

<b>Country</b>	<b>Botswana</b>
<b>Request ID#</b>	<b>2026000006</b>
<b>Title</b>	Development of an Energy Saving Performance Contracting (ESPC) Model for Energy Efficiency in Government Buildings for Botswana
<b>NDE</b>	Botswana Institute for Technology Research and Innovation (BITRI), Innocent Basupi, Senior Researcher, <a href="mailto:ibasupi@bitri.co.bw">ibasupi@bitri.co.bw</a>
<b>Proponent</b>	Ministry of Minerals and Energy (MME), Department of Energy (DOE), Simasiku Titus Mukwaso, Principal Energy Engineer, <a href="mailto:smukwaso@gov.bw">smukwaso@gov.bw</a>

**Summary of the CTCN technical assistance**

Botswana's public buildings represent a significant share of national electricity demand, met predominantly by coal-based generation. Despite strong policy commitments to energy efficiency, the deployment of Energy Saving Performance Contracting (ESPC), a proven model enabling building retrofits without upfront public capital, remains absent due to structural barriers: no enabling regulatory framework, no ESCO market, limited M&V capacity, and commercial banks unwilling to finance performance-based projects without risk mitigation instruments.

This CTCN technical assistance supports the Government of Botswana in establishing the foundational conditions for a functional ESPC market in public buildings. It will deliver an integrated policy and contractual framework including ESCO accreditation criteria and standard contracts, a practical M&V methodology, a pipeline of three pre-feasibility pilot projects, and a de-risking mechanism designed as the basis for follow-on climate finance mobilisation. A dedicated capacity building programme will strengthen public institutions, emerging ESCOs, and financial actors.

This CTCN technical assistance will be coordinated with the EU-funded ASPIRE Project.

**Agreement:**

*(If possible, please use electronic signatures in Microsoft Word file format)*

**National Designated Entity to the UNFCCC Technology Mechanism**

Name: Innocent Basupi  
Title: Senior Researcher, BITRI

Date: 02/07/2026

Signature: 

**Proponent** (signature of the Proponent is optional)

Name: Simasiku Titus Mukwaso  
Title: Principal Energy Engineer, DOE, MME

Date: 02 /07/2026

Signature: 

**UNFCCC Climate Technology Centre and Network (CTCN)**

Name: Ariesta Ningrum

Title: Director, CTCN

Date: 07.06.2026

Signature:



## 1. Background and context

Botswana has made notable progress in strengthening its energy sector and expanding electricity access, supported by national development strategies and infrastructure investments. At the same time, improving energy efficiency, particularly in public and commercial buildings, has emerged as a key opportunity to enhance energy security, reduce operational costs, and contribute to climate mitigation objectives. Public buildings such as offices, hospitals, and schools represent a significant share of electricity demand, driven by lighting, cooling, and equipment use, and therefore offer strong potential for cost-effective energy savings.

Energy Service Companies (ESCOs) and Energy Saving Performance Contracting (ESPC) models are internationally recognized mechanisms for delivering such improvements. Under ESPC arrangements, investments in energy efficiency are repaid through verified energy savings, enabling building owners to implement upgrades without upfront capital expenditure while transferring technical and performance risks to specialized service providers. These models have been successfully deployed in more mature markets, where enabling frameworks, standardized contracts, and access to finance support large-scale implementation.

However, global experience shows that ESCO markets are highly uneven in their level of development. While well-established in countries with strong regulatory and financial ecosystems, they remain at an early stage in many developing countries.

In Botswana, efforts to promote energy efficiency have been initiated through policies and guidelines, but implementation mechanisms remain limited. There is currently no structured ESCO market, and the use of performance-based contracting is not yet institutionalized.

International experience indicates that early-stage ESCO markets require a coordinated approach combining policy development, institutional coordination, project pipeline creation, and financial innovation. In particular, mechanisms such as standardized contracts, project aggregation, and risk-sharing instruments have proven effective in building market confidence and enabling private sector participation.

Against this backdrop, Botswana is well positioned to initiate the development of an ESCO market through a structured intervention focused on public-sector pilot projects. By combining enabling frameworks, technical tools, and the design of appropriate financing and de-risking mechanisms, the proposed initiative aims to establish the foundations for a scalable and sustainable energy efficiency market aligned with national development priorities.

This CTCN technical assistance will be coordinated with the ASPIRE Project, an EU-funded technical assistance supporting Botswana's energy sector, working with the Ministry of Minerals and Energy, BERA, and BPC. Its objective is to contribute to Botswana's sustainable and inclusive energy transition by strengthening institutional and regulatory frameworks, enhancing energy efficiency, and increasing renewable energy generation and access. Key activities include capacity building, regulatory reform, feasibility studies, awareness campaigns, and support for mobilizing private sector and DFI investment in renewable energy and efficiency projects.

## 2. Problem statement

Despite the significant potential for energy efficiency in Botswana's public buildings, the deployment of climate technologies through ESPC remains limited due to structural, financial, and institutional barriers. The ESCO market is largely undeveloped, with limited technical capacity, lack of standardized contracts, and low awareness among public institutions and financial actors.

A critical constraint is the absence of appropriate financing mechanisms, as commercial banks perceive ESCO projects as high-risk due to uncertainties around energy savings and lack of collateral. At the same time, public procurement and budgeting frameworks are not adapted to long-term, performance-based contracts.

These challenges are compounded by limited capacity for Measurement and Verification (M&V) of energy savings and the absence of standardized performance benchmarks, which undermines trust in projected savings and increases perceived investment risk. M&V is central to ESPC models, as payments are directly linked to verified savings, requiring robust, transparent methodologies and reliable baseline data.

As a result, Botswana faces constraints in mobilizing private investment in energy efficiency, limiting progress toward climate mitigation and increasing reliance on public financing.









<p>The assessment will be conducted in coordination with the ASPIRE programme to align data collection and enable data sharing.</p>																
<p>Deliverables 2:</p> <ul style="list-style-type: none"> <li>2: Assessment Report of ESCO Market, Policy and Financing Landscape</li> </ul>				X												
<p><b>Output 3: ESPC and ESCO Framework Developed</b></p>																
<p>Activity 3.1: Development of draft ESPC regulatory provisions</p> <p>Drawing on findings from the integrated market and policy assessment (Output 2), a set of regulatory provisions will be developed to enable ESPC implementation within Botswana's existing legislative and policy frameworks (BERA Act, NEP, NEES).</p> <p>Provisions will address recognition of performance-based contracting as a procurement modality, adaptation of multi-year budget commitments for public institutions, modalities for public-private partnerships in energy services, and clarification of inter-agency responsibilities among relevant public bodies (e.g. DOE, BERA, Ministry of Finance).</p> <p>A technical note will be developed presenting draft provisions, their legal basis within existing frameworks, and recommended adoption pathways.</p> <p>The regulatory provisions developed under this activity will be formulated considering the parallel regulatory workstream being implemented under ASPIRE, which covers implementation procedures for Minimum Energy Performance Standards, energy performance of buildings regulation, and the broader energy efficiency strategy.</p>																
<p>Activity 3.2: Design of an ESCO registration and accreditation framework</p> <p>A practical framework for the registration and accreditation of ESCOs operating in Botswana will be designed. The framework will define minimum eligibility criteria for ESCO registration (e.g. technical qualifications, financial standing, M&amp;V capability), a tiered or phased accreditation structure appropriate to the current early-stage market, and procedures for registration renewal and compliance monitoring.</p>																





<ul style="list-style-type: none"> <li>3.5: Validation workshop material, report and attendance list (disaggregated by gender and institution); revised and final deliverables 3.1 – 3.4</li> </ul>																
<p><b>Output 4: Priority ESPC Pilot Pipeline Identified and Prepared</b></p>																
<p>Activity 4.1: Identification and prioritization of public buildings</p> <p>In collaboration with the TWG, the ASPIRE project and relevant public institutions, 3 public buildings suitable for ESPC implementation will be identified and prioritized. Selection will be based on criteria such as energy consumption levels, potential for efficiency improvements, availability of basic data, and institutional willingness to participate.</p>																
<p>Activity 4.2: Targeted energy audits of selected buildings</p> <p>Targeted energy audits of the 3 selected buildings will be conducted to establish baseline energy consumption and identify key efficiency opportunities. The audits will focus on major energy uses (e.g. lighting, cooling, equipment) and prioritize cost-effective measures. 2 days of audit are planned per building.</p> <p>The ESCO case study partner paired with each building will be invited to shadow the energy audit process alongside the expert team. This serves as practical on-the-job capacity building, familiarises each ESCO with the building's systems and baseline data, and builds the technical ownership required for them to act as prospective implementers of the resulting ESPC project concept.</p> <p>A transport budget of 500 USD per day will be available. A total of 10 participants will be accompanying the experts during the audits. Logistical support of participants from Gaborone: 40 USD</p> <p>For the purpose of the energy audits, the following equipment will be procured (budget of 10,000 USD available) and made available to the DOE and BERA after audit execution:</p> <ul style="list-style-type: none"> <li>1 Power quality analyser</li> <li>3 Portable energy data loggers</li> <li>1 Thermal imaging camera</li> <li>1 Lux meter</li> <li>1 Anemometer</li> </ul>																



<p>The proposed financing structures will define the roles and responsibilities of key actors, including public entities, ESCOs, and financial institutions, and outline how investment costs can be recovered through energy savings over time. Particular attention will be given to structuring cash flows, repayment mechanisms, and the alignment with the ESPC contract models developed under Output 3.</p> <p>The three pre-feasibility project concepts and the financial profiles of their paired ESCOs will be used as concrete reference cases when designing the financing structures. The varying scale, building type, and ESCO capacity across the three projects will allow financing structures to be stress-tested against a range of realistic scenarios, including cases where the ESCO has limited balance sheet capacity or no prior track record, ensuring the proposed structures are robust.</p>															
<p><b>Activity 5.2: Development of de-risking mechanism concept</b></p> <p>A targeted de-risking mechanism will be developed to address the key risks preventing financial institutions from engaging in ESPC projects in Botswana, building on the barriers identified in the integrated assessment (Output 2) and the financing structures developed under Activity 5.1. The activity will focus on mitigating core risks such as uncertainty around energy savings, lack of collateral, and limited track record of ESCO projects, which currently undermine the bankability of energy efficiency investments.</p> <p>The proposed mechanism will define how specific risks are allocated and managed among stakeholders, and identify suitable instruments to enhance creditworthiness and investor confidence. This may include options such as partial credit guarantees, first-loss facilities, or results-based payment mechanisms linked to verified energy savings. The concept will outline the potential institutional setup, including the role of public entities and development partners, as well as indicative funding sources and pathways for mobilizing climate finance.</p> <p>The objective is to develop a practical and scalable de-risking approach that can be further developed into a funding proposal (e.g. for GCF, MAF or similar mechanisms), while remaining aligned with Botswana’s institutional context and implementation capacity.</p>															
<p><b>Activity 5.3: Financial stakeholder roundtable</b></p>															



<p>BITRI, BERA, and participating public institutions), accompanied by 1 international and 1 national expert.</p> <p>The programme will be further detailed during implementation but is expected to include visits and consultations covering the following areas:</p> <ul style="list-style-type: none"> <li>• The South African ESCo Register, jointly established in 2017 by SANEDI, DMRE, and GIZ, as a direct reference for the ESCO accreditation framework developed under Activity 3.2</li> <li>• Institutional and regulatory experience with ESPC enabling frameworks and public procurement adaptation</li> <li>• Site visits to completed or ongoing public building retrofit projects to observe ESPC implementation and M&amp;V practices in situ</li> <li>• Consultations with active South African ESCOs on market development, contract structuring, and engagement with financial institutions</li> <li>• Engagement with development partners active in the South African energy efficiency market, including GIZ and potentially others</li> </ul> <p>Lessons and reference materials gathered during the visit will be directly incorporated into the training and dissemination materials prepared under Activity 6.2, and will inform the development of the ESCO accreditation framework and standard contract templates under Output 3.</p>															
<p>Activity 6.2: Development of training and dissemination materials</p> <p>Develop a set of practical training and dissemination materials to support the uptake and replication of ESPC models in Botswana, tailored to the needs of key target groups including public sector institutions, emerging ESCOs, and financial stakeholders.</p> <p>The materials will include simplified explanations of ESPC concepts, step-by-step guidance on project identification and procurement, and practical tools for understanding financing structures and risk allocation. Selected case studies from international experience (e.g. Germany, UK, South Africa) will be incorporated to illustrate how similar models have been implemented in comparable contexts, with a focus on applicability to Botswana.</p> <p>Alignment with the ASPIRE capacity building materials and activities will be ensured.</p>															

<p><b>Activity 6.3: Capacity building for public sector</b></p> <p>A capacity building session for public sector institutions will be delivered to strengthen their ability to identify, procure, and manage ESPC projects. The activity will focus on practical aspects of implementation, including project identification and prioritization, use of standard ESPC contracts, understanding of performance-based payment mechanisms, and oversight of Measurement &amp; Verification (M&amp;V) processes.</p> <p>The training will be designed for technical and administrative staff from key ministries and public entities responsible for public buildings, ensuring that both operational and decision-making perspectives are addressed. Particular attention will be given to building confidence in engaging with ESCOs and financial institutions, and to clarifying institutional roles and responsibilities within the ESPC process.</p> <p>The training session will be anchored in the three pilot buildings, with facility managers and ministry counterparts from each building among the participants. Actual audit findings, draft ESPC contract provisions, and M&amp;V baseline data from their own buildings will be used as the core training material, allowing participants to engage with real examples directly relevant to their institutional context rather than hypothetical scenarios.</p> <p>A 1-day training session will be organized with approximately 20 participants.</p> <p>Meeting room cost per day (incl. lunch and coffee): 1,000 USD Logistical support of participants from Gaborone: 40 USD</p>																	
<p><b>Activity 6.3: Training for ESCOs and project developers</b></p> <p>A training session for existing and emerging ESCOs and project developers will be organized to strengthen their ability to develop, structure, and implement ESPC projects in Botswana. The activity will focus on practical skills required across the project cycle, including identification of energy efficiency opportunities, preparation of project proposals, understanding and application of ESPC contract structures, and engagement with financial institutions.</p> <p>Particular attention will be given to strengthening the commercial and financial capabilities of participants, including the preparation of bankable project concepts, basic financial structuring, and</p>																	



	<i>(Title, role, estimated number of days)</i>		<i>(Meeting title, number of participants, number of days)</i>	<i>(Item, purpose, buy/rent, quantity)</i>	<i>provide an estimated costing range for each activity and the total Response Plan</i>	
					<b>Minimum</b>	<b>Maximum</b>
<b>Mandatory Output:</b> Project Management					<b>4,000 USD</b>	<b>4,400 USD</b>
Mandatory Activities: A: Beginning of implementation B: Implementation C : End of implementation	<i>IE1: 4 days NE1: 4 days NE3 : 3 days</i>		<i>Monthly virtual Project Steering Committee meetings</i>		4,000 USD	4,400 USD
<b>Output 1: National ESPC Working Group Established and Operationalized</b>					<b>53,230 USD</b>	<b>58,553 USD</b>
Activity 1.1: Stakeholder mapping and establishment of Technical Working Group	<i>IE1: 1 day NE1: 5 days</i>				1,750 USD	1,925 USD
Activity 1.2: Inception Workshop and ongoing Working Group Meetings	<i>IE1: 10 IE2: 10 IE3:5 IE4: 5 NE1: 10 NE2: 10 NE3: 10</i>	<i>International travel : 3 missions for 2 international experts for 20 days in total  Travel costs: 1,800 USD per roundtrip</i>	<i>5 TWG Workshops, including 1 launch workshop (2 days) and 4 regular TWG workshops (1 day), with 30 participants + consultants.</i>		51,480 USD	56,628 USD

		<i>International DSA: 225 USD / person / day</i>	<i>Meeting room cost: 1,500 USD / day</i>			
			<i>Meeting logistics: 40 USD / person / day</i>			
<b>Output 2: ESCO Market, Policy and Financing Landscape Assessed</b>					<b>19,500 USD</b>	<b>21,450 USD</b>
Activity 2.1: ESCO Market, Policy and Financing Landscape Assessment	<i>IE1: 5 IE2: 10 IE3: 5 IE4: 5 NE1: 15 NE2: 10 NE3: 3</i>				19,500 USD	21,450 USD
<b>Output 3: ESPC and ESCO Framework Developed</b>					<b>47,250 USD</b>	<b>51,975 USD</b>
Activity 3.1: Development of draft ESPC regulatory provisions	<i>IE1: 5 IE2: 3 IE3: 5 NE1: 5 NE2: 10</i>				10,250 USD	11,275 USD
Activity 3.2: Design of an ESCO registration and accreditation framework	<i>IE1: 3 IE2: 3 IE3: 5 NE1: 5 NE2: 5</i>				8,000 USD	8,800 USD

Activity 3.3: Standard ESPC contracts and implementation guidelines	IE1: 3 IE2: 5 IE3: 8 NE1: 5 NE2: 10				11,750 USD	12,925 USD
Activity 3.4: M&V and benchmarking framework development	IE1: 3 IE2: 10 NE1: 10 NE2: 5				10,250 USD	11,275 USD
Activity 3.5: Validation and refinement of ESPC and ESCO framework	IE1: 3 IE2: 3 IE3: 3 NE1: 5 NE2: 5		<i>Consultation with TWG in alignment with TWG workshops (Activity 1.2).</i>		7,000 USD	7,700 USD
<b>Output 4: Priority ESPC Pilot Pipeline Identified and Prepared</b>					<b>42,080 USD</b>	<b>46,288 USD</b>
Activity 4.1: Identification and prioritization of public buildings	IE1: 1 IE2: 5 NE1: 5				4,250 USD	4,675 USD
Activity 4.2: Targeted energy audits of selected buildings	IE1: 6 IE2: 10 NE1: 15	<i>International travel (covered under Activity 1.2)</i>  <i>International DSA: 225 USD / Person / day</i>  <i>Local transport: 500 USD / day</i>	<i>Energy audits of 3 buildings over 6 days with 10 participants + consultants</i>  <i>Logistical support: 40 USD / person / day</i>	<i>Audit equipment:</i> <ul style="list-style-type: none"> <li>• 1 Power quality analyser</li> <li>• 3 Portable energy data loggers</li> <li>• 1 Thermal imaging camera</li> </ul>	30,330 USD	33,363 USD

				<ul style="list-style-type: none"> <li>• 1 Lux meter</li> <li>• 1 Anemometer</li> <li>• 1 Laser Distance Measurer</li> <li>• 1 Combined temp/humidity meter</li> </ul> <p><i>Total budget: 10,000 USD</i></p>		
Activity 4.3: Development of pre-feasibility ESPC project concepts and pilot pipeline	<i>IE1: 3</i> <i>IE2: 5</i> <i>IE4: 3</i> <i>NE1: 5</i> <i>NE2: 3</i>				7,500 USD	8,250 USD
<b>Output 5: ESPC Financing Structures and De-risking Mechanism Designed</b>					<b>28,630 USD</b>	<b>31,493 USD</b>
Activity 5.1: Design of ESPC financing structures	<i>IE1: 3</i> <i>IE2: 3</i> <i>IE4: 10</i> <i>NE1: 5</i>				9,250 USD	10,175 USD
Activity 5.2: Development of de-risking mechanism concept	<i>IE1: 3</i> <i>IE2: 3</i> <i>IE4: 10</i> <i>NE1: 5</i>				9,250 USD	10,175 USD
Activity 5.3: Financial stakeholder roundtable	<i>IE1: 3</i> <i>IE2: 3</i> <i>IE4: 5</i>	<i>International travel (covered under Activity 1.2)</i>	<i>Financial stakeholder roundtable with 20</i>		10,130 USD	11,143 USD

	<p><i>NE1: 5</i> <i>NE2: 3</i> <i>NE3: 3</i></p>		<p><i>participants + consultants for 1 day</i></p> <p><i>Meeting room cost: 1,000 USD</i></p> <p><i>Logistical support: 40 USD / person / day</i></p>			
<b>Output 6: Capacity Building Delivered</b>					<b>37,453 USD</b>	<b>41,198.30 USD</b>
Activity 6.1: Learning visit to South Africa	<p><i>IE1: 5</i> <i>NE1: 10</i></p>	<p><i>International travel for 1 international consultant, 1 national consultant and 5 participants.</i></p> <p><i>International consultant travel cost: 1,800 USD roundtrip</i></p> <p><i>National stakeholders travel cost: 300 USD roundtrip</i></p>	<p><i>Learning visit to South Africa with 5 participants + consultants for 3 days (Day 1 with early arrival, one full day, Day 3 with late departure)</i></p>		13,443 USD	14,787.30 USD
Activity 6.2: Development of training and dissemination materials	<p><i>IE1: 5</i> <i>IE2: 3</i> <i>IE4: 3</i> <i>NE1: 5</i> <i>NE3: 10</i></p>				9,750 USD	10,725 USD

Activity 6.3: Capacity building for public sector	IE1: 3 IE2: 3 NE1: 3 NE3 : 5	International travel (covered under Activity 1.2)	Capacity building workshop with 20 participants + consultants for 1 day  Meeting room cost: 1,000 USD  Logistical support: 40 USD / person / day		6,880 USD	7,568 USD
Activity 6.4: Training for ESCOs and project developers	IE1: 3 IE2: 3 NE1: 5 NE3: 5	International travel (covered under Activity 1.2)	Capacity building workshop with 20 participants + consultants for 1 day  Meeting room cost: 1,000 USD  Logistical support: 40 USD / person / day		7,380 USD	8,118 USD
<b>Estimated range of costing for the entire Response Plan</b>					<b>232,143 USD</b>	<b>255,347.30 USD</b>

### 5. Profile and experience of experts

Based on the required Human Resources identified in section 4 (Resources required and itemized budget) please provide a description of the required profile of all involved experts for the implementation of the CTCN Response Plan. Please note that an expert with experience in gender mainstreaming is required. The CTCN Gender and Climate Technology Expert Roster can help you identify a suitable expert: <https://www.ctc-n.org/networking-and-collaboration/gender-and-climate-technology-expert-roster>

Experts required	Brief description of required profile
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International Experts	
IE1 — Team Leader and Policy Expert	<p><b>Education</b></p> <ul style="list-style-type: none"> <li>• Master's degree or higher in energy policy, sustainable development, public administration, or a related field</li> </ul> <p><b>Experience</b></p> <ul style="list-style-type: none"> <li>• Minimum 7 years in international development with a focus on energy efficiency in developing countries</li> <li>• Demonstrated track record leading multi-disciplinary teams on climate technology or energy efficiency assignments funded by international organisations</li> <li>• Experience designing enabling frameworks for ESPC or comparable performance-based contracting models</li> <li>• Experience engaging government ministries, regulatory bodies, and multi-stakeholder working groups in developing country contexts</li> <li>• Prior work in Sub-Saharan Africa required; Southern Africa or Botswana experience an asset</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>• Strong programme management and team coordination across international and national experts</li> <li>• Policy analysis and regulatory gap assessment in energy efficiency or related sectors</li> <li>• Stakeholder facilitation and technical working group management</li> <li>• Quality assurance across complex, multi-output technical assistance assignments</li> <li>• Excellent written and verbal communication in English</li> </ul>
IE2 — Energy Expert	<p><b>Education</b></p> <ul style="list-style-type: none"> <li>• Master's degree or higher in energy engineering, mechanical engineering, electrical engineering, or a related technical field</li> <li>• IPMVP Certified Measurement and Verification Professional (CMVP) preferred; certified energy auditor an asset</li> </ul> <p><b>Experience</b></p>

	<ul style="list-style-type: none"> <li>• Minimum 7 years in energy efficiency in buildings, including M&amp;V framework development, energy baseline methodology, and benchmarking</li> <li>• Experience developing sector-specific energy use intensity benchmarks for public building types</li> <li>• Experience supervising or conducting targeted energy audits and pre-feasibility ESPC project assessments</li> <li>• Prior work in Sub-Saharan Africa an asset</li> </ul> <p>Skills</p> <ul style="list-style-type: none"> <li>• M&amp;V methodology design and application in low-data environments</li> <li>• Energy audit planning and baseline establishment for public buildings</li> <li>• Pre-feasibility analysis for ESPC projects, including savings estimation and indicative investment sizing</li> <li>• Technical writing and preparation of framework documents suitable for institutional adoption</li> </ul>
IE3 — Legal Specialist	<p><b>Education</b></p> <ul style="list-style-type: none"> <li>• Master's degree or higher in law, with specialisation in energy law, commercial law, or public procurement</li> </ul> <p><b>Experience</b></p> <ul style="list-style-type: none"> <li>• Minimum 7 years in drafting legal instruments and contractual frameworks in the energy or infrastructure sector</li> <li>• Demonstrated experience developing standard contract templates for energy services or performance-based contracting, including risk allocation and payment mechanisms linked to verified performance</li> <li>• Experience reviewing and adapting regulatory frameworks in developing countries to enable ESPC, PPP, or comparable models</li> <li>• Familiarity with public procurement legislation and multi-year budget treatment in the public sector</li> </ul> <p><b>Skills</b></p>

	<ul style="list-style-type: none"> <li>• Drafting of regulatory provisions and administrative guidance within existing legislative frameworks</li> <li>• Development of standard ESPC contract templates covering shared and guaranteed savings structures</li> <li>• Design of ESCO registration and accreditation frameworks, including eligibility criteria and institutional setup</li> <li>• Ability to translate complex legal instruments into accessible implementation guidance for non-legal audiences</li> </ul>
IE4 — Finance Expert	<p><b>Education</b></p> <ul style="list-style-type: none"> <li>• Master's degree or higher in finance, economics, development finance, or a related field</li> </ul> <p><b>Experience</b></p> <ul style="list-style-type: none"> <li>• Minimum 7 years in structured finance or blended finance for infrastructure or energy efficiency projects in developing countries</li> <li>• Demonstrated experience designing de-risking instruments, including partial credit guarantees, first-loss facilities, and results-based payment mechanisms</li> <li>• Familiarity with multilateral climate finance facilities</li> <li>• Experience engaging commercial banks and development finance institutions on ESPC or energy efficiency investment structures in emerging markets</li> <li>• Prior work in Sub-Saharan Africa is an asset</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>• Design of ESPC financing structures, including third-party financing, project aggregation, and hybrid public-private arrangements</li> <li>• Structuring of de-risking mechanisms and definition of risk allocation among public entities, ESCOs, and financiers</li> <li>• Financial modelling of ESPC cash flows and repayment structures adapted to developing country contexts</li> <li>• Preparation of bankable concept notes and funding proposals suitable for GCF or equivalent facilities</li> <li>• Facilitation of financial stakeholder roundtables and engagement with institutional investors</li> </ul>

National Experts	
NE1 — National Energy Expert	<p><b>Education</b></p> <ul style="list-style-type: none"> <li>• Bachelor's degree minimum in energy engineering, electrical engineering, or a related technical discipline</li> </ul> <p><b>Experience</b></p> <ul style="list-style-type: none"> <li>• Minimum 7 years in the energy sector in Botswana, with practical knowledge of the public buildings estate and major energy uses (lighting, cooling, equipment)</li> <li>• Experience conducting energy audits or energy assessments in public or commercial buildings in Botswana</li> <li>• Familiarity with Botswana's institutional landscape, including DOE, BERA, and relevant public works entities</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>• Building site surveys, energy data collection, and baseline establishment under data-constrained conditions</li> <li>• Application of energy audit methodologies to public building types common in Botswana</li> <li>• Support to pre-feasibility ESPC project concept development, including savings estimation and prioritisation</li> <li>• Stakeholder liaison with public institutions responsible for building management and energy procurement</li> <li>• Fluency in English and Setswana required</li> </ul>
NE2 — National Policy and Legal Expert	<p><b>Education</b></p> <p>Bachelor's degree minimum in law, public policy, economics, or a related field</p> <p><b>Experience</b></p> <ul style="list-style-type: none"> <li>• Minimum 7 years in policy analysis or regulatory affairs in Botswana, with solid knowledge of the national energy policy framework (BERA Act, NEP, NEES)</li> <li>• Experience engaging government ministries and regulatory bodies on policy or legislative reform processes</li> </ul>

	<ul style="list-style-type: none"> <li>• Familiarity with Botswana's public procurement legislation and government budgeting processes</li> <li>• Experience with PPP frameworks, performance-based contracting, or ESPC an asset</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>• Policy gap analysis and drafting of regulatory and administrative provisions within existing frameworks</li> <li>• Review of national procurement and budgeting rules for compatibility with multi-year ESPC contracts</li> <li>• Stakeholder liaison and coordination with ministries, parastatals, and public procurement bodies</li> <li>• Support on contract template review and ESCO accreditation framework adaptation to national context</li> <li>• Fluency in English and Setswana required</li> </ul>
<p>NE3 — National Capacity Building and Gender Expert</p>	<p><b>Education</b></p> <ul style="list-style-type: none"> <li>• Bachelor's degree minimum in social sciences, gender studies, education, development studies, or a related field</li> </ul> <p><b>Experience</b></p> <ul style="list-style-type: none"> <li>• Minimum 7 years in capacity building, training design and delivery, and gender mainstreaming within development projects in Botswana or the Southern Africa region</li> <li>• Demonstrated experience conducting gender assessments in line with UN or international donor requirements</li> <li>• Experience designing and delivering training for public sector audiences and private sector participants in parallel</li> <li>• Familiarity with the energy sector and its gender dimensions an asset</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>• Design and delivery of multi-stakeholder capacity building programmes, including for public institutions, ESCOs, and financial actors</li> </ul>

- Development of user-friendly training materials and dissemination tools adapted to varied audience profiles
- Gender mainstreaming analysis, GAAP development, and gender-disaggregated data collection and reporting
- Fluency in English and Setswana required

## 6. Intended contribution to impact over time

This technical assistance will contribute to unlocking scalable energy efficiency investment in Botswana's public buildings sector, a segment that represents a significant share of national electricity demand, currently met predominantly by coal-based generation.

By establishing an operational ESPC enabling environment, including a validated policy and contractual framework, a pilot project pipeline, and a bankable de-risking mechanism, this assistance lays the foundation for sustained private investment in building retrofits without reliance on public capital. In the near term, the pilot projects prepared under Output 4 are expected to generate indicative energy savings of 20–30% per building. Over time, systematic replication across Botswana's public building stock (offices, hospitals, and schools) could contribute meaningfully to the country's efficiency target of 15% improvement under the NEP, reducing both operational costs for public institutions and coal-dependent emissions at scale.

## 7. Relevance to NDCs and other national priorities

This technical assistance directly supports implementation of Botswana's updated Nationally Determined Contribution (NDC), which targets a 15% reduction in GHG emissions below 2010 levels by 2030. The energy sector accounts for 87% of Botswana's total GHG emissions, and the NDC identifies building retrofits and energy efficiency improvements as specific mitigation measures alongside renewable energy deployment. By establishing an operational ESPC framework, this assistance creates institutional and contractual conditions to translate these commitments into investable projects.

The assistance is directly aligned with the National Energy Policy (NEP, 2021), which commits to a 15% improvement in energy efficiency across the economy, and the National Energy Efficiency Strategy (NEES, 2018), which identifies public buildings as a priority entry point for demand-side efficiency measures. The ESPC framework, M&V methodology, and pilot pipeline developed under this TA provide the practical implementation tools that both documents call for but do not operationalize.

Botswana's Technology Needs Assessment (TNA) explicitly identified energy in the built environment as one of three priority subsectors for climate mitigation, alongside renewable electricity and industrial energy processes. The TNA further calls for technology action plans to enable deployment — a gap this assistance addresses directly through its ESPC framework and capacity building outputs.

The assistance also supports Botswana's Vision 2036 and National Development Plan priorities for economic diversification and reduced public expenditure, by enabling energy cost savings in government buildings without upfront public capital. The de-risking mechanism concept (Output 5) is designed as a foundation for a future GCF or climate finance funding proposal, directly supporting Botswana's NDC financing needs, estimated at USD 18.4 billion across energy and transport sectors, of which mobilising private capital through innovative instruments is an identified priority. Finally, the gender mainstreaming approach embedded across all outputs contributes to the NDC's explicit prioritisation of gender equity in mitigation measures.

## 8. Linkages to relevant parallel on-going activities:

This technical assistance builds on and complements several ongoing initiatives in Botswana's energy sector.

The World Bank's Botswana Renewable Energy Support and Access Accelerator (RESA) Project, approved in July 2024, is transforming the country's energy landscape through renewable energy grid integration and improved electricity access. While RESA focuses on supply-side investment, this CTCN assistance addresses the demand side (reducing electricity consumption in public buildings), creating a directly complementary intervention that strengthens the overall energy transition. Operationally, the integrated market assessment (Output 2) will draw on grid and demand data from the RESA process, and the de-risking mechanism (Output 5) will be designed with awareness of the financing instruments and institutional arrangements being established under RESA.

BITRI, as NDE, brings existing relationships with the energy sector research community and relevant public institutions, ensuring that outputs are grounded in established national networks rather than built from scratch. BERA's ongoing work to operationalise its regulatory mandates, including licensing and standards, provides the institutional entry point for the ESCO accreditation framework developed under Output 3.

The financing landscape assessment (Output 2) will build directly on existing engagement with ABSA, the National Development Bank, and First National Bank of Botswana, which have been identified as potential ESPC financiers. Outputs 3 and 5 are explicitly designed to lower the threshold for these institutions to engage, translating existing interest into structured financing propositions.

The ASPIRE programme titled “Accelerating Sustainable and Productive Investment in Renewable Energy and Efficiency”, financed by the European Union under the NDICI-Global Europe instrument with a EUR 5.5 million envelope, is the most significant parallel initiative in Botswana's energy sector. Operational from September 2025 for 48 months and managed by the EU Delegation in close collaboration with MME, ASPIRE covers institutional capacity building, regulatory reform, energy efficiency, and renewable energy across a broad sectoral scope. Several ASPIRE workstreams are directly complementary to this CTCN assistance, in particular its Output 1.3 on professional certification frameworks including ESCOs, its Output 2.2 on energy audits and retrofitting studies in public buildings, and its Output 2.1 on energy efficiency capacity building. To maximise complementarity and avoid duplication, a formal coordination mechanism will be established at inception between the CTCN implementing team and the ASPIRE key experts embedded at MME and BERA. The division of labour across the two programmes will be documented and confirmed with DOE and the EU Delegation, with the CTCN assistance explicitly positioned as providing the ESPC-specific enabling framework — accreditation criteria, standard contracts, M&V methodology, and a bankable pilot pipeline — that ASPIRE's broader regulatory and capacity building workstreams can build upon and operationalise over its four-year implementation period.

## **9. Anticipated follow up activities after this technical assistance is completed:**

Following completion of this technical assistance, the outputs are expected to feed into a structured sequence of implementation activities led by the Ministry of Minerals and Energy (MME) and the Department of Energy (DOE) and supported by different stakeholders.

The ESPC framework (Output 3) comprising regulatory provisions, ESCO accreditation criteria, standard contract templates, and the M&V methodology is intended for formal adoption within Botswana's existing regulatory and procurement architecture. DOE will lead the process of submitting the regulatory provisions for consideration by relevant ministries and BERA, with the legal groundwork laid during implementation reducing the time and cost of adoption. The standard contract templates are expected to be made available to public institutions immediately upon project completion, enabling procurement processes to begin without further legal preparation.

The pilot project pipeline (Output 4) is designed as a directly investable product. Pre-feasibility concepts for the selected public buildings will be presented to financial institutions, including ABSA, the National Development Bank, and First National Bank of Botswana, through and after the financial stakeholder roundtable (Activity 5.3), with the objective of securing financing commitments for at least one pilot project within twelve months of project closure.

The de-risking mechanism concept (Output 5) is explicitly designed as a foundation for a follow-on funding proposal, targeting the Green Climate Fund, the Managed Aggregation Facility, or comparable multilateral climate finance instruments. DOE and MME are expected to lead preparation of this proposal, drawing on the institutional setup and financing structure recommendations developed under Output 5.

Capacity building outputs (Output 6) are designed for continued use beyond the project period. Training materials will be made publicly available through BITRI and DOE, enabling ongoing delivery to new cohorts of public sector staff and emerging ESCOs as the market develops.

BITRI, as NDE, will assume primary responsibility for post-implementation monitoring, tracking progress of regulatory adoption, pipeline financing, and market development against the indicators established in the M&E plan. The DOE, as project proponent, will provide periodic reporting to CTCN through the post-implementation form process.

**10. Gender and co-benefits:**

*Each technical assistance must integrate gender mainstreaming activities and lead to gender and other co-benefits. At least 5% of the technical assistance budget need to be allocated to gender mainstreaming activities. A suitable expert can be identified through the CTCN Gender and Climate Technology Expert Roster: <https://www.ctc-n.org/networking-and-collaboration/gender-and-climate-technology-expert-roster>*

<p>Gender benefits embedded in the implementation and as a result of activities:</p>	<p>A dedicated gender mainstreaming approach will be integrated throughout implementation, led by NE3 (National Capacity Building and Gender Expert). At the outset, NE3 will conduct a gender assessment and develop a Gender Assessment and Action Plan (GAAP), examining disparities in access to energy services, employment, and decision-making in Botswana's energy sector, where women remain underrepresented in technical, managerial, and entrepreneurial roles. Socio-economic and institutional barriers — including differential access to capital and procurement networks — will be assessed as part of the ESCO market mapping (Activity 2.1), with gender-disaggregated data collected across all stakeholder consultations and workshops.</p> <p>A gender budget monitoring tool will be included in the GAAP, ensuring a minimum of 5% of the total TA budget is allocated to gender activities — covering the assessment itself, integration of gender-responsive criteria into the ESCO accreditation framework (Activity 3.2), and targeted outreach to women-led enterprises during market mapping. Capacity building sessions (Output 6) will actively target female technical and administrative staff in public institutions. All workshop and consultation records will be disaggregated by gender across Deliverables 1, 3, 5, and 6.</p>
<p>Other co-benefits embedded in the implementation and intended as result of the activities:</p>	<p>This assistance will generate several co-benefits.</p> <p>Enabling public institutions to implement energy efficiency improvements without upfront capital will reduce operational energy expenditure, providing direct fiscal relief.</p> <p>The ESCO accreditation framework (Activity 3.2), standard contracts (Activity 3.3), and ESCO-focused capacity building (Activity 6.3) will collectively lower barriers to entry and professionalise an emerging industry, generating employment and entrepreneurship opportunities aligned with Vision 2036's economic diversification goals.</p> <p>Reduced energy demand in public buildings will ease pressure on Botswana's constrained generation capacity, complementing supply-side investments under the World Bank RESA project.</p> <p>Finally, the training materials, M&amp;V framework, and pilot pipeline developed under Outputs 3, 4, and 6 will leave institutional knowledge within DOE, BERA, BITRI, and participating public entities, strengthening</p>

	Botswana's long-term capacity to develop and oversee performance-based energy investments beyond the life of this assistance.
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**11. Main in-country stakeholders in implementation of the technical assistance activities:**

*Using the table below, please list and describe the role of in-country stakeholders, participants and beneficiaries who will be involved in or directly consulted during implementation of the assistance.*

<b>In country stakeholder</b>	<b>Role in implementation of the technical assistance</b>
Department of Energy (DOE), Ministry of Minerals and Energy	Project proponent and lead implementing agency. Coordinates overall implementation, chairs the Technical Working Group (Output 1), provides access to public building data and government counterparts, and leads regulatory adoption of ESPC framework outputs (Output 3).
BITRI (Botswana Institute for Technology Research and Innovation)	National Designated Entity (NDE). Provides institutional oversight, ensures alignment with national technology priorities, supports stakeholder mobilisation, and assumes post-implementation monitoring and reporting responsibilities (section 9).
Botswana Energy Regulatory Authority (BERA)	Key regulatory counterpart for ESPC enabling framework. Provides input on licensing and regulatory provisions (Activity 3.1), leads or co-leads ESCO accreditation framework design (Activity 3.2), and validates compatibility of outputs with the BERA Act.
Ministry of Finance	Provides guidance on multi-year budget treatment for ESPC contracts in the public sector and reviews regulatory provisions for compatibility with public procurement and financial management legislation (Activity 3.1). Critical for ensuring ESPC contracts can be executed by public institutions.
Ministry of Infrastructure and Transport / Department of Infrastructure Development (DID)	Provides access to public building stock data, oversees building management in government facilities, and facilitates site access for energy audits (Output 4). Validates pilot building selection and pre-feasibility concepts.
Facility Managers from participating Ministries	Direct counterparts during energy audits and site visits (Output 4). Provide operational building data, support baseline establishment, and are primary beneficiaries of capacity building sessions (Output 6).
Botswana Power Corporation (BPC)	Provides electricity consumption data and grid connection information for target buildings. Contributes technical input to the M&V framework (Activity 3.3) and energy baseline methodology where sub-metering data is unavailable.
Botswana Bureau of Standards (BOBS)	Contributes to M&V framework development (Activity 3.3) and ESCO accreditation criteria (Activity 3.2) from a standards and quality assurance

	perspective. Potential administering body for ESCO registration.
Commercial banks (ABSA, First National Bank Botswana, National Development Bank, etc.)	Key private sector stakeholders for Output 5. Participate in the financial stakeholder roundtable (Activity 5.3), provide input on financing appetite and risk tolerance, and are the primary target audience for the de-risking mechanism and bankable pilot pipeline.
ESCOs (existing and prospective)	Private sector beneficiaries and market actors. Consulted during ESCO market mapping (Activity 2.1), participate in capacity building sessions (Activity 6.3), and are the intended users of the accreditation framework and standard contract templates (Output 3).
Civil society and gender focal points	Consulted during gender assessment (GAAP development) and engaged in capacity building to ensure inclusive representation in ESPC implementation, particularly regarding equitable access to energy efficiency benefits across public service facilities.
ASPIRE Programme Team	Coordination counterpart throughout implementation. The ASPIRE key experts, embedded at MME and BERA, will be engaged at inception to align workplans, confirm division of labour on overlapping workstreams (ESCO certification, public building audits, capacity building), and establish a joint stakeholder engagement calendar. Coordination will be maintained on a regular basis to ensure complementarity between the two programmes and avoid duplication of effort with the same government counterparts.

## 12. SDG Contributions:

*Instructions: Please complete the grey section below for a maximum of three SDGs that will be advanced through this TA. A complete list of SDGs and their targets is available here:*

<https://sustainabledevelopment.un.org/partnership/register/>.

Goal	Sustainable Development Goal	Direct contribution from CTCN TA (1 sentence for top 1-3 SDGs)
1	End poverty in all its forms everywhere	
2	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture	
3	Ensure healthy lives and promote well-being for all at all ages	
4	Ensure inclusive and equitable quality education and promote life-long learning opportunities for all	
5	Achieve gender equality and empower all women and girls	
6	Ensure availability and sustainable management of water and sanitation for all	
7	Ensure access to affordable, reliable, sustainable, and modern energy for all (consider adding targets for 7)	
	7.1 - By 2030, ensure universal access to affordable, reliable and modern energy services	
	7.2 - By 2030, increase substantially the share of renewable energy in the global energy mix	
	7.3 - By 2030, double the global rate of improvement in energy efficiency	The ESPC framework, M&V methodology, and pilot project pipeline (Outputs 3 and 4) directly enable measurable energy efficiency improvements in

		Botswana's public buildings, contributing to national and global efficiency targets.
	7.a - By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	
	7.b - By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support	
8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	The ESCO accreditation framework and capacity building outputs (Outputs 3 and 6) support development of a professional energy services industry in Botswana, generating skilled employment and private sector growth aligned with Vision 2036's economic diversification goals.
9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	
10	Reduce inequality within and among countries	
11	Make cities and human settlements inclusive, safe, resilient and sustainable	
12	Ensure sustainable consumption and production patterns	
13	Take urgent action to combat climate change and its impacts	<i>All TAs should indicate relevance to Goal 13 and at least one target below (13.1 to 13.b).</i>
	13.1 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	
	13.2 - Integrate climate change measures into national policies, strategies and planning	The regulatory provisions and ESPC enabling framework (Output 3) embed performance-based energy efficiency mechanisms directly into Botswana's existing policy frameworks (BERA Act, NEP, NEES), operationalising NDC mitigation commitments.
	13.3 - Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	
	13.a - Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible	
	13.b - Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities	
14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	
15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	
16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	
17	Strengthen the means of implementation and revitalize the global partnership for sustainable development	

### 13. Classification of technical assistance:

Please indicate primary type of technical assistance. Optional: If desired, indicate secondary type of technical assistance.

<i>Please tick off the relevant boxes below</i>	<i>Primary</i>	<i>Secondary</i>
<input type="checkbox"/> 1. Decision-making tools and/or information provision	<input type="checkbox"/>	<b>X</b>
<input type="checkbox"/> 2. Sectoral roadmaps and strategies	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 3. Recommendations for law, policy and regulations	<input type="checkbox"/>	<b>X</b>

<input type="checkbox"/> 4. Financing facilitation	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 5. Private sector engagement and market creation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 6. Research and development of technologies	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 7. Feasibility of technology options	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 8. Piloting and deployment of technologies in local conditions	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 9. Technology identification and prioritisation	<input type="checkbox"/>	<input type="checkbox"/>

*Please note that all CTCN technical assistance contributes to strengthening the capacity of in-country actors.*

**14. Monitoring and Evaluation process**

*Upon contracting of the implementing partners to implement this Response Plan, the lead implementer will produce a monitoring and evaluation plan for the technical assistance. The monitoring and evaluation plan must include specific, measurable, achievable, relevant, and time-bound indicators that will be used to monitor and evaluate the timeliness and appropriateness of the implementation. The CTCN Technology Manager responsible for the technical assistance will monitor the timeliness and appropriateness of the Response Plan implementation. Upon completion of all activities and outputs, evaluation forms will be completed by the (i) NDE about overall satisfaction level with the technical assistance service provided; and (ii) the Lead Implementer about the knowledge and learning gained through delivery of technical assistance. Furthermore, the NDE together with the project proponent(s) will complete a periodic post-implementation form to track the impact of the activities beyond the technical assistance end date.*

