

GEF-8 PROJECT IDENTIFICATION FORM (PIF)

TABLE OF CONTENTS

GENERAL PROJECT INFORMATION	3
Project Summary	4
Indicative Project Overview	4
PROJECT COMPONENTS	4
PROJECT OUTLINE	7
A. PROJECT RATIONALE	7
B. PROJECT DESCRIPTION	15
Project description	15
Coordination and Cooperation with Ongoing Initiatives and Project	29
Core Indicators	32
Key Risks	34
C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES	37
D. POLICY REQUIREMENTS	38
Gender Equality and Women’s Empowerment:	38
Stakeholder Engagement	38
Private Sector	40
Environmental and Social Safeguard (ESS) Risks	40
E. OTHER REQUIREMENTS	40
Knowledge management	40
ANNEX A: FINANCING TABLES	40
GEF Financing Table	40
Project Preparation Grant (PPG)	41
Sources of Funds for Country Star Allocation	41
Indicative Focal Area Elements	41
Indicative Co-financing	42
ANNEX B: ENDORSEMENTS	42
GEF Agency(ies) Certification	42
Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):	42
ANNEX C: PROJECT LOCATION	43
ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING	45
ANNEX E: RIO MARKERS	45
ANNEX F: TAXONOMY WORKSHEET	45

General Project Information

Project Title

Global program on climate-resilient renewable energy systems in SIDS – national project in Saint Kitts and Nevis

Region

Latin America and the Caribbean

GEF Project ID

12231

Country(ies)

St. Kitts and Nevis

Type of Project

MSP

GEF Agency(ies):

UNIDO

GEF Agency ID

250415

Executing Partner

Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE)

Executing Partner Type

Others

GEF Focal Area (s)

Climate Change

Submission Date

12/17/2025

Project Sector (CCM Only)

Renewable Energy

Taxonomy

Climate Change, Focal Areas, Transform policy and regulatory environments, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approach, Deploy innovative financial instruments, Stakeholders, Integrated Programs, Capacity, Knowledge and Research

Type of Trust Fund

GET

Project Duration (Months)

60

GEF Project Grant: (a)

954,566.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

90,684.00

Agency Fee(s) Non-Grant (d)

0.00

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

1,045,250.00

Total Co-financing

5,553,900.00

PPG Amount: (e)

50,000.00

PPG Agency Fee(s): (f)

4,750.00

PPG total amount: (e+f)

54,750.00

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

1,100,000.00

Project Tags

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

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)

The Federation of St. Kitts and Nevis (SKN), like other SIDS, faces a compounding crisis: near-total dependence on imported fossil fuels for electricity and transport, driving over 80% of national GHG emissions and high energy costs. The energy expenditure of low-income households and Micro, Small, and Medium Sized Enterprises (MSMEs) in key value chains (e.g., tourism, commerce, agri-food, blue economy) reaches 20-30% of income or operational expenses, placing a severe financial burden. Moreover, centralised fossil fuel infrastructure is highly exposed to catastrophic short-term hazards (e.g., hurricanes) and gradual, long-term climate impacts (sea-level rise, heat), jeopardising mitigation investments. Therefore, Climate Change Adaptation (CCA) is a necessary prerequisite for achieving the Climate Change Mitigation (CCM) objective through a resilient energy transition.

The project addresses these systemic challenges by accelerating the integration of climate-resilient distributed solar energy (DSE) and Energy Efficiency (EE) solutions. The primary project goal is to decarbonize electricity generation and enhance grid flexibility while improving energy affordability and strengthening system-wide resilience. This investment is expected to result in the direct and indirect mitigation of 255,836 tonnes of carbon equivalent (tCO_e) under sub-core indicator 6.2 over the next two decades, contributing significantly to the decarbonization of the energy sector and the NDC 2030 target.

Key interventions include: (1) strengthening policy and quality infrastructure; (2) enhancing existing blended finance and de-risking instruments to mobilise private capital for DSE/EE adoption; and (3) installing hurricane-resistant DSE pilot systems. The project is part of the GEF, and bilateral donor (e.g. Austria) supported Global Program on Climate-Resilient Renewable Energy Systems for SIDS (G-RES), implemented by UNIDO in partnership with national entities and the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE).

Indicative Project Overview

Project Objective

To accelerate the integration of climate-resilient distributed solar energy (DSE) and energy efficiency (EE) to reduce GHG emissions and fossil fuel dependence, improve affordable energy access for low-income households and MSMEs, and enhance the climate adaptive capacity of the electricity system in St. Kitts and Nevis.

Project Components

Component 1

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)

278,787.00

1,009,000.00

Outcome:

Outcome 1: Improved enabling environment for accelerated and inclusive market adoption of climate-resilient DSE and EE solutions

Output:

Output 1.1: Demand-side readiness assessment to establish a baseline

Output 1.2: A joint assessment framework for scaling the affordability of energy

Output 1.3: A national energy efficiency and DSE investment strategy developed

Output 1.4: An innovative utility-scale renewable energy financing framework developed

Component 2

Component Type	Trust Fund
Investment	GET
GEF Project Financing (\$)	Co-financing (\$)
425,611.00	3,000,000.00

Outcome:

Outcome 2: Enhanced market readiness, technical capacity, social inclusion and knowledge management

Output:

Output 2.1: Demonstrated feasibility and viability of EE and DSE system solutions

Component 2

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
120,000.00	880,000.00

Outcome:

Outcome 2: Enhanced market readiness, technical capacity, social inclusion and knowledge management

Output:

Output 2.2: Enhanced technical expertise of local financial institutions on innovative and inclusive DSE and EE financing

Output 2.3: Training-of-Trainers (ToT) programme on the emerging market of DSE solutions

Output 2.4: A technician's training programme on design, installation, and O&M of DSE solutions

Output 2.5: Energy sectoral monitoring, reporting and verification (MRV) mechanism

Output 2.6: Shared best practice within the G-RES program through CCREEE, SIDS DOCK, UWI SIDS-SIDS Hub

M&E

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
43,389.00	160,000.00

Outcome:

Outcome 3: Effective and adaptive implementation

Output:

Output 3.1: Implementation effectively planned and coordinated

Output 3.2: Implementation monitored and reported robustly (e.g. PIRs, data tracking framework, Gender Action Plan)

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
Component 1	278,787.00	1,009,000.00
Component 2	425,611.00	3,000,000.00
Component 2	120,000.00	880,000.00
M&E	43,389.00	160,000.00
Subtotal	867,787.00	5,049,000.00
Project Management Cost	86,779.00	504,900.00
Total Project Cost (\$)	954,566.00	5,553,900.00

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

1. The Background

1.1 The Global Context and Vulnerability

The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR6) confirms that climate change is widespread, rapid, and intensifying. The report underscores those human activities, primarily through the combustion of fossil fuels and unsustainable land-use change, have caused atmospheric concentrations of carbon dioxide (CO₂), methane, and nitrous oxide to reach levels unprecedented in at least 800,000 years, with CO₂ increasing by roughly 40% since pre-industrial times. Without immediate, deep, and sustained mitigation efforts, global greenhouse gas (GHG) emissions are projected to continue rising over the next several decades, pushing the world toward warming levels that will trigger severe and irreversible climate impacts. The Sixth Assessment Report stresses that limiting warming to the crucial 1.5°C threshold requires immediate, deep, and systemic emission reductions across all sectors of the global economy, necessitating a fundamental transformation of energy, industrial, and consumption systems.

For SIDS, climate change is already generating pervasive and escalating impacts across ecosystems and human systems. Globally, extreme weather events - including tropical cyclones, heatwaves, droughts, and heavy rainfall - have increased in frequency and intensity. Sea-level rise and coastal erosion threaten low-lying islands, while ocean warming and acidification are degrading coral reefs and marine ecosystems across all SIDS regions (Africa, Caribbean, Indian Ocean, and Pacific). Freshwater resources are becoming more variable and scarce, and climate-induced disruptions are undermining economic stability, social resilience, and environmental health across tropical regions.

These climate pressures interact with long-standing environmental stresses, including unsustainable production and consumption patterns, rapid biodiversity loss, and degradation of water and land resources. The combined effects are especially acute in developing countries and SIDS, which contribute least to global emissions yet face disproportionate climate risks and possess limited financial and institutional capacity to respond. This scenario presents a classic market failure, which necessitates catalytic investment to secure global environmental benefits. Climate change further exacerbates underlying systemic vulnerabilities, accelerating environmental degradation and significantly raising the cost of achieving the low-carbon transition across all sectors. In this context, the GEF seeks to catalyse transformative investments that address global environmental challenges by

targeting key systems, enabling conditions, and fundamental drivers of change—objectives directly aligned with G-RES.

1.2 The local context in St. Kitts and Nevis

The Federation of St. Kitts and Nevis (SKN) is a high-middle-income Small Island Developing State (SIDS) in the Eastern Caribbean, with an estimated population of approximately 47,000 in 2024 and a per-capita income of around USD 25,650 (World Bank Development Indicators; Government of SKN, 2023). Following the closure of the sugar industry in 2005, the economy became heavily service-oriented (~68% of GDP), with tourism contributing significantly (~22% of GDP and ~42% of employment). Electrification is near-universal (World Development Indicators), yet the energy sector faces structural challenges that constrain economic development and climate resilience.

Despite recent progress, SKN's electricity generation remains overwhelmingly dependent on imported diesel (over 95%), exposing the economy to global price volatility and increasing vulnerability to external shocks (OECS Energy Snapshot). The installed generation capacity is approximately 78.7 MW, with over 95% supplied by diesel-based plants, despite the country's substantial renewable potential, including wind (6–23 MW), geothermal (50–300 MW), biomass (4.2–14 MW), and solar (~16 MW). This reliance drives the majority of national GHG emissions (St. Kitts and Nevis NDC). The total energy expenditure (electricity, cooking, transport) of low-income households and Micro, Small, and Medium Sized Enterprises (MSMEs) in key value chains (e.g., tourism, commerce, agri-food, blue economy) can reach 20-30% of income or operational expenses, placing a severe financial burden.

The current high-cost, fossil-fuel-dependent infrastructure is highly vulnerable to short-term climate hazards (hurricanes) and long-term impacts (sea-level rise, heat stress), threatening the sustainability of mitigation investments. Recent initiatives, such as the planned 10 MW geothermal plant in Nevis (St. Kitts and Nevis Geothermal Development Company), indicate a promising move toward diversification. However, achieving the national target of 100% renewable electricity generation requires addressing systemic challenges in grid flexibility, affordability, and climate resilience. Decentralized solutions, particularly climate-resilient distributed solar energy (DSE) combined with energy efficiency measures, are critical to strengthen system robustness, reduce electricity costs for households and MSMEs, safeguard investments in renewable generation, and ensure reliable power for essential services during and after climate shocks. By integrating DSE, efficiency measures, and capacity-building initiatives, SKN can simultaneously address economic, social, and climate vulnerabilities, positioning the country for a sustainable, low-carbon energy future.

Policy and regulatory framework

The energy sector in St. Kitts and Nevis is guided by a deliberate and evolving policy and regulatory framework designed to create an enabling environment for investment, ensure security of supply, and promote sustainable development. Key institutions, including the Ministry of Public Infrastructure, Energy, and Utilities (MPIEU), the St. Kitts Electricity Company (SKELEC), the Nevis Electricity Company (NEVLEC), and the National Housing Corporation (NHC), collectively shape governance and steer the implementation of energy policies and programs.

The policy landscape is anchored in strategic documents such as the National Energy Policy (2014), which sets an ambitious target of achieving a 100% share of renewable energy in electricity generation while promoting energy efficiency and conservation across all sectors, including transport and industry. It emphasizes universal, affordable, and high-quality energy access for all citizens, including vulnerable populations. Complementing this, the St. Christopher Electricity Supply Act (2015) provides the legal framework for the electricity sector and includes provisions to promote renewable energy sources. The country's Second Nationally Determined Contribution (NDC) (2021) reinforces these commitments by pledging to reduce economy-wide CO₂ emissions by 61% by 2030 compared to 2010 levels, aligning with the 100% renewable electricity target and introducing measures to boost energy efficiency and electric mobility, with a goal of at least 2% electric vehicle penetration by 2030. The National Climate Change Adaptation Strategy (2018) further underscores the importance of climate-proofing infrastructure and promoting decentralised renewable energy systems as critical tools for resilience, advocating for affordable, reliable, and environmentally friendly technologies to secure energy supply for residential, commercial, and essential services, including water distribution.

This strategic policy foundation has recently been reinforced by new legislative instruments. The passage of the Special Sustainability Zone Authorisation Bill (2025) requires projects within designated areas to meet stringent climate-resilience requirements, including a minimum of 70% renewable energy use. Additionally, the Energy Unit has prepared Draft Regulations for Small-scale Distributed Renewable Energy (2024), which provide guidance on grid interconnection, fair tariff structures, and promote transparency and competition in the market. Supporting these policy instruments are incentive mechanisms, such as exemptions on import duties and customs service charges for alternative energy equipment, which have already accelerated the uptake of renewable technologies.

Together, this national framework provides a clear and urgent mandate for the G-RES project to implement resilient Distributed Solar Energy (DSE) and Energy Efficiency (EE) solutions, advancing integrated climate mitigation and adaptation across households, MSMEs, and key economic sectors.

Market Challenges

Despite significant progress in policy development and renewable energy promotion, critical gaps remain in the enabling environment. The absence of a fully functional independent regulator, as mandated by the St. Christopher Electricity Supply Act, undermines effective oversight, enforcement, and investor confidence. Integrating variable renewable energy sources—solar, wind, and baseload geothermal—requires a modern, smart, and flexible grid. Current investments in grid upgrades, advanced control systems, and energy storage remain insufficient to support a fully decarbonized and climate-resilient electricity system. The clean energy market is further constrained by a lack of harmonized regional quality infrastructure and technical certification standards, which undermines market confidence and the resilience of installations. Access to affordable financing continues to be a major barrier, compounded by information gaps and limited technical capacity to design, install, and maintain large-scale renewable energy systems. Together, these constraints slow the pace of renewable deployment and hinder private sector participation.

Affordability remains a pressing challenge for households in low-income communities and MSMEs in key value chains. While electricity tariffs in St. Kitts and Nevis (USD 0.23–0.25 per kWh) are below the Caribbean regional average (USD 0.30 per kWh), energy costs can consume up to 18% or more of monthly household income (World Bank Poverty Brief), creating a significant financial burden that forces vulnerable households to make trade-offs between energy access and essential needs. This challenge stems from the high levelized cost of energy (LCOE) associated with diesel-based generation. Transitioning to renewable energy offers the only sustainable pathway to reduce LCOE, stabilize electricity prices, and improve affordability for all consumers over the medium to long term.

Relevance of the GEF project

The proposed GEF project is of high relevance and will provide crucial support for practical implementation and scaling of the new distributed renewable energy legislation of the Government. Apart from the SOLARISE program, which aims to promote the integration of climate-resilient utility-scale solar PV and battery storage, the Government through SKELEC also intends to launch a complementary Residential Rooftop Solar Program. Consultations have revealed that there are still various technical, administrative and financial barriers that prohibit the implementation of the rooftop program on the consumer and supplier sides. There is a need to demonstrate feasibility and robustness by implementing a critical mass of pilot projects, particularly in the context of climate-vulnerable low-income households and MSMEs in key value chains.

Moreover, to cope with the increasing electricity demand, also fueled by temperature rise, the project will provide pioneering support for the practical enforcement of regional CARICOM MEPS for electric appliances, including for lighting, refrigeration and air conditioning. By facilitating this demonstration effort, GEF project seeks to accelerate the integration of climate-resilient DSE and EE

solutions, to reduce greenhouse gas emissions, decrease fossil fuel spending for affordable access, and strengthen the climate-adaptive capacity of St. Kitts and Nevis’s electricity system, as well as key value chains. By deploying distributed solar generation models and implementing EE best practices, the project will further diversify the energy mix, reduce dependence on imported diesel, and lower generation costs. These measures are envisaged to contribute to the stabilization of electricity tariffs, improve affordability for vulnerable households and businesses, and enhance the reliability and flexibility of the grid.

In addition to environmental gains, the intervention will generate significant economic, technical, and climate adaptation co-benefits. It will empower vulnerable communities and MSMEs to access clean and affordable energy services, reduce social inequality, and ultimately contribute to national climate mitigation and adoption. The project aligns with St. Kitts and Nevis’s national priorities, complementing the existing GEF-funded “Achieving a Rapid Decarbonisation of the Energy Sector in Saint Kitts and Nevis (SKN-100)” project (Complementary GEF Project).

This SKN-100 project focuses predominantly on utility-scale renewable energy deployment and centralized planning of decarbonization pathways, while the proposed project addresses critical downstream and underserved gaps that SKN-100 does not fully cover, namely distributed solar energy and energy efficiency from a decentralised resilience perspective. Furthermore, the proposed intervention also aligns well with Sustainable Development Goal 7 on Affordable and Clean Energy and Sustainable Development Goal 13 on Climate Action. The value added by this project includes: expanding the decarbonization mandate beyond government offices to the average citizen; shifting utility-scale generation to flexible distributed generation needed to manage a 100% renewable grid; and moving the focus from just reducing CO2 to ensuring the lights stay on after a natural dis

2. Baseline Project Scenario

As St. Kitts and Nevis pursues its ambitious transition to renewable energy and universal energy access, reliability and affordability remain critical challenges. The country’s heavy dependence on diesel generation drives high electricity tariffs, increases the cost of doing business in the commercial and tourism sectors, and constrains inclusive access for low-income and vulnerable communities. Electricity costs can consume a disproportionate share of household income—over 18% for vulnerable populations—forcing trade-offs between powering homes and meeting other essential needs, such as food and healthcare.

Prolonged power outages following hurricanes, highlighted in the 2023 Eastern Caribbean Climate Vulnerability Report, illustrate the fragility of the centralized grid and the risks it poses to public health, safety, and economic recovery. Distributed renewable solutions offer a dual benefit: they reduce carbon emissions while enhancing the resilience and affordability of the electricity system.

Apart from the efforts in the geothermal sector, the Government has initiated several distributed solar energy initiatives (SOLARISE program and Residential Rooftop Solar Program), aligned with the Electricity Supply Act, Cap. 16:01, and the Small-Scale Distributed Renewable Energy Regulations (2025). This program allows eligible independent power producers and auto-producers to install solar PV or hybrid systems with battery storage and interconnect with the national grid. Small-scale auto producers can export surplus electricity to the grid under a Net Billing arrangement approved by the Ministry (net-metering). The Basseterre Valley Solar and Storage Project (35.7 MW solar + 43.6 MWh battery storage) under the SOLARISE program has been put on hold as the contractor could not mobilize the required investment.

The SOLARISE program provides the regulatory framework and net billing mechanism (A feed-in tariff of 11 cents per kilowatt-hour is established for excess energy returned to the national grid). The Residential Rooftop Solar initiative provides the hardware. Both programs support the national goal of achieving 100% renewable electricity by 2030 and encourages public participation in sustainable energy development. By now, there was insignificant focus on energy efficiency. Therefore, the Government makes efforts to implement the CARICOM MEPS for electric appliances, including lighting, refrigeration and air conditioning.

However, the Residential Rooftop Solar Program and the implementation of MEPS faces significant capacity constraints and implementation barriers particularly in the context of climate-vulnerable low-income households and MSMEs in key value chains. In the absence of targeted support through a GEF project, these limitations will prevent the program from scaling effectively, leaving the grid highly carbon-intensive and centralized. Vulnerable communities may continue to experience affordability barriers, and opportunities for regional knowledge exchange and replication across other SIDS will be missed. The GEF project is therefore critical to accelerate the adoption of DSE and EE solutions. It will provide the technical assistance, capacity-building, and financial mechanisms necessary to complement the existing regulatory framework, enabling the program to achieve its full potential. By doing so, the project will not only reduce greenhouse gas emissions and electricity costs but also enhance system resilience, expand access for low-income households and MSMEs, and generate valuable lessons for replication across the Caribbean region.

3. Alternative Transformational Project Scenario

The alternative transformative scenario envisioned under this GEF project makes distributed solar energy generation and energy efficiency, complementary to the geothermal efforts, a cornerstone of the decarbonization, climate resilience and just energy transition efforts aiming at affordable access to electricity services for low-income households and MSMEs. The initiative aims to accelerate the deployment of climate-resilient DSE solutions and EE measures through affordable mechanisms that reach MSMEs and the most vulnerable communities. The project will provide critical support to strengthen existing blended finance and de-risking instruments to attract private sector investment, establish a national energy efficiency subsidy program and a dedicated financing framework to enable last-mile adoption, and institutionalize technical capacity for climate-resilient clean technologies through a standardized certification system.

By fostering stronger coordination and linkages with regional knowledge hubs, such as the SIDS-SIDS Knowledge Transfer via CCREEE and the Global Network of Regional Sustainable Energy Centres (GN-SEC), the project will institutionalize best practices and ensure the durability, scalability, and

replication of outcomes. Inclusive measures targeting women and youth will further ensure equitable participation and benefits across the energy sector. This transformative approach not only advances the country's renewable energy and energy efficiency goals but also strengthens resilience to climate impacts, reduces dependency on imported fossil fuels, improves affordability for households and MSMEs, and creates a replicable model for other SIDS.

4. Justification for and value proposition of the project

This project offers a transformative approach towards accelerating the integration of climate-resilient distributed solar energy and energy efficiency solutions, to reduce greenhouse gas emissions, decrease fossil fuel spending for affordable access, and strengthen the climate-adaptive capacity of St. Kitts and Nevis's electricity system. By deploying distributed solar generation models and implementing energy efficiency best practices, the project will further diversify the energy mix, reduce dependence on imported diesel, and lower generation costs. These measures will stabilize electricity tariffs, improve affordability for vulnerable households and businesses, and enhance the reliability and flexibility of the grid. In addition to economic and technical benefits, the intervention will deliver significant social and environmental gains. It will empower vulnerable communities to access clean and affordable energy, reduce social inequality, and ultimately contribute to national climate mitigation and adoption.

5. Stakeholder Engagement

A multi-stakeholder approach will be employed through a co-creation model designed to ensure ownership, complementarity, and long-term sustainability. To achieve these objectives, the project engages a broad range of stakeholders across governmental, regional, private, civil society, and academic sectors. This partnership architecture ensures vertical integration (from policy to practice) and horizontal collaboration (from national to regional), thereby maximizing impact and replication potential. The project also prioritizes gender equality and youth inclusion, with 50% participation targets in training and financing programs, gender-responsive finance and capacity-building criteria, and youth innovation challenges led by local foundations. Knowledge management is anchored in the SIDS-SIDS Hub and GN-SEC network, ensuring that lessons learned are captured, disseminated, and scaled across the region. SKN is to serve as a pilot for SIDS-wide replication, contributing to a resilient, low-carbon, and inclusive future for island economies.

The project is designed through a multi-stakeholder, participatory process that includes low-income households, community groups, women's organizations, MSMEs in key value chains, local installers, financial institutions, the utility, government entities, and training institutions. Each stakeholder group contributes critical demand-side and supply-side insights necessary to shape a viable market for DSE and EE solutions. Vulnerable and under-served consumers, including women-headed households, are engaged to inform the affordability framework and subsidy design. Installers and technicians help shape training curricula; MSMEs provide feedback on financing barriers; and community-based

organizations support awareness-raising. This inclusive engagement ensures that the interventions respond to real needs, are embedded in local systems, and help strengthen long-term ownership and sustainability.

6. Part of the Global Program on Climate Resilient Renewable Energy Systems (G-RES)

The national project is part of the GEF and bilateral donor (e.g., Austria) funded Global Program on Climate-Resilient Renewable Energy Systems (G-RES), which is a multi-country program focused on accelerating a sustainable, climate-resilient energy transition across SIDS. The core objective of the overall program is to promote resilient renewable energy (RE) systems that reduce GHG emissions and dependence on fossil fuels, strengthen energy security and deliver productivity gains and climate adaptation co-benefits in key island value chains (water, agri-food, tourism, blue economy). The G-RES is underpinned by the principle that mitigation investments in SIDS are highly vulnerable and require adaptation financing (SCCF/LDCF) to be secure and sustainable. The program places a strong emphasis on empowering energy operators and MSMEs as the primary drivers of this transition.

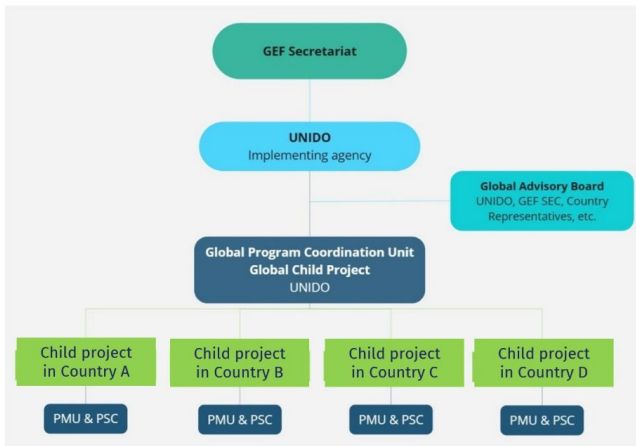
The G-RES is structured as a framework comprising this global-regional project, which provides an umbrella for the national GEF-funded projects implemented in parallel with allocations from STAR, SCCF, or LDCF (in some cases). The global-regional project aims to accelerate national progress through regional and SIDS-SIDS cooperation, leveraging shared knowledge, harmonized standards, and blended financing to reduce barriers that prevent private sector, particularly MSMEs, to adopt or become suppliers of climate-resilient renewable energy and energy efficiency (R&EE) solutions. Due to the exposure of SIDS, the use of climate-proven technologies and methodologies (i.e., those features representing the incremental cost of adaptation) are a prerequisite for the sustainability of GEF CMM and mitigation investments. The SCCF component of G-RES (and this Saint Lucia project) specifically finances this resilience premium, ensuring that the overall program's goal is climate-secure. G-RES contributes directly to the implementation of major multilateral commitments, including the Paris Agreement and the Antigua and Barbuda Agenda for SIDS (ABAS).

Figure 1: Global Program on Climate Resilient Renewable Energy Systems for SIDS

Global Program on Climate Resilient Renewable Energy Systems for SIDS

Global-regional component: provides a common umbrella and joint tools, builds coherence across policies and “child” projects, facilitates SIDS-SIDS knowledge transfer and replication (funded by GEF and donors - e.g. Austria)

National child projects: national implementation funded through GEF STAR, LDCF, SCCF, GCF and co-financing



National child projects to be executed by national entities in cooperation with regional partners



As GEF Agency, UNIDO coordinates the global-regional component and provides backstopping



Centres covering SIDS support the implementation of regional and SIDS-SIDS activities and partly act as co-executing partners

Other partners: SIDS DOCK, SIDS-SIDS Technology Transfer Hub at UWI

Figure 2: Objectives and scope of intervention of the G-RES Program for SIDS



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION
Progress by innovation

Overall Objective



Promote climate-resilient renewable energy systems in SIDS that strengthen energy security, reduce GHG emissions and dependence on fossil fuels, and deliver productivity and climate adaptation co-benefits in key island value chains, including water, agri-food, tourism, and blue economy

Climate-proven renewable energy and efficiency solutions

Renewable integration and decentralisation, grid flexibilization and enforcement (hardening, disaster-resistant storage, heat resistant and water efficient generation), RE for productive uses, energy efficient solutions (e.g. MEPS, district cooling)

Nature-based solutions

Heat protection, agrivoltaics and aquaponics, organic waste to energy (incl. sargassum), renewable ocean energy, restoring mangroves and wetlands for energy infrastructure protection

Resilient intelligent energy systems

Disaster-proven smart grid, storage and mobility systems, digital and AI applications for disaster, peak load and output projections (e.g. wind, solar),

Low-carbon and resilient transportation

Integrated electric mobility and renewable power systems, low-carbon and climate-resilient shipping and ports, alternative transport technologies and fuels, incl. green hydrogen

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

1. Overall Objective

The overall objective of this project is to accelerate the integration of climate-resilient distributed solar energy (DSE) and energy efficiency (EE) measures to reduce greenhouse gas (GHG) emissions, lower reliance on fossil fuels, and expand affordable and equitable access to clean energy for low-income households and MSMEs in key value chains, including those led by women and other vulnerable groups.. The GEF project will provide incremental support to put the Residential Rooftop Solar Program and the CARICOM MEPS efforts on energy efficiency for electric appliances into practice. This will be achieved through the deployment of distributed small-scale solar or hybrid systems (solar PV combined with battery storage) connected to the national grid, complemented by demand-side management and the best practices of energy efficiency. Together, these interventions will reduce emissions, enhance climate resilience, and provide inclusive and gender-responsive benefits to vulnerable communities and MSMEs in key value chains.

2. The Theory of Change (ToC)

As seen in the illustration below (*See Figure 4*), the Theory of Change proposes an intervention that will catalyse a sustainable, inclusive, and resilient clean-energy transition in St. Kitts and Nevis. The causal pathways through the various project activities are intended to strengthen enabling conditions, behavioral change, institutional capacity, and ultimately the widespread adoption of DSE and EE solutions as a contribution to the country's commitment to decarbonize its electricity system and reduce vulnerability to climate change.

Problem Statement and Root Causes

St. Kitts and Nevis faces a complex mix of structural, economic, and climate-related challenges that hinder progress toward an affordable and sustainable energy system. The country's heavy reliance on imported diesel for electricity generation results in high and volatile generation costs, making electricity unaffordable for many vulnerable households who spend a large percentage of their income on energy, significantly exceeding international benchmarks. Although the nation has substantial renewable energy potential and access to existing energy efficiency best practices at the regional level, the deployment of DSE and EE solutions remains limited due to a lack of innovation to reduce the high upfront costs, weak financial-sector readiness, limited consumer awareness, and technical capacity constraints. Furthermore, the electricity system is highly vulnerable to hurricanes, storms, and other climate impacts, which frequently damage centralized infrastructure and disrupt essential services. Moreover, the system needs to cope with the long-term impacts of climate change, driving the overall energy demand for cooling services. Contributing to these systemic issues is the absence of a fully operational independent regulator, insufficient standards and guidelines, and a lack of robust monitoring and reporting mechanisms. Together, these root causes form a persistent cycle of high emissions, limited renewable-energy uptake, low affordability, and reduced system resilience.

Women, men, and youth in St. Kitts and Nevis experience the impacts of high energy costs and climate vulnerability differently. Female-headed households are disproportionately affected by energy poverty, as they tend to have lower incomes, face higher financial barriers to accessing clean-energy technologies, and shoulder a greater share of energy-intensive unpaid care work, including cooling, cooking and household management. Women-owned MSMEs—common in food services, retail, and tourism—also face more limited access to finance and technical information needed to adopt rooftop solar or energy-efficient appliances. The project therefore adopts a gender-responsive approach that identifies gender-specific barriers, enhances equitable access to DSE/EE solutions, integrates gender-sensitive communication strategies, and expands the participation of women in training, technical roles, and decision-making spaces across the clean-energy transition.

Long-Term Impact

The long-term vision driving this project is the establishment of a fully decarbonized, climate-resilient, affordable, and inclusive electricity system powered by widespread adoption of distributed solar and energy-efficiency technologies. This will complement other renewable energy generation facilities, including the planned geothermal plant. In this envisioned future, households, businesses, and public institutions access clean and reliable energy at reduced cost, supported by a strong enabling environment and empowered by local technical capacity. The vision aligns with the country's National Energy Policy target of 100 per cent renewable electricity generation, the Nationally Determined Contribution goal of reducing emissions by 61 per cent by 2030, and regional and global commitments under the Antigua and Barbuda Agenda for SIDS (ABAS). **The transition will also ensure that women, youth, and vulnerable groups benefit equitably from new opportunities in the clean-energy economy, with improved access to technologies, finance, and skills development.**

Medium Term Impact or Outcomes

The project in the medium term will strengthen the enabling environment for clean energy adoption by improving affordability frameworks, generating market intelligence, establishing financing mechanisms, and demonstrating effective climate-resilient installation of distributed solar systems. It will also build national human capital through advanced training programs for financial institutions, technicians, and trainers. **These efforts will incorporate gender-responsive approaches to ensure that women, men, and youth have equal access to training opportunities, financing instruments, and decision-making spaces within the expanding clean-energy market.** Simultaneously, it will increase public awareness and establish a robust MRV mechanism to support evidence-based policy and investment decisions.

This will create the foundation for large-scale adoption of distributed solar and energy-efficiency measures, expanded access to affordable clean energy, and enhanced climate resilience of the electricity system. The sustainable financing ecosystem will also emerge, whereby local financial institutions routinely offer renewable-energy products supported by innovative financing tools. **Strong institutional capacity improved regulatory coherence, and transparent reporting will enable continuous decarbonization and improved energy security, while supporting more inclusive participation of vulnerable groups, including women-headed households and MSMEs.**

Causal Logic

The project's logic is build around the understanding that the clean-energy transformation can only occur when affordability constraints, institutional gaps, technical skill shortages, limited market information, issues of equality and equity, and financing barriers are addressed simultaneously.

Through Component 1, the project generates foundational knowledge—such as the demand-side readiness assessment and affordability framework—that informs precise policy reforms, financing design, and subsidy targeting. This will inform the development of DSE and EE investment strategy, and an innovative financing framework for utility-scale cases, enabling financial institutions to enter the market with confidence. Through developed investment tools, the project will work with existing programmes to mobilise investment in at least 12 MW of installed DSE systems and EE solutions.

Component 2 complements the enabling environment created by strengthening human and institutional systems. The installation of 30 pilot DSE systems with an electric capacity of least 0.5 MW will demonstrate the technical feasibility and viability of the technology and ifomr a wieder public awareness campaign for consumers. This will build consumer awareness, trust, and generate real-time performance data for future replication. Furthermore, the public awareness campaigns on both DSE and EE solutions are envisaged to foster behavioural change in various demographic groups,

including women and low-income households, by addressing information gaps.

Moreover, the gender-responsive approaches will help ensure that female-headed households, women-led MSMEs, and other underserved groups are included in subsidy targeting and outreach efforts. Furthermore, through training of financial institutions, the project will reduce perceived investment risk and equip lenders with tools to assess the bankability of DSE and EE projects. The Training-of-Trainers (TOT) programme ensures long-term local capacity for renewable energy education, while the technicians' training expands the hands-on skilled labour force needed to scale installations safely and reliably. Training programmes will incorporate gender-responsive measures—such as inclusive recruitment, flexible scheduling, and targeted outreach—to enable women and youth to participate in technical and financial roles traditionally dominated by men. While the national MRV mechanism enables transparent reporting of energy savings, emissions reductions, and installation performance. Together, the two components generate a holistic ecosystem enabler for market transformation, ensuring that clean-energy adoption accelerates and sustains beyond the life of the project while delivering equitable social benefits across gender and vulnerable groups.

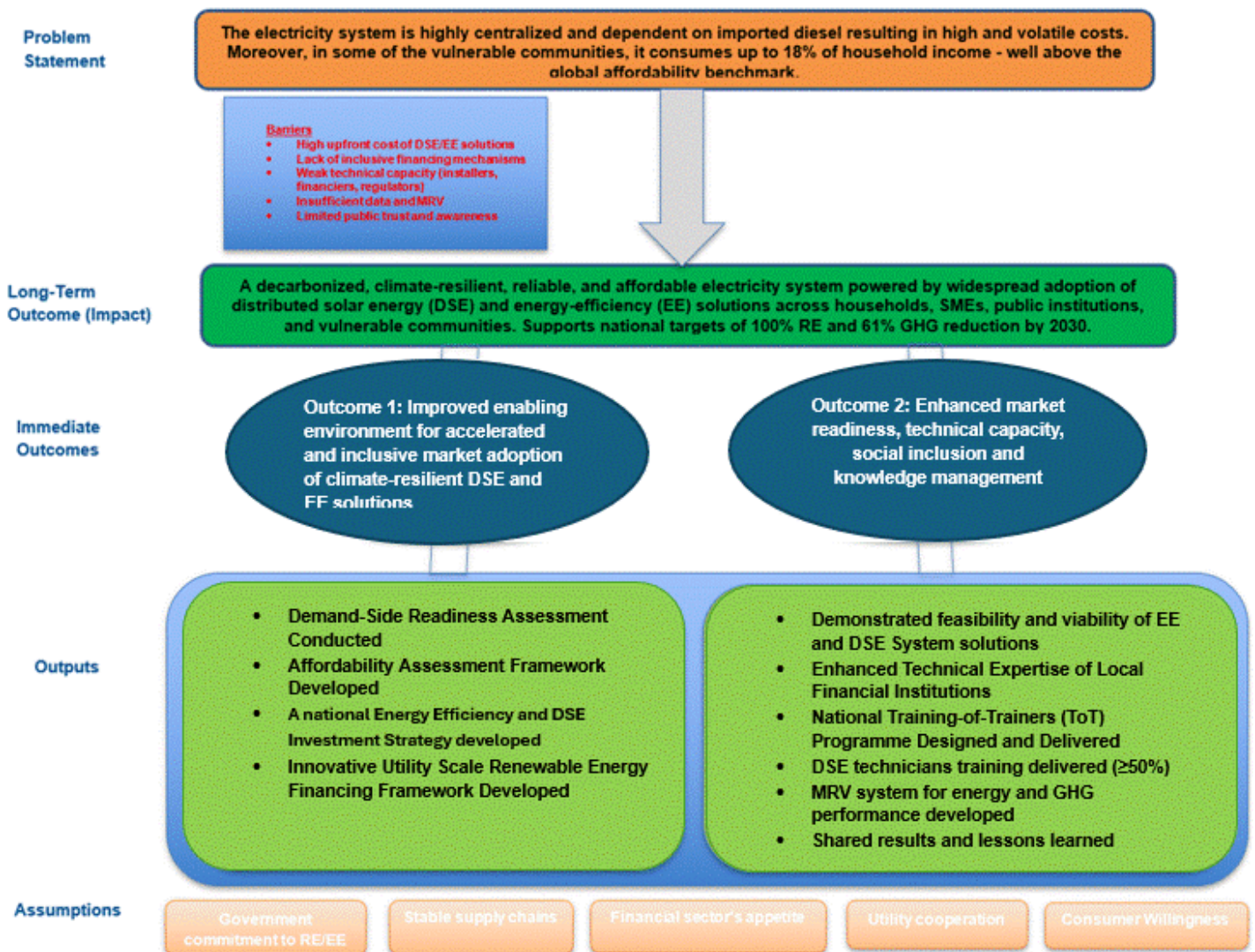
Assumptions and Risks

The Theory of Change rests on several key assumptions, including that government commitment to the clean-energy transition remains strong and that relevant institutions remain engaged in regulatory and policy improvements. Furthermore, financial institutions should have the required appetite and willingness to participate in capacity-building and adopt new lending frameworks once better informed and supported by subsidies and innovative financing tools. The model also assumes a functioning supply chain strengthened by trained local technicians and that utilities will effectively integrate distributed generation following climate-resilient engineering standards to ensure the durability of installations.

However, several risks are also predicted to influence the trajectory of this Theory of Change. For example, the volatility of the global supply chain due to the island nature of St Kitts and Nevis could affect DSE and EE technology costs. However, through the project, the government and private sector, the Chamber of Commerce could dialogue and develop strategies on diversified procurement channels and bulk approaches with the neighboring countries. Moreover, financial institutions may continue to perceive renewable energy as high-risk; however, structured training, standardized appraisal tools, and the introduction of risk-sharing instruments work to reduce these constraints.

Additionally, climate events may damage infrastructure, which is mitigated through the use of hurricane-resistant installation standards and climate-resilient design principles, while regulatory delays could be managed through early engagement with relevant ministries and alignment with national priorities. Lastly, the awareness campaigns are likely to address the behavioral barriers for increased consumer uptake of the solutions.

Figure 4: An illustration of the Theory of Change



3. Project Components, Interventions, and Activities

The project is structured around three interconnected components, designed to deliver the intended impact defined by the following outcomes and outputs as follows:

Component 1

Outcome 1: Improved enabling environment for the accelerated and inclusive market adoption of climate-resilient DSE and EE solutions.

Output 1.1: Comprehensive Demand-Side Readiness Assessment Conducted

To understand the overall preparedness of households, businesses, public institutions, and key sectors to adopt climate-resilient DSE and EE solutions, a comprehensive demand-side readiness assessment will be conducted. The assessment will establish the first consolidated nationwide baseline covering consumer awareness, willingness to invest, ability to pay, financing constraints, policy barriers, technical capacity, and existing technology penetration. By taking a holistic view of the energy landscape from a demand-side perspective, the assessment will illuminate the real-world conditions that influence consumer behaviour and identify the primary levers that must be strengthened for transformative sector growth.

The assessment will apply a gender-responsive lens, recognising that women, men, and youth experience energy affordability, access to finance, and technology adoption differently. The barriers to be evaluated include high upfront costs, limited technical knowledge, low trust in new technologies, and weak alignment of regulatory incentives. The process will ensure inclusive representation, particularly of women-headed households, low-income groups, youth entrepreneurs, MSMEs (including women- and youth-led enterprises), and rural communities. A particular focus will be on MSMEs in key island value chains, such as tourism, agri-food, commerce, and the blue economy.

Moreover, a multi-dimensional readiness index customised for Saint Kitts and Nevis will be employed, categorising consumer segments based on their readiness levels, financial accessibility, and technological suitability. This will be aimed at guiding policy reforms, financing initiatives, subsidy design, and investment prioritisation. The final report will serve as an indispensable reference for policymakers, investors, and development partners. Its recommendations will focus on actionable interventions such as tariff reforms, standardised guidelines for installers, strengthened consumer protection measures, inclusive workforce development priorities, customised subsidy models, and risk-mitigation tools for financial institutions. By establishing a rigorous evidence base, this output will ensure that subsequent project interventions are accurately targeted and reflect real market dynamics.

Key Deliverables:

- A full market readiness assessment report with qualitative and quantitative analysis of the policy and regulatory gaps affecting DSE and EE uptake and relevant gender dimensions.
- A baseline data repository including raw datasets, methodological notes, GIS maps, and sex-disaggregated demographic data.
- Record of gender-responsive stakeholder consultations, including transcripts, meeting notes, and community feedback summary.
- A synthesized readiness index for policymakers.
- Workshop and validation report documenting consensus on priority areas.

Output 1.2: An Affordability Assessment Framework Developed

The joint affordability assessment framework is to be developed as a tool for regular use by sector players like financing institutions, consolidating socioeconomic, energy-consumption, and financial-access factors to determine the true affordability of DSE and EE solutions across diverse consumer groups, including MSMEs in key value chains. The framework is to go beyond traditional cost-based analysis and incorporate behavioural, structural, social and demographic variables that influence affordability, including income volatility, household size, seasonal economic fluctuations, electricity tariff structure, gender dimensions and climate vulnerability.

A standardised methodology will be designed to evaluate affordability thresholds, including willingness-to-pay, ability-to-pay, and capacity-to-borrow indicators for households and MSME groups. Gender considerations will be embedded to capture the specific constraints faced by women-headed households, women-owned and youth-led MSMEs, and single-income households, all of which typically face higher barriers and limited access to collateral. The framework will also incorporate hidden costs of inaction, such as high electricity expenses, business disruptions due to energy outages, and climate impacts on vulnerable communities.

In addition to socioeconomic evaluation, the tool will also have a financial modelling component analysing the total cost of ownership (TCO), payback periods, lifetime savings, and climate-adjusted benefits. Respective financing modalities

like lease-to-own options and pay-as-you-go systems will also be incorporated in the model. Moreover, the framework will also outline a decision-making matrix to guide policymakers and financial institutions on when and how to deploy affordable financing tools depending on consumer segmentation and technology categories. It will be designed to be fully replicable and serve as a key policy instrument informing subsidy design, financing incentives, social protection energy programmes, and private-sector financing innovation amongst banks, credit unions, associations, and SME groups.

Key Deliverables:

- National affordability assessment framework including methodology, analytical models, and segment-specific and gender-responsive affordability thresholds.
- Stakeholder consultation report documenting multi-sector and inclusive engagement.
- Policy recommendations for tariff reform, subsidies, and inclusive financing.

Output 1.3: National Energy Efficiency and DSE Investment Strategy Designed

Through this output, the country's first national energy efficiency investment strategy will be developed. It will identify key fiscal and non-fiscal incentives and build on key measures such as Minimum Energy Performance Standards (MEPS) for lighting, air conditioning and refrigeration to be implemented in partnership with St Kitts and Nevis Bureau of Standards (SKNBS). The programme will aim at accelerating the adoption of high-performance appliances and energy-saving technologies, reflecting the socioeconomic diversity of the population and targeting the most critical energy-consuming sectors. Its design will incorporate global best practices such as tiered subsidy structures, rebates for vulnerable groups, and energy-efficiency labelling schemes. MEPS are an important measure for MSMEs to cope with the increasing cooling costs due to temperature increase.

Furthermore, the investment strategy will entail robust national investment mechanisms that address the financial exclusion of disadvantaged consumers, especially women, youth, and the vulnerable population, traditionally left out of the mainstream financial system. Building on the output 1.2, it will cover diverse instruments, including micro-finance loans, revolving funds, savings-linked lending, risk-sharing facilities, partial credit guarantees, pay-as-you-go models, energy-as-a-service schemes, and community-based financing. It will also align with financial-sector regulations and incorporate climate-risk considerations such as hurricane exposure and energy-security risks, highlight opportunities for private-sector participation through green investment portfolios, supplier financing partnerships, and results-based financing models.

The development process will also include continuous consultation with banks, credit unions, fintech companies, solar suppliers, women's groups, youth, SME support agencies, and private investors to highlight those mechanisms can be used to reduce the perceived risk of lending for EE and DSE technology solutions, including standardized technical quality requirements, warranties, certified installers, and structured repayment mechanisms that align with energy savings. It will also explore alignment with existing social protection frameworks to ensure low-income households, including women-headed households, benefit from the transition through appropriate financial sustainability mechanisms, including cost-sharing between the government and SKELEC. To ensure accountability, the programme will establish verification and monitoring processes and energy audits. Gender-responsive and socially inclusive design elements will ensure that women-led households, female- and youth-owned MSMEs, and informal-sector entrepreneurs—who often face higher collateral barriers—are able to benefit from the proposed financing models. Through this investment strategy and building on other existing interventions like SOLARISE, the project intends to mobilise investment in DSE installations of at least 9.5 MW of installed electric capacity. The output will produce the following deliverables:

- National investment strategy document detailing market analysis, lending mechanisms, gender and social inclusion strategy, and risk-sharing tools with operational models and subsidy mechanisms with gender-responsive features, and youth incentives.
- Replicable copies of the MEPS for lighting, air conditioning and refrigeration are developed and adopted.
- Framework for a national credit guarantee or risk-mitigation facility, with provisions supporting women and youth borrowers developed and adopted
- Consultation report summarizing engagement with all key stakeholders, including women's groups, youth organizations, vulnerable households, MSMEs, utilities, financial institutions and regulators.

Output 1.4: Innovative Utility-Scale Renewable Energy Financing Framework Developed

This output will establish a national framework to introduce new and non-conventional financing instruments that unlock large-scale utility investment in renewable energy. It will explore mechanisms that go beyond traditional lending models, like carbon-credit monetisation pathways, and articulate regulatory prerequisites, institutional roles, investor requirements, and the legal architecture needed to operationalise these instruments in Saint Kitts and Nevis. The framework will ensure that proposed financing models remain inclusive and accessible, particularly for women, youth and low-income consumers who traditionally face higher barriers to entering energy-finance markets.

Based on the potential sources, it will also provide templates to help institutions design innovative financing facilities. This will also be accompanied by a technical capacity-building programme to facilitate the financial institutions' understanding and utilization of these tools effectively. Training will integrate gender-responsive approaches by ensuring the participation of women-led MSMEs, youth entrepreneurs and community-based groups, supporting their ability to navigate and benefit from emerging financial instruments. The development process will also involve structured collaboration between ministries, the financial sector, regulators, investors, renewable-energy developers, women's groups and development partners. The goal is to empower the country to attract larger-scale non-conventional private capital, reduce dependence on grant funding, and create a sustainable financing ecosystem for long-term renewable energy deployment.

Key Deliverables:

- Innovative financing toolkit covering multiple financial instruments, feasibility criteria, social/ gender and regulatory considerations.
- Capacity-building manual for government, financial institutions, and private developers, including inclusive participation guidance for women and youth.
- Investor mapping and market viability assessment.

Component

2

Outcome 2: Enhanced market readiness, technical capacity and knowledge management

Output 2.1: Demonstrated feasibility and viability of EE and DSE System solutions

In complement to the SOLARISE program under implementation by SKELEC, output 1.3 will demonstrate the practical deployment of climate-resilient DSE technologies across a representative mix of grid-connected and off-grid settings. The installation of at least 30 pilot DSE systems of up to 0.5 megawatts (MW) will provide real-world evidence of performance, cost-effectiveness, and climate-resilience benefits. These pilot sites will be strategically selected to represent

key consumer categories such as MSMEs (including women- and youth-led enterprises), schools, clinics, community centres, enterprises and vulnerable households. Selection will apply gender-responsive and social-inclusion criteria, ensuring equitable access to system benefits and enabling pilots to address differentiated energy needs (e.g. safety lighting for women, time-saving benefits for female-led households, energy reliability for social services used by youth and girls). The installations will demonstrate resilience-oriented engineering designs, including hurricane-resistant mounting structures, battery-supported backup systems, and IoT-enabled monitoring features. Particular attention will be paid to safety considerations relevant for women and youth—for example, adequate lighting for public spaces, safe meter placement, and user-friendly interfaces.

The installation process will also be used as a practical training ground for local technicians (including women and youth) under Component 2, fostering hands-on learning as well as increase public awareness about DSE solutions. Training providers will ensure inclusive enrolment, enabling women and young people to acquire hands-on experience in installation, commissioning, safety, and troubleshooting—skills that can directly translate into job placement opportunities in the emerging solar sector. The performance data from pilot systems will feed into a real-time monitoring dashboard, disaggregated where relevant by consumer type, to track generation, emissions avoided, downtime, and cost savings. This information will provide critical insights for scaling national adoption and informing the financing models developed in Outputs 1.3 and 1.4. Lessons learned will directly inform national installation guidelines and utility licensing frameworks, ensuring that future market expansion integrates gender, youth and social-inclusion considerations from the outset.

Additionally, the project will support public awareness efforts on energy efficiency through mainly cheap audio media channels like radio and social media to increase knowledge, change consumer behaviour, and stimulate demand for energy-efficient technologies and best practices across St Kitts and Nevis. Due to low public awareness, many consumers remain unfamiliar with the financial and climate-resilience benefits of energy efficiency, or the practical steps required to reduce electricity consumption. radio, social media, community meetings, and school outreach programmes. Messaging will be developed to address specific behavioural barriers, including misconceptions about upfront costs, underestimating long-term savings, and low trust in new technologies. The public messaging will demonstrate how reducing energy consumption not only lowers electricity bills but also strengthens national energy security and reduces vulnerabilities to climate-driven disruptions.

Key Deliverables:

- A pilot installation portfolio report with detailed site assessments, engineering designs, photos, and a gender/youth inclusion summary for each sites
- A beneficiary impact assessment detailing energy cost savings, resilience benefits, safety improvements, time-use reductions for women and girls, and opportunities
- Full suite of campaign materials: posters, flyers, infographics, videos, radio scripts, and social media toolkits.
- National inclusive energy efficiency-awareness strategy.
- Community event summaries and behavioural-change feedback reports with gender and age disaggregated data.

Output 2.2: Enhanced technical expertise of local financial institutions on innovative and inclusive DSE and EE financing

This output is to significantly focus on strengthening the in-house technical and analytical capacity of Saint Kitts and Nevis' financial institutions through the National Chamber of Commerce, enabling them to more effectively evaluate, structure, and deploy inclusive financing mechanisms for DSE and EE solutions based on the tools developed under

outputs 1.2 and 1.6. The current financial landscape shows several knowledge asymmetries in the financial sector on renewable-energy technologies, apparently high-risk profiles, and project appraisal methodologies, often resulting in conservative lending practices and limited availability of tailored green finance products. Without dedicated capacity building, these constraints will continue to restrict access to affordable financing for households, MSMEs, and community institutions, particularly for women-headed households, female- and youth-led MSMEs, and borrowers in the informal economy, who frequently face higher collateral and documentation barriers.

The project will therefore engage banks and microfinance providers through a structured capacity-building programme targeting both technical knowledge and financial product development. Training content will include case studies from regional and international markets will demonstrate how financial institutions have successfully structured credit products for households and productive settings in adopting DSE technologies. The training will also integrate gender, environmental and social safeguard considerations relevant to the financing of renewable energy systems and for equitable access to the financing mechanisms.

Beyond basic technical familiarity, the intervention will also advance financial institutions' ability to conduct project appraisal. This will include analysing the total cost of ownership, return on investment, lifecycle cost savings, cash-flow generation, and borrower repayment capacity linked to energy-cost reductions. Through these efforts, lending officers will be better equipped to differentiate between high-quality, bankable DSE technologies and low-quality systems that present performance and repayment risks. Furthermore, this is also an important opportunity for the creation of partnerships between financial institutions and certified installers or suppliers to support co-designed lending products. Joint workshops will be held to explore innovative products such as unsecured solar loans with grace periods, technology-backed collateral models, asset-based lending, and blended-finance. Such partnerships will also intentionally include women-owned installation firms and youth solar entrepreneurs, contributing to a more inclusive green-finance ecosystem. By developing a shared understanding of risks and opportunities, the project will facilitate stronger market alignment and increase the likelihood of long-term uptake of sustainable and inclusive green finance across the country.

Output 2.3: Advanced training-of-trainers (ToT) programme Designed and Delivered

This output will focus on creating a sustainable, long-term training ecosystem for the emerging DSE market through the establishment of an advanced ToT programme. There will be a particular focus on energy managers or technicians in MSMEs in key value chains, particularly tourism. This is intended to build a national cadre of highly skilled trainers who can independently design, deliver, and scale training across public institutions, private training centres, technical vocational institutes, and community colleges. Delivery through at least one university will be essential in overcoming the current reliance on external expertise and ensuring continuity after the project's completion.

The curriculum will cover the full suite of technical competencies necessary for DSE deployment, including system sizing, component selection, layout design, climate-resilient installation practices, safety protocols, electrical standards, troubleshooting, battery-system integration, hybrid-system operation, and performance optimisation. Trainers will be schooled in both theoretical and practical methods, including hands-on modules conducted at demonstration sites established under Component 1. Gender-responsive pedagogy will be incorporated to ensure training materials, teaching methods, and practical exercises are accessible and responsive to diverse learners, including women and young trainees.

This will also ensure pedagogical training where trainers will learn best practices in adult education, including how to update and adapt training content in line with emerging technologies and evolving international standards.

A rigorous assessment mechanism will evaluate the readiness of trainers before certification. The trainers who complete the programme successfully will become certified national trainers and will be included in a publicly accessible database for future employment opportunities in the emerging DSE market in St Kitts and Nevis.

Key Deliverables:

- Full Training-of-Trainers (ToT) curriculum and facilitator guide, with inclusive-training guidance..
- Records of practical demonstration sessions and supervised teaching activities.
- Database of certified national trainers and their specialisation areas.
- ToT evaluation report measuring effectiveness and long-term sustainability.

Output 2.4: A national technician's training programme on design, installation, and O&M of DSE solutions

This output will aim at significantly strengthening the technicians' workforce in SKN by training at least 90 technicians (50% women) in the installation, operation, and maintenance of DSE systems. The training will be essential in further building a reliable and skilled local labour force that can support both immediate and future expansion of renewable energy across the islands. A focus on inclusive participation—targeted at a minimum of 50% women and 30% youth participation—will ensure that women and young people have equitable access to the economic opportunities generated by the clean-energy transition.

The technicians' training programme will also cover a broad set of technical and practical competencies, including solar PV system fundamentals, electrical wiring, system sizing, safety procedures, structural mounting, battery system integration, hybrid configurations, and operational troubleshooting. Furthermore, it will also emphasize climate-resilient installation techniques, especially hurricane-resistant design, corrosion prevention, and physical protection of equipment in coastal and high-risk areas. Technicians will also learn to apply national and international electrical codes to ensure compliance, safety, and quality.

Moreover, hands-on learning will be central, and participants will engage in field activities at pilot sites installed under Component 1, allowing them to work with real-life systems, conduct performance tests, and perform installation tasks under supervision. These practical modules will give technicians the confidence and skills required to deliver professional services in the market.

To promote inclusion, the project will engage in targeted recruitment of trainees through women's associations, youth groups, community colleges, and local NGOs. Certification will be provided to trainees who complete the curriculum, pass assessments, and demonstrate technical competence in practical exercises. The project will also maintain a registry of certified technicians and ensure that employers, suppliers, and financial institutions have access to this talent pool.

Key Deliverables:

- Technician training manual covering technical, safety, and climate-resilient installation procedures.
- Practical training logs and performance assessments for each trainee.
- Gender disaggregated data on participation.

Output 2.5: Robust energy sector MRV mechanism developed

Under this output, a comprehensive Monitoring, Reporting, and Verification (MRV) mechanism for the energy sector

that aligns with national climate commitments and international reporting standards will be designed. This will be critical for tracking progress on renewable energy deployment, energy-efficiency improvements, GHG emission reductions, and Climate-Resilient development goals, including the project target of reducing emissions of 255,836 tCO₂e over the next two decades in the sector through the DSE deployment of 0.5 MW (pilot) and 12 MW (mobilisation of investment) of installed capacity through direct and indirect means, respectively. The MRV mechanism will also integrate gender- and age-disaggregated data where relevant to assess equitable access, participation, and benefit-sharing across households, MSMEs, and community institutions.

Furthermore, the system will also define a set of standardised indicators, methodologies, and reporting templates for measuring energy production, energy demand, system performance, grid integration, and policy outcomes. It will also outline institutional roles and responsibilities, data-collection procedures, quality-assurance systems, and timelines for reporting. The framework will be harmonized with existing national systems, such as national communications and climate reports, while ensuring that data processes remain inclusive and capable of capturing the experiences of women, youth, and vulnerable groups, particularly in relation to energy access and consumption.

A digital platform or sectoral dashboard will also be developed, allowing real-time or periodic data uploads from pilot sites, utilities, installers, and public institutions. The platform will include dashboards showing renewable energy generation, installation counts, energy savings, system performance, GHG reductions, and cost savings. Where feasible, the dashboard will visualize gender/youth-disaggregated indicators to support evidence-based decision-making on inclusion.

Role-based access will ensure data security while enabling transparency and evidence-based decision-making across ministries, utilities, and development partners. Capacity building will form an essential part of this output, providing government staff with training on data collection, verification methods, GHG emission calculation, and reporting consistency. Training modules will incorporate gender-responsive data-collection practices, ensuring MRV officers understand how to capture and report equitable outcomes. The project will also support the development of a governance structure that ensures long-term sustainability of the MRV system beyond the project's lifecycle.

Key Deliverables:

- Comprehensive MRV framework document (methodologies, indicators, reporting templates, institutional roles), including guidance on gender- and age-disaggregated data.
- Fully functional digital MRV platform with dashboards and data management functions linking outputs to national climate reporting
- Training programme for MRV officers and institutional data managers.

Output 2.6: Shared results, deliverables and lessons learned within the G-RES program through the CCREEE and UNIDO-led GN-SEC platform and the SIDS Hub

Under this output, the project establishes a robust framework for replication, scaling, and institutional learning, ensuring that the results of the G-RES program extend far beyond the national context of St Kitts and Nevis. By leveraging CCREEE, the UNIDO-led Global Network of Regional Sustainable Energy Centres (GN-SEC), and the SIDS Hub, this will strengthen regional cooperation and accelerate knowledge transfer from the project deliverables across the SIDS Community. Gender-responsive and socially inclusive learning will be embedded throughout to ensure that women, youth and vulnerable groups are reflected in lessons learned and benefit from regional knowledge exchanges.

The overarching intention is to ensure that utilities across SIDS benefit from shared experiences, best practices, and practical tools emerging from the G-RES program. Results, deliverables, methodologies, and lessons learned from the implementation processes of the project will be systematically shared through the GN-SEC platform and CCREEE channels. This includes knowledge briefs, technical materials, tools, and monitoring insights that can inform and inspire replication. This will be done through established platforms like the Caribbean Community (CARICOM) Energy Week to facilitate institutional learning and regional collaboration, ensuring that the impact of the G-RES program is multiplied across the broader SIDS landscape.

Key Deliverables

- Knowledge Sharing Package summarizing results, lessons learned, methodologies, and tools.
- Technical Deliverables Repository for the project on the CCREEE website.
- Published Case Studies, capturing replicable models and practical implementation steps.
- Regional Webinars and Physical Dissemination Session at the CARICOM Energy Week.

Component 3:

Outcome 3: Effective and adaptive implementation and evidence-based learning

Output 3.1: Implementation effectively planned and coordinated

This output ensures that the project is managed in a structured, transparent, and gender-responsive manner that enables timely, high-quality delivery of all planned interventions. A dedicated Project Steering Committee (PSC) will be established to oversee strategic direction, ensure alignment with national policies, and provide technical and operational guidance throughout implementation. The PSC will be composed of representatives from key ministries, regulatory bodies, and private-sector stakeholders, with a minimum of 40% women's participation to strengthen gender-responsive governance and ensure inclusive decision-making. The PSC will convene regularly to review progress, approve work plans, address implementation barriers, and ensure coherence across the project's three components.

To operationalize day-to-day management, the project will recruit local qualified project staff, as required. These personnel will be responsible for coordinating activities, managing partnerships, delivering technical outputs, and ensuring that all interventions meet quality standards. A comprehensive Annual Work Plan (AWP) will be prepared each year, outlining detailed activities, timelines, budgets, and responsibilities. The AWP will be validated by the PSC and shared with national counterparts and development partners to promote coordination and accountability. Together, these efforts will establish a strong institutional and operational foundation that enables effective implementation, ensures cross-component integration, and enhances long-term sustainability.

Output 3.2: Implementation monitored and reported robustly

This will strengthen the quality and consistency of project monitoring, reporting, and evaluation to ensure transparency, adaptive management, and evidence-based decision-making. Throughout implementation, the project team will produce periodic technical and financial reports using the required GEF reporting templates, ensuring that all results, expenditures, risks, and lessons learned are captured comprehensively and submitted within established timelines. These reports will document progress toward outputs and outcomes, highlight implementation challenges, and outline corrective measures to ensure that the project remains on track.

A project-level Monitoring Plan will be developed and implemented in compliance with UNIDO, GEF and the government of St Kitts and Nevis' requirements. The plan will include sex- and age-disaggregated indicators wherever relevant to track equitable participation and benefit-sharing across households, MSMEs, and institutions.

Mid-term Review (MTR): The MTR will also be conducted in the second year of the project implementation. Independent. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing, or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project under review. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the evaluation process.

Furthermore, a **Terminal Evaluation** will take place upon completion of all major project outputs and activities. The terms of reference, the evaluation process and the final TE report will also follow the standard templates and guidance for GEF-financed projects. The evaluation will be independent, impartial and rigorous. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project being evaluated. The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the terminal evaluation process. The final TE report and TE TOR will be publicly available in English. A management response to the TE recommendations will be posted publicly within six weeks of the TE report's completion. Final Report: The project's terminal GEF PIR, along with the terminal evaluation (TE) report and corresponding management response, will serve as the final project report package. The final project report package shall be discussed with the Project Steering Committee during and at the end-of-project review meeting to discuss lessons learned and opportunities for scaling up and replication.

A Gender Action Plan (GAP) will be developed during the inception phase to operationalize gender and social-inclusion commitments across all components, with clear activities, responsibilities, indicators, and budget allocations. Moreover, gender-responsive insights and inclusive learning will be systematically incorporated into all reviews, supporting continuous improvement and alignment with national and regional energy-transition priorities.

Gender mainstreaming

The project design emphasizes a gender- and youth-responsive approach, ensuring that women are provided equal opportunities to lead, participate in and benefit from the project. UNIDO, as the implementing agency, also recognises that interventions related to energy and climate change are expected to have an impact on people and are, therefore, not gender- neutral. This is also true for projects related to DSE and EE solutions market. In fact, due to diverging needs and rights regarding energy consumption and production, different exposure and thresholds relevant for women and men of different ages, each individual is expected to be affected differently by the project (in terms of their rights, needs, roles, opportunities, etc.).

As a guiding principle, the project will ensure that both women and men are provided equal opportunities to lead, participate in and benefit from the project. Efforts will be taken to ensure that both women and men have equal opportunities to lead, participate in and benefit from all project activities, both at managerial and technical levels. Gender-responsive recruitment will be practiced at all levels where possible, especially in the selection of project staff, researchers and experts, as well as technical staff. In cases where the project does not have direct influence, gender- responsive recruitment will be encouraged. Project staff and stakeholders will be trained on gender mainstreaming, and their awareness raised on gender bias. When data collection or assessments are conducted as part of project implementation, gender dimensions will be considered. This will include gender- disaggregated data collection. All decision-making processes will consider gender dimensions.

At the project management level, efforts will be made for Project Steering Committee (PSC) meetings to be gender balanced, and to invite observers that represent gender dimensions, including organisations/associations promoting gender equality and advocating women’s empowerment. Also, at the level of project activity implementation, efforts will be made to consult with stakeholders focusing on gender equality and women’s empowerment issues. This is especially relevant in policy review and formulation. Finally, research, data and assessments will consider gender and age-differentiated needs of women and men from different social groups. The project also adheres to strict participation targets, aiming for a minimum of 50% participation of women and youth in key training and financing programs, ensuring the M&E framework systematically tracks differential impacts and benefits based on gender and age.

Private sector engagement

Through the St Kitts and Nevis Chamber of Commerce and Industry, the project positions the private sector, especially financial institutions and energy service companies, at the core of most of its activities to ensure that they tap into the new business opportunities under the emerging DSE and EE market segment. Under Component, there are several outputs to be developed to increase access to create an enabling environment for private sector investment, like project assessment tools, investment strategy and innovative financing framework. Moreover, the latter market enablers will be developed with the private sector’s input.

Furthermore, component 2 of the project also presents capacity building opportunities in both the technical and financing aspects of the DSE. And the EE market where private will be engaged as primary beneficiaries. For example, the in-house training for financial institutions is envisaged to improve their technical capacity in designing suitable financing products. While the technical training could also offer private energy services companies an opportunity to increase their technical in DSE and EE solutions for improved service delivery. This continuous, targeted engagement ensures that the project interventions are market-driven and scalable, moving them beyond donor dependency.

Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

No

If so, please describe that role here. 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

The final implementation and execution structure will be determined during the PPG phase. UNIDO, as the GEF implementing agency, will be responsible for the implementation of the project and liaise with the GEF Secretariat. UNIDO will be responsible for all inquiries regarding the project implementation progress, project-level reporting, terminal evaluation, and tracking final project completion and the achievement of higher-level impacts on the global environment. CCREEE will be the lead executing agency and also host the PMU. Furthermore, the project will also work closely and complement the GEF7 “Achieving a Rapid Decarbonization of the Energy Sector in Saint Kitts and Nevis (SKN100)” under implementation by the United Nations Environment Programme (UNEP).

Stakeholder Roles

The project has the following indicative implementation and execution structure (*Figure 5*). It will be completed based on the results of the PPG phase and consultations with the Government. The main executing partner will be CCREEE.

Figure 5: Project Implementation and Execution Structure

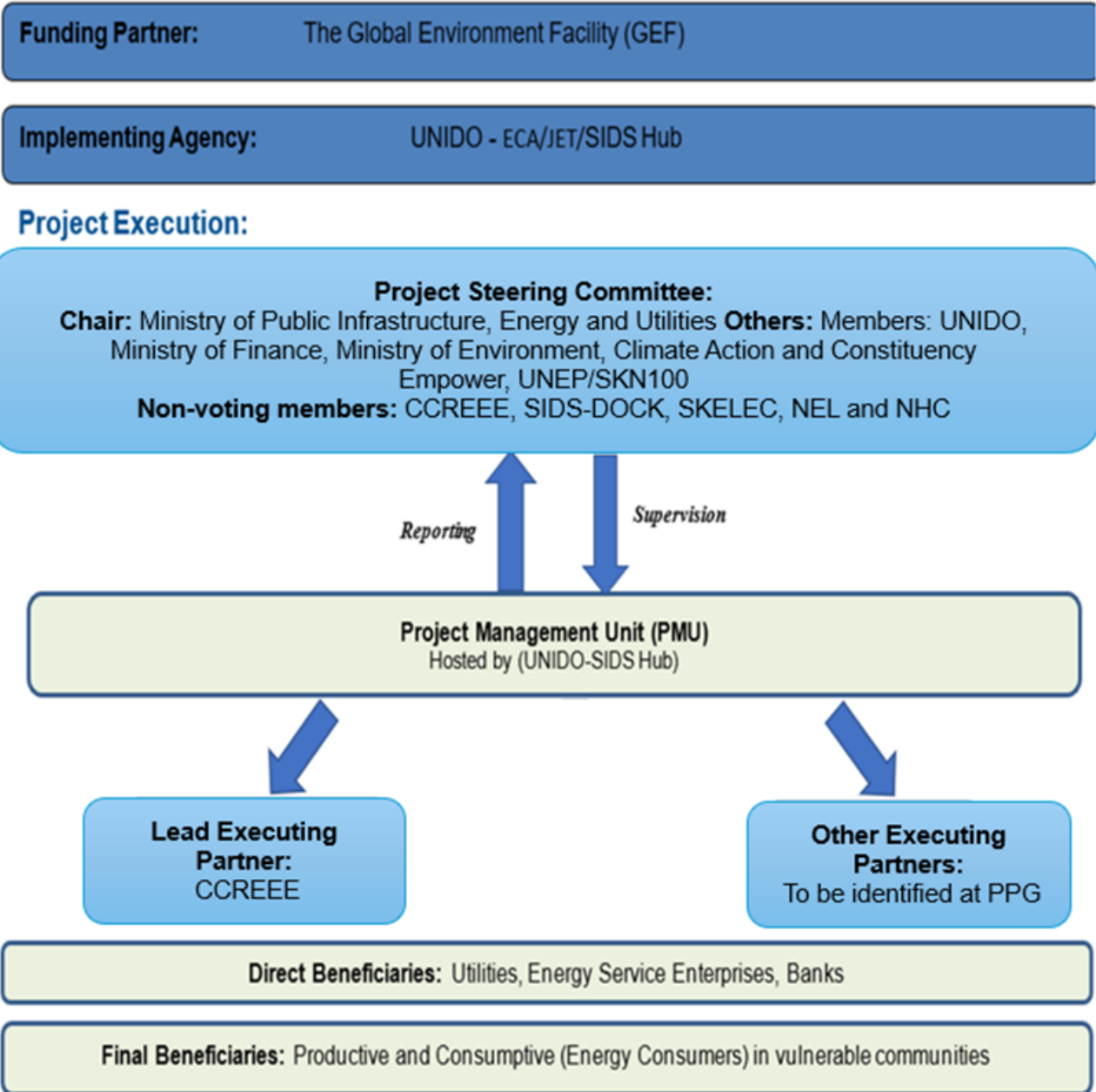


Table 1: List of local stakeholders and their roles and involvement

Stakeholder Type	Specific Stakeholder/Entity	Level of Engagement & Primary Interest	Specific Contribution to Project Success	Key Component/Output Linkage
Governance & Policy	Ministry of Public Infrastructure, Energy, and Utilities (MPIEU)	High: Policy oversight. interest in alignment of the project deliverables with the national energy policy direction.	Strategic Guidance: Offering direction in the development of most of the deliverables, especially under Component 1 of the project and some key	Component 1 (Enabling Environment) and

			outputs under Component 2.	Component (Market Awareness)
Implementation & Technical	UNIDO	High: The Implementing Agency to offer GEF Technical Oversight to the project implementation and alignment with Global-RES and SIDS-SIDS cooperation	Knowledge Transfer: Facilitates SIDS-SIDS cooperation via the GN-SEC platform under (2.6)	Component 2 (Knowledge Exchange),
Governance & Policy	Ministry of Environment, Climate Action, and Constituency Empowerment:	High: Policy oversight interest in environmental compliance and contribution to the mitigation targets of the countries	Strategic Guidance: Offering direction in the development of most of the deliverables, especially in alignment with the implementation process, with the Mitigation target of the country.	Component 2 (National MRV system)
Execution & Technical	Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE)	High: Lead Executing Partner offering technical assistance and advisory support to the project implementation as part of work in promoting renewable energy and energy efficiency in the region.	Technical support, Harmonization & Replication: Offering technical support in coordinating the implementation of the project, policy harmonization and sharing results for regional replication across the Caribbean in coordination (SIDS-DOCK) and GN-SEC	Component 1 (Enabling Environment), Component 2 (Knowledge Exchange),
Financial & Investment	St. Kitts Electricity Company (SKELEC)	High: A Technical partner offering assistance and coordination support to the project implementation in line with its electricity generation planning, grid management, retail distribution, and integrating renewable energy in St. Kitts	Resource Mobilization: Ensures project activities, especially the pilot installations, are leveraged with existing DSE programs.	Component 2 (Financing)
Financial & Investment	Nevis Electricity Company (NEVLEC):	Consulted/Co-delivery: Interested in aligning its work with some of the national sectoral market enablers to be developed and replication of the approach in Nevis, as the utility responsible for power generation planning, grid management in the region.	Resource Mobilization: Mobilize funding to ensure project activities, especially in the areas of DSE installations and promotion of EE solutions, are replication in Nevis	Component 1 (Financing),

Governance & Policy	National Housing Corporation (NHC):	High: A project partner offering technical assistance and coordination with an interest in integrating energy efficiency and distributed renewable energy solutions into public housing developments	Strategic Guidance: Offering direction in the development of most of the deliverables related to housing and urban planning, like under output 1.1 and 2,2, as well as aligning with sectoral national priorities	Component 1 (Affordability Assessment)
Governance & Policy	Ministry of Finance:	High: Policy oversight. interest in alignment of the project deliverables, like the financing frameworks with the national fiscal policy, public investment, and budgetary support for energy sector initiatives and infrastructure projects	Market Linkage Guidance: Offering direction in the development of most of the deliverables on financing under the project (Outputs: 1.3 and 1.4).	Component 1 (Financing)
Governance & Policy	St. Kitts and Nevis Bureau of Standards (SKNBS)	Key Policy Support: Interest in overseeing the replication of the existing regional standards for energy-efficient appliances, and overall quality assurance in the energy sector.	Strategic Guidance: Offering direction in the replication of the regional MEPs and design of the national EE and DSE investment strategy under output 2.3.	Component 2 (Standardisation)
Private Sector and SMEs	St. Kitts & Nevis Chamber of Industry & Commerce	Engagement Support: Interest in advocating for the private sector, including financing institutions, energy service companies and supporting the coordination of the targeted capacity activities	Institutional Home: Service as the Institution's home, foremost of the capacity building programs under output 2.2, 2.3. and 2.4 with a focus on the private sector under the project and platform for mobilizing private financing.	Component 1 (Financing), Component 2 (Capacity Building)

Legal Context

“The Government of Saint Kitts and Nevis agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed and entered into force on 30 January 1985.”

Core Indicators

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

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

Indicator 5.1 Fisheries under third-party certification incorporating biodiversity considerations

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

Type/name of the third-party certification

Indicator 5.2 Large Marine Ecosystems with reduced pollution and hypoxia

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

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

Indicator 5.3 Marine OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)	102334	0	0	0
Expected metric tons of CO₂e (indirect)	245602	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)				
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)	102,334			
Expected metric tons of CO₂e (indirect)	245,602			
Anticipated start year of accounting	2026			
Duration of accounting	20			

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
Solar Photovoltaic	12.50			

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				
Male				
Total	0	0	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 calculation sheet is attached. The detailed GHG emission calculations will be undertaken during the PPG phase. By accelerating the adoption of DSE and EE solutions, the project contributes directly and indirectly to a reduction of tonnes of 255,836 tCOe by replacing diesel-based generation. The GHG emission calculations sheet is attached. It assumes the installation of distributed solar PV systems. Gains through demand-side measures (e.g. MEPS) are complex and need to be calculated during the PPG phase.

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	Moderate	<p>Assessment: The Federation of St Kitts and Nevis is exposed to the extreme effects of tropical storms and hurricanes, which can cause damage to DSE infrastructure installations. Likewise, the greatest risk for flooding and landslides comes from periods of heavy rain associated with events such as hurricanes and tropical storms.</p> <p>Mitigation Measure: This will be integrated into the design of all the pilot installations.</p>
Environmental and Social	Moderate	<p>Assessment: The increased deployment of solar is likely to adversely impact the environment through the generation of End-of-life waste like modules and batteries, creating pollution which can impact the health of the communities.</p> <p>Mitigation Measure: The project will integrate ESG risks and considerations of assessments for end-of-life waste management strategies in the new market,</p>

		which is set to further expand. Detailed environmental and social assessments taking into consideration vulnerable populations, including small-scale farmers and fishers and informal sectors, will be conducted to mitigate this risk and ensure the long-term success of project interventions.
Political and Governance	Low	Assessment: Political support by the government for the transition to a 100% renewable energy source might not be delivered at an effective pace in line with the project timeline. Mitigation Measure: Regular exchanges with the ministry and the utility will be conducted to ensure that it leverages some of the existing government programs, like the Solar Integration for Sustainable Energy Program. The project will fully consider this aspect and ensure effective communication with stakeholders, raising awareness about expected outputs of the project based on a strategic framework established. The knowledge sharing and capacity building aspects of the project will help mitigate such political risks

INNOVATION

Institutional and Policy	Low	Assessment: The institutional and policy environment in SKN is favourable to the development of a climate-smart energy infrastructure system. Also, ambitious targets have been set at a national level to tackle climate change, which could lead to positive changes in the future. Mitigation Measures: At its scale, the project will pay attention to regularly consulting and involving relevant governmental bodies and civil society to trigger a broad policy dialogue with all relevant stakeholders
Technological	Moderate	Assessment: The utilities and the private energy service companies may lack technical expertise around DSE integration into the grid system, which may delay the demonstration projects. Mitigation Measures: Conduct a needs assessment to align with most of these gaps and the need for the capacity building program through CCREEE and UNIDO. Establish a Technology Support Mechanism together with the utility through the baseline assessment, which will also cover the ability of the electricity grid system to support distributed renewables. technology assessments. Require climate fit, impact, and efficiency evidence for all technologies.
Financial and Business Model	Moderate	Assessment: Limited commitment from the national stakeholders could delay endorsement and co-financing. Mitigation Measures: Engage the GEF Operational Focal Point early to secure endorsement. Obtain written co-financing commitments. Diversify funding sources (bank loan). Promote gender responsive financial inclusion.

EXECUTION

Capacity	Moderate	Assessment: (1) Multiple partners (CCREEE, SKELEC, UNIDO) may experience coordination delays due to overlapping mandates, competing institutional priorities, and limited project. entirely on climate funding. (2) Weak M&E systems could limit the ability to track progress and support adaptive management. Mitigation Measures: (1) Establish a Project Steering Committee (PSC) with clear TORs, biannual meetings, and a shared digital
----------	----------	--

		workspace for coordination. Assign a Project Coordinator to manage interagency communication. Include gender responsive participation targets (50% women representation) in PSC membership. Conduct inclusion and gender sensitivity training for all implementing partners; conduct a HACT assessment of CCREEE in the beginning; (2) Assign M&E focal points at key partners, integrate digital dashboards, and ensure a quarterly M&E feedback loop to the PSC for adaptive management
Fiduciary	Moderate	Assessment: Inaccurate or inconsistent self-reported data could undermine the credibility of the portfolio of the various [project cases and distort performance tracking. Mitigation measure: Introduce third-party verification for Silver and Gold levels. Support audits and use digital data tracking tools managed by CCREEE. Develop a data governance protocol ensuring transparency, validation, and secure storage. Include gender disaggregated reporting. Conduct an HACT assessment of CCREEE at the beginning
Stakeholder	Low	Assessment: The risk to the project outcomes stemming from changes in the national institutional framework and governance is considered low. Mitigation Measure: Effective stakeholders' consultation will be ensured at the beginning of the Project to ensure buy-in and resolution of any issues. Close coordination with the private sector and financing institutions will be sought to mitigate procurement issues from all parties involved.
Other		
Overall Risk Rating	Moderate	The risks and mitigation measures identified under the project's overall risk rating remain moderate. While several contextual and institutional risks exist—such as climate-related disruptions, low financing appetite from the private sector, and potential shifts in national priorities- these risks are well understood and manageable due to: - The strong government prioritization of the thematic areas is demonstrated by existing programmes like SKN100 and SOLORISE, which offer complementarity to most of the proposed interventions. - Its alignment integration within the G-RES program and GN-SEC framework, providing additional technical and operational support and the involvement of experienced executing entities like CCREEE, coupled with a robust implementing SC composition. - The existing proven risk-responsive design of the blended finance mechanism, which allows adaptation of risk-sharing terms, eligibility criteria, and investment-readiness support during implementation, and - Environmental and social risks are also considered low at this stage, as the project focuses on technical assistance, institutional strengthening, and capacity building, with clear procedures in line with UNIDO and GEF policies. With these mitigation measures in place, the likelihood of risks significantly affecting project outcomes is limited, and the project is well-positioned for successful implementation.

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

Describe 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.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

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. (max. 500 words, approximately 1 page)

Alignment with GEF-8 Programming strategies and country/regional priorities:

The proposed project is well aligned with the GEF-8 programming strategies in the following focal area of **Climate Change** as it contributes to the Pillar I (Promote innovation, technology development and transfer, and enabling policies for mitigation options with systemic impacts) of the climate change mitigation focal area, with direct contribution to the following topics:

- 1.1. Accelerate the efficient use of energy and materials.
- 1.2. Enable the transition to decarbonised power systems

The project aims to mitigate direct and indirect GHG emissions through supporting the increase in the share of renewables in the electricity generation as well as its efficient use through demand side awareness of St. Kitts and Nevis, as well as boosting robustness for increasing resilience through scaling up distributed generation and energy efficiency. With the GEF-8 programming strategy, with a primary focus on reducing GHG emissions and mitigating other environmental externalities such as pollution.

Under Objective 1.1, the project strengthens the enabling environment for DSE solutions and energy efficiency for accelerating market uptake through various policy tools to address long-standing technical, financial, and institutional barriers to investment-readiness. While under objective 1.2, the project advances market awareness, capacity building, knowledge co-creation and dissemination as a way of strengthening the market ecosystem for accelerated uptake of DSE and EE solutions. Furthermore, the interventions contribute to both direct GHG reductions (through MSME-level technology adoption) and indirect reductions (through replication and enabling frameworks), supporting an estimated 255835,8 tCO₂e in direct and indirect mitigation potential for the energy sector in the next 2 decades.

As a co-benefit, the project contributes to increasing the climate resilience of the energy system in SKN. This is aligned with key elements of the GEF Special Climate Change Fund (SCCF) Adaptation strategy, which aims at supporting the adaptation of SIDS and, through technology transfer, innovation, and private engagement. The project particularly aligns with key priorities of the strategy through focusing on:

- Supporting deployment of climate-resilient renewable energy and resource-efficient technologies.
- Scaling climate-smart solutions suitable for SIDS, where resilience is a prerequisite for sustainable mitigation investments.
- Strengthening institutional and technical capacity for climate-resilient development; and.
- Supporting vulnerable groups (women, youth, small firms) in accessing climate-resilient technologies and finance.

Alignment with National Priorities:

At the national level, the project directly contributes to the aspiration of the National Energy Policy (2014) of accelerating the deployment of renewable energy sources in the electricity generation sector to a 100% share, boosting energy efficiency and energy conservation in all sectors, including in transport and industry, as well as universal, affordable and

high-quality access even by the poor and vulnerable population. Furthermore, the intervention is also aligned with SKN’s second Nationally Determined Contribution (NDC) of 2021 with the ambitious mitigation target of reducing economy-wide CO2 emissions by 61% by 2030, compared to the base year 2010. It also completes the energy policy with a pledge of increasing the share of renewable energy in electricity generation to 100% and boosting energy efficiency and electric mobility with a goal of at least 2% electric vehicles by 2030. In the area of energy efficiency, the project intends to nationally replicate key regional energy efficiency tools in the model Caribbean Minimum Energy Performance Standards (MEPS) for air conditioners, refrigerators, and lighting adopted in 2015 under the CARICOM Regional Organisation for Standards and Quality (CROSQ).

Alignment with Regional and Global Frameworks:

This national focus of the project is also amplified by a strong alignment with regional and global priorities, as challenges are shared across energy, diesel reliance and centralised electricity systems in SIDS. It is therefore fully consistent with the entire continuum of SIDS development frameworks, from the foundational Barbados Programme of Action (BPoA, 1994) and Mauritius Strategy (2005) to the priorities of the SAMOA Pathway (2014) and the forward-looking Antigua and Barbuda Agenda for SIDS (ABAS, 2024). While through CCREEE, the project strengthens CARICOM integration by directly supporting the CARICOM Energy Policy (C-SERMS) and the COTED agenda, utilising partners like CCREEE to link national action to regional strategy. Globally, the project’s design delivers broad impacts across the Agenda 2030, contributing to SDGs 6, 7, 8, 9, 12, 13, 14, and 17. It also operationalizes key UNEA Resolutions, notably UNEA-5/14 (ending plastic pollution), and aligns with the LAC Forum of Ministers’ decisions on the circular economy. Finally, the project ensures programmatic synergy by advancing UNIDO’s ISID Mandate on green industry. The project is part of the GEF-supported G-RES program and has important links to the UNIDO-led Global Network of Regional Sustainable Energy Centres (GN-SEC).

D. POLICY REQUIREMENTS

Gender Equality and Women’s Empowerment:

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

Yes

Stakeholder Engagement

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

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities:

Civil Society Organizations:

Private Sector: Yes

Provide a brief summary and list of names and dates of consultations

This project was prepared through a comprehensive stakeholder engagement process with support provided by the national key stakeholders, including:

Government

- Ministry of Public Infrastructure, Energy, and Utilities (MPIEU)
- Ministry of Environment, Climate Action, and Constituency Empowerment:
- Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE)
- St. Kitts Electricity Company (SKELEC)
- Nevis Electricity Company (NEVLEC)
- National Housing Corporation (NHC)
- Ministry of Finance
- St. Kitts and Nevis Bureau of Standards (SKNBS)

Regional and National Technical Stakeholders

- Small Island Developing States (SIDS) Sustainable Energy and Climate Resilience Organisation (SIDS DOCK)
- The Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE)
- The United Nations Environment Programme (UNEP)

Private Sector and Civil Society

- St. Kitts & Nevis Chamber of Industry & Commerce

Academia

- Clarence Fitzroy Bryant College (CFBC)
- Vocational Education Centre (AVEC)

Summary of Consultation Findings

While developing the PIF, several stakeholders, mainly from the government, were consulted on the existing states of energy access, associated sectoral challenges, and the findings are as follows:

- Heavy reliance on imported fuel for electricity generation, with integration of renewables like solar, which hikes the levelized cost of electricity and the level of vulnerability of the energy sector to global price fluctuations and climate change impacts.
- Low affordability, especially in low-income communities and MSMEs in key value chains
- Inadequacies around quality infrastructure and low market awareness in the field of energy efficiency were also identified as key barriers to demand-side interventions like energy efficiency as a way of reducing energy costs.
- Low access to affordable financing and de-risking mechanisms for innovative business models was also highlighted by the MPIEU and SKELEC as a key challenge toward accelerating the deployment of innovative business models for renewables, partly due to the information asymmetries and the financial sector.
- The limited technical capacity of financial institutions to design appropriate financing instruments and technicians in the installation and maintenance of DES solutions.
- Key stakeholders like UNEP, which is already implementing the GEF-funded SKN100 project, also endorsed the project and the complementary roles it will play in accelerating the development of DSE solutions and facilitating the adoption of the regional MEPs at the national level in the country.

However, more consultation shall be conducted during the PPG phase, including key academic institutions,

civil society and key special interest groups through a structured stakeholder engagement plan to ensure meaningful inclusion of diverse stakeholders and provide traceability and transparency in line with GEF policy.

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

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 indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

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 in the Project Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

Indicative 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	Programming of Funds	Grant / Non-Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
------------	------------	---------------------------------	------------	----------------------	-------------------	-----------------------	----------------	--------------------------

UNIDO	GET	St. Kitts and Nevis	Climate Change	CC STAR Allocation: CCM-1-2	Grant	804,566.00	76,434.00	881,000.00
UNIDO	GET	St. Kitts and Nevis	Climate Change	CC STAR Allocation: CCM-1-1	Grant	150,000.00	14,250.00	164,250.00
Total GEF Resources (\$)						954,566.00	90,684.00	1,045,250.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

50000

PPG Agency Fee (\$)

4750

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
UNIDO	GET	St. Kitts and Nevis	Climate Change	CC STAR Allocation: CCM-1-2	Grant	50,000.00	4,750.00	54,750.00
Total PPG Amount (\$)						50,000.00	4,750.00	54,750.00

Please provide justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)
UNIDO	GET	St. Kitts and Nevis	Climate Change	CC STAR Allocation	100,000.00
UNIDO	GET	St. Kitts and Nevis	Biodiversity	BD STAR Allocation	1,000,000.00
Total GEF Resources					1,100,000.00

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CCM-1-2	GET	804,566.00	5053900
CCM-1-1	GET	150,000.00	500000
Total Project Cost		954,566.00	5,553,900.00

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Public Infrastructure, Energy and Utilities	Public Investment	Investment mobilized	1504900
Recipient Country Government	SKELEC	Public Investment	Investment mobilized	2500000
Private Sector	Members of the St. Kitts and Nevis Chamber of Industry and Commerce	Loans	Investment mobilized	1500000
GEF Agency	UNIDO	Grant	Investment mobilized	49000
Total Co-financing				5,553,900.00

Describe how any "Investment Mobilized" was identified

The co-financing is expected to be triggered from the SOLARISE under SKELEC. This program, established under the Electricity Supply Act, Cap. 16.01, and the Small-Scale Distributed Renewable Energy Regulations (2025), enable eligible customers to install and operate distributed small-scale solar photovoltaic or hybrid systems (solar PV with battery storage) and interconnect with the national electricity grid. Participants are compensated for surplus electricity exported to the grid under a Net Billing arrangement approved by the Ministry. The program supports the Government's goal of achieving 100% renewable electricity generation by 2030, advancing energy security, economic resilience, and public participation in sustainable energy development. Furthermore, private sector financing will be mobilized through the St. Kitts and Nevis Chamber of Industry and Commerce. Additional co-funding will be mobilized from the private sector, blended finance, concessional climate finance, as well as carbon credits. Further support will also be provided through the global-regional component of the Global Programme co-funded by GEF and the Government of Austria

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	UNIDO	12/3/2025	Ganna Onysko	+431260263647	g.onysko@unido.org
Project Coordinator	UNIDO	12/3/2025	Martin Lugmayr	+431260263595	m.lugmayr@unido.org

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

Name	Position	Ministry	Date (MM/DD/YYYY)
Mrs. Colincia Levine	Permanent Secretary	Ministry of Environment, Climate Action, and Constituency Empowerment	7/17/2025

ANNEX C: PROJECT LOCATION

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

The Project's intervention area, in principle, will be both the islands of the Federation of SKN. However also the pilot installations will also be done in St Kitts.

Location Name	Latitude	Longitude	Geo Name ID
Basseterre (Saint Kitts)	17.2955° N	62.72499° W	3575551
Charlestown (Nevis)	17.13931° N	62.62156° W	3575479



Figure 7: Map of St Kitts and Nevis

Figure 7: Map of St Kitts and Nevis

ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

ESS Screening

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
Principal Objective 2	Significant Objective 1	No Contribution 0	No Contribution 0

ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3	Level 4
<i>Focal Area / Theme</i>	Climate Change Mitigation (CCM)	Renewable Energy	Distributed Solar Energy (DSE)
<i>Focal Area / Theme</i>	Climate Change Mitigation (CCM)	Energy Efficiency	Demand Side Management
Focal Area / Theme	Climate Change Adaptation (CCA)	Climate Resilience	Infrastructure Hardening (Hurricane-Resistant DSE)

<i>Focal Area / Theme</i>	Climate Change Adaptation (CCA)	Climate Information	Climate-Adjusted Project Appraisal (Financial Tools)
Focal Area / Theme	Chemicals and Waste (CW)	Resource Efficiency	Circular Economy (EE Standards/BAT/BEP)
Influencing Models	Transform Policy and Regulatory Environments	Policy and Regulation	National Technical Standards (for DSE/EE)
<i>Influencing Models</i>	Strengthen Institutional Capacity and Decision-Making	Monitoring, Reporting, and Verification (MRV)	Financial Institution Technical Capacity
Influencing Models	Deploy Innovative Financial Instruments	Blended Finance	Risk-Sharing Mechanisms / Green Lending
<i>Influencing Models</i>	Demonstrate Innovative Approaches	Technology Transfer	Climate-Resilient DSE Pilot Systems
Stakeholders	Private Sector	SMEs	MSMEs in Key Value Chains
Stakeholders	Private Sector	Financial Intermediaries and Market Facilitators	Banks, Credit Unions, Microfinance
Stakeholders	Beneficiaries	Individuals/Entrepreneurs	Vulnerable Households
Gender Equality	Gender-Responsive Design	Gender Action Plan (GAP)	Sex-Disaggregated Data and Indicators
Gender Equality	Women's Economic Empowerment	Inclusive Access to Finance & Training	Green Jobs and Entrepreneurship (for women/youth)
<i>Capacity, Knowledge & Research</i>	Capacity Building & Training	Green Skills	Training-of-Trainers (ToT) Programme
Capacity, Knowledge & Research	Knowledge Exchange/Sharing	SIDS-SIDS Hub	CCREEE/GN-SEC Platform