

GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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General Project Information

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Private Sector Energy Efficiency Programme Phase 2 (PSEEP2)

Climate Change	2/28/2023	
GEF Focal Area (s)	Submission Date	
Development Bank of Southern Africa	GEF Agency	
Executing Partner	Executing Partner Type	
DBSA	11064	
GEF Agency(ies):	GEF Agency ID	
South Africa	FSP	
Country(ies)	Type of Project	
South Africa	11064	
Region	GEF Project ID	

Project Sector (CCM Only)

Energy Efficiency

Taxonomy

Focal Areas, Influencing models, Gender Equality, Capacity, Knowledge and Research, Climate Change, United Nations Framework Convention on Climate Change, Paris Agreement, Nationally Determined Contribution, Climate Change Mitigation, Financing, Energy Efficiency, Convene multi-stakeholder alliances, Deploy innovative financial instruments, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Stakeholders, Private Sector, SMEs, Individuals/Entrepreneurs, Beneficiaries, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Capacity Development, Knowledge Exchange, Learning

Type of Trust Fund	Project Duration (Months)
GET	180
GEF Project Grant: (a)	GEF Project Non-Grant: (b)
1,917,500.00	12,761,468.00
Agency Fee(s) Grant: (c)	Agency Fee(s) Non-Grant (d)
82,500.00	1,238,532.00
Total GEF Financing: (a+b+c+d)	Total Co-financing
16,000,000.00	509,000,000.00
PPG Amount: (e)	PPG Agency Fee(s): (f)
0.00	0.00
PPG total amount: (e+f)	Total GEF Resources: (a+b+c+d+e+f)

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0.00 16,000,000.00

Project Tags

CBIT: No NGI: Yes SGP: No Innovation: 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)

South Africa is historically a resource-based economy with a low-cost carbon-intensive energy baseload. While South Africa has made some energy efficiency ("EE") progress and established comprehensive energy policy, the country has not realised substantial efficiency gains demonstrated by similar emerging economies. Energy efficiency uptake has mainly been for large projects in sectors and technologies considered easily and commercially implementable. Demand for small projects, development of new energy efficiency products and stimulation of demand for small-sized EE projects is low due to high risk associated with such projects, low return-on-effort and poor collateral. Financial support to small to medium sized entities (SMEs) has been especially limited despite SMEs being the majority of businesses, creating a quarter of private sector jobs, and making an outsized GDP. Financial and technical interventions are needed to catalyse and sustain activity to i) stimulate demand and develop pipeline and capacity in SMEs and financiers and ii) to provide much needed access to finance for SMEs funding energy efficiency and to demonstrate viability of supporting relatively small standardised energy efficiency interventions through standardised financial products offered by commercial financial institutions. The objective of the proposed programme is to bridge the gap and provide financial access to SMEs to implement EE programmes that will reduce their energy consumption and carbon footprint. The proposed financial product will comprise three complementary components delivered in parallel:

- Component 1: US\$ 2.9 million grant funded Technical Assistance (TA); and
- Component 2: US\$ 17.7 million Credit Risk Guarantee Facility (CRG) [US\$12.7 million first loss form GEF NGI and a US\$5 million second loss CRG from DBSA]
- Component 3: \$400million loan investment and \$100million equity investment to EE projects

The financial product offered will be targeted at overcoming the challenges identified for SMEs wishing to fund and implement energy efficiency solutions and catalyse investment. The loan product will be attractive

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and marketable to SMEs, while reducing the transaction costs and administrative burden to ensure efficiency of financing. The proposed TA relaunches, and expands, the "pilot stage" UK DFID funded 2013-2015 Private Sector Energy Efficiency Programme (PSEEP1); this second phase being the Private Sector Energy Efficiency Programme (PSEEP2). Of the \$1.9million TA allocation, \$1million grant from the NGI will be dedicated to support projects that will qualify for the guarantee.

PSEEP2 will establish and operationalise the TA's infrastructure, systems and resources, drawing on PSEEP1's knowledge and pipeline. The offering size, tenor and interest rate of the project's financial product will be based on standard intervention characteristics and will crowd-in private sector equity. SME credit risk is addressed by a non-funded Credit Risk Guarantee offering portfolio risk reduction to the project. The CRG, combined with technical support addressing technology risk and improving return-on-effort, will achieve a sufficiently concessional borrower interest rate; this being a critical barrier to finance demand. The CRG facility has two components; the USD 12.7 millon guarantee from GEF which assumes a first loss position and a guarantee of USD 5 million from DBSA which assumes a second loss position. The programme shall be limited to South African based energy efficiency projects. The project encompasses three critical measures aimed at producing substantial global environmental advantages, including the reduction of greenhouse gas (GHG) emissions, enhanced energy efficiency, and the wider adoption of energy-efficient technologies. It is anticipated that the program will prevent the release of 83 million tons of CO₂ emissions from a total investment of about USD500 million. This initiative places a specific emphasis on one of GEF's primary focal areas, namely, Climate Change Mitigation (CCM).

Indicative Project Overview

Project Objective

-To catalyse a paradigm shift in the market by proving the commercial viability of small-scale standardised energy efficiency lending, leading to the continued and mainstreamed offering of such products. -To lower South Africa's carbon-intensive energy demand, and emissions from private sector industries and hence contributing towards shifting the national emissions trajectory.

Project Components	
Component 1	
Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
1,917,500.00	2,000,000.00
Outcome:	

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- -EE Training of banking staff who assess and administer EE loans
- -Carry out ongoing marketing and awareness raising activities to promote the programme;
- -Capacity building workshops
- -Undertake subsidized quality-controlled energy audits to identify EE opportunities
- -Support enterprises to undertake strategic energy management assessments
- -Provide implementation support to companies through business case development, project implementation and procurement support, financial advice and advice on energy management practices and monitoring and verification processes;
- -Develop and maintain an Accredited Supplier List (ASL) of technology and services providers conforming to programme quality and policy requirements for approved borrower procurement;

Output:

- 200 Banking staff trained (minimum 30% women)
- 5 Marketing and awareness activities undertaken
- -4 Capacity workshops undertaken
- -50 Energy audits conducted
- -600 Companies provided gender-responsive business advisory support through energy advisory services, financial advise, workshops and training (minimum 20% women-owned businesses)
- -Accredited supplier list created and maintained

Component 2

Component Type	Trust Fund
Investment	GET
GEF Project Financing (\$)	Co-financing (\$)
12,761,468.00	5,000,000.00

Outcome:

Credi Risk Guarantee

Output:

680 SMEs supported with a guarantee instrument

Component 3

Component Type	Trust Fund
Investment	GET
GEF Project Financing (\$)	Co-financing (\$)
	500,000,000.00

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- -Project financing to energy efficiency projects (\$400 million)
- -Interest generated from loans
- Equity injection into EE projects (\$100 million)

Output:

- -680 SMEs funded
- -\$400 million Committed in loans
- -\$100 million equity injection into EE projects by project sponsors

M&E

Component Type	Trust Fund
Investment	GET
GEF Project Financing (\$)	Co-financing (\$)
	500,000.00

Outcome:

Measurement and evaluation of the project

Output:

Measurement and evaluation of the project

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
Component 1	1,917,500.00	2,000,000.00
Component 2	12,761,468.00	5,000,000.00
Component 3		500,000,000.00
M&E		500,000.00

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Subtotal	14,678,968.00	507,500,000.00
Project Management Cost		1,500,000.00
Total Project Cost (\$)	14,678,968.00	509,000,000.00

Please provide justification

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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

South Africa is historically a resource-based economy built on energy intensive primary sectors such as extraction and processing of mineral resources and other energy intensive processing industries, including agriculture. As such, a low-cost baseload energy environment was created combining abundant local reserves of coal with artificially low electricity tariffs. As a result, South Africa became, and still is, one of the most energy and carbon intensive economies in the world, despite its emerging markets status, high poverty rates and having undergone an economic shift from primary sectors towards tertiary and knowledge sectors (Winkler & Marquard, 2009) (now >76% of national GDP). Since 2008, a principle concern has also been to secure energy supplies in the face of supply shortages, and as such, wide-spread investment in energy sources, including own generation, as well some focus on energy efficiency implementation programmes have been developed. Despite this increase, South Africa still remains one of the most energy and carbon intensive economies in the world;

- In 2016, 91% of electricity production came from fossil fuels (this statistic is largely unchanged, although recent draft integrated energy planning indicates a targeted shift towards greater contribution of renewables in the electricity portfolio). As a result, South Africa is ranked 10th most carbon intensive from fuel combustion in the world as at 2016 (at 0.6 kgCO₂e/2010 USD PPP GDP) (IEA, 2016).
- South Africa is ranked the 26th most energy intensive country (at 8.7 MJ primary energy/2011 USD PPP GDP in 2015) (World Bank, 2016); 23% more intensive than the sub-Saharan African average, 69% more intensive than the world average and has remained consistently high even as other major emerging markets have achieved substantial decreases in their energy intensity (Enerdata, 2018; World Bank, 2018).
- At 421 MtCO₂e emitted in 2015, South Africa is ranked 14th largest volumetric emitter in the world contributing 1.3% of global emissions and 35% of emissions from Africa (BP, 2017).

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South Africa has made only limited gains in energy efficiency over a 25-year period (1990 - 2014). Energy efficiency uptake has mainly been in sectors and technologies considered easily implementable and as yet has not reached the scale needed to transition South Africa from its present energy intensive economic pathway to a decoupled economy.

Climate Vulnerability And System Transformation

In South Africa, the impacts of its high-energy consumption, mainly from coal, manifest in various critical aspects of climate vulnerability. Greenhouse gas emissions from such practices intensify global warming, leading to severe environmental problems like extreme weather, rising sea levels, and fluctuating temperatures. The nation's diverse ecosystems are under threat due to these climate changes, endangering species unable to cope with rapid environmental shifts. Additionally, climate change is altering precipitation patterns, exacerbating water scarcity and flooding issues, which in turn affect both agriculture and wildlife, as well as water management.

Agricultural sectors in South Africa are particularly prone to climate variations, with shifts in temperature and rainfall leading to crop failures, reduced productivity, and heightened food insecurity. Health issues are also a growing concern, as changing climate conditions foster environments conducive to diseases like malaria and compound health risks from heatwaves and pollution from coal-fired power plants.

The brunt of these climate impacts is disproportionately borne by the poorest and most marginalized communities. These groups, often dependent on climate-sensitive jobs such as subsistence farming, lack the resources and infrastructure to adapt to these changes. Their vulnerability is compounded by limited healthcare access, increased risk of displacement from environmental degradation, and a lack of political influence in climate-related decision-making. Furthermore, their restricted access to education and information about climate risks leaves them particularly exposed to the adverse effects of environmental changes.

To mitigate these vulnerabilities, it is vital for South Africa to shift towards more sustainable energy sources and resilience-building strategies against climate change. This shift includes investing in renewable energy,

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enhancing energy efficiency, and enacting policies aimed at safeguarding ecosystems and communities from the detrimental impacts of climate change. Targeted efforts to improve infrastructure, education, healthcare, and economic opportunities for vulnerable communities are also essential to build resilience and address the inequalities exacerbated by climate change.

System transformation, especially in tackling climate change within South Africa, demands extensive alterations across numerous areas and societal layers. This process entails transitioning from the current reliance on non-sustainable practices, such as extensive coal use for energy generation, to a model that is both sustainable and resilient. The transformation encompasses a range of aspects, including sectoral, economic, and social elements. Key actions like enhancing energy efficiency and shifting from fossil fuels, notably coal, to renewable energy sources, are critical. These steps not only contribute to energy security but may also open up new employment opportunities. The PSEEP2 programme is set to play a significant role in supporting SMEs. By focusing on SMEs, the programme aims to tap into the sector's potential, thereby increasing private capital, fostering innovation, and ensuring diverse societal contributions. Such initiatives are vital for a holistic and inclusive approach to system transformation.

Focusing on SMEs for driving transformation in energy efficiency in South Africa is relevant and strategically important. SMEs constitute a large portion of South Africa's economy. They are key drivers of economic growth, employment, and innovation. By targeting this sector, energy efficiency initiatives can have a broad and substantial impact on the national economy. SMEs are typically more agile and adaptable than larger corporations, making them well-suited for implementing new technologies and practices. This flexibility can lead to quicker adoption and scaling of energy-efficient solutions. Successful implementation of energy efficiency measures in SMEs can serve as a model for other businesses and sectors. This demonstration effect can stimulate wider adoption of similar practices across the economy, amplifying the impact of the initial project. SMEs often operate with limited resources, making energy efficiency not just an environmental choice but also a cost-effective one. Energy savings can lead to significant cost reductions, improving the competitiveness and sustainability of these enterprises. Engaging with SMEs in energy efficiency projects facilitates the spread of knowledge and skills. As these enterprises learn and adapt, they can become advocates and educators within their communities, promoting broader awareness and adoption of energy-efficient practices. SMEs are often sources of innovation. By focusing on this sector, there's potential to

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develop and test new energy-efficient technologies and business models that could be scaled up and applied more widely.

South Africa, like many countries, is under increasing pressure to meet national and global climate targets. Improving energy efficiency in a significant sector like SMEs contributes to reducing overall greenhouse gas emissions, helping to meet these targets. SMEs often operate in under-served communities or employ marginalized groups. Targeting these businesses for energy efficiency projects can also contribute to broader social and economic inclusion goals.

Matching market segments for SMEs with energy efficiency technologies, combined with the strategic use of concessional financing to pave the way for future commercial lending, requires a nuanced and multi-faceted approach. The knowledge gained from assessment of different SME market segments in South Africa is crucial for tailoring interventions effectively as different segments may have varying requirements and capacities for adopting new technologies. Energy efficiency technologies will be aligned with their specific needs from a cost and technological perspectives to ensure that technologies are not only effective but also scalable and adaptable to different business operations. Implementing pilot projects in selected segments is a practical approach to demonstrate the benefits of these technologies. These pilots can serve as real-world examples, showcasing the potential return on investment and improvements in operational efficiency. Success stories from these projects will be instrumental in building confidence among other SMEs and stakeholders.

Concessional financing plays a pivotal role in this ecosystem. By offering grants, low-interest loans, or subsidies, these financial instruments can mitigate the initial cost barrier for SMEs to adopt new technologies. This phase of financing is critical not just for the SMEs but also for setting a precedent for financial viability and risk mitigation in energy efficiency projects. The experience gained from concessional financing is invaluable for the future involvement of commercial lenders. By documenting and sharing successes and lessons learned from these initial financing phases, a compelling case can be made to commercial lenders about the viability and profitability of investing in energy efficiency for SMEs. The goal is to gradually shift from concessional to market-rate financing as the market matures and the perceived risks diminish. This transition necessitates close collaboration with commercial lenders to develop specialized financial products that are both appealing and practical for energy efficiency investments. Simultaneously, continuous support

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and capacity building for SMEs are crucial. This includes not just assistance in implementing and managing new technologies but also facilitating a robust knowledge exchange among SMEs, technology providers, and financial institutions.

Market size analysis

Overview

To contextualise the market need and motivate for direct and enabling support, it is necessary to identify, characterise and size the attributable South African energy efficiency market. Analysis of the market size and constituents was conducted and it informed the programme design.

During the three years of operation, the PSEEP1 programme completed site surveys at 1087 sites and identified 6,921 energy efficiency opportunities. These opportunities were captured in the PSEEP1 database, which includes information on types of interventions, capital expenditure, and savings (energy savings, GHG emissions savings and cost savings, both annual and lifetime). The database also records whether interventions were implemented, derived from an extensive post-programme implementation monitoring review conducted in 2015 towards the close of the PSEEP1 programme.

Given the breadth and depth of the PSEEP1 programme, and in the absence of any other such extensive samples aggregated in a similar dataset, the PSEEP1 database has been used as the basis for market estimations. PSEEP1 supporting studies and the database were utilised to develop energy efficiency intervention benchmarks. These benchmarks have been applied to:

- estimate a national energy efficiency market and to characterise that market in terms of sector opportunity, value concentration and potential latent savings (energy savings, GHG emissions savings and cost savings);
- understand the types of predominating energy efficiency technology solutions that apply to sectors and their attributes;
- identify the differences in effectiveness of different graduations of technical support (noting their applicability to different populations); and
- determine the market behaviour around implementation of solutions stemming from the PSEEP1.

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National market sizing

The total national market size was determined by calculating the total estimated CAPEX to implement the identified opportunities within the 2013-2015 PSEEP1 population, and extrapolating it to our estimate of the approximate number of private sector enterprises nationally, differentiating between Small and Medium sized enterprises (SMEs) and large enterprises (or corporates).

The number of formal SMEs in South Africa that are large enough to be able to implement an energy efficiency intervention was estimated at 262,224 (Small Business Institute, n.d.), and the number of large entities within South Africa was estimated at 550 (this estimate stems from the number of listed entities on the Johannesburg Stock exchange (JSE) and is expected to provide only an indicative conservative figure). It is unlikely that the sectoral and site make-up of the 2013-2015 PSEEP1 population is a perfect match for the national private sector make-up, but the data and the calculation approach does provide an indication of the significance of the opportunity. Similarly, the total lifetime savings opportunity has been computed.

Enterprise size allocation

Entities were classified as either an SME or large enterprise according to the National Small Business Amendment Act, Act No. 26 of 2003. An entity's size is determined by its total annual turnover and the number of full-time employees. Both thresholds vary by sector i.e. a manufacturing entity's annual turnover threshold to be classified as an SME will be much higher than that of an agricultural entity.

Market to target for the Technical Assistance Hub and the financial support package

The reality is that the total national estimate is a large latent opportunity, and substantial work is required to solicit the thousands of potential end-users in the private sector to identify the opportunities, and shepherd them to implementation. The 2013-2015 PSEEP1 supporting studies and database provided key insights to the characteristics of solutions that were implemented by programme participants, and hence insights to market behaviour that might be expected if the programme were replicated exactly (i.e. with little change to the Technical Assistance hub functions and no associated financing). This data has been applied to profile the capex cost, payback periods and savings potential for the range of technologies/interventions identified by sector and enterprise size, as well as the implementation rate of interventions. (In PSEEP1, the total average intervention implementation rate was approximately 10%.)

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The assumption of the conducted feasibility study is that an elaborated technical support function that supports pipeline generation for a responsive energy efficiency financing solution is likely to have far greater success, as much as 30% on average. This number is a conservative assumption based on the fact that, after introducing in-depth buy-side support to beneficiaries, including interest free loans, the Carbon Trust was able to achieve 40 - 45% implementation during its 10-year private sector energy efficiency programme in the UK.

Furthermore, the feasibility study demonstrated the significant opportunity and the significant need particular to SMEs. This private sector cohort experiences each of the typical challenges to undertake energy efficiency – a lack of awareness, lacking technical expertise, and low capacity to self-fund energy efficiency solutions or access commercial finance to do so. The market to be served by this programme has been formulated to provide support to many more SMEs than large enterprises, and to account for SME challenges and characteristics.

Support to a capped number of large enterprises has been included in feasibility study and design, with the following rationale:

- 1. On the basis that these enterprises offer significant savings and impact potential in each instance, they are included for impact factor.
- 2. Expected to have greater inherent capacity, we anticipate this cohort being engaged during programme ramp-up phase. During this time, rollout to them will allow the programme to test its reinitiated operational processes and to build and embed the capacity with programme delivery partners (especially the financial actors).
- 3. The number of enterprises to be supported is capped, thereby not diluting the focus or financial allocation substantially from the principal SME target market.

Therefore, the significance of this project's market intervention has been determined as follows:

- Introduction and Engagement of New Participants: The Technical Support program aims to introduce and engage new participants, capitalizing on the existing awareness generated by the 2013-2015 PSEEP1 program, which requires minimal brand building efforts. A more proactive approach to raising awareness will be employed. Given the extended operational timeline (5 years compared to the previous 3 years, including a 1-year establishment period in both programs), the following expectations have been made:
 - Approximately 1,000 new SMEs are anticipated to join the Technical Assistance Hub program.

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- The number of new LCs (Commercial Letter of Credit) entering the program is expected to double (200 new participants). To allocate resources more effectively, this figure has been capped, with a primary focus on targeting SMEs.
- Additional Interventions: Extrapolations were made based on the data to estimate the number of additional interventions that the Technical Assistance Hub, through energy audits, is likely to identify. These estimations apply to the 1,200 new participants in the program.
- Engagement with PSEEP1 Cohort: Reengagement with the 2013-2015 PSEEP1 cohort is planned to inform these entities about the availability of a tailored energy efficiency financial product. This is expected to rekindle interest in the program.
- **Segmented Market Behavior:** Different market behaviors are assumed for implementation based on the support received from the Technical Assistance Hub and PSEEP1 program:
 - For interventions with a payback period exceeding 2.1 years and those for which implementation
 rates during PSEEP1 exceeded 40%, it is assumed that factors such as business culture or
 environmental considerations will limit further adoption. Therefore, the same implementation rate
 observed in PSEEP1 will persist in the PSEEP2 program.
 - For interventions with a payback period of 2.1 years or less and implementation rates during PSEEP1 below 40%, it is modelled that the availability of affordable finance and proactive customer support may drive implementation up to 40% for each intervention.

These combined assumptions result in an average uptake rate of 32% across all identified interventions through the Technical Assistance Hub and PSEEP1, which is a more conservative estimate than the 40-45% achieved by Carbon Trust in the UK.

- Excluded Interventions: Interventions that were already financed during the PSEEP1 M&E exercise have been excluded, assuming minimal subsequent implementation.
- Interest in Tailored Energy Efficiency Financial Product: An assumption has been made regarding significant interest in the tailored energy efficiency financial product arising independently of the Technical Assistance Hub pipeline. Due to proactive and general awareness-raising efforts, it is anticipated that approximately 1,000 additional SMEs and 200 additional LCs (a total of 1,200 additional enterprises) will apply for financing. It is further assumed that only 50% of these interventions proceeding to

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implementation will be financed using the tailored energy efficiency product, with the rest potentially funded through enterprise balance sheets or alternative financing mechanisms like direct credit from established banking relationships or ESCO support.

Although a large volume of applications is expected to be received, it is estimated that 680 companies will be financed assuming that they will apply for the maximum loan amount of R10,000,000 (\$588,235) each. These computations are sector agnostic. However, the Technical Assistance Hub intends to place greater focus on the mining, manufacturing and agricultural sectors in awareness raising, which should influence the profile for both the Technical Assistance Hub and finance support package as these sectors show high energy efficiency potential^[1].

Policies that support the market demand for Energy Efficiency initiatives in South Africa

Policy instrument	Description
Policies	
White Paper on	The White Paper on Energy was developed to examine the energy sector's
Energy Policy, 1998	challenges in order to determine energy policy objectives. The energy sector policy
	objectives included increasing access to affordable energy services, improving
	energy governance, stimulating economic development, managing energy-related
	environmental and health impacts and securing energy supply through diversity.
	Energy efficiency is considered a cross-cutting issue across different sectors in the
	white paper. This is motivated by the fact that effective and efficient use of energy
	is vital for and can have significant effects on South Africa's economy as well as on
	the expenditure for the large proportion of poor households.
	Objectives of the of the government's short-term policy priorities in relation to
	energy efficiency are to stimulate economic development though promoting
	energy efficiency in all sectors of the economy and to manage energy related
	environmental impacts by investigating environmental levy on energy sales to fund
	the development of renewable energy, energy efficiency and sustainable energy
	activities. The Policy recognised that government's capacity to implement energy

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efficiency programmes at the time of development of the paper was limited at the time, and the government would investigate the establishment of appropriate institutional infrastructure and capacity for the implementation of energy efficiency strategies.

The policy intends to address energy efficiency by identifying the currently existing barriers and putting in place measures that will enable the successful deployment of energy efficiency in the:

- Agricultural sector looking at measure required to deploy new technology that that requires less energy input for the same output being achieved by existing technology.
- Transport energy use development of policies that consider implications of on transport energy efficiency.
- Industry, commerce and mining sector by promoting energy efficiency awareness, developing energy efficiency norms and standards for commercial buildings and industrial equipment and promotion of energy audits.
- Household level promoting energy efficiency awareness and establishing relevant standards.

The White Paper is by its nature very high level and requires instruments to give effect to the policy position.

Strategies and Plans

Industrial Policy
Action Plan (IPAP)
2018/19 – 2020/21
(Released in 2018)

IPAP aims to implement the governments' overarching policy and plans to address South Africa's key drawbacks of economic growth, industrial growth, race-based poverty, inequality and unemployment. This version is the 10th iteration of the document under the current administration. It provides an economic analysis of the current global and domestic conditions relevant to industrial policy, action

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plans and programmes across a myriad of industrial sectors and covers information on constraints to an optimal industrial strategy.

The policy focuses on 10 key themes including one relevant to energy efficiency; to "support the further strengthening of energy-efficient production and carbon mitigation efforts and measures in a manner that allows for sustainable adaptation by all the energy-intensive sectors of the economy."

IPAP identifies the necessity for energy efficiency programs addressing appliance standards, capacity building and skill development and includes in its action plan:

- Skills development programmes focused on provision of training in resource-efficient and cleaner production, through equipping graduates through internships and professionals through occupational training courses.
- Continued support to the UNIDO Industrial Energy Efficiency Project implemented through the NCPC-SA which started in 2016 and is intended to support industry in transitioning to energy use patterns that are more efficient and sustainable. This is to be achieved through mainstreaming management standards based on ISO50001 in industrials companies, to develop energy management experts and to developing tools and platforms for the energy management industry.

The measures related to applicants are more focused on overcoming development trade obstacles for local manufacturing and testing capabilities to allow export than shifting local energy efficiency performance.

The objectives and actions articulated at high-level through IPAP for energy efficiency are also mirrored in the draft Post-2015 NEES and other policy instruments (such as the continued support for the NCPC-SA). In general, these measures continue to create an improved enabling environment and a stronger value chain in the medium – to long-term, but with limited direct influence on the target market.

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Draft Integrated resource plan (IRP)
Update 2018

The draft IRP (2018) focuses solely on electricity generation and excludes other energy sources. This document is an update of the Draft Integrated Resource Plan (IRP) 2010-2013. The update is to be affected periodically, to consider changes to assumptions related to economic growth and electricity consumption.

The purpose of the IRP is to direct expansion and investment into the electricity supply sector with the aim of meeting national electricity demand at the minimum cost to the country; as well as additional factors which may be imposed which might realise suboptimal cost factors. In the case of the draft IRP (2018), although the externalised cost of carbon or the prospective carbon tax costs (see below) was not integrated into the model, caps were placed on allowed emissions. The draft IRP (2018) proposed the adoption of a significant proportion of renewable energy.

The draft IRP (2018) considers energy efficiency as integral to the plan in two ways:

- Rising electricity tariffs intrinsically stimulate energy efficiency, as has been shown to date – such continued rising tariffs are included in modelling; and
- Increasing energy efficiency, together with growing proportion of embedded generation and fuel-switching, are anticipated and incorporated into a low-demand modelling scenario (rather than standalone scenarios). The values are not quantified due to the limited data that was available when the draft was being developed.

The implementation of the draft IRP (2018) and subsequent iterations – if aligned with the 2018 plan recommendations – will continue to plan for such intrinsic energy efficiency taking effect but does not specify energy efficiency interventions to be targeted.

Integrated Energy
Plan 2016 (IEP)

The IEP is intended to provide a pathway for South Africa's future energy landscape, to guide energy investments and policies. It defines the overall energy plan for liquid fuels (paraffin, diesel and petrol), gas and electricity. One of its key objectives is to "promote energy efficiency (reduce energy intensity) in the

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economy". This objective is rooted in the fact that reduced energy intensity can decrease overall energy system costs.

The IEP 2016 proposes a series of demand side interventions to reduce energy intensity, for the agricultural, commercial and industrial, and residential sectors. The recommendations include:

- promotion of energy efficiency information and practices for different actors
- creation of a database of energy consumption by public and private buildings
- creation of energy efficiency indices for buildings
- submission of energy management plans for intensive industrial users
- a focus on fuel economy of vehicles.

In general, there is consistency in these demand-side interventions and those noted in other related plans and strategies; but progress in implementation of these measures remains low. For instance, the Draft Regulations Regarding Registration, Reporting on Energy Management and Submission of Energy Management Plans remains draft since publication in 2015, and the Green Transport Strategy (2018-2050) refers to the establishment a Vehicle Energy Efficiency programme which has not been developed and implemented.

Energy Efficiency
Strategy of the
Republic of South
Africa 2005, updated
2008

To support energy efficiency in South Africa, the National Energy Efficiency Strategy (NEES) was published in 2005 and updated in 2008. It stated eight goals that focused on social, environmental and economic sustainability, with the overall aim of encouraging energy efficiency practices to contribute to energy sector stability and affordable energy for South Africans, minimising the impacts on health and the environment. NEES included overall and sector targets, with sector programmes with activities running to 2015, including:

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Industry and mining:

- Norms and standards for horizontal technologies
- o Energy audit scheme, targeting industry capacity building
- Energy management best practice promotion
- Technology and information research
- Promotion of ESCOs
- Maximise energy efficiency benefits, related to carbon credit mechanisms to improve energy efficiency interventions' financial viability
- Commercial and public buildings
 - Energy efficiency standards for commercial and public buildings
 - Mandatory energy audits for commercial buildings
 - Energy Management Systems, showcasing and promoting them
- Technologies, targeting HVAC
- Residential sector (details not elaborated here)
- Transport sector (details not elaborated here).

DoE reported remarkable progress against targets at the 2013 review of the strategy (noting however that there were limitations on data availability and quality).

Sector	2015 target (based	Performance to 2012
	on 2000 baseline)	
Economy-wide	12%	23.7%
Industry	15%	34.3%
Residential	10%	28.2%

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Commercial

and 15%

	public		2013)
	Transport	9%	14.1% (reduction in sector-wide energy intensity)
	Power sector	15%	26% (estimated by Eskom)
	Some progress was mad	de in terms of all progra	mme activities, and most have found
	their way into extensions in the draft Post-2015 NEES. The draft Post-2015 NEES		
	remains in draft at pres	ent.	
Legislation			
National Energy Act	The purpose of the act	was it ensure the avai	lability of diverse energy sources, is
(Act 34 of 2008)	sustainable quantities a	and at affordable prices	to South Africa in order to facilitate
	economic growth and	eradicate poverty. The	act amongst other things, required
	that the Minister dev	elop an Integrated Er	nergy Plan annually. It also makes
	provision the implem	nentation of energy	efficiency measures through the
	establishment the Sout	h African National Ener	gy Development Institute (SANEDI).
Electricity Regulation	The Electricity Regulation Act was developed to establish a national regulatory		
Act (Act 4 of 2006)	framework for South Africa's electricity supply industry. The framework was to be		
	executed by the National Energy Regulator of South Africa. One of the objectives		
	of the Act is to promo	te use of diverse ener	gy resources and energy efficiency.
	Additionally, the regula	ation stipulates the req	uirement for a license that enables
	individuals operate any	generation, transmiss	ion or distribution facility, to import
	or export any electric	city, and trading shou	uld comply with energy efficiency
	standards and requiren	nents.	
Regulations			
Building Regulations	The SANS 10400-ZA is a	n addition to the stand	lard for environmental sustainability
& Building Code	and energy usage in bu	ildings and is part of th	e National Building Regulations. The
(SANS 10400-	standard requires vario	ous "deemed to satisfy'	' technical requirements in order to
	comply. This has relev	vance to all new build	and extensions to residential and
	commercial buildings a	nd may in time help to p	phase out energy inefficient buildings

0.3% (electricity only 2003 -

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XA:2011) with SANS

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stock, but this is expected to have limited impact in the short-term as retrofits are not required for existing inefficient buildings.

The cumulative impact of smaller-scale opportunities brought by Small and Medium-sized Enterprises (SMEs) can yield substantial energy savings and environmental benefits. This was most prominently demonstrated during the implementation of the Private Sector Energy Efficiency (PSEEP1) program from 2013 to 2015. The PSEEP1 program, financially supported by the United Kingdom's Department for International Development and executed by non-profit organizations like the National Business Initiative (NBI) and Carbon Trust, offered subsidized audit and consulting services to both SMEs and large corporations. These services aimed to identify and promote the adoption of energy-efficient practices. During the three-year duration of the program, approximately 1,000 surveys were conducted at small and medium-sized sites, and nearly 50 large corporations were engaged. These efforts uncovered a potential lifetime savings of 21,896 GWh (equivalent to 16.9 MtCO2e) (NBI, 2016).

When extrapolating these findings to the national scale, the estimate of the total national market size (capital expenditure requirement) for energy efficiency amounts to R 270 billion. Within this, SMEs constitute approximately 99% of the total market size (R 266 billion), with large entities making up the remaining 1% (R 3.3 billion). This is primarily due to the substantial number of SMEs in South Africa. On average, the capital expenditure required to implement an intervention by an SME is R 156,000, whereas it amounts to R 745,000 for large entities. This encompasses a wide range of interventions, including Combined Heat and Power (CHP), energy from waste, and renewables switching opportunities. Based on the PSEEP1 database extrapolated to the national level, the total potential lifetime savings for the national market are estimated at R 912 billion. Again, due to the significant presence of SMEs in the market, they account for 99% of these potential savings. The average lifetime savings per intervention for an SME amount to R 520,000, while large enterprises can save an average of R 3.1 million per intervention. In total, this translates to 1 million GWh of lifetime energy savings and 834 MtCO2e of lifetime carbon emissions savings for the national population.

The proposed PSEEP2 program intends to directly engage with less than 4,500 organizations, representing less than 0.2% of the market. However, the program's design aims for a broader, indirect impact by stimulating

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wider market action. The proposed program has been carefully structured to stimulate demand and encourage commercial financial institutions to continue offering tailored energy efficiency solutions even after the program's conclusion. This initiative seeks to initiate a much-needed paradigm shift in the market, promoting the scalability of energy efficiency adoption and unlocking the significant untapped opportunities and benefits in this domain.

Lessons Learnt from PSEEP1

A comprehensive cover on PSEEP1 lessons learnt is given in the GEFSEC Comments annexure. A summary of PSEEP1 Lessons learnt are listed below. These lessons emphasize the importance of tailoring energy efficiency programs to specific sectors and enterprise sizes, providing diverse financing options, and focusing on capacity building and awareness to maximize energy savings and reduce greenhouse gas emissions.

- **SMEs Have Untapped Potential:** SMEs showed a willingness to implement energy efficiency projects, but they often require financial support due to weaker balance sheets. This suggests that there's untapped energy efficiency potential in the SME sector that can be harnessed with targeted support.
- Intervention Characteristics: The PSEEP1 program found a wide range of energy efficiency intervention opportunities across various sectors and enterprise sizes. This highlights that energy efficiency measures are not one-size-fits-all; they vary based on the sector and enterprise size. Smaller interventions are more frequently identified, with an average capital expenditure (capex) requirement ranging from R150,000 to R800,000. Projects requiring more than R2 million constitute less than 1% of the total interventions identified. These findings have implications for the design of financial products and the size of the facility.
- Interventions Identified and Implemented by SMEs: The manufacturing sector had the most
 opportunities identified, followed by the retail and motor trade, finance and business services, and
 agriculture sectors. Agriculture and manufacturing sectors had the highest uptake rates of identified
 opportunities, while mining and finance sectors had the lowest. Implemented projects had shorter
 payback periods and lower lifetime savings compared to the total identified interventions.
- Interventions Identified and Implemented by Large Enterprises: The manufacturing and agriculture sectors had the most opportunities identified, followed by finance and business services. The "other" sector, construction, and agriculture had the highest uptake rates of identified opportunities, while

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electricity, gas & water and wholesale trade had the lowest. Large enterprises implemented projects with relatively shorter payback periods.

- Sectoral Savings Opportunity and Capex Requirement: The mining and manufacturing sectors offer
 significant energy efficiency opportunities, with manufacturing requiring the largest capex but
 presenting the second-largest energy savings potential. Transport, storage and communications;
 agriculture, forestry & fisheries; and finance and business services sectors also have considerable
 savings potential and capital needs.
- Insights for Solutions Design: The Technical Assistance Hub will target the mining, manufacturing, transport, storage and communications, agriculture, forestry & fisheries, and finance and business services sectors through tailored awareness raising programs. The support will focus on smaller capex, faster payback projects, while allowing for financing larger interventions in the future. The program will prioritize SMEs due to their significant numbers, energy efficiency potential, and challenges in accessing finance.
- Benchmarking Funding Applications: The financing demand is expected to be diverse based on enterprise size, sector, and intervention type. Benchmarks developed through the PSEEP1 program will inform the tailoring of financial products and offers to applicants based on their specific profiles.

The PSEEP1 program's findings inform the design of financial instruments, the focus of the Technical Assistance Hub, and the sectors and intervention types targeted for energy efficiency financing.

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%20Development%20Bank%20of%20Southern%20Africa/1.%20DBSA/1.%20GEF%20Projects/1.%20GEF%20PROJECTS/GEF%208% 20Pipeline/NGI/PSEEP%20NGI/PSEEP%20GEF%20RE-

<u>Submission%20%20Final/PSEEP%20NGI%20%20Updated%20Resubmidsion%20FINAL%20UPDATED%20v21112023%20Clean.docx</u> <u>ftnref2</u> Table 1: Recent or ongoing energy related interventions in South Africa

Technical support	Financial support
National Cleaner Production Centre of South	DBSA's Climate Finance Facility (CFF) – a USD110
Africa (NCPC-SA) as part of its on-going mandate	million blended financing facility to which the
(part of the UNIDO Industrial Energy Efficiency	GCF contributed USD\$55.6m.
programme);	

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- SANEDI, in its capacity or as part of its selective assistance in the AFD's SUNREF II programme;
- Selective support is afforded to the tourism industry by the Department of Tourism's Green Tourism Incentive Programme (GTIP); and
- Energy Efficiency in Public Building Infrastructure Programme (EEPBIP).
- IDC's Green Tourism Incentive Programme (GTIP), which provides a grant of between 30%-90% to qualifying entities in the tourism sector.
- IDC's SUNREF II and IDC's AFD Green Energy
 Fund, both debt-based products;
- Sasfin Bank's (Sunlyn) Eco Finance (commercial bank); and
- FNB's Business ecoEnergy Loan (commercial bank).

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

The proposed programme will comprise of three components, a TA, a guarantee and a loan financial support package. The programme will look to:

- Relaunch, enlarge, and extend the successful but now inactive technical assistance facility of the PSEEP1 programme of 2013 2015; and
- Further the support provided to the private sector market by adding a tailored financial product, that particularly supports energy efficiency in small to medium-scale private sector enterprises (SMEs) in South Africa.

3.1 Technical Assistance Description

Service offered to the target market

The services offered by the TA will include marketing and awareness raising, remote advice, workshops, on-site energy audits and implementation support. As different-sized businesses require different types

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of support, the programme offers varying levels of technical support to which different sized organisations will be eligible, as set out in the tables below:

Table 4: Available services offering per entity size

Size of	Remote	Workshops and training	On-site	Strategic Energy	Implementatio
entity*	advisory	on energy efficiency	energy	Management	n support
	services		audit		
Small	×	×	Not	Not supported	×
			supported		
Medium	×	×	×	×	×
Large	Not	Not supported	Not	Not supported	Not supported
	supported		supported		

^{*}Size of entity determined by size of annual energy bill

A suitably qualified agency will be appointed to conduct energy audits. Normal DBSA procurement process will be followed, where a tender will be advertised in the public to invite qualified candidates to bid. National Business Initiative (NBI) who were involved in the first PSEEP1P programme shall also participate in the bid.

Table 5: Detailed service offering and eligibility criteria

Size	Services	Eligibility	
Small		• Annual	
		energy bill	
		<r750,000< td=""></r750,000<>	

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Medium	• Access to programme technical experts over the phone or	•	Α	nnu	ıal
	email.	e	nergy	b	ill
	 Tools, publications and information on website. 	R	750,0	00	-
	Subsidised energy efficiency audits.	R	45 mil	lior	۱
	 Subsidised strategic energy management services, essentially 				
	energy efficiency consultancy services. This may include				
	energy baseline and carbon footprint, identification of				
	energy saving projects, assessment of the cost-benefit of				
	different options, opportunity prioritisation, the setting of				
	medium/long term targets, and development of a strategy to				
	implement and communicate the plan.				
	 Follow up, and implementation support services. 				
Large	Not eligible	•	Α	nnu	ıal
		e	nergy	b	ill
		>	R45 m	illic	n

Additional eligibility requirements encompass:

- The company must fall under the SME definition outlined earlier.
- The company is required to showcase economic sustainability and financial feasibility.
- The company must adhere to the affordability standards set forth by the preferred partner banks.
- The company must substantiate its case for additionality by meeting the bank's "high risk" benchmarks, thereby justifying the necessity for a guarantee to lower interest rates.

Technology Selection Criteria

All sectors will be considered except for Fossil-fuel extractive operations and industries directly associated their value chain. Targeted sectors are mining, manufacturing and agriculture sectors, as the market analysis indicated that these sectors have the largest energy efficiency opportunity, making use of the various forums and associations that exist. Specific focus will be on areas such as lighting, heating,

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ventilation and air-conditioning (HVAC), motors and drives, conveyor belts, refrigeration and production lines.

Technologies to be prioritised include: Heat pumps, LED lighting, variable speed drives, demand controlled ventilation, insulation and air sealing. A list of technologies to be supported include the following:

- *i)* Variable Speed Drives (VSD): VSDs are used to control the speed of electric motors, allowing them to operate more efficiently based on the required load, resulting in energy savings
- ii) *LED Lighting*: LED (Light Emitting Diode) lighting is highly efficient and can significantly reduce energy consumption compared to traditional incandescent or fluorescent lighting.
- iii) Energy-Efficient Appliances and water pumps: Promoting the use of energy-efficient appliances, such as refrigeration systems, and air conditioners, can result in substantial energy savings in residential and commercial settings.
- iv) *Smart Thermostats*: These devices enable the automation and optimization of heating, ventilation, and air conditioning (HVAC) systems, allowing for better control and energy management in buildings.
- v) Building Energy Management Systems (BEMS): BEMS technologies integrate various components, including sensors, controls, and software, to monitor and optimize energy use in buildings, leading to increased efficiency.
- vi) Insulation and Weatherization: Improving insulation and weatherization of buildings can reduce heat loss or gain, improving energy efficiency for heating and cooling systems.
- vii) *Energy-Efficient Windows:* Utilizing windows with advanced glazing technologies can enhance insulation and reduce heat transfer, minimizing the need for heating or cooling.

Cooling systems will be closely examined to ensure that coolants with ozone depletion potential are not supported. Guidance for identifying excluded technologies will be based on the GEF exclusion list.

3.2 Service offering to the Bank

The TA will provide technical support to the Bank by:

• Providing initial capacity building for selected banking staff;

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- Collaborating to develop an initial energy efficiency standardised product application interface,
 technical evaluation processes and templates and tools, contracting and reporting templates;
- Constitute and maintain an Accredited Supplier List (ASL);
- Constitute and maintain a Standard Technology List (STL);
- Provide industry benchmarks for the Bank to carry out opportunity scoping (benchmark payback period, annual savings, lifespan);
- Refer TA participants to the Bank's product application interface (pipeline creation); and
- Undertake technical reviews for non-standard application (specific circumstances).

The TA will be operational for a 5-year period, providing services as described above to both target market and the Bank (Please refer to Chapter 3 Section 3 of the feasibility study for a full description of the TA services).

Rationale for the Necessity of Technical Assistance

For the energy efficiency market to operate efficiently, it is imperative that all elements of the value chain function seamlessly and cohesively. Through the conducted analysis, it was identified that, within the South African context, both financial and technical challenges pose significant barriers to the market's growth.

At this stage of market development, the majority of SMEs and many large entities remain unaware of the substantial energy efficiency opportunities and the financial advantages they bring. Energy efficiency often takes a backseat within organizations as it is not considered a core aspect of their operations. Furthermore, SMEs, in particular, face limitations in available capital and are hesitant to invest in what they perceive as a "non-core" service like an energy audit. This challenge is further exacerbated by South Africa's recent period of low economic growth. Consequently, there's a critical need for grant funding to provide technical

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assistance to demonstrate the commercial value of energy efficiency and bolster the pipeline of potential projects.

It is improbable that, at this juncture in the market's evolution, financial institutions would offer debt products with sufficiently attractive interest rates (falling below the borrower's threshold of 15%) for uncollateralized loans of relatively small value. This is unlikely to happen without the support of climate finance providers such as GEF, coupled with a degree of certainty regarding product demand, which can be cultivated through a targeted awareness-raising and demand stimulation program, as proposed for the Technical Assistance hub. The hesitance of financial institutions is driven by perceived risks associated with energy efficiency financing, the lack of commercially proven examples, and the absence of clear demand from customers. The Credit Risk Guarantee is intended to empower financial institutions to overcome these credit risks linked to energy efficiency loans, enabling them to provide tailored energy efficiency financing at rates below the borrower's 15% threshold. By making affordable, customized energy efficiency financing available, this initiative will trigger a ripple effect through demand stimulation, pipeline creation, experiential learning, and ultimately lead to a commercially viable market.

There's a significant need for concessionary support to enhance the affordability of financing energy efficiency projects, making them more appealing to end-users as alternatives to conventional investments. In order to incentivize the adoption of energy efficiency, it is our considered view that the provision of concessional finance within the range of 1% to 2% is deemed essential. Our analysis has indicated that a Credit Risk Guarantee is the most effective instrument to pass on the necessary concessionary benefits to borrowers, while requiring minimal concessionality. Furthermore, it necessitates the active involvement of a partner financial institution that stands to benefit directly and indirectly from the program's implementation.

The simultaneous implementation of these mechanisms—the Technical Assistance and the tailored financial product supported by the Guarantee—is of paramount importance, as one without the other is projected to be insufficient in initiating the positive feedback cycle essential for overcoming the challenges

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and obstacles faced by the South African energy efficiency market. GEF funding will serve as a crucial catalyst to break the market's inertia, affirm its commercial viability, and unlock private sector resources.

Hence, this strongly justifies and motivates GEF's investment in both a Credit Risk Guarantee to address financial barriers and grant funding for the Technical Assistance hub to tackle technical and knowledge-related hurdles.

i. Tailored Financial Support

The financial support package will be delivered through a competitively selected commercial financial institution and supported by the Credit Risk Guarantee managed by the Bank. There are three components that comprise the financial support package, notably the technical assistance, the guarantee facility, and the final debt product provided by the preferred bank to the market.

3.3 Credit Risk Guarantee facility overview

The proposed guarantee is a USD-denominated full credit risk guarantee to be provided by the GEF and intended to indemnify against defaults. It is proposed that the preferred partner Bank (commercial bank) pays an access fee rate of 0.8%, the guarantee call down is made quarterly, and the Bank is to manage the credit risk of the loan portfolio according to suitably stringent processes to contain the default rate at between 6%-16%, while still ensuring that the facility extends to a range of SME customers suitable to support the PSEEP2 impact objectives. At present, the Credit Risk Guarantee is modelled to cover 100% of all defaults as required to achieve the concessionality deemed necessary, indicating an outside case to the ask of GEF. However, we anticipate this reducing to 70% during our negotiations with preferred partner banks to ensure risk-sharing. The commercial bank responding to the RFI and expressing a desire to continue negotiations to become the preferred supplier, has indicated interest in proportionate risk-sharing to realise the rates indicated in the Full Proposal.

The Credit Risk Guarantee that supports the financial product will cover eligible loans issued within the initial 10-year period of the programme. After year 10, new loans will no longer be covered by the guarantee. The Bank will continue to be able to claim against the guarantee for loans issued during the first 10 years; as these loans are anticipated to be 48 months on average. The Guarantee Facility is anticipated to be operational until the end of year 15.

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In the event of a non-performing asset (NPA) and the need to call the PSEEP2 guarantee, the initial source of funds utilized would be the available cash balance generated from interest earned on the guarantee account and guarantee fees. Should the cash balance within the PSEEP2 account prove insufficient to cover NPA obligations, DBSA would then access the GEF NGI PSEEP2 guarantee (US\$ 12.7 million) as a secondary source of funds. If, even with the combination of the cash balance and the PSEEP2 guarantee balance, there remains an insufficiency to meet guarantee obligations resulting from NPAs of PSEEP2 energy efficiency clients, DBSA would step in to cover the deficit as a secondary loss position on the guarantee. Subsequently, commercial banks would assume a tertiary loss position. It is important to note that the PSEEP2 GEF NGI does not function as a direct cash injection into the facility akin to a conventional grant; instead, it acts as contingent support. Nevertheless, the possibility of tapping into the GEF NGI funds is mitigated by the cash reserves that DBSA will have accumulated from sub-guarantee fees and interest earned from deposits. Therefore, in terms of loss payments, the cashflow sequence would involve: 1) payment from the PSEEP2 guarantee cash reserves, followed by 2) the utilization of GEF NGI funds, and finally 3) contribution from DBSA Guarantee. Commitment on the DBSA Guarantee will be provided at CEO Endorsement stage and it is subject to approval by relevant DBSA committees.

It is worth noting that Commercial lending partners were engaged during the feasibility study process and two major commercial financial institutions have indicated definite interest to participate formally in the programme, and 2 others as well as a 2nd tier bank have indicated interest to participate in the programme.

These potential Partner Banks will be invited to submit to the programme for formal participation through a competitive request for proposals (RFP) process, informing the CEO Endorsement document to the GEF. The decision to avoid exclusivity to one or certain partner banks was informed by the need to maintain flexibility and freedom to work with multiple partner banks of varying size and specialty in order to access various markets, diversify the portfolio and achieve widespread development impact.

3.4 Financial product offered by Bank to market

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The financial product offered will be targeted at overcoming the challenges identified for SMEs wishing to fund and implement energy efficiency solutions and catalyse investment. The loan product will be attractive and marketable to SMEs, while reducing the transaction costs and administrative burden to ensure efficiency of financing. The concessional debt product is to be achieved through the provision of the Credit Risk Guarantee to a commercial financial institution partner to remove a large portion of the credit risk of SME borrowers of energy efficiency. In taking advantage of the reduced credit risk, the commercial financial institution partner will offer an unsecured concessional loan product for energy efficiency. Applicants will still be subjected to a credit assessment and should demonstrate an acceptable credit score to allow the Bank to manage default rates. The acceptable level of creditworthiness will be determined by the partner Bank and will fall within credit risk thresholds allowed by the Bank to ensure that default rates are kept between 6%-16% and with national credit regulator processes. The proposed financial product to be developed and marketed by the Bank is detailed in the table below:

Table 6: Overview of proposed financial product to be developed and marketed by the Bank

Product	
specificatio	Description
n	
Unsecured	Risk mitigated through applicant evaluation processes, payment arrangements and
loan	portfolio management
Loan size	R 1 million – R 10 million (loan portion comprises 80% of total project cost. 20%
Louit Size	contributed as equity)
Coverage	70% financing (30% of debt not covered by the guarantee)
	• Concessional base rate prime-0.4% + additional risk premium, up to a max of
Interest rate	prime+4.55%
	applicant-specific and portfolio-adjusted, including pass-on cost of guarantee
Tenor	2 x benchmarked payback period, typically 4 years with range 12 months – 5 years
Borrower	3 – 6 months
grace period	
Other	Financing will be sector agnostic
details	

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- Loans only for technologies and services provided by suppliers/installers on current
 Accredited Supplier List (ASL)
- Loans provided for energy efficiency technologies listed on Standard Technologies
 List (STL) that provide a CO₂ savings above the standardised threshold of 4.95
 tCO₂e savings per R1,000 investment (Please refer to Annex 22 for an indicative list and tCO₂e threshold explanation)
- Only projects in category C eligible for support
- No post-implementation monitoring required
- Disbursement direct to technology and service providers, in tranches (initial instalment of 20%, post implementation instalment of 80%)

In addition to screening applicants according to credit risk, the following additional criteria will potentially be used as selection criteria, due to the limited programme size: Applicant will need a management-endorsed Energy Management Plan (EMP) (even if basic), an Energy Manager (or similar role allocation) and some demonstration of no-/low-cost efforts already implemented.

The interest repaid will cover the Bank base rate, the guarantee access fee, and an administration fee (upfront and on-going). This approach externalises the cost of the guarantee to borrowers increasing it by 1% (0.5% access fee, 0.5% guarantee holding facility liquidity reserve buffer), but the guarantee lowers the average cost of borrowing by 1-1.5% and thereby guarantee concessionality is passed to the borrower. Partner banks will be required to sign off on the undertaking in the agreements to pass on to the borrower a specified percentage of concessionality. The DBSA will also require banks to share loan terms for review to ensure that the concessionality is passed on to the borrowers. This shall also for one of the key aspects to be assessed during the mid-term review.

3.5 Justification for the choice of financing options

During feasibility, an analysis of the various financing options was conducted, assessing each option for cost effectiveness, ease of implementation, institutional capacity and likelihood of success. (Please refer

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to Chapter 2 Sections 6.2, 6.3 and 6.4 of the feasibility report for the full comparison of different financing options). The financing options were then shortlisted to only two options: a): A concessional debt model – deploying finance direct to market through a special purpose vehicle (SPV); and b) A Credit Risk Guarantee model – deploying finance to market through partner commercial institutions. The table below illustrates the reasons behind the selection of the credit risk guarantee.

Table 7: Summary and comparison of shortlisted financing options

Evaluation	Option B: A Credit Risk Guarantee model – deploying finance to market through
element	partner commercial institutions
	Simpler. This option relies on an already existing commercial bank as the lender in
	order to provide the energy efficiency product.
Legal ease of	The option is easily implementable (i.e. banks can leverage off existing back office
implementatio	infrastructure – albeit it at a cost). The programme's governance mechanism, which
n and operation	will be established under the oversight protocol is again also not a separate legal
	entity but comprises representatives of the key parties. Accordingly, there is little or
	no delay or costs in establishing the framework.
Regulatory	Simpler. No regulatory complexity is foreseen under this option.
complexity of	
establishment	
and operation	
Legal ease of	Simpler. The conclusion of the programme would be relatively seamless as the lender
winding down	will carry on operating its usual business.
operation	
(sustainability)	
	Relatively efficient. This option employs GEF capital solely for credit risk coverage.
	This option does not call for additional GEF capital for financial support (not
Funder Capital	considering AE cost of management). The effective cost of capital per SME borrower
Efficiency	(value of guarantee called-down for SME loans, on average) is
	• assuming 6% defaults: R 5,254 per SME loan (USD 314 per SME loan)

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	• assuming 16% defaults: R 12,773 per SME loan (USD 765 per SME loan)
	– far less than that for Option 1. Many of the cost concerns in the SPV model are
	nullified due to the existing operations and economies of scale of a chosen financial institution.
	Substantially leverages private capital. By comparison, this model transfers the debt
Private capital	requirement to be fulfilled by commercial financial institutions and induces the
·	required concessionality by means of the credit risk guarantee. This is in addition to
leveraged	comparable end user equity. The private sector leverage to GEF funding is 1:16 (only
	on GEF guarantee).
	Potentially less attractive to borrowers, but greater certainty and access to existing
	customer base. Although the window of attractiveness to SMEs anticipated for this
	model is quite narrow, it is noted that this presents the higher end of the scale of
	rates for the smallest loans expected. In practice, we anticipate: (i) that a portfolio
Interest rate	will emerge including loans for larger values and hence more preferential interest
attractiveness	rates and (ii) that in time the establishment of streamlined processes will translate to
to market	reduced bank administration costs the savings of which can be passed on to
	borrowers in order to increase uptake. Furthermore, though this option specifies
	higher rates to SMEs, these are still within the anticipated maximum threshold
	(supported by the affordable guarantee).
	Better. This option has existing financiers as the primary provider of energy efficiency
	debt products and is intrinsically the most financially sustainable from this
Potential	perspective. The programme design will promote effective demand stimulation and
financial	pipeline generation. On the basis that the 'learning phase' during which the guarantee
sustainability	is offered sufficiently demonstrates the financial opportunity to the commercial
	financial institutions, post-facility activity should continue without further support.

The Gender Impact Assessment (GIA) data and information was collected through literature review and a survey conducted by National Business Initiative (NBI) with the intention of formulating the project concept design, with key alignments to the GEF's objectives to their gender policy. Additionally, it is formulated to mitigate any foreseeable gender-related risks, and to identify opportunities to meaningfully contribute to gender equity. Furthermore, interviews were conducted with women in the energy sector to provide personal

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experiences and aid in the formulation of recommendations to define specific and measurable targets that will be integrated into the action plan.

14.2 Industry Insights

Based on two interviews conducted with influential women in the energy sector, whose experience and roles provide in-depth insights into the broad value chain of the energy sector as businesswomen, association members and women working in the sector, some of the following key insights were revealed:

Women in the energy sector experience sexism and discrimination which limits their ability to build relationship and networks. **These networks are crucial in unlocking and accessing career and business opportunities,** which in turn leads to a multitude of women exiting the energy sector because of the perceived and real lack of opportunities.

Discrimination stymies the ability of women to access the market and further business and financing opportunities, which in turn reinforces and challenges the way in which women and men are valued and recognized in society.

The experiences of South African women in the energy efficiency sector are nuanced and vary depending on a range of factors including race, education etc. The interviews conducted also revealed that it is most common that white women are more established, build relationships and network more easily and access more opportunities, than that of black women in the same industry. However, there is an increase in the number of young black women entering the sector who have multiple challenges in establishing legitimacy and recognition, given the rights and governance malfunctions. In these instances, young black women employ strategies to manage the discrimination and biases that they face, including having to emphasise their qualifications and experience, or relying on mentors and champions.

14.3 Opportunities

The challenges identified above provide opportunities for proactive and targeted gender responsive approaches to drive change within the sector. Through the Gender Action Plan, there are opportunities for women owned/led SMEs to participate in the sector through the improvement and strengthening of the finance and supply-chain sector, knowledge sharing platforms, best practices guidelines and awareness of opportunities and barriers to access as well as improving technical expertise for women to participate in the sector.

12.4 Gender Action Plan – Activities & Opportunities

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The GAP has broad interventions which focus on undertaking research to track the programme's gender interventions, increasing the representation of women participating in the programme through procurement and various gender redress mechanisms, enhancing institutional capacity to deliberately promote women-led and owned businesses and ensure that PSEEP2 service providers understand and are aligned with South African gender policies

Knowledge management at the DBSA is aligned to the Bank's vision, mission and strategic objectives. The DBSA Corporate Plan recognises the role and value of knowledge management and up-to-date business intelligence. For knowledge management to be a successful undertaking, it must be embedded into all the organisation's business processes. Several critical success elements include leadership, organisation, technology, and learning. The Executive is envisaged to be the central driver of the value of knowledge management. This would entail the identification of knowledge critical to learning in the Bank, the promotion of values and norms conducive to the knowledge management endeavour and above all the active implementation of the knowledge management and research strategy. Even though culture eventually becomes important than leadership in the sustenance of knowledge management, the leadership's role is to initiate that culture and nurture it.

8.1 Capturing and Monitoring of Development Impact

The Development Results Tool (DRT) is an essential data collection tool used at the project level, designed to gather information that is vital for reporting on the specific developmental impacts and outcomes attributable to the project. The DRT is structured to offer a comprehensive range of indicators across different sectors to adequately measure and monitor project performance. However, it is well noted that not all these indicators will be applicable or relevant to every project. Therefore, in tailoring the DRT to a project's unique needs, only those indicators that directly relate to the project's objectives and expected results will be selected for inclusion in the officially sanctioned version of the DRT.

In cases where there are relevant indicators that are crucial for a project's assessment but are absent from the DRT's standard list, the tool provides flexibility. These indicators can be manually added to an 'other' section specifically designated for additional metrics that project managers find necessary to track. This ensures that the DRT remains a dynamic and adaptable tool, able to meet the specific monitoring and evaluation needs of any project. The DRT also features a section at the end that is dedicated to determining the frequency of project monitoring. This section utilizes a dropdown list, allowing for the selection of various time intervals that best align with the project's monitoring requirements. This functionality is crucial for establishing a consistent and systematic approach to project evaluation. Additionally, the DRT includes provisions for documenting Condition Precedence (CPs) and related issues. These are meticulously recorded in the tool's notes section, and are accompanied by clear, actionable time frames. This ensures that

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all conditional requirements and related actions are not only outlined but are also scheduled for follow-up within specific periods.

Furthermore, the notes section serves as a repository for logging any other pertinent information, particularly regarding targets that have not yet been met or milestones that are outstanding. This allows project managers and stakeholders to keep track of these objectives and to review them at predetermined intervals, facilitating a thorough and disciplined approach to project management and accountability. The DRT is therefore crafted to be a comprehensive and adaptable tool, facilitating the thorough measurement of development impacts, ensuring all relevant data is captured, and enabling effective project monitoring and management.

Replication and scale-up of concessional finance

Concessional finance often comes with lower interest rates and more generous terms than market-based financing, which reduces the financial risk for borrowers. This makes it possible for projects, particularly those with higher risks such as new technologies or markets, to secure the necessary funding to get off the ground. In the context of the DBSA funding structure, concessional finance acts as a catalyst for attracting additional private sector investment. By demonstrating confidence in a project through concessional loans or grants, private investors are encouraged to commit funds, thereby increasing the overall pool of resources available for development. The favorable terms of concessional finance also allow for longer payback periods, which is beneficial for infrastructure and development projects that typically have long gestation periods before they start generating returns. Concessional finance helps to promote social and economic development, particularly in less developed areas where DBSA is predominantly active.

When pilot projects have proven successful and established a foundation of evidence through the use of concessional finance, these initiatives are expanded using additional funding resources like the Green Climate Fund. This expansion broadens the project's reach and enable its replication in various regions, thus enhancing its developmental effects. The lessons learned and the outcomes achieved are documented and used to replicate the project's success in other contexts and regions.

The DBSA Knowledge Management and Research Activities

The DBSA's Knowledge Management & Research Unit plays a crucial role in the curation, organization, safekeeping, and sharing of knowledge and information. The Unit executes a vetted Knowledge Management Strategy and tailors its programs to effectively serve this purpose. These programs encompass a variety of initiatives, such as orchestrating a research agenda, hosting knowledge-based events (like workshops, conferences, research colloquiums, knowledge weeks,

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and webinars), and managing Knowledge Systems (including a Knowledge Portal and Knowledge Hub) that are central to the storage and dissemination of knowledge and information.

Additionally, the Unit is tasked with creating knowledge products that encapsulate insights from DBSA projects, including After-Action Reviews (AAR), compilations of lessons learned, bulletins, and other publications. To maximize the reach and impact of knowledge and research findings, the Unit partners with the Communication and Marketing Department (CME) to leverage social media and external channels, such as Engineering News, for wider dissemination.

The Information Centre, akin to a library, complements these efforts by gathering and distributing information. It is responsible for all library-related services, including the management of DBSA's online subscriptions, ensuring that stakeholders have access to a wealth of resources and data.

The implementation of the DBSA's Knowledge Management and Research Strategy focuses on three pillars which contribute significantly to the realisation of the DBSA's mandate and strategic goals. These are:

- 1) Business Intelligence
- 2) Corporate Knowledge Management
- 3) Thought Leadership

Business Intelligence

Business intelligence (BI) processes all the data generated by business and presents easy-to-digest reports, performance measures, and trends that inform management decisions and implements efficient business processes. BI capacity allows for the timely delivery of data to employees in an organization. The benefits of BI to an organization include improved data accuracy, better decision making in a timely manner, ease of sharing data across different divisions, improved productivity, and enhanced transparency.

Corporate Knowledge Management

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Corporate Knowledge Management refers to the practice of knowledge management in an organisation through the setting up fit-for-purpose processes, tools, and infrastructure for effective knowledge sharing and exchange. It is a combination of tribal, tacit, documented, and undocumented knowledge flowing in the organisation and provides the knowledge and information through which an organisation operates. Knowledge Management within the DBSA is a deliberate process of defining, organizing, retaining, and sharing the experience and knowledge of employees. It is important to improve employee productivity, prevent knowledge loss, encourage employee engagement and collaboration, promote proactive problem-solving, prevent errors, and reduce business costs.

Thought Leadership

Thought leadership is the expression of ideas that demonstrate expertise in a particular field, area, or topic. It involves innovative thinking characterized by insight and information. The DBSA aims to position itself as a thought leader in infrastructure development by ensuring that the organisation possesses high levels of expertise, insight, depth of knowledge, and valuable perspectives on infrastructure related issues. The organisation contributes to the sector by providing innovative solutions to address infrastructure challenges both locally and in the continent

The success and sustainability of the PSEEP2 project hinge on the effective integration of knowledge and learning, which enhances project design, decision-making, and interventions tailored to SMEs' needs in energy efficiency. Key elements include capacity building for SME owners and staff, embedded into the project's budget and outputs, ensuring the long-term adoption of energy-efficient practices. Documented learnings and success stories from the project are poised to influence broader policy and regulatory frameworks, serving as advocacy tools and fostering a conducive environment for similar initiatives.

The project's scalability is bolstered by the knowledge gained, allowing for the replication of successful strategies in other SMEs and regions, thus amplifying its impact. Learning from challenges within the project enhances risk management and contributes to overall resilience. Transparent sharing of knowledge with stakeholders is crucial for building trust and fostering strong partnerships, supported by effective monitoring and evaluation to maintain the project's relevance. Additionally, the PSEEP2 project aims to drive market transformation and encourage a shift towards energy efficiency in the broader business community. Learning from projects and evaluations, especially those funded by entities like the GEF, is a strategic part of the DBSA's knowledge management. This involves analyzing similar initiatives to extract best practices and lessons learned,

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thus informing and enhancing the bank's strategies and providing a wider perspective for more robust project planning.

The DBSA utilizes both digital and physical tools for knowledge exchange, including KMS and intranets for data storage and sharing, LMS and collaborative platforms like Microsoft Teams for training and project management, and physical spaces for workshops and networking events. Tools like SurveyMonkey and project management software are instrumental in gathering insights and managing projects, while internal newsletters keep stakeholders updated.

The project emphasizes producing and sharing varied knowledge outputs with stakeholders, including regular reports, impact assessments, case studies, and direct community engagement through workshops and meetings. A specific focus on awareness-raising, result dissemination, and strategic communication is crucial, as it educates SMEs and the community about the benefits of energy efficiency, promoting sustainable practices and enhancing the project's overall impact.

Coordination and Cooperation with Ongoing Initiatives and Project.

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

Yes

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 programme will be delivered by four main partners:

- Implementing Agency DBSA as an Implementing agency will oversee the programme, monitor
 performance and support Executing agencies by hosting the TA within its Programmes Office as the TA
 implementing agent. DBSA shall also facilitate the required training to build capability within executing
 agencies to ensure that they are able to execute the programme.
- Executing agency Preferred partner Banks will act as Executing agencies; their role will include
 identification of EE projects (from a customer base that already bank with the preferred partner banks)
 that align with the PSEEP2 criteria, assessment of the credit risk profile to determine the need for the
 guarantee and to provide the required funding for energy efficiency initiatives.
- Department of Mineral Resources and Energy (DMRE) as a steering and coordination partner in the programme and the lead Government Representative, working with support from

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• the NDA, the **Department of Forestry, Fisheries and Environment,** (DFFE).

These components will be overseen by a **Programme Oversight Committee (POC)** with the following structure and arrangements, depicted in Figure 2.

- The POC will function to steer the performance of each entity and component within the programme, in accordance to a tripartite governance agreement (between the DBSA, TA and Bank) that is to be implemented.
- The POC is to include government representation led from the DMRE and DFFE as decision-making stakeholders.
- A POC constitution will define the POC operation and the different roles within the committee, with different levels of influence and participation anticipated for the four main partners described, and other invited members.
- The POC will meet quarterly to discuss programme delivery progress and programme performance and enhancement, as well as topical subjects such as on-going coordination.

5. Programme implementation arrangements and financial flows

5.1 DBSA as accredited entity

As AE, DBSA will fulfil its role in overseeing programme delivery, and reporting to the GEF. The DBSA will act as GEF agent in administering transmitting funds, including grant funds for the technical assistance, and managing calls for guarantee product. The DBSA as accredited entity is well placed to undertake the proposed activities. The programme is well aligned to the DBSA's mandate to finance both private and public sector activities at national and regional levels in Africa to provide sustainable infrastructure project preparation, finance and implementation support. The DBSA primarily focuses on the water, energy, transport, and information and communication technology sectors and therefore the project is well aligned with its mandate.

It is envisaged that a Guarantee facility agreement will be concluded and signed between the GEF and DBSA. This agreement will establish key attributes of the loan product and lending processes that provide for eligible claims against the guarantee together with costs and reporting frequencies and requirements. The DBSA will receive disbursements for the forecasts in tranches and will have a Currency Reserve Holding Facility for this

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purpose and to manage the funding. Terms governing the role of the partner bank will also be included in the Guarantee Facility Agreement.

This facility will:

- Disburse ZAR denominated payments for eligible guarantee claims from the Bank
- Receive ZAR denominated guarantee access fees from the Bank for eligible guarantee claims made
- Receive quarterly USD denominated GEF guarantee call downs, based on projection provided by the Bank to the DBSA
- Repay USD denominated access fees to the GEF Facility (alternately, offset future call-downs
 against residual from prior call-downs and fees paid by Bank as appropriate).

5.2 Technical assistance hub implementing agent as Executing Entity

Several options for locations of the TA have been investigated and the preferred option presently proposed is that the TA is structured within the DBSA Programmes Office which has the capacity and interest to host it, and does so for other national scale programmes such as the IPP[1]². The co-location of the TA together with the EEPBIP Energy Efficiency Project Support Unit (EEPSU) within the Programme Office is a possibility however further design and stakeholder engagement under EEPBIP is still required. The Programme Office will host the TA. Options in terms of operationalising the TA are to be explored and may include developing the capacity in the DBSA or undertaking procurement of a Programme Manager. The technical assistance grant will be dispersed to the Programmes Office in accordance with the Grant Agreement between the DBSA and GEF. The TA will be resourced by contracting skilled resources to an organisational structure; these resources will manage the TA operations and deliver on a Technical Cooperation Service Level Agreement (SLA) to be established between the TA and partner Bank.

5.3 The preferred partner Bank as EE

The Bank will design, market and manage the transactions and reporting concerning the financial product to be made available to the target market. The Bank will be party to the Guarantee Facility Agreement, calling on this guarantee in the event of borrower default for eligible loans and pricing the risk benefit and cost of

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access of this guarantee into the product offering. The DBSA prefers to work with multiple banks, however details relating to the number of banks and the terms governing the relationship with banks will be determined at PPG stage during negotiation and contracting.

6. Other role players

6.1 Government representation

Government representation and influence in the programme delivery is to be achieved principally through representation on the PSEEP2 POC, specifically the Department of Mineral Resources and Energy (DMRE) as lead government agency for the programme. The Department Forestry, Fisheries and Environment, (DFFE) will be invited as standing members to the POC to ensure mutual alignment of the programme with government vision. Other interested or affected government department such as National Treasury will also be invited to form part of the POC. For the DMRE, the POC also provides the interface and governing opportunity for cooperation with the EEPBIP public sector energy efficiency programme.

6.2 Accredited installers and suppliers

The TA will create and maintain an ASL for the 5-year duration of the TA. The TA will follow a due diligence process to shortlist and add installers and suppliers of EE technologies on the ASL. Once a supplier of installer is approved, they will enter into a Panel Member Agreement with the TA.

The figure below provides an overview of the proposed programme institutional structure and governance arrangements:

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Programme Oversight Committee (POC) Accredited entity DESA SUIT OF STATE OF SOUTH AFFICA Building Africo's Prosperity Executing Entities for PSEE2P Preferred Partner bank DBSA programmes office TAH

Figure 2: Overview of programme institutional structure and governance arrangements

https://dbsaorg-

my.sharepoint.com/personal/lesedil dbsa org/Documents/Documents/PROJECTS/CURRENT%20PROJECTS/GLOBAL%20ENVIRON MENT%20FACILITY-

 $\frac{\%20GEF/Updated\%20PSEEP\%20NGI\%20November\%202023/PSEEP\%20NGI\%20\%20Updated\%20Resubmidsion\%20FINAL\%20UPDATED\%20v28112023.docx - ftnref1$

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO	(Achieved at	(Achieved at TE)
		Endorsement)	MTR)	
Expected metric tons of CO₂e (direct)	83380952	0	0	0
Expected metric tons of CO₂e	0	0	0	0
(indirect)				

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

Total Target Benefit (At PIF) (At 0	Endorsement) (Achieved at MTR) (Achieved at TE)
-------------------------------------	---

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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	(Achieved at	(Achieved at
		Endorsement)	MTR)	TE)
Expected metric tons of CO₂e (direct)	83,380,952			
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting	2025			
Duration of accounting	15			

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

Total Target	Energy (MJ) (At	Energy (MJ) (At CEO	Energy (MJ) (Achieved at MTR)	Energy (MJ)
Benefit	PIF)	Endorsement)		(Achieved at TE)
Target Energy Saved (MJ)	18,214,285,714			

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)	Capacity (MW) (Expected at	Capacity (MW)	Capacity (MW)
	(Expected at PIF)	CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)

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

GHG Calculation Methodology

The calculated CO2 emission reductions are 83 MtCO2eq for the base case scenario, and 108 MtCO2eq and 45 MtCO2eq for the worst-case scenario, as shown in the table below. These figures were derived from the investment values expected under various scenarios. A standard energy cost of R1.68/kWh, typical for commercial and industrial energy efficiency projects, was applied to translate the investment value into energy terms. The energy figures were then converted into CO2 emission reduction values using an emission factor of 1.03.

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NGI (only): Justification of Financial Structure

Please describe the financial structure and include a graphic representation. This description will include the financial instrument requested from the GEF and terms and conditions of the financing passed onto the Beneficiaries.

PSEEP2 Financial paragraph

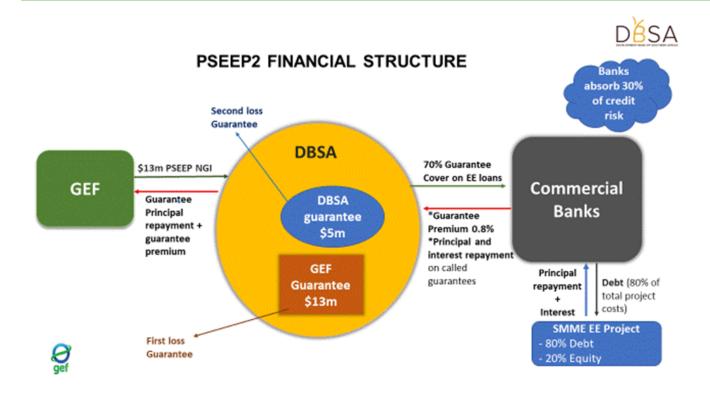
The overall project expenditure amounts to USD 523,678,968 with 2.8% of this sum (USD 14,678,968) designated as the GEF grant, while the remaining funds (97.2%) are provided as co-financing, totaling USD 509,000,000.

Components	Description	Co-Financing	GEFTF
Component 1	Technical Assistance	2,000,000	1,917,500
Component 2	Credit risk guarantee	5,000,000	12,761,468
Component 3	Private sector loans	400,000,000	-
	Private sector Equity	100,000,000	-
PMC and M&E		2,000,000	
Total		509,000,000	14,678,968
GRAND TOTAL		523,678,968	•

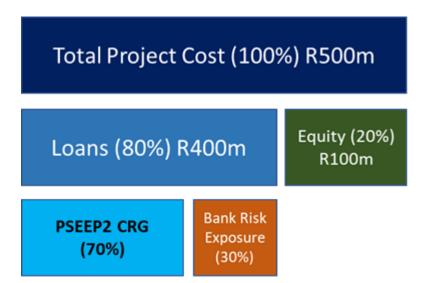
Component 3 consists of a financial structure where 80% is sourced through loans and 20% through private sector equity. The loans, amounting to USD 400,000,000 will be provided by select partner banks with the backing of a USD 12.7 million first-loss guarantee from GEF NGI. Moreover, the DBSA will offer an additional second-loss guarantee of USD 5 million, creating a combined credit risk guarantee of USD 17.7 million. Partner banks will offer these loans to small and medium-sized enterprises (SMEs) to support energy efficiency initiatives, with the SMEs themselves supplying 20% of the project costs as equity. Out of the loan portion financed by the banks, the PSEEP2 credit risk guarantee will secure 70%, leaving the banks with a risk exposure of 30% as depicted below.

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The layering of the financial structure is illustrated below.



The SME non-performing loans in the South African banking sector have declined since 2010, falling from 5.2% to 4.9% in 2020, albeit an increase from 3.1% in 2019 at the back of the global COVID-19 pandemic (OECD, 2022). The average default rate is therefore around 5%, however the adopted default rate at base case scenario is a conservative 7%. With a guarantee facility of USD 17.7 million, more than USD 4 billion worth of projects can be supported at a default rate of 7% and a recovery rate of 75%. Therefore, the loan value of USD

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400 million is considered conservative, as it is less than the potential coverage capacity. The best-case scenario assumes a default rate of 0%, while the worst-case scenario assumes a rate of 9%. Sub-guarantees will be issued on a monthly basis from year 1 to year 10. After year 10, no new guarantees will be issued to allow active loans (with an average tenor of 48 months) to be fully serviced over the remaining period. The value of guaranteed loans ramps up steadily over the 10 year period as uptake of the guarantee may not be aggressive at the outset. Collateral in the form of Special Notarial Bonds and General Notarial Bonds will be linked to the underlying assets to ensure that sponsors have a significant risk exposure and vested interest in the ventures they are sponsoring.

Upfront charge: In the initial years of the project, sub-guarantees are expected to be deployed gradually over a 10-year period (ramp-up period), impacting the project's income generation capacity. Therefore, imposing an upfront fee would negatively affect the financial performance of PSEEP2. To facilitate the project's scale-up during the early years, the GEF-8 NGI guarantee will come with no upfront cost.

Guarantee fee: A guarantee fee of 80 basis points is levied to minimize costs for SMEs. Partner banks are expected to pass this fee on to their SME clients through loan pricing. The primary goal of the CRG facility is to de-risk SME energy efficiency projects and reduce the loan pricing charged to SMEs by banks, making EE projects more economically viable. Charging a high fee on the guarantee would counteract this objective and place additional financial strain on SMEs, which already contend with high interest rates due to elevated credit risk and a lack of collateral. The total guarantee fee income projected over the 15-year period is USD 1,531,376.

Justification for the Guarantee Fee Rate: The DBSA normally imposes a guarantee fee of 250 basis points for lower risk large enterprise, IPP projects, correlating with the market rates at which it secures funds. It is expected that the rate will be higher for SMEs with high credit risk profile. Owing to the inherent base rate, the DBSA's capacity to incorporate a reduced rate in its pricing is restricted. For SMEs with stringent budget constraints and little room to take on extra expenses, a guarantee premium of more than 250 basis points is deemed excessive. This underscores the necessity for the PSEEP's concessional guarantee offering, which aims to alleviate financial pressure on SMEs, especially since commercial banks will likely transfer the guarantee costs to SMEs via increased interest rates. A more affordable guarantee fee would not only benefit SMEs by lowering their borrowing costs but would also appeal to commercial banks by diminishing their credit risk, thereby enhancing the appeal and financial viability of SME energy efficiency projects.

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Rationale for First Loss and Second Loss CRG Structure: The stratified arrangement of GEF's first loss credit risk guarantee (CRG) and DBSA's second loss CRG is designed to enable SMEs to benefit from PSEEP's lower-cost CRG. This setup aims to reduce the financial load and boost profitability since the DBSA's CRG comes at a higher price than the GEF's. The DBSA's guarantee would come into play only after the GEF's guarantee has been fully leveraged. Combining the two guarantees could potentially lessen the intended level of financial relief, thereby negating the fundamental purpose of the PSEEP guarantee.

Interest: It is estimated that the NGI account will generate interest income of 2% in the base case scenario. This estimate is conservative, as interest income on funds held in the call account could reach up to 5%. The total interest income expected to be earned over the 15-year period is USD 600,849. Interest income will primarily fund operational costs, with any surplus being allocated to bolster the Guarantee account. This strategy aims to expand the support to more companies and decrease the GEF's risk exposure.

Guarantee reflow: In the base case scenario, the unclaimed principal amount set to reflow to GEF at the end of the 15 year period is USD 9 million assuming a default rate of 7%, a recovery rate of 75%. Guarantee fee of USD1,5million will be generated from a guarantee premium of 80 basis points over the 15 year tenor.

Total Reflows: In the base case scenario, the PSEEP2 NGI will reflow a total of US\$9 million back to GEF at the end of the 15 year project period, comprising of Guarantee fee income and the unused guarantee principal amount. The interest income will be used for operational expenses and to capitalise the guarantee instrument. The breakdown of the reflow is given in the table below. As indicated above, value of project that could be supported is USD500million is conservative as more projects could be covered with the CRG is USD12.7 million. Additionally, cash reserves from interest income and guarantee fees will be used before tapping into the guarantee funds. This reduces GEF's exposure to risk and allows for maximum reflow of the principal amount back to GEF. The leverage ratio is 1:31.

In the best case scenario, value of projects that could be supported is USD648 million and the leverage ratio is 1:41.

The table below summarises key metrics under the three scenarios

Description	Base case scenario	Best case scenario	Worst case scenario
Default rate	7%	0%	9%
Value of supported projects (USD)	\$500 million	\$648 million	\$271 million

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Guarantee pricing	80bps	80bps	80bps
Guarantee fee	\$1,531,376	\$1,531,376	\$1,531,376
Principal guarantee reflow	\$7.8million	\$12.7 million	\$5.9million
TOTAL REFLOWS to GEF	\$9,392,844	\$14,292,844	\$7,455,491
Leverage ratio	1:31	1:41	1:17
CO2e avoided	83 million tCO2e	108 million tCO2e	45 million tCO2e

^{*}If GEF guarantee balance is in the negative, the DBSA guarantee will kick in

Financial Risks

The risk associated with bank participation in the proposed credit risk guarantee program for energy efficiency projects in SMEs involves several dimensions. Commercial banks often assess lending opportunities based on the risk profile. Energy efficiency projects, especially in SMEs, might be viewed as higher risk due to various factors like the project's technical complexity, uncertainty about the project's outcomes, or the SME's financial stability. Banks may be concerned about the potential for loan defaults, especially if they have limited experience in assessing the viability of energy efficiency projects.

Many commercial banks may not have specialized expertise in evaluating and financing energy efficiency projects. This lack of experience and understanding can make them cautious about engaging in such lending. They might be unsure about how to accurately assess the technical feasibility, cost savings, and return on investment of these projects, which is crucial for loan approval decisions. Banks operate with the objective of maximizing returns and minimizing risks.

Banks may perceive loans to SMEs for energy efficiency projects as less profitable compared to other lending opportunities. This perception could be due to smaller loan sizes typically required by SMEs, the perceived higher risk of lending to smaller businesses, and potentially longer payback periods for energy efficiency investments. Implementing and managing a new lending program requires banks to allocate resources, including staff time and capital. Banks might be hesitant to divert these resources from more familiar and proven lending areas to a new and relatively untested program.

Banks may perceive reporting requirements as honerous. Engaging in a new type of lending program, particularly one involving environmental projects, usually introduce additional compliance requirements or complexities that banks are reluctant to manage. If there is a perceived lack of demand or awareness about

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energy efficiency projects among SMEs, banks might not see the value in participating in the program. They may need assurance that there is a sufficient market for these loans to justify their involvement.

Risk Mitigating factors

The credit risk guarantee, technical assistance, awareness campaigns, and sharing of success stories are key components designed to mitigate risks and encourage bank and SME participation in the energy efficiency financing program. The credit risk guarantee acts as a safety net for banks, offering a degree of protection against defaults on loans extended to SMEs for energy efficiency projects. This reduces the perceived risk of lending to this sector. The concessionality of the guarantee (i.e., offering the guarantee on more favorable terms than available in the market) makes it more attractive for commercial banks. It effectively lowers the cost and risk of lending, thereby incentivizing banks to participate in the program.

The technical assistance hub is crucial in equipping commercial bank staff with the knowledge and skills needed to accurately assess and manage energy efficiency projects. This includes understanding technical aspects, evaluating the feasibility of projects, and assessing the financial and environmental impacts. By providing training, the hub addresses one of the major hurdles for banks – the unfamiliarity with the specific nature of energy efficiency projects. This training ensures that bank staff are better prepared to make informed lending decisions.

Allocating a budget for awareness campaigns is a strategic move to create and increase demand among SMEs for energy efficiency financing. By raising awareness about the benefits of energy efficiency projects, such as cost savings, improved operational efficiency, and environmental impact, these campaigns can encourage SMEs to consider such investments. Demonstrating to banks that there is a growing interest and demand among SMEs can help assure them of the market potential for these loans, thus encouraging them to participate in the program.

Presenting case studies and success stories of energy efficiency projects can serve as powerful tools to demonstrate the practical benefits and profitability of such investments. Sharing detailed market analyses helps banks understand the broader market dynamics, potential growth areas, and the long-term profitability of investing in energy efficiency projects. This approach not only illustrates the financial viability of these

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projects but also highlights the positive environmental and social impacts, aligning with the growing focus on sustainable and responsible banking.

By integrating these elements – the credit risk guarantee, technical assistance, awareness campaigns, and sharing of success stories – the program addresses key concerns of both banks and SMEs. It reduces perceived risks, builds capacity and confidence in handling energy efficiency projects, and creates a more conducive environment for investments in this sector. This comprehensive approach is designed to facilitate the successful launch and implementation of the energy efficiency financing program.

Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation-such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the "Project description" section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

Risk Categories	Rating	Comments
Climate	Moderate	Energy efficiency projects are typically considered to have low to moderate climate risk due to factors such as stable and proven technologies, short payback periods, insulation from energy price volatility, regulatory support, climate-resilient design, carbon reduction benefits, public demand, and the availability of climate data. While these projects are generally resilient to climate-related uncertainties, it is essential to conduct thorough risk assessments to identify and mitigate any potential vulnerabilities that may arise from local variations, regulatory changes, or extreme weather events.
Environment and Social	Moderate	An environmental screening process will be developed and interventions

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		that are serving or involved with investments that have a medium to high environmental and social risk will not be funded. Agricultural projects will only be entertained where they are organic and involve no concentrated animal farms and are climate smart. The mitigation measure reduced the impact and probability of the risk to very low and highly unlikely.
Political and Governance	Low	South African political and governance measures pertaining to energy efficiency are well-established and robust. These measures encompass comprehensive policies, strong regulations, ambitious national targets, financial incentives, increased public awareness, dedicated energy efficiency agencies, research and development initiatives, and active international cooperation. However, challenges persist, and ongoing monitoring and evaluation are necessary to ensure effective implementation and progress toward energy efficiency goals.
Macro-economic	Low	The macroeconomic risk associated with energy efficiency in South Africa is assessed as low. This is primarily due to the potential for cost savings, improved competitiveness, enhanced energy security, environmental benefits, investment opportunities, supportive policies, and growing public awareness. Despite the overall low risk, challenges like access to financing and market barriers persist, and external factors such as global energy price fluctuations can influence the economic landscape. Continuous efforts to promote and implement energy efficiency measures and

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		policies are crucial for maintaining this low-risk profile.
Strategies and Policies	Low	
Technical design of project or program	Low	The project team has expertise and experience of implementing the programme, thorough feasibility studies have been conducted, objectives are clear, and stakeholders were engaged. Regular monitoring and reporting will be conducted in line with GEF requirements.
Institutional capacity for implementation and sustainability	Low	Poor quality of external energy consultants and suppliers in database Mitigation: All outputs will be rigorously quality assured by both the internal team, potentially by other external technical providers and the Carbon Trust. Consultants will also be rated after each engagement, and this will be used in the selection of consultants for future engagements. New consultants will be appointed if needed if there is a lack of quality external consultants.
Fiduciary: Financial Management and Procurement	Low	
Stakeholder Engagement	Moderate	Stakeholder engagement risk is considered moderate, however regular meetings will be held with partner banks to monitor progress and to identify challenges well ahead of time for timeous implementation of mitigation strategies
Other	Moderate	Liquidity risk - The selected financial institution needs to be a large player with a track record that will offer comfort that the loans considered will not materially affect the Banks internal risk policies. Due to the relatively small quantum of funding under consideration this is a small risk should a large funder with an existing track record or infrastructure for large scale roll out be selected.

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Financial Risks for NGI projects	Moderate	GEF will incur hedging costs associated with the credit risk guarantee Changes in the base rate Mitigation: Enter into a tranched draw down profile based on the bank ability to "hedge" specific drawdown periods – i.e. each major drawdown has own repayment profile with hedged interest rate Should the base rate increase over a period (i.e. REPO rate increase and need to be a passed on – this can affect the new customer roll out from this point
Overall Risk Rating	Low	The dependence on partner banks introduces an element of risk, however partner banks that will be selected will be those that already have robust project appraisal systems and a good project execution track record. Legal agreements to be signed with partner banks will also be structured in a way that ensures that concessionality is passed on to projects.

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)

South Africa is a signatory to the Paris Agreement and the South Africa's current Nationally Determined Contribution pledges to mitigate national GHG emissions such that total emissions peak between 2020 and 2025 between $398 - 614 \text{ MtCO}_2\text{e}$ per year, be held relatively constant between 2025 - 2035 and decline thereafter.

The proposed programme is aligned to and concretely supports many of the objectives of South Africa's policy landscape. Most notably, this programme supports South Africa's Nationally Determined Contribution (NDC) commitments and is to contribute meaningfully to complementing specific programmes within the National Climate Change Response White Paper. Specifically:

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- The programme will be implemented on a national scale and will place emphasis on energy efficiency capacity building for energy intensive and relatively inefficient industries.
- The programme is projected to enable the avoidance of approximately 83 MtCO₂e lifetime emissions. Although the direct emission reduction can be considered small relative to national emissions, the aim is to stimulate much broader activity in the private sector; with multiple commercial financial institutions beginning to offer financial products, a shift in market perception that now standard technologies and providers can be relied upon, and far better coordination between these actors. Therefore, the programme could contribute to a substantial shift in the emissions trajectory.

Further, the programme aligns with wider national policy. The National Development Plan 2030 has two specific areas of impact that the programme will promote.

- Environmental impact: The programme will support the ambition of the NDP to achieve environmental sustainability and transitioning to a low carbon economy, by contributing to achieving the goal of reducing the country's greenhouse gas emissions and improving energy efficiency; and
- Socio-economic impact: The programme will contribute toward economic transformation by increasing
 the resilience of SMEs through reducing SMEs' operational expenditure on energy, as well as opening the
 energy efficiency market and encouraging new and faster growth in green industries.

The proposed programme further aligns with other national initiatives in energy efficiency. The Energy Efficiency & Management Flagship Programme is one of the national flagship programmes of the National Climate Change Response White Paper. The priority work package under this flagship programme is the recently launched Energy Efficiency in Public Buildings and Infrastructure Programme (EEPBIP); a technical and financial assistance programme for municipalities and other public-sector organisations. The Private Sector Energy Efficiency Programme (Phase 2) (PSEEP12P) is intended to be a complementary programme to EEPBIP and will align with EEPBIP's technical assistance service and governance structure, to increase efficiencies and synergies. This alignment includes government representation in both programme governance structures, thereby also ensuring country ownership.

The Post-2015 National Energy Efficiency Strategy has special relevance to the programme, an even makes reference to the 2013 – 2015 PSEEP1 programme (predecessor programme). The Post-2015 NEES includes the following objectives:

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• To develop a permanent successor scheme to the 2013-2015 PSEEP1 with focus on SMEs. As this has not

been undertaken by any other programme, the proposed programme and study has special relevance.

To continue to collaborate with government agencies, international financial institutions and donor

organisations, local banking sector and industry stakeholders to "ensure that appropriate and effective

financing schemes for energy efficiency continue to be developed and sustained". Whilst there are some

efforts to provide financing, engagement of the local banking sector has diminished even further since the

publication of the Strategy and access to suitable finance is deemed to remain inadequate.

Most significant in the context of this feasibility study is the recognition of the effectiveness and need for

continued targeted advice, information, assistance and subsidised energy audits such as that which was

provided by the 2013-2015 PSEEP1 and the need for financial support – neither of which have been created

by national government in the meantime.

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

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A series of stakeholder engagements we undertakenas part of the feasibility study at programme design milestones.

Stakeholder engagement processes were planned and executed according to a structured process depicted below

Identification

- Who to consult?
- Resources to apply

Mapping

- Understanding stakeholders and their goals
- Prioritisation

Planning

- How to consult
- Logistics planning
- 2-way communication

Engagement

- Facilitation
- Recording proceedings
- Using feedback

The project team met with donors, development agencies, development banks, commercial financial institutions, private equity, venture capital, energy efficiency practitioners, ESCOs, coordination platforms, industry associations and government agencies. The purpose of these engagements was to:

- Validate the challenges faced by different players in energy efficiency and the function of the energy efficiency value chain.
- Tap into the stakeholder's experience of what has worked and what hasn't from other programmes, or directly related to energy efficiency programmes/options in South Africa.
- Gain inputs to and test the study's design for the financial support package and financial product and Technical Assistance Hub.
- · (In select cases) identify opportunities for implementation phase collaboration as appropriate.

The project team and/or experts prepared materials to support engagements, coordinated logistics in advance and provided pre-emptive guidance to stakeholders of expectations and pertinent reference materials (where applicable). Sessions were facilitated by the project team members (with appointed experts where applicable) and proceeding recordings made and shared with project team members.

Engagement purpose	Cohort	Organisation	Representative	Date o	f
			name	engagement	
Product and programme concept testing	Consultant	Independent	Andre Kruger	02 April 2019	٦

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Duradicat and agreement as a consent to ation	l c	ı	l na	ı
Product and programme concept testing	Cross-	CANEDI	Barry	04.4 11.0040
	cutting	SANEDI	Bredenkamp	04 April 2019
Product and programme concept testing	Finance	Standard bank	Rentia van Tonder	10 April 2019
Product and programme concept testing	F:	ASISA: The Association for Savings	Auralus Conth	44 4 1 2040
5 1	Finance	and Investment South Africa	Andre Smit	11 April 2019
Product and programme concept testing	Finance	Metier Private Equity	Michael Goldblatt	11 April 2019
Product and programme concept testing		DDC4	Muhammed	44.4. 11.2040
	Finance	DBSA	Sayed	11 April 2019
Product and programme concept testing			Olympus	
5 1 1 1	Finance	DBSA	Manthata	11 April 2019
Product and programme concept testing		ASISA: The Association for Savings	6. 1 6 31	44.4. 11.2040
	Finance	and Investment South Africa	Stephen Smith	11 April 2019
Product and programme concept testing	Finance	Nedbank	Ashika Dheda	12 April 2019
Product and programme concept testing	Finance	Bridge Capital Refco	Dudley Baylis	12 April 2019
Product and programme concept testing	Finance	Nedbank	Duncan Abel	12 April 2019
Product and programme concept testing	Finance	Bridge Capital Advisors	Ewan Middleniss	12 April 2019
Product and programme concept testing	Finance	Nedbank	Kevin Whitfield	12 April 2019
Product and programme concept testing	Finance	Banking Association South Africa	Pierre Venter	15 April 2019
Product and programme concept testing			Thabo Tlaba-	
	Finance	Banking Association South Africa	Mokoena	15 April 2019
Product and programme concept testing	Finance	Standard Bank	Nigel Beck	16 April 2019
Product and programme concept testing	Consultant	SSN	Blaise Dobson	18 April 2019
Product and programme concept testing	Consultant	Sustainable Energy Africa	Peta Wolpe	18 April 2019
Product and programme concept testing	Finance	FirstRand	Heather Linton	03 May 2019
Product and programme concept testing	Finance	FirstRand	Justine Bolton	03 May 2019
Product and programme concept testing	Finance	FirstRand	Kyle Durham	03 May 2019
Product and programme concept testing	Consultant	IBIS	Simon Clark	03 May 2019
Product and programme concept testing	Finance	Old Mutual	Jon Duncan	07 May 2019
Product and programme concept testing	Donor	Enercheck	Gina Schroeder	21 May 2019
Product and programme concept testing	Donor	GIZ	Gregor Schmorl	, 22 May 2019
Product and programme concept testing	Donor	GIZ	Jonathan Curren	22 May 2019
Product and programme concept testing	Financier	Inspired Evolution	Christopher Clarke	23 may 2019
reader and programme consept teeting		I map in car a tronaction.	Christelle Beyers	20 2020
Product and programme concept testing	Donor	Power Africa	emistene beyers	27 May 2019
			Melusile Ndlovu	
Product and programme concept testing			Robbie Louw	
	Consultant	Promethium		27 May 2019
			HJ Swanepoel	
Product and programme concept testing	Consultant	Camco	Geoff Sinclair	28 May 2019
Product and programme concept testing	Finance	Fieldstone	Jonathan Berman	4 June 2019
Product and programme concept testing	Finance	Absa	Justin Schmidt	6 June 2019
Product and programme concept testing	Finance	Absa	Paulo Branco	6 June 2019
Product and programme concept testing	Finance	First	David Johnson	3 July 2019
Facility design validation				4 September
	Finance	Nedbank	Kevin Whitfield	2019
Facility design validation				6 September
	Finance	Standard Bank	Nigel Beck	2019
		Department of Environmental		7-8 October
No-objection process	Government	Affairs; Department of Energy	Various	2019
			Dieter Matzner	
Eacility design validation and revised				
Facility design validation and revised product concept testing	Finance	Investec	Martin Meyer	9 October 2019
product concept testing				
		<u> </u>	Dayle Malherbe	
enables destant 193 to 1 1 1			Dario Musso	44 0
Facility design validation and revised	Finance	RMB		11 October
product concept testing			Amber Bolleurs	2019
	i			30 October
Testing and presentation on concept for	Various	SEED workshop	Various	

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Revised product concept testing and invitation to participate as a partnered bank	Finance	First Rand	Kyle Durham	4 November 2019
Revised product concept testing and invitation to participate as a partnered bank	Finance	First Rand	Kyle Durham Nichola Jay	8 November 2019
EEPBIP integration	Government	Department of Mineral Resources and Energy	Xolile Mabusela	10 September 2019

Date	Name	Company	Topic
25 January 2021	Deerosh Maharaj	Standard Bank	Bank's approach to Energy efficiency investments
11 December 2020	Kyle Durham	FNB bank	Financial terms of the guarantee
14 May 2023	Reitumetse Molotsoane	NBI	Lessons learnt on the first PSEE programme
23 February 2023	Mahlatsi Malatji	Phala Dikelello Pty Ltd	Consultation on energy audit consultancy fees

(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	MTR	TE				
	Endorsement/Approval						
Medium/Moderate							

E. OTHER REQUIREMENTS

Knowledge management

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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 (\$)
DBSA	GET	South Africa	Climate Change	CC STAR Allocation: CCM- 1-2	Grant	917,500.00	82,500.00	1,000,000.00
DBSA	GET	South Africa	Climate Change	NGI	Grant	1,000,000.00		1,000,000.00
DBSA	GET	South Africa	Climate Change	NGI	Non-Grant	12,761,468.00	1,238,532.00	14,000,000.00
Total GE	F Resour	ces (\$)	1	ı		14,678,968.00	1,238,532.00	16,000,000.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

false

PPG Amount (\$)

PPG Agency Fee (\$)

Total PPG Amount (\$)					0.00	0.00	0.00	
GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non- Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)

Please provide justification

Sources of Funds for Country Star Allocation

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Total GEF Resou	1,000,000.00				
DBSA	GET	South Africa	Climate Change	CC STAR Allocation	1,000,000.00
GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CCM-1-2	GET	14,678,968.00	509000000
Total Project Cost		14,678,968.00	509,000,000.00

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Private Sector	Commerical bank	Grant	Investment mobilized	1000000
Private Sector	Commercial Bank	Loans	Investment mobilized	40000000
Private Sector	SMEs	Equity	Investment mobilized	100000000
GEF Agency	DBSA	Grant	Recurrent expenditures	3000000
GEF Agency	DBSA	Guarantee	Investment mobilized	5000000
Total Co-financing				509,000,000.00

Describe how any "Investment Mobilized" was identified

The financial product offered will be targeted at overcoming the challenges identified for SMEs wishing to fund and implement energy efficiency solutions and catalyse investment. The loan product will be attractive and marketable to SMEs, while reducing the transaction costs and administrative burden to ensure efficiency of financing. The concessional debt product is to be achieved through the provision of the Credit Risk Guarantee to a commercial financial institution partner to remove a large portion of the credit risk of SME (and a small number of larger) borrowers of energy efficiency. In taking advantage of the reduced credit risk, the commercial financial institution partner will offer an unsecured concessional loan product for energy efficiency. Applicants will still be subjected to a credit assessment and should demonstrate an acceptable credit score to allow the Bank to manage default rates. The acceptable level of creditworthiness will be determined by the partner Bank and will fall within credit risk thresholds allowed by the Bank to ensure that default rates are kept between 6%-16% and with national credit regulator processes.

Projects of upto ZAR2million will be supported and 20% of the required funds will be required from project sponsors as equity contribution. A total of \$15million will be raised from partner banks while \$3,750,000 will be contributed by project sponsors.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

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GEF Agency Type	Name	Date	Project Contact	Phone	Email
			Person		
GEF Agency	Development Bank of	2/27/2023	Muhammed	+27113135240	MuhammedS2@dbsa.org
Coordinator	Southern Africa		Sayed		
Project	Development Bank of	2/27/2023	Mookho	+27113133187	MookhoM@dbsa.org
Coordinator	Southern Africa		Mathaba		

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

Name	Position	Ministry	Date (MM/DD/YYYY)
Shakira Parker	Senior Policy Adviser: International Governance Management	Department of Forestry, Fisheries and Environment	2/27/2023

NGIs do not require a Letter of Endorsement if beneficiaries are: i) exclusively private sector actors, or ii) public sector entities in more than one country. However, for NGI projects please confirm that the agency has informed the OFP of the project to be submitted for Council Approval

Yes

ANNEX C: PROJECT LOCATION

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



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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

Master DRT_2022_GCM_Empty_Revised_3 April 2023

PSEEP2 model Updated Re-submission FINAL UPDATED v30112023

PSEEP NGI Updated Resubmidsion FINAL UPDATED v30112023

DBSA SAFEGUARDS SCREENING REPORT- PSEEP2_Final Report 28112023 (1)

Climate Risk Screening Tool WBG 11064 PSEEP2

GEF endorsement DBSA NGI amended Final Updated 171123 v3

Annex 2 Feasibility Study

ANNEX E: RIO MARKERS

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

ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3	Level 4
Influencing Models		Convene multistakeholder alliances	Deploy innovative products
			Demonstrate
			innovative approaches
Stakeholders	Government	Private Sector	
		Beneficiaries	
Capacity, Knowledge and Research	Enabling activities, Capacity development Learning	Skills transfer to SMEs and banking sector	
Gender Equality	Gender mainstreaming	Beneficiaries, Women group, Gender sensitive indicators	
Focal Area/Theme	Climate change mitigation	Energy efficiency	Reduction of GHG emissions

ANNEX G: NGI RELEVANT ANNEXES

Please use the most up to date templates per the most recent call for proposals.

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Annex G.1: Template for Indicative Financial Termsheet

<u>Instructions.</u> This termsheet to be submitted with the PIF/PFD should include sufficient details to allow a financial expert to understand and judge the financial viability of the proposed investments. Indicative terms and conditions should be used when specific details are not yet available. An equivalent termsheet used for internal Agency purposes is acceptable but must include sections on Currency Risk, Co-financing Ratio and Financial Additionality.

Project/Program Title	Private Sector Energy E	fficiency Programme NGI (PSEEP	22)
Project/Program Number	GEF ID 11064		
Project/Program Objective	The objective of this project is to address the challenges faced by South Africa in achieving energy efficiency, particularly in the context of small and medium-sized enterprises (SMEs). South Africa's historical reliance on resource-based and carbon-intensive energy sources has hindered substantial progress in energy efficiency, especially among SMEs. This project aims to stimulate demand, develop capacity, and provide financial access to SMEs to implement energy efficiency programs that will reduce their energy consumption and carbon emissions.		
Country [ies]	South Africa		
Agency presenting the Project	Development Bank of S	Southern Africa (DBSA)	
Project Financing	A. Sources of Co-fin	ancing,	
	GEF DBSA:	USD3,0	Agency, 000,000 (Grant)
	GEF DBSA: (Guarantee)		Agency, USD5,000,000
	Private/Public Capital:	Sector USD1,000,000 (Grant)	Commercial
	Private/Public Capital:	Sector USD400,000,000 (Loans)	Commercial
	Private/Public Capital:	Sector USD100,000,000 (Equity)	Commercial
	B. Indicative Trust F - NGI	und Resources Requested unde	r the NGI Program

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	GEF NGI/Blended Finance: USD12,761,468 (Guarantee)	
	C. Indicative Trust Fund Resources Requested under the NGI Program – Grant	
	GEF NGI Technical Assistance Grant: USD1,000,000 (Grant)	
	D. Indicative Trust Fund Resources Requested under the GEF TF – Grant (STAR)	
	GEF TF Technical Assistance Grant (STAR): USD917,500 (Grant)	
	TOTAL PROJECT FINANCING USD 523,678,968	
Currency of the Financing	USD	
Currency risk	Currency risk will be borne by GEF to the extent that it materializes.	
Co-financing ratio	1. Every GEF 1 USD mobilizes 35 USD of co-financing	
	USD	
	GEF NGI 12,761,468 2.44%	
	GEF TA 1,917,500 0.37%	
	Sub total 14,678,968	
	DBSA 8,000,000 1.53%	
	Private sector 501,000,000 95.67%	
	Sub total 509,000,000	
	TOTAL 523,678,968 100.00%	
	Leverage ratio : 509,000,000 = 35 14,678,968	
Financial additionality of GEF resources	The proposed PSEEP guarantee helps improve the security structure of SMME EE projects hence making them attractive investments for commercial banks. Without this guarantee, these projects would be	

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	considered high risk and hence would either not be considered at all for funding or be financed at a high interest rate to compensate for the risk. High interest rates decrease commercial viability of this projects. For SMMEs which are normally run on thin margin, a decrease of 1% or 2% in interest rate makes a huge impact on the profitability and liquidity of a company.	
Use of proceeds	The Guarantee will be used to support energy efficiency projects of South African SMMEs. This aligns with the climate change mitigation focal area.	
Financing instruments	DBSA requests an NGI financing instrument to guarantee investments made by commercial banks to SMEs in support of energy efficiency projects. The USD12.7million guarantee will serve as a contingent liability callable to cover high risk energy efficiency projects by SMEs over the course of the programme (15 years).	
	Features of the GEF NGI sought by the DBSA are as follows:	
	a) Type of instrument: A guarantee instrument to cover commercially viable energy efficiency projects implemented by SMEs that meet the set PSEEP2 criteria	
	b) Amount: USD 12.7 million (excluding agency fees and \$1million NGI Grant)	
	c) Guarantee premium: 80 basis points	
	d) Tenor: 15 years	
	e) Reimbursement agreement: In the event of a drawdown on the PSEEP2 guarantee during programme duration, the structure assumes that any cash available in the facility at the end of the 15 year period will reflow to GEF upto the amounts drawn. The reflow amount in the base case scenario is USD 10.1 million, which is based on a conservative default rate of 7%.	
Financing requested from	USD 1,917,500	
the GEFTF in the form of Grant for Technical Assistance	(ie \$917,500 from the STAR allocation and \$1m from GEFTF NGI)	
Terms and conditions for the	For the debt instruments (including loans, credit lines, structured finance	
financing instruments	or bonds):	
	(a) Amount of the guarantee: USD 12,761,468	

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(b) Maturity: 15 Years

(c) <u>Guarantee fee rate:</u> 80bps This is a standard fee that will be charged as soon as projects are approved by the commercial bank, which is when the guarantee would become effective.

Annex G.2: Reflows table

<u>Instructions.</u> Any financial returns, gains, interest or other earnings and remaining principal will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. and the GEF Non-Grant Instrument Policy.

Item Data	Item Data
GEF Project Number	11064
Estimated Agency Board approval	June 2024
date	
Investment type description (financial	Guarantee and grant
product: debt, equity, guarantee, other)	
Expected date for start of investment	January 2025
Amount of investment (USD GEF	USD12,761,468 – NGI Guarantee
funds)	USD1,917,500 - Technical Assistance Grant
Amount of investment (USD co-	USD 509 million made up as follows:
financing)	USD 8 million - DBSA
	USD 100 million – Equity from project sponsors
	USD 400 million – Senior loan from commercial banks
	USD 1 million – Grant from commercial banks
Guarantee fee	80 basis points
Maturity	15 years
Estimated reflow schedule	Attached
Repayment method description	The repayment method will be consistent with all other GEF
	projects and programmes implemented by DBSA. The ZAR
	repayments from the sub-projects (received semi-annually) will be
	converted immediately into USD and be kept in a USD Bank
	Account that will solely be utilized for receiving repayments. The
	immediate conversion of repayments from ZAR to USD is for the
	purpose of minimizing the risk of forex losses to GEF. DBSA will
	then transfer the funds in the USD Receiving Account back to GEF

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a)

	as and when repayments are received from the sub-projects or at a frequency that DBSA determines being appropriate from an administrative perspective.
Frequency of reflow payments	Semi-Annual or as and when repayments are received from the sub-projects or at a frequency that DBSA determines being appropriate from an administrative perspective.
First repayment date	March 2025 (Quarter 1)
First fee payment amount	USD 25,523 (payment for the first 3 months (guarantee fee only) – base case scenario)
Final fee payment date	December 2039
Final repayment amount	USD 7,886,991 (payment for the last 3 months (guarantee fee + guarantee principal) – base case scenario)
Total principal amount to be paid -	US\$7,861,468 payable at end of year 15 assuming 7% default rate
reflowed to the GEF Trust Fund	(base case scenario)
Total interest/earnings/premiums amount to be paid-reflowed to the GEF Trust Fund	USD 9,392,844 (nominal) at Base Case scenario
	USD 14,292,844 (nominal) at Best Case scenario

Annex G.3: GEF Agency Eligibility to Administer Concessional Finance

The GEF Agency submitting the PIF or PFD will demonstrate its capacity and eligibility to administer NGI resources as noted in the NGI Policy, summarized below:

a) Ability to accept financial returns and transfer from the GEF Agency to the GEF Trust Fund;

The proposed programme is within DBSA's mandate to support programmes that result in infrastructure development, regional development, industrialisation and job creation. Moreover,

The programme aims to accelerate socio-economic development by funding infrastructure and improve the quality of life of the people of Southern Africa. In addition, energy generation, storage, efficiency and waste management are important industries fostering and sustaining the growth and competitiveness of the South African economy and the programme will contribute towards reducing the current energy crisis faced by the country particularly marginalised groups who are vulnerable to climate change inequalities i.e. negative impacts of climate change making it difficult for poor communities to sustain livelihoods and maintain resilience thus making it difficult for previously

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disadvantaged communities to adapt to climate change. The programme will contribute to a wide range of goals of transitioning South Africa to a greener economy whilst ensuring the security of supply of energy, cleaner environment and thus economic growth. The DBSA has a proven track record of administering loans, grants, guarantees and the returns thereof.

b) Ability to monitor compliance with non-grant instrument repayment terms;

The Management of disbursements made is primarily managed under the DBSA Loan Management unit. The Loan Management unit forms part of the broader discipline of portfolio management. The primary objective of portfolio management is to ensure that the DBSA's assets perform at the level required to ensure the sustainability of the organisation. Its purpose is to ensure the continuous monitoring of all relevant covenants and terms throughout the lifetime of the facility. This relates to both financial and non-financial covenants and terms.

Once the Loan or Facility has been disbursed in full, the Loan Management unit becomes the first point of contact and is accountable for the administration of the loan; and monitors the sub-project compliance and performance. Loan Management may if necessary, also consult with Legal, to ensure that the full implications of any deviation from conditions or breach of covenant or terms are understood by the DBSA and appropriate mitigation measures are initiated.

c) Capacity to track financial returns (semester/bi-annual billing and receiving) not only within its normal lending operations, but also for transactions across trust funds;

DBSA Loan unit is capacitated to provide services such as to track financial returns (semester billing and receiving). Third-party funds are managed by the Finance Division with dedicated resources to manage trust funds.

d) Commitment to transfer reflows twice a year to the GEF Trust Fund;

The DBSA is committed to transferring reflow to GEF Trust fund on a bi-annual basis

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And, in case of NGI for private sector beneficiaries:

e) Track-record of repaid principal and financial returns from private sector beneficiaries to the GEF Agency.

The DBSA has funded private sector beneficiaries under many programmes implemented in the past which included private sector participation and has a capable team that ensure that these beneficiaries repay the principal and financial returns to the DBSA in accordance with the prescribed terms in the executed financing agreements.

And, in case of concessional finance for public sector recipients:

f) Track-record of lending or financing arrangements with public sector recipients;

Same as in (e) above.

The DBSA does most of its funding activities with the municipalities and State Owned Entities.

g) Established relationship with the beneficiary countries' Ministry of Finance or equivalent.

The DBSA 's shareholder is the Minister of Finance. Through the Ministry of Mineral Resources and Energy, DBSA was Involved in the institutional set up and acts as the custodian organisation for the Independent Power Producer office of South Africa.

Annex G.4: Management Capacity of Executing Agency and Governance Structure

For projects requesting equity instrument, structured finance, or SPVs please provide following information

While it is unusual for GEF agencies to take on both the roles of implementing agency and executing agency in GEF-funded projects, we strongly believe that DBSA is well-suited for this dual role in NGI projects. DBSA has extensive experience, established systems, and regional expertise in the administration of non-grant instruments. The bank has been managing non-grant instruments since its establishment, offering a wide range of financial tools, such as senior debt, subordinated debt, equity, grants and guarantee instruments. In addition to its capabilities and experience, DBSA currently has well-established systems required to handle NGI instruments effectively. This dual role has the potential to enhance the success and impact of NGI projects in the African region, aligning with GEF's mission to protect the global environment and promote sustainable development.

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DBSA's extensive experience in managing non-grant instruments, such as loans and financial mechanisms, is a

critical asset for its dual role as an implementing and executing agency in NGI projects. This experience enables

DBSA to efficiently handle NGI funds, minimize financial risks, and optimize resource utilization. Additionally,

DBSA's expertise in risk assessment and credit analysis ensures responsible financial management and the

prudent allocation of NGI funds, ultimately contributing to the success and impact of NGI projects aligned with

GEF's goals. Executing NGI projects within DBSA provides the added advantage of identifying co-investment

opportunities, allowing DBSA to leverage its existing financial resources. This strategic approach enables DBSA

to complement and bridge fund shortfalls in GEF projects, harnessing its financial capacity to further enhance

the sustainability and success of NGI initiatives.

DBSA possesses well-established systems for originating, appraising, and monitoring projects. Its rigorous

project appraisal process ensures that NGI projects align with GEF's goals and objectives, maximizing their

environmental and sustainable development impact. DBSA's robust project monitoring mechanisms ensure

that NGI projects remain on track and achieve their intended outcomes, promoting transparency and

accountability. DBSA has a proven capacity to disburse and manage loans effectively. DBSA's financial

infrastructure, including loan disbursement and repayment systems, ensures that NGI funds are disbursed

promptly and managed responsibly. DBSA has a history of successful loan management, minimizing defaults

and optimizing the use of NGI resources. DBSA's experience in financial instruments allows us to conduct

thorough due diligence and risk assessment, mitigating potential risks associated with NGI projects and

safeguarding GEF's investments

As a regional development bank, DBSA possesses in-depth knowledge of the Sub-Saharan Africa region's

economic, environmental, and social dynamics. This regional expertise is critical for tailoring NGI projects to

address local challenges and opportunities effectively. Having DBSA play both roles can lead to streamlined

coordination and reduced administrative costs. The integration of implementation and execution functions

within a single agency enhances efficiency and reduces bureaucratic hurdles.

List of key requirements leading to CEO Endorsement submission

During project design/by endorsement: [1]3

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- **Stakeholders:** provide list of stakeholders, roles in the project and means of engagement; specifically address civil society organizations, vulnerable groups and Indigenous Peoples and Local Communities (IPLCs) (as applicable) and their roles in the project
- Gender Equality and Women's Empowerment: carry out gender analysis and prepare gender action plan; include relevant gender aspects in Theory of change and gender-sensitive indicators in results framework (i.e. including the process to collect sex-disaggregated data and information on gender); include gender equality considerations/gender-responsive measures and actions in relevant activities in project components.
- Environmental and Social Safeguards (ESS) related documents: depending on types of ESS risks to be prepared (such as Environmental and Social Impact Assessment, Environmental and Social Management Framework/Plan, Indigenous Peoples Plan and Grievance Mechanism) and made public in country/location in relevant language/s (provide publication date and locations)
- **Private sector involvement mechanisms** (for non NGI projects: anticipated roles and type of PS; this will already be central to the project document for NGI projects)

Knowledge Management Plan - develop

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