

GEF-8 REQUEST FOR MSP (1-STEP) APPROVAL

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General Project Information

Project Information

Project Title:

Promoting environmentally sound management of perfluoroalkyl and polyfluoroalkyl substances-related firefighting foam in Saint Lucia – St. Lucia PFAS Foams Project

Region:

Latin America and the Caribbean

GEF Project ID:

12250

Country(ies):

St. Lucia

Type of Project:

MSP

GEF Agency(ies):

UNIDO

GEF Agency Project ID:

250309

Project Executing Entity(s):

The Basel Convention Regional Centre for the Caribbean (BCRC-Caribbean)

Project Executing Type:

Others

GEF Focal Area (s):

Chemicals and Waste

Submission Date:

12/19/2025

Type of Trust Fund:

GET

Project Duration (Months):

36

GEF Project Grant: (a)

3,500,000.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

332,500.00

Agency Fee(s) Non-Grant (d)

0.00

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

3,832,500.00

Total Co-financing

13,473,596.00

PPG Amount: (e)

150,000.00

PPG Agency Fee(s): (f)

14,250.00

PPG total amount: (e+f)

164,250.00

Total GEF Resources: (a+b+c+d+e+f)

3,996,750.00

Project Tags

CBIT: No NGI: No SGP: No Innovation: No Competitive Window: No

Project Sector (CCM Only):

Mixed & Others

Taxonomy:

Sustainable Development Goals, Focal Areas, Chemicals and Waste, Private sector, Climate Change Adaptation, Climate Change, Small Island Developing States, Sustainable Land Management, Land Degradation, Restoration and Rehabilitation of Degraded Lands, Persistent toxic substances, Pollution, International Waters, Transform policy and regulatory environments, Influencing models, Convene multi-stakeholder alliances, Demonstrate innovative approaches, Strengthen institutional capacity and decision-making, Information Dissemination, Type of Engagement, Stakeholders, Partnership, Participation, Consultation, Beneficiaries, Awareness Raising, Communications, Education, Public Campaigns, Behavior change, Strategic Communications, Community Based Organization, Civil Society, Local Communities, Private Sector, SMEs, Gender Mainstreaming, Gender Equality, Sex-disaggregated indicators, Gender-sensitive indicators, Urban Resilience, Sustainable Cities, Integrated Programs, Course, Knowledge Generation, Capacity, Knowledge and Research, Professional Development, Workshop, Training, Capacity Development, Innovation, Indicators to measure change, Learning, Adaptive management, Field Visit, Knowledge Exchange

Rio Markers

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

Project Summary

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

Saint Lucia faces serious environmental and health risks from the ongoing use and storage of firefighting foams containing per- and polyfluoroalkyl substances (PFAS). About 23,000 liters of these persistent organic pollutants remain in use at twelve high-risk sites—including airports, fire stations, and petroleum terminals—many near sensitive coastal and wetland ecosystems. PFAS contamination threatens soil, water, biodiversity, and health, worsened by the island’s exposure to extreme weather conditions.

The project aims to permanently stop the use of PFAS firefighting foams and dispose off PFAS-containing foams (about 23,000 liters) in Saint Lucia by replacing them with International Civil Aviation Organization (ICAO)-approved fluorine-free options, ensuring safe disposal of existing supplies, and enhancing legal, institutional, and monitoring systems to prevent their return.

This significant effort will be carried out through four main parts:

- (i) strengthening national laws and regulations to ban PFAS foams;
- (ii) implementing a nationwide phase-out and safe disposal plan, including a computerized inventory of foams, environmental contamination tracking, and performance assessments for adaptive management and reporting;
- (iii) boosting technical and institutional capacity through targeted training, awareness, and stakeholder involvement; and
- (iv) setting up a comprehensive monitoring, evaluation, and learning system

The project will generate GEBs by stopping PFAS land and marine contamination, reducing persistent organic pollutants, and promoting responsible chemical and waste management. It offers adaptation benefits such as increased disaster resilience, safer emergency responses, and better public and occupational health. Through policy reform, tech upgrades, and regional sharing, Saint Lucia aims to be a Caribbean leader and model for PFAS-free, climate-resilient chemical management.

Project Description Overview

Project Objective

To permanently eliminate the use of PFAS-containing firefighting foams in the Saint Lucia Fire Service and the main marine terminal and energy producer by replacing foams with ICAO-compliant fluorine-free alternatives, safely disposing of existing stockpiles, and strengthening regulatory frameworks, technical capacity, and hazardous waste management systems to prevent reintroduction

Project Components

Component 1. Regulatory Framework update for PFAS-free firefighting foams

Component Type	Trust Fund
	GET
GEF Project Financing (\$)	Co-financing (\$)
425,000.00	1,588,098.00

Outcome:

Outcome 1. A regulatory environment conducive to the cessation of the procurement and use of PFAS-related firefighting foams

Output:

Output 1.1. Legally binding PFAS ban integrated into national policy and procurement systems

Output 1.2. Institutionalized compliance framework with technical standards, enforcement mechanisms, and stakeholder readiness

Component 2. Phase out PFAS-related firefighting foams and transition to alternatives

Component Type	Trust Fund
Investment	GET
GEF Project Financing (\$)	Co-financing (\$)
2,059,281.00	7,918,806.00

Outcome:

Outcome 2. National system in place for PFAS foam phase-out, contamination monitoring, and compliance verification

Output:

Output 2.1. Integrated Plan for PFAS Foam Risk-Based Phase-Out, System Conversion, and Environmentally Sound Disposal

Output 2.2. PFAS Contamination Monitoring and Compliance Verification System

Component 3. Knowledge Management and Capacity Building

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
756,460.00	2,894,693.00

Outcome:

Outcome 3. Improved and disseminated knowledge, training, and capacity building on the phasing out of PFAS-related firefighting foams in the Fire Department and the private sector

Output:

Output 3.1. Comprehensive Training and Certification Program for PFAS-Free Firefighting Operations

Output 3.2. National Awareness, Knowledge Dissemination, and Stakeholder Engagement Campaign

M&E Component 4. Monitoring and Evaluation

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
97,222.00	452,048.00

Outcome:

Outcome 4. Effective monitoring and evaluation of performance and GEB impacts achieved

Output:

Output 4.1. GEF Project Performance and Impact Monitoring Framework

Output 4.2. Mid-Term Review and Terminal evaluation conducted

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
Component 1. Regulatory Framework update for PFAS-free firefighting foams	425,000.00	1,588,098.00
Component 2. Phase out PFAS-related firefighting foams and transition to alternatives	2,059,281.00	7,918,806.00
Component 3. Knowledge Management and Capacity Building	756,460.00	2,894,693.00
M&E Component 4. Monitoring and Evaluation	97,222.00	452,048.00
Subtotal	3,337,963.00	12,853,645.00
Project Management Cost	162,037.00	619,951.00
Total Project Cost (\$)	3,500,000.00	13,473,596.00

Please provide justification

PROJECT OUTLINE

A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

The project promoting sound environmental management of PFAS-related firefighting foams in Saint Lucia tackles the global issue of per- and polyfluoroalkyl substances (PFAS), highly persistent and toxic chemicals widely used in firefighting foams. In Saint Lucia, the use of PFAS-related foam and occasional uncontrolled releases at airports, petroleum storage sites, and fire stations, often near wetlands and marine protected areas, pose significant risks to soil, groundwater, and ecosystems. These risks are exacerbated by climate vulnerabilities, such as extreme weather events and flooding, which can accelerate the spread of contamination. Fire stations in Soufriere, Dennery, Micoud, and Vieux Fort, located near protected areas, are especially concerning because of the potential for bioaccumulation in fish, birds, and other wildlife, leading to ecosystem disruption and contamination of the food chain.

PFAS-containing Aqueous Film-Forming Foams (AFFF) are mainly used for Class B fires involving flammable liquids such as gasoline, diesel, jet fuel, solvents, alcohols, and hydrocarbons. Saint

Lucia's energy, transportation, and maritime sectors rely on several key facilities to store and handle these liquids, including the Buckeye Global Marine Terminal at Cul de Sac Bay, which has a crude oil storage capacity of about 9 million barrels, and the LUCELEC Fuel Storage Facility next to the Cul de Sac Power Station, providing fuel for the country's electricity generation. Both facilities are vital to the island's energy infrastructure and its role as a regional hub for petroleum storage and transshipment.

Current PFAS-related foam stockpiles, including AFFF and fluoroprotein foams from nine fire stations of the Saint Lucia Fire Service (SLFS), the Buckeye Terminal, and LUCELEC, represent approximately 23,154 liters, with some products surpassing 100,000 ppb contamination levels, as per previous laboratory assessments of the country (2021). Although fluorine-free alternatives have been introduced, their supply remains inadequate to meet the needs for PFAS-free foam. Additionally, these alternatives lack compatible, proper storage and delivery systems due to constraints related to cleaning, maintenance, and adequacy, which prevent their full integration into operational use.

The Stockholm Convention's National Implementation Plan (NIP), last updated in June 2020 and approved by the Cabinet of Ministers in May 2021 (Cabinet Conclusion 358/2021), provides a framework for managing PFAS and outlines activities that haven't yet been implemented and require attention through this project. Also, the absence of specific national laws and the distribution of responsibilities across multiple agencies hinder effective oversight.

PFAS in Firefighting Foams

PFAS compounds are highly persistent in the environment, do not readily degrade, and pose significant risks to human health and ecosystems. These concerns have led to the progressive phase-out of PFAS-based foams in many jurisdictions. In response, fluorine-free alternatives that meet performance requirements for flammable liquid fires are being developed and deployed to mitigate environmental and health impacts. The transition to these alternatives requires specialized procedures, including the use of dedicated containment systems to collect rinse water generated during the cleaning of tanks, hydrants, and piping systems previously used for AFFF. This rinse water, containing PFAS residues, must be captured in secure containers and exported for environmentally sound disposal at certified facilities abroad.

Aqueous Film-Forming Foams (AFFF) are widely recognized for their exceptional effectiveness in suppressing fires involving flammable liquids. They function by forming a thin, aqueous film over the liquid fuel surface, cutting off the oxygen supply to the flames and preventing re-ignition. Due to these properties, PFAS-based foams, including AFFF, have been extensively used in high-risk applications such as aircraft fire suppression, fuel storage tank protection, and marine firefighting environments where the likelihood and consequences of flammable liquid fires are particularly high.

According to Saint Lucia's National Implementation Plan (NIP), Perfluorooctane Sulfonic Acid (PFOS), its salts, and related chemicals are not manufactured locally but are present in certain firefighting foams. The types of PFOS-based foams present include Fluoroprotein Alcohol-Resistant (FP-AR) foams, Aqueous Film-Forming Foams (AFFF), and Alcohol-Resistant AFFF (AR-AFFF)^[11]. Fluoroprotein foams, a variation of protein-based foams, incorporate fluorosurfactants—PFAS

compounds that improve fluidity and enhance fire suppression performance. While traditional protein foams, derived from hydrolyzed proteins, are biodegradable and more environmentally benign, fluorinated variants such as FP-AR and Film-Forming Fluoroprotein (FFFP) foams were developed to increase fire suppression efficiency, but at the cost of introducing persistent PFAS pollutants into the environment.

Inventory of PFAS containing foams in Saint Lucia

In 2022, the Saint Lucia Fire Service (SLFS) collected twenty-one (21) foam concentrate samples from stockpiles across multiple fire stations, including Gros Islet, Babonneau, George F.L. Charles, Headquarters, Dennery, Micoud, Vieux Fort, Soufrière, and the Crash Fire Hall. The SLFS operates a network of strategically positioned fire stations across the island, responding to structural, industrial, and wildland fires, vehicular accidents, hazardous materials incidents, and medical emergencies. Samples were analysed for PFAS content by Bureau Veritas Laboratories (Mississauga, Canada) using liquid chromatography coupled with tandem mass spectrometry (LC/MS/MS). The objective was to classify foam concentrates according to PFAS content and prioritize their replacement in line with Stockholm Convention obligations.

Analytical results revealed consistently high PFAS contamination, often exceeding standard analytical ranges and requiring serial dilutions or reduced sample volumes. Several samples showed matrix interferences that demanded adjusted detection limits. Reanalysis outside standard method hold times confirmed PFAS chemical stability, demonstrating persistence in the environment. Overall, findings indicated that contamination is widespread rather than localized, reflecting a systemic pollution issue that demands coordinated regulatory, technical, and remediation measures.

Following the sampling results, three categories were established by the Country following the advice of experts:

- **Category 1** foams carried the highest replacement priority, with PFAS concentrations from 4,000 ppb, with proven values even exceeding 100,000 ppb—often higher than PFOA values—and falling under the Stockholm Convention’s most urgent phase-out schedule, which mandated replacement by the end of 2022, a deadline that was not met.
- **Category 2** foams containing high levels of PFOA or PFOS (>1000 ppb) were regarded as a second priority for replacement. These are PFAS-based foams with elevated impurity levels, subject to Stockholm Convention restrictions that recommend replacement by the end of 2022, where feasible, but no later than 2025—underscoring the need for swift action.
- **Category 3** foams contain other PFAS compounds and/or lower levels of PFOS, PFOA (<1000 ppb), and their precursors. Although their PFOS and PFOA concentrations are lower than Categories 1 and 2, restrictions under the Stockholm Convention require replacement.

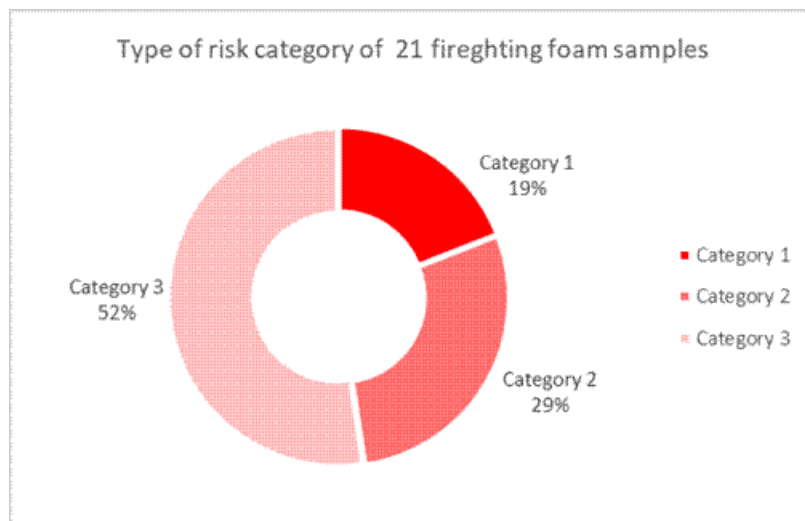


Figure 1. Frequency of the type of risk category among foam samples

Notably, the 1,000-ppb threshold for PFOS and PFOA used to distinguish Category 2 from Category 3 was selected for practical purposes in the country, and currently matches the *Commission Delegated Regulation (EU) 2025/1399*, which amends Annex I for PFOA in Class-B fire-fighting foams already installed in systems. The last regulation sets interim unintentional-trace-contaminant (UTC) limits of ≤ 1 mg/kg ($\approx 1,000$ ppb) for PFOA or any of its salts and ≤ 10 mg/kg ($\approx 10,000$ ppb) for any individual PFOA-related compound or the sum of PFOA-related compounds (with a separate ≤ 10 mg/kg UTC for the sum of PFOA, its salts and PFOA-related compounds in fluorine-free foams installed after cleaning). The exemption and UTC regime apply to installed systems through the transition and associated deadlines specified in the act.

Also, the Fire Service's last foam purchase occurred about fifteen years ago, and since 2019 it has discontinued acceptance of foam donations to avoid increasing PFAS stocks^{[2]²}. Consequently, existing foams are largely obsolete, originally obtained through donations, and often poorly labeled. Previous inventories confirmed that many containers lacked manufacturer identification, while others were known AFFF formulations with incomplete documentation. Some stocks may have been used without recordkeeping or lost through evaporation; for instance, at the Crash Fire Hall, about 3,000 litres of AFFF stored in a plastic tank appear to have evaporated, reducing the original volume of 7,935 litres.

In May 2024, the Department of Sustainable Development, through the GEF-5558 Project ("Development and Implementation of a Sustainable Management Mechanism for Persistent Organic Pollutants in the Caribbean," executed by the Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean), provided 1,050 gallons of fluorine-free foam (Avio Green Fluorine Free AR-AFFF 3%) to the SLFS^{[3]³}. This initial deployment at the George F.L. Charles Airport Fire Hall marked an important first step toward PFAS-free firefighting in Saint Lucia. The support package also included specialized containment units for the collection of rinse water generated during the cleaning of legacy PFAS systems, ensuring that contaminated wastewater is safely stored and exported for environmentally sound disposal. While this represented significant

progress, the donated volume covered only a fraction of national needs across all fire stations and industrial sites. Moreover, this fluorine-free foam has not yet been transferred to appliances, as a suitable storage area for old foams and rinse water has not been identified. Currently, the Avio Green foam is still stored in six 55-gallon containers at the G.F.L. Charles Fire Hall, though not in optimal conditions and a quality assessment is needed.



Figure 2. Foam Storage at the G.F.L. Charles Fire Hall

Despite recent modernization efforts and gradual introduction of environmentally sustainable practices, the Fire Service still lacks adequate resources for a complete PFAS phase-out. Continued support through the project will therefore be essential to achieve full replacement with fluorine-free foams and to establish the necessary infrastructure, monitoring, and capacity to manage legacy contamination safely.



Figure 3. Foam Storage and the George F.L. Charles Airport, and Storage at the training centre

Consequently, in 2025, due to discrepancies among total amount of foams from 2022 to 2025, UNIDO generated an updated inventory of firefighting foams, by type of foam in each risk location, summarized in Table 1 below, whilst Figure Figure 5 provides a graphic representation of the quantity of AFFF and protein foams found at each fire station.

Table 1. Fire fighting foam inventory 2025

Facility by type of foam	Quantity (Liters)
1. AFFF	22,344
1.1. Babonnneau Fire Station	200
1.2. Buckeye Saint Lucia	13,635
1.3. Crash Fire Hall	4,935
1.4. Dennery Fire Station	200
1.5. Fire Service Headquarters	650
1.6. Fire Service Training School	200
1.7. G.F.L. Charles Fire Hall	1,249
1.8. Gros Islet Fire Station	200
1.9. Micoud Fire Station	200
1.10. Soufriere Fire Station	200
1.11. Vieux Fort Fire Station	675
2. Fluorine-free foam	25,343
2.1. Buckeye Saint Lucia	23,753
2.2. G.F.L. Charles Fire Hall	1,590
3. Fluoroprotein	810
3.1. LUCELEC	810
4. Protein Foam	4,753
4.1. Buckeye Saint Lucia	4,091
4.2. Crash Fire Hall	662
Total	53,250

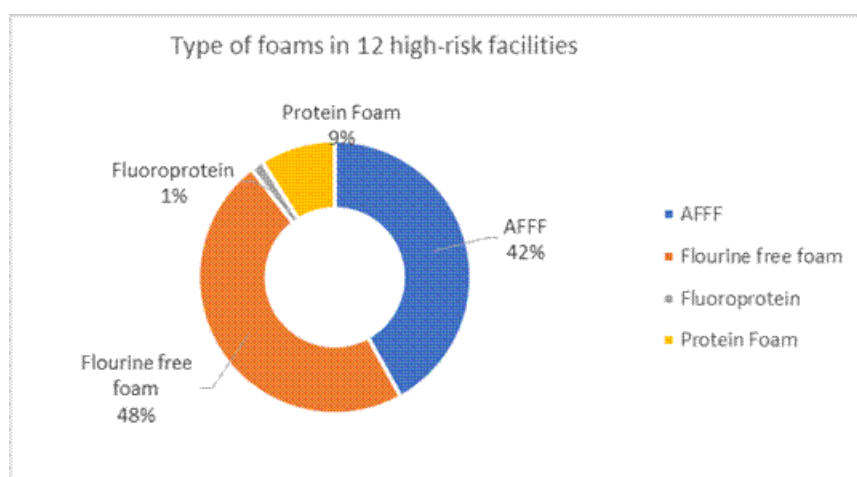


Figure 4. Type of foams in 12 high risk facilities

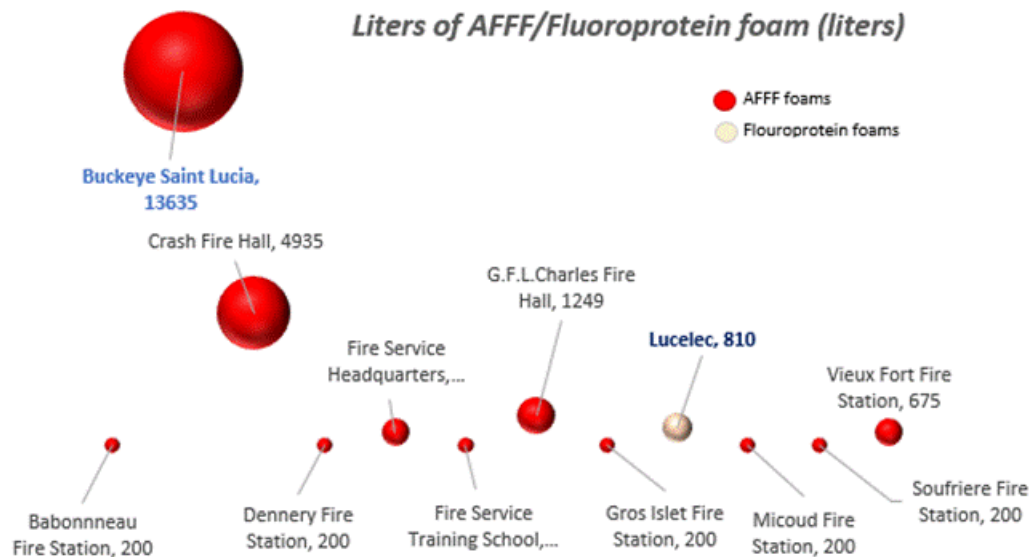


Figure 5. Quantity of foam (liters) by fire station

Based on these results, the project must address all PFAS-related foams stored at twelve (12) high-risk facilities, with total stockpiles estimated at 23,154 litres, some exceeding 100,000 parts per billion (ppb) in PFAS concentration (Department of Sustainable Development, 2022). The SLFS operates a network of strategically positioned fire stations across the island, responding to structural, industrial, and wildland fires, vehicular accidents, hazardous materials incidents, and medical emergencies.

Moreover, the baseline surveys conducted in 2025 by the Department of Sustainable Development and the UNIDO National Consultant confirmed the presence of PFAS-containing foams at the twelve sites and identified two main providers: Angus Fire (United Kingdom) and National Foam (United States).

- Angus Fire supplies the legacy PFAS-based products, including *Tridol S* (AFFF) and *FP70* (Protein or Fluoroprotein).
- National Foam supplies newer fluorine-free alternatives such as *Universal Green* and *Avion Green*, already introduced at Buckeye Saint Lucia and the George F.L. Charles Airport.

In Table 2 the quantity of firefighting foam inventory by providers is shown.

Table 2. Fire fighting foam inventory 2025 – providers

Facility	Foam Concentrate	Quantity(L)	Brand	Provider	Alternative
Babonneau Fire Station	AFFF	200	Tridol 'S'	Angus Fire	None
Buckeye Saint Lucia	AFFF	13,635	Tridol 'S'	Angus Fire	
Buckeye Saint Lucia	Protein Foam	4091	FP 70	Angus Fire	
Buckeye Saint Lucia	Fluorine-free foam	23,753	Universal Green	National Foam	Universal Green (National Foam) Fluorine-Free. 23,753 liters stored in 227L plastic containers.
Crash Fire Hall	AFFF	4935	Tridol 'S'	Angus Fire	None
Crash Fire Hall	Protein Foam	662	FP70	Angus Fire	None
Dennerly Fire Station	AFFF	200	Tridol 'S'	Angus Fire	None
Fire Service Headquarters	AFFF	650	Tridol 'S'	Angus Fire	None
Fire Service Training School	AFFF	200	Tridol 'S'	Angus Fire	None
G.E.L Charles Fire Hall	AFFF	1249	Tridol 'S'	Angus Fire	None
G.E.L Charles Fire Hall	Fluorine-free foam	1590	Avion Green	National Foam	Avion Green, Fluorine-free (5224 L) Stored in 208 L plastic container
Gros Islet Fire Station	AFFF	200	Tridol 'S'	Angus Fire	None
Lucelec	Fluor protein	810	FP70	Angus Fire	None
Micoud Fire Station	AFFF	200	Tridol 'S'	Angus Fire	None
Soufriere Fire Station	AFFF	200	Tridol 'S'	Angus Fire	None
Vieux Fort Fire Station	AFFF	675	Tridol 'S'	Angus Fire	None

International regulation on PFAS

The European Union Persistent Organic Pollutants (POPs) Regulation^{[4]⁴} sets stricter “unintentional trace contaminant” (UTC) thresholds for certain PFAS. Under this framework, PFOA (and its salts) must not exceed 25 ppb (0.025 mg/kg), and the sum of PFOA-related compounds must not exceed 1 mg/kg in substances, mixtures, and articles^{[5]⁵}. In 2023, PFHxS (and its salts) and PFHxS-related compounds were added to Annex I with the same UTC limits of 25 ppb / 1 mg/kg^{[6]⁶}. Then, under REACH, two PFAS groups relevant to foams are now (2025) restricted:

- C9–C14 perfluorocarboxylic acids (PFCAs), their salts and related substances (Entry 68; *Regulation (EU) 2021/1297*). After 4 July 2025, foams may only be used if the concentration is < 0.025 mg/kg (25 ppb) for the combined C9–C14 PFCAs and their salts or < 0.26 mg/kg (260 ppb) for C9–C14 PFCA-related substances. A review clause in 2026 applies to this 260 ppb limit (Commission to revisit the value)^[7].
- PFHxA (C6) and PFHxA-related substances (Entry 79; *Regulation (EU) 2024/2462*). This adds a broad market/use restriction with staged application dates across product categories (including limitations for training/testing foams); it is complementary to the PFOA POPs controls^[8].

Most recently, PFOS limits were tightened in 2025 from 10 mg/kg to 0.025 mg/kg for PFOS and 1 mg/kg for PFOS-related compounds, aligning with PFOA and PFHxS thresholds^[9].

Table 3. PFOS-related compounds limit

Regulation	Substance / Scope	Limit Value	Units & Notes	Important Dates / Review Clause
Commission Delegated Regulation (EU) 2025/1399 (POPs Regulation)	PFOA, its salts, and PFOA-related compounds in installed Class B foam systems	≤ 1 mg/kg (≈ 1000 ppb) for PFOA or its salts; ≤ 10 mg/kg (≈ 10,000 ppb) for any individual PFOA-related compound or sum of PFOA-related compounds	Applies to foams/foam concentrates already in fixed/mobile systems for fuel-vapour suppression or liquid fuel fires	Transition period until 3 August 2028 to meet UTC limits. Exemption extended until 3 December 2025 for ongoing use. Source: EURLEX "Commission Delegated Regulation (EU) 2025/1399 of 5 May 2025"
	Fluorine-free foams installed after system cleaning	UTC limit ≤ 10 mg/kg for the sum of PFOA, its salts, and PFOA-related compounds	Recognizes risk of residual contamination even after cleaning; cleaner foams must meet this lower limit post-cleaning	Same timeline as above (2025/2028) for compliance
Regulation (EU) 2021/1297 (REACH, Annex XVII – Entry 68)	C9-C14 PFCAs and their salts; C9-C14 PFCA-related substances	25 ppb for sum of C9-C14 PFCAs & salts; 260 ppb for sum of C9-C14 PFCA-related substances	These are very low thresholds intended to control substitution and limit unintended presence in substances, mixtures, or articles. Unit: parts per billion (µg/kg)	Effective from 25 February 2023 throughout the EU. Some derogations for specific uses existed, including a requirement for review of certain concentration exemptions (e.g. the 260 ppb)
Regulation (EU) 2024/2462 (REACH, Entry 79)	PFHxA and PFHxA-related substances	Restricts uses / placing on market; thresholds vary by application – frequently matching or similar to other PFAS limits; testing/training foams also included	PFHxA = perfluorohexanoic acid; shorter chain PFAS subject to rising regulatory control under REACH	Phased implementation by product category; continuously evolving. Many product categories are already subject to restrictions or upcoming deadlines

These EU standards demonstrate the strictness of international regulatory trends, which could serve as a reference since Saint Lucia has no regulations on PFAS-related firefighting foams. They also emphasize the urgency of replacing all of Saint Lucia's foam concentrates, which often contain PFAS at levels far exceeding 1,000 ppb.

National regulation on POPs and on firefighting foams

Saint Lucia is a party to the Stockholm Convention on Persistent Organic Pollutants, which requires the elimination of PFOS, PFOA, PFHxS, and related PFAS compounds. These obligations, endorsed nationally through the NIP in 2021, have not yet been translated into binding domestic controls on foam use, import, or disposal. Under Saint Lucia's dualist legal system, such treaty commitments must be enacted in domestic law, through Acts of Parliament and enabling regulations, to be enforceable.

The management of chemicals in Saint Lucia is currently addressed through multiple laws and regulations, but these operate in a fragmented manner. The Fire Service Act and its regulations set out the administrative and operational framework for the Saint Lucia Fire Service, including requirements for water supply and staffing, but contain no provisions restricting the types of firefighting agents used, even where such media may harm the environment or human health. Other legislation—such as the Industrial and Commercial Buildings Safety Act and relevant provisions of the Labor Act—addresses fire safety and evacuation but does not regulate the environmental impacts of firefighting foams.

Several other statutes touch on elements of PFAS management:

- Pesticides and Toxic Chemicals Control Act (Cap. 11.15) – establishes a regulator for toxic chemicals but does not list PFAS foams.
- Customs (Control and Management) Act (Cap. 15.05) – enables border control measures.
- External Trade Act (Cap. 13.11) – allows import restrictions via orders.
- Standards Act (Cap. 13.25) – allows adoption of compulsory national standards.
- Public Health Act (Cap. 11.01) – provides powers to address hazardous discharges.
- Waste Management Act (Cap. 6.05) – governs hazardous waste oversight and export.
- Water and Sewerage Act (Cap. 9.03) – protects water sources.
- Fire Service Act (Cap. 14.04) – could be expanded to include PFAS-free SOPs.
- Disaster Management Act (Cap. 14.06) – could integrate measures for temporary storage and safe handling of hazardous firefighting foams.

It is also important to consider that Saint Lucia has established a comprehensive framework of safety protocols and environmental regulations to manage the storage and handling of flammable liquids. These measures are designed to mitigate risks associated with fire hazards, spills, and environmental contamination. Under the Labour Act, all industrial establishments, including those handling flammable liquids, must obtain certification from the Chief Fire Officer every 24 months (Certification for Fire Safety). This certification ensures that the premises have adequate means of escape in case of fire. Failure to comply can result in fines up to \$5,000 or daily fines for continued non-compliance^[10]¹⁰.

The Saint Lucia Electricity Services Limited (LUCELEC) has outlined specific safety measures for handling flammable liquids^[11]¹¹, including: storage conditions free from ignition sources and properly ventilated, use of containers equipped with spring-loaded caps and flame arrestors, and dispensing facilities where gasoline must not be used for cleaning purposes.

Additionally, regarding Environmental Regulations and Spill Response, the National Energy Policy emphasizes the safe and environmentally friendly handling, storage, and transportation of petroleum products. The policy mandates compliance with international environmental standards to prevent oil spills and other environmental disasters^[12]¹². The Government of Saint Lucia has also developed an Oil Spill Contingency Plan to address potential oil spills, where incidents are categorized into three tiers, with escalating levels of response and response coordination organized with the National Emergency Management Organization (NEMO), with support from the Oil Spill Action Committee (OPAC). The Saint Lucia Solid Waste Management Authority (SLUSWMA) handles the disposal of oil-contaminated waste.^[13]¹³

In the event of a hazardous materials incident, the National Emergency Management Organization (NEMO) is responsible for initiating the response. The On-Scene Commander (OSC) assesses the situation and determines the appropriate response, and then the Royal Saint Lucia Police Force manages evacuation procedures. The OSC, in coordination with the shipper/consignee, controls the incident. The Ministry of Health provides medical support. After that, the OSC and NEMO assess the damage and coordinate recovery efforts. The Government Information Services disseminates information to the public, and finally, the SLUSWMA, in collaboration with other agencies, manages cleanup and disposal.^[14]¹⁴

However, none of these instruments provides an integrated life-cycle regulatory framework for PFAS, from import and use through disposal and prevention of reintroduction. In many cases, powers to make subsidiary regulations have not been exercised, and responsibilities are split between agencies with limited capacity for coordinated enforcement. The Draft Environmental Management Act (2018) could provide an overarching framework if enacted, but for now, legal gaps remain, and PFAS foams are not subject to any specific prohibition.

Table 4. St. Lucia national foam categories, concentration, and limits compared with international standards

Category	PFAS Concentration (Saint Lucia Samples)	Stockholm Convention Status	EU POPs Regulation Thresholds	Compliance Gap / Urgency
Category 1	>100,000 ppb PFOS/PFOA (often exceeding PFOA values)	PFOS: Must be phased out; stricter replacement deadline by the end of 2021	PFOA: ≤ 25 ppb; sum of PFOA-related ≤ 1 mg/kg (1,000 ppb); PFOS: ≤ 25 ppb; sum of PFOS-related ≤ 1 mg/kg ²³⁴	Exceeds Stockholm phase-out deadline; exceeds EU thresholds by $>4,000\times$ for PFOA/PFOS. Immediate replacement required.
Category 2	High PFOS/PFOA (often several thousand ppb, $>4,000$)	Restricted; phase-out recommended by the end of 2022 if feasible, no later than 2025	Same as above for PFOA/PFOS	Exceeds EU thresholds by $40\times$ – $200\times$; urgent replacement needed to meet 2025 deadline.
Category 3	Lower PFOS/PFOA ($<1,000$ ppb), other PFAS present	Potential future restriction under the Stockholm Convention	Same EU limits as above	Below Saint Lucia's 1,000 ppb practical threshold but still exceeds the EU's 25 ppb PFOA/PFOS limits by $10\times$ – $40\times$.

PFAS contamination and gender perspective in Saint Lucia

Saint Lucia has made progress in institutionalizing gender equality, including the establishment of a Division of Gender Affairs and the launch of a National Inter-Agency GBV Task Force in 2024, yet challenges remain. Gender gaps are still evident in labour force participation and youth unemployment, and gender-based violence remains a serious concern, with a high percentage of poor households headed by females and women facing economic vulnerabilities. At the same time, women surpass men in tertiary enrolment, presenting opportunities to channel their higher educational attainment into leadership in environmental protection. Despite higher participation rates and educational attainment, a significant gender gap persists in labour income, particularly for women without higher education. Additionally, childcare responsibilities disproportionately affect women's workforce participation and contribute to unemployment.

Gender studies in Saint Lucia^[15] reveal a complex interplay of high female labor force participation and education alongside persistent gender gaps in income and other areas. While women are more educated and participate in the workforce at higher rates than in many other countries, including a lower gender gap in participation compared to the Organization for Economic Co-operation and Development (OECD) average, they still face significant challenges in the labor market and experience disproportionate effects from childcare responsibilities.

Women's relatively higher levels of tertiary education but lower labour force participation create opportunities to channel their skills into chemical management, regulatory oversight, and environmental monitoring roles supported by the project. Conversely, men's occupational concentration in firefighting and petroleum sectors highlights the need for targeted training on safe handling and alternatives. By aligning with Saint Lucia's Division of Gender Affairs and climate/gender strategies (e.g., REASAP 2020–2028), the project ensures that gender equality is integrated into regulatory reform, hazardous waste management, and stakeholder engagement. This approach directly supports GEF's gender policy by promoting equal access to decision-making, improving environmental outcomes, and reducing gender-specific risks.

It's also crucial to recognize that the health and environmental risks tied to PFAS-containing firefighting foams impact women and men differently in Saint Lucia, due to biological differences and social practices. Men, who hold most operational firefighting and petroleum handling roles, are more directly exposed on the job. In contrast, women are potentially more likely to be exposed indirectly through community routes, including contaminated water, fisheries, and household environments, with their reproductive and caregiving roles making them also vulnerable if exposed to contaminated sites.

The following table 5 shows the gender-differentiated exposure pathways and risks:

Table 5. gender-differentiated exposure pathways and risks

Primary exposure pathway	Direct occupational exposure during firefighting and industrial foam use[16] ⁶	Indirect exposure via potentially contaminated water, fisheries, and soil; secondary exposure through caregiving[17] ¹⁷
Occupational profile	80% of frontline firefighters; 100% of senior leadership roles[18] ¹⁸	20% of firefighting staff, concentrated in admin/support [19] ¹⁹
Medical/biological risks	Testicular cancer, reduced fertility (sperm quality), thyroid disease, immune suppression, cardiovascular strain [20] ²⁰ , [21] ²¹ , [22] ²²	Kidney and breast cancer, reproductive toxicity, pregnancy complications (pre-eclampsia, reduced birth weight), PFAS transfer via placenta and breast milk [23] ²³ , [24] ²⁴ , [25] ²⁵
Social practices	Cultural association with hazardous work; acceptance of risk as "duty"[26] ²⁶	Responsibility for caregiving, food preparation, and household water use increases exposure burden[27] ²⁷
Economic vulnerability	More secure access to formal firefighting/industrial employment, but at high health cost	Higher unemployment, wage gaps, and poverty rates; female-headed households disproportionately poor[28] ²⁸
Decision-making power	Dominate leadership in fire service and technical roles[29] ²⁹	Largely excluded from leadership and policy forums despite higher educational attainment[30] ³⁰

Men and women in Saint Lucia experience distinct PFAS exposure patterns due to both occupational roles and environmental pathways. Occupational exposure primarily affects men, who dominate frontline firefighting, fuel handling, and industrial maintenance roles. Their exposure occurs

through inhalation of PFAS aerosols, dermal absorption during foam handling, and ingestion of contaminated water at fire or training sites. Environmental exposure, by contrast, affects both sexes—though potentially to a greater extent for women—through the food chain (fish, crops, and livestock), contaminated household water, and ambient pollution near storage or spill sites.

PFAS are bioaccumulative and persistent, capable of building up in blood, liver, and fatty tissues. They may exert cumulative, thresholdless genotoxic and carcinogenic effects, depending more on total exposure dose than on duration. The resulting health outcomes are gender-differentiated:

- For men, occupational exposure has been linked to testicular cancer, reduced fertility through impaired sperm quality, and thyroid and immune dysfunction, as well as elevated cholesterol and cardiovascular stress.
- For women, PFAS cross the placenta and accumulate in breast tissue and milk, leading to fetal and infant exposure associated with reduced birth weight, pre-eclampsia, immune suppression, and breast and kidney cancers.
- For both sexes, long-term systemic effects include thyroid disorders, immune impairment, and metabolic disruption.

Socially, these biological risks are amplified by gendered roles. Men's occupational identity in high-risk jobs normalizes chemical exposure, often reducing demand for protective measures. Women, meanwhile, shoulder the burden of caregiving, food preparation, and water management, making them the first responders to contamination impacts within families and communities. Female-headed households, often economically vulnerable, face greater difficulty accessing medical care or protective equipment.

Overall, men face acute, occupational PFAS exposure, while women experience chronic, environmentally mediated exposure with intergenerational implications. This gendered risk pattern underscores the need for both workplace protections for men and community-based risk prevention, reproductive health monitoring, and empowerment of women in PFAS management and decision-making.

The following figure presents the distribution of personnel by gender and role across a total workforce of 311 people in the Fire Service. Of this, 65 are female and 246 are male. Among women, 11 serve in administrative and support roles, while 54 are in firefighting and operational positions, with no representation in senior leadership. By contrast, men dominate the workforce, with 233 in firefighting and operational roles (81%), 4 in administrative and support roles, and 9 in senior leadership positions^{[31]³¹}. Overall, the data reveal a strong male dominance, particularly in operational and leadership roles, while women (19%), though present in firefighting and administrative functions, remain significantly underrepresented in decision-making positions.

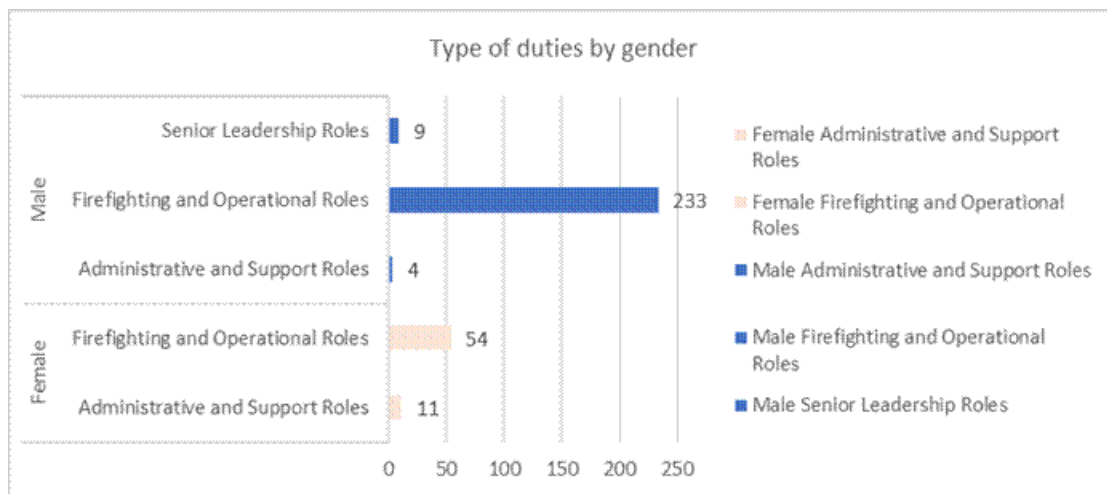


Figure 6. type of duties by gender in the fire service

The specific data shows that there are 15 personnel in administrative and support roles, of which the majority are female (11) compared to male (4). This indicates that women are more strongly represented in administrative and support functions, accounting for nearly three-quarters of the workforce in this category.

Systemic challenges, barriers, and risks

On fluorine-based firefighting foams, the country faces significant systemic challenges, including a lack of hazardous waste storage facilities, reliance on costly exports for destruction, limited monitoring, and dependence on outdated PFAS foam equipment in the safety sector. Rapid population growth, urbanization, and a tourism-driven economy all contribute to increased fire risks. In December 2024, SLFS reported fewer incidents overall compared to 2023, but fire calls increased by 25%, totalling 727 emergencies from 582 in the previous year. These included house, industrial, commercial, bush, electrical, pole, vehicle, and coal pit fires, plus smoke disturbances and alarm activations. [\[32\]](#)³²

Major industries like aviation, shipping, and energy still depend heavily on large Class B fire suppression systems. Climate change exacerbates the risk of PFAS-related foam contamination by increasing the severity of storms, flooding, and saltwater intrusion. These factors facilitate the spread and persistence of PFAS in the environment, especially if foams are released during emergencies or if final disposal/storage facilities are compromised. These issues are exacerbated by regulatory gaps, fragmented governance, high costs of disposal and retrofitting/reengineering, limited expertise, low public awareness, and climate-related risks. Additionally, the limited availability of baseline data and monitoring capabilities impedes the tracking of PFAS in soil, water, and biodiversity.



Figure 7. main challenges of the project

Key barriers to PFAS management in Saint Lucia include the absence of a direct ban or comprehensive chemical lifecycle legislation, compounded by fragmented institutional responsibilities. Elevated costs associated with safe disposal, equipment retrofitting, and fluorine-free alternatives impede progress. Technical deficiencies, such as the lack of engineering plans for system conversion and storage enhancements, further hinder efforts, while public awareness of the hazards associated with PFAS remains limited.

Moreover, the nation's lack of on-island safe disposal options and vulnerability to flooding and extreme weather events exacerbate the risk of contaminant dispersion, thus complicating containment and long-term management, as well as undermining local disposal efforts within secure landfills. In the last three years, the island has faced multiple severe events: in June 2023, Tropical Storm Bret triggered heavy rain, flash flooding, and landslip warnings^{[33]³³}; in mid-2024, Hurricane Beryl caused widespread flooding, storm surge damage to waterfront communities like Soufrière, Laborie, and Vieux Fort, and significant infrastructure impacts^{[34]³⁴}; and in May 2025, heavy rains from a shearline prompted flood and landslide alerts after more than 25 mm fell in 12 hours^{[35]³⁵}.

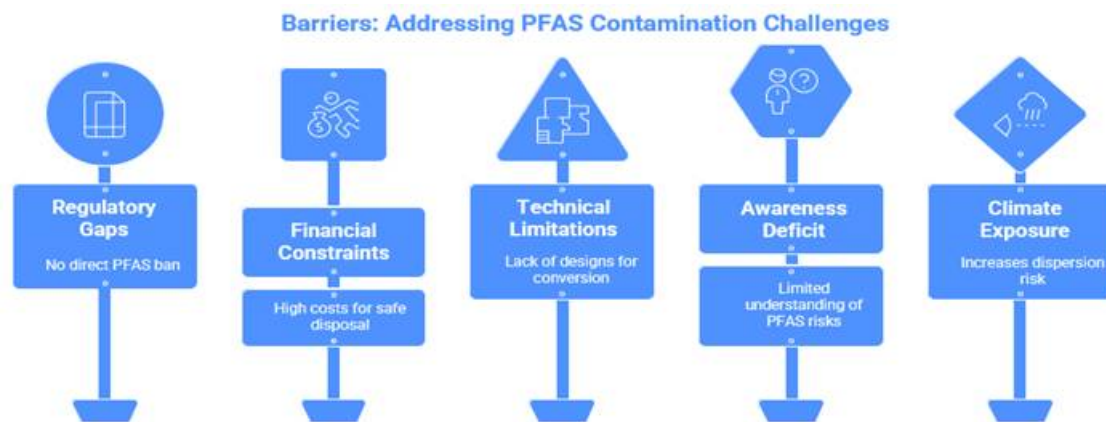


Figure 8. main barriers of the project

PFAS contamination in Saint Lucia mainly results from historical reliance on PFAS-based firefighting foams, slow policy implementation, dependence on donors, and the island's vulnerability due to its geography. Transitioning to safer alternatives hinges on donor-funded initiatives, which could leave gaps if the phase-out isn't fully completed after support ends. As a small island with concentrated industrial zones, the risk of extensive contamination is increased. Therefore, effective measures include developing a chemical management system with PFAS restrictions, upgrading foam systems, offering technical assistance, and strengthening local capacity. A holistic approach also requires monitoring during procurement and disposal, as well as environmental monitoring, climate-resilient strategies, legal updates, infrastructure improvements, and continuous capacity building.

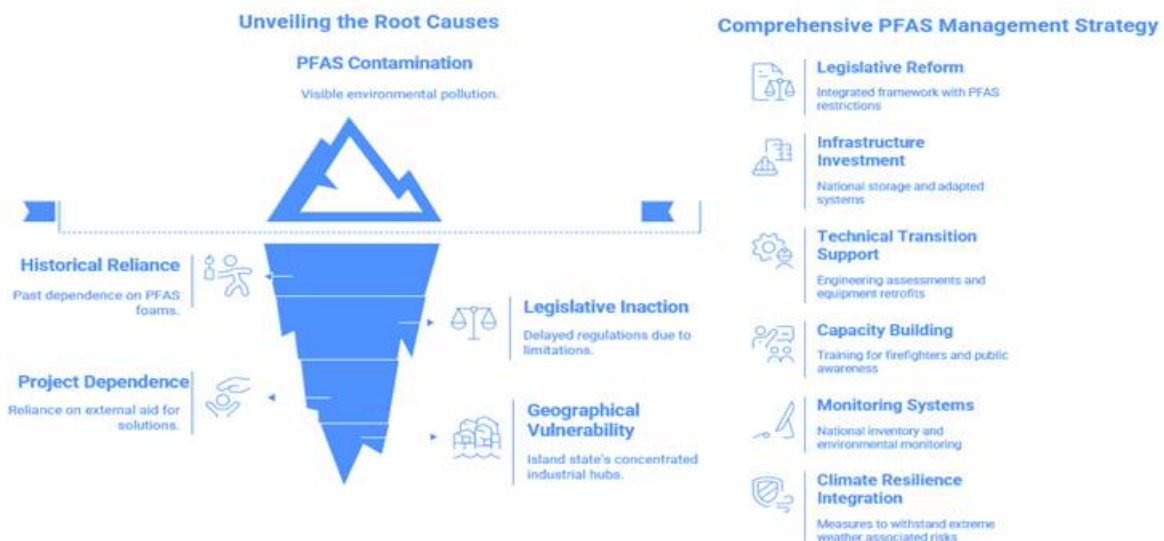


Figure 9. root causes, effects, and strategic interventions

In addition to environmental risks, the project operates in close proximity to multiple communities located within a defined radius of the twelve facilities with high fire risk, including fire stations, airports, and petroleum storage sites. The Gender Analysis confirms that populations living within these areas are directly connected to surrounding ecosystems. These communities, ranging from rural agricultural settlements to urban and peri-urban areas, are therefore integral to the project context, both as potential receptors of environmental impacts and as key stakeholders in risk awareness and environmental management. Information on risks, fire prevention, mitigation

measures, and project interventions needs to be and will be effectively communicated to nearby populations. For more details on the communities' identification, please refer to the GAP assessment."

Management scenarios and uncertain future

Given current conditions and trends, along with the interactions between key system elements and their drivers, the following scenarios are possible:

1. Effective Implementation and Institutional Consolidation (Optimistic Scenario)

The Stockholm Convention National Implementation Plan (NIP), last updated in June 2020 and approved by the Cabinet of Ministers in May 2021 (Cabinet Conclusion 358/2021), provides a framework for managing PFAS. In this scenario, Saint Lucia succeeds in translating the NIP framework into concrete and coordinated national action. Adequate resources are mobilized for monitoring, enforcement, and training; inter-agency coordination is strengthened, and clear standards for procurement and disposal are applied across all firefighting and fuel-storage facilities. Environmental monitoring confirms declining PFAS levels in key sites, and the transition to fluorine-free foams is consolidated through updated national regulations and routine inspections. Saint Lucia demonstrates compliance with the Stockholm Convention and positions itself as a regional example of chemical governance. **Relevance of the UNIDO project** remains high, as it provides the technical and financial leverage to complete the transition—particularly for legacy foam disposal, infrastructure adaptation, and regulatory alignment with ICAO standards—ensuring that national commitments under the NIP are met efficiently and sustainably.

2. Regulatory Progress with Limited Enforcement Capacity (Intermediate Scenario)

The PFAS management framework under the NIP is formally adopted, but implementation faces financial and institutional constraints. Oversight responsibilities remain fragmented among agencies, and inspection frequency is low due to resource shortages. While some facilities transition to fluorine-free foams, others continue using PFAS-based stockpiles beyond recommended timelines. Data collection on contamination and exposure remains sporadic, limiting risk-based planning. Public awareness and technical expertise improve gradually, yet the country struggles to maintain compliance and sustain investments once external support ends. Relevance of the project remains critical. The project bridges the gap between regulatory intent and practical enforcement by financing safe disposal of existing AFFF stockpiles, developing containment and rinse-water systems, and strengthening national monitoring and coordination capacity. It plays a catalytic role in facilitating the transition from this intermediate stage toward full implementation (Scenario 1), demonstrating proof of concept and building confidence for sustained national investment.

3. Policy Stagnation and Environmental Risk (Pessimistic Scenario)

Despite the NIP framework, competing national priorities and limited political momentum delay PFAS regulation and implementation. Legal instruments remain incomplete or unapproved, institutional coordination weakens, and data on PFAS use and contamination are scarce. Stockpiles of AFFF persist in aging containers at airports and fuel depots, occasionally leaking into soils and drainage systems.

Without systematic monitoring or disposal infrastructure, Saint Lucia faces increasing environmental liabilities and potential reputational risks in tourism and trade. The project becomes indispensable,

as it represents the only active mechanism capable of catalyzing regulatory action, safely managing existing stockpiles, and initiating the PFAS-free transition envisioned by the NIP—laying the groundwork for future national and regional investment.

These scenarios differ mainly in policy enforcement, technical capacity, and sustained funding for introducing alternatives, which are the key leverage points influencing Saint Lucia's PFAS future. A mix of strong regulation, infrastructure investment, and cross-sector partnerships is also essential to push the trajectory toward the PFAS-free green shift.

Incremental reasoning: Baseline in the absence of the project and main outcome-related enabling activities

Without the project's intervention, Saint Lucia would continue storing and using large amounts of degraded PFAS firefighting foams (AFFF/ fluoroprotein) across twelve high-risk facilities with no containment, storage, or tracking systems. Uncontrolled releases during emergencies, training, or storms would persist, and legacy spills at sites like Buckeye, Crash Fire Hall, G.F.L. Charles Fire Hall and the Fire Service Training School would go unassessed and unremediated. The absence of PFAS monitoring in soil, groundwater, and marine environments, combined with a lack of a legal framework to regulate PFAS use or lifecycle management, would leave firefighters and communities vulnerable to unmanaged health risks from these toxic chemicals.

The project is designed to alter the baseline by achieving a collection of interconnected outcomes, enforcing updated national regulations that prohibit PFAS foams, integrating these restrictions into broader frameworks for chemical safety oversight and monitoring, and establishing extended producer responsibility mechanisms. Operationally, the project will replace all PFAS-containing foams with ICAO/IMO-compliant fluorine-free alternatives, clean and retrofit foam tanks, and implement engineered containment for rinse water and disposal. Capacity building will be facilitated through a national training-of-trainers program, institutionalizing knowledge regarding PFAS risks, safe disposal, and the utilization of alternatives. Additionally, a computerized inventory and tracking system will oversee foam stocks from procurement through to destruction, and an interim hazardous waste storage facility will be established to manage the transition securely.

These changes will eliminate the use of PFAS foams, prevent their reintroduction through legal restrictions, and replace them with safer alternatives. Monitoring and containment will cut environmental risks, while campaigns and SOPs will ensure safer practices. Over time, firefighter health risks will decrease, and marine ecosystems will be protected from persistent pollutants.

While challenges exist, including maintaining ICAO-compliant fire coverage during the transition and end-user hesitancy, strong enablers ensure success. The project leverages GEF-secured international funding and technical expertise through GEF, UNIDO, and the ISLANDS project, as well as prior groundwork from the GEF 5558 initiative, which delivered inventories with laboratory assessments, partial foam donations, and initial training. Strategic partnerships with organizations such as Buckeye Terminal and LUCELEC (key industrial stakeholders) provide opportunities for large-scale, practical implementation, while the Stockholm Convention updated National Implementation Plan (2020) alignment ensures policy coherence. With access to international best practices and regional replication potential, the case for a successful transition is further strengthened, making the planned outcomes achievable with coordinated action.

Addressing drivers of environmental degradation and climate vulnerability

The project also directly addresses one of Saint Lucia's most urgent and under-acknowledged drivers of environmental damage and climate vulnerability: the ongoing storage, use, and possible release of PFAS-containing firefighting foams. In a small island developing state (SIDS) highly exposed to extreme weather events, the risk of accidental releases and increased chemical spread is considerable. This project focuses on a specific, clearly defined source of persistent pollution with well-known high-risk stockpiles, international phase-out commitments under the Stockholm Convention, and readily available safer alternatives that can be quickly implemented. This approach enables rapid, measurable risk reduction while also establishing an institutional, legal, and technical framework that can be adapted for other hazardous chemicals in the future.

The project's outcomes are designed to endure as drivers evolve (including increased demand for emergency response capacity due to rapid urbanization and tourism-driven economic growth, limited national regulatory frameworks for chemical management, insufficient technical expertise, and a lack of public awareness). Updated regulations and standards will permanently restrict the use of PFAS foam, preventing its reintroduction even if market availability or pressures change. Installing containment, rinse-water systems, and hazardous waste storage creates lasting infrastructure supporting broader waste management beyond PFAS. Embedding training, SOPs, and a foam inventory system into institutions maintains capacity despite personnel turnover or emergency response changes, and engaging industrial actors like Buckeye Terminal and LUCELEC extends resilience to the private sector, encouraging compliance and replication beyond public facilities.

Key stakeholders

The Saint Lucia Fire Service (SLFS) will act as the main operational partner, responsible for managing the removal, replacement, and safe handling of firefighting foams. The Department of Sustainable Development (DSD) will focus on policy integration, legislative updates, and aligning with national environmental goals. The Saint Lucia Solid Waste Management Authority (SLSWMA) will oversee hazardous waste containment and support export efforts for disposal. Private sector entities, such as Buckeye Partners and LUCELEC, will carry out site-specific phase-outs and share responsibilities for the transition, while suppliers of fluorine-free foams will ensure the supply of compliant products. The Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean (BCRC-Caribbean) will provide technical support and regional coordination. Local community actors, including councils, environmental NGOs, and fishing groups, will play a vital role in raising awareness and monitoring potential impacts on ecosystems and livelihoods.

Baseline associated projects: building on the baseline and investment landscape

This initiative complements and expands upon two key previous projects: the GEF 5558 project and the GEF 10279 ISLANDS projects. While ISLANDS addresses broader hazardous chemicals and waste management regionally, Saint Lucia's GEF 5558 delivered inventories with laboratory assessments, partial foam donations, and initial training. This project work will build on these foundations to target the elimination of PFAS-related foams. Lessons learned highlight the importance of early procurement of alternatives, engineering readiness for foam transitions, and coordinated regulatory and operational planning. Additionally, during the assessment of the baseline for this project, the Department of Sustainable Development (DSD) informed that the ISLANDS Project would not support St. Lucia in the elimination of stocks of obsolete foam. Consequently, the country relies solely on this project for the phase-out of PFAS-related foams and environmentally sound final disposal.

The project will also leverage non-GEF investments, such as Buckeye's environmental management measures and LUCELEC's fuel handling safety protocols, to demonstrate private sector best practices, and will align closely with Saint Lucia's National Implementation Plan under the Stockholm Convention, the National Energy Policy, and the country's Blue Economy and climate adaptation strategies, all of which prioritize pollution prevention, ecosystem resilience, and sustainable industrial practices.

On the other hand, while not a non-Grant Instrument (NGI), the project addresses financial barriers to PFAS phase-out, including costs for ICAO-compliant fluorine-free foams, retrofitting, and related cleaning, storage, and shipping of hazardous waste overseas. GEF funding covers key upfront costs, enabling institutions and partners to expand the transition, reduce environmental hazards, and build capacity. By phasing out PFAS foams, strengthening regulations, building technical capacity, and improving hazardous waste disposal systems, the project reduces PFAS contamination risks and supports Saint Lucia's environmental protection, disaster preparedness, and climate resilience goals.

[1] Report on Technical Support for SLFSD in its transition to PFAS-free firefighting foam (Peltzer, E. March 16, 2022 for BCRC-Caribbean).
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[3] Revised webpage, July 2025: https://stluciatimes.com/163602/2024/05/fire-service-gets-eco-friendly-fire-fighting-foam/?utm_source=chatgpt.com
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[4] Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants, OJ L 169, 25.6.2019, p. 45–77.

[5] Annex I, Part A, as amended by Commission Delegated Regulation (EU) 2020/784. Part A, as amended by Commission Delegated Regulation (EU) 2020/784.

[6] Commission Delegated Regulation (EU) 2023/866, adding PFHxS to Annex I.

[7] COMMISSION REGULATION (EU) 2021/1297 of 4 August 2021, amending Annex XVII

to Regulation (EC) No 1907/2006 of the European Parliament and of the Council as regards perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances.

[8] <https://eur-lex.europa.eu/eli/reg/2024/2462/oj>

[9] Commission Delegated Regulation (EU) 2025/[amending Annex I for PFOS UTC limits]

[10] [233. Certification For Fire Safety | Labour Act | Revised Laws of Saint Lucia | Attorney General Chambers Certification For Fire Safety | Labour Act | Revised Laws of Saint Lucia](#)

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Attorney	General	Chambers
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B. PROJECT DESCRIPTION

Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

• Project Objective and Goals

The project aims to eliminate the primary source of ongoing environmental contamination and related health risks. PFAS-based foams, including AFFF and fluoroprotein foams, are stored and used at 12 high-risk facilities, many situated near sensitive ecosystems. The stockpiles total 23,154 litres, with some products exceeding 100,000 parts per billion (ppb) contamination levels, as per studies held in the DSD regarding foam characterization.

The project will permanently eliminate the use of PFAS-containing firefighting foams in the Saint Lucia Fire Service and the main marine terminal and energy producer by replacing foams with ICAO-compliant fluorine-free alternatives, safely disposing of existing stockpiles, and strengthening regulatory frameworks, technical capacity, and hazardous waste management systems to prevent reintroduction. These actions address the severe risks posed by PFAS - highly persistent, bioaccumulative, and toxic chemicals that threaten human health, biodiversity, and climate resilience. For a small island developing state heavily dependent on marine ecosystems and highly vulnerable to extreme weather, this transition will reduce persistent organic pollutant emissions, protect ecosystems, mitigate occupational health risks, and enhance national resilience.

The objective focuses on the complete operational phase-out of PFAS-related foams in the Saint Lucia Fire Service (SLFS) and key energy and transportation facilities, as well as the implementation of legal safeguards to prevent reintroduction, and the development of institutional and technical capacity to sustain the change in both the public and private sectors. The project's pathway begins with a set of coordinated inputs and activities supported by GEF financing, UNIDO's implementing activities, technical expertise, and active partnerships between public agencies and private facilities. These resources will be directed toward a suite of targeted interventions, starting with the reform of national regulations to ban PFAS-based foams and mandate their environmentally sound management.

At the operational level, the project will equip all relevant Fire Service, energy, and transportation facilities with fluorine-free foams, while retrofitting and thoroughly cleaning existing storage and application systems to prevent cross-contamination. Supporting measures include hazardous waste storage, arrangements for safe export of PFAS stocks for destruction, and engineered containment systems to capture rinse water from foam transitions. To maintain oversight and accountability, a computerized tracking system will be established to monitor foam stocks from procurement to disposal. Capacity will be built through national training-of-trainers programs and public awareness campaigns, while environmental monitoring programs will be implemented to track PFAS contamination.

The project's gender-responsive approach is essential — it must address men's direct occupational risks through training and safer options, while also raising community awareness, improving fire risk and health risk communication, implementing GBV-sensitive safeguards, and establishing inclusive roles for women. To address these, the project's Gender Action Plan (GAP) establishes targeted measures including gender-responsive training programs, sex-disaggregated indicators, GBV-sensitive safeguards, and dedicated outreach to women's groups, fisherfolk associations, and civil society. The project budget is allocated to GAP implementation, covering gender expertise, community engagement, GBV risk mitigation, and monitoring.

Three Interacting Pillars of Change

The project's Theory of Change rests on three interrelated pillars—**People, Processes, and Systems**—which together create an enabling environment for permanent PFAS elimination.

- **Systems.** The systems pillar establishes the legal and institutional foundation for sustainability. National legislation, procurement standards, and operational procedures will be revised to prohibit PFAS use, creating binding requirements for government and industry alike. A national digital inventory will monitor foam stocks from procurement to disposal, providing traceability and accountability. The resulting governance architecture—laws, monitoring infrastructure, and inter-agency coordination—locks in PFAS-free practices, ensuring continuity regardless of future political or market fluctuations.
- **Processes.** This pillar focuses on operational and behavioural change. All 12 high-risk facilities—airports, fuel depots, fire stations, and training centres—will phase out PFAS foams, retrofit systems for fluorine-free alternatives, and establish climate-resilient containment and rinse-water management. Knowledge management and vocational training programs will institutionalize best practices across agencies and sectors, ensuring long-term adherence to safe chemical use, waste handling, and pollution prevention.
- **People.** Individuals and communities are both beneficiaries and agents of change. The project empowers firefighters, regulators, and local communities with technical knowledge on PFAS risks, fire prevention, safe alternatives, and emergency preparedness. Gender equality is mainstreamed throughout: women's high educational attainment but low participation in environmental and technical sectors will be leveraged through targeted training, while men working in high-risk occupations (firefighting, fuel storage) receive specialized safety and transition training. By aligning with the Division of Gender Affairs and national GBV strategies, the project ensures equal access to capacity-building and decision-making roles, reducing gender-specific vulnerabilities. In addition, gender considerations are reflected within the Theory of Change outcomes and outputs to demonstrate how gender-responsive activities contribute to achieving long-term behavioural, institutional, and safety outcomes.

Path from Baseline Situation to Desired Change

Saint Lucia currently lacks specific PFAS regulations, dedicated hazardous waste storage, and in-country destruction capacity. Reliance on PFAS foams remains high, especially in aviation, shipping, and petroleum sectors. Institutional responsibilities are fragmented, and climate-related hazards—flooding, tropical storms—further increase risks of accidental releases.

Key barriers include:

These barriers are compounded by limited enforcement capacity and competing national priorities.

Social and Gender Dimensions

Women in Saint Lucia achieve higher tertiary education rates but remain underrepresented in technical and environmental sectors, while men dominate occupations with higher PFAS exposure risk. The project therefore applies a Gender Action Plan with sex-disaggregated indicators, GBV safeguards, and targeted training to ensure equitable participation and benefit-

sharing. Inclusive engagement builds trust, strengthens community monitoring, and enhances overall environmental outcomes.

Assumptions and Enabling Conditions

The Theory of Change assumes: sustained political commitment; performance and availability of fluorine-free foams; continuous technical and financial cooperation; and effective coordination among institutions and the private sector. Enabling conditions include enforceable legislation, integration of climate adaptation into facility design, and transparent stakeholder engagement supported by gender-responsive safeguards.

Planned Activities and Causal Pathway

Planned activities include enacting PFAS bans within a comprehensive chemical management law; establishing a computerized inventory and monitoring system; retrofitting foam tanks and installing containment systems; creating interim hazardous waste storage; and delivering training and awareness programs.

These actions generate direct outputs:

- Enforced PFAS-specific regulations and monitoring systems;
- Operational PFAS-free foam systems at all 12 facilities;
- Validated hazardous waste storage capacity;
- Trained technical personnel and informed communities.

In the medium term, these outputs reduce PFAS releases, strengthen inter-agency coordination, and build private-sector compliance. In the long term, they ensure total elimination of PFAS foams, restore ecosystem health, and reinforce Saint Lucia's climate and chemical resilience.

Future scenarios and project relevance

The project design anticipates three possible national trajectories:

Absence of PFAS-specific bans or integrated chemical lifecycle laws;

High costs of safe disposal and system retrofitting;

Limited technical expertise for conversions;

Low public and institutional awareness of PFAS risks, with uneven gender participation in decision-making;

Vulnerability of storage and containment systems to extreme weather.

- **Best-case scenario:** strong policy support and financing lead to full transition. The project's investments in regulation, infrastructure, and monitoring ensure permanence and replication in other SIDS.

- **Intermediate scenario:** partial adoption due to limited capacity. The project remains essential to bridge gaps, scale pilots, and maintain institutional readiness until full transition is feasible.
- **Worst-case scenario:** political or financial setbacks slow implementation. The project's early legal reforms, storage facilities, and industry partnerships prevent new contamination and maintain minimal safety standards, preserving core gains.

Under all conditions, the project delivers measurable risk reduction and keeps Saint Lucia on a trajectory toward total PFAS elimination.

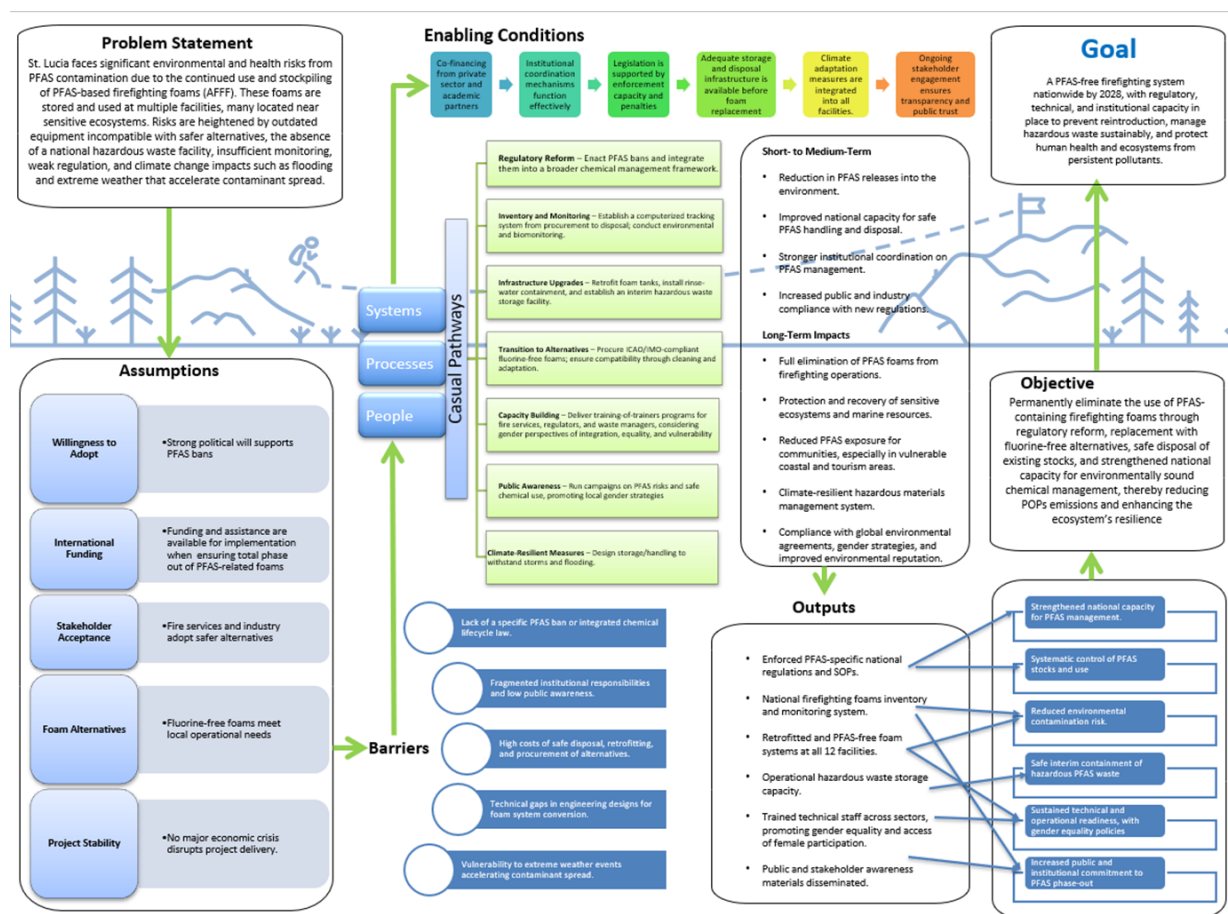
Incremental reasoning

Without GEF support, Saint Lucia would continue to store and use PFAS-based foams near sensitive ecosystems and population centres. The absence of disposal infrastructure and regulatory enforcement would result in recurring releases during emergencies or extreme weather events. Occupational exposure would persist, remediation costs would rise, and national compliance with the Stockholm Convention would remain incomplete.

By contrast, the GEF-funded intervention eliminates this ongoing source of persistent organic pollutants, institutionalizes prevention, and strengthens national systems for chemicals and waste management—delivering global environmental benefits and sustainable development gains that could not occur without external support.

The following diagram summarizes the project's Theory of Change, illustrating the logical pathway from the problem statement through assumptions, barriers, and enabling conditions to the expected outputs, objectives, and long-term goal.

Under all conditions, the project delivers measurable risk reduction and keeps Saint Lucia on a trajectory toward total PFAS elimination.



10. theory of change of the project (annex 1)

Figure

Stakeholders Engagement

Project's design integrates contributions from a broad range of stakeholders, ensuring that implementation is both technically sound and institutionally anchored, and that the resulting GEBs and adaptation benefits are sustained beyond the project's life.

Government Agencies:

1. The **Department of Sustainable Development (DSD)** in Saint Lucia, currently under the Ministry of Education, Sustainable Development, Innovation, Science, Technology, and Vocational Training, will serve as the national lead agency, overseeing policy integration, legislative reform, and alignment with national environmental priorities, including the Stockholm Convention National Implementation Plan and climate adaptation strategies.
2. The **Saint Lucia Fire Service (SLFS)** will lead operational implementation, managing the removal and replacement of PFAS foams, overseeing cleaning and retrofitting of equipment, and ensuring firefighting readiness with fluorine-free foams.
3. The **Saint Lucia Solid Waste Management Authority (SLSWMA)** will manage hazardous waste storage and coordinate export for destruction in line with Basel Convention requirements.

4. Government ministries responsible for trade (**Ministry of Commerce, Manufacturing, Business Development, Cooperatives and Consumer Affairs**, sometimes referred to as the Ministry of Trade, Industry and Commerce), customs (**Customs and Excise Department** under the Ministry of Finance), and health (**Ministry of Health, Wellness and Elderly Affairs**) will support enforcement by controlling imports and monitoring compliance. These agencies will benefit from strengthened legal mandates, improved operational capacity, and infrastructure upgrades that extend to other hazardous waste management needs. Other identified public stakeholders include the Saint Lucia Air and Sea Ports Authority (SLASPA), Ministry of Home Affairs, Saint Lucia Bureau of Standards, Central Statistical Office, Department of Labor, and the Saint Lucia Chamber of Commerce.

Private Sector Partners: Major industrial stakeholders, including Buckeye Saint Lucia and LUCELEC, will implement PFAS phase-outs at their high-risk facilities and serve as demonstration sites for best practices in fluorine-free firefighting systems. Foam suppliers and servicing companies will provide technical support, supply compliant products, and assist in training on safe use and maintenance. For the private sector, the project delivers co-benefits, including reduced liability, enhanced compliance with international standards, improved workplace safety, and strengthened environmental reputation in global markets. Two additional actors- the Rodney Bay Marina Fueling Station and the Port of Castries - have been identified for potential replication of Buckeye's operational standards. The Rodney Bay Marina Fueling Station in northern Saint Lucia supplies marine diesel, gas oil, and aviation fuel to yachts and vessels and is equipped with high-speed bunkering capabilities for efficient fuel delivery. The Port of Castries, located in the Castries Harbor, provides fuel bunkering services for maritime vessels, supporting the island's shipping and cruise industries. These facilities are integral to Saint Lucia's energy infrastructure, supporting power generation, maritime operations, and contributing to the island's role as a regional hub for petroleum storage and transshipment.

Regional and International Organizations: The Basel Convention Regional Centre for the Caribbean (BCRC-Caribbean) will provide technical guidance, facilitate regional knowledge sharing, and help align Saint Lucia's actions with broader Caribbean chemical management initiatives. UNIDO will offer technical oversight and ensure the application of best available techniques and practices. These partners will benefit from strengthened regional capacity and replicable models for PFAS elimination in SIDS.

Local Communities and Civil Society: Community organizations, environmental NGOs, and local councils—especially those in coastal areas and near high-risk facilities (please refer to the Gender Action Plan for the complete community baseline)—will participate in awareness campaigns for fire prevention, monitoring programs, and feedback mechanisms to ensure safe and transparent implementation. Fishing cooperatives and tourism operators will benefit directly from healthier marine ecosystems, reduced contamination risks, and greater resilience of livelihoods dependent on clean coastal waters. The project considers a broad cross-section of the general public, residents, and civil society across Saint Lucia, particularly those living within a 5 km radius of the 12 targeted facilities, including urban, peri-urban, and rural communities. These populations include households dependent on tourism, services, agriculture, and fisheries, with varying levels of infrastructure and vulnerability.

Civil society actors—such as environmental NGOs, community organizations, fisherfolk groups, and local councils—play a key role in awareness-raising, monitoring, and feedback

mechanisms, especially in coastal and high-risk areas. The project also actively engages vulnerable groups, including women, youth, and female-headed households, recognizing that while women often have higher educational attainment, they face greater economic vulnerability and indirect exposure risks. In addition, the initiative involves institutional stakeholders (e.g., fire service, health authorities) and promotes inclusive participation through transparent communication, grievance mechanisms, and capacity-building activities to ensure community health, environmental protection, and long-term sustainability.

Academic and Training Institutions: Local and regional training institutions will integrate PFAS modules into firefighter and environmental management curricula, ensuring that knowledge is passed to future professionals. This capacity-building role will ensure a continuous supply of trained personnel long after the project ends. The benefit for these institutions is expanded expertise, enhanced relevance of training programs, and stronger links with both government and industry.

By clearly defining stakeholder roles and ensuring that each group derives tangible benefits—from reduced environmental risks and improved public health to enhanced compliance, reputation, and livelihoods—the project builds the ownership and incentives needed to sustain GEBs and adaptation benefits well beyond the life of the GEF investment. This collaborative structure not only secures project success in the short term but also embeds PFAS-free practices as a national standard for the long term.

Government agencies are tasked with providing policy leadership, operational implementation, and enforcement; private sector partners bring technical expertise and co-financing; regional and international organizations provide oversight and support for replication; and local communities, civil society, and academic institutions ensure inclusivity, transparency, and long-term capacity building.

Please refer to the Stakeholders engagement plan for a complete description the stakeholders' key expectation, concerns and recommendations, as well as a detailed description of each stakeholder's roles within the project, their alignment with specific project components, and the potential benefits they can gain through collaboration.

Knowledge management

The project will leverage existing knowledge and generate new technical, institutional, and policy insights, which will be systematically captured, stored, and shared to benefit current stakeholders and guide future national, regional, and global chemical management initiatives.

It will build on previous and ongoing initiatives in Saint Lucia and the wider Caribbean, including the GEF 5558 project, which developed initial national inventories of hazardous chemicals and built customs and inspection capacity, and the GEF 10279 ISLANDS project, which addresses broader chemicals and waste management challenges. Lessons from these projects, such as the need for early procurement of alternatives, coordinated stakeholder engagement, and engineered readiness for foam system transitions, will directly inform project execution. Internationally, the project will draw on ICAO/IMO performance standards for firefighting foams, Stockholm Convention technical guidelines on PFAS elimination, and Basel Convention best practices for hazardous waste export and destruction. Private sector partners such as Buckeye Partners and LUCELEC, will contribute operational knowledge

and SOPs from their own environmental management systems and corporate compliance frameworks.

Through the full cycle of PFAS phase-out, from legislative reform to equipment retrofitting and environmental monitoring, the project will generate practical knowledge on effective integration of PFAS bans into national laws and procurement systems in a small island developing state (SIDS) context; technical and operational challenges of retrofitting and decontaminating foam systems in tropical, resource-constrained environments; strategies for ensuring performance compliance with ICAO standards while using fluorine-free foams; effectiveness of containment systems and hazardous waste storage prior to export; and environmental monitoring methodologies for detecting PFAS in marine, coastal, and freshwater systems in SIDS.

All technical protocols, training materials, environmental monitoring data, and legislative templates developed under the project will be compiled in a centralized digital repository maintained by the Department of Sustainable Development (DSD). The computerized foam inventory and tracking system will serve as a permanent knowledge tool, storing historical and real-time data on foam stocks, locations, and disposal records. Case studies from the project's implementation will be documented by UNIDO and the BCRC-Caribbean for integration into regional training curricula.

Knowledge products will be disseminated through multiple channels at national, regional, and global levels. Nationally, via stakeholder workshops, sector-specific technical manuals, and integration of training modules into firefighter and environmental management courses. Regionally, through the BCRC-Caribbean network, peer-to-peer exchanges, and regional conferences on chemicals and waste management. Globally, through the Stockholm and Basel Conventions' clearing-house mechanisms, ICAO/IMO safety forums, and UNIDO knowledge platforms. These dissemination pathways ensure that best practices, lessons learned, and technical innovations from Saint Lucia's PFAS phase-out can be replicated or adapted in other SIDS and developing country contexts.

Project Components, Outcomes, and Outputs

COMPONENT 1. Regulatory Framework update for PFAS-free firefighting foams

This component strengthens Saint Lucia's regulatory and institutional framework to permanently eliminate the use of PFAS-containing firefighting foams. It focuses on developing and enforcing a coherent set of primary legislation, subsidiary regulations, technical standards, procurement rules, and coordination mechanisms that collectively prevent PFAS foams from being imported, purchased, or used after phase-out. By aligning national laws with Stockholm Convention obligations and international performance standards (ICAO/IMO), and by embedding PFAS-free requirements into firefighting practice, waste management and public procurement, this component ensures that the transition to fluorine-free foams is not only mandated on paper but also operationally enforceable and sustained over the long term. It provides the legal and institutional backbone upon which the technical, capacity-building and monitoring interventions of the other components can effectively deliver lasting environmental and health benefits.

Saint Lucia should establish a comprehensive, enforceable regulatory framework to eliminate PFAS in firefighting foams by enacting explicit legislation banning their import, use, and sale, a recommendation grounded in the Legal Assessment Report (2025), which identifies that existing legislation is fragmented, outdated, and lacks coverage of industrial chemicals and hazardous waste lifecycle management. The need to strengthen hazardous waste regulation, covering storage, transport, treatment, and disposal, also derives from this same report, which highlights gaps in hazardous waste definitions, standards, and Basel Convention alignment. Complementing this, the National Country Summary (2025) supports recommendations for improved import/export controls, monitoring systems, and enforcement capacity, as it documents limitations in border control practices, lack of routine chemical screening, insufficient laboratory capacity, and weak inter-agency coordination. The recommendation to develop an integrated, lifecycle-based chemicals management system, including inventories, standards, and institutional coordination, draws from both the Legal Assessment Report, which calls for a comprehensive national chemicals strategy and stronger governance mechanisms, and the GEF 5558 ICM Evaluation Framework, which emphasizes the importance of harmonizing legislation with an Integrated Chemicals Management Model Act and strengthening policy development, regulatory review, and implementation capacity. Together, these conditions justify the development of enhanced compliance mechanisms to address the systemic deficiencies that currently limit effective chemical and waste management in Saint Lucia.

Outcome 1. A regulatory environment conducive to the cessation of the procurement and use of PFAS-related firefighting foams

This outcome will establish a coherent, enforceable legal and institutional framework that permanently halts the procurement, import, sale, and use of PFAS-containing firefighting foams in Saint Lucia. It will combine amendments to primary legislation, new subsidiary regulations and orders, updated public procurement rules, and coordinated enforcement so that, once phased out, PFAS foams cannot re-enter the supply chain. This directly implements Saint Lucia's commitments under the Stockholm Convention and its 2020 National Implementation Plan (NIP), which already identifies critical legal gaps in the control of PFAS and other POPs.

The project will address these gaps by sequencing legal reforms according to the national hierarchy of instruments: amending primary legislation, using existing powers to make targeted regulations and orders, updating procurement procedures, and fully embedding PFAS-free requirements in operational standards for firefighting, environmental health, and waste management. Substantial bans will be introduced through amendments or repeal-and-replace of outdated laws, while some controls can be implemented quickly through subsidiary legislation. Emphasis will also be placed on harmonizing existing provisions so that the overall framework functions as a coherent system.

A key element is also institutionalizing a compliance framework into the PFAS bans enacted regulations that combine:

- Technical standards: adoption of ICAO/IMO-compliant PFAS-free foam specifications as a compulsory national standard, embedded in SOPs, procurement rules, and customs procedures.

- Enforcement mechanisms: coordinated inspections, import controls, waste regulations, and penalties, led by an inter-agency PFAS/Chemicals Compliance Task Force.
- Stakeholder readiness: targeted training for regulators, fire services, and industry, plus public awareness campaigns to ensure understanding and support.

Together, these measures will make PFAS-free compliance the national norm, ensure continuous monitoring, and sustain the phase-out beyond the life of the project. By 2028, Saint Lucia will have eliminated PFAS firefighting foams, reduced contamination levels in foam stocks to zero, and strengthened long-term protection for marine and terrestrial ecosystems in a replicable model along the Caribbean.

The regulatory framework will be informed by the project's Gender Analysis and Action Plan, which identifies gender gaps in participation, employment, and decision-making, as well as differentiated exposure risks to PFAS. In this context, the development and implementation of regulatory measures will ensure inclusive stakeholder consultation processes and promote the participation of both women and men, taking into account existing disparities in leadership and technical roles. The framework will also reflect national gender policies and institutional arrangements, including coordination with the Division of Gender Affairs, to ensure that gender considerations are integrated into policy development and implementation.

Output 1.1. Legally binding PFAS ban integrated into national policy and procurement systems

Legally binding PFAS ban integrated into national policy and procurement systems will serve as the legal backbone for Saint Lucia's transition to PFAS-free firefighting foams. It will introduce a permanent, enforceable prohibition on the production, import, sale, and use of PFAS-containing foams, embedded within national chemical safety laws, subsidiary regulations, and operational procedures. The ban will be aligned with ICAO/IMO performance standards and the country's obligations under the Stockholm Convention, ensuring that PFAS foams are eliminated from both public and private sector operations and cannot re-enter the supply chain after phase-out.

At the legislative level, the prohibition will be implemented through amendments to the Pesticides and Toxic Chemicals Control Act (Cap. 11.15) or the enactment of a short, dedicated POPs/PFAS Control Act. This will include a comprehensive legal definition of PFAS, clear phase-out deadlines, narrow exemptions for critical safety needs, and provisions empowering regulators to issue standards, seize non-compliant products, and impose penalties. Complementary subsidiary instruments will be used to operationalize the ban, such as a Restricted/Prohibited Imports Order under the External Trade Act (Cap. 13.11) to block PFAS foam imports, and updated customs classification codes to flag and inspect potentially non-compliant shipments.

Since the project will address these gaps by sequencing legal reforms according to the national hierarchy of instruments, we propose amending primary legislation, subsidiary instruments, and controls using existing powers to make targeted regulations and orders, updating procurement procedures, and fully embedding PFAS-free requirements in operational standards for firefighting, environmental health, and waste management. The proposed amendments consider the following details during execution:

1. Primary legal controls (Act-level):

2. Amend Cap. 11.15 (or enact a short POPs/PFAS Control Act) to:

- a) Define PFAS (covering listed PFOS/PFOA/PFHxS and precursors);
- b) Prohibit manufacture, import, sale and use of PFAS-containing firefighting foams with clear phase-out dates and narrow emergency derogations;
- c) Empower standards, customs and waste authorities to issue binding subsidiary instruments, test products, extended responsibilities, seize non-compliant stock, and apply sanctions.

2. Subsidiary instruments to operationalize and enforce:

- External Trade (Restricted/Prohibited Imports) Order under Cap. 13.11 adding PFAS foams/precursors to the restricted/prohibited schedules; require import licenses only for return-shipment exports and waste, including extended responsibilities.
- Compulsory National Standard under Cap. 13.25 mandating PFAS-free foam performance/specifications consistent with ICAO/IMO; cross-referenced in procurement and Fire Service SOPs.
- Fire Service Regulations/SOPs under Cap. 14.04 requiring PFAS-free foams, tank decontamination, test protocols, and prohibiting the use of PFAS foams in training.
- Waste Management regulations/notices under Cap. 6.05 to classify PFAS foams/rinse water as hazardous, set temporary storage criteria, and enable export for destruction consistent with Basel good practice.
- Public Health directions/by-laws under Cap. 11.01 to prohibit releases to soil, drains, or marine areas and to require remedial actions.

3. Public procurement & market controls:

- Government Procurement Rules/Green Procurement Manual for firefighting systems: insert PFAS-free mandatory specifications and supplier declarations for all firefighting foam purchases; require ISO/IEC 17025 certificates where relevant for official accreditations of laboratories that demonstrate they are technically competent to carry out specific tests, calibrations, and measurements — and that they produce results that are accurate, reliable, and internationally recognized.

4. Institutional coordination & capacity:

- Establish an inter-agency PFAS/Chemicals Task Force (Department of Sustainable Development, the Saint Lucia Fire Service, Customs, the Saint Lucia Bureau of Standards, the Solid Waste Management Authority, and the Ministry of Health, as to be confirmed in the execution phase) to draft, sequence, and enforce the above instruments; align with the Stockholm NIP and national climate/blue-economy strategies. The last National Implementation Plan (NIP) under the Stockholm Convention was revised in June 2020, approved by the Cabinet of Ministers in May 2021 (Cabinet Conclusion 358/2021), and transmitted to the Secretariat in June 2021. This updated version of the NIP addresses all chemicals listed in Annexes A, B, and C of the Convention text following amendments adopted at the 7th Conference of the Parties to the Stockholm Convention (COP 7) in 2015 and considers the synergies towards the management of the chemicals added in 2017 and 2019. Under the NIP developed by the Department of Sustainable Development

(DSD) in the Ministry of Education, Innovation, Gender Relations and Sustainable Development and for proposing the interagency PFAS/Chemicals Task force, this task force will be built based on the Project Working Committee (PWC), a coordination mechanism built into the GEF 5558 project, which had financial support provided by the Global Environment Facility (GEF), and technical support facilitated by the BCRC Caribbean. The PWC comprises of representatives from all national agencies relevant to the management of POPs/UOPs (including the Pesticides and Toxic Chemicals Control Board - PTCCB, Saint Lucia Solid Waste Management Authority - SLSWMA, Saint Lucia Fire Service, Saint Lucia Electricity Services Limited - LUCELEC, Saint Lucia Chamber of Commerce, Ministry of agriculture forestry planning and Natural Resource (MOAFPNRC), Customs and Excise, Department of Health, Department of Labour, The Central Statistical Office of Saint Lucia, Department of sustainable development (DSD), Department of Commerce and Industry).

Together, these measures close the current gaps across chemicals, trade, standards, firefighting practice, public health and waste, and ensure PFAS foams cannot re-enter the market after phase-out.

The activities or actions proposed under this output consider the detail actions defined in the following table:

Table 6. activities or actions proposed under the output 1.1

Step / Action	Instrument & Legal Basis	Lead Agency / Partners	Purpose & Scope	Timeline
1. Draft primary legal control	Amend the Pesticides and Toxic Chemicals Control Act, Cap. 11.15 (or enact short POPs/PFAS Control Act)	Dept. of Sustainable Development (DSD) with Attorney General's Chambers; input from SLFS, SLSWMA, Standards Bureau, Customs	- Define PFAS & related POPs in law. - Prohibit the import, sale, and use of PFAS-containing firefighting foams. - Empower regulators to issue standards, orders, inspect, seize, and penalize non-compliance.	Months 1–6 (drafting, stakeholder review, and engagement)
2. Cabinet submission & parliamentary process	Bill for amendment/new Act	DSD & AG's Chambers	Secure political approval and enactment.	Months 6–9
3. Prohibit import via trade controls	Restricted/Prohibited Imports Order under the External Trade Act, Cap. 13.11	Ministry of Commerce / Customs & Excise	- Add PFAS foams & precursors to restricted/prohibited schedules. - Allow licenses only for waste export/destruction, including extended responsibilities.	Months 4–12 (parallel to Bill drafting)
4. Set a compulsory technical standard	Compulsory National Standard under the Standards Act, Cap. 13.25	Saint Lucia Bureau of Standards	- ICAO/IMO-compliant PFAS-free foam specifications. - Mandatory for public procurement & sale. - Cross-referenced in Fire Service SOPs.	Months 6– 20
5. Update operational regulations	Fire Service Regulations under the Fire Service Act, Cap. 14.04	SLFS with DSD, Ministry of Home Affairs	- Mandate PFAS-free foam use. - Require decontamination of tanks, capture of rinse water.	Months 8–20

Step / Action	Instrument & Legal Basis	Lead Agency / Partners	Purpose & Scope	Timeline
			- Ban training discharges of PFAS foams.	
6. Classify PFAS waste as hazardous	Waste Management (Hazardous Waste) Regulations amendment under Cap. 6.05	SLSWMA with DSD	- Include PFAS foams/rinse water. - Specify storage, labelling, and export for destruction.	Months 8–20
7. Prohibit environmental releases	Public Health Regulations / Orders under Cap. 11.01	Ministry of Health with DSD	- Declare PFAS foam releases are hazardous to health. - Empower clean-up orders.	Months 9–24
8. Embed in procurement rules	Government Procurement Manual update	Dept. of Finance / Central Tenders Board	- Require PFAS-free specs & supplier declarations. - Include testing & certification requirements. - Include extended responsibilities	Months 9–20
9. Establish enforcement coordination	Cabinet-approved Inter-agency PFAS Task Force	DSD (chair), with SLFS, Customs, Standards Bureau, SLSWMA, Health, Ports/Airports Authority	- Coordinate inspections, information-sharing, and reporting. - Align with Stockholm NIP & Blue Economy Strategy.	Month 1 , operational throughout the project
10. Build enforcement & compliance capacity	Training programmes (non-statutory but tied to regulations)	SLFS, Customs, Standards, SLSWMA, DSD	- Train officers on new laws, inspection protocols, labelling checks, and sampling. - Educate industry on compliance requirements.	Months 10–24

The implementation approach will follow Saint Lucia’s legal hierarchy, ensuring that amendments to a primary Act or the passage of a new Act take precedence, thereby providing a clear legal basis for any subsidiary instruments. However, where the Attorney General’s Chambers confirms that existing legislative powers are sufficient, certain measures—such as trade restrictions on PFAS foams and the adoption of compulsory PFAS-free standards—can be fast-tracked and implemented before the full Act amendment is completed. All new laws, regulations, and standards will be carefully integrated, with cross-references to ensure consistency and avoid legal fragmentation. Throughout the process, targeted stakeholder meetings will be held at key stages to secure the support and cooperation of industry operators, the fire service, ports and airports authorities, and waste management entities.

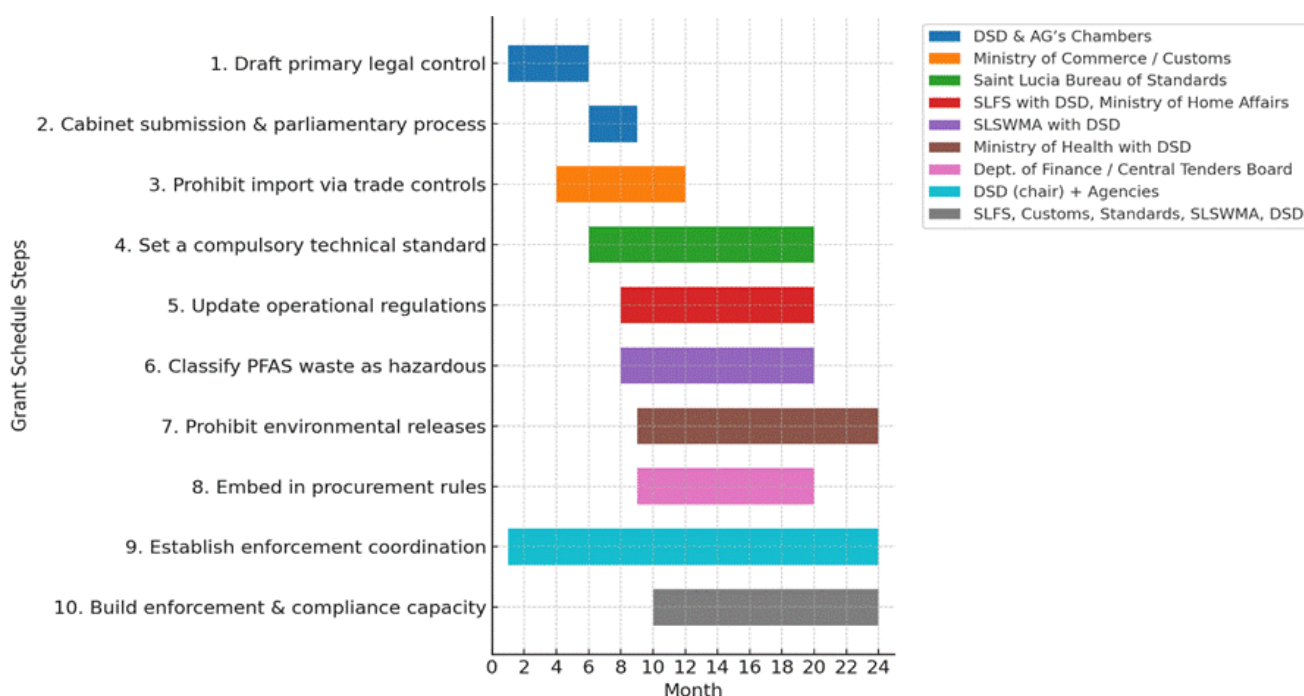


Figure 11. GRANT SCHEDULE STEPS

This output also integrates PFAS-free requirements into Saint Lucia's procurement systems. Public procurement rules will be revised to mandate PFAS-free foam specifications that meet ICAO/IMO performance standards, backed by supplier declarations and laboratory certifications; this could also be replicated in the private sector. These requirements will be embedded as mandatory evaluation criteria for tenders and extended to private-sector operators in regulated high-risk sectors such as ports, airports, and energy facilities. This approach ensures uniform compliance across the economy, reducing the risk of inconsistent standards between sectors.

Enforcement will be coordinated then through an Inter-Agency PFAS/Chemicals Compliance Task Force, bringing together key agencies, including the Department of Sustainable Development, Customs, the Saint Lucia Bureau of Standards, the Solid Waste Management Authority, and the Ministry of Health, with the Saint Lucia Fire Service participating in a technical advisory role given its operational use of foams. Its activities will be aligned with the Stockholm Convention NIP and national climate/blue-economy strategies and reinforced by targeted training for customs and inspector officers. This body will coordinate inspections at import points, storage facilities, and operational sites, share intelligence on non-compliant products, and apply proportionate penalties, including fines, seizure of PFAS foams, suspension of licenses for repeat offenders, and mandatory clean-up and disposal orders. Verification will come from legislative records, updated procurement templates, customs and inspection reports, and consultation documentation.

Key activities will include drafting and enacting the prohibition legislation, revising procurement and import control frameworks, and formalizing the inter-agency coordination mechanism. Performance will be measured through the publication of the PFAS ban in the Official Gazette or official legal-binding instrument, the proportion of inspected facilities in full compliance with the ban, and the number of customs inspections preventing PFAS foam

imports. Together, these measures will ensure that Saint Lucia's PFAS-free transition is not only legally binding but also operationally enforceable and sustainable in the long term.

Output 1.2. Institutionalized compliance framework with technical standards, enforcement mechanisms, and stakeholder readiness

This output will ensure that Saint Lucia's PFAS phase-out is not only a matter of law but also a fully operationalized and sustainable system embedded in day-to-day practice. It will establish ICAO/IMO-compliant PFAS-free technical standards and detailed standard operating procedures (SOPs) for foam selection, handling, storage, and environmentally sound disposal, including decontamination of storage tanks and containment of rinse water. These standards will be adopted as Compulsory National Standards under the Standards Act (Cap. 13:25) and incorporated into operational manuals for the Saint Lucia Fire Service (SLFS), ports, airports, and high-risk industrial facilities.

As described with more detail in the regulatory framework, Saint Lucia maintains a robust framework for managing fire and chemical hazards, combining legal, environmental, and emergency response measures. The Labour Act requires industrial facilities handling flammable liquids to obtain fire safety certification from the Chief Fire Officer every 24 months, with penalties for non-compliance. Utilities such as LUCELEC enforce strict handling standards, including proper ventilation, sealed containers, and safe dispensing practices. The National Energy Policy mandates environmentally sound storage and transport of petroleum products, supported by an Oil Spill Contingency Plan coordinated by NEMO and the Oil Spill Action Committee (OPAC). In hazardous incidents, NEMO leads a structured response with the Police, Health Ministry, and SLUSWMA, ensuring containment, cleanup, and public communication in line with international safety and environmental standards.

To ensure the actual and timely implementation of such framework, enforcement capacity will be strengthened through the creation of an Inter-Agency PFAS Task Force, formally mandated to coordinate inspections, share intelligence, and track compliance. The Task Force will be supported by a trained cadre of inspectors, customs officers, and procurement officials, equipped with checklists, testing protocols, and the necessary legal authority to verify compliance at points of import, storage depots, and operational facilities.

Stakeholder readiness will be advanced through structured consultations with private sector operators, including energy companies, port operators, and industrial facilities, as well as targeted engagement with first responders and community representatives. These consultations will clarify regulatory requirements, address operational concerns, and build confidence in the performance of PFAS-free foams. National awareness campaigns will be launched to inform the broader public about the health and environmental risks posed by PFAS and the benefits of phasing them out. Practical demonstrations of ICAO/IMO-compliant PFAS-free foams will be staged at key facilities to showcase their effectiveness and build trust among users.

Risks such as legislative delays, insufficient enforcement resources, and stakeholder resistance will be mitigated through early political engagement to secure government backing, targeted budget allocations for enforcement agencies, and transparent, hands-on demonstrations of PFAS-free technology.

Key activities under Output 1.2 will include:

- Developing PFAS-free technical standards and SOPs in line with ICAO, IMO, and Stockholm Convention guidance.
- Delivering training for enforcement agencies, customs, and procurement officials.
- Conducting national and sector-specific stakeholder engagement.
- Implementing public awareness and outreach campaigns.

Performance will be measured through indicators such as:

- Number of approved PFAS-free technical standards and SOPs formally adopted.
- Percentage of inspected facilities meeting PFAS-free operational requirements.
- Number of enforcement and customs officers trained.
- Number of stakeholder engagement events and participants reached.

Through this output (1.2), the PFAS ban established under Output 1.1 will be reinforced by an operational framework that ensures compliance becomes routine practice, thereby securing the long-term sustainability of the PFAS phase-out. Implementation of the compliance framework will include the use of sex-disaggregated data and indicators, as established in the Gender Action Plan.

COMPONENT 2. Phase out PFAS-related firefighting foams and transition to alternatives

This component operationalizes the phase-out of PFAS-containing firefighting foams and the transition to fluorine-free alternatives across all priority facilities in Saint Lucia. It focuses on the safe removal, decontamination and environmentally sound management of PFAS foams and residues, while retrofitting systems to accommodate ICAO/IMO-compliant fluorine-free foams without compromising fire safety. Through a risk-based national phase-out plan, engineering modifications, hazardous waste handling, and the establishment of a PFAS contamination monitoring and tracking system, this component creates a functioning national infrastructure for PFAS elimination, compliance verification and risk management. In doing so, it protects soil, groundwater and marine environments, safeguards communities and critical coastal resources, and ensures that Saint Lucia's firefighting operations are both PFAS-free and fully aligned with Stockholm Convention obligations and best international practice.

The implementation of the PFAS phase-out and disposal system will take into account the gender-differentiated exposure pathways identified in the Gender Analysis and Action Plan. The GAP highlights that men are predominantly represented in firefighting and industrial roles with direct occupational exposure, while women are more exposed through community and household pathways, including water use, food preparation, and caregiving responsibilities. In response, project activities will ensure that training, monitoring, and implementation processes are accessible to both women and men and reflect their different roles and exposure patterns.

Outcome 2. National system in place for PFAS foam phase-out, contamination monitoring, and compliance verification

The project will fully replace PFAS-containing firefighting foams with ICAO/IMO compliant fluorine-free alternatives across all 12 identified facilities and implement targeted retrofitting to eliminate PFAS releases from firefighting operations in Saint Lucia. Each site will be equipped with fluorine-free foams, climate-resilient containment systems for runoff and rinse water, and secure hazardous waste storage to prevent contamination of soil, groundwater, and marine environments, including during extreme weather events.

The outcome includes the foams phase-out plan developed and implemented, including decontamination of tanks, distribution systems, and associated equipment, and the management of PFAS-contaminated rinse waters and residues as hazardous waste. National guidelines, operational protocols, and training programs will strengthen the capacity of public and private operators, including fire services, ports, airports, and industrial facilities, to manage PFAS safely and in compliance with the Waste Management Act (Cap. 6.05).

Implementation will be guided by a national PFAS foam management plan, beginning with laboratory testing of all stored foams to quantify PFAS to be removed and engineering assessments to define retrofitting needs, prioritizing environmentally sensitive locations such as Buckeye. Activities include engineering surveys, ISO 17025 laboratory verification, GIS-based foam inventory mapping, and integration into national hazardous waste systems. All equipment will be thoroughly decontaminated, and all rinse waters and residual wastes managed as hazardous waste.

The project will also establish a national PFAS monitoring and control system combining sampling, laboratory analysis, digital tracking, and regulatory oversight. Baseline and follow-up monitoring will be conducted at four confirmed release sites, and Phase II Environmental Site Assessments will identify contamination in soil, surface water, and sensitive environments. A centralized digital tracking platform and contamination database will support inspections, reporting, and enforcement.

Together, these actions will create a long-term national framework for PFAS elimination, compliance, and risk management, protecting public health, ecosystems, and coastal resources while ensuring alignment with the Stockholm Convention.

Output 2.1. Integrated Plan for PFAS Foam Risk-Based Phase-Out, System Conversion, and Environmentally Sound Disposal

This output will serve as the operational blueprint for eliminating PFAS-containing firefighting foams from Saint Lucia's fire service, industrial, and transport facilities. It will ensure that the phase-out is systematic, safe, and aligned with Stockholm/Basel Convention Best Available Techniques (BAT) and Best Environmental Practices (BEP).

The Integrated National Plan for PFAS Foam Risk-Based Phase-Out, System Conversion, and Environmentally Sound Disposal will identify and prioritize facilities holding PFAS foams for urgent action, taking into account:

- **Environmental and social sensitivity:** such as proximity to groundwater, rivers, marine ecosystems, protected areas, social activities, and communities nearby.

Therefore, throughout the activities, the project will ensure the effective application of the Environmental and Social Management Plan (ESMP) created for the project, activities in the budget have already considered all mitigation actions defined in the ESMP.

- **Operational risk:** Assessment of the likelihood of PFAS foam deployment based on the facility's hazards and evaluating the feasibility of integrating adaptable engineering solutions for new foam technologies.

In accordance with the National Fire Protection Association (NFPA) (a global, nonprofit organization established in 1896 that is dedicated to eliminating death, injury, and economic loss from fire, electrical, and related hazards), whereas AFFF was a plug-and-play, one-size-fits-all foam that could handle nearly every job without much consideration, the new foams are more specialized and require firefighters to be intentional in how they use them if the foams are to be effective. In this new world, fire departments must consider the types of incidents they are likely to encounter before choosing which foams to purchase. Currently, 25 fluorine-free foams have passed UL 162, the primary standard for firefighting foam equipment and liquid concentrates used for Class B flammable liquid fires. Additionally, departments must make sure firefighters understand how to apply each type of foam correctly. None of these complexities were part of the equation with AFFF¹¹³⁶.

By partnering with industry stakeholders, the project ensures scalable and practical implementation of PFAS management, aligning business practices with national environmental and health goals. For instance, the project will involve the Buckeye Global Marine Terminal in Saint Lucia, designed to handle very large crude carriers (VLCCs) with deep-water access. The terminal is part of a larger network of storage and trans-shipment facilities operated by Buckeye Partners, which has a total Caribbean storage capacity exceeding 40 million barrels across locations like the Bahamas and Puerto Rico. Involvement with Buckeye Partners not only provides co-financing opportunities but also facilitates the replication of projects in other countries within the group.

- **Condition and volume of foam stocks:** age, stability, and quantity of stored foam.

The ultimate objective is to eliminate all PFAS foam stocks from the 12 main national facilities, and through legislation expand the phase-out nationally, while ensuring their secure containment, interim storage, and environmentally sound final disposal abroad.

To replace PFAS-based AFFF, the project will procure ICAO- and EN-certified fluorine-free (F3) foams that meet strict performance and environmental criteria (see *Technical Annex on Selection, Sourcing and Implementing New Fluorine-Free Foam*). This ensures ICAO/IMO-compliant, PFAS-free firefighting capacity with full traceability and environmental safeguards.

Plan schedule

The Plan will adopt a phased implementation schedule over 18–28 months in table 7:

Table 7. Integrated Plan for PFAS Foam Risk-Based Phase-Out, System Conversion, and Environmentally Sound Disposal

Schedule/Activity	Actions
Months 1–3 – Activity 2.1.1 Mobilization, Risk Assessment, and Engineering Feasibility	• Confirm PFAS foam volumes through ISO 17025 testing. • Rank the 12 facilities by environmental sensitivity and operational risk (Tier 1, 2, 3). • Conduct engineering compatibility assessments for fluorine-free foam (FFF) introduction. • Identify modification requirements, technical feasibility studies, and cost estimates.
Months 6–12 – Activity 2.1.1 Procurement & Immediate Actions for Tier 1	• Procure ICAO/IMO-compliant fluorine-free foams for Tier 1 facilities. • Order modification parts and hardware for proportioners, tanks, and distribution systems, considering that: ○ The foam concentrate must be delivered in new containers designed for long-term storage, including potential UV exposure. Each container should be sealed by the original manufacturer and prominently marked with the manufacturing date and a unique batch number. ○ The foam concentrate shall be produced in a facility that has completely segregated production and packaging vessels, pipework dedicated to the manufacture of non-fluorinated foam without the possibility of contamination from the usage of other foam types. ○ The manufacturer shall provide 24-hour emergency call service and shall advise minimum stock levels, locations, and typical deployment times for emergency supplies. ○ The manufacturer shall describe any recommended constraints on the selection of materials for valve seats or gaskets to be used with the concentrate. • Begin removal of PFAS foams from Tier 1 sites and transfer to interim storage. • Launch procurement for Tier 2 facility requirements in parallel.
Months 6–12 – Activity 2.1.1 Tier 1 Foam Replacement & Tier 2 Modifications	• Complete modifications and introduce FFF at Tier 1 facilities. • Start modifications at Tier 2 facilities. • Remove PFAS foams from Tier 2 facilities and place them into secure interim storage.
Months 6–20 – Activity 2.1.1 Tier 2 Foam Replacement & Tier 3 Preparations	• Introduce FFF at Tier 2 facilities. • Begin engineering works at Tier 3 facilities. • Continue PFAS foam removal from Tier 3 sites.
Months 6–24 – Activity 2.1.1 Tier 3 Foam Replacement & Consolidation	• Install modifications and introduce FFF at Tier 3 facilities. • Complete collection of all PFAS foams, contaminated rinse waters, and equipment.
Months 6–20 – Activity 2.1.1 Export Preparation & Documentation	• Package all PFAS waste in UN-approved containers. • Complete Basel Convention notifications, permits, and contracts with overseas destruction facility. • Conduct final inspections and PFAS-free verification at all facilities.
Months 21–28 – Activity 2.1.1 Waste Export & Project Closure	• Ship PFAS waste abroad for certified destruction (high-temperature incineration or equivalent). • Obtain destruction certificates and compliance verification. • Deliver final project report to government and international partners.

The plan targets the completion of all foam replacement activities and necessary system modifications, allocating time to comprehensive export preparations, permitting processes, and international shipping arrangements. This sequencing ensures that sufficient time is dedicated to meeting Basel Convention requirements and securing all necessary authorizations, while also providing flexibility to address unforeseen logistical challenges. The phased approach leverages overlapping timelines for procurement, engineering modifications, and foam removal to optimize efficiency without compromising operational

safety, regulatory compliance, or environmental safeguards. Emphasis is placed on the timely acquisition of PFAS-free alternatives, ensuring engineering readiness for foam transitions, and maintaining strong inter-agency coordination throughout the process.

In alignment with these objectives, the plan clearly defines the roles and responsibilities of local stakeholders to ensure a coordinated and accountable implementation process (please refer to the Stakeholder Engagement Plan for a full description of roles and responsibilities).

Furthermore, the main operational procedures to be developed for standard facilities and tailored to each facility will consider the following areas of development:

- **Collection:** Controlled removal using trained hazardous materials teams, with PPE and spill-prevention measures.
- **Storage:** Transfer into UN-approved hazardous waste containers; secure interim storage at a designated national hazardous waste facility.
- **Decontamination:** Cleaning of tanks, proportioners, hydrants, and pipelines; containment of all rinse water in sealed containers.
- **Transport and Export:** Licensed hazardous waste transport to port; export under Basel Convention protocols to an overseas facility with certified PFAS destruction technology (e.g., high-temperature incineration).
- **Documentation:** Chain-of-custody records, waste manifests, and destruction certificates to confirm compliance.

The Plan will include a monitoring framework with indicators such as:

- % of high-priority facilities cleared within the first 12 months.
- Total volume of PFAS foams removed.
- Number of decontaminated systems certified PFAS-free.
- Confirmation of destruction from overseas facilities.

Complementarily, the ESMP provides extensive detail about the main environmental and social risks and impacts, showing whether each is positive or negative, along with its assessed severity, significance, and the expected residual impact after mitigation. It also details responsibilities, technical specifics, and timelines. Please refer to the ESMP document in the annexes.

Output 2.2. PFAS Contamination Monitoring and Compliance Verification System

This output will establish a systematic approach to monitoring PFAS contamination levels in potentially affected environmental media such as soil and surface water near high-risk facilities. Activities will include baseline sampling and ISO 17025-accredited laboratory analysis, periodic follow-up at key milestones (post-removal, post-system conversion), and the creation of a PFAS contamination database integrated with national hazardous substances inventories. The system will also include the repository of site inspection protocols, compliance checklists, and reporting templates for regulatory agencies to verify the complete removal of PFAS foams and successful commissioning of PFAS-free systems

created in the previous components. A computerized system for accurately monitoring the import, use, and disposal of firefighting foams by all professional users on the island is a particular need raised by the government in previous studies. Results will inform risk communication, guide any required remediation, and serve as a compliance record under the Stockholm Convention.

Following site surveys conducted in 2025, UNIDO confirmed that PFAS-containing firefighting foams have been released at four locations in Saint Lucia: the Buckeye Global Marine Terminal, the Crash Fire Hall, the Fire Service Training School, and the G.F.L. Charles Fire Hall. Historical records indicate that these releases occurred at varying times: approximately two years ago at the Buckeye facility; six years ago at the G.F.L. Charles Fire Hall (around 1,575 liters); in January 2025 at the Fire Service Training School (approximately 25 liters); and more than a decade ago at the Crash Fire Hall, where an estimated 1,600 liters were discharged.

Table 8. Potential contaminated areas and availability of sampling points for foams (confirmed releases in 4 main locations marked in blue)

Facility	Foam Storage	Sample point and method	Leak and weather protection	Potential contaminated areas	Soil types in the area and suspected contaminated areas	Nearby communities potentially at risk from PFAS exposure
Babonneau Fire Station	On fire truck	Yes. Drain Plug	Partially	Foam storage area	Loamy	Babonneau/ Adjacent to facility
Buckeye Saint Lucia	Indoor, outdoor shed, Fire truck. Note: Pipe diameter: 20", 8" and 6" approx. 60 feet long.. The pipe have flow valves that can be open and closed. At least 6,500 litres of water will be needed to clean the whole system or tank.	Yes. Drain Plug	Partially	Training areas	Clay, Loamy. Suspected contaminated areas covered, paved	Cul De Sac, Ciceron
Crash Fire Hall	On Fire Trucks, Outdoor storage tanks	Yes. Drain Plug	Partially	Previous final disposal of foams has happened and was dumped on compound. Current potential contaminated areas include training areas, burn pits, soil near storage tanks	Loamy. Suspected contaminated areas vegetated	Bruce Ville
Dennerly Fire Station	On fire truck	Yes. Drain Plug	Partially	Foam storage area	Sandy, Loam. Rocky. However, foams are in the storage tank on truck	La Point/ located less than 100 meters
Fire Service Headquarters	On Fire Trucks	Yes. Drain Plug	Partially	Foam Storage area	Sandy, Loamy. However, foams are in the storage tank on truck	Faux-a-Chaux, located at 100 metres
Fire Service Training School	Indoors	Yes. Drain	Partially	Foam application zones, burn pits	Loamy. Suspected contaminated areas are vegetated	No
G.F.L.Charles Fire Hall	Indoor, outdoors, on fire trucks	Yes. Scoop	Partially	Foam application zone, natural water body nearby	Sandy, Loamy. Suspected contaminated areas vegetated	San Sousi, La Clery, located at 200 metres
Gros Islet Fire Station	One Fire truck	Yes. Drain Plug	Partially	Foam storage area	Loamy, Sandy	Gros Islet Town, located at 75 metres
LUCELEC	Indoor	No	yes	No identified	N/A	Monkey Town, Ciceron

Micoud Fire Station	On fire truck	Yes. Drain Plug	Partially	Foam storage area	Loamy/Sandy	No
Soufriere Fire Station	On Fire Trucks	Yes. Scoop	Partially	Foam storage area	Sandy, Clay, Loamy. Suspected contaminated areas covered, paved	Soufriere town. Located less than 50 metres
Vieux Fort Fire Station	On fire truck	Yes. Drain Plug	Partially	Training area, natural water body near site	Sandy, Loamy. Suspected contaminated areas covered, paved, and vegetated	Contonment. Located at 100 meters



Figure – Fire Service Training area



Figure – Fire Buckeye (oil storage)

Environmental sensitivity assessments suggest that releases at Buckeye and Crash Fire Hall may have impacted nearby natural areas. The Buckeye site is located within 100 meters of both a river and groundwater wells, while the Crash Fire Hall is situated between 100 and 500 meters from a river. The Fire Service Training School lies approximately 500 meters from a river, and the G.F.L. Charles Fire Hall is less than 100 meters from the coastline, increasing the risk of marine exposure.

No foam releases have been recorded at LUCELEC, and most fire stations report little to no historical discharge. However, the Buckeye Terminal, Crash Fire Hall, and Fire Service Training School—along with the G.F.L. Charles Fire Hall—remain as priority sites due to documented releases and proximity to sensitive environmental receptors.

To address these risks, the project will undertake Phase II Environmental Site Assessments (ESAs) at the four identified locations, following internationally recognized standards such as ASTM E1527 or the Canadian Standards Association's CSA Z768-01. These assessments will include targeted soil and water sampling, laboratory analysis, and contamination pathway evaluations to determine the presence, concentration, and extent of PFAS contamination.

A detailed site profile will accompany the ESA preparation, describing existing sampling points for foam characterization, the potential for contamination, the local soil types, and the nearby communities that may be at risk from PFAS exposure. This evidence-based approach will inform remediation priorities, guide mitigation measures, and support compliance with the Stockholm Convention's Best Available Techniques and Best Environmental Practices (BAT/BEP).

At present, there are no publicly available studies specifically assessing the impact of per- and polyfluoroalkyl substances (PFAS) on marine species in Saint Lucia. Nonetheless, the global scientific community has established that PFAS are highly persistent environmental pollutants capable of bioaccumulating in marine ecosystems, with the potential to cause adverse effects on both wildlife and human health. Given Saint Lucia's dependence on its coastal and marine resources—for food security, livelihoods, and tourism—it is critical to consider the broader implications of PFAS contamination and the associated risks to marine biodiversity.

The Phase II Environmental Site Assessment (ESA) will therefore include the establishment of baseline studies to identify and quantify potential PFAS migration into water bodies surrounding high-risk facilities. These baseline investigations will provide essential data to inform risk management strategies and guide the implementation of effective mitigation measures. By generating this knowledge, Saint Lucia will be better positioned to address the potential impacts of PFAS on its marine ecosystems, thereby safeguarding the long-term health, productivity, and sustainability of its coastal and marine resources.

Across the wider Caribbean region, including Saint Lucia, there remains a significant gap in PFOS contamination monitoring, particularly within environmental media and food chains. This output offers a valuable opportunity to create comprehensive release baselines that could serve as the foundation for sustained monitoring of both groundwater and surface water for PFOS, as well as biomonitoring of biodiversity populations likely to be exposed. Such efforts would not only support national environmental protection goals but also contribute to regional scientific knowledge and compliance with global chemical safety obligations.

The specific activities to be undertaken under this output are detailed in the table 9 below.

Table 9. Specific activities in the output 2.2

Activity	Lead Role	Supporting Roles	Key Responsibilities	Performance Indicators
2.2.1. Develop PFAS monitoring protocols and inspection checklists	SLBS	DSD, International Consultant	Draft and approve standardized sampling methods, lab QA/QC, and inspection forms.	Approved protocol; inspection checklists published.
2.2.2. Baseline sampling & ISO 17025 lab analysis	Accredited Laboratory	SLBS, SLFS, Private Operators	Sample 4 facilities and sensitive environments; analyze PFAS concentrations.	Baseline contamination database complete; % facilities sampled.
2.2.3. Compliance inspections post-removal and post-conversion	SLBS	SLFS, DSD, Customs	Verify PFAS removal, correct labeling, SOP use, and safe storage.	% facilities passing inspections; corrective actions closed.
2.2.4. Develop computerized foam inventory/tracking system	DSD	SLBS, SWMA, SLFS, Private Operators	Deploy and validate a centralized real-time tracking platform for foam stocks, movements, and disposal status.	System operational; % facilities submitting monthly updates.

2.2.5. Train system users and data managers	DSD	SLBS, ICT Unit, Private Operators	Train facility managers and inspectors; enforce data accuracy standards.	% trained users; >95% monthly data accuracy.
2.2.6. Establish PFAS contaminated sites database	DSD	SLBS, SWMA	Maintain contamination and compliance data linked to foam tracking. Identify contaminated sites	Database updated quarterly; data accessible to authorized agencies.
2.2.7. Stakeholder & public reporting (to be linked in output 4.1 PIR obligations)	DSD	SLBS, Ministry of Health	Publish annual PFAS monitoring summaries; manage sensitive data.	Annual report released and disseminated.

Then, Output 2.2 will focus on establishing a comprehensive PFAS contamination monitoring system for Saint Lucia, ensuring both regulatory compliance and effective environmental protection. It integrates a computerized foam inventory and tracking platform to enable real-time oversight of firefighting foams and potential PFAS-containing foams and chemicals—covering volumes, locations, usage history, and disposal status across all fire service, industrial, and transport facilities. This system helps identify high-risk sites early and supports coordinated responses between agencies.

The output also includes designing and implementing Phase II Environmental Site Assessments (ESAs) at facilities with a history of PFAS foam releases, such as Buckeye, Crash Fire Hall, G.F.L. Charles Fire Hall, and the Fire Service Training School—following ASTM E1527 or CSA Z768-01 standards. These ESAs will use soil and water sampling to create contamination baselines, track pollutant migration, and assess potential impacts on near rivers, marine environments, and nearby communities. Due to the limited knowledge regarding the amount of contaminated soil or water in areas exposed to firefighting foam releases, the scope of this project focuses on identifying such contamination, rather than its treatment. However, this identification will generate a realistic estimate of potential treatment and management costs for contaminated sites in future projects.

Data generated will be stored in a centralized, accessible database linked with the foam tracking platform, allowing the Department of Sustainable Development, the Saint Lucia Fire Service, and the Saint Lucia Solid Waste Management Authority to monitor compliance, guide decisions, and prioritize cleanup efforts. The system will also track engineering modifications for foam system conversions and record the performance of PFAS-free alternatives after installation (considering links with component 2).

Additionally, Output 2.2 will include training for enforcement agencies, environmental inspectors, and facility operators on PFAS monitoring, sample collection, chain-of-custody procedures, and data reporting. This helps ensure long-term sustainability, meets Stockholm Convention obligations, and provides the technical foundation for ongoing national PFAS monitoring in environmental media, as well as potentially in affected biodiversity populations. Monitoring systems will incorporate sex-disaggregated data collection, as defined in the Gender Action Plan, to track participation and exposure-related outcomes.

COMPONENT 3. Knowledge Management and Capacity Building

This component strengthens national technical capacity, institutional readiness, and public awareness to ensure a safe, effective, and lasting transition away from PFAS containing firefighting foams. It focuses on building the practical skills, operational competencies, and regulatory understanding required for government agencies, the Saint Lucia Fire Service, private sector operators, and communities to adopt and maintain fluorine-free alternatives.

By combining structured training programs, certification pathways, targeted communication, and broad stakeholder engagement, this component ensures that knowledge is effectively transferred, institutionalized, and disseminated across sectors. It also establishes the foundations for long-term compliance, improved environmental stewardship, and sustained national expertise in PFAS-free firefighting and hazardous chemical management.

Capacity-building and knowledge management activities will be implemented in line with the Gender Analysis and Action Plan, which identifies disparities in workforce participation, access to decision-making, and exposure to PFAS risks. The GAP notes that women have higher levels of tertiary education but are underrepresented in technical and leadership roles, while men dominate operational roles with higher occupational exposure. In this context, training and awareness activities will promote inclusive participation, support the involvement of women in technical and environmental roles, and ensure that knowledge dissemination reflects the different needs and roles of women and men.

Outcome 3. Improved and disseminated knowledge, training, and capacity building on the phasing out of PFAS-related firefighting foams in the Fire Department and the private sector

This outcome is designed to strengthen technical expertise, operational readiness, and stakeholder engagement, ensuring a smooth, compliant, and sustainable transition away from PFAS-containing foams. This outcome focuses on equipping government agencies, emergency responders, private sector operators, and communities with the skills, resources, and awareness necessary to adopt and maintain PFAS-free alternatives in accordance with national regulations and international obligations. It emphasizes both practical capacity building and wide-reaching awareness efforts to ensure long-term compliance and effective implementation.

The scope considers establishing and implementing a standardized national training curriculum tailored to the operational realities of Saint Lucia's fire service, ports, airports, fuel depots, and industrial facilities. The program will address the safe removal and disposal of foams, the conversion and maintenance of firefighting systems to accommodate PFAS-free alternatives, correct proportioning, application, and storage of fluorine-free foams, hazardous waste handling, and emergency response protocols in line with ICAO, IMO, and Stockholm Convention standards. Training will combine classroom instruction with hands-on exercises, including "train-the-trainer" sessions to ensure sustained knowledge transfer. Participants who meet competency requirements will receive formal certification, contributing to the creation of a national roster of certified PFAS-free firefighting operators and inspectors.

The Saint Lucia Fire Service has 287 people in firefighting and operational roles, with 15 administrative and support roles, under the supervision of 9 senior leadership roles^{[2]³⁷}. The activities of this project will train 287 individuals in firefighting and operational roles, with a focus on the 199 Firemen/firewomen (approximately 20% female and 80% male firefighters).

On the other hand, under the stakeholder engagement plan, a campaign will implement a targeted, multi-channel communication strategy to ensure stakeholders at all levels understand the risks of PFAS, the legal requirements for phase-out, and the operational procedures for

PFAS-free systems. This will involve the development of technical guidance documents, SOP manuals, and visual training aids; the organization of national workshops, industry-specific meetings, and community briefings; and the establishment of an online resource hub featuring training videos, regulatory updates, and technical standards. The campaign will engage decision-makers, procurement officers, facility managers, and front-line responders, fostering a shared understanding of the rationale behind the phase-out, the benefits of alternatives, and the steps necessary for safe and compliant operations.

Output 3.1. Comprehensive Training and Certification Program for PFAS-Free Firefighting Operations

This output will focus on equipping firefighting personnel, industrial operators, and relevant stakeholders with the technical skills needed to transition from PFAS-based foams to ICAO/IMO-compliant fluorine-free alternatives. The program will begin with the development of a nationally recognized training curriculum and modules that address PFAS risks, foam removal, equipment conversion, application of alternative foams, hazardous waste handling, and compliance with international standards. A “train-the-trainer” approach will be used to build a cadre of at least 15 certified in-country instructors by month 6, enabling sustainable capacity retention. Regionalized training sessions will be delivered to all fire stations, airports, ports, and high-risk industrial facilities, with at least 90% coverage by Month 18. Practical drills will be conducted for foam deployment and runoff containment, and national certification will be issued to at least 80% of trained personnel by month 20, with a registry maintained by the Saint Lucia Fire Service.

Table 10. Activities of output 3.1

Activities	Lead & Supporting Roles	Performance Indicators
3.1.1 Develop national training curriculum and modules covering PFAS risks, foam removal, equipment conversion, application of fluorine-free foams, hazardous waste handling, and ICAO/IMO standards.	Lead: Department of Sustainable Development (DSD) Support: Saint Lucia Fire Service (SLFS), Saint Lucia Bureau of Standards (SLBS), regional/international technical experts	Curriculum approved by SLFS and SLBS within the first 4 months.
3.1.2 Conduct “train-the-trainer” program to create certified in-country instructors.	Lead: SLFS Support: International fire safety consultants, SLBS	At least 15 trainers certified by Month 6.
3.1.3 Deliver regionalized training sessions for all fire stations, airports, ports, and high-risk industrial facilities.	Lead: SLFS Support: Private sector operators, Port/Airport Authorities, industry associations	Minimum 90% of targeted facilities trained by Month 18.
3.1.4 Conduct practical drills for PFAS-free foam deployment, including commissioning tests and runoff containment procedures.	Lead: SLFS Support: Environmental Health Department, Solid Waste Management Authority (SWMA)	Minimum 12 drills conducted (1 per facility).
3.1.5 Issue national certification program for trained personnel, with registry maintained by SLFS.	Lead: SLFS Support: SLBS, DSD	80% of trained personnel with a certification by Month 24.

Fluorine-free firefighting foam has different characteristics compared to PFAS-based AFFF. A training for firefighters should aim to familiarize first responders with the different characteristics to gain trust in the new foam type. The tactical application of foam is as important as the selection of the foam concentrate itself. Applying foam without a deeper understanding of its performance and fire-extinguishing mechanism can lead to the failure of a foam attack.

The aim of the training is to understand the issues and the restrictions of PFAS-based foams, to familiarize oneself with the different characteristics of fluorine-free foam, to understand factors that influence the performance of fluorine-free foam, and to understand tactical principles of a successful foam attack. Training activities will be designed in accordance with the Gender Action Plan, including the use of sex-disaggregated indicators and inclusive participation approaches.

Output 3.2. National Awareness, Knowledge Dissemination, and Stakeholder Engagement Campaign

This output will ensure that the PFAS phase-out process is widely understood and supported by government agencies, the private sector, and communities. Communication materials, including brochures, posters, fact sheets, and infographics, will be produced and distributed nationwide by month 6. Stakeholder workshops will be organized with key sectors such as ports, airports, fuel depots, and industrial plants to clarify obligations and operational changes, aiming for at least three workshops with strong sector participation.

A dedicated online PFAS knowledge hub will be launched by month 10, in coordination with the Fire Service, providing technical guidelines, training videos, and regulatory updates, also on social media. The campaign will also include a national media strategy, featuring radio and social media outreach, resulting in a minimum of 6 broadcasts and 12 posts throughout the project. Additionally, community briefings (based on the Gender Action Plan results) will be held to explain local implications and safety measures, especially for fire prevention, targeting 2 meetings and reaching over 800 people from communities.

Table 11. Activities of output 3.2

Activities	Lead & Supporting Roles	Performance Indicators
3.2.1 Develop and distribute PFAS phase-out communication materials (brochures, posters, fact sheets, infographics).	Lead: DSD Support: Government Information Service (GIS), SLFS, SLBS	At least 4 types of materials produced and distributed nationally by Month 6.
3.2.2 Organize stakeholder workshops with industry (ports, airports, fuel depots, industrial plants) to explain obligations and operational changes.	Lead: DSD Support: Chamber of Commerce, Private Operators, SLFS	Minimum 3 workshops held with 75% attendance from targeted sectors.
3.2.3 Create an online PFAS knowledge hub to be continued updated with technical guidelines, training videos, and regulatory updates.	Lead: DSD Support: SLBS, ICT Ministry	Platform live by Month 10.
3.2.4 Conduct national media campaign (radio, social media) highlighting the phase-out process and environmental benefits.	Lead: GIS Support: DSD, Ministry of Health & Environment	6 media broadcasts and 12 social media posts over the project period.
3.2.5 Hold community briefings in high-risk facility zones to explain local implications and safety measures.	Lead: DSD Support: SLFS, Local Government Authorities	2 community meetings conducted, reaching ≥800 residents.

Please refer to the Gender Action Plan for a detailed training plan for the communities. Awareness and stakeholder engagement activities will reflect gender-differentiated roles in exposure pathways and community interactions, as identified in the Gender Analysis. Events of training will be organized by grouping the communities as follows for specific community training:

1. Crash Fire Hall, Fire Service Training School & Vieux Fort Fire Station

2. Fire Service Headquarters & G.F.L.Charles Fire Hall
3. Gros Islet Fire Station
4. Buckeye Saint Lucia & LUCELEC
5. Babonneau Fire Station
6. Dennery Fire Station
7. Soufriere Fire Station
8. Micoud Fire Station

COMPONENT 4. Monitoring and Evaluation

This component establishes the mechanisms needed to ensure that the project's results are tracked, validated, and communicated in a transparent and accountable manner. It provides the monitoring, evaluation, and learning architecture required to assess progress toward PFAS phase-out, institutional strengthening, and Global Environmental Benefits (GEBs). Through a robust results-based framework, systematic data collection, gender-responsive monitoring, and an independent terminal evaluation, this component ensures that the project's outcomes are measurable and verifiable, supports adaptive management throughout implementation, and generates the evidence base for national and regional scaling.

Outcome 4. Effective monitoring and evaluation of performance and GEB impacts achieved

This outcome ensures that the results of the interventions under Outcomes 1–3 are systematically tracked, validated and communicated in alignment with national priorities and GEF reporting requirements. It will design and implement a monitoring and evaluation (M&E) framework consistent with GEF requirements, enabling the project to measure progress toward PFAS phase-out, institutional strengthening, and broader Global Environmental Benefits (GEBs).

The framework will establish baseline metrics, annual review points, and a final project evaluation. Key activities will include the development of a results framework aligned with the GEF Results-Based Management system, periodic collection and analysis of operational and environmental data, and preparation of mandatory GEF reports such as the Project Implementation Reports (PIRs). This framework will monitor outcomes such as the total volume of PFAS foams safely removed and destroyed, the number of facilities converted to PFAS-free systems, and measurable reductions in PFAS contamination levels. It will also track co-benefits, such as improved hazardous waste management capacity and contributions to climate resilience.

Regarding the GEF gender requirements, all projects under the GEF must comply with the GEF Policy on Gender Equality (2017), integrating gender considerations across the project

cycle, including design, implementation, monitoring, and evaluation. Accordingly, a Gender Analysis and socio-economic assessment has been included, identifying baseline gender conditions relevant to the project, assessing how the environmental issue—in this case, PFAS foams—affects women and men differently, and highlighting opportunities for their participation in solutions in this plan through a Gender-Responsive Results Framework. Indicators are sex-disaggregated wherever possible, such as the percentage of women and men trained or the number of women engaged in monitoring in the GEF Core Indicator 11 (direct project beneficiaries disaggregated by gender), and the Gender Action Plan (GAP) defines specific measures to promote gender equality and women's empowerment, assign roles and responsibilities for implementation, and ensure budget allocations for gender actions.

In addition, the project has a clear plan for Monitoring and Reporting, which describes how sex-disaggregated data will be collected and reported, as well as how gender results will be integrated into annual reporting and evaluations.

In line with UNIDO's Gender Mainstreaming Guides and Tools across its design, implementation, and monitoring framework. The GAP establishes clear baselines, risks, and opportunities with a budget assigned for gender-related actions, including gender-responsive training, GBV safeguards, community engagement, and sex-disaggregated monitoring.

The project will also apply all UNIDO Gender Mainstreaming Tools as follows:

- Gender Analysis Matrix informed the design of targeted measures for firefighters (predominantly male) and vulnerable community members (female-headed households, women in fisheries, youth).
- The Gender Marker System will be used annually, with the project aiming for a Gender Marker 2 (fully mainstreamed) rating.
- A Gender-Responsive Results Framework embeds sex-disaggregated indicators.
- Gender-Responsive Budgeting ensures resources are secured for GAP implementation and expert gender support.
- The Stakeholder Engagement Checklist will guide inclusive consultations with fire services, regulators, fisherfolk, and women's organizations for implementation matters, with participation quotas applied by fire station and facilities of interest.
- The M&E Checklist ensures sex-disaggregated reporting, GAP tracking, and gender outcome evaluation.

Through these measures, the project ensures that both women and men benefit equitably from the transition to PFAS-free firefighting systems, while strengthening inclusive institutions and safeguarding national capacity for chemical and waste management.

Output 4.1. GEF Project Performance and Impact Monitoring Framework

This output emphasizes ensuring that the PFAS phase-out initiative in Saint Lucia is carried out efficiently, achieves its intended Global Environmental Benefits (GEBs), and meets all GEF reporting and accountability standards. It establishes a comprehensive monitoring, evaluation, and learning (MEL) system in line with GEF and UNIDO guidelines, enabling transparent tracking of progress and results throughout the project's lifespan.

The framework will start with the development of a results-based monitoring plan that clearly links project outcomes, outputs, and GEB indicators. These will include metrics such as the amount of PFAS foam removed, the decrease in PFAS contamination risks, and the level of institutional and technical capacity built. Baseline data will be gathered early on, with regular monitoring to track progress, supported by final independent evaluation to assess effectiveness and impact.

A key feature of this output is the integration of data from outcome 2. This integration will offer real-time oversight of phase-out milestones and strengthen the evidence base for performance verification. Standardized GEF core indicators and methods will be used to measure environmental impact, including avoided PFAS releases into ecosystems and improvements in hazardous waste management.

The framework will also feature regular review mechanisms, such as quarterly and annual stakeholder meetings, to evaluate performance, address challenges, and make adjustments. Additionally, the project will generate and submit all required GEF reports, including Project Implementation Reports (PIRs), review documents, and the final evaluation. Lessons learned and best practices will be documented to support replication and expansion of other national and regional PFAS phase-out efforts.

By incorporating strong monitoring and evaluation processes, this output will ensure that the project's achievements are measurable, verifiable, and transparently communicated to both national authorities and the GEF, ensuring accountability and maximizing long-term environmental benefits.

The specific activities to be carried out under this output are detailed in the table 12 below.

Table 12. Output 4.1 activities

Activity	Lead Role	Supporting Roles	Key Responsibilities	Performance Indicators
4.1.1. Develop project M&E framework aligned with GEF RBM system	DSD – BCRC Caribbean	GEF Agency, International Consultant	Define results framework indicators and reporting formats.	Approved GEF-aligned M&E plan.
4.1.2. Establish baseline metrics for all indicators including gender	DSD – BCRC Caribbean	SLBS, SLFS, SWMA	Record initial PFAS volumes, contamination levels, facilities converted, and training completion.	Baseline report completed.
4.1.3. Data collection and analysis	DSD – BCRC Caribbean	SLBS, SLFS, SWMA	Compile quarterly data on foam removals, disposal volumes, and compliance.	Quarterly data reports submitted on time.
4.1.4. Prepare GEF-required reports (PIRs, final)	DSD – BCRC Caribbean	GEF Agency, Consultants	Draft and submit Project Implementation Reports and evaluations.	Reports accepted by the GEF Agency.
4.1.5. Monitor Global Environmental Benefits (GEBs)	DSD – BCRC Caribbean	SLBS, SLFS, Ministry of Environment	Measure PFAS pollution reduction, improved hazardous waste management, and climate resilience benefits.	Annual GEB status report issued.

As a result, the project, in general, by systematically building on existing knowledge, documenting and storing new insights, and sharing them through established institutional and regional platforms, will create a durable experience, that not only sustain benefits in Saint Lucia but also contribute to a global evidence base on cost-effective, scalable, and resilient approaches to eliminating persistent organic pollutants in small island contexts.

The project will significantly enhance Saint Lucia's national policy framework by addressing existing regulatory gaps, aligning chemical management laws with international conventions, and improving coherence across sectoral policies. It will introduce legally binding bans on PFAS-containing firefighting foams and embed environmentally sound management requirements into national chemical safety laws and public procurement regulations, ensuring that these substances cannot be imported, sold, or used once the phase-out is complete. PFAS-free requirements will also be incorporated into emergency response, occupational safety, and environmental protection policies, embedding chemical safety standards in the operational norms of multiple sectors.

In addition, the project will strengthen alignment with international obligations under the Stockholm Convention's elimination requirements, the Basel Convention's controls on hazardous waste movement, and ICAO standards for firefighting performance. Policy coherence will be advanced by ensuring that PFAS management is integrated into the National Implementation Plan for POPs, the National Environmental Policy, the Blue Economy strategy, and climate adaptation frameworks. This harmonization will prevent contradictions between environmental protection goals and procurement or operational practices, ensuring that investments in ecosystem resilience are not undermined by chemical pollution.

The Gender Action Plan's implementation will be tracked through Annual Project Implementation Reports (PIRs) and Terminal Evaluation. Results will be reported against sex-disaggregated indicators and aligned with GEF Core Indicator 11 ("Number of direct beneficiaries disaggregated by gender").

GEF Core Indicator 11: *Number of direct project beneficiaries disaggregated by gender.*

Target: At least 800 direct beneficiaries (≥40% women, ≥60% men, reflecting gendered sectoral roles).

The following table 13 describes the gender dimension and sensitive indicators:

Table 13. Gender indicators

Project Outcome	Gender Dimension Integrated	Indicative Gender-Sensitive Indicators
Outcome 1. A regulatory environment conducive to the cessation of the procurement and use of PFAS-related firefighting foams	Women's participation in policy consultations and inclusion of gender focal points in the inter-agency PFAS Task Force.	• # of women/men participating in policy consultations (target: 40% women) • # of ministries with gender focal points engaged in the Task Force
Outcome 2. National system in place for PFAS foam phase-out, contamination monitoring, and compliance verification	Firefighters (majority men) trained on safe handling and alternatives; ensure outreach for women technicians/engineers in retrofit, monitoring, and compliance roles.	• # of people trained in PFAS-free operations (target: 150) • # of women trained in compliance roles (target: ≥20) • % of training sessions with 20% women participants

Outcome 3. Improved and disseminated knowledge, training, and capacity building on the phasing out of PFAS-related firefighting foams in the Fire Department and the private sector.	Leverage women's higher tertiary education rates by engaging them in the certification for fire systems	• # of women/men trained in the certification
Outcome 4. Effective monitoring and evaluation of performance and GEB impacts achieved	Integration of GBV risk assessment and referral pathways, aligned with National GBV Task Force.	• % indicators tracked (sex-disaggregated and # of GBV cases referred through established pathways)

- Core Indicator 11 is explicitly disaggregated by sex, with participation thresholds included.
- Outcome-level gender indicators are embedded in capacity building, policy, safeguards, and monitoring, ensuring cross-cutting integration.
- Alignment with Saint Lucia's Division of Gender Affairs and the National GBV Task Force strengthens national ownership and institutionalization.

Table 14. Gender Issues, Stakeholders, Proposed Actions, and Indicators

Domain	Key Gender Issues / Barriers	Relevant Stakeholders	Proposed Actions (during project cycle)	Indicative Indicators (sex-disaggregated)
Policy & Institutional Framework	- National Gender Equality Policy still under development. - Limited formalized gender focal points across ministries.	Division of Gender Affairs; Ministry of Education, Sustainable Development, Climate Resilience	- Align project with draft gender policy & national climate strategies (e.g., REASAP 2020–2028). - Support capacity building for ministry gender focal points.	- # of policy documents/projects integrating gender equality. - # of agencies with gender focal points.
Climate Resilience & Environment	- Limited voice in natural resource decision-making.	Community groups; fisherfolk cooperatives; private sector	- Ensure women's representation in ecosystem management. - Provide training and climate finance access for women.	- % of women trained in fire risk prevention and climate-related risks.
Economic Participation & Livelihoods	- Gender gap in labor force participation - Higher female youth unemployment (26.5%).	Ministry of Commerce; Small Business Development Centre; chambers of commerce; youth associations	- Partner with vocational training programs to target women and girls in fire prevention initiatives.	- # of new women-led initiatives supported.
Protection & Social Inclusion	- High rates of GBV; National Inter-Agency GBV Task Force newly established (2024). - Legal protections improving, but gaps remain (e.g., gender identity recognition).	GBV Task Force; Ministry of Health; CSOs (e.g., Raise Your Voice St. Lucia)	- Integrate GBV risk assessment into project safeguards. - Establish referral pathways for survivors in project areas. - Train project staff on GBV and safeguarding.	- # of staff trained in GBV response. - # of GBV cases referred through established pathways.

Main Sources:

- United Nations Caribbean. (2024, December 17). *Saint Lucia launches first-ever National Inter-Agency GBV Task Force*. United Nations. <https://easterncaribbean.un.org/en/287790-saint-lucia-launches-first-ever-national-inter-agency-gbv-task-force>
- World Bank. (2024). *St. Lucia gender landscape (data as of Oct 13, 2024)*. World Bank. <https://documents1.worldbank.org/curated/en/099205407012221693/pdf/IDU19fbced4013991147b5185081fbb9b331225c.pdf>

Output 4.2 – Mid-Term Review and Terminal Evaluation conducted

This output ensures that an independent Mid-Term Review (MTR) is conducted during project implementation, followed by a Terminal Evaluation (TE) at the end of the project, in line with GEF and UNIDO evaluation policies. The MTR will provide an interim assessment of project progress, effectiveness, and emerging results, allowing for adaptive management and timely course correction where necessary. The TE will assess overall project performance, effectiveness, efficiency, sustainability, and contributions to Global Environmental Benefits (GEBs), validating whether the PFAS phase-out objectives have been achieved.

Both the MTR and the TE will build on the performance evidence generated under Output 4.1—including PFAS contamination monitoring, foam tracking data, institutional capacity assessments, and enforcement records—to determine the extent to which the transition to PFAS-free firefighting systems has been institutionalized within Saint Lucia's regulatory, emergency response, and hazardous waste management frameworks.

A central function of the MTR will be to assess implementation effectiveness, identify operational bottlenecks, and evaluate early outcomes related to policy reforms, institutional coordination, and adoption of PFAS-free alternatives. The TE will place particular emphasis on long-term sustainability, including whether the PFAS ban, regulatory reforms, and tracking systems are likely to endure beyond project completion. Both evaluations will review the integration of gender and GBV-sensitive approaches and assess national ownership and cross-institutional coordination.

The MTR and TE will employ standard GEF evaluation methods, including stakeholder interviews, site visits, verification of foam disposal records, financial analysis, and assessment of GEB indicators. They will document lessons learned, identify good practices, and generate actionable recommendations to strengthen implementation and support replication. The final evaluation reports will be submitted to the GEF Agency and disclosed in accordance with UNIDO and GEF requirements.

Together, Outputs 4.1 and 4.2 ensure that the project's results are measurable, evidence-based, and aligned with international accountability standards. They provide a coherent structure for tracking operational progress, validating environmental and institutional impacts, and generating the knowledge required to support replication and scale-up within Saint Lucia and across the wider Caribbean region.

The project is both transformative and innovative. It is transformative because it delivers a complete systems change—combining legal reform, operational foam replacement, waste disposal, environmental monitoring, and capacity building—rather than focusing on isolated actions. By addressing the full life cycle of PFAS management, it not only removes existing stockpiles but also prevents reintroduction, institutionalizes monitoring and enforcement, and embeds knowledge into training systems, making the transition self-sustaining. Its innovation lies in its integrated hazard management approach, combining chemical elimination with climate adaptation, marine conservation, and occupational safety frameworks; its introduction of a computerized foam inventory and tracking system for real-time oversight; and its public–private demonstration model, where major facilities like Buckeye Terminal and LUCELEC serve as proof-of-concept sites for PFAS-free firefighting that meets international performance standards.

Scaling up can be achieved through several avenues. Regionally, the Basel Convention Regional Centre for the Caribbean will facilitate replication of the project's policies, technical protocols, and training materials in other Caribbean small island developing states facing similar PFAS challenges. Within Saint Lucia, the tested transition model can be extended to other PFAS uses beyond firefighting foams, such as in textiles, coatings, or industrial processes. The computerized inventory system can also be expanded into a national hazardous chemicals registry, covering other POPs and dangerous substances. Finally, the demonstration of cost-effective, ICAO-compliant fluorine-free foams will encourage adoption by additional private sector operators, particularly in tourism and manufacturing. By combining strong policy foundations, cross-sector integration, and regional collaboration, the project can act as a catalytic step toward a wider transformation of hazardous chemical management across the Caribbean.

[1] <https://www.nfpa.org/news-blogs-and-articles/nfpa-journal/2025/08/08/new-generation-of-firefighting-foams>

[2] Revised webpage, July 2025: <http://training.www.govt.lc/ministries/ministry-of-public-service-home-affairs-labour-and-gender-affairs/saint-lucia-fire-service>

Institutional Arrangement and Coordination with Ongoing Initiatives and Project.

Please describe the Institutional Arrangements for the execution of this project, including financial management and procurement. If possible, please summarize the flow of funds (diagram), accountabilities for project management and financial reporting (organogram), including audit, and staffing plans. (max. 500 words, approximately 1 page)

For the corresponding monitoring of the project, the following project management will be assumed:

1. **Implementing Agency (IA):** UNIDO will serve as the IA. The IA will oversee the entire project, monitoring activities and progress reports across the established components. It will handle quality assurance processes, organize contracting with the BCRC Caribbean in coordination, approve progress reports, and facilitate disbursements. Additionally, the IA will monitor progress to ensure the quality of outputs. UNIDO will report on the project's implementation progress to the GEF. UNIDO will be a member of the Project Steering Committee, participating in an advisory capacity, without exercising voting rights. All decisions adopted by the Project Steering Committee shall remain subject to UNIDO's non-objection decision, exercised in its capacity as the Implementing Agency responsible for project supervision and oversight, in accordance with UNIDO's applicable rules, policies, and procedures. UNIDO will also request that the PSC be conducted in accordance with UNIDO AI/2020/03, "Equal representation of women: UNIDO's policy on panel parity," and with gender considerations.
2. **Project Executing Entity (PEE):** The Basel Convention Regional Centre for the Caribbean (BCRC-Caribbean) will serve as the Project Executing Entity (PEE). The PEE is responsible for the overall management of the financial and human resources directly related to project execution and will ensure that activities are implemented in accordance with UNIDO and GEF requirements. The BCRC-Caribbean will oversee day-to-day operations and will be accountable to the Implementing Agency for the timely and effective delivery of project outputs. The EA will follow the guidance of the GEF Implementing Agency and the Project Steering Committee (PSC) on all technical and strategic matters related to implementation.

A Harmonized Approach to Cash Transfer (HACT) micro-assessment was conducted on the BCRC-Caribbean on 12 May 2022 as part of the UN system's due-diligence process. The assessment examined the Centre's financial management capacity, procurement systems, internal controls, and governance arrangements. According to the micro-assessment report, the overall risk rating for the BCRC-Caribbean was Low, confirming that the Centre meets UN financial-management and fiduciary standards. Based on this rating, the PEE is authorized to manage project funds using its established procedures while ensuring full compliance, transparency, and accountability with respect to the reporting requirements set by the Implementing Agency.

2.1. Project Management Unit: the PMU will be in charge of the day-to-day management of the project. This will be comprised of a Project Coordinator and other project staff who will be directly related to the project supervision. The PMU will regularly provide updates to the PSC and IA and will submit regular progress reports as per the requirements of IA and GEF.

3. Project Steering Committee (PSC): The Project Steering Committee (PSC) is expected to be composed of DSD, SLFS, SLSWMA, Ministry of Health, Ministry of Labor, Buckeye, LUCELEC, civil society representatives, and UNIDO/BCRC-Caribbean. The PSC provides high-level oversight, reviews progress, ensures compliance with safeguards, and validates findings from monitoring and evaluation (M&E). The PSC will provide project direction and overall guidance to project implementation, making critical decisions on strategic matters. The PMU will serve as the Secretariat and provide annual work plans for endorsement and regular progress reports. The PSC will ensure the timely delivery of project outputs and the eventual achievement of the project outcomes by reviewing the work plan and progress reports. Additional stakeholder representatives from academia, NGOs and other relevant areas may be invited to join the PSC during the project execution as observers. The PSC coordination will be carried out by the PEE. The PSC will respect the UNIDO AI/2020/03 "Equal representation of women: UNIDO's policy on panel parity".

The project will be executed by the Basel Convention Regional Centre for the Caribbean (BCRC-Caribbean), which provides technical oversight, coordination, and ensures compliance with international conventions (Stockholm, Basel, and Minamata where relevant). The Department of Sustainable Development (DSD) under the Ministry of Education, Sustainable Development, Innovation, Science, Technology, and Vocational Training serves as the government focal point, responsible for aligning national policies, coordinating stakeholders, and reporting to the GEF and UNIDO.

At the operational level, the Saint Lucia Fire Service (SLFS) is central, as the primary custodian of PFAS foams across nine fire stations, the Crash Fire Hall, and training facilities. SLFS leads the replacement of foams, system retrofits, and the safe handling of contaminated stocks. The Saint Lucia Solid Waste Management Authority (SLSWMA) supports hazardous waste storage, export permitting, and ensures compliance with the Waste Management Act. The Ministry of Health is responsible for monitoring the impacts on community health, issuing advisories when risks arise (e.g., water contamination), and collaborating on occupational health surveillance for firefighters.

The Fisheries Department and Forestry Department are engaged in protecting sensitive ecosystems, such as Ramsar sites (Mankòtè Mangrove, Savannes Bay) and the Pitons Management Area (UNESCO World Heritage). Their role includes providing clearance for works near protected habitats and monitoring potential discharges. The Water and Sewerage Company (WASCO) and the Ministry of Agriculture oversee the protection of watercourses and watersheds adjacent to facilities.

Private sector actors are directly involved: Buckeye Partners L.P. manages the Cul de Sac petroleum terminal (13,635 liters of PFAS foam) and has obligations for transition to fluorine-free foams, hazardous waste management, and export arrangements. LUCELEC, the national electricity utility, manages PFAS foams at its Cul de Sac facility and collaborates on infrastructure retrofitting and emergency preparedness.

Civil society plays a strong role, particularly fisherfolk associations, women's organizations, and community-based groups, who are partners in awareness campaigns, monitoring, and grievance systems. The Division of Gender Affairs ensures gender integration, aligning the project with the draft national gender policy. The National Inter-Agency GBV Task Force is engaged to establish safeguards against gender-based violence in project operations and provide referral pathways for affected individuals.

The project will be executed through a national execution modality with the Department of Sustainable Development (DSD) as the lead national focal point and the BCRC Caribbean as the Project Executing Entity, working in close collaboration with the Saint Lucia Fire Service (SLFS), Saint Lucia Solid Waste Management Authority (SLSWMA), and other relevant ministries. UNIDO will serve as the GEF implementing Agency, providing oversight, technical backstopping, and compliance assurance with GEF policies, including fiduciary, environmental, and social safeguards.

The Project Steering Committee (PSC) is expected, composed of DSD, SLFS, SLSWMA, Ministry of Health, Ministry of Labour, Buckeye, LUCELEC, civil society representatives, and UNIDO/BCRC-Caribbean. The PSC provides high-level oversight, reviews progress, ensures compliance with safeguards, and validates monitoring and evaluation (M&E) findings. The PSC will meet at least twice per year to review progress, approve annual work plans and budgets, and ensure alignment with national priorities and GEF-8 programming. Thus, the PSC will provide strategic direction, approval of annual work plans and budgets, and problem-solving.

This governance structure ensures multi-sectoral coordination, with the national government responsible for policy and regulation, fire services for operational implementation, waste authorities for hazardous materials management, private companies for compliance and cost-sharing, and communities/CSOs for transparency and accountability.

Day-to-day management, financial, and reporting of the project execution will be managed by a dedicated Project Management Unit (PMU) from the BCRC Caribbean. The PMU will include:

- **Project Coordinator** – responsible for overall coordination, implementation oversight, and reporting to UNIDO and the PSC. UNIDO will provide fiduciary oversight, technical guidance, and final accountability to the GEF.
- **Finance & Administration Officer** – managing budgets, procurement, disbursements, and maintaining financial records.
- **Communications and gender specialist** – generating general communication and gender material and activities.
- Additional short-term consultants will be engaged for specialized tasks such as environmental monitoring, legislative drafting, and training, among others, as applicable.

GEF funds will be channeled through UNIDO to the Project Executing Entity. UNIDO will disburse funds in tranches against approved annual work plans and budgets. The Project

Executing Entity's Finance & Administration Officer will maintain separate project accounts in accordance with national regulations and UNIDO/GEF financial management requirements.

Procurement will follow the rules and procedures of UNIDO and the BCRC Caribbean, ensuring competitive bidding, transparency, and value for money. All contracts, purchases, and service agreements will be reviewed and cleared by UNIDO prior to finalization. The Finance & Administration Officer will prepare quarterly financial statements, which will be reviewed by the Project Manager and submitted to UNIDO.

Annual financial audits will be conducted by the BCRC Caribbean through an independent evaluator, and audit reports, together with annual progress reports (BCRC Caribbean) and the terminal evaluation, will be shared with the PSC and the GEF Secretariat.

As a consequence, the project will be executed under a national execution modality, with the BCRC Caribbean as the Project Executing Entity and UNIDO serving as the GEF Implementing Agency. The DSD will be the national technical focal point and will facilitate coordination with the Saint Lucia Fire Service (SLFS), Saint Lucia Solid Waste Management Authority (SLSWMA), Ministry of Finance, Ministry of Health, Ministry of Infrastructure, Customs & Excise Department, private sector partners (e.g., Buckeye Terminal, LUCELEC), and civil society organizations, among other national applicable stakeholders.

All expenditures will be reported quarterly to UNIDO by the BCRC Caribbean, with annual independent audits submitted to UNIDO, the PSC, and the GEF Secretariat.

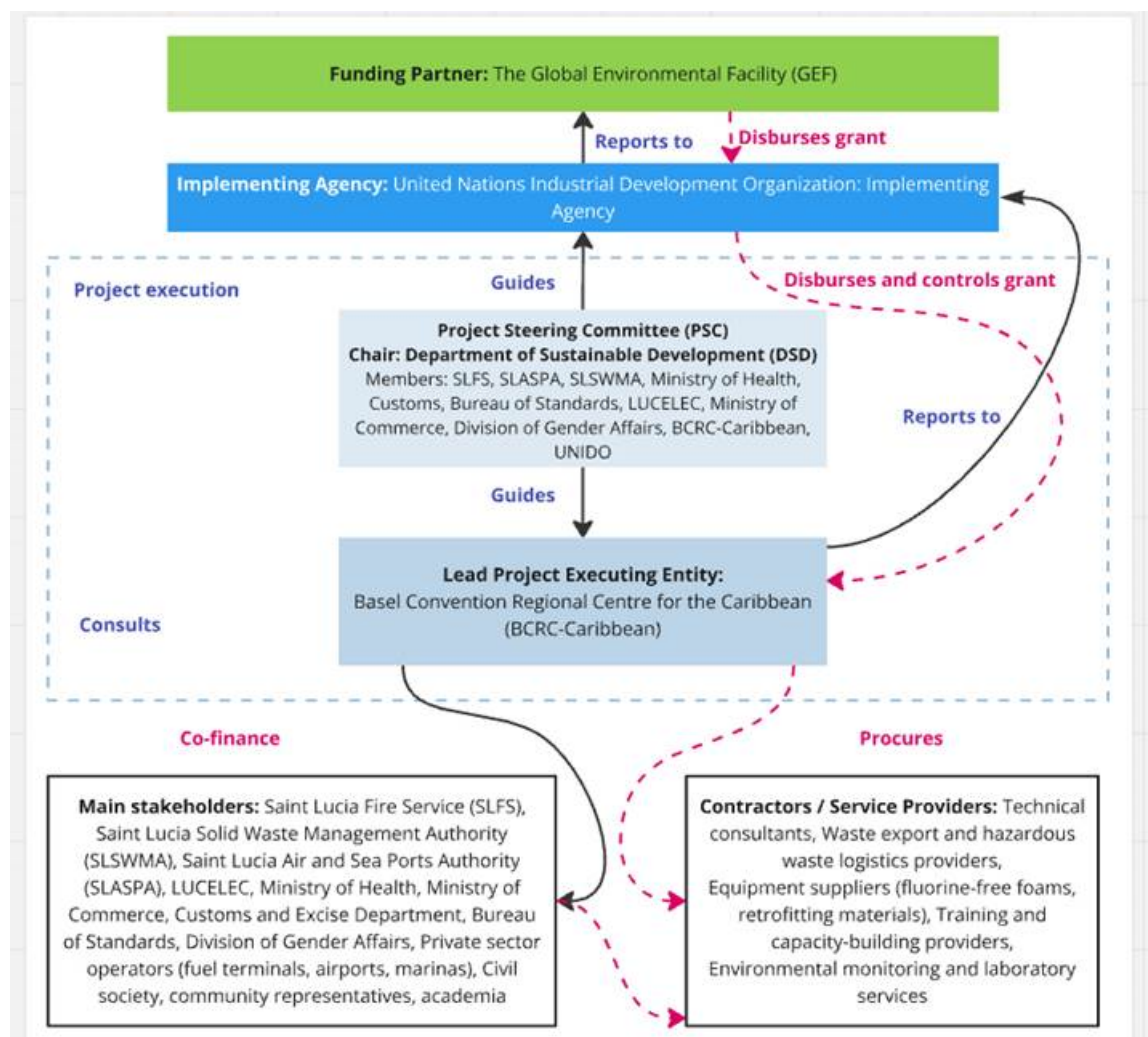


Figure 14. Project organigram

The present project is governed by the provisions of the Standard Basic Cooperation Agreement between the Government of Saint Lucia and UNIDO, signed on 6 September 1988 and 24 February 1989 and entered into force on 7 March 1989.

Will the GEF Agency play an execution role on this project?

If so, please describe that role here and the justification.

Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing (max. 500 words, approximately 1 page)

The project is designed to align closely with ongoing national and regional initiatives related to chemicals management, environmental health, disaster preparedness, and hazardous waste governance, ensuring synergy, avoiding duplication, and strengthening institutional sustainability.

At the national level, the Department of Sustainable Development (DSD) continues to lead policy reforms and environmental governance initiatives linked to the Stockholm Convention, national hazardous waste strategies, and emerging chemicals management priorities. The project will integrate directly with these efforts by supporting legal updates, import controls, and PFAS-free compliance systems that complement DSD's ongoing coordination role across ministries. The Saint Lucia Fire Service (SLFS) is actively strengthening its operational readiness and emergency response protocols in line with national disaster-risk management priorities; the project reinforces these efforts through training, updated SOPs, and the introduction of fluorine-free foams consistent with international aviation and maritime requirements.

The Saint Lucia Solid Waste Management Authority (SLSWMA) is advancing improvements to hazardous waste handling and storage as part of the country's shift toward more resilient waste systems. The project complements these efforts by introducing PFAS-specific containment requirements, interim storage solutions, and export procedures aligned with Basel Convention obligations. Likewise, agencies such as Customs, the Ministry of Health, SLASPA, and the Bureau of Standards continue to implement sectoral initiatives related to trade controls, environmental health, and safety standards. The project will align PFAS-free regulatory updates with these ongoing mandates and operational frameworks to ensure coherence across institutions.

At the regional level, the project maintains strong coordination with the GEF ISLANDS Programme (GEF 10279), which is strengthening lifecycle management of hazardous chemicals and wastes across the Caribbean. While ISLANDS does not finance the PFAS foam phase-out in Saint Lucia, its ongoing work on regulatory harmonisation, data systems, training, and transboundary waste procedures provides an essential platform for expanding PFAS-specific actions. The Basel Convention Regional Centre for the Caribbean (BCRC-Caribbean) remains a central technical partner under ISLANDS, contributing expertise in hazardous waste management, regional knowledge-sharing, and support for export compliance. The project will leverage this regional architecture to ensure alignment with broader Caribbean chemicals and waste initiatives and contribute practical lessons for replication in other SIDS.

The project also builds synergies with ongoing programmes at industrial facilities—including LUCELEC, Buckeye, and key port and fuel-storage sites—which are continuously enhancing emergency response systems, environmental safeguards, and internal safety standards. Aligning PFAS-free requirements with these active corporate initiatives strengthens compliance, reduces operational risks, and embeds best practices within high-risk facilities already investing in upgrades.

Through these coordinated linkages, the project complements national and regional efforts, leverages ongoing institutional strengthening, and ensures that PFAS-free firefighting systems become embedded within Saint Lucia's evolving regulatory, operational, and regional cooperation frameworks. This results in a coherent, durable, and mutually reinforcing approach to chemicals management and environmental protection across sectors.

Core Indicators

Indicator 9 Chemicals of global concern and their waste reduced

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
0.00	23.60	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)
Perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride		23.60		

Indicator 9.2 Quantity of mercury reduced (metric tons)

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

Indicator 9.3 Hydrochlorofluorocarbons (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)
	1		

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

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

Indicator 9.6 POPs/Mercury containing materials and products directly avoided

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

Indicator 9.7 Highly Hazardous Pesticides eliminated

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

Indicator 9.8 Avoided residual plastic waste

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

Indicator 10 Persistent organic pollutants to air reduced

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

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

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

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

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

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		320		
Male		480		
Total	0	800	0	0

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

The estimated 23.6 metric tons (2,3154 liters) of AFFF foams represent the baseline volume identified through site visits to all 12 facilities targeted under the project. This calculation assumes an average foam density of 1.02 kg/L to convert liters to metric tons.

References of the baseline suggest that PFAS concentrations in firefighting foams can reach levels as high as 100,000 ppb. However, the data provided by the Ministry was inconclusive regarding the overall quantity or the proportion of samples that contained contamination at this level. For the purposes of this project, a conservative reference concentration of 10,000 ppb has therefore been applied, reflecting the 231 g of PFAS contained in 23.6 metric tons of PFAS-related foams to be managed in the project.

Furthermore, the GEF-financed investments disaggregated by sex are informed by the project's gender assessment and Gender Action Plan. These measures account for all beneficiaries, including members of the Fire Service as well as individuals from surrounding communities, who will participate in or benefit from training on fire prevention and safer chemical management. More than 1000 people are expected to be reached; however, the target has considered at least 80% of the potential participants.

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	Moderate	Heavy rain, flooding, and storm surge can mobilize PFAS residues during tank cleaning, transfer, and interim storage, especially near bays, rivers, and mangroves. Main mitigation measures include scheduling activities during the dry season; engineered capture of rinse water; spill-proof transfer; UN-rated, double-lined containers above flood levels; spill response drills; monitoring; and prompt export under Basel PIC.
Environmental and Social	Moderate	Localized E&S risks during foam/waste handling; sensitive receptors include Ramsar mangroves, UNESCO Pitons area, fisheries/tourism zones. Mitigation measures include applying UNIDO ESS standards; prohibiting discharges during training, inspection, or equipment tests to avoid environmental contamination; all testing must be done by simulation, water-only, or closed-circuit methods with proper containment; using ICAO/IMO-compliant foams; implementing OHS/PPE; establishing grievance and GBV pathways; and fostering inclusive engagement.
Political and Governance	Moderate	Current gaps in PFAS-specific legislation and fragmented mandates. Main mitigation measures include introducing PFAS controls into legislation, establishing an inter-agency PFAS/chemicals task force, embedding SOPs, and implementing customs and procurement reforms.
INNOVATION		
Institutional and Policy	Moderate	System changes require new standards and enforcement systems across multiple actors. Main mitigation actions include adopting national PFAS-free

		standards aligned with ICAO/IMO, computerized permit and inventory systems, regulator training, PSC oversight, and civil society participation.
Technological	Low	Risks in cleaning/retrofits, cross-contamination, and ensuring foam performance. Mitigation measures include engineering plans, containment for rinse waters, acceptance testing of PFAS-free foams, ban discharge testing, and Phase II ESAs at priority sites.
Financial and Business Model	Low	High upfront costs and limited disposal options within the country. Mitigation measures include the use of GEF/UNIDO financing for capital expenditures (capex), co-financing, and private-sector cost-sharing, as well as Basel-compliant exports and competitive procurement.
EXECUTION		
Capacity	Low	Multi-site, multi-actor complexity requires consistent SOP adoption. Mitigation measures include PMU staffing, a train-the-trainer program, PSC oversight, clear institutional roles, and engagement with the SLFS.
Fiduciary	Low	Standard risks in funds flow, procurement, and reporting. Mitigation measures include UNIDO and BCRC Caribbean rules, segregated accounts, quarterly reports, annual audits, competitive bidding, phasing, and PIR/TE oversight.
Stakeholder	Low	Need coordination across agencies, private operators, communities, and gender/GBV sensitivities. Mitigation measures include stakeholder Engagement Plan, ≥30% women participation, CSO partnerships, GBV training, bilingual outreach, and sex-disaggregated monitoring.
Other	Low	Schedule delays are possible from PIC consents/shipping/customs/labs. Mitigation measures include Early Basel PIC submissions, pre-qualified carriers, buffer time, framework contracts for analysis, and rolling shipments.
Overall Risk Rating	Moderate	Context and innovation risks are moderate, as layered safeguards and strong fiduciary controls mitigate initial risk. Main mitigation measures include safeguards, governance, and fiduciary measures aligned with GEF risk appetite (Context: Moderate; Innovation: low; Execution: Low).

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

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

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this. (max. 500 words, approximately 1 page)

The proposed project aligns completely with the GEF-8 Chemicals and Waste Programming Strategy. By phasing out old stocks of PFAS-containing firefighting foams, establishing new regulatory controls, and promoting the environmentally sound management and export of waste, the project responds to GEF-8's call for eliminating old POPs and preventing future accumulation of harmful chemicals. The design reflects the systems approach encouraged in GEF-8, combining policy reform, private-sector engagement, and capacity building to ensure sustainability in a Small Island Developing State context.

At the national level, the interventions implement Saint Lucia's Stockholm Convention National Implementation Plan, approved in 2021, which prioritizes PFAS elimination, inventories, and destruction or export. The project will help revise the Pesticides and Toxic Chemicals Control Act, introduce import restrictions under the External Trade Act, and establish a mandatory PFAS-free standard for firefighting foams. Complementary reforms under the Waste Management Act and green procurement frameworks will institutionalize PFAS-free practices across government and the private sector. These measures align Saint Lucia's national systems with obligations under the Stockholm and Basel Conventions. Implementation will be led by the Department of Sustainable Development in partnership with BCRC-Caribbean, with strong involvement of the Fire Service, Solid Waste Management Authority, health authorities, and private operators such as Buckeye and LUCELEC.

At the regional level, the project supports the GEF ISLANDS Caribbean child project by promoting the adoption of regulatory measures, conducting inter-agency training, and enforcing laws related to chemicals and waste. Since ISLANDS does not fund the disposal of Saint Lucia's PFAS foams, this project addresses a key gap, while also enhancing BCRC-Caribbean's role as the regional hub for chemicals management.

The interventions are also closely aligned with Saint Lucia's commitments under multilateral environmental agreements. Under the Stockholm Convention, PFOS, PFOA, and PFHxS are targeted for elimination or phase-out, requiring environmentally sound waste management. The project directly supports these commitments by removing existing AFFF stocks, introducing fluorine-free alternatives that meet ICAO and IMO standards, and ensuring destruction or export in accordance with POPs waste guidelines. Under the Basel Convention, wastes will be exported only after obtaining prior informed consent, using certified facilities. The Rotterdam Convention is bolstered by stricter import restrictions, while disclosure and participation measures are in line with the Escazú Agreement. Additionally, by preventing PFAS releases into Ramsar wetlands and coastal ecosystems, the project helps advance the Kunming-Montreal Global Biodiversity Framework, especially Target 7 on reducing pollution risks from hazardous chemicals.

Beyond chemicals management, the project advances Saint Lucia's Blue Economy strategy and climate resilience efforts by reducing contamination risks in vital marine and freshwater systems. It supports emergency preparedness and infrastructure safety while integrating gender-responsive and GBV safeguards in collaboration with the Division of Gender Affairs and the national GBV task force, ensuring inclusive participation and equitable benefits.

No conflicting national policies have been found. The issue is instead the lack of clear PFAS controls. The project tackles this by supporting legislative changes or the adoption of a PFAS/POPs Control Act, issuing subsidiary measures such as import restrictions and standards, and updating Fire Service regulations and hazardous waste rules. Green procurement and customs reforms will strengthen these efforts, while a national PFAS/Chemicals Task Force will oversee enforcement. Through these steps, Saint Lucia's regulatory system will be fully aligned with its international commitments and national development goals.

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

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

Yes

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

Yes

If the project expects to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment, please indicate in which results area(s) the project is expected to contribute to gender equality:

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

Improving women's participation and decision-making; and/or

Yes

Generating socio-economic benefits or services for women.

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

Yes

Stakeholder Engagement

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

Yes

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier; Yes

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

Executor or co-executor;

Other (Please explain) Yes

Private Sector

Will there be private sector engagement in the project?

Yes

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

Yes

Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided information regarding Environmental and Social risks associated with the proposed project or program, including risk screenings/ assessments and, if applicable, management plans or other measures to address identified risks and impacts (this information should be presented in Annex E).

Yes

Please provide overall Project/Program Risk Classification

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
	Medium/Moderate		

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described during Project Preparation in the Project Description and that these activities have been budgeted.

Yes

Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate and these benefits translate in supporting the achievement of global environmental benefits (GEF Trust Fund) or adaptation benefits (LDCF, SCCF). This section identifies the direct beneficiaries from the project.

The project generates clear socioeconomic, environmental, and public-health benefits at both national and community levels, fully aligned with the GEF Chemicals and Waste focal area. By eliminating PFAS-containing firefighting foams currently stored and used at 12 high-risk facilities, the project reduces the potential for long-term soil, groundwater, and coastal contamination. This directly supports sectors that rely on healthy ecosystems—such as fisheries, tourism, and coastal livelihoods—and contributes to global environmental benefits by preventing the release of persistent organic pollutants.

Communities located near ports, airports, industrial sites, and coastal areas benefit from reduced exposure risks, improved fire-response safety, and strengthened environmental health conditions. The transition to fluorine-free foams also reduces occupational hazards for firefighters, industrial emergency teams, waste-management staff, and safety personnel involved in foam removal, storage, and handling. Updated procedures, training, and safer equipment improve working conditions and reduce chemical-related vulnerabilities.

The project strengthens national climate resilience by ensuring that emergency response systems and hazardous waste storage are safer during extreme weather events, such as hurricanes and flooding—conditions that heighten the risk of accidental releases. Climate-resilient containment systems and improved response protocols reduce the likelihood of PFAS dispersal during storms, protecting nearby communities, ecosystems, and critical infrastructure.

Institutionally, the project builds long-term capacity across key agencies—including the Department of Sustainable Development, the Saint Lucia Fire Service, the Solid Waste Management Authority, Customs, the Bureau of Standards, SLASPA, and other regulatory bodies. These institutions benefit from strengthened legal frameworks, updated import controls, improved monitoring systems, and enhanced technical expertise in hazardous chemicals management. Private-sector partners also benefit from improved operational safety, reduced environmental liability, and alignment with international safety and emergency-response standards.

Direct beneficiaries include firefighters, industrial emergency personnel, regulatory agencies, waste-handling staff, port and airport safety teams, and communities located near the 12 facilities identified in the national PFAS inventory. Over the long term, the country benefits from reduced environmental remediation costs, safer emergency operations, and stronger compliance with international chemicals and waste conventions.

Overall, the project delivers sustained socioeconomic value by reducing chemical risks, protecting ecosystem services, enhancing occupational safety, improving climate resilience, and strengthening national institutions—while supporting global environmental benefits through the safe removal and elimination of PFAS firefighting foams.

ANNEX A: FINANCING TABLES

GEF Financing Table

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

GEF Agency	Trust Fund	Country/ Regional / Global	Focal Area	Programm ing of Funds	Grant / Non- Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
UNIDO	GET	St. Lucia	Chemicals and Waste	POPs	Grant	3,500,000.0 0	332,500 .00	3,832,500.00
Total GEF Resources (\$)						3,500,000.0 0	332,500 .00	3,832,500.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

150000

PPG Agency Fee (\$)

14250

GEF Agency	Trust Fund	Country/ Regional / Global	Focal Area	Programming of Funds	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
UNIDO	GET	St. Lucia	Chemicals and Waste	POPs	150,000.00	14,250.00	164,250.00
Total PPG Amount (\$)					150,000.00	14,250.00	164,250.00

Please provide justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)
Total GEF Resources (\$)					0.00

Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CW-1	GET	3,500,000.00	13,473,596.00
Total Project Cost (\$)		3,500,000.00	13,473,596.00

Confirmed Co-financing for the project, by name and type

Please include evidence for each co-financing source for this project in the tab of the portal

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Commerce, Manufacturing, Business Development,	In-kind	Recurrent expenditures	376,614.00

	Cooperatives and Consumer Affairs			
Recipient Country Government	Central Statistical Office	In-kind	Recurrent expenditures	304,200.00
Recipient Country Government	Department of Sustainable Development	In-kind	Recurrent expenditures	222,292.00
Recipient Country Government	LUCELEC	In-kind	Recurrent expenditures	813,524.00
Recipient Country Government	Saint Lucia Solid Waste Management Authority	In-kind	Recurrent expenditures	66,921.00
Recipient Country Government	SLASPA (Saint Lucia air and sea port authority)	In-kind	Recurrent expenditures	71,890.00
Recipient Country Government	Ministry of Home Affairs, Crime Prevention and Persons with Disabilities	In-kind	Recurrent expenditures	4,360,995.00
Private Sector	Buckeye St. Lucia Terminal Limited	Other	Recurrent expenditures	6,030,000.00
GEF Agency	UNIDO	Grant	Investment mobilized	80,000.00
Private Sector	Buckeye St. Lucia Terminal Limited	In-kind	Recurrent expenditures	1,147,160.00
Total Co-financing (\$)				13,473,596.00

Please describe the investment mobilized portion of the co-financing

Not Applicable

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	12/1/2025	Ganna Onysko	+43 1 26026 3647	g.onysko@unido.org
Project Coordinator	12/1/2025	Veronica Villacis	+43 1 26026 3390	V.VILLACIS@unido.org

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

Name of GEF OFP	Position	Ministry	Date (Month, day, year)
Eulampius Frederick	Chief Technical Officer	Department of Sustainable Development	11/5/2025

ANNEX C: PROJECT RESULTS FRAMEWORK

Please indicate the page number in the Project Document where the project results and M&E frameworks can be found. Please also paste below the Project Results Framework from the Agency document.

Project Component	Project Outcome / Output	Indicator (KPI)	Baseline / Data Source	Mid-Term Target	Final Target	Means of Verification	Risks / Assumptions	Responsible Party
COMPONENT 1. Regulatory Framework update for PFAS-free firefighting foams	Outcome 1. A regulatory environment conducive to the cessation of the procurement and use of PFAS-related firefighting foams	• # of national PFAS bans enacted • # of policy documents/projects integrating gender equality. • # of agencies with gender focal points. • # of ministries with gender focal points engaged in the Task Force • % of procurement contracts PFAS-free	No PFAS ban; fragmented mandates	Draft PFAS ban law tabled; ≥50% procurement restricted	PFAS ban enacted & enforced; 100%	Gazette, procurement records	Political delays; weak enforcement	DSD, Attorney General
	Output 1.1.	• PFAS ban enacted	No legal ban	Draft law prepared	Ban enacted;			DSD, AG's

Legally binding PFAS ban integrated into national policy and procurement systems	• # institutions applying PFAS-free procurement			procurement PFAS-free in all public sector and main private sector related to energy and fossil fuels	Gazette, procurement policy docs	Parliament approval sustained	Chambers
Output 1.2. Institutionalized compliance framework with technical standards, enforcement mechanisms, and stakeholder readiness	• # SOPs/standards adopted • # inspectors trained • % of inspected facilities meeting PFAS-free operational requirements • # of stakeholders engagement events	No PFAS standards, facilities using PFAS-related firefighting foams, and stakeholders not working together	1 SOPs drafted (ICAO); 20 inspectors trained; 30% of inspected facilities meet PFAS-free operational requirements; 4 quarterly stakeholder engagement events	2 SOPs adopted (ICAO and IMO); ≥50 inspectors trained; 100% (of 12 target facilities) meet PFAS-free operational requirements; 8 quarterly stakeholder engagement events	Standards registry, training records; event records	Inspectorate resources maintained, low stakeholder participation	Bureau of Standards, SLFS
	• # consultations held (sex-disaggregated) • # of laws/regulations revised with gender clauses • # of agencies with active gender focal points • % women participants	No consultations	3 consultations; ≥30% women; 1 law/regulation with gender clauses; 1 agency with active gender focal points	6 consultations; ≥40% women; 2 laws/regulations with gender clauses; 3 agencies with active gender focal points	Consultation minutes	Low participation by women or the private sector	DSD, BCRC Caribbean, CSOs

COMPO NENT 2. Phase out PFAS- related firefight ing foams and transitio n to alternati ves	Outcome 2. National system in place for PFAS foam phase- out, contamin ation monitorin g, and complianc e verificatio n	• Tons of PFAS foams disposed (CI-9) • # facilities converted to PFAS-free	23,154 L (~23.6t) PFAS foams across 12 sites	≥12t disposed ; ≥6 facilities converte d	23.6t disposed; 12 facilities converted	Export records, ICAO test reports	Alternative s meet firefighting performanc e	SLFS, LUCELEC , Buckeye
	Output 2.1. Integrated Plan for PFAS Foam Risk- Based Phase- Out, System Conversio n, and Environm entally Sound Disposal	• Tons inventoried & secured • % sites with secure storage • Tons exported/dispose d • Certificates of disposal issued • # tanks/systems cleaned & certified • # women/men trained in PFAS management • # facilities using PFAS-free foams + ICAO/IMO compliance status	23.6t foams, insecure storage	≥12t secured	23.6t secured in depots	Inventory & depot records	Storm damage to storage	SLFS, SLUSW MA
			No exports to date	≥12t exported	23.6t exported	Basel permits, disposal certificates	Delays in shipment/I ogistics	SLUSW MA, BCRC Caribbean
			None retrofitte d	≥50% tanks cleaned	100% tanks certified PFAS-free	Engineering QA reports	Lack of technicians or funds	SLFS, LUCELEC
			Staff needs training in the new foam systems managem ent	≥50 trained (target linked in Output 3.1)	≥150 trained (target linked in Output 3.1)(≥40% women)	ICAO/IMO reports	Supply chain delays; ICAO safety concerns	SLFS, LUCELEC , Ports Authority
	Output 2.2. PFAS Contamin ation Monitorin g and Complianc e	• # sites monitored • # compliance reports issued	No monitorin g system	≥1 sites monitore d; 1 annual reports	≥4 sites monitored ; 2 annual reports	Lab test results, compliance reports	Lab capacity limits	DSD, SLFS, SLSWM A

Verification System								
COMPONENT 3. Knowledge Management and Capacity Building	Outcome 3. Improved and disseminated knowledge, training, and capacity building on the phasing out of PFAS-related firefighting foams in the Fire Department and the private sector	# trained people (sex-disaggregated, CI-11) % of women trained in fire risk prevention and climate-related risks	Limited capacity, partial training	≥300 people trained (≥30% women)	≥800 people trained (≥40% women)	Training reports, PIRs	Gender barriers; turnover	SLFS, communities, and BCRC Caribbean
	Output 3.1. Comprehensive Training and Certification Program for PFAS-Free Firefighting Operations	# staff trained and certified # of staff trained in GBV response. # of GBV cases referred through established pathways # of women trained in compliance roles (target: ≥20) # drills # achieving certification	No certification system and staff trained in alternative foams management	≥50 trained 3 drills	≥150 trained and certified (≥20% women) 12 drills 1 National Certification in place	Certificates, training records, Certification Status	Participants pass exams	SLFS, BCRC Caribbean, SLBS
	Output 3.2. National Awareness, Knowledge	# types of communicational and gender materials created # stakeholder workshops with industry	No campaigns, no communication and gender	≥ 2 types of materials produced and distributed	≥ 4 types of materials produced and distributed	Campaign reports, media coverage	Low public participation	BCRC Caribbean, CSOs, local councils

	Dissemination, and Stakeholder Engagement Campaign	# national media awareness campaign (including - # of new women-led initiatives supported) # community workshops (including gender and climate-related risks)	materials available	nationally ≥ 1 Stakeholder workshop ≥ 3 media Broadcasts ≥ 6 social media posts ≥ 1 community workshop	nationally ≥ 3 Stakeholder workshop ≥ 6 media Broadcasts ≥ 12 social media posts ≥ 2 community workshops (≥30% women)			
COMPONENT 4. Monitoring and Evaluation	Outcome 4. Effective monitoring and evaluation of performance and GEB impacts achieved	% indicators tracked (sex-disaggregated and # of GBV cases referred through established pathways) - TE completed	No PFAS M&E system	≥50% indicators tracked with sex-disaggregated data and GBV registry	100% indicators tracked with sex-disaggregated data and GBV registry; TE completed	PIRs, TE	PSC oversight maintained	BCRC Caribbean, UNIDO, PMU
	Output 4.1. GEF Project Performance and Impact Monitoring Framework	- PIRs submitted annually, integrated gender annual report - Annual publications/disseminations of lessons learned	No framework	PIRs submitted (including gender report); 1 annual publication	PIRs submitted (including gender report); 3 annual publications	PIRs, Annual publications/disseminations of lessons learned	Timely data collection	UNIDO, BCRC Caribbean, PMU, PSC
	Output 4.2. Mid-Term Review (MTR) and Terminal Evaluation (TE) conducted	MTR and TE delivered on schedule	No framework	MTR and TE completed	MTR and TE completed	MTR and TE reports	Timely data collection	UNIDO, BCRC Caribbean, PMU, PSC

ANNEX D: 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
Firefighting foams baselines	10,000.00	4,874.73	5,125.27
Experts on International Fluorine-free alternative foams	20,000.00	4,757.44	15,242.56
Expert for preparation of annexes	10,000.00	6,270.89	3,729.11
Local Travel	10,000.00		10,000.00
Stakeholder engagement processes	20,000.00		20,000.00
Climate-resilient engineering baselines in 14 facilities (12 prioritized and 2 additional potential stakeholders)	70,000.00		70,000.00
Customs data regarding imports of firefighting foams	10,000.00		10,000.00
Total	150,000.00	15,903.06	134,096.94

ANNEX E: PROJECT MAP AND COORDINATES

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

Location Name	Latitude	Longitude	GeoName ID
Babonneau, Gros Islet District	13.957	-60.960	3,576,898

Location Description:

Rural upland area with dispersed farming communities (Des Barras, Talvern, Cocoa, Fond Assau, La Guerre); surrounded by rivers such as Babonneau, Grande Riviere, and Choc; moderate flood and landslide risks.

Activity Description:

Fire station that serves northern inland rural communities (Des Barras, Talvern, Cocoa, Fond Assau).

Location Name	Latitude	Longitude	GeoName ID
Cul de Sac Bay, Castries	13.980	-61.004	3,576,752

Location Description:

Industrial coastal site with deep-water petroleum terminal, adjacent to Cul de Sac Bay and River; surrounded by semi-urban communities (Cicéron, Barre Denis, Ferrand, Marigot).

Activity Description:

Major petroleum storage and transshipment hub; employs mostly male technical staff; neighboring residents experience urban poverty and limited tertiary education; PFAS risks relate to spill and drainage into the bay.

Location Name	Latitude	Longitude	GeoName ID
Vieux Fort	13.732	-60.952	3,576,414

Location Description:

Flat coastal plain at Saint Lucia's southern tip, near the airport, mangrove systems (Mankòtè), and Vieux Fort Bay; mixed urban-industrial surroundings.

Activity Description:

Airport-based firefighting center providing aviation and community coverage; nearby settlements (Pierrot, Augier, Grace) face high poverty (~35%) and education gaps; women are better educated but economically vulnerable.

Location Name	Latitude	Longitude	GeoName ID
Dennerly Village, East Coast	13.900	-60.880	3,576,687

Location Description:

Coastal fishing and farming area along the Atlantic, intersected by Dennerly River and surrounded by small rural settlements (Aux Lyon, Grand Ravine, Richfond, La Ressource).

Activity Description:

Fire station serves eastern fishing communities; district has one of the island's highest poverty rates (~40%); women achieve higher education but face underemployment; strong reliance on agriculture and fishing.

Location Name	Latitude	Longitude	GeoName ID
Jeremie Street, Castries	14.010	-60.990	3,576,812

Location Description:

Dense urban environment at Castries city center near Castries River, harbour, and markets; inner-city areas like Marchand face urban poverty and flooding.

Activity Description:

Administrative hub for national coordination and emergency operations; urban population shows gender inequality in income; women dominate informal vending; men hold more technical fire roles.

Location Name	Latitude	Longitude	GeoName ID
La Tourney, Vieux Fort	13.730	-60.950	3,576,414

Location Description:

Southern semi-urban landscape near George Odum Stadium, St. Jude Hospital (temporary site), and airport; proximity to mangroves and coastal wetlands.

Activity Description:

National training site for all firefighters; serves communities with high poverty (~35%).

Location Name	Latitude	Longitude	GeoName ID
Vigie, Castries	14.021	-60.992	3,576,812

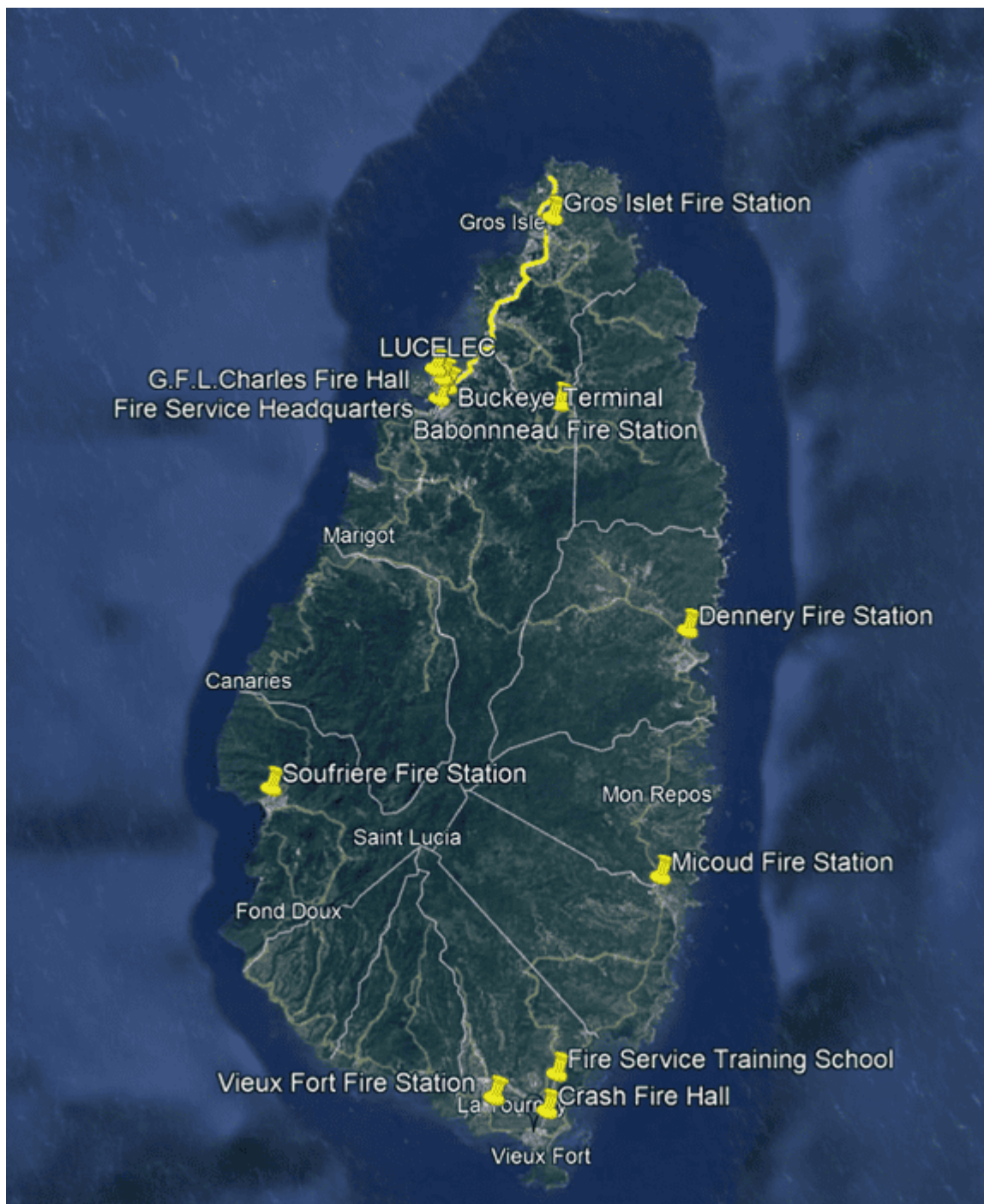
Location Description:

Coastal urban area on Vigie Peninsula adjacent to G.F.L. Charles Airport, Vigie Beach, and Serenity Park; mixed residential and tourism surroundings.

Activity Description:

Provides aviation and urban response; nearby areas (Vigie, La Clery, Marchand) show female education advantage but higher unemployment.

Please provide any further geo-referenced information and map where project interventions are taking place as appropriate.



ANNEX F: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

Attach agency safeguard screening/assessment report(s), including ratings of risk types and overall project/program risk classification as well as any management plans or measures to address identified risks and impacts.

Title

UNIDO cofinancing letter

SEP_StLucia_PFAS

Annex 2. Work Plan

Annex 1. Theory of Change

GAP_StLucia_PFAS

ESMP_StLucia_PFAS

ANNEX G: BUDGET TABLE

Please explain any aspects of the budget as needed here

Expenditure Category	Detailed Description	COMPONE NT 1 Outcome 1.	COMPONE NT 2 Outcome 2.	COMPONE NT 3 Outcome 3.	COMPONE NT 4 Outcome 4.	PMC	TOTAL	Responsib le Entity
a. Works	Install an interim storage facility		\$22,000				\$22,000	BCRC/SCR C
a. Works Total			\$22,000				\$22,000	BCRC/SCR C
b. Goods	containment tanks, spill prevention conditions, spill response kits		\$38,000				\$38,000	BCRC/SCR C
	Install an interim storage facility		\$33,000				\$33,000	BCRC/SCR C
	PPE		\$14,000				\$14,000	BCRC/SCR C
b. Goods Total			\$85,000				\$85,000	BCRC/SCR C
h. Contractual Services – Company	Commission tests - double-lined containers, monitoring wells, lab analyses		\$33,000				\$33,000	BCRC/SCR C
	Commission tests and engineering QA reports		\$22,000				\$22,000	BCRC/SCR C
	Conduct baseline surveys and Risk-Based Phase-Out planning - Mobilization, Risk Assessment, and Engineering Feasibility		\$38,000				\$38,000	BCRC/SCR C
	Conduct media campaigns (radio, social media)			\$94,000			\$94,000	BCRC/SCR C
	Conduct site inspections & compliance verification of new foams operability		\$60,000				\$60,000	BCRC/SCR C

	Contract Basel-compliant hazardous waste disposal/export execution (includes sampling, packaging, licensed transport, Basel export fees, overseas destruction, permits, audits for controlling phase-out results)		\$612,281				\$612,281	BCRC/SCR C
	Establish a computerized foam inventory system and tracking system		\$195,000				\$195,000	BCRC/SCR C
	Inspection checklist, baseline of contaminated sites (ASTM E1527), and follow-up sampling planning (soil, water)		\$248,000				\$248,000	BCRC/SCR C
	Issue a national certification program for trained personnel, with a registry maintained by SLFS.			\$92,000			\$92,000	BCRC/SCR C
	Launch online PFAS knowledge hub and continue updates after month 10 (linked with component 4)			\$55,000			\$55,000	BCRC/SCR C
	Retrofit fire suppression systems and procure fluorine-free foams		\$290,000				\$290,000	BCRC/SCR C
	Retrofit fire suppression systems and procure fluorine-free foams - applicable engineering elements		\$84,000				\$84,000	BCRC/SCR C
h. Contractual Services – Company Total			\$1,582,281	\$241,000			\$1,823,281	BCRC/SCR C
i. International Consultants	Certify converted facilities (containment tanks, spill prevention conditions, spill response kits, monitoring)		\$74,000				\$74,000	BCRC/SCR C
	Conduct Mid-Term Evaluation (UNIDO)				\$35,000		\$35,000	UNIDO
	Conduct Terminal Evaluation (TE) (UNIDO)				\$35,000		\$35,000	UNIDO

	Develop curriculum (PFAS risks, alternatives, hazardous waste)			\$15,000			\$15,000	BCRC/SCR C
	Developing PFAS-free technical standards and SOPs in line with ICAO, IMO, and Stockholm Convention guidance	\$60,000					\$60,000	BCRC/SCR C
	Update fire safety codes and hazardous waste standards, and enforcement of regulations	\$40,000					\$40,000	BCRC/SCR C
i. International Consultants Total		\$100,000	\$74,000	\$15,000	\$70,000		\$259,000	BCRC/SCR C
j. Local Consultants	Adapt and validate curriculum (PFAS risks, alternatives, hazardous waste)			\$36,000			\$36,000	BCRC/SCR C
	Conducting national and sector-specific stakeholder consultations/hearings	\$41,000					\$41,000	BCRC/SCR C
	Develop compliance checklists and enforcement protocols	\$27,600					\$27,600	BCRC/SCR C
	Draft and formalize PFAS integrated national policies	\$40,000					\$40,000	BCRC/SCR C
	Draft and formalize PFAS restrictions in procurement systems	\$15,000					\$15,000	BCRC/SCR C
	Foam tracking system - correct deployment validation		\$25,000				\$25,000	BCRC/SCR C
	Implementing public awareness and outreach campaigns	\$9,600					\$9,600	BCRC/SCR C
	Implementing public awareness and outreach campaigns, including facilities inspections	\$55,000					\$55,000	BCRC/SCR C
	Lessons learned or other reporting dissemination/publications		\$27,000				\$27,000	BCRC/SCR C
	Produce/distribute brochures, posters, fact sheets, videos, etc. (tailored to women's/vulnerable groups)			\$80,000			\$80,000	BCRC/SCR C

	Update fire safety codes and hazardous waste standards, and enforcement of regulations	\$15,000					\$15,000	BCRC/SCRC
j. Local Consultants Total		\$203,200	\$52,000	\$116,000			\$371,200	BCRC/SCRC
k. Salary and benefits / Staff costs	Administrative and financial support					\$20,000	\$20,000	BCRC/SCRC
	Communications and gender specialist					\$17,037	\$17,037	BCRC/SCRC
	Develop a results-based monitoring plan, Data collection and analysis, and grievance mechanism attention including steering committee meetings, inception and final results workshops				\$19,222		\$19,222	BCRC/SCRC
	Project Coordinator					\$101,000	\$101,000	BCRC/SCRC
k. Salary and benefits / Staff costs Total					\$19,222	\$138,037	\$157,259	BCRC/SCRC
l. Trainings, Workshops, Meetings	Conduct a train-the-trainer program (including gender and GBV aspects)			\$120,000			\$120,000	BCRC/SCRC
	Deliver regionalized training sessions for all fire stations, airports, ports, and high-risk industrial facilities.			\$42,000			\$42,000	BCRC/SCRC
	Delivering training for enforcement agencies, customs, and procurement officials	\$30,000					\$30,000	BCRC/SCRC
	Establish an interagency PFAS Task Force and quarterly coordination meetings	\$5,000					\$5,000	BCRC/SCRC
	Hold community and technical briefings/training (including gender and GBV aspects) (gender action plan)			\$95,000			\$95,000	BCRC/SCRC
	Hold industry workshops			\$27,460			\$27,460	BCRC/SCRC

	Inception workshop	\$12,000					\$12,000	BCRC/SCR C
	Practical drills for foam deployment & containment			\$55,000			\$55,000	BCRC/SCR C
	Retrofit fire suppression systems and fluorine-free foams training		\$42,000				\$42,000	BCRC/SCR C
	Train inspectors & facility operators in the tracking tool		\$44,000				\$44,000	BCRC/SCR C
	Train legal drafters, regulators, and compliance officers on the new regulatory framework	\$43,200					\$43,200	BCRC/SCR C
	Train staff in tactical deployment (PPE, training, medical surveillance)		\$75,000				\$75,000	BCRC/SCR C
	Training to build enforcement and compliance capacity	\$5,000					\$5,000	BCRC/SCR C
	Training in hazardous waste disposal/export execution		\$24,000				\$24,000	BCRC/SCR C
I. Trainings, Workshops, Meetings Total		\$95,200	\$185,000	\$339,460			\$619,660	BCRC/SCR C
m. Travel	Travel associated with building enforcement and compliance capacity	\$12,000					\$12,000	BCRC/SCR C
	Travel associated with certifying converted facilities (containment tanks, spill prevention conditions, spill response kits, monitoring)		\$12,000				\$12,000	BCRC/SCR C
	Travel associated with delivering regionalized training sessions for all fire stations, airports, ports, and high-risk industrial facilities.			\$15,000			\$15,000	BCRC/SCR C
	Travel associated with delivering training for enforcement agencies, customs, and procurement officials	\$4,600					\$4,600	BCRC/SCR C
	Travel associated with developing a results-based monitoring plan				\$8,000		\$8,000	BCRC/SCR C

	and data collection and analysis							
	Travel associated with developing data collection and analysis, and grievance mechanism attention					\$4,000	\$4,000	BCRC/SCR C
	Travel associated with holding community and technical briefings/training (including gender and GBV aspects) (gender action plan)			\$30,000			\$30,000	BCRC/SCR C
	Travel associated with implementing public awareness and outreach campaigns, including facilities inspections	\$6,000					\$6,000	BCRC/SCR C
	Travel associated with the Contract Basel-compliant hazardous waste disposal/export execution accompaniment		\$22,000				\$22,000	BCRC/SCR C
	Travel associated with train legal drafters, regulators, and compliance officers on the new regulatory framework:	\$4,000					\$4,000	BCRC/SCR C
	Travel associated with train staff in tactical deployment (PPE, training, medical surveillance)		\$25,000				\$25,000	BCRC/SCR C
m. Travel Total		\$26,600	\$59,000	\$45,000	\$8,000	\$4,000	\$142,600	BCRC/SCR C
o. Other Operating Costs	Office supplies, local gas or taxi expenditure					\$20,000	\$20,000	BCRC/SCR C
o. Other Operating Costs Total						\$20,000	\$20,000	BCRC/SCR C
Total		\$425,000	\$2,059,281	\$756,460	\$97,222	\$162,037	\$3,500,000	BCRC/SCR C

