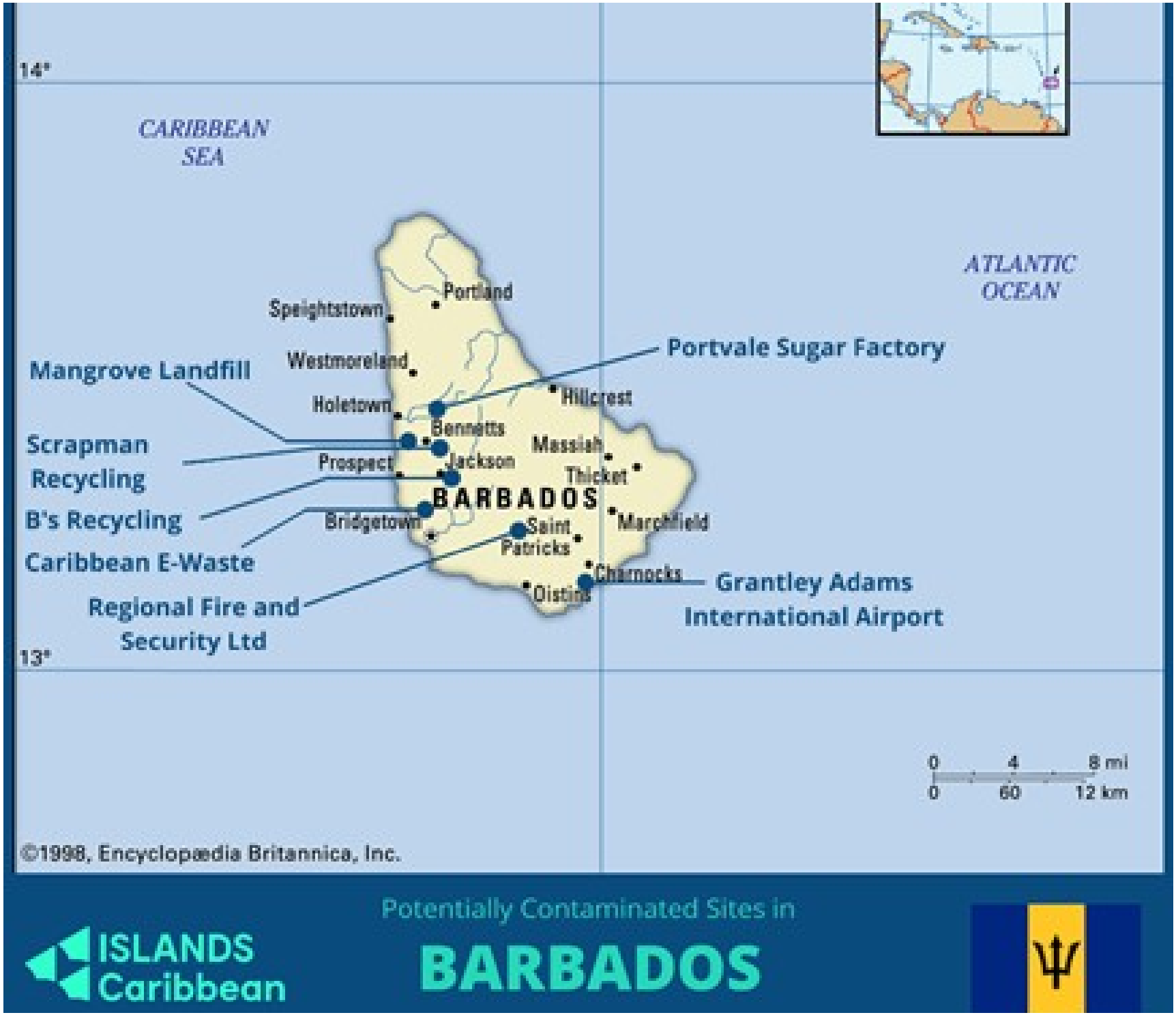
Overall, the Child Project will consider innovative and sustainable solutions for the environmentally sound management of chemicals and waste on a national and regional level, and support the implementation of these solutions in the project countries. The project activities will also seek to identify opportunities for scaling up the project outputs to other Caribbean countries not benefiting from the Child Projects and to ensure that the outputs are sustainable and can be continued even after the project is concluded.

1b. Project Map and Coordinates

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

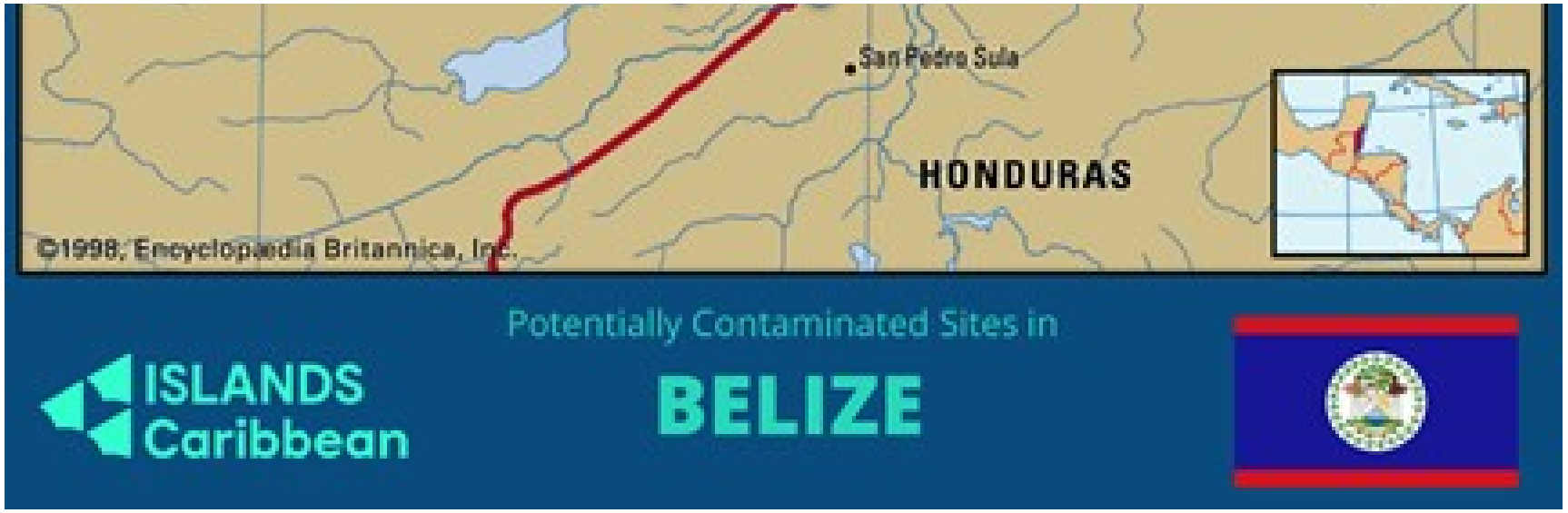
IDB's child project will support the following countries (Participating Countries): Barbados, Bahamas, Belize, Dominican Republic, Guyana, Suriname, Trinidad and Tobago, Antigua and Barbuda, Saint Kitts and Nevis and Saint Lucia. Figure 1b shows the location in the wider Caribbean Basin of the participating countries: Belize, Guyana and Suriname are land based countries which are qualified as SIDS.

Potentially Contaminated Sites in each participating country


14°
CARIBBEAN SEA
ATLANTIC OCEAN
Portland
Speightstown
Westmoreland
Holetown
Hillcrest
Bennetts
Massiah
Prospect
Jackson
Thicket
BARBADOS
Bridgetown
Saint Patricks
Marchfield
Charnocks
Oistins
Mangrove Landfill
Portvale Sugar Factory
Scrapman Recycling
B's Recycling
Caribbean E-Waste
Regional Fire and Security Ltd
Grantley Adams International Airport
13°
0 4 8 mi
0 60 12 km
©1998, Encyclopædia Britannica, Inc.
Potentially Contaminated Sites in
BARBADOS
ISLANDS Caribbean


Grand Cay
Dumpsite
Pine Ridge Landfill
Great Abaco
Sanitary Landfill
South Binimi
Dump
New Providence
Ecology Park
Dumpsites on Eleuthera Island
Exuma Landfill
San Salvador Landfill
Dumpsite on
Andros Island
The Bahamas
North
Atlantic
Ocean
N
Florida
NASSAU


Cuba
ISLANDS Caribbean
Potentially Contaminated Sites in
THE BAHAMAS
90°
88°
86°
18°
16°
N
0 20 40 mi
0 30 60 km
MEXICO
Chetumal
Corozal
Orange Walk
Belize City
Belmopan
San Ignacio
Benque Viejo
Dangriga
Monkey River
Punta Gorda
BELIZE
GUATEMALA
CARIBBEAN SEA
Orange Walk Metal Recyclers
San Pedro Transfer Station
Belize Recycling Company
Belize City Transfer Station
Regional Sanitary Landfill
National Fire Training Facility
Western Regional Hospital
San Ignacio Transfer Station
Note: - Informal Dumpsites


San Pedro Sula
HONDURAS
©1998, Encyclopaedia Britannica, Inc.
Potentially Contaminated Sites in
ISLANDS Caribbean
BELIZE


74°
72°
70°
20°
18°
N
0 60 100 mi
0 80 160 km
ATLANTIC OCEAN
CUBA
Rafey Landfill
La Vega Landfill
DOMINICAN REPUBLIC
Boca Chica Dump
La Romana Dump
Guiri-Gui Landfill
HAITI
Monte Cristi
Puerto Plata
Dajabón
Mao
Santiago de los Caballeros
Sabaneta
Salcedo
Nagua
San Francisco de Macorís
Sánchez
Samaná
La Vega
Bonao
Cotuí
Las Matas
San Juan
Port-au-Prince
Neiba
Azua
San Cristóbal
Baní
Santo Domingo
Barahona
Pedernales


San Cristóbal
Municipal Landfill
Duquesa Landfill
CARIBBEAN SEA
San Pedro de Macoris
Municipal Dump
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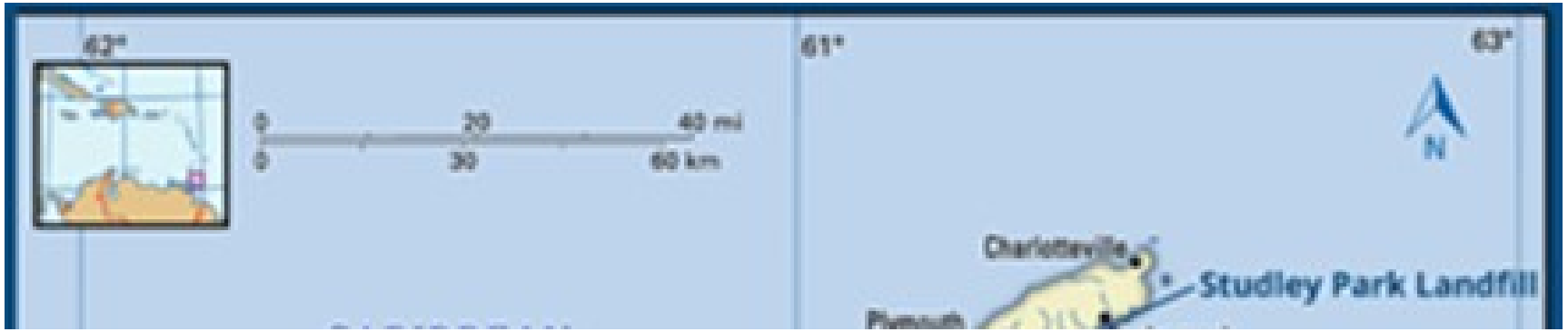
Potentially Contaminated Sites in
ISLANDS
Caribbean
THE DOMINICAN
REPUBLIC


ATLANTIC
OCEAN
VENEZUELA
Haags Bosch Sanitary
Landfill
GUYANA

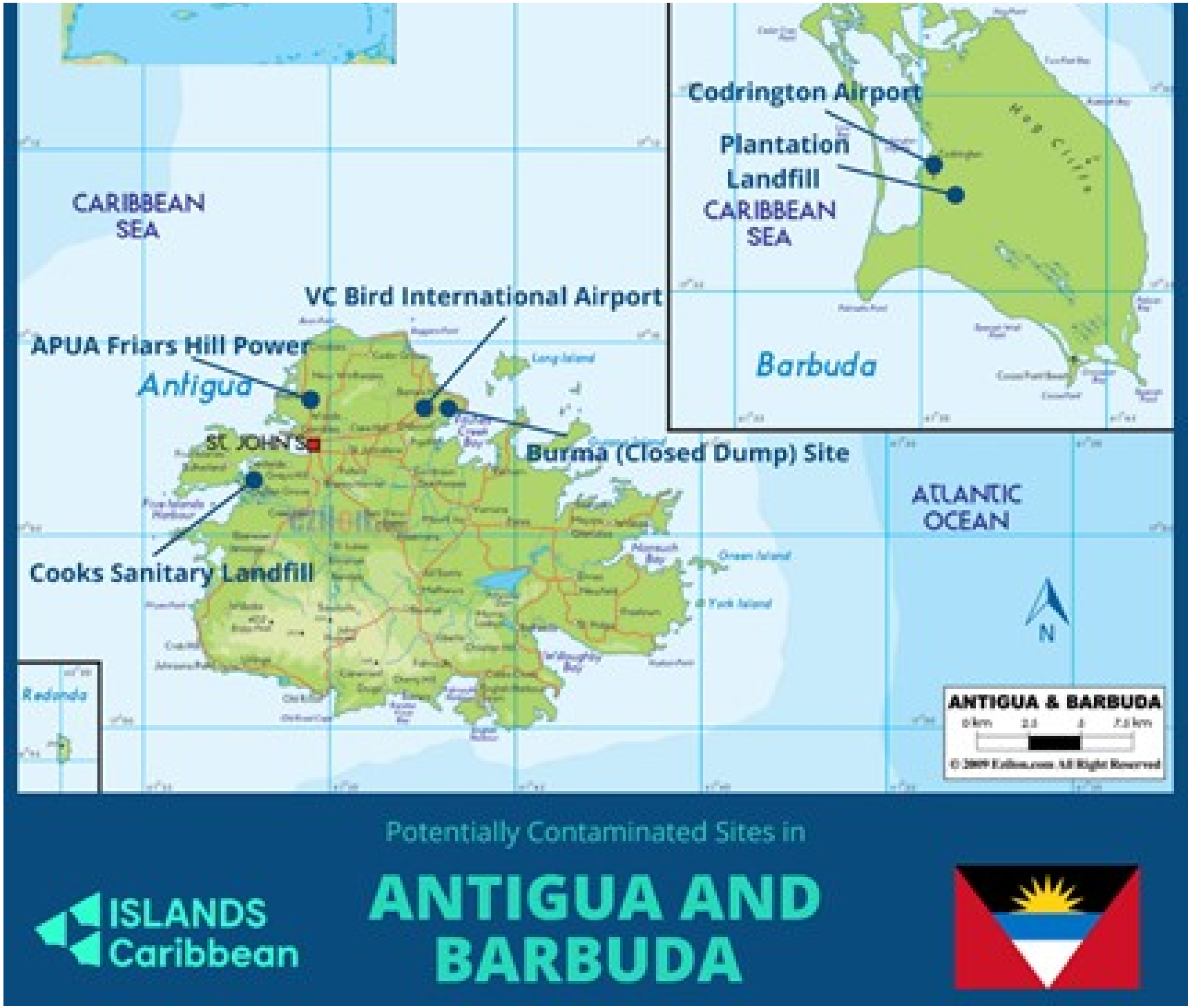

SURINAME
Area claimed by Suriname
BRAZIL
Note:
- Dumpsites
©1998, Encyclopaedia Britannica, Inc.
Potentially Contaminated Sites in
GUYANA
ISLANDS Caribbean


Chateaubourg Dumpsite
Ornamibo Landfill
Domestic Waste Landfill, Wageningen
Johan Adolf Pengel International Airport
ATLANTIC OCEAN
Marienburg Pesticide Storage Site
Peperpot Pesticide Storage Site
Albina
SURINAME
FRENCH GUIANA


GUYANA
SURINAME
Note:
- Broad areas within Suriname have also been described as potentially contaminated
- Estimated 35,000 ha of rice fields were sprayed in the 1960s/70s with PCP containing PCDD/Fs
- Former bauxite mines
Area claimed by Suriname
Area claimed by Suriname
BRAZIL
Potentially Contaminated Sites in
SURINAME
ISLANDS Caribbean


63°
61°
63°
0 20 40 mi
0 30 60 km
N
Charlotteville
Studley Park Landfill


CARIBBEAN SEA
Roxborough
Scarborough
ANR Robinson International Airport
TRINIDAD AND TOBAGO
11°
Guanapo Landfill
Beetham Landfill
Industrial Estate - Power Generation, Chlorine Production & Iron and Steel Production
ATLANTIC OCEAN
Sangre Grande
Chaguanas
Couva
Forres Park Landfill
Rio Claro
San Fernando
Waste Incineration San Fernando
Princes Town
Waste Incineration La Brea
Point Fortin
Guapo Disposal Site
Note: - E-waste Recycling
- Power Generation
10°
©1998, Encyclopaedia Britannica, Inc.
Potentially Contaminated Sites in
ISLANDS Caribbean
TRINIDAD AND TOBAGO
ATLANTIC OCEAN


Codrington Airport
Plantation
Landfill
CARIBBEAN
SEA
CARIBBEAN
SEA
VC Bird International Airport
APUA Friars Hill Power
Antigua
Barbuda
St. JOHN'S
Burma (Closed Dump) Site
ATLANTIC
OCEAN
Cooks Sanitary Landfill
N
Redonda
ANTIGUA & BARBUDA
Potentially Contaminated Sites in
ISLANDS
Caribbean
ANTIGUA AND
BARBUDA


62°50'
62°40'
62°30'
N
Saint Paul's
Sadlers
Mansion
Newton Ground
Sandy Point Town
Cayon
17°20'
Half Way Tree
Verchild's
Old Road Town
Monkey Hill Village
Conaree Landfill
RBL International Airport
Challengers
Boyd's
Basseterre
JNF General Hospital
SAINT KITTS AND NEVIS
CARIBBEAN SEA
CARIBBEAN SEA
Newcastle
New Castle Fire Station
Burnaby
Whitehall
Cotton Ground
17°10'
Charlestown
Zetlands
New River
Low Ground Landfill
Brown Hill
0 4 8 mi
0 6 12 km
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Potentially Contaminated Sites in

ISLANDS Caribbean

SAINT KITTS AND NEVIS


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ISLANDS Caribbean
Potentially Contaminated Sites in
SAINT LUCIA

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

The proposed IDB project is one of the 6 Child Projects under the Global Implementing Sustainable Low And Non-Chemical Development In Small Island Developing States (ISLANDS) Program approved by the GEF Council in June 2019. The GEF's 7th funding cycle made a specific allocation for Least Developed Countries (LDCs) and Small Island Developing States (SIDS) to address the environmentally sound management of chemicals and wastes through strengthening the capacity of sub-national, national and regional institutions, strengthening the enabling policy and regulatory framework in countries and unlocking resources to implement sound management of chemicals and waste. The global ISLANDS program is being rolled out in three (3) geographical regions including the Caribbean, Indian Ocean and Pacific Islands. The ISLANDS program seeks to address the environmentally sound management of waste and chemicals by:

a. Implementing Sustainable Low and Non-Chemical Development Strategies in SIDS and LDCs.

b. Promoting Best Available Techniques and Best Environmental Practices to reduce mercury and Unintentional Persistent Organic Pollutants (UPOPs) releases from sectors relevant to the Minamata and Stockholm Conventions in SIDS and LDCs.

c. Promoting cleaner health-care waste management based on the lessons learnt from GEF funded healthcare waste projects to reduce UPOPs and mercury releases.

d. Strengthening the management system for e-waste, addressing all stages of the life cycle (i.e. acquisition of raw materials, design, production, collection, transportation and recycling) in SIDS and LDCs.

e. Phasing out of mercury-containing products.

f. Undertaking gender mainstreaming and project monitoring and evaluation.

g. Developing a strategy to ensure that technical assistance and investments are firmly linked to enhance countries' ability to deal with the management of POPs and mercury in a sustainable manner.

The ISLANDS program aims to build a sustainable model for the sound management of chemicals and wastes so SIDS can continue to sustainably develop without a build-up of toxic and hazardous substances in their land and ocean territories. This is expected to be achieved through harmonizing, among other things, procurement practices, standards and labelling and capacity building, which can only be accomplished at the global/regional level in the context of SIDS. The program also aims to create and support long term cooperation among SIDS to achieve this goal and overcome the challenge of diseconomies of scale. While working at the global/regional level to harmonize practices, the program seeks to identify, incubate and accelerate SIDS appropriate technologies and practices to manage chemicals and wastes so that much needed action at the national level can be taken and lessons learned at the national level can be scaled up to regional and global levels through a coordination mechanism developed as part of the program. The global ISLANDS program will help to overcome the common challenges facing SIDs based on several core principles:

· Operational Effectiveness: By developing and strengthening legislative and policy frameworks promoting equivalence and where possible harmonization of regulations at the global level. The program will also develop a series of tools and systems at the global level which will benefit all regions, for example through working with the world customs organization, the BRS Conventions, etc. to ensure there are comparable customs codes.

· **Knowledge management and exchange:** By sharing of lessons learnt between regions and facilitating access to information and experience under the Coordination, Knowledge Management and Communication Child Project.

· **Using the program as a vehicle for change:** By working with importers of electronics, cars, plastics manufacturers and sectors such as tourism to lobby manufacturers to improve environmental performance and develop procurement agreements with receptive private and public-sector partners that can be utilized across participating SIDS.

· **Alignment of activities with other initiatives operating at the global or cross-regional level:** Several other major donors such as the EC ACP Secretariat and European Investment Bank are coordinating efforts at the global and inter-regional levels. This provides the opportunity to link GEF activities with other development partners coordinating the work at the global level, facilitating alignment of workflows and achieving economies of scale. Several other major sectors such as climate change and plastics management are also operating across the three regions and provide opportunities to build on and establish synergies with existing structures for improved coordination.

· **Linkages to global agreements and initiatives:** Bodies such as the BRS and Minamata Conventions, SAICM, and processes linked to the S.A.M.O.A. Pathway and the WHO work in SIDS operate and coordinate at the global level. They also provide existing platforms for coordination across regions to achieve global impacts, knowledge exchange and policy dialogue.

· **Cost effectiveness:** if all core principles above are met, regions will share the costs of development of products, knowledge and standards which can be utilized and applied across all regions. By linking existing global platforms, the program will also increase the visibility of the issues in SIDS and the impacts of the program in a cost-effective way.

This Child Project entitled "**Caribbean Incubator Facility for the Sustainable Management of Hazardous Chemicals and Wastes"** is fully aligned with the objectives of the Global ISLANDS program given its focus on improving access to finance for public and private sector actors interested in the sustainable management of chemicals and waste in the Caribbean. The Facility will assist participating countries in managing some of their most relevant streams of waste and chemicals through innovative financing solutions for public and private sector entities. The proposed child project will finance investments in priority areas identified by the participating countries during the project preparation phase discussed in the context of the Global ISLANDS program (and therefore fully aligned), such as innovative finance, infrastructure, fostering private sector engagement and public-private partnerships, preventing waste pollution (including plastics), policy and regulatory frameworks, and recycling.

The project also directly contributes to the ISLANDS Program's core principles of (1) **Using the program as a vehicle for change** by working with manufacturers to improve environmental performance and develop projects with receptive private and public-sector partners; (2) **Alignment of activities with other initiatives operating at the global or cross-regional level** by seeking co-financing from (but not limited to) the Inter-American Development Bank and by creating synergies with existing initiatives (such as the UNEP/FAO ISLANDS child project) and financing interventions that can be either replicated in other countries and/or scaled up to a regional level overcoming one of the main barriers in the Caribbean, i.e. the diseconomies of scale; and (3) **Linkages to global agreements and initiatives** by ensuring that financed interventions are aligned with international and regional strategies such as the SAMOA Pathway, the Sustainable Development Goals, the UN's Development Agenda 2030 and the various conventions on chemicals, among others.

Activities under Component 1 are intended to achieve the outcome of Caribbean SIDS having in place improved policy, strategy, legal and institutional enabling environments, and capacities through effective mechanisms to control the import of chemicals and products that lead to the generation of hazardous waste, and through proper management of those that unavoidably are and will be present in the participating countries. The activities are focused on providing support to the participating countries to improve legislation for chemicals and waste management, supporting their transition to a circular economy,

strengthening regulatory and institutional capacities for controlling the trade and procurement of chemicals and products containing chemicals, overcoming challenges related to the capacities and processes for enforcement of applicable laws and regulations, and supporting the creation and improvement of public sector financing mechanisms to ensure resources are allocated to C&W management and investment.

Activities under Components 2, 3 and 4 are intended to develop detailed technical designs, financial structuring and implementation arrangements of bankable investment projects with public/private counterparts interested. This will contribute to preventing the build-up harmful materials and chemicals through the establishment of effective circular and life-cycle management systems in partnership with the private and public sectors. Activities under these components include development of national and, potentially, regional level investment projects aimed at promoting the environmentally sound management of chemicals and waste in participating countries.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities

Private Sector Entities Yes

If none of the above, please explain why:

As part of the design phase of this child project, stakeholder engagement and consultation sessions were held under the some of the consulting assignments undertaken, namely (i) a consultancy to develop a Gender Responsive Plan; and (ii) a consultancy to identify private investment opportunities and generate a pipeline of projects for the IDBG. Below is a summary of the stakeholder exercise conducted in these 2 consultancies:

· Gender Analysis:

A list of pre-identified gender relevant stakeholders of the sector was engaged and consulted to collect primary data and information with the objective of assessing the local challenges and opportunities for the mainstreaming of gender into the chemicals and waste management sector of the project countries. Stakeholders targeted for data collection included: a) national governmental agencies; b) regional and municipal government agencies; c) national gender agencies; d) private waste agencies and enterprises; d) NGOs and f) direct stakeholders such as waste pickers, female waste business owners and their associations. Data was collected through simple questionnaires targeted at the governmental agencies and private sector enterprises of the chemicals and waste management sector. The questionnaires sought to assess the participation of women in the agency or enterprise, present gender mainstreaming strategies, women's roles in the sector and perceptions on gender mainstreaming. In person interviews were also conducted with representatives of NGOs (Antigua and Barbuda, Guyana), waste pickers association (Guyana), waste pickers (Guyana) and a female business owner (Barbados). The gaps that were identified in the analysis of the sector and the associated issues and considerations that constrained both men's and women's equal participation in the sector formed the basis for the recommendations, opportunities and entry point for the development of a gender action plan for the project.

· Private Sector Investment Opportunities' Analysis:

As it relates to the private sector analysis undertaken as part of the design of this project, key stakeholder consultations were performed either via online surveys (using Survey Monkey) or through direct discussions with waste processors (using Zoom Meeting or via telephone). These consultations informed the analysis of investment opportunities in the environmentally sound management of wastes and chemicals which Small and Medium Sized Enterprises (SMEs) in the project participating countries have already invested in, were willing to invest in, or were willing to expand their existing operations in. The consultations also provided the project team with an evaluation of the current barriers for private sector involvement in the wastes and chemicals sector in the Caribbean. In carrying out the online survey, two questionnaires were developed: the first one targeted existing waste producers and waste processing businesses (generally SMEs) while the stakeholders for the second questionnaire were research institutions & regulators. The survey was designed to gather information about investment opportunities among existing as well as potentially new waste processing businesses. It also examined challenges faced by these businesses and potential strategies for addressing such; including innovations to improve investment feasibility as well as support needed from Government and regulatory agencies. The survey data was supplemented by structured interviews with key stakeholder subsets as well as secondary baseline data on waste streams and available technology collated from a desktop review of existing studies and reports. Primary data from existing chemical and waste management

businesses was collected from waste producers, waste collectors, processors of waste, processed waste users, regulators, innovative technology developers and service providers and research institutions.

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholders in the context of the Global ISLANDS program are defined as organizations, institutions and groups which are directly or indirectly impacted by and/or which have a direct potential financial or administrative interest in the child project interventions. Thus, the identification and engagement of stakeholders for project execution focuses on those who have the most relevant and direct impact on project activities and outcomes, as well as those who will be direct project beneficiaries. Stakeholders can bring a diversity of perspectives and expertise, connect issues and opportunities across programs, agencies and sectors and help to ensure the success of the project within the country. Stakeholder engagement is also critical to support the institutionalization of the project's outcomes and to ensure its sustainability through continuation of the outputs after the project is completed.

Stakeholder groups consulted during the development of the project's activities included government agencies, civil society, the private sector, intergovernmental, regional and international organizations with responsibility over chemicals, waste and environmental management, customs and excise, standards development, legislation, health, gender, indigenous communities and public education. These stakeholders contributed to the overall understanding of national priorities and validation of the developed activities. They will continue to play a critical role in ensuring that national priorities are effectively addressed and that the overall goals of the Global ISLANDS Program are met during the project's execution.

UNEP/FAO's child project will set up a governance structure[1] which will also have responsibility over stakeholder engagement. This will include identifying national focal points, creating a steering committee and national working groups. IDB shall be represented in those platforms directly or by BCRC-Caribbean as the liaison body between child projects.

Stakeholder engagement for this child project will be done on an investment/project basis. Depending on the nature of a selected project under the Facility, the corresponding IDB body will ensure proper stakeholder engagement:

- IDB Invest will engage project stakeholders and counterparts based on its business relationships to ensure proper participation and involvement in the project.
- IDB Lab will engage project stakeholders and counterparts using its relationships with SMEs as well as its existing initiatives such as the Blue-Tech 4 Waste Challenge.
- IDB public operations will engage project stakeholders and counterparts for those projects that include public investments. It will also use its existing initiatives such as the Sustainable Islands Platform and the Natural Capital Lab for this purpose.

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[1] National focal points, consisting of the main government agencies responsible for chemicals and waste in each country, the UNEP and FAO, as implementing agencies of 2 of the Caribbean child projects, and the BCRC-Caribbean, as the executing agency, will participate in a Project Steering Committee (PSC) that will covene on an annual basis and serve as the project's decision making body and support monitoring and evaluation of the project. The national focal points will support the organisation of National Working Grou ps (NWG)for specific project activities, and ensure that national stakeholders are continuously engaged and updated throughout the project. Stakeholders will be invited to national and regional meetings, training workshops and awareness raising activities and will also be engaged directly through dissemination of meeting notes, draft reports, and technical documents for their review.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

The table below identifies key project stakeholder groups critical to project implementation in participating countries. The table also highlights the present relevant role of the stakeholders in the project's area of influence, and their expected engagement and contribution to the project execution.

Table 9. Stakeholder Assessment for Project Implementation

Stakeholder Group	National Role	Engagement in and Contribution to Child Project	Potential Impact
Government stakeholders - Government stakeholders have a role to ensure that key issues are brought to the attention of decision makers across line Ministries. Coordination across involved Ministries will be important with exchange of information and sensitization of senior government officials being a key feature of the proposed stakeholder engagement strategy.			
Environment Divisions within the Ministries with responsibility for the Environment and/or Sustainable Development	Partner agency for chemicals MEAs (some national focal points are within this Ministry, e.g. Environmental Management Authority, Trinidad and Tobago) Responsible for environmental management which includes monitoring and enforcement of pollution and hazardous emissions into the environment	Key stakeholder for all activities and national project implementing partner Continuous consultation on national priorities and to support data collection on impacts of pollution and environmental health, public awareness raising of chemicals and products of concern and the project Collaboration for the development and implementation of legislation, standard operating procedures, guidelines and strategies	High
Agencies with responsibility for Waste Management (including municipal/local governments, where relevant)	Responsible for solid and hazardous waste management including oversight of waste collection and disposal activities In some countries, municipal/local governments have oversight over local waste collection and management Some national entities are also responsible for national recycling efforts	Key stakeholder for all activities related to waste management Continuous consultation to gather information on national waste streams and existing public and private sector waste management activities and priorities Collaboration for the development and implementation of legislation, standard operating procedures, guidelines and strategies Waste management projects will be supported by these agencies in collaboration with others, where relevant	High
Ministries with responsibility for Health	Chemicals management falls under some national Ministries with responsibility for Health, e.g Pesticides and Toxic Chemicals Control Board, Trinidad and Tobago Responsible for ensuring public health including mitigation of negative health impacts that may be caused by chemicals use and disposal, pollution and harmful emissions to the environment	Key stakeholders for all activities, particularly those related to public health, medical waste and chemicals management (for those countries in which chemicals management falls under the remit of this Ministry) Consultation, as needed, to support health impact data collection and collection of data on medical waste management and chemicals, where relevant Collaboration in support of awareness raising on the negative health impacts of exposure to hazardous chemicals and waste	High
Customs and Excise Departments wi	Primary border control agency responsible for the monitoring and en	Key stakeholder for activities related to industry and trade in chemicals, products containing che	High

thin the Ministries with responsibility for Industry and Trade	forcement of imports and exports These departments are supported by chemicals authorities for inspection and testing of imported chemicals at port facilities	micals and waste Departments to provide import and export data and information on operational procedures in place at the national entry points	
Bureau of Standards	Responsible for the development, implementation and monitoring of standards, nationally In some countries, the Bureau of Standards have the capacity to test products to ensure compliance with developed standards	Key stakeholder for activities related to product standards Bureaus to provide information on existing standards and procedures for developing and implementing new standards	High
Ministries with responsibility for Legal Affairs	Responsible for drafting and reviewing national policies, legislation, and regulation	Key stakeholder for activities related to the development of model policies, legislation and regulations related to chemicals and waste management and the review of existing relevant laws Consultation for collection of information on existing legislative framework, gaps and opportunities to integrate model legislation into national laws	Medium
Ministries with responsibility for Finance	Approves use of national funds	Approval needed regarding co-financing from various government agencies and departments Buy-in is needed from this Ministry to ensure adequate future national budget allocations to the chemicals and waste management sector, development of levies (as needed) and to support national investment opportunities for private sector initiatives Consultations with these Ministries needed to inform possibility of implementing levies and taxes to support ESM of waste generated from imported products	Medium
Ministries with responsibility for Tourism	Provides oversight of the tourism sector, including hotel and cruise ship industries, and ensures compliance with relevant legislation	Ministries to support quantification of waste generated by this sector and identification of opportunities for collaboration for integrated waste management	Medium
Ministries with responsibility for Education	Supports national education programs and various public awareness initiatives, including environmental awareness in some countries	Ministries to support with raising awareness on the project objectives and sharing developed educational and training tools to students at all levels	Medium
Private Sector *– Public-private partnerships and co-financing for waste management and recycling systems are an expected outcome of the project's execution. To ensure these are feasible and sustainable post-project, the project will seek to engage and learn from potential private sector partners. In each Caribbean SIDS private sector stakeholders have been identified, together with the external drivers of their activities, the constraints they currently face, and their underlying int*			

erest. This information and further ongoing consultation will guide the development of interventions.			
Importers and retailers of chemicals and products containing chemicals (including the five priority waste streams)	Little manufacturing of chemicals and products containing harmful chemicals is done in the region. As such, importers and retailers are the primary source of these hazardous materials in the project countries	Key stakeholder for all activities Entities to provide data on quantities and types of imported chemicals and products containing chemicals Consultations on potential financial mechanisms, sustainable procurement practices, etc, to support environmentally sound disposal of generated waste	High
Private Waste Managers and Recyclers (including informal waste handlers)	Private entities that collect and transport waste and operate landfills, waste storage and treatment centres and recycling initiatives, sometimes through contracts with governments and businesses	Key stakeholder for all activities Entities to provide information on national waste streams and existing public and private sector waste management activities and priorities Waste management projects will be supported by these entities in collaboration with others, where relevant Consultations needed to verify their role and capacity for chemicals and waste management	High
Chambers of Commerce	Responsible for providing guidance to the private sector, monitoring their activities and ensuring compliance with national regulations	Key stakeholder for activities in which private sector support is involved Chambers to provide support with developing and implementing green procurement strategies and other relevant activities	High
Private industries in the tourism sector (e.g. cruise ship companies, hotel chains, etc.)	Significant amounts of waste generated by these sectors	Key stakeholder for Component 2 Industries to provide information on quantities and types of waste generated and mechanisms in place to minimise and manage the waste generated Can support the development and implementation of guidelines for managing waste streams specific to the tourism sector	Medium
Civil Society Organizations (CSOs) and Non-Governmental Organizations (NGOs) - Given the importance of behavioral change in improved waste management in SIDS, engagement and well-defined roles for community groups, village leaders, and locally active CSOs and NGOs across the project countries is considered essential during the project's execution. Such groups will be viewed as execution partners, as well as beneficiaries and their support for the various initiatives to be undertaken as part of this project is seen as a key element of local and community level engagement.			
Indigenous Communities	These groups work to ensure equitable distribution of national resources among indigenous communities	Efforts will be made to include indigenous communities in the execution of the project's activities through consultation and, where possible, opportunities for employment, entrepreneurship and community enhancement	Medium

	Countries with significant indigenous and rural populations include Belize, Guyana and Suriname	The project will identify issues and associated mitigation/preventive measures related to indigenous communities, particularly in the context of the impacts of mercury and POPs on the populations, where applicable	
Groups focused on Gender and Youth Affairs and other vulnerable communities	These groups work to ensure equitable distribution of national resources among vulnerable communities	Groups to support gender mainstreaming, and identification and inclusion of vulnerable communities throughout the project Engagement will support awareness raising among vulnerable communities and ensure their participation in decision making processes throughout the project	Medium
Universities and other Academic Institutions	Supports development and execution of tertiary level and/or technical educational content	Key stakeholder for the development and distribution of technical material and training content under each output Developed material and tools can be incorporated into existing coursework on hazardous chemicals and waste management and training for national staff on an as-needed basis	Medium
Environmental CSOs/NGOs	Varying aims by existing groups include lobbying for improved national environmental management, supporting national environmental management frameworks, raising environmental awareness, etc.	Organisations to support national awareness raising and distribution of developed communication and training material under this project Can support waste diversion and recycling efforts	Low
Regional and Inter-Governmental Institutions *– Coordination with regional and inter-governmental entities is critical to ensuring the success of this regional project by capitalising on existing initiatives and lessons learned throughout the region. Further, existing regional mechanisms can be used to facilitate the project activities and engender support from national and regional entities.*			
BCRC-Caribbean	Supports Caribbean countries in implementing their international obligations to sustainably manage wastes and chemical through technical assistance and capacity building	Project Executing Agency for Component 3 Facilitation of the communication between project partners, and coordination of project activities with the other regional and global child projects to ensure collaboration and synergies Provision of general technical, administrative, and management oversight, quality control and compliance with IDB policies, processes and requirements	High
IDB	Inter-regional development bank that provides investment support to countries in Latin American and The Caribbean	Implementing Agency for this Caribbean Child Project Overall accountability for the project outcomes and fiduciary responsibility to the GEF	High

		Provision of technical backstopping, oversight and compliance with all GEF reporting requirements	
CARICOM	Political inter-governmental institution promoting economic integration and cooperation among its Caribbean member states	Provision of regional project support and lessons learned from execution of other regional activities Engagement with Legal Affairs Committee will be considered to concretize regional legislation and strategies developed Provision of support for regional level investment projects	Medium
Caribbean Development Bank	Regional development bank, provides investment support to countries in the Caribbean	Collaborates on regional dialogues on environmental protections, disseminiation of lessons	Low
International Organisations – International organisations can provide technical support and oversight of the project activities in addition to co-financing through other global initiatives.			
UNEP	Responsible for coordinating global activities in support of the UN's agenda for sustainable environmental management on an international level	Implementing Agency for the UNEP/FAO Caribbean Child Project and primary GEF Implementing Agency for the Global ISLANDS Programme Opportunities for optimization of resources, coordination and collaboration between the UNEP/FAO Child Project and the IDB Child Project	High
FAO	Responsible for coordinating global activities in support of the UN's agenda for improved food security on an international level	Co-implementing agency for the UNEP/FAO child project Expertise will support the development and use of tools and best environmental practices related to pesticides use in agriculture and awareness raising	High

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

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

Executor or co-executor; Yes

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Increasing attention has recently been paid to the issue of gender in waste management and it is highlighted that waste production and management are not gender neutral – neither in concept nor practice (UNEP 2015; IETC 2015). Typically, the structure of waste management reinforces normative gender roles. The current gendered nature of the waste sector is the product of attitudes and stereotypes of men and women. These gendered norms play out through the entire value chain of waste management.

Even if hazardous substances, chemicals and wastes reach and expose populations equally, factors such as: (i) poverty and socioeconomic status, (ii) gender-based and customary norms, (iii) health access and equity, and (iv) overall representation in decision-making processes and management policies relating to chemicals and wastes, determine the extent of repercussions and ramifications of these on population subgroups. For example, in many societies, women are expected to fulfill roles of unpaid domestic work, including care of ill family members. In this way, chemical exposures and health effects (whether of men or women) can add to the existing and entrenched “time poverty” (i.e. the time required for non-productive or unpaid labor that limits women’s opportunities to participate in remunerative economic activities), thus further entrenching gender inequality. Further, in most SIDS, women are responsible for managing household waste, making them the primary users of waste management services globally (UNEP 2015).

The gender-specific context for chemicals and wastes is consistent with this programme in focusing on improving chemicals and waste management in SIDS. Gender dimensions are relevant to the success of the programme and meeting its objective of preventing the build-up of materials and chemicals in the environment, and of managing and disposing of existing harmful categories. Meeting this objective and sustaining programme outcomes requires the participation of all sections of SIDS societies, and as such, the programme will take a gender mainstreaming approach to ensure child project activities, either:

- do not reinforce existing gender inequalities (that is, are **Gender Neutral**); or
- attempt to redress existing gender inequalities (that is, are **Gender Sensitive**); or
- attempt to re-define women and men’s gender roles and relations (**Gender Positive / Transformative**).

Gender Analysis in the Project Countries

The participating Caribbean countries recognize gender equality as an essential element of the economic and social development of their societies and have demonstrated their political commitment to gender equality through participation in several international conventions related to gender. In addition, all the countries fully acknowledge the United Nations Sustainable Development Goals (SDGs) which focuses on gender equality and empowerment in Goal 5. Gender equality is noted as a cross-cutting goal, and it is generally recognized that the full achievement of the other SDGs is dependent on the fulfilment of Goal 5.

Gender mainstreaming has been considered in some chemicals and waste projects conducted in the participating countries. For example, the “Review and Update of the NIP for Guyana under the Stockholm Convention” Project includes considerations for: 1) facilitating equal access to information and training; 2) encouraging equal participation in the PCU, PSC, working groups and any national consultations; 3) fostering equal recruitment of consultants to deliver the project outputs; and 4) collecting sex-aggregated data on vulnerable populations, particularly during the project’s socioeconomic assessment which will provide a basis for prioritization, development of action plans and drafting of post-NIP projects. Similarly, MIAs conducted throughout the region include an

assessment of potential gender dimensions related to the management of mercury, and “Gender Sensitivity Guidelines for Chemicals and Waste Management in the Caribbean” was developed under the MIA Project in Antigua and Barbuda, Dominica, Grenada and Saint Vincent and the Grenadines (GEF ID: 9865). A gender analysis was also conducted as part of the design of child project 2 implemented by the IDB with the objective of providing a gender overview in the solid waste and chemicals management sectors of the participating countries and to identify ways of mainstreaming gender considerations into the sector and into the project.

A review of the relevant literature confirms that Caribbean states are inherently masculinist and invariably patriarchal. While several of the countries have already instituted gender equality policies or action plans, others are still currently in the process of developing such policies. Further, population and demographic statistics of the project countries reveal that (i) women have higher life expectancies than men (ii) all countries except Guyana fall within the high human development category based on their Human Development Index (HDI); (iii) men have a higher income per capita than women. It was noted that only Guyana and the Dominican Republic have a quota system for women in their parliament.

A review of the sex disaggregated labor force statistics of the project countries reveals that (i) women’s labor force participation is lower than men in most countries - only Antigua and Barbuda and St Kitts and Nevis have a higher proportion of women in the labor force; (ii) women occupy lower paying positions as compared to their male counterparts; (iii) sectors related to chemicals and waste management have significantly more males overall and in managerial or supervisory positions than females resulting in both vertical and horizontal gender segmentation of the sectors (iv) in all the territories except St. Kitts and Nevis, the unemployment rate among women is higher than the unemployment rate of men.

As it relates to education, in all the project countries, the expected years of schooling of females is higher than that of males. Further, the OECS posits that nearly 1 in every 4 young people in the Caribbean is unemployed with young women’s unemployment being more than 30% as compared to 20% for young men.

In the project countries, women are exposed in varying degrees to ownership of micro, small and medium enterprises (MSMEs) since they have limited access to the means of production either due to high interest rates, limited collateral to access loans, intimidating application processes, or poor production and market records. Moreover, there are several gender-based and other economic factors that hinder the success of mainly female-headed businesses chief among which is the historical culture of reinforcing women’s domesticity which has impacted on the types of goods that women producers create and this limits the successful distribution of their produce in both the local and regional markets.

The project countries have ratified several international gender related agreements including the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) and several International Labour Organizations’ (ILO) Conventions. As such, they have demonstrated their political commitment to gender equality. As it relates to international chemical and waste management frameworks, all the project countries have ratified the Basel, Stockholm, and Rotterdam Conventions and all except Barbados, Belize and Trinidad and Tobago have ratified the Minamata Convention. These conventions recognize gender equality as key to their success and to address the differentiated impacts of hazardous wastes and chemicals on men and women.

A review of the national gender framework of the project countries reveals that, (i) the Constitutions of these countries speak to varying degrees on gender equality and discrimination on the basis of sex. Only the Constitution of Guyana contains a specific article, clause or paragraph about gender equality; (ii) long-term development plans/strategies of all the project countries make specific reference to and include provisions for gender mainstreaming except St. Kitts and Nevis which does not currently have a National Development Plan; (iii) Antigua and Barbuda has no National Gender Policy, while the other project countries either have an existing Gender Policy or is currently developing one; (iv) the project countries have multiple pieces of legislation that govern gender issues as well as chemicals and waste management within their territory (v) all the countries have a national gender agency that is mandated to mainstream

gender as well as several agencies that coordinate the management of chemicals and solid waste within their territory. A review of the policies and legislations related to gender and the national development plans in the various countries shows there is low to medium or no gender consideration in these policies. The exception is the national development policy of Trinidad and Tobago.

The major stakeholders in the project countries include, (i) national governmental and regulatory agencies; (ii) national sanitation agencies and bodies; (iii) municipal and regional waste management agencies; (iv) waste workers and collectors; (v) private waste collectors; (vi) private enterprises involved in waste management; (vii) recycling actors; (viii) NGOs; (ix) informal waste workers and their associations and (x) vulnerable population groups such as persons living close to landfills.

Despite these considerations, there is still limited availability of sex disaggregated data related to chemicals and waste management throughout the region.

The following is a summary gender analysis by project country, detailed information can be accessed in the full Gender Analysis report provided in Annex III.

Antigua and Barbuda

Antigua and Barbuda has a working-age population of 66,549 with 31,746 males and 34,803 females. Antigua and Barbuda has a high Human Development Index that is higher than the Latin America and the Caribbean average. Both men and women are involved in economic sectors associated with chemicals use and emissions. However, since women's labour participation is lower than men in the economy overall, their participation is lower in most sectors. Men dominate the agriculture, mining, manufacturing, electricity and gas sectors and are therefore more involved in the handling of and potential exposure to chemicals. Women's roles in economic sectors through further disaggregation does not necessarily put them at increased risk within the sectors. For example, women participate in various agricultural value chains, but their roles tend to be as agro-processors, marketers of agricultural products and tending to nurseries. Women's exposure to chemicals in the other sectors mimics the segregation of the agriculture sector. In fishing, for example, women are mainly marketers. Women's handling of and exposure to chemicals mainly occurs in the domestic sphere and in the hotel and tourism sector where their participation outnumbers men.

Both men and women participate in the waste value chain in Antigua and Barbuda. Men are the majority owners of waste management and disposal businesses and also in the regulatory public service agencies. Anecdotal information from national stakeholders indicates that waste pickers are predominantly females, while labourers in charge of disposal activities are predominantly males. Waste pickers are more likely to be exposed to chemicals and other hazards than other workers in waste management and disposal. They are also less likely to be able to afford private health care to address health issues that may arise.

Men and women not involved in waste disposal services or waste picking tend to be equally likely to be exposed to pollution from dumpsites since population distributions are generally equally split. However, because of their vulnerable status, women are less likely to be able to access health care to manage the health impacts of pollution. Though there are state sponsored and subsidized health care facilities, health costs are increasingly borne by citizens at private facilities. Ability to pay to access health services is, therefore, an issue for vulnerable populations.

Barbados

Barbados has a working-age population of 131,635 with 93,276 males and 98,359 females. Barbados has a multidimensional poverty index of 0.009, which is a significantly better value than the Latin American and Caribbean average. Gross National Income in Barbados is higher among men than women. Additionally, Barbados has a very high Human Development Index that is higher than the Latin America and the Caribbean average.

Men in Barbados are more likely to be exposed to and use chemicals, as indicated by their higher levels of participation in the main sectors of the economy associated with chemicals use and management. Labour participation for women ranks the highest for the CARICOM region and is higher than men. However, women's participation in the economic sectors associated with chemicals use and management is similar to the other project countries; i.e., much lower participation overall, except for the hotel and tourism, retail, wholesale and personal services sectors. Women are also exposed to chemicals at a higher level in the domestic spheres. Women and men participate in the technical fields associated with chemicals management almost equally. 70% of domestic waste is collected by the Sanitation Service Authority (SSA) while the remainder is collected through private entities contracted by the SSA; within the SSA, the gender disparity is the greatest for the agency at the technical level with 17% females and 83% males. In terms of waste workers overall, 81% are men and 19% are women. This percentage of formalised female waste workers is the highest of all the project countries in the public sector.

Belize

Belize has a working-age population of 248,936 with 122,661 males and 126,275 females. Belize has a multidimensional poverty index of 0.017, which is a better value than the Latin American and Caribbean average. Gross National Income in Belize is significantly higher among men than women. Belize has a high Human Development Index value that is below the average for countries in Latin America and the Caribbean.

Employment is higher for men than women in the agriculture and forestry, mining and quarrying, and electricity and water supply sectors. Men in Belize are more likely to be exposed to and use chemicals as indicated by their higher levels of participation in the main sectors of the economy associated with chemicals use and management. However, women's participation in the economic sectors associated with chemicals use and management is similar to the other project countries. Women are also exposed to chemicals at a higher level in the domestic spheres. Men's livelihood activities are heavily dependent on the major associated chemicals sectors of the economy.

Dominican Republic

Dominican Republic has a working-age population of 6,901,285 with 3,443,501 males and 3,457,784 females. The Dominican Republic has a multidimensional poverty index of 0.015, which is a better value than the Latin American and Caribbean average. Gross National Income in the Dominican Republic is significantly higher among men than women. The Dominican Republic has a high Human Development Index value that is below the average for countries in Latin America and the Caribbean.

Guyana

Guyana has a working-age population of 508,962 with 255,910 males and 253,052 females. Guyana has a multidimensional poverty index of 0.014, which is a better value than the Latin American and Caribbean average. Gross National Income for women in Guyana is low compared to the Gross National Income for men. With regards to human development, Guyana is the only project country that falls within the medium human development category based on its 2018 Human Development Index value of 0.670. Additionally, Guyana's Human Development Index value is below the average for countries in Latin America and the Caribbean.

Employment in Guyana is higher for men than women in the following sectors: agriculture, forestry and hunting; mining and quarrying; manufacturing; electricity, gas and water. Inequality in gender labour participation is stark. Guyanese women have the lowest level of participation in the economic sector for the Latin America and Caribbean region. Males therefore dominate all of the major sectors of the Guyanese economy including the sectors associated with chemicals use, namely agriculture, mining, manufacturing and construction. The largest economic sector in Guyana by employment is the agriculture sector which also includes heavy chemicals use. Women's involvement in agriculture is mainly in the reaping and marketing segments. Therefore, women's exposure to chemicals in the agriculture sector is low. However, the misuse of agricultural chemicals in suicides is a problem in Guyana that is associated with both males and females.

The mining sector is a large user of chemicals in Guyana, especially mercury, which is used in small and medium scale mining operations. Mining operations of all scales mainly employ men. Women's involvement in mining does not generally involve the handling and use of chemicals. However, despite the lower numbers of women in mining, mining continues to be a threat to Indigenous peoples, women and other hinterland populations in Guyana. Hinterland and Indigenous populations tend to have diets that are greatly reliant on wildlife, including fish, which are often contaminated by mercury pollution from nearby mining activities. Indigenous women are particularly susceptible to the effects of mercury and other heavy metal pollutions. Health care facilities in Indigenous and hinterland communities are often of low quality or completely absent, increasing the vulnerability of these communities to mercury pollution.

Saint Kitts and Nevis

Saint Kitts and Nevis has a population of 52,441. Saint Kitts and Nevis has a high Human Development Index value that is higher than the Latin America and the Caribbean average. Review of chemical-related policies and development plans in Saint Kitts and Nevis indicates a low or non-reference to gender in the national policies. However, Saint Kitts and Nevis is in the process of developing a national gender policy. References and considerations to environmental management and chemicals and waste management in the national gender policy is unknown. Both men and women participate in the chemicals related sectors. However, women's participation is much lower than men's participation in the agricultural and electricity sectors. Women's participation is higher than men's participation in manufacturing and in the public sector (by almost double).

Saint Lucia

Saint Lucia has a working-age population of 130,343 with 63,893 males and 66,450 females. Saint Lucia has a multidimensional poverty index of 0.007, which is a significantly better value than the Latin American and Caribbean average. Gross National Income is significantly higher among men than women. Saint Lucia has a high Human Development Index value that is below the average for countries in Latin America and the Caribbean. Employment is higher among men than women in the following sectors: agriculture, forestry, hunting and fishing; manufacturing; water supply, sewerage, waste management and remediation activities. Employment is higher among women than men in the electricity, gas, steam and air-conditioning supply sectors.

Men in Saint Lucia are more likely to be exposed to and use chemicals than women, as indicated by their higher levels of participation in the main sectors of the economy associated with chemicals use and management. However, women's participation in the economic sectors associated with chemicals use and management is similar to the other project countries. Women are also exposed to chemicals at a higher level in the domestic spheres. Men's livelihood activities are heavily dependent on the major associated chemicals sectors of the economy. The management of solid waste is vested in the country's Solid Waste Management Authority (SWMA) which has responsibility for, the collection of municipal solid waste generated from residential properties, public schools and institutions and government offices. The Authority operates and manages two (2) waste management facilities of which 100% of the waste workers at the SWMA are males.

A review of the national policies of Saint Lucia reveals a low to absent gender consideration in the environmental policies of the sectors. The national policies reveal a low to medium mention of gender but no gender considerations are given specifically to the chemicals, environmental or waste management sectors.

Suriname

Suriname has a working-age population of 379,713 with 191,770 males and 187,943 females. Suriname has a multidimensional poverty index of 0.041, which is a relatively poor value in comparison with the Latin American and Caribbean average. Gross National Income is low for women when compared to the Gross National Income for men. Suriname has a high Human Development Index value that is below the average for countries in Latin America and the Caribbean. Suriname's chemicals and waste management reveals that, (i) agriculture/forestry/fishing, mining and quarrying and electricity/gas/water supply sectors are major users and emitters of chemicals; (ii) the chemicals imported into Suriname are mainly pesticides, fertilizers, petroleum products, industrial and consumer chemicals.

Trinidad and Tobago

Trinidad and Tobago has a working-age population of 956,857 with 475,915 males and 480,942 females. Gross National Income is significantly higher for men than women. Trinidad and Tobago has a high Human Development Index that is higher than the Latin America and Caribbean average.

A review of the labour participation of the economic sectors associated with chemicals use and management in Trinidad and Tobago illustrates male dominance in all of the sectors except for wholesale and retail. The trends align with the other project countries and show that chemicals management and chemical use related sectors are traditionally male-dominated sectors. Women participate in all economic sectors related to chemicals management and use, but a lack of data and information prevents an analysis of women's roles in these sectors. Data available from the public sector indicates that women's participation in public management is high and as a result, they have significant roles in regulatory functions. In Trinidad and Tobago, the Environmental Management Authority (EMA), the Solid Waste Management Company Limited (SWMCOL), the Municipal Corporations of the Ministry of Rural Development and Local Government and the Tobago House of Assembly (THA) are the main public agencies involved in solid waste management. For the waste workers level of the SWMCOL, men dominate with 86% compared to a mere 14% of women.

Men and women working in waste management tend to work in segregated sections of the value chain. According to anecdotal information, men are the majority owners of the more lucrative ends of the value chain, such as private enterprises and businesses that benefit from waste disposal and management. However, there are also female owners of waste disposal and recycling enterprises. Women in Trinidad and Tobago also participate in the chemicals and waste management sectors in many ways. Among the various roles of women in the chemicals and waste management sectors of Trinidad and Tobago are: managers and technical officers in policies formulation, research, legislation, and metrology; educational roles; and advocates for waste management.

National policies related to chemicals and waste management are low in gender considerations except for the country's National Environment Policy (2018), which can be considered medium in gender considerations. However, Trinidad and Tobago's national development policies rank high in gender considerations.

Gender Considerations in the Project

The Child Project activities were designed to be gender sensitive and to provide equal opportunities for women and men. Stemming from the overview of the solid waste and chemicals management situation and the level of gender mainstreaming that exists within the project countries, it is evident that gender mainstreaming in the chemicals and waste management sectors of these countries presents a lot of potential. The entry point for gender mainstreaming in the project must be the creation of awareness for the need to develop gender-responsiveness in the sectors and increase the visibility of gender roles especially women's contributions and roles. In the development of mandates for gender mainstreaming in the sector, implementation must be a primary consideration. Towards successful implementation of gendered programmes, formalized frameworks must be developed with the national gender agencies and include women's NGOs and other social groups such as youth and indigenous people's representative organizations. Collection mechanisms can be built into already existing mechanisms in the environmental management agencies (some countries have Environmental Information Management Systems) and other agencies such as agriculture and energy have their own databases. Also, efforts must be directed at increasing the number of women in the technical roles in the sector. For the enterprise segment of the sector it is further recommended that; (i) the chemicals and waste management sector should be demystified and destigmatized through business awareness and entrepreneurial training; (ii) leadership and business training should be conducted with women to increase their participation in the lucrative sections of the waste value chain; (iii) funding and credit facilities specifically targeting women should be established to increase their access to credit and equipment; (iv) social programs should be leveraged to assist women waste pickers in the various countries; (v) gender awareness and equal employment opportunity training for business owners and the development of national gender seals is required; (vi) businesses should be assisted in adapting their work environments to better accommodate both genders.

In order to mainstream gender into the Child Project's activities in a comprehensive and effective manner, a Gender Mainstreaming Plan has been developed for this project. The objectives of this gender mainstreaming plan are as follows:

a. To ensure that men and women have equal opportunity to participate and benefit from the pipeline incubator activities.
b. To prevent any negative impacts on both genders as a result of the pipeline incubator activities.
c. To provide mechanisms for the mainstreaming of gender in the pipeline incubator projects according to the GEF and IDB gender policies.

Areas of special focus for this Gender Mainstreaming Plan are:

1. Gender Dimensions in Waste and Chemicals Management: women and men must have the same opportunity to participate in and benefit from the project activities including the sub-projects.

2. Decision-making Processes: it is important that there is gender equity in the decision-making processes of the different stages of the project – design, implementation, supervision, monitoring and evaluation, and overall management.

3. Rights to, Access and Control of, Resources and Assets: whilst there are no legal barriers in any of the project countries to prevent women's access to credit, resources and equipment for enterprise involvement in the sector, social and cultural norms often impede their access.

4. Roles, Responsibilities, Practices and Knowledge: the differential roles and responsibilities of men and women in both the domestic and productive sectors influence their use of chemicals and waste, needs for chemicals and the effects of the improper management of chemicals and waste as well as their involvement in livelihoods and enterprise activities associated with the sector.

5. Capacity Building and Information: addressing the issue of differential access and control of resources and assets can only be achieved with capacity building and awareness targeted towards the gender and social groups that are lagging in ownership of resources and are less empowered to take part in the project activities – in this case, women.

As a multi-country or regional project, the gender mainstreaming plan is cognizant of variations within countries and across countries. In addition, the plan also notes that the pipeline incubator projects will be of varying sizes and operational scales. Given these factors the plan proposes a three-pronged approach:

a. Mechanisms that address gender mainstreaming in the pipeline/sub-projects.

b. Processes to mainstreaming gender into other supportive processes such as knowledge management, capacity building and awareness, grant/sub-project management.

c. Monitoring and Evaluation to assess the projects effectiveness in mainstreaming gender in the sub-projects.

The approach of the gender mainstreaming plan is aligned with the Women in Development (WID) and Gender and Development (GAD) guidelines. This hybrid approach was deemed necessary for the project gender conditions. The plan therefore seeks to provide specific actions for women as well as focus on transformative actions that address systemic gender disparities in the sectors.

Additionally, the Global CCKM Child Project will ensure consistency and coherence among Child Projects' approaches to gender during execution, through the development of a programmatic gender action plan. The plan will be developed in response to the Child Projects' specific gender reviews, and be executed by Project Executing Agencies, and coordinated by the Coordination, Knowledge Management and Communication (CCKM) Child Project. This will ensure that gender data is collected, monitored and evaluated; and lessons learnt, and best practices related to gender can be shared with all SIDS.

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

Yes

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

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

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

When it comes to private sector engagement in the project there are two stages of engagement: project design and project execution. Below are the details for each of these stages outlining how private sector was and is expected to be involved in this child project.

- Design phase:

The private sector was widely engaged in the preparation and design of this project. In fact, an entire consultancy was devoted to the identification of private sector investment opportunities for the environmentally sustainable management of waste and chemicals in the Caribbean Region. The study included an assessment of the current private sector involvement in participating countries and recommendations as well as the identification of a project pipeline for future private sector engagement in the chemicals and waste management sector. A key tool used for private sector assessment was the use of online and virtual surveys to map the existing landscape of private sector organizations involved in the management of specific waste streams in the project countries. Virtual meetings were also held with key stakeholders in the selected countries. The surveys aimed to ascertain the experience and lessons learnt by existing businesses in terms of growth potential and challenges faced. They also examined barriers to investments in the industry as well as support needed from government. Three questionnaires were designed as part of the surveys. The first instrument was designed specifically for business enterprises which were known to be operating within the realm of waste management and covered a list of 90 entities across the project countries. A total of 16 of the target entities participated in this questionnaire. The second instrument, which was disseminated publicly, focused on gathering information from private businesses in general. It was designed to gather information about waste processing from the perspective of private businesses such as the potential benefit and the barriers to investment in this industry. Due to the public reach of this second questionnaire, it was also built to gather information from businesses involved in waste and chemical management if the engaged respondent was involved in such activities. A total of 70 businesses responded to this questionnaire of which 20 were involved in waste management. The third questionnaire was created to capture information from research institutions in project countries about waste management practices and technologies which could be adopted. This was circulated to a total of 100 individuals and 8 responses were captured.

- Execution phase:

Facilitating private sector investment and access to finance to improve the environmentally sound management of chemicals and waste in the project participating countries is one of the main objectives of this child project. Private sector engagement during the execution phase of the project will be key to achieve this.

Activities in Components 3 and 4 of the project have been designed to directly support private sector investments in the chemicals and waste sector by providing the necessary technical assistance, “seed resources” to attract co-financing, project beneficiary engagement, knowledge and tools to de-risk investments and create innovative financing instruments and implementation structures for both SMEs (Component 3) and large corporations (Component 4). Component 1 will also benefit the private sector by ensuring the necessary policy, strategy, legal and institutional enabling environments and capacities for investments are created in the participating countries and the region.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Given the recent global developments and due to uncertainties caused by COVID-19, mitigation actions will be taken to reduce potential negative impacts on sub-projects under programming. Close communication with IDB departments, governments and private sector are taking place to identify measures that can be put in place to mitigate the impact of the health crisis on the programming of this Facility. For this purpose, an assessment matrix has been produced to identify main risks and potential mitigation strategies. Possible delays are expected in the short term which enhances the importance of mitigation measures to reduce the impact of these delays while safeguarding the Facility's planned achievements.

Table 10. Project risks and proposed mitigation measures

Risk	Risk ranking	Proposed mitigation measures
		COVID-19 challenges
The restrictions and financial constraints caused by the COVID-19 pandemic have the potential to impact the project's implementation timeline and feasibility	Medium	i) Implementation timelines will be revised under the guidance of IDB's risk management tools; ii) Virtual meetings with consultancy firms and beneficiaries are now used in all IDB operations; iii) Commitments from counterparts in complying with deadlines still in place; iv) Feedback from beneficiaries will be constantly required to verify the need for changes and actions in the implementation phase; v) Project activities that are less likely to require physical exposure to social contacts will be prioritized during social distancing periods; vi) Project activities that result in social contacting are less essential and inevitable to be implemented in the short term will follow IDB's guidance on health safety and will receive the necessary precautions
The limitations for in person interactions as a result of COVID-19 could affect the communications efforts necessary for implementation and supervision of this project	Low	i) IDB has been prepared for Teleworking for the last 3 years, all employees have access to tools to guarantee continuity of activities; ii) Virtual meetings with consultancy firms and individual consultants and beneficiaries will be held instead; iii) Online tools as one drive and drop box are available to work on documents and other materials; iv) Workshops and events will be held virtually through existing online platforms; v) tjiose workshops that cannot be held virtually (because eof lack of access to internet, connection problems, etc) will be postponed if social distancing is still in place in any recipient country
Difficulties arising from the COVID-19 pandemic including restricted travel, decreased local support due to shifted priorities, new waste streams, impacts to SIDS economies (reduced tourism)	Medium	Considerations will be made for hosting meetings, workshops and consultations on virtual platforms as much as possible. Project activities will be validated with national stakeholders before finalisation to ensure continued support. Considerations for management of COVID-19 related waste added to alternative scenario. Discussions held with all relevant stakeholders to ensure COVID-19 impacts are not exacerbated and new economic opportunities are supported. Development of in-country capacity will help to mitigate impacts

The COVID-19 pandemic could cause delays in the approval process of the project in the Bank's systems	Low	IDB Operations are not affected by Teleworking. IDB approval of Project Cycle is still in place following IDB policy and procedures (including timelines) for Eligibility, Virtual QRR and Approval
The current COVID-19 crisis has affected the economic liquidity and access to finance of countries and individuals which could result in serious financial limitations for future investments in the C&W sector as well as in the ability to provide counterpart resources in cash	Medium	The international community, including the IDB, has rapidly mobilized assistance programs and financial relief funds to help countries in the region overcome the current economic constraints. This has contributed to improving the capacity of the public and private sectors to make investments in diverse sectors. In addition, GEF resources are expected to be blended with co-financing resources and contribute to unlocking additional finance
Operational/delivery risks		
Political priorities, will and/or buy-in are not adequate for execution of key project activities	Medium	The institutionalisation of the project's activities will be encouraged. Government stakeholders were engaged throughout the project development phase to ensure that national priorities were being considered and that there was political buy-in for the project activities. Continuous communication and updates will be provided to the national focal point and key agencies to ensure sustained support.
Changes in governments and country personnel to persons with little awareness and buy-in to the project	Low	Project information will be disseminated to as much stakeholders as possible and multi-party political support for the project will be sought.
Private sector and/or community support and behavioural change are not adequate	Low	The private sector and CSOs/NGOs have been engaged throughout the project preparation phase and will continue to be engaged throughout the project's execution. Members will be included on National Working Groups to ensure that their needs are being met. Awareness raising campaigns will be developed and executed to engender additional support from these groups.
High shipping and recycling costs and low market price of recyclable materials reduce the viability of establishing material recovery and recycling initiatives	Low	Market analyses will be conducted to ensure the economic viability of recommended recycling and material recovery initiatives. Financial incentives and investment opportunities will also be highlighted to support public-partner partnerships
Despite the collaboration efforts between this and the UNEP/FAO child project, both projects are implemented by different agencies, have a slightly different focus and different implementation plans. Therefore, there is a potential for the implementation timelines for both child projects to be different or to divert from each other which could make it difficult to ensure collaboration and symergies	Medium	This will be mitigated by establishing a joint implementation team comprised of IDB and UNEP/FAO representatives that will meet periodically to discuss matters related to the ISLANDS program in general and the 2 child project in particular. This will constribute to making the collaboration easier and more feasible and effective
Project Programming risks		

In adequate data available to s upport activities	Medium	Historically, data collection within the region is not adequate. Where requir ed information is not available, the project executers and partners will wor k with stakeholders to collect raw data and develop mechanisms to ensure that sustainable data collection mechanisms are implemented.
The investment criteria under t his Facility seek to develop a ve ry specific and narrowed pipelin e of operations which could res ult in the lack of eligible project s due to current economic circu mstances	Low	GEF resources will be used as a de-risking mechanisms by allowing the red uction of requirements on the level of financial counterpart expected
Lower than expected uptake an d responsiveness from potentia l clients and counterparts and/ or lower than planned effective ness of existing IDB platforms i n terms of project identification and pipeline creation can result in potential delays in the projec t programming timelines	Medium	This project includes the implementation of several workshops and events with potential national and regional counterparts to disseminate informati on about the Facility, create awareness about C&W management and the b usiness potential it has. These sessions should greatly lower the risk of lo w uptake
Conflicting priorities in econo mies with limited resources an d a variety of challenges to tack le always pose the risk of propo sed priorities not matching cha nging national/regional prioritie s	Medium	The project has been designed based on a highly consultative process. Se veral virtual and in person (pre-pandemic) consultations were held with nat ional and regional stakeholders in order to validate and capture their priorit ies and needs. The same consultative approach is expected to be carried o ver to the implementation phase.
Environmental safeguard risks		
Climate change and rising sea l evels resulting in infrastructure damage; disaster waste; shifts i n political priorities; delays in pr oject outputs	Medium	The impacts of climate change will be considered in the development and i mplementation of project infrastructure and strategies for sustainable che micals and waste management. Considerations for changes in project exe cution and minimisation of delays resulting from natural disasters with inc reased intensity due to climate change will be made to minimise the risk of such events on the project timeline and execution.
Social risks		
Continued disregard for the env ironmental and health impacts of existing waste management activities	Low	Awareness raising campaigns will be developed and conducted in coordin ation with UNEP/FAO's child project for government and private sectors as well as the public to engage key community authorities and vulnerable gro ups (e.g. youth, Indigenous communities).
Economic displacement of info rmal sector workers through for malisation of chemicals and w aste management systems	Low	Communities/relevant experts and the informal sector will be engaged in t he execution of the project's activities to ensure that developed and imple mented strategies provide safe economic opportunities for informal recycl ers. These workers will also benefit from training on best environmental pr actices to protect them from the negative health impacts associated with i mproper waste management.
Low buy-in from stakeholders i s a very common risk when sup porting innovative approached t o an existing challenge. Innovat	Low	Strong linkages and collaboration with the UNEP/FAO child project in term s of communications, knowledge exchange and awareness creation will be ensured in order to guarantee that the effectivity and appropriateness of th e proposed innovative measures and approaches is communicated to stak

a challenge. Innovation is one of the objectives of this projects so there is a risk that stakeholder won't buy into implementing certain projects		proposed innovative measures and approaches is communicated to stakeholders in a tailored manner depending on the audience.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Implementing Agency: The Inter-American Development Bank will be the implementing agency for this child project and will undertake the implementation functions as described in the GEF Guidelines on the Project and Program Cycle Policy, through its Water and Sanitation Division (INE/WSA), which manages all public sector waste management operations. The implementation role of INE/WSA will include the housing and management of the Facility and will involve the appointment of a dedicated Facility Coordinator (FC) to oversee the day-to-day operation and management activities of the Facility, including internal administrative tasks as well as validation of potential investments (subprojects) against the Facility's eligibility criteria. A technical consultant will support the FC in the day-to-day operations of the Facility.

The FC will liaise with other IDB Departments such as IDB Lab and IDB Invest, as well as with Executing Entities such as BCRC and GIZ, to obtain information necessary to track sub-projects, verify the portfolio's sustainable impacts, monitor the expected results, support problem solving and prepare portfolio management reviews and reporting documents. Internal oversight of the Facility will be the responsibility of INE/WSA, which will coordinate with different IDB Group technical experts, especially those located in the Caribbean region. The FC will guarantee coordination with IDB specialists throughout the Caribbean, who will support: i) pipeline origination, ii) evaluation of potential subprojects, and iii) approval process of individual sub-projects. Both IDB Invest and IDB Lab will appoint a focal point to interact with the FC.

Once selected, sub-projects will be submitted for approval through IDB procedures, which require consultation and non-objections letters from IDB member countries, guaranteeing the engagement of participating countries. The FC will guarantee that all sub-projects comply with all GEF requirements.

The FC will be responsible for managing the GEF's accountability and reporting requirements provided by sub-projects. The FC will be responsible for developing a decision matrix to select the sub-projects in consultation with a internal oversight team in the Bank. Eligibility criteria have been developed already in partnership with the GEF and UNEP/FAO to ensure coordination with the UNEP-executed child project. The list of criteria take into consideration GEF and IDB priorities and allow the project team to evaluate each proposal against pre-established criteria. Project proposals that do not meet IDB and GEF criteria and standards (financial or GEBs potential) will be subject to recommendations for improvements to increase the prospects for financing from other sources. Individual sub-projects, once selected, will be submitted for approval through IDB procedures. The unit/department of the selected sub-project, namely IDB Lab and IDB Invest, will ensure that all applicable responsibilities and requirements established under the GEF and IDB policies are met when GEF resources co-finance the sub-project.

INE/WSA, through the FC, will also coordinate the dissemination of the project's activities and outcomes with the other child projects through regular meetings of the Programme Coordination Group composed by FAO, GEF C&W Focal Area team, UNEP and UNDP. It will also provide all reports to the GEF Secretariat to allow for onward report to GEF Council.

INE/WSA, through the FC, will also coordinate with National Focal Points to ensure that relevant stakeholders are invited to and engaged at the various activities throughout the project, particularly under Component 1. Engagement in these meetings will help to secure feedback on project progress on a continuous basis and help to facilitate a more positive project outcome. National Focal Points proposed for this project will be from the main agencies responsible for chemicals and waste management in each country. The various Government agencies expected to fill this role are as follows:

- Antigua and Barbuda – Department of Analytical Services
- Barbados – Environmental Protection Department, Ministry of Environment and National Beautification

- Belize – Ministry of Fisheries, Forestry, the Environment and Sustainable Development
- Dominican Republic – Ministry of Environment and Natural Resources
- Guyana – Environmental Protection Agency
- Saint Kitts and Nevis – Saint Kitts and Nevis Bureau of Standards
- Saint Lucia – Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development
- Suriname – Coordination Environment, Ministry of Spatial Planning and the Environment
- Trinidad and Tobago – Environmental Management Authority and Ministry of Planning and Development
- The Bahamas: Ministry of Environment & Housing.

IDB Lab will play a key role, supporting pipeline origination under Component 3; supporting subproject approval under Component 3; coordinate with INE/WSA and the FC; supervising executing agencies under Component 3; and providing inputs to the FC for GEF reporting.

IDB Invest will also play a key role, supporting pipeline origination under Component 4; supporting subproject approval under Component 4; coordinate with INE/WSA and the FC; supervising executing agencies under Component 4; and providing inputs to the FC for GEF reporting.

Executing agencies for IDB's child project: Legally established entities may receive and administer resources under the Facility. These executing agencies must be: (i) borrowing member countries, including national and sub-national institutions with legal capacity to enter into legal agreements with the Bank; (ii) regional and sub-regional agencies established by the same countries; (iii) international or regional cooperation agencies; (iii) private companies eligible to receive non-reimbursable and reimbursable financing from the Bank; and (iv) not-for-profit institutions, including civil society organizations and associations. Each component will have its specific executing arrangements, which have preliminary been defined as follows:

BCRC-Caribbean: BCRC-Caribbean will fulfill several roles under this child project:

1. It will be the executing agency for Components 1 and 5
2. It will serve as liaison between ISLANDS child projects given its involvement in the global program as well as several of the Caribbean child projects. It will represent this child project in all committees and working groups being established under the UNEP/FAO child project to ensure information is shared across child projects (knowledge management, coordination, etc.)
3. It will provide facility support and act as a project broker by contributing to the project origination and identification exercise that will feed the facility's pipeline.
4. It will coordinate with the IDB and the FC when needed on matters related to child project collaboration and synergies, Components 1 and 5 reporting, and ISLANDS global implementation.
5. Provide guidance and direction to the project, help in the monitoring of the overall effectiveness of the project and facilitate country level buy-in, coordination and collaboration with the IDB.

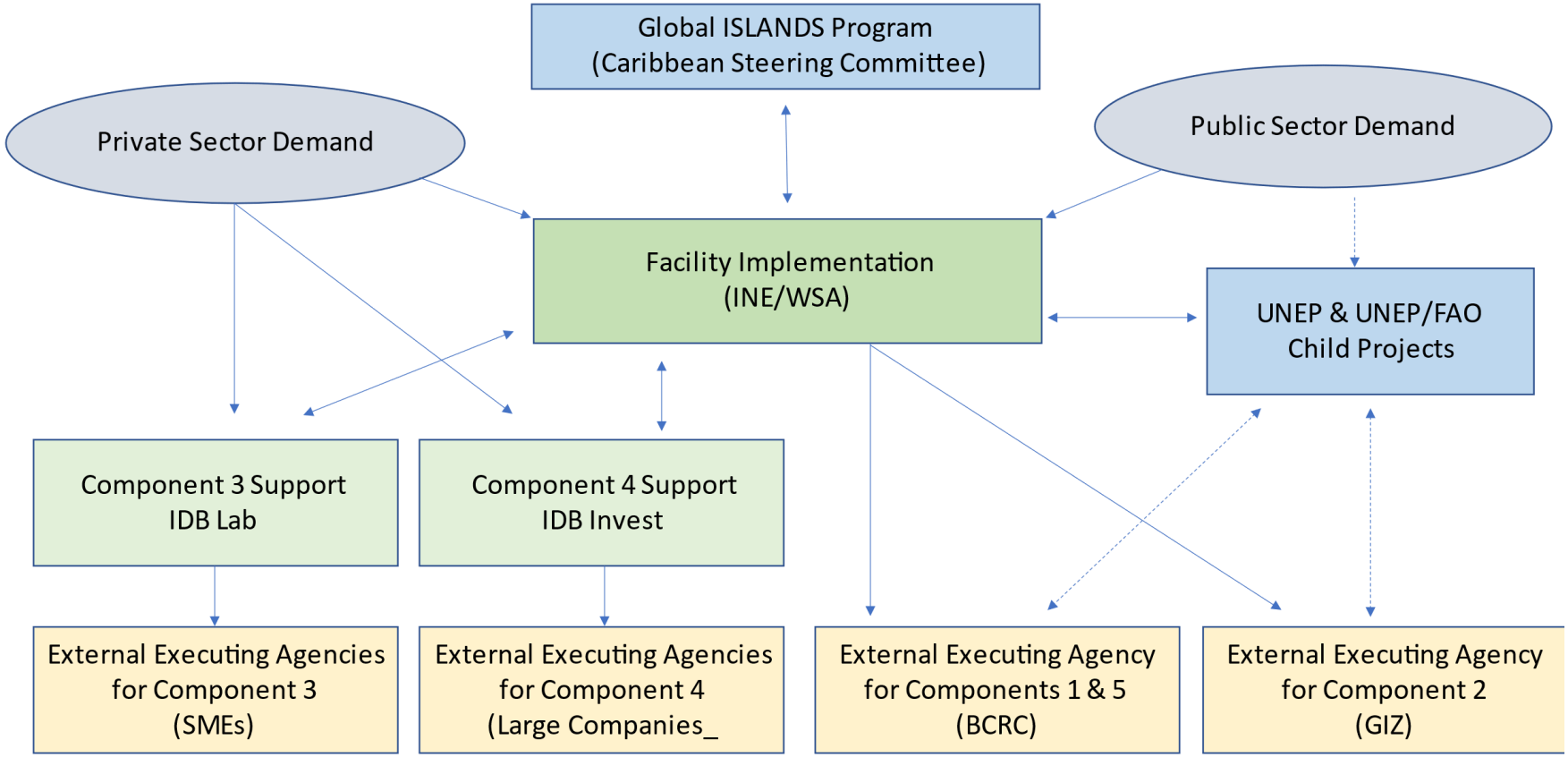
GIZ: GIZ will also fulfill several roles under this child project:

1. It will be the executing agency for Component 2
2. It will provide facility support and act as a project broker by contributing to the project origination at the public sector level, and identification exercise that will feed the facility's pipeline.
3. It will coordinate with the IDB and the FC when needed on matters related to child project collaboration and synergies, Component 2 reporting, and ISLANDS global implementation.
4. Provide guidance and direction to the project, help in the monitoring of the overall effectiveness of the project and facilitate country level buy-in, coordination and collaboration with the IDB.

Other agencies: The UNEP/FAO Child Project team will collaborate with the IDB child project in the following manner:

1. Assist in the identification of potential investment opportunities for the IDB child project.
2. Mutually share information on implementation of child projects.
3. Facilitate coordination with the Project's Steering Committee (PSC)

Figure 6.1 Institutional arrangements of the IDB Child Project


Global ISLANDS Program
(Caribbean Steering Committee)
Private Sector Demand
Public Sector Demand
Facility Implementation
(INE/WSA)
UNEP & UNEP/FAO
Child Projects
Component 3 Support
IDB Lab
Component 4 Support
IDB Invest
External Executing Agencies
for Component 3
(SMEs)
External Executing Agencies
for Component 4
(Large Companies_
External Executing Agency
for Components 1 & 5
(BCRC)
External Executing Agency
for Component 2
(GIZ)

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

Based on the priorities for hazardous chemicals and waste management set by each of the participating project countries as well as the policies and strategic guidelines identified in the PPG phase, the proposed child project activities have been defined to be in line with the national priorities and plans for each country and with SIDS' commitments and priorities. Globally, SIDS are guided by commitments to achieve the SDGs and the associated targets at national level. This project is fully aligned with SDG 12 on Sustainable Consumption and Production, SDG 3 on Good Health and Well-Being, SDG 5 on Gender Equality, SDG 6 on Clean Water and Sanitation, SDG 9 on Industry, Innovation and Infrastructure, SDG 11 on Sustainable Cities and Communities, SDG 13 Climate Action, SDG 14 on Life Below Water, SDG 15 Life on Land and SDG 17 Partnerships for the Goals. The project is designed to assist SIDS to meet the following specific SDG targets under the 2030 Agenda for Sustainable Development:

· Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle as well as sustainable consumption and production patterns, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment.

· Substantially reduce waste generation through prevention, reduction, recycling and reuse and therefore directly contributing to ensuring sustainable sanitation for all.

· Ensure healthy lives and promote well-being by removing toxic and hazardous waste from the environment and promoting the repurposing, recycling and reusing of those materials that still have a market value and properly and safely disposing of those which don't.

· Mainstream gender considerations into the project design and execution plan wherever possible, contributing to the achievement of gender equality and empowerment.

· Foster innovation and promote sustainable industrialization by supporting innovative investments in the chemicals and waste sector, including those initiatives implemented by SMEs in the participating countries and being supported through existing IDB programs and platforms.

· Contribute to limiting GHG emissions into the atmosphere and reducing the carbon footprint in the waste management sector, which is one of the main contributors in the Caribbean, and promoting projects that contribute to building the region's resilience to climate change.

· Promote activities that reduce marine pollution by removing waste from the environment to repurpose, reuse and recycle it and therefore limiting the amounts of plastic marine litter washing up onshore the region due to inadequate waste management.

· Promote the establishment of partnerships, especially between the public and private sectors to tackle the environmental crisis caused by ecosystems degradation, unsustainable management of natural resources and climate change.

The program is also consistent with the guiding global policy for SIDS' development, the SAMOA Pathway. On chemicals and wastes management, the SAMOA pathway recognizes the need to reduce, reuse, recycle, recover and return approaches according to national capacities and priorities *inter alia* through capacity-building and environmentally appropriate technologies[1].

At the regional level and specifically for the Caribbean region, a Draft Caribbean Waste Management Regional Action Plan (DCWMRAP) is currently being developed with the support of UNEP. This plan has not yet been finalized and its latest draft dates from late 2018 but it comprehensively sets out a list of priorities for the region to implement sustainable waste management systems in island nations. The proposed project is consistent with the overall objective of the DCWMRAP to define both regional and island-specific waste management strategies and systems that are environmentally and financially sustainable, and most importantly, supported by civil society. It is also consistent with the 8 specific priorities of the DCWMRAP:

- Priority 1. Improve strategic planning for waste management and prevention: the lack of strategic planning processes often results in Caribbean island nations selecting a “waste solution” without considering the systematic financial, regulatory, infrastructure or educational requirements to implement it.

- Priority 2. Improve management of waste infrastructure: upstream waste collection and downstream waste disposal experience significant infrastructure challenges. Upstream waste collection systems typically require an excess of 50% of a waste authority’s budget (mainly in equipment maintenance, replacement or acquisition) and downstream, many of the landfills are reaching or have even exceeded maximum capacity coupled with a lack of national strategic planning, funding and the implementation of programmes and projects to decrease dependency on landfills.

- Priority 3. Reduce pollution from waste generation: the introduction of waste pollution in the coastal and marine environments is of concern to ecosystem health and sustainable livelihoods worldwide and of particular relevance to island nations dependent on coastal and marine resources, and concomitantly struggling to adapt to climate variability and change. Most Caribbean nations have enacted legislation to govern the operation and management of waste (e.g. to prevent open dumping and littering). However, only a few have promulgated regulations to provide guidance to ensure laws are enforced and associated penalties for non-compliance are implemented.

- Priority 4. Divert resources from landfill sites and improve recycling capabilities (circular economy approaches): waste diversion from landfills is a key action item for sustainable waste management purposes. However it comes with many challenges for Caribbean nations such as those related to non-existent local markets to feedstock recyclables into manufacturing, informal recycling activities which constitute an informal sector that sustains a significant number of low income households in the Caribbean, trade barriers that prevent recyclers from beign able to sell materials on or off-island, and low public participation in activities that are key for effective and efficient recycling such as waste source separation.

- Priority 5. Strengthen Public-private partnerships and innovation: the private sector plays an increasingly important role, including progressing sustainable waste management projects and transportation of secondary materials or waste from the islands through public-private partnerships (PPPs). Beyond PPPs, innovative strategies to increase landfill diversion requires governments to foster entrepreneurship and innovation, build capacity, increase the competitiveness and social entrepreneurship of micro, small and medium-sized enterprises and promote inclusive participation of all people, including the poor, women, youth and persons with disabilities.

- Priority 6. Identify sustainable financing mechanisms: financing from all sources (domestic, international, public and private), is critically important to advance sustainable waste management in the Caribbean. However, regional professionals are of the opinion that funds are insufficient to operate and maintain waste collection, processing and disposal facilities. This inadequate funding is systematically impeding the collection, processing and disposal of waste mostly because equipment now requires major repairs or replacement.

- Priority 7. Upscale outreach and communication efforts: communicating the importance of waste management and the cost of inaction to high-level officials is fundamental in advancing sustainable waste management systems in the Caribbean. In addition, waste administrators, managers, regulators, operators, and educators need to have access to information and resources, as well as communicate with each other, to efficiently and effectively develop, finance, operate and maintain waste management infrastructures and strategies.

- **Priority 8. Improve capacity to manage "special wastes", especially disaster debris:** Caribbean islands struggle with the effects of natural disasters and climate change impacts, including with how to manage the extensive amount of wastes these events generate. Infrastructure resources available to Caribbean islands in order to respond to natural disaster waste are inadequate to effectively, respond to these crises. Without the necessary resources, affected islands have not fully succeeded in preventing this debris from becoming waste pollution and a health hazard.

The proposed project will directly contribute to:

· Priority 1 by supporting investments that will create and improve the necessary legal, regulatory, institutional and financial frameworks and instruments to facilitate a transition to a low chemical and waste development pathway.

· Priority 2 by supporting investments and activities that will divert waste and chemicals from the landfills to be reused, repurposed and/or recycled.

· Priority 3 by redirecting waste and chemicals' streams to feed them back into a new materials life cycle that will also avoid that they reach the coastal and marine environments.

· Priority 4 by financing investments, projects and activities that are aligned with the principles of the Circular Economy, including those related to sustainable procurement practices as well as those focused on reusing, repurposing and recycling.

· Priority 5 by supporting the structuring of innovative project implementation schemes of eligible investments in the chemicals and waste sector such as the creation of public-private partnerships, among others.

· Priority 6 by supporting the structuring of innovative project financing mechanisms of eligible investments in the chemicals and waste sector such as bonds and results-based financing, among others.

· Priority 7 by supporting awareness and information dissemination campaigns about chemicals and waste management.

During regional consultations[2] both during initial project development and during the PPG stage, stakeholders and representatives form the participating Caribbean countries were extensively consulted in order to identify key areas for technical assistance under this child project. These areas are summarized by country in the table below:

Table 11. Key areas for technical assistance under this child project

Country	National priority	NIP (Stockholm Convention)	NIP Update (Stockholm Convention)	MIA (Minamata Convention)
Caribbean SIDS				
Antigua and Barbuda	Laboratory training on POPs and other environmental monitoring; extinguish ongoing landfill fires; medical waste; e-waste Improved institutional and regulatory framework, Identification of entrepreneurship opportunities in the waste sector, Improved waste management opportunities and strategies, Improved country collaboration sub-regionally as it relates to chemicals and waste, the need for comprehensive data on human exposure to chemicals, building capacity (physical and technical), greater awar	Yes, 2008 NIP prioritizes reducing uPOPs through managing burning of municipal waste.	NIP Update completed under GEF 5558 Project by March 2019. *Awaiting country transmission to the SC Secretariat* NIP Update prioritizes. Improved waste management, circular economy approaches; and reducing open burning	MIA prioritizes inter alia: identification of potentially Hg-contaminated sites; awareness raising on the issues posed by Hg. MIA ending in Q4 2020.

	city (physical and technical), greater awareness at the policy and public level			
The Bahamas	Management of hazardous wastes entering landfills, including e-waste and end-of-life vehicles, Improved laboratory capacity for analysis of POP-containing materials, Improving inter-agency collaboration, Increasing capacity of Customs Department with respect to environmental awareness and chemicals and waste management.	NIP submitted to BRS Secretariat in 2020	Not yet conducted.	MIA expected to be completed in Q2 2022.
Barbados	Development of laboratory analytical capacity Management strategies for difficult waste e.g. voluntary programmes for e-waste.	Yes, 2007 NIP prioritizes disposing of existing POPs waste, and preventing the generation of additional waste	NIP Update under development (GEF 5558), to be completed by September 2020. The NIP Update prioritizes new POPs and associated wastes and to improve the management of POP-PBDEs and PFOS stock piles, waste, and articles in use.	Has not initiated an MIA. (not yet a Party to the Minamata Convention).
Belize	Waste recovery facilities; Introduction of levy on the import of hazardous material, Wastewater/sludge treatment, e-waste management, Comprehensive waste management plan, used waste oil management, management of waste from agriculture sector like waste -containers, assessing and monitoring chemicals (including pesticides) in water bodies especially rivers	Yes, 2011 NIP prioritizes management, avoiding uPOPs and other hazardous material	NIP Update completed under GEF 5558 Project by January 2019. *Awaiting country transmission to the SC Secretariat.*	Under development, to be completed by Q2 2021. (not yet a Party to the Minamata Convention)
Dominican Republic	Develop National Action Plan, and strategy for the management of mercury and its compounds. Promote implementation of Globally Harmonized System. National inventories of hazardous waste. Update of the NIP. ESM of marine plastics litter and microplastics. Pesticide and e-waste management. Improve recycling and resource recovery (circular economy approach)	Yes, 2009 NIP prioritizes National Action Plan	NIP Update currently being initiated.	GEF5 project implemented as an MIA. MIA Report completed. Mercury in products and bi-product mercury from LSM gold production.
Guyana	Hazardous waste treatment facility and hazardous waste disposal site, incorporate the Basel Convention text into the laws and regulations of Guyana, recycling at a national level, Improve Management (importation, storage and use) of mercury towards its phasing out by 2027, improve Management of Chemicals/substances/products that contribute to emissions/releases of POPs, municipal landfill waste,	Yes, 2013 NIP identifies the need to develop national capacity for hazardous waste management	Currently NIP Update under development (GEF 10185), to be completed by June 2021	Completed in 2016 with UNDP. Main issues regard the management of mercury in the Artisanal and Small-Scale Gold Mining sector with recommendations for management of mercury added products also made.

Saint Lucia	Mercury product management, Hazardous waste treatment and storage, e-waste management including POPs waste, support phase out of MAPs by 2025, landfill management procedures; develop and implement, phase out plan for MAPs, particularly lighting products, Support for assessing sustainable technologies that are nationally appropriate for waste treatment. Legislation for: Extended producer responsibility (EPR) Hazardous waste Multilateral environment agreements	No, 2007 NIP does not address mercury	NIP update completed under GEF 5558 Project by Jun 2020. *Awaiting country transmission to the SC Secretariat.*	MIA completed in 2018. Main mercury issues are from consumer products, the waste and medical sector.
Saint Kitts and Nevis	Improved capacity to manage hazardous waste. Training and technology recommendations focusing on technology that meets accepted environment standards in a cost-effective manner with respect to: e-waste medical waste and hazardous waste, compaction of derelict vehicles and white waste, recycling, and MEAs reporting. Strengthening regulatory methods.	Yes, 2014 NIP prioritizes improves hazardous waste management	NIP Update completed under GEF 5558 Project by February 2019. *Awaiting country transmission to the SC Secretariat.*	MIA completed in 2018. Main mercury issues are from consumer products.
Suriname	POPs stockpiles and POPs alternatives, technical and financial assistance in chemical and waste management, Hazmat training, other training for chemical waste management, Training lab personnel, set up and update of existing database for chemicals management, capacity building in chemical waste management (government and private sector), awareness activities (government and private sector), set up training for customs for HS code	Yes, 2012 NIP prioritizes disposal of POPs	NIP Update completed under GEF 5558 Project by February 2019 and transmitted to the SC Secretariat in September 2019.	Under development with UNDP.
Trinidad and Tobago	Hazardous Waste Management – bulbs, tyres, medical waste, e-waste. Continuation of outputs of filling gaps of GEF POPs project, increase avenues for sound management of priority waste streams plastics etc, Access to reliable data to inform decision making, capacity building for key actors: Border control and enforcement legislators, source generators and high-level technocrats, Increase consumer info and positive behaviour change related to hazardous product	Yes, 2015 NIP prioritizes these issues.	NIP Update completed under GEF 5558 Project by June 2019 and transmitted to the SC Secretariat in September 2019.	MIA completed in 2018. Main mercury issues are from extraction and use of fuels, waste sector and consumer products. (not yet a Party to the Minamata Convention).

	Mod change related to hazardous products, increase info on sustainable alternative products, shift in manufacturing paradigm and alignment with national policy to achieve the SDGs			

In addition to the specific national priorities listed in the table above, all countries in the Caribbean, Pacific and Indian Ocean regions confirmed the need to address a set of issues/priorities common across many countries. These include:

· Better management of land-based sources of marine litter, including the potential to take informed decisions on / phase out of use of single use plastics;

· Better management of electronics and improved access to recycling technologies;

· Systems to address huge increases in waste volumes produced following natural disasters such as cyclones, hurricanes and tsunamis;

· Improve customs regulations and controls on import of hazardous chemicals and goods containing future hazardous waste;

· Reduced risks from pesticide use, specifically phasing out Highly Hazardous Pesticides (HHP) linked to less environmental pollution, to lower chemical residues in food and exposure during application;

· Improved management of used oil waste, e-waste, pneumatic tyres, and end of life vehicles;

· Phase-out of mercury containing products and devices in line with the Minamata Convention phase-out deadline of 2020;

· Improved management of waste streams that can lead to the releases of Hg, new POPs, UPOPs, or marine litter, etc., including WEEE management, Healthcare Waste Management and Municipal Waste Management through the engagement of the private sector, introduction of BAT/BEP and introduction of import bans/restrictions (Hg containing products, single use plastics, etc.)

· Reduced risks from pesticide use, specifically phasing out Highly Hazardous Pesticides (HHP) linked to less environmental pollution, to lower chemical residues in food and exposure during application.

The proposed alternative scenario seeks to address these priorities through the combination of global, regional and national level interventions for both the public and private sectors. Lastly, all participating SIDS have confirmed their national priorities are in line with current UN Development Assistance Framework (UNDAF) priorities.

[1] http://www.sids2014.org/content/documents/336SAMOA%20Pathway.pdf

[2] Caribbean consultations: 17-18 July 2018 and 26 – 28 August 2019 (Port of Spain, Trinidad and Tobago).

8. Knowledge Management

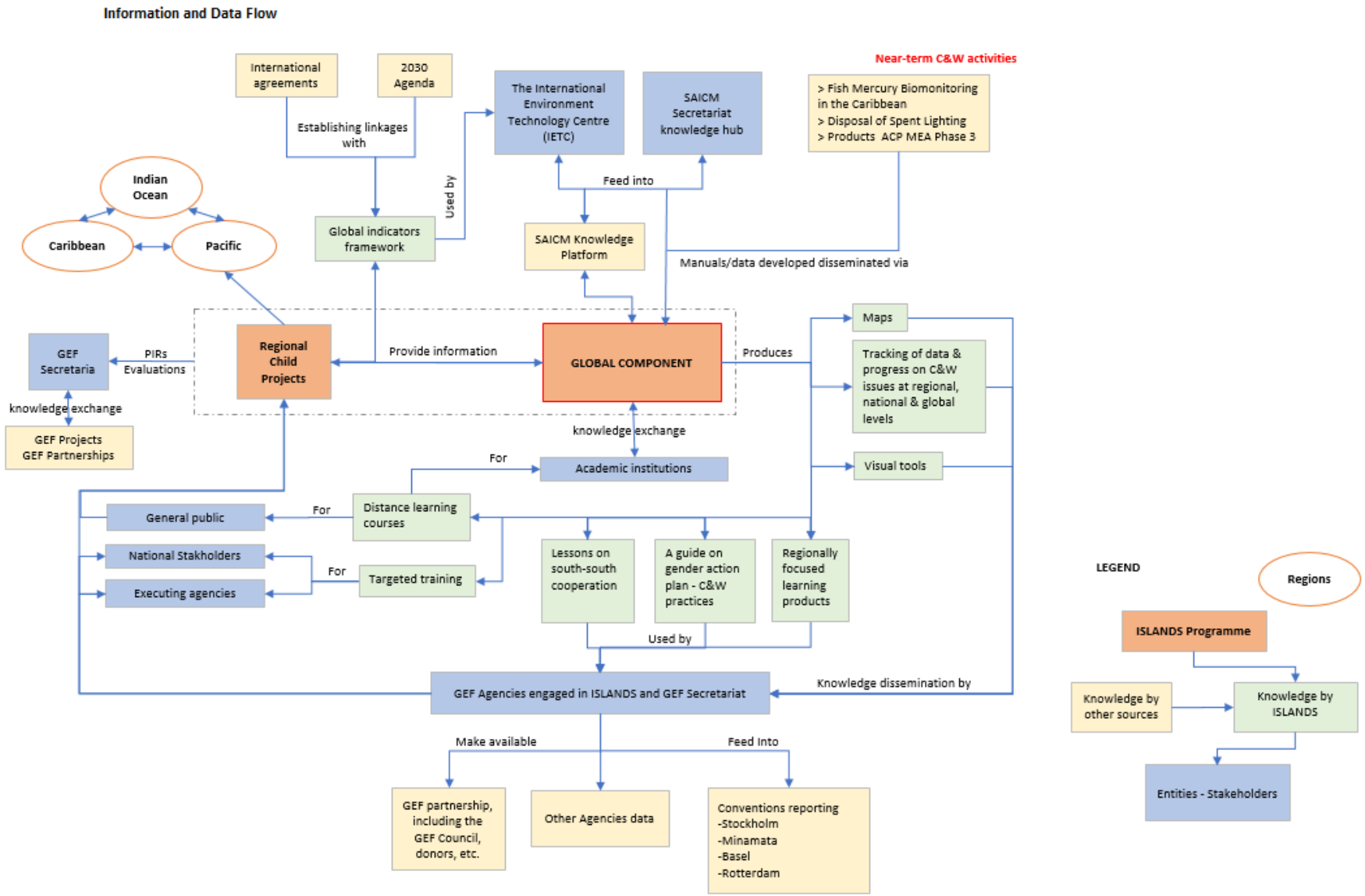
Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

The Global ISLANDS program includes a Child Project on “Coordination, Communication and Knowledge Management” designed to coordinate, communicate and manage all the knowledge produced under the Program’s child projects. The CCKM Child Project will document all the lessons learned, experiences and information produced by the other Child Projects under ISLANDS and disseminate it not only among them but also to other SIDS across the globe. The aim of the Communication, Coordination and Knowledge Management (CCKM) child project is to coordinate and exchange knowledge at the global, regional and national levels between SIDS thus raising the bar in terms of adoption and implementation of higher standards of environmental compliance. It will support the introduction of best practices, approaches and technologies for chemicals and wastes management in SIDS.

As outlined in the approved ISLANDS PFD, effective knowledge management is required to ensure that ISLANDS’ Child Projects equate to more than the sum of their parts. That is, accumulated knowledge assets, derived from each of the ISLANDS Child Projects and SIDS-relevant resources from other historical and future activities, will be captured, stored, and distributed by the CCKM to key stakeholders through knowledge products, services and assets. The aim is to foster an environment of cross fertilization between regions to ensure best practice is applied at global level thus “raising the bar” of environmental compliance, promote the use of evidence-based learning to deliver benefits across SIDS into the future, and to ensure the project acts as an efficient “hub,” to the regional child project “spokes.”

Under the ISLANDS Programmatic knowledge management approach, each ISLANDS Regional Child Project includes a component focused on Knowledge and Communications. This component is expected to lead to the outcome of SIDS’ experiences being available to other SIDS, and that SIDS’ learning exchange is active. Figure 3 shows the information and data flow expected throughout the Program.

Figure 3. ISLANDS Program flow of data and knowledge products



In the context of the IDB implemented Caribbean Child Project, activities under Component 5 will include dissemination of knowledge within the region using tools and material developed through the other project activities and the CCKM, as well as provide inputs to the CCKM for dissemination outside the region. The knowledge generated under the investments of the Facility is a key asset to implement transformational changes in sectors that are responsible for the unsustainable use of chemicals in the Caribbean region and most especially in the participating countries. Private sector development relies on quality data to assess risks and opportunities and this facility is expected to fill a part of the informational gap that blocks the flow of private capital to projects focused on the sustainable practices around chemicals and waste by ensuring knowledge is compiled, managed and disseminated appropriately.

Key expected knowledge products include: knowledge gap assessments and surveys to identify key knowledge gaps and needs from stakeholders; creation of effective communications channels to disseminate the information generated; development of combined knowledge products to be offered to stakeholders that bridge the knowledge obtained in both the IDB and UNEP/FAO child projects; develop specific knowledge products and case studies that can be shared with the CCKM child project to be shared globally; create new resource mobilization strategies and partnerships to accelerate the transformational change in sectors involved in chemical and waste; detailed case studies and fact sheets will also be developed on the pilot projects conducted under the Child Project and the results of other activities.

Under Component 5, combined knowledge products will seek to be developed to connect/bridge the knowledge obtained in both the IDB and UNEP/FAO child projects. Knowledge products and case studies will be developed to be shared with the CCKM child project. Knowledge gap assessments and surveys to identify needs from stakeholders will also be developed to support participating countries.

Knowledge products will be disseminated regionally through training workshops with key stakeholders, awareness raising campaigns and the various online platforms that will be developed or enhanced under the project. Also, the timing of the development and delivery of these deliverables will be agreed and reviewed annually with the CCKM. The aim of the project's communications work is to increase the total number of ISLANDS beneficiaries by communicating information and disseminating knowledge on chemicals and wastes, increasing awareness among target groups, stimulating behavior change, and expanding and extending project impact.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Periodic monitoring by the IDB will be undertaken for this child project to ensure the timely implementation of the project activities. BCRC-Caribbean and GIZ, as the executing agency for Components 1 and 5 and Component 2 respectively, would be responsible for monitoring day-to-day activities under such component and will develop and submit necessary inputs to the IDB, through INE/WSA, on a as-needed basis. These reports will track the progress according to the workplan and budget and identify any obstacles faced during implementation and mitigating actions to be taken. Any required templates be provided by the IDB.

IDB Lab and IDB Invest will also provide information of subprojects approved under Components 3 and 4 respectively.

INE/WSA, as IDB's responsible unit for implementation, will include the information provided by BCRC-Caribbean, GIZ, IDB Lab and IDB Invest in an annual Program Implementation Report for submission to the GEF. The annual reports will include progress towards program-level outcomes, major milestones achieved through overall program implementation, and engagement in regional or global fora as means to advance the overall program goal.

Additionally, a Mid Term Evaluation (MTE) will be conducted towards the end of the second year of the Child Project's implementation or when 50% of the project resources are committed (whichever happens first) and an independent Final Evaluation (FE) and final financial audit will take place at the end of the project's implementation, within six (6) months after its operational completion. The MTE will provide an independent assessment of the Child Project's implementation and likelihood of its objectives being reached. The FE will provide an independent assessment of the overall project performance (in terms of relevance, effectiveness, efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among the partner agencies. The IDB will be responsible for undertaking, through independent consultants, the MTE and the FE. The final audit will review the use of project funds against the budget and asses the probity of expenditure and transactions. The final financial audit is to be developed by an independent audit authority and sent to the IDB.

The M&E plan has a total budget of USD 60,000 being charged to GEF project. The IDB established procedures for project monitoring and evaluation such as the, annual work plans and procurements plan will be used to monitor the implementation of this child project.

Activities	Primary Responsibility	Indicative Budget		Time Frame
		GEF	IDB Co-financing	
Standard IDB Monitoring and Supervision Missions	IDB	-	**This allocation may vary if virtual missions are carried out given the current COVID travel restrictions	Semi Annually and Annually
Child project coordination/progress reporting	BCRC, GIZ	-	-	Semiannually
Monitoring of results Framework	IDB			Annually
Mid Term Review	IDB	20,000		Mid-Point of Project
Final Project Report and Evaluation	IDB	30,000		Months before closure
Financial Audit		10,000		Months before closure
Total Costs		**60,000**		

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The ISLANDS program will follow a holistic approach to chemicals and waste management that will result in environmental, social and economic benefits for project countries and SIDS as a whole. In following this approach, it is expected that environmental benefits for the Caribbean will stimulate better socioeconomic conditions and vice versa.

The IDB Child Project aims to unlock the necessary resources to improve and create the much needed legal, regulatory and strategic enabling frameworks and also to finance public and private sector investments that will directly support the reduction of the quantities and variety of harmful chemicals and products containing harmful chemicals entering the project countries. This is expected to be done by strengthening the national and regional legislative, institutional and technical capacities to control the current and future trade of these products and materials that contribute to unsustainable chemical pathways in the participating countries. The benefits of conducting such activities are the reduction in required costs for specialized waste management once these products reach their end-of-life and the reduced pressure on national waste management systems to treat and safely dispose of these complex waste streams.

Another focus of this Child Project is to support and promote investments and projects for the environmentally sound management of hazardous chemicals and waste that cannot be avoided in the Caribbean. Achieving this aim will increase public and private sector access to safe chemicals and waste treatment and disposal options and lead to improved human and environmental health through reductions in pollution and toxic releases of chemicals such as POPs and mercury. Further, the project will seek to identify opportunities for creating a circular market for material recovery and recycling from various waste streams including WEEE and ELVs. These opportunities will engender public-private partnerships, create jobs within the chemicals and waste management sector and incorporate existing activities being conducted by formal and informal recyclers. Training activities targeting key stakeholders such as entrepreneurs, government and other public officials, existing recyclers and waste handlers, etc, will be facilitated and coordinated with UNEP/FAO’s child project to improve ongoing practices, thereby reducing occupational exposure to toxic chemicals and increasing the value of the waste handled/supervised by these persons. Support will be given to project countries to identify sustainable financial mechanisms for implementing innovative circular economy solutions.

Increased capacity for ESM of hazardous chemicals and waste in the participating countries will result in the diversion of wastes from landfills which are generally not effectively designed to hold hazardous wastes and which have limited capacities. This would relieve existing pressures on landfills and increase their remaining life-span. Additionally, more effective land use in waste management through destruction of stockpiled obsolete chemicals and wastes, will increase land availability for more productive purposes.

Sound chemicals and waste management also increases resilience to other environmental issues such as environmental degradation and natural hazards. For example, HHP free farming and other alternative agricultural methods that make use of more environmentally friendly practices and generate less (hazardous) waste are less likely to increase soil erodibility, a compounding cause of environmental degradation. Furthermore, preventing hazardous chemicals and wastes from entering the natural environment leads to healthier ecosystems that are more resilient in the face of natural disasters, a significant benefit for the participating countries, some of which have primarily tourism-based economies and all of which are vulnerable to the effects of climate change. Improved resilience will also lower the future costs to be incurred for adapting to the environmental impacts of climate change.

An additional social benefit to the Child Project is increased public awareness on the impacts of chemicals and wastes and their poor management. By promoting awareness and disseminating information among (public and/or private) national stakeholders, consumers and waste generators will be educated on the associated risks and will be empowered to make safer decisions which may lead to increased use of safe alternatives, increased feeder material for developed material recovery and recycling systems and improved environmental and human health.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
	High or Substantial		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

In terms of its environmental and social safeguard risks, the project has been classified as high. Some of the risks and impacts envisaged during the execution phase of future projects designed under this Facility may include the following:

• Solid waste, hazardous waste and chemical management (handling, transportation, disposal) during demolition and removal of damaged components and during construction;

• Land-use conversion;

• Potential risk of pollution from uncontrolled emissions during construction; uncontrolled emissions may include dust, noise and potential spills;

• Impact to natural habitats;

• Impact to water resources;

• Traffic impacts and access restrictions;

• Impacts from expropriations and easements (not envisaged at this stage and, ideally, projects should be designed to avoid these impacts);

• Potential impacts on livelihoods and other economic activities; opportunities for capacity training, job creation.

• Occupational health and safety;

• Transboundary impacts (potential impacts connected to export of certain hazardous materials, and requirements associated to applicable conventions in such cases); please see directive B.8, IDB's operational policy OP-703.

• Community health and safety.

• Impact from the inadequate identification, labeling, handling, storage, use and disposal of different types of hazardous C&W.

To address these risks, the Bank, as implementing agency, will develop an Environmental and Social Management Framework (ESMF). The ESMF will make sure that the subprojects approved under the Facility follow laws and regulations of the country regarding specific women's rights, the environment, gender and indigenous peoples (including national obligations established under ratified multilateral environmental agreements). The ESMF will make sure also that all subprojects approved under IDB's child project will have to comply will IDB's environmental and social safeguards. If necessary, subprojects will include an Environmental and Social Management Plan that will address the identification, labeling, handling, storage, use and disposal of the relevant hazardous materials and wastes according to IDB's environmental and social safeguards policies and guidelines.

In terms of the project's Disaster Risk Level, it has been classified as Low. The project has been classified as low disaster risk because the occurrence of the hazard event does not impact in the achievement of project outcomes.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Disaster Risk Assessment	CEO Endorsement ESS	
-ESSSupportingDocument_Social-Environmental Filter	CEO Endorsement ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Outcome Indicators:

OUTCOME INDICATOR	UNIT OF MEASURE	MEANS OF VERIFICATION	Year 1	Year 2	Year 3	Year 4	Year 5	EOP
Participating Countries with legal frameworks in compliance with all obligations of the Basel, Rotterdam and Stockholm Conventions.	# of countries strengthened	Subprojects' Semi-Annual Reports	0	2	3	0	0	5
Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products	# of metric tons of toxic chemicals reduced	Subprojects' Semi-Annual Reports	0	0	0	0	11,090	11,090
Reduction, avoidance of emissions of POPs to air from point and non-point sources	# of grams of toxic equivalent gTEQ	Subprojects' Semi-Annual Reports	0	0	0	0	114	114
Reduction of Marine Litter	# of tons of marine litter	Subprojects' Semi-Annual Reports	0	0	0	0	125,000	125,000
Number of direct beneficiaries disaggregated by gender	# of Beneficieries	Subprojects' Semi-Annual Reports	0	0	0	0	2,978,764	2,978,764
Percentage of female beneficiaries	%	Subprojects' Semi-Annual Reports	0	0	0	0	50%	50%

Output Indicators:

OUTPUT INDICATOR	UNIT OF MEASURE	MEANS OF VERIFICATION	Year 1	Year 2	Year 3	Year 4	Year 5	EOP	Cost	COMMENTS
Component 1. Financing policy and regul									$ 700,0	

atory enabling processes to safely manag e hazardous C&W									00	
1.1. Number of policies and legislation pr oposals developed to support the safe m anagement of hazardous chemicals and wastes at national and regional levels.	Policies and le gislation (#)	Subproj ects' S emi-An nual Re ports	0	2	3	0	0	5		Proposed policie s/legistlations mu st be in complianc e with the obligati ons of the Basel, Rotterdam and St ockholm Conventi ons.
1.2. Number of national/regional strategi es developed to guide and facilitate the a doption and implementation of C&W polic ies and legislation	National strate gies (#)	Subproj ects' S emi-An nual Re ports	0	2	3	0	0	5		
1.3. Number of national/regional instituti ons strengthened to enforce C&W and rel evant environmental laws and regulations	Institutions	Subproj ects' S emi-An nual Re ports	0	1	4	0	0	5		
1.4. Number of existing inter-agency coor dination mechanisms strengthened	Mechanisms st rengthened (#)	Subproj ects' S emi-An nual Re ports	0	1	1	0	0	2		It could apply to a gencies within Pa rticipating Countri es (PC), between agencies from tw o or more PCs, or between regional and national agen cies.
1.5. Number of institutional capacity asse ssments and recommendations develope d	Institutional as sesments (#)	Subproj ects' S emi-An nual Re ports	0	1	2	2	0	5		
Component 2. Improving the bankability o f hazardous C&W public sector projects									$ 1,200, 000	
2.1. Pre-feasibility and feasibility studies developed	Pre-feasibility a nd Feasibility S tudies (#)	Subproj ects' S emi-An nual Re ports	0	2	2	0	0	4		
2.2. Environmental impact analyses cond ucted	EIA (#)	Subproj ects' S emi-An nual Re ports	0	2	0	0	0	2		
2.3. C&W Management Plans developed	Plans (#)	Subproj ects' S emi-An	0	0	2	0	0	2		

2.3. C&W Management Plans developed	Plans (#)	emi-Annual Reports	0	0	2	0	0	2		
2.4. Technical designs developed	Technical designs (#)	Subprojects' Semi-Annual Reports	0	2	0	0	0	2		
Component 3. Supporting the design of and access to financing for small and medium size private sector investments in sustainable management of C&W									**$ 5,000,000**	
3.1. Number of open innovation calls (challenges) for SMEs/Startups launched for Participating Countries	Innovation Calls (#)	Press Releases and Communcation strategies	1	0	1	0	0	2		Open innovation challenges will include IDB Lab's financing and counterpart financing from local SMEs/Startups. Challenges could include non Participating Countries from the Caribbean region, but no resources from the Facility would be allocated to those countries.
3.2. Number of projects proposals submitted for approval to IDB Lab´s Donors Committee (Board of Directors)	Project proposals (#)	Subprojects' Semi-Annual Reports	0	4	1	4	1	10		
3.3. Number of small and medium-sized private sector enterprises developing sustainable management of chemicals and waste techniques in Participating Countries.	Number of SMEs/Startups (#)	Legal agreements signed with implementing SMEs	0	4	1	4	1	10		
3.4. Number of women-led SMEs/Startups in Participating Countries supported	Number of women-led SMEs/ Startups (#)	Subprojects' Semi-Annual Reports	0	2	0	2	1	5		Women-lead SMEs will be included as one of the challenges' prioritization criteria
3.5. Number of cutting edge technologies contributing to reduce chemicals and waste developed and/or deployed under eligible projects in Participating Countries	Cutting edge technologies developed (#)	Subprojects' Semi-Annual Reports	0	4	1	4	1	10		Technologies would also need to comply with affordability criteria

3.6. Number of local partners engaged in the challenges/projects	Local partners (#)	Subprojects' Semi-Annual Reports	0	8	2	8	2	20		Partners would need to provide technical and/or financial resources
3.7.. Number of innovative project implementation mechanisms designed	Projects designed (#)	Subprojects' Semi-Annual Reports	0	4	1	4	1	10		
3.8. Number of innovative business models contributing to the sustainable management of chemicals and waste in Participating Countries.	Business models (#)	Subprojects' Semi-Annual Reports	0	4	1	4	1	10		
Component 4. Supporting the design of and access to financing for large private sector investments in sustainable management of C&W									**$2,500,000**	
4.1. Number of markets studies, technical designs, feasibility studies, environmental assessments and mitigation plans developed	Projects designed (#)	Subprojects' Semi-Annual Reports	0	2	2	0	0	4		
4.2. Number of large private sector enterprises implementing sustainable management of chemicals and wastes in Participating Countries.	Enterprises (#)	Legal agreements signed with implementing SMEs	0	0	0	1	1	2		
4.3. Number of cutting edge technologies contributing to reduce chemicals and waste implemented in large private sector enterprises in Participating Countries	Cutting edge technologies (#)	Subprojects' Semi-Annual Reports	0	0	0	1	1	2		
Component 5. Designing applied knowledge mechanisms for partnership building									**$ 200,000**	
5.1. Number. of knowledge needs assessment/surveys undertaken to identify gaps and stakeholder needs	Knowledge needs assessment (#)	Subprojects' Semi-Annual Reports	2	4	0	0	0	6		
5.2. Number of informative/training sessions held	Informative sessions (#)	Subprojects' Semi-Annual Reports	1	3	0	0	0	4		
		Subproj								

5.3. Number of knowledge materials disseminated	knowledge materials disseminated (#)	Subprojects' Semi-Annual Reports	0	3	0	0	0	3		
5.4. Number of knowledge partnerships built	Partnerships (#)	Subprojects' Semi-Annual Reports	0	2	0	0	0	2		
Monitoring & Evaluation									**$ 60,000**	
Project Management Costs									**$ 340,000**	
TOTAL									**$ 10,000,0000**	

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

STAP comments and the **responses** are included below:

• The project has the potential to generate Global Environment Benefits (GEBs) beyond the chemicals and waste focal area including: biodiversity benefits (through the prevention of harmful impacts of chemicals and waste on terrestrial and marine ecosystems); international waters benefits (through the prevention of chemical pollution and plastic pollution of international waters); and climate change benefits (through the mitigation of greenhouse emissions from poor waste management). It is recommended that a detailed analysis of these co-benefits should be carried out at the PPG stage and the final interventions designed to maximize these co-benefits. STAP also suggests that detailed information about how the chemicals and waste GEBs were estimated should be provided at the PPG stage.

Agency response: Noted. Section on GEBs addressed co-benefits in the areas of biodiversity, international waters, and climate change benefits. This section also includes details on the basis for GEB calculations.

• One of the proposed interventions includes infrastructure, for example, engineered landfills. Given the limited land mass of SIDS and the susceptibility of SIDS to the impacts of climate change, for example, sea-level rise and increased frequency of extreme weather events, it is recommended that other alternatives should be assessed to ascertain that landfill is the best option. If landfill is the best option, it is recommended that the BAT be deployed that includes effective leachate management, methane recovery and waste-to-energy applications.

Agency response: This has been noted and BAT will be deployed. under IDB's Child project, circular economy solutions will be prioritized. Landfilling solutions will be avoided unless necessary.

• Stakeholders: The proposal contains a good representation of stakeholders, but their expected role in the project is not specified. STAP believes that academic and research institutions, especially local ones, are important stakeholders for this type of project that involves the assessment of BAT, knowledge management and dissemination. It is therefore recommended that relevant academic and research institutions should be engaged.

Agency response: This is noted and the project will ensure knowledge assets are shared with a network of SIDS based academic stakeholders. In addition, representatives from SIDS based academic institutions will be targeted to join the communities of practice.

• Risks: The proposal presents a good preliminary analysis of the potential risks to the success of the project. STAP appreciates that the potential impact of climate change and sea-level rise is recognized and included in the preliminary risk analysis. It is important that ways of mitigating these risks be designed at the PPG stage and incorporated during project implementation. Beyond the identified risks, STAP recommends that the project proponents consider other potential risks, including political risk and coordination challenges for a large program.

Agency response: This is noted. Political risks are now included. During PPG an assessment of climate risks and mitigation measures was undertaken. The result of this are included in the Section on Risk and in the Risk Mitigation Plan.

GEF Council members made the following comments on the project. Where these comments pertain to this child project, a response is provided in the righthand column.

Country	Comment	Agency Response
Canada	- The project appears to address some of the systemic issues facing SIDS that pr event them from fully implementing the Minamata Convention. While not highligh ted in the project proposal, greater control of imports and waste could also assist countries in fulfilling their reporting requirements under the Convention. - This project is in line with previously adopted Stockholm COP decisions and pro posed actions to the GEF in the 2018-2022 priority areas.	Noted. IDB and UNEP conc ur and under Component 1 work is planned to reduce i mports and waste. This will assist Caribbean countries in fulfilling requirements un der the Convention.
Germany	Germany welcomes this proposal, which addresses the major chemicals and was te issues in the SIDS through an interregional and intersectoral approach. At the s ame time, Germany has the following comments that it suggests be addressed in the next phase of finalizing the project proposal: Suggestions for improvements t o be made during the drafting of the final project proposal: - The risks associated to the complex management structure should be addresse d in the risk section of the PIF, as well as associated risk mitigation measures. As UNEP-Chemicals has already limited management capacities, Germany recomm ends to ensure that sufficient resources are provided in an early stage of project	The global CCKM project wi ll gather, synthesize and dis seminate information on re cording chemicals compon ents contained in products. The Caribbean project will use and disseminate this in formation to inform stakeh

	preparation. - In Component 1, the activity on “promotion and introduction of alternatives to id entified priority chemicals and products (e.g. alternatives to POPs and Hg contai ning products, alternatives to HHPs, alternatives to certain plastics)(…)” does not clarify how identification is processed. Germany would welcome additional infor mation on this component - In many sectors recording on chemical components contained in products is ins ufficient and incomplete. Germany therefore recommends to include the recordin g of chemicals and products as thematic building blocks in the component on str engthening regulatory/policy frameworks in the final proposal.	formation to inform stakeh olders and change behavior s in the Caribbean region.
Norway/ Denmark	- We are pleased that such a program is suggested for SIDS as they are especiall y vulnerable to these issues and have limited resources. - Please note (1) that the programme document itself states that there have been many initiatives on chemicals and waste across SIDS in the past. A common feat ure of many of these has been the failure to learn from experience (both positive and negative) and, to build on results and successes. The programme intends to address this issue which is very positive. - Several of the components refer to strengthening the national governments cap acity to implement the BRS and Minamata Conventions, plus SAICM. One should be aware that there may be an overlap with UN Environment Special programme. How will this be addressed? - Indicator 5.3 concerns the amount of Marine Litter Avoided. The target is set at 185,400.00 Metric Tons (expected at PIF) which is higher than the total target set for GEF-7. Will GEF-7’s target be increased? It is also noted that marine litter esti mates are based on available country baseline data in term of marine litter gener ated. It is noted that some of these studies are dated and the data will be confirm ed, and hopefully increased during PPG. - It is difficult to get a full overview of the elements of the program and these sho uld be more detailed. It is positive that import control, substitution and collaborat ion with sectors generating waste are elements of the program. It is also positive that work is planned to promote regional management solutions as these are ess ential to ensure environmentally and economically sustainable waste solutions.	The potential overlap with c ountries with Special Progr amme activities is noted. D uring project preparation U NEP and IDB consulted bot h the Special Programme S ecretariat and countries wit h Special Programme proje cts, to ensure national activ ities were complimentary, a s opposed to duplicative of Special Programme activiti es.
US	- We believe that the overall goals of the ISLANDS program are positive and addre ss important chemical and waste priorities, including those related to reducing pl astic pollution. However, in the United States’ view, the inclusion of project activiti	The project does not propo se single use plastic bans, however project countries t

	es directed at advancing new national efforts to ban single-use plastic products or develop extended producer responsibility (EPR) mechanisms is not consistent with the GEF mandate, which is to achieve global environmental benefits. Single-use plastic bans do not yet have a demonstrated net environmental benefit, as an alyses of the full economic and environmental impacts, including life-cycle analy sis of the impact of plastic alternatives, are lacking. GEF interventions should foc us on waste management to combat plastic pollution. Unless activities related to the ban of single-use plastics and EPR are removed during further project develo pment, the United States will not be in a position to support the Pacific Regional, Caribbean Regional, Indian Regional and Caribbean Incubator Child Projects at th e CEO endorsement stage. - The United States would appreciate additional information on whether the Basel Convention Regional Centre for Training and Technology Transfer (BCRC Caribbe an) has the demonstrated competency and experience in the promotion and impl ementation single-use plastic bans. The below comments from the United States were provided prior to the Council meeting. An initial agency response was provided and can be found in the list of documents specific to the project in the GEF Portal. - Can the GEF please provide a breakdown of the relative funding directed to each country	hat independently of the pr oject introduce plastic bans during project execution, wi ll contribute to the reductio n of marine litter in core ind icator 5.3. The project is fo cused on waste manageme nt to combat plastic polluti on. A tentative breakdown per country has been provi ded.

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

Project Preparation Activities Implemented	*GETF/LDCF/SCCF Amount ($)*		
	Budgeted Amount	*Amount Spent To date*	*Amount Committed*
Relevant studies to support the development of the Caribbean Incu bator Facility	185,000	109,339	0
Workshops and knowledge activities for stakeholders' engagemen t.	50,000	0	0
Project administration	65,000	42,951	0
Total	300,000	152,290	0

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

ANNEX E: Project Budget Table

Please attach a project budget table.

Annex E: Indicative Project Budget Template

Expenditure Category	Detailed Description	Components										Total (USD eq.)	Responsible Entity
		Comp. 1		*Comp. 2*		*Comp. 3*	*Comp. 4*	*Comp. 5*	*Sub-Total*	*M&E*	*PMC*		
		Outcome 1.1	*Outcome 1.2*	*Outcome 2.1*	*Outcome 2.2*	*Outcome 3.1*	*Outcome 4.1*	*Outcome 5.1*					
Works	…								0			0	
Goods	Equipment 1								0			0	
Vehicles									0			0	
Grants	…					1,000,000	2,500,000		3,500,000			3,500,000	Private Firms
Seed Funds	…					4,000,000			4,000,000			4,000,000	Private Firms
Sub-contract to executing partner/													
Contractual Services – Individual	…												
Contractual Services – Company	…								0				
International Consultants	Int'l	350,000		600,000				100,000	1,050,000	600,00		1,110,000	BCRC + GIZ + Private Firms

Local Consultants	…		350,000		600,000			100,000	1,050,000			1,050,000	BCRC + GIZ + Private Firms
Salary and benefits / Staff costs	Project Management + Technical Team										340,000	340,000	BCRC + GIZ
Trainings, Workshops,	e.g. Inception												
Meetings	Workshop												
	…												
Travel	…												
	…												
Office Supplies	…												
	…												
Other Operating Costs	…												
	…												
Grand Total		350,000	350,000	600,000	600,000	5,000,000	2,500,000	200,000	**9,600,000**	**60,000**	**340,000**	**10,000,000**	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

Not applicable

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

Not applicable

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies' capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

Not applicable