



Private Sector Energy Efficiency Programme Phase 2 (PSEEP2)

Review PIF and Make a recommendation

Basic project information

GEF ID

11064

Countries

South Africa

Project Name

Private Sector Energy Efficiency Programme Phase 2 (PSEEP2)

Agencies

DBSA

Date received by PM

3/16/2023

Review completed by PM

11/28/2023

Program Manager

David Elrie Rodgers

Focal Area

Climate Change

Project Type

GEF-8 PROJECT IDENTIFICATION FORM (PIF) REVIEW SHEET

1. General Project Information / Eligibility

a) Does the project meet the criteria for eligibility for GEF funding?

b) Is the General Project Information table correctly populated?

Secretariat's Comments

DER and RR, 10/4/23.

Sector is in line with GEF-8 programming directions for CCM.

The amounts would benefit from clarification and revision: currently the total is at \$19.99M, based on a grant amount of \$1M, non-grant amount of \$17M, an agency fee calculated on top of this as \$1.5M, and a PPG of \$300,000 with \$27,000 of PPG fee. This does not match on several levels:

- 1) the grant amount is noted as \$1M when the detailed PIF refers to \$2M, this should be clarified and revised in connection with the table on source and programming of funds;*
- 2) the Agency Fee and TA are calculated on top of the NGI \$15M amount, instead of as part of the \$15M as per usual practice. This should be reformulated;*
- 3) in addition to the agency fee and TA issues, the non-grant amount is noted as \$17M (excluding agency fee and NGI TA) instead of the usual \$15M (including agency fee and NGI TA)*
- 4) Region should be Africa (AFR), not South Africa
- 5) Do not request more than \$15 million, including agency fees, from the blended finance window.

Additional Comments:

Table "GEF Financing Table" includes two lines with the same information in the columns Programming of Funds and GEF Project Grant/Non-grant (though the amounts is different) ? unless there is a technical reason for such breakdown, please ask the Agency to merge them in one.

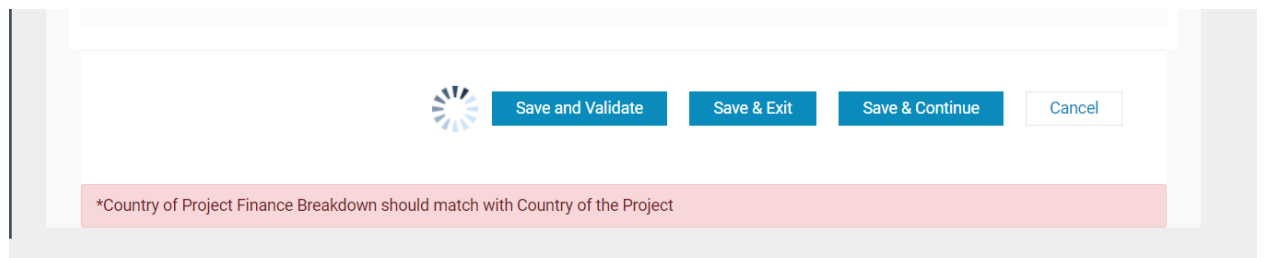
DER, RR, AB 11/22/23 1) The Project information financing figures match the LOE. Comment cleared. 2) Cleared 3) Cleared 4) Comment not cleared. Please use the Portal drop down menu in Project Information to select AFR as the region. 5) Cleared New comments due to the revised PIF 6) Page 6 Credit in Credit Risk Guarantee is mis-spelled. Please correct. 7) Page 31 has some different estimates for number of audits than elsewhere in the document. Please align. 8) Page 34 refers to two components, but the PIF now has three components. Please correct. DER, 11/28/23

- 4) Agency reports that local Portal will not allow region to be modified. Cleared for now and will consult IT on solution.
- 6) The PIF generated by Portal shows Credi Risk Guarantee without a t in the outcome box. The PIF final submitted by DBSA shows a different report without the missing t. Need to discuss with IT on solution Cleared for now.
- 7) Comment cleared
- 8) Comment cleared.

Agency's Comments

Noted, thank you. The financing table has been updated accordingly.

- 1) Grant amount - \$917,500 from STAR and \$1million form the NGI grant
- 2) Agency fee and TA now calculated as part of \$15m NGI
- 3) All costs limited to the \$15m as suggested
- 4)The portal does not allow for the region to be changed to AFR. Please see below error.



- 5) All costs limited to the \$15m as suggested
- 6) We could not find the typo on the PIF
7. We could not find the different estimates in the PIF. We will upload the updated version that hopefully does not have different figures
- 8) Corrected. Thank you

2. Project Summary

Does the project summary concisely describe the problem to be addressed, the project objective and the strategies to deliver the GEBs or adaptation benefits and other key expected results?

Secretariat's Comments

The project summary describes a valuable intervention to provide concessional financing for energy efficiency investments in SMEs in South Africa. The selection of intervention model / financial instrument is well rooted in comprehensive needs assessment and analysis of (financial) options to support energy efficiency uptake. There is significant energy efficiency mitigation and economic/saving potential in South Africa (especially considering high carbon intensity of economy/electricity). The focus on SMEs is an additional positive element of the proposal.

Agency's Comments N/A

3 Indicative Project Overview

3.1 a) Is the project objective presented as a concise statement and clear?

b) Are the components, outcomes and outputs sound, appropriate and sufficiently clear to achieve the project objective and the core indicators per the stated Theory of Change?

Secretariat's Comments

Overall the project objective and theory of change are on target. Significant additional precision is needed. Please address the following:

1) Please explain why the project was not submitted to GCF as expected. GCF financed the feasibility study as part of the PPG, and would have been expected to fund this project.

2) Number of SMEs supported with energy audits seems low (30). Need to clarify what is the cost assumed, and why in the feasibility study this number was much higher (3,000 with USD15M investment, vs 30 with \$2M investment for the GEF).

3) DBSA/GCF's CFF has a minimum ticket of R50M, while the proposed NGI initiative would have a max loan of R2M. What is the estimation of the market between R2M and R50M? Is there no demand forecasted for this segment?

4) The available service offering (table 4, page 25) seems to offer all services to both small and medium enterprises. It would seem more appropriate and efficient in terms of TA resources use to further differentiate between the two categories. On site energy audit may be too expensive/inefficient for small companies compared to potential energy savings/GHG savings. Same for SEM - it may be best to better categorize this type of support to focus on larger saving opportunities. Support for small firms can be provided with access to information/publications/tools/website and calls with experts rather than full fledged site visits/audits. Also, there could be workshops and training where small firms reps can attend.

[Additional Comments PPO](#) please provide an explanation on the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators under the core indicator table. if already provided please state where it can be found.

DER, RR, AB 11/22/23 1) The GEF project will provide valuable early information and experience. Comment cleared. 2) The response is sufficient for now. During project

preparation, additional explanation on the costs of audits should be supplied. 3) Cleared 4) Cleared PPO Comments on GHG methodology. The response refers to the section on core indicators. Please see additional comments in that section of the review sheet.

Agency's Comments

1) Initially, our plan was to submit the project to the Green Climate Fund (GCF). However, after conducting a feasibility study, we concluded that it would be more prudent to first test specific implementation methods on a smaller scale before expanding the program. We are seeking a financial instrument in the form of a guarantee, but the GCF's guidelines for deploying such an instrument are currently not sufficiently clear for the Development Bank of Southern Africa (DBSA) to proceed with GCF collaboration at this stage. Our new approach involves implementing the program on a smaller scale, primarily focusing on the South African region, rather than the originally envisioned broader scope. Our aim is to gain valuable experience and insights before considering program expansion to encompass the entire African region. After successfully implementing the programme through GEF funding, we plan to approach the GCF to support a larger program that would span multiple countries across Africa.

2) The total number of supported SMEs to be supported through the Guarantee is around 600. Additionally, enterprises will be provided business development support through various ways such as business advisory, technical advise, financial advise, and training. A breakdown of envisaged outputs to be funded through the technical assistance grant are as follows:

- o 600 Companies provided business advisory support through energy advisory services, financial advise, workshops and training.
- o 50 Energy audits conducted
- o 200 Banking staff trained
- o 5 Marketing and awareness activities undertaken
- o 4 Capacity workshops undertaken
- o Accredited supplier list created and maintained

3) The CFF and PSEEP are distinct programs with differing scopes. The CFF encompasses a broader range of sectors, primarily focusing on climate change mitigation and adaptation activities. It is structured to accommodate larger projects, with the capacity to support projects of up to ZAR 1 billion. In contrast, PSEEP is tailored specifically for small and medium-sized enterprises (SMEs),

with a maximum loan size of R10 million. Furthermore, the DBSA is primarily oriented toward providing support for substantial infrastructure projects. As a result, the bank's credit systems are not optimized for efficiently processing large volumes of smaller projects. Collaborating with commercial banks presents an opportunity for the DBSA to access a market that would otherwise be challenging for it to support effectively.

- 4) Agreed. The suggestions put forth are in line with our objective of efficiently utilizing technical assistance resources. As a result, we plan to limit the number of companies receiving support for energy audits and strategic energy management. This approach ensures that the support is directed toward medium-sized companies, where the impact can be more significant. Moreover, it allows us to optimize costs since energy audits are resource-intensive and expensive activities. They demand focused attention on one company at a time to effectively identify areas for improvement and investment. Simultaneously, smaller enterprises will benefit from access to resources, online tools, expert consultations, and customized workshops, as indicated.

Response to additional PPO comments: The explanation of the methodological approach for GHG calculation is given under the Core indicator table in section 10.

3.2 Are gender dimensions, knowledge management, and monitoring and evaluation included within the project components and appropriately funded?

Secretariat's Comments

No comments available at this time. This will be further reviewed in the next round

PPO Comments on Knowledge Management

1. Knowledge Management (comment provided by Yasemin): An overall approach to Knowledge Management and Learning has not been adequately provided in the Project Description. Component 1 includes some learning deliverables such as trainings and workshops; and some lessons from PSEEP1 and information regarding similar initiatives have been included; but there is no clear description of a KM&L approach for the project. There is also no mention of a communications strategy/plan.
2. The agency is requested to better describe the overall KM&L approach by addressing key GEF KM&L expectations at PIF stage as follows:
 1. an overview of existing lessons and best practice that inform the project concept

2. plans to learn from relevant projects, programs, initiatives & evaluations
3. processes to capture, assess and document info, lessons, best practice & expertise generated during implementation
4. tools and methods for knowledge exchange, learning & collaboration, including knowledge platforms and websites
5. knowledge outputs to be produced and shared with stakeholders (at community, national and international levels as appropriate)
6. a discussion on how knowledge and learning will contribute to overall project/program impact and sustainability
7. plans for strategic communications and outreach, awareness raising and dissemination of outputs/results

Implementation of KM&L deliverables should also be reflected in the determination of the project's budget and timeline.

Gender Comments:

1. Gender dimensions have not been addressed at all. The Agency should ensure that gender perspectives are woven into the project description and the project's components. Based on the presented project components, there are important gender equality considerations that have to be incorporated (e.g., gender-responsive business support, financial advice and other tools, methods, requirements), women-led SMEs as beneficiaries, etc.). Please note also that the Gender Action Plan to be developed must be properly funded and reported on.

DER, RR, AB 11/22/23.

1) KM response is general but adequate for now. Please add an estimated KM budget to come from co-financing

2) The gender response is not consistent with GEF guidelines. Please expand on the gender section per the GEFSEC comment above, respond as fully as possible within before next PIF submission, and document the intention to fund and develop a comprehensive gender plan at the time of CEO endorsement.

DER, 11/28/23 Please address the following PPO comment on the KM response:

Knowledge Management: The project document now contains a few paragraphs on DBSA's Knowledge Management and Research Activities; but this is general institutional

information and it is not clear how it relates to the KML approach of the specific project in question. The agency is requested to better describe the project's proposed/intended KM&L approach by addressing key GEF KM&L expectations at PIF stage as follows:

1. an overview of existing lessons and best practice that inform the project concept
2. plans to learn from relevant projects, programs, initiatives & evaluations (funded by the GEF or others)
3. processes to capture, assess and document info, lessons, best practice & expertise generated during implementation
4. tools and methods for knowledge exchange, learning & collaboration, including knowledge platforms and websites
5. knowledge outputs to be produced and shared with stakeholders during project implementation (at community, national and international levels as appropriate)
6. a discussion on how knowledge and learning will contribute to overall project/program impact and sustainability
7. plans for strategic communications and outreach, awareness raising and dissemination of project outputs/results

Please also note that implementation of KM&L deliverables should also be considered in the determination of the project's budget and timeline.

DER, 11/30/23. The agency has responded to comments point by point. The program manager is ready to clear contingent on PPO clearance.

Agency's Comments

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 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, 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

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

A budget of \$200,000 has been allocated to knowledge management

GENDER ELEMENTS

Sub-borrowers will be required to provide partner banks with relevant information to enable banks to undertake comprehensive environmental, social and gender due diligence. The required information will be put as conditions precedent (CPs) in agreements concluded between banks and sub-borrowers to ensure that clients provide information before any funds could be disbursed. Information will include Gender analysis and assessment, Gender Action Plan (GAP), and an Independent Grievance Redress Mechanism (IGRM) with a balanced gender representation. It is understood that some partner banks and sub-borrowers may lack resources to undertake gender-related assessments, to draft GAP and IGRM in line with GEF guidelines and to implement the plans accordingly. The Technical assistance will be provided to support such clients.

The impact of the programme will be evaluated and reported through various indicators, including:

- Number of women-owned SMEs supported through the guarantee instrument
- Number of women-owned companies that benefited from the technical assistance
- Number of women that benefitted from the capacity building workshop
- Number of banking staff that attended energy efficiency training
- Number of women and women-owned companies that benefited from the business advisory support provided through TA grant
- Number of females recruited in top management, senior management and professionally qualified levels in sub-borrower companies as a result of loans extended at the back of the CRG guarantee
- Number of females that benefitted from leadership development opportunities to get them ready for the Senior Management levels in sub-borrower positions

A Gender Specialist will be appointed to support all gender mainstreaming aspects and develop a comprehensive gender action plan at the CEO endorsement phase. Additionally, a specific budget will be allocated to cover the costs of hiring a consultant for drafting the gender action plan. Gender elements included in the project outputs. A gender specialist will contribute in the project design and in the development of a gender action plan to enhance gender elements.

RESPONSES TO 28 NOV COMMENTS

1. Information on lessons learnt has already been provided in the PIF
2. The plans to learn from relevant projects, programs, initiatives, and evaluations funded by the GEF and other entities are a strategic and proactive approach to the DBSA's knowledge management and organizational learning. This is done through analyzing similar projects and initiatives funded by the GEF and other organizations. Information on past energy efficiency projects related to the PSEEP2 programme has also been shared in the PIF. Past projects were assessed extensively during the feasibility study to extract valuable lessons and insight that informed the design of the PSEEP programme. This external knowledge also informs and enhances the bank's own strategies and projects. Learning from external projects provides an opportunity to see a wide range of solutions and challenges from different geographical, cultural, and economic contexts. This broader perspective helps the DBSA to develop more robust and adaptable strategies for its initiatives. Evaluations of projects funded by the GEF or others offer a benchmark for the

DBSA's own projects. By comparing methodologies, outcomes, and impact, the DBSA is able to identify areas for improvement in its own project design, implementation, and evaluation processes. Given the GEF's focus on environmental projects, learning from their funded projects also provides valuable insights into sustainable practices and environmental stewardship. This is particularly relevant for the DBSA's focus on infrastructure and development, which increasingly requires sustainable approaches. By understanding the successes and challenges of similar projects, the DBSA is able to adapt these learnings to their context, which often leads to innovation in future project design and execution, potentially leading to more effective and impactful outcomes.

3. Formal documentation is crucial, including comprehensive reports detailing the project's outcomes, lessons learned, and best practices. Additionally, creating engaging materials like videos, infographics, or presentations makes the information more accessible. Organizing workshops, seminars, and developing online training resources based on project learnings helps disseminate these insights among team members and other stakeholders. An essential part of this process is the continuous improvement cycle. Insights gained are used to improve policies, procedures, and future project implementations, creating a feedback loop where learnings are continuously integrated into organizational practices. Sharing these findings both internally and externally, through newsletters, internal web portals, staff meetings, case studies, white papers, or articles, is also important for broader knowledge dissemination. An emphasis should be placed on fostering an organizational culture that values continuous learning and knowledge sharing. This cultural aspect ensures that the processes of capturing, assessing, and documenting information and learnings are ingrained in the organization's daily operations, enhancing its overall effectiveness and efficiency in project management.

4. To facilitate effective knowledge exchange, learning, and collaboration, organizations can integrate a variety of tools and methods, encompassing both digital and physical means. Digital platforms and websites play a crucial role, with Knowledge Management Systems (KMS) serving as central repositories for storing and retrieving documents, and intranets providing a platform for sharing resources within an organization. Learning Management Systems (LMS) are used for creating, delivering, and tracking online training programs, while collaborative workspaces like Microsoft Teams enable teams to communicate and manage projects together. Document collaboration is further facilitated by cloud storage services like Microsoft teams and the shared drive. Physical spaces are equally important, with open office spaces and dedicated collaboration areas designed to encourage spontaneous interaction and collaborative work. Knowledge sharing events and workshops, including conferences, seminars, and in-house training sessions, provide platforms for knowledge transfer and networking with industry experts.

Feedback and survey tools like SurveyMonkey or Google Forms are essential for gathering insights, while project management and planning tools, including Gantt charts and task

management software, help in visualizing and managing projects effectively. Internal newsletters and bulletins are regularly used to disseminate updates and insights within DBSA. By leveraging these diverse tools and methods, DBSA creates a dynamic environment where knowledge is continuously shared, accessed, and utilized to drive innovation and improvement.

5. During project implementation, it is crucial to produce and share knowledge outputs with stakeholders at community, national, and international levels, adapting the content and delivery method to suit different audiences. Regular project reports and updates will be used to provide a foundational way of keeping stakeholders informed about progress, achievements, and challenges, while impact reports will highlight the tangible benefits and outcomes for targeted communities. Case studies and success stories will be discussed at events to offer a more narrative-driven approach, showcasing specific instances of success and providing relatable insights into the project's impact. Progress reports will be shared with DFFE, the focal point to enable access to information that could be extracted to inform Policy briefs and white papers. Reporting will be articulated in a way that highlights project's policy implications and aligning with broader goals, while providing in-depth analysis and recommendations. At the community level, workshops, meetings and forums will be used to discuss project progress, gathering feedback, and maintaining community involvement.

6. The integration of knowledge and learning in the PSEEP2 is critical for enhancing the project's overall impact and ensuring its sustainability. This integration is expected to lead to improved project design and implementation, allowing for a better understanding of SMEs' specific needs in energy efficiency and enabling the development of more effective interventions. Such knowledge facilitates informed decision-making, particularly in resource allocation and strategy development, ensuring that investments in energy efficiency technologies yield the best returns. A key aspect of this approach is capacity building and empowerment which has been incorporated in project outputs and budget. By educating SME owners and staff about energy efficiency, the project not only aids in successful implementation but also embeds these practices into the operational mindset of SMEs, fostering long-term sustainability. Furthermore, documented learnings and success stories from the project can influence broader policy and regulatory frameworks, serving as powerful tools for advocacy and leading to a more conducive environment for similar initiatives.

The scalability and replication of the project are significantly enhanced by the knowledge acquired. Understanding the effective strategies and challenges allows for the replication of success in other SMEs and regions, amplifying the project's impact. Additionally, learning from challenges or failures enhances risk management and mitigation in future projects, contributing to overall resilience and sustainability. Transparent sharing of knowledge and

learnings with stakeholders, including SMEs, investors, and policymakers, builds trust and credibility, fostering stronger partnerships and collaborative efforts. This is complemented by effective monitoring and evaluation, which not only measures the project's impact but also provides insights for continuous improvement, ensuring the project remains effective and relevant.

The PSEEP2 project can lead to market transformation and behavioral change. As more SMEs adopt energy-efficient practices, it encourages a broader shift towards energy efficiency in the business community, creating a ripple effect. The role of knowledge and learning in the PSEEP2 project is fundamental, not just in optimizing the project's effectiveness but also in driving a larger ecosystem change towards a more energy-efficient future for SMEs.

7.

Allocating project outputs and budget specifically for awareness-raising, dissemination of results, and strategic communication and outreach in an energy efficiency project for SMEs is crucial for its success. Awareness-raising activities are essential to educate SMEs and the community about the benefits of energy efficiency, fostering a shift in attitudes and behaviors. Disseminating project results through workshops and reports ensures transparency and stakeholder engagement, allowing for feedback and improvement. Strategic communication, through a targeted plan, maintains stakeholder support and clearly conveys the project's goals and progress. Outreach efforts, particularly through training and workshops, build capacity and expertise among SMEs, covering various aspects of energy efficiency implementation and technology. This comprehensive approach not only enhances the project's impact and sustainability but also supports broader environmental and economic goals by effectively implementing and promoting energy efficiency measures among SMEs.

3.3 a) Are the components adequately funded?

b) Are the GEF Project Financing and Co-Financing contributions to PMC proportional?

c) Is the PMC equal to or below 5% of the total GEF grant for FSPs or 10% for MSPs? If the requested PMC is above the caps, has an exception (e.g. for regional projects) been sufficiently substantiated?

Secretariat's Comments

Significant revisions and quality control are needed to ensure the tables are correctly aligned across the proposal. Please address:

- 1) A signed LOE is required for technical review to proceed.
- 2) We understand that \$1M of STAR for TA will be blended with \$1M of TA from the NGI window. Each separate TA line of \$1M should be listed separately in the financing table, as well as in the Letter of Endorsement (LoE).
- 3) A maximum request of \$15 million should include any requested TA and agency fee. The Agency fee should be back-calculated to ensure appropriate amounts are requested.
- 4) PMC and project preparation grant is generally not allowed for GEF blended finance projects. Consider funding the project management cost through DBSA or co-financing or justify the needs.

DER, RR, AB 11/22/23 1) Comment cleared 2) Comment cleared 3) Comment cleared 4) Comment cleared

Agency's Comments

Noted thank you. Updated accordingly.

- 1) The updated and signed LOE is attached
- 2) We were asked to combine them in comment 1. b) above. The TA grant from the NGI is therefore combined with the NGI loan
- 3) Noted and updated accordingly
- 4) Updated accordingly - PMC, M&E and PPG to be funded through co-financing

4 Project Outline

A. Project Rationale

4.1 SITUATION ANALYSIS

a) is the current situation (including global environmental problems, key contextual drivers of environmental degradation, climate vulnerability) clearly and adequately described from a systems perspective?

b) Are the key barriers and enablers identified?

Secretariat's Comments

Please address the following:

- 1) global environmental problem is outlined in the first paragraphs of the project rationale, with related drivers in connection with carbon intensity of the south african energy sector

and vulnerability to shortages. Climate vulnerability is not clearly described (see comment on box 5.6).

2) barriers and enablers are identified and summarized in table 2 and 3. Specific needs of SMEs and their potential with regards to the market size is clear; the connection with system transformation would benefit elaboration.

DER, RR, AB 11/22/23 1) Response on vulnerability is included. Comment cleared 2) Response on system transformation is included. Comment cleared.

Agency's Comments

Addressed in the PIF

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, 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.

4.2 JUSTIFICATION FOR PROJECT

a) Is there an indication of why the project approach has been selected over other potential options?

b) Does it ensure resilience to future changes in the drivers?

c) Is there a description of how the GEF alternative will build on ongoing/previous investments (GEF and non-GEF), lessons and experiences in the country/region?

d) are the relevant stakeholders and their roles adequately described?

Secretariat's Comments

Please address these issues:

1) There is some explanation on the potential, benefits, and need for energy efficiency in South Africa. However, the agency response to earlier comments on the positioning of this project within the country priorities and prior GEF projects is inadequate. There are at least 47 GEF climate change projects in South Africa. The full database can be searched at the above link. It is the responsibility of the proposing agency to review all prior GEF projects and ensure the proposed project builds on the legacy and learning of those prior projects. Please see this link to prior GEF Projects in South Africa

https://www.thegef.org/projects-operations/database?f%5B0%5D=focal_areas%3A2207&f%5B1%5D=regional_country_list%3A147

2) Beyond baseline GEF investments, the justification would benefit from further clarity on why the proposed focus on SMEs is relevant to drive transformation on energy efficiency in South Africa (from a systems perspective, currently the justification is very

clear from a market size perspective but less so in terms of transformational change). This relates to a broader issue of the scale of expected benefits (as noted in boxes 5.2 and 5.4 below), which is at this time too small to justify why the proposed approach is adequate with regards to current situation (drivers of degradation, barriers, enablers).

DER, RR, AB 11/22/23 1) Comment cleared 2) Comment cleared

Agency's Comments

PIF updated accordingly.

1) The PSEEP2 initiative continues the efforts of previous energy efficiency projects in South Africa, enhancing the groundwork laid by initiatives like the GEF-supported "Industrial Energy Efficiency Improvement in South Africa Project" (SA IEE Project by UNIDO). It aligns with other GEF-sponsored projects such as UNIDO's "Energy Efficient Low-carbon Transport," the "GEF UNIDO Cleantech Programme for SMEs in South Africa," and UNDP's "Market Transformation through Energy Efficiency Standards and Labeling of Appliances in South Africa." Collectively, these projects tackle various aspects of energy efficiency, yet they all synergistically contribute to a singular objective?cutting down carbon emissions?with most showing significant relevance to the private sector. There are two main forms of energy efficiency support provided in South Africa: financial support and capacity building. Each of these forms of support aims to address different gaps and barriers to energy efficiency implementation. Both financial and technical support offerings current and recently available for the private sector in South Africa are described below.

2) 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 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.

5 B. Project Description

5.1 THEORY OF CHANGE

a) Is there a concise theory of change that describes the project logic, including how the project design elements will contribute to the objective, the expected causal pathways, and the key assumptions underlying these?

b) Are the key outputs of each component defined (where possible)?

Secretariat's Comments

- 1) The theory of change needs additional work, specifically discussing how the market segments for SMEs will be matched with energy efficiency technologies, and how the experience of concessional financing will enable commercial lenders to begin financing efficiency projects at market rates sometime in the future.
- 2) Options to leverage clients from identified initiatives in related sectors could be useful to explore to increase the size and potential impact of the pipeline for this hub and optimize TA size (SUNREF II is for example mentioned, in addition to PSEEP1, as well as an alignment with EEPBIP's technical assistance service and governance structure, to increase efficiencies and synergies)

DER, RR, AB 11/22/23 1) On the Theory of Change, the response in the review sheet is adequate. Please ensure similar language is included in the PIF section on Theory of Change. 2) Coordination of initiatives is well described. Comment cleared. Please ensure that this is taken into account in the budget design at CEO endorsement stage.

Agency's Comments

1) 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 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.

2) Leveraging clients from identified initiatives in related sectors offers a valuable opportunity to enhance the size and impact of the pipeline for an energy efficiency hub in South Africa. This approach can optimize technical assistance (TA) size and create efficiencies and synergies, particularly when considering initiatives like SUNREF II, PSEEP1, and the alignment with the EEPBIP programme. Initiatives like SUNREF II and PSEEP1 have already built substantial networks and relationships with clients involved in energy efficiency and sustainable practices. By tapping into these networks, a new hub can access an established client base, broadening its reach and impact. Such collaboration allows the hub to engage with a diverse range of stakeholders, from public sector entities to private businesses, each of which could benefit from enhanced energy efficiency technologies and practices.

In terms of technical assistance, aligning the hub's services with those provided by initiatives like EEPBIP can streamline and strengthen the support offered to clients. This unified approach can prevent duplication of efforts and lead to more efficient resource utilization. For clients, it means easier access to the necessary support for implementing energy-efficient measures, creating a more integrated and user-friendly experience. Furthermore, aligning the hub's governance structure and operational strategies with those of established initiatives can boost operational efficiencies. Such alignment facilitates better coordination and communication, leading to more cohesive and effective strategies. It can also lead to pooling of resources, expertise, and insights, enhancing the hub's overall effectiveness and impact. Expanding the project pipeline by leveraging clients and projects from related initiatives can significantly increase the hub's scale and impact. This

not only enhances the potential for energy savings and environmental benefits but also opens up more opportunities for innovation. A larger, more diverse project pipeline can attract additional investments, both public and private, further bolstering the hub's capabilities. Moreover, by working closely with existing initiatives, the hub can benefit from their lessons learned and best practices. This collective wisdom can accelerate the learning process and increase the likelihood of successful outcomes for the hub's projects. Sharing knowledge and experiences across initiatives encourages continuous improvement in energy efficiency practices and technologies.

Joint marketing and awareness campaigns with established initiatives that are still active are also crucial. These collaborative efforts can increase awareness about the importance and benefits of energy efficiency, attracting more clients to the hub. Educating a broader audience not only raises the profile of the hub but also fosters a more supportive environment for the adoption of sustainable practices. Leveraging clients from related sectors and aligning with existing initiatives presents a strategic way to amplify the impact and efficiency of an energy efficiency hub. This approach benefits not just the programme itself but also contributes to the broader objective of promoting energy efficiency and sustainability across South Africa.

1. Noted, thank you

2. Noted, thank you.

5.2 INCREMENTAL/ADDITIONAL COST REASONING

Is the incremental/additional cost reasoning properly described as per the Guidelines provided in GEF/C.31/12?

Secretariat's Comments

Please see the comments in other boxes related to the need for higher DBSA leverage and co-financing.

DER, RR, AB 11/22/23 Comment on higher co-financing addressed in box 5.5

Agency's Comments Addressed in section 5.5

5.3 IMPLEMENTATION FRAMEWORK

a) Is the institutional setting, including potential executing partners, outlined and a rationale provided?

b) Comments to proposed agency execution support (if agency expects to request exception).

c) is there a description of potential coordination and cooperation with ongoing GEF-financed projects/programs and other bilateral/multilateral initiatives in the project area

d) are the proposed elements to capture and disseminate knowledge and learning outputs and strategic communication adequately described?

Secretariat's Comments

Please address the following:

- 1) Additional description on how the DBSA will administer the energy audits and prioritize the scarce TA resources for high priority market segments is needed.
- 2) The KM plan and any funding request should be discussed with the GEFSEC.
- 3) Please see comments in section 5.1 on coordination with ongoing initiatives and what this entails for project design.

DER, RR, AB 11/22/23 1) Comment cleared 2) Comments on KM should be further documented in box 3.2 3) Previous comment on coordination of initiatives is cleared.

Agency's Comments 1) The DBSA plans to prioritize the allocation of limited technical assistance resources to high-priority market segments. A comprehensive assessment of market segments will be conducted to identify high-priority areas. This assessment will take into account factors such as energy consumption patterns, potential for energy savings, and the environmental impact of various segments. Clear criteria will be established for prioritizing market segments and these criteria will include the potential for significant energy and GHG emissions reductions, alignment with national or regional energy efficiency goals, and the economic feasibility of proposed projects within each segment. DBSA will work closely with industry experts and stakeholders to analyze the specific needs and challenges within each prioritized market segment. This analysis will help tailor energy audit and technical assistance services to address the unique requirements of companies within those segments. Technical assistance resources will be allocated based on the prioritization criteria and needs analysis. Market segments with higher potential for energy savings and a greater environmental impact will receive a larger share of resources. For medium-sized companies within high-priority segments, an in-depth energy audits will be conducted. These audits will involve a comprehensive examination of energy use patterns, identification of energy-saving opportunities, and recommendations for investment in energy-efficient technologies.

DBSA will focus on cost-effective solutions that provide the most substantial energy and environmental benefits to ensure that limited resources are maximized for the greatest impact. A robust monitoring and evaluation system will be put in place to track the progress and outcomes of energy audits and technical assistance provided. This ongoing assessment will help fine-tune strategies and reallocate resources as needed. DBSA will also actively

share knowledge, best practices, and success stories among market segments to promote energy efficiency across the region.

2) Addressed, thank you

5.4 a) Are the identified core indicators calculated using the methodology included in the corresponding Guidelines (GEF/C.54/11/Rev.01)?

b) Are the project's indicative targeted contributions to GEBs (measured through core indicators)/adaptation benefits reasonable and achievable?

Secretariat's Comments

Please address the following comments

- 1) Emission reductions are estimated at 2M tCO₂e, which appears to be very low for a total project size of USD250+M. The project cannot be technically cleared with this unrealistic estimate. For reference the DBSA Climate Finance Facility with GCF (even if it focuses on larger clients and a wider range of technologies) is USD170M and aims at 29M tCO₂e reductions. Please address.
- 2) Please add GEB estimates to the financial scenarios (page32) to assign an emission reduction expected value from each of the three scenarios. This would further inform the decision of the GEF on whether to pursue the investment.
- 3) Additional work on the GEB estimates should be based on the GEF energy efficiency tool, available from the GEF and STAP web-sites.
- 4) GEB estimates should be informed by the market segments and SMEs targeted for potential investment ? it is most definitely not one size fits all for GEBs from efficiency in SMEs.

[Additional Comments PPO please provide an explanation on the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators under the core indicator table. If provided in annexes or in the document please make a reference to where we can find that info.](#)

[AS per comments 3 and 4 DBSA needs to justify the GHG avoidance reductions \(67 MTcO₂\) based on the GEF and STAP websites. This is a key requirement to justify the project impact and the amount needed for investment.](#)

DER, RR, AB 11/22/23

- 1) The revised estimates are more in line with the total investment value, however, it appears now relatively high and additional work will be needed to validate the proposed methodology. Currently, the methodology does not distinguish between a baseline scenario and alternative scenario. Per GEF guidelines, emission factors and activity data should be used to assess the net effect of the project, i.e. should be provided both for

alternative and baseline scenarios, in order to clarify how the difference is calculated. Currently the proposed table only shows 3 alternative scenarios, but does not include the baseline scenario with regards to which these reductions are assessed. Another way to answer this question is to clarify where the emission factor comes from (is it already a difference between the assessed emissions per kWh of electricity used by SMEs after putting in place efficiency measures as compared to initial scenario?) - what is the source and rationale for the choice of this emission factor? Please clarify in the methodology if this takes into account the evolution of the grid factor over the project period (for the baseline and alternative scenario) - please clarify if this factor only reflects electricity based efficiency measures or if some SMEs would also possibly switch to electricity as part of the efficiency measures identified. Please also clarify why a lifetime of investment of 16 years is chosen to aggregate the total effect of the project. Finally, we would encourage conservative assumptions and therefore, using the worst case scenario to report the estimated impact of this project would be recommended instead of the current 'base case' figure. For an energy efficiency project, it would be expected to include a core indicator estimate for Energy Saved, in MJ (Indicator 6.3). Per Guidelines, fuel savings should be converted to energy savings by using the net calorific value of the specific fuel. End-use electricity savings should be converted to energy savings by using the conversion factor for the specific supply and distribution system. These energy savings are then totaled over the respective lifetime of the investments. This value can be derived from the same data used for the calculation of GHG emission reductions. An alternative to this work would be to use the GEF EE tool which is already aligned with GEF guidelines (which we would recommend to do in any case during project preparation towards CEO ER stage).

2) Figures for each financial scenario are included, however some are not visible. Please make sure figures can be seen in next submission. Comment cleared.

3 and 4) Please discuss the STAP efficiency tool with CCM focal area expert and discuss methodologies. Revise the GHG estimates per comment 1) as much as possible in the time remaining to submit PIF. Include in the PIF language documenting the intention to further refine the GHG methodology during project preparation.

DER, 11/28/23

1) See point 3. cleared for now

2) Continue to work with IT on any remaining issues

3 and 4) Discussions with CCM team member held on 11/27/23. If the EE tool can be updated and submitted soon we can attach to the documents. Updated values are clear for now, but continue to refine during project preparation.

Agency's Comments

1) Emission figures updated accordingly - 83MtCO₂e avoided for USD500m investment in Energy efficiency projects.

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
Guarantee pricing	80bps	80bps	80bps
Guarantee fee	\$1,800,000	\$1,800,000	\$1,800,000
Principal guarantee reflow	\$7.8million	\$12.7 million	\$5.9million
TOTAL REFLOWS to GEF	\$9.39million	\$14.29million	\$7.45million
Leverage ratio	1:31	1:41	1:17
CO ₂ e avoided	83 million tCO ₂ e	108 million tCO ₂ e	45 million tCO ₂ e

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. The formula column in the table below shows the logic and formula used to get to the determined figures.

GHG Calculations					
Description	Metrics	Formula	BASE CASE	BEST CASE	WORST CASE

Forex rate	R/USD	A	17	17	
Investment value in USD	USD	B	500,000,000	647,794,118	271,3
Investment value in ZAR	ZAR	C = AxB	8,500,000,000	11,012,500,000	4,612
Energy cost value per unit	R/kWh	D	1.68	1.68	
Energy value	kWh	E = C?D	5,059,523,810	6,555,059,524	2,745
Emission factor	kg CO2 emissions/kWh	F	1.03	1.03	
CO2 emission reduction	tCO2 eq reduction / yr	G = (ExF)?1000	5,211,310	6,751,711	2,827
Lifespan of projects	years	H	16	16	
CO2 emission reduction	Mt CO2 eq	I = GxH	83,380,952	108,027,381	45,24

RESPONCE TO 22 NOVEMBER COMMENTS

The updated GHG Calculations will be provided at a later stage.

5.5 NGI Only: Is there a justification of financial structure and use of financial instrument with concessionality levels?

Secretariat's Comments

Yes, the proposed structure is a good use of blended finance for energy efficiency investments by SME. However, the description of the proposed approach needs major clarifications and revision. Please address the following:

1. The resource allocation proposal is very unattractive for the GEF, even considering its high risk-taking appetite; it allocates to the GEF a higher than acceptable risk of default. The base case scenario implies a reflow only of 5.5M out of a total GEF investment of 15M + 2M in TA. The worst case, which implies the total loss, occurs with a default rate (16%) which is considered unlikely, but still in the range of what is considered as possible range (5-16%).
2. DBSA own capital investment (only 5M in the guarantee fund), and its placement as second loss guarantee, raises doubts on alignment of interest between DBSA and GEF in terms of risk management.
3. A way to address the unbalanced risk allocation would be to either configure the DBSA guarantee tranche as pari passu, or to allow for the DBSA tranche to kick in after the first [XX] million of GEF guarantee are called upon, without waiting for the

entire GEF envelope to be wiped out. Also, the DBSA portion should be sized up to increase the size of the guarantee fund and relieve some pressure on the GEF portion, at least to get to a base case where (most/50%/xx) of the principal can reflow to the GEF. Please address these options.

4. It seems that all other debt/equity financing is expected to come from the private sector (intermediary bank and recipient SMEs) and it is unclear whether DBSA will provide any debt financing in addition to the second loss guarantee. Please clarify if the total financing expected from DBSA is only 5 million?

5. The financial scenario table at page 32 doesn't seem to account for currency risk, which is considered high for this project/country context. In the GCF feasibility study this was assumed to have a cost of 4% for the hedging. Please explain the planned approach to manage currency risk, remembering that GEF's Blended Finance program can accommodate currency risk within the project design.

6. The proposal needs more clarity in terms of the way the guarantee size is set. It would seem that it is assumed it will cover 100% of the projected default rates under the worst case scenario (16%). This seems inefficient, and also it does not align the interest of the guarantee fund providers with the interest of the loan originator bank, in terms of stringency/adequacy of the credit risk assessment. Suggest considering restructuring this to ensure that the beneficiaries, the lenders, and each of the guarantee funds carry a portion of the risk.

7. Page 23: this section mentions that DBSA will offer to market a concessional debt-based product. This is not consistent with the rest of the proposal. Please clarify.

8. There are discrepancies in the overall numbers: in table at page 5-6, the total project amount is USD255 million, however in the table at page 31 the total is USD273M.

9. The request for M&E funds is excessive and not justified at the current level. Discussion with the GEFSEC is required.

10. The reference to 15 year tenor for both the fund and the loans is very confusing. With energy efficiency investments in SMEs, the tenor of loans is often quite short 2-5 years. Payback on energy efficiency projects is usually quite fast, which would allow the commercial banks to make shorter, less risky loans, while allowing the guarantee fund to be replenished and re-used over the life of the fund. Additional detail will be required on the types of sectors and loans that commercial lenders will be willing to provide.

11. The proposed guarantee fee of 0.1% is very low and not justified.

12. The benefit of the GEF guarantee fund is to allow commercial lenders to make loans otherwise considered too risky. Please explain the expected ticket sizes, loan rates, and tenors for the types of loans to be made by the commercial lenders. Explain how the GEF fund will change, enhance, accelerate those loans.

13. Please explain how the commercial lenders will be selected for the program and how investment decisions will be made.

14. Please explain if the beneficiaries of the loans are commercial lenders existing clients.

15. The financial model provided in the spreadsheet is very detailed but also very difficult to understand. We have questions about: is there both a guarantee fee and an interest earned on the uncalled fund balance? Why are default rates assumed to be applied on a monthly basis? How much of the loss will be covered by the guarantee fund, and how much is covered by the commercial lender? What steps will the lender make to recognize potential defaults and minimize exposure? Please explain the differences between 5% default rate noted in the PIF, 7% noted in the financial model, and 0% noted in the "best scenario 2" in the model.

DER, RR, AB 11/22/23 Comments 1-15 have been partially addressed in the Agency response and the revised PIF. The M&E request is now zero. Please address the additional comments: 1) The DBSA co-financing amount and positioning is not fully justified. During project preparation, please seek additional DBSA co-financing for the guarantee fund, and conduct further analysis on how to share the risk of the guarantee fund between the GEF and DBSA, including a scenario where GEF and DBSA are pari-passu in the guarantee fund. 2) Several charts on the financial structure did not appear in Portal or in the uploaded Word documents. Please ensure all charts are visible (e.g., do not link charts to other documents but include static copies) 3) Regarding the guarantee fee and the interest earned by the NGI account. These are two separate topics and should be itemized separately in the financial table. The explanations and numbers in the Agency response do not add up. In one place the fee is \$225,000 and the interest earned is estimated to be \$735,000, in another place the guarantee fee is presented as \$1,800,000. Please clarify and present any fees separately from the interest earned. 4) Page 39 refers to an access fee of 0.5%, which is different than the 80 bps noted in the review sheet, and from 100 bps noted on page 53, and the 80 bps noted on pages 54, 68, and 70. These fee estimates inform the reflow estimates. Please align all references and update the reflow calculations. 5) Page 40 refers to a GEF NGI PSEEP2 guarantee (US\$ 15 million) but the value of the principal investment from GEF Trust Fund cannot exceed US\$ 12,761,468. The reflow table estimates for best case scenario appear to be based on \$15 million principal noted on page 54 of the PIF and in the review sheet ? please align. 6) Page 42 refers to ?a contribution to liquidity reserve (as a forex control measure)?. Please explain why a foreign exchange control measure is needed. Page 67 says forex risk will be borne by the GEF. Please explain the sequence of conversion from the guarantee fund in USD when the guarantee is called by the partner bank. The specifics of the forex arrangements with the banks is subject to negotiation and can be refined at time of CEO endorsement. 7) Page 47 refers to a guarantee facility between the GEF and DBSA. This is not an appropriate design approach. The DBSA as implementing agency is responsible for establishing all appropriate financial facilities and funds under DBSA purview. DBSA has access to GEF Trust Fund full amount after CEO endorsement and may transfer that to a DBSA account, or may draw down on the GEF Trust Fund on an as-needed basis. Please consult with the GEFSEC to properly design the DBSA accounts during project preparation. 8) Page 51 has a different set of numbers than the project table on page 3. Please align. 9) Page 54 refers to the 2% interest fee ?Interest income will primarily fund operational costs, with any surplus being allocated to bolster the Guarantee account.? Page 40 refers to the use of

interest earned to satisfy calls on the fund. The use of interest to fund operational costs is not justified and should be dropped. The potential use of interest earned to satisfy calls can be considered during project preparation and considered in the CEO endorsement package. 10) Page 69 in the term sheet refers to a loan in the amount of 12,761,568. This should be adjusted to 12,791,568 and referred to as a guarantee fund, not a loan. Please make the edits. 11) Additional description on the commercial lending partners, selection process, and handling of potential defaults will be needed at the time of CEO endorsement.

DER, 11/28/23

1-11) Comments cleared at PIF stage. Additional discussion on proper usage of interest and fees will be needed during project preparation.

Agency's Comments

Addressed in PIF and Financial Model

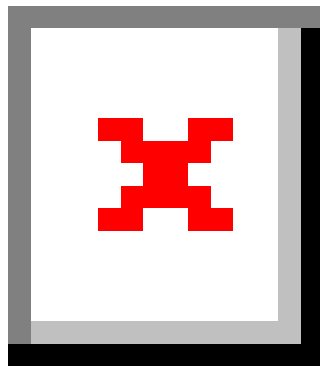
PSEEP2 Financial paragraph

The overall project expenditure amounts to USD 423,678,968 with 3.46% of this sum (USD 14,678,968) designated as the GEF grant, while the remaining funds (96.54%) are provided as co-financing, totaling USD 409,000,000.

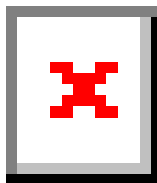
Components	Description	Co-Financing	GEFTF
Component 1	Technical Assistance	2,000,000	910,000
Component 2	Credit risk guarantee	5,000,000	13,761,468
Component 3	Private sector loans	320,000,000	-
	Private sector Equity	80,000,000	-
PMC and M&E		2,000,000	
Total		409,000,000	14,678,968
GRAND TOTAL		423,678,968	

Component 3 consists of a financial structure where 80% is sourced through loans and 20% through private sector equity. The loans, amounting to USD 320,000,000 will be provided by select partner banks with the backing of a USD 15 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 20 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.



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 20 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 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 100 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 225,000.

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.

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 735,161. 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 USD10.1 million assuming a default rate of 7%, a recovery rate of 75%. Guarantee fee of USD1,800,000 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\$11.9 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 USD400million is conservative as more projects could be covered with the CRG is USD15 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 1:26.

In the best case scenario, value of projects that could be supported is USD518 million and the leverage ratio is 1:34.

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
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	\$9,3392,844	\$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*

RESPONCES TO 21 NOVEMBER COMMENTS

1. Comment noted, DBSA's guarantee instrument and risk sharing mechanism will be analysed further during project preparation phase as suggested
2. Pictures and charts were pasted as PDF pictures to ensure that they come across as intended
3. The guarantee fee that will be earned is \$1,531,376 (that is $0.8\% \times 12,761,468 \times 15 = 1,531,376$). The figure changed as the guarantee fee and guarantee amount was updated. We apologise for the confusion
4. The charged guarantee fee is 80 basis points
5. The guarantee fee is \$12,761,468 we apologise for the confusion. We have amended accordingly
6. The forex control measure text has been removed from the PIF. The same approach used for current active GEF projects in our pipeline will be used; wherein the ZAR repayments from the sub-projects (received semi-annually) are 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 helps to minimize the risk of forex losses to GEF. DBSA then transfers the funds in the USD Receiving Account back to GEF as and when repayments are received from the sub-projects or at a frequency that DBSA determines being appropriate from an administrative perspective. However, any currency risk borne measures that we apply to curb the risk will be borne by the GEF because GEF funds are managed off-balance sheet

7. Noted, GEFSEC will be consulted to determine the optimum design approach during project preparation

8. Amended accordingly, thank you.

9. Our understanding is that interest earned could be used to fund operations since there is no provision made to fund project management costs, Monitoring and evaluation costs, and project preparation costs. We have consulted GEFSEC on this matter and it was agreed that we could use interest income to fund operations and to capitalise the guarantee facility.

10. Amended accordingly. The correct figure is \$12,761,468

11. Noted. Additional description on the commercial lending partners, selection process and handling of potential defaults will be provided at the time of CEO endorsement.

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 onerous. 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 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 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.

5.6 RISKS

a) Are climate risks and other main risks relevant to the project described and addressed within the project concept design?

b) Are the key risks that might affect the project preparation and implementation phases identified and adequately rated?

c) Are environmental and social risks, impacts and management measures adequately screened and rated at this stage and consistent with requirements set out in SD/PL/03?

Secretariat's Comments

Please address the following issues:

1) climate risks are not addressed, except in terms of co-benefits of the sectoral focus, in the description of the effect the programme is expected to have in reducing vulnerabilities of marginalized groups through reduced energy consumption ; increased resilience of SMEs through reduced energy capital expenditures is also mentioned. This would benefit from further elaboration on what risks relevant to the project may exist and how the project design will address them.

2) risks to project implementation are noted ? further refinement would be relevant in connection with comments made on the guarantee loss coverage structure. Regarding project design, the risks related to a gap in technical assistance needed to develop the portfolio would also benefit further clarification.

3) E&S risks are not screened at this stage ? Annex D is submitted but only contains the information that the project is deemed to be in the 'C' category, that the need for a basic ESMP corresponding to this C category will be determined during screening and that an environmental and social management framework was developed but not disclosed yet. In the risk table of the PIF, it is noted in front of environmental impacts that such a framework is yet to be developed. An E&S screening in line with GEF guidelines would be needed at this stage, in particular given the proposed sectoral focus which includes a significant portion in the mining sector.

DER, RR, AB 11/22/23 1) The provided responses do not address climate risks but environmental and social risk management and safeguards. Although this is also a GEF

requirement, the climate risk screening is a different screening process focused on the impacts of climate change on the project and its outcomes. We would recommend using the World Bank climate risk screening tool to perform this detailed analysis during project preparation. Please prepare the risk assessment and include in the revised PIF. 2) No response is provided on risks related to the financial structure not materializing. Please address this in your answers to comments made in section 5.5 of this review sheet. That is, what are the risks that the proposed financial structure with partner banks will fail to launch? 3) An ESS screening is attached, but the format is different from past screenings for this agency. Please resubmit in format consistent with other GEF project, or justify why this format presents the correct information and is consistent with GEF policy.

DER, 11/28/23

- 1) WB Climate Risk tool attached. Comment cleared.
- 2) Explanation provided. Comment cleared.
- 3) The revised ESS screening is attached. Cleared for now.

Agency's Comments

- 1) There is a need to ensure the investments do not promote human rights controversies in the supply chain and that the projects are not subsidizing enterprises that are harmful to human health and wellbeing and to nature or that undermine any SDG in pursuit of Goal 7 (affordable energy to all).

This proposed development is driven by the critical and urgent needs of the population for access and use of clean, and reliable energy that promotes resource efficiency.

Environmental Management Plans will help reduce impacts and monitor and report on impacts. Potential positive public health and socio-economic impacts to arise from the implementation will outweigh the negatives identified provided SMMEs have a sound track record and are servicing companies with a sound track record. The project aims to build social capital for sustainable development, to enable the successful implementation and sustainability of energy efficient businesses

Environmental impact of energy efficiency interventions: An environmental screening process will be developed and interventions 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.

Environmental legal compliance of SMMEs involved in the programme: All entities that are located in enterprises or contexts with environmental and social risk will need to submit an independent environmental audit of their company and its supply chains,

together with their application to ensure they qualify by being environmentally/socially fully legally compliant in their business operations, investments and key supply chains.

Gender, equity and social inclusion risk: DBSA Gender marker system will apply and a gender and social inclusion action plan to reduce and avoid negative impacts and optimize positive potential impacts will be developed and implemented. The mitigation measure will reduce the impact and probability of the risk to very low. It will also ensure opportunities for gender mainstreaming and gender empowerment are sought and pursued and reported against.

3) the safeguards report in line with GEF guidelines has been updated and attached in the PIF

RESPONCES TO 22 NOVEMBER 2023 COMMENTS

1) Addressed. The World bank's climate risk screening tool has been completed.

2) **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 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 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.

3) An updated ESS screening report is attached

5.7 Qualitative assessment

a) Does the project intend to be well integrated, durable, and transformative?

b) Is there potential for innovation and scaling-up?

c) Will the project contribute to an improved alignment of national policies (policy coherence)?

Secretariat's Comments Based on the extensive UK work in phase 1 and GCF funded analysis, the project appears to be a good candidate for innovation and scaling.

Agency's Comments N/A

6 C. Alignment with GEF-8 Programming Strategies and Country/Regional Priorities

6.1 Is the project adequately aligned with focal area and integrated program strategies and objectives, and/or adaptation priorities?

Secretariat's Comments

The project is thematically aligned with CCM objective 1.1: Accelerate the efficient use of energy and materials. Also aligned with CCM GEF-8 priorities on private sector engagement and support to SMEs. Please address:

- 1) Further clarification on expected GHG emission reduction targets to further assess cost-efficiency of proposed intervention.
- 2) A signed letter of endorsement is required for technical review to continue.

[Additional Comments PPO: the title in the Letter of Endorsement is ?Private Sector Energy Efficiency Programme?. However, in Portal the title is ?Private Sector Energy Efficiency Programme Phase 2 \(PSEEP2\)?. Please modify the title in Portal so it will match the title in LoE \(this title can be changed later per your approval\).](#)

DER, RR, AB 11/22/23 1) The GEB methodology was explained in another section. 2) The signed LOE has been updated to the correct title: Private Sector Energy Efficiency Programme Phase 2. The title in Portal is Private Sector Energy Efficiency Programme Phase 2 (PSEEP2), with the helpful acronym added. Comment cleared.

Agency's Comments Updated letter provided with the modified title. GHG emissions revised in the PIF

6.2 Is the project alignment/coherent with country and regional priorities, policies, strategies and plans (including those related to the MEAs and to relevant sectors)

Secretariat's Comments

This project is thematically aligned with the priorities of the NDC and national development plan, synergies planned with other national energy efficiency initiatives, and aligned with the post-2015 energy efficiency strategy which notes the need to develop a permanent successor scheme to the 2013-2015 PSEEP1 with focus on SMEs, in particular in terms of targeted advice, information, assistance and subsidized energy audits which the government has not created yet. See comments on GHG emission reduction targets in other sections.

DER, RR, AB 11/22/23 Comment cleared

Agency's Comments GHG emission reduction comments addressed

6.3 For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e. BD, CC or LD), does the project clearly identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and how it contributes to the identified target(s)?

Secretariat's Comments NA

Agency's Comments N/A

7 D. Policy Requirements

7.1 Is the Policy Requirements section completed?

Secretariat's Comments DER, RR, AB 11/22/23 . Please see specific comments related to KM, Gender, and ESS in other boxes.

Agency's Comments N/A

7.2 Is a list of stakeholders consulted during PIF development, including dates of these consultations, provided?

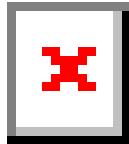
Secretariat's Comments

DER, RR, AB 11/22/23. The list of stakeholders is peppered throughout the document, but should be consolidated and presented in this section. Please address.

Agency's Comments

A series of stakeholder engagements were undertaken as part of the feasibility study at programme design milestones.

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



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 results and insights have been collated and input as considerations and learning elements, to design of the financial support package and Technical Assistance Hub designs, reported in the feasibility study.

Engagement purpose	Cohort	Organisation
Product and programme concept testing	Consultant	Independent
Product and programme concept testing	Cross-cutting	SANEDI
Product and programme concept testing	Finance	Standard bank
Product and programme concept testing	Finance	ASISA: The Association for Savings and Investment South Africa
Product and programme concept testing	Finance	Metier Private Equity
Product and programme concept testing	Finance	DBSA
Product and programme concept testing	Finance	DBSA
Product and programme concept testing	Finance	ASISA: The Association for Savings and Investment South Africa
Product and programme concept testing	Finance	Nedbank
Product and programme concept testing	Finance	Bridge Capital Refco
Product and programme concept testing	Finance	Nedbank
Product and programme concept testing	Finance	Bridge Capital Advisors
Product and programme concept testing	Finance	Nedbank
Product and programme concept testing	Finance	Banking Association South Africa
Product and programme concept testing	Finance	Banking Association South Africa
Product and programme concept testing	Finance	Standard Bank
Product and programme concept testing	Consultant	SSN
Product and programme concept testing	Consultant	Sustainable Energy Africa
Product and programme concept testing	Finance	FirstRand
Product and programme concept testing	Finance	FirstRand
Product and programme concept testing	Finance	FirstRand
Product and programme concept testing	Consultant	IBIS
Product and programme concept testing	Finance	Old Mutual
Product and programme concept testing	Donor	Enercheck
Product and programme concept testing	Donor	GIZ
Product and programme concept testing	Donor	GIZ
Product and programme concept testing	Financier	Inspired Evolution
Product and programme concept testing	Donor	Power Africa
Product and programme concept testing	Consultant	Promethium
Product and programme concept testing	Consultant	Camco
Product and programme concept testing	Finance	Fieldstone
Product and programme concept testing	Finance	Absa
Product and programme concept testing	Finance	Absa
Product and programme concept testing	Finance	First
Facility design validation	Finance	Nedbank
Facility design validation	Finance	Standard Bank
No-objection process	Government	Department of Environmental Affairs; Department of Energy
Facility design validation and revised product concept testing	Finance	Investec

Facility design validation and revised product concept testing	Finance	RMB
Testing and presentation on concept for different TAH and FP concepts	Various	SEED workshop
Revised product concept testing and invitation to participate as a partnered bank	Finance	First Rand
Revised product concept testing and invitation to participate as a partnered bank	Finance	First Rand
EEPPIP integration	Government	Department of Mineral Resources and Energy

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

8 Annexes

Annex A: Financing Tables

8.1 Is the proposed GEF financing (including the Agency fee) in line with GEF policies and guidelines? Are they within the resources available from (mark all that apply):

STAR allocation?

Secretariat's Comments

The proposed \$1M from STAR for TA is appropriate, but a signed LOE is required.

DER, RR, AB 11/22/23. LOE provided. Comment cleared

Agency's Comments Signed LOE attached
Focal Area allocation?

Secretariat's Comments

Yes, this project is aligned with CCM focal area (provided a signed LOE is submitted), using resources from the blended finance window. However, the requested amount under the Blended Finance window should be adjusted per the instructions above.??

DER, RR, AB 11/22/23. Adjusted. Comment cleared

Agency's Comments N/A
LDCF under the principle of equitable access?

Secretariat's Comments NA

Agency's Comments N/A
SCCF A (SIDS)?

Secretariat's Comments NA

Agency's Comments N/A
SCCF B (Tech Transfer, Innovation, Private Sector)?

Secretariat's Comments NA

Agency's Comments N/A
Focal Area Set Aside?

Secretariat's Comments NA

Agency's Comments N/A

8.2 Is the PPG requested within the allowable cap (per size of project)? If requested, has an exception (e.g. for regional projects) been sufficiently substantiated?

Secretariat's Comments

Allow the requested PPG of \$300,000 ? provided this FSP amount is confirmed to be above \$10M, this is within allowable cap, in most cases PPG is not provided for blended finance projects. Please justify why all project preparation is not already included in the investment vehicles being proposed.

DER, RR, AB 11/22/23. PPG , M&E and PMC will be funded from co-financing.
Comment cleared

Agency's Comments PPG , M&E and PMC will be funded from co-financing

8.3 Are the indicative expected amounts, sources and types of co-financing adequately documented and consistent with the requirements of the Co-Financing Policy and Guidelines?

Secretariat's Comments

We would expect an expanded commitment from DBSA for higher leverage and co-financing, and an improved financial model that showcases greater mobilization of lending through the guarantee funds.

DER, RR, AB 11/22/23. Request for higher co-financing should be addressed in response to box 5.5.

Agency's Comments An improved financial model that showcases greater mobilisation and co-financing is attached

Annex B: Endorsements

8.4 Has the project been endorsed by the country? (ies) GEF OFP and has the OFP at the time of PIF submission name and position been checked against the GEF database?

Secretariat's Comments

Not at this time. Please provide an LOE.

DER, RR, AB 11/22/23. LOE provided. Comment cleared

Agency's Comments LOE provided

Are the OFP endorsement letters uploaded to the GEF Portal (compiled as a single document, if applicable)?

Secretariat's Comments DER, RR, AB 11/22/23. LOE provided. Comment cleared

Agency's Comments N/A

Do the letters follow the correct format and are the endorsed amounts consistent with the amounts included in the Portal?

Secretariat's Comments DER, RR, AB 11/22/23. Comment cleared

Agency's Comments N/A

8.5 For NGI projects (which may not require LoEs), has the Agency informed the OFP(s) of the project to be submitted?

Secretariat's Comments

An LOE is required.

DER, RR, AB 11/22/23. LOE provided. Comment cleared

Agency's Comments LOE is Attached

Annex C: Project Location

8.6 Is there preliminary georeferenced information and a map of the project's intended location?

Secretariat's Comments

Not yet provided as the pipeline is not yet known. It is assumed that the scope is nationwide in South-Africa. Any clarification on potential sites would be useful if available.

DER, RR, AB 11/22/23. Comment cleared

Agency's Comments The scope is nation-wide

Annex D: Safeguards Screen and Rating

8.7 If there are safeguard screening documents or other ESS documents prepared, have these been uploaded to the GEF Portal?

Secretariat's Comments

Yes.

Additional Comments PPO:

It is not clear now the project screen against 9 minimum requirements of GEF ESS from the attached Environmental and social safeguards report.

1) Please provide more detail information of how DBSA screen against GEF 9 minimum requirements of the ESS Policy. Furthermore, it is critical to establish a clear system for the financial support mechanism to screen, assessment and manage environmental and social risk of the SMEs projects.

2) Please provide a plan for training and establishment of a system to review the ESS risks during sub-project investment screening and due diligence by the CEO Endorsement stage with clear budget. In addition, the "Risks to Project Preparation and Implementation" section said environmental and social risk as "moderate", while the attached Environmental and social safeguards report states environmental and social risk category as Category C, low.

3) Please make these consistent and revised.

DER, RR, AB 11/22/23.

1) The provided screening is not in the GEF required format. Please include an ESS summary response conforming with GEF requirements.

2) Once the required format is used, please address

3) Once the required format is used, please address.

DER, 11/28/23

1-3) A new ESS report and explanation is provided. Cleared for now.

Agency's Comments]

1. There is a need to ensure the investments do not promote human rights controversies in the supply chain and that the projects are not subsidizing enterprises that are harmful to human health and wellbeing and to nature or that undermine any SDG in pursuit of Goal 7 (affordable energy to all). This proposed development is driven by the critical and urgent needs of the population for access and use of clean, and reliable energy that promotes resource efficiency. Environmental Management Plans will help reduce impacts and monitor and report on impacts. Potential positive public health and socio-economic impacts to arise from the implementation will outweigh the negatives identified provided SMMEs have a soundtrack record and are servicing companies with a soundtrack record. The project aims to build social capital for sustainable development, to enable the successful implementation and sustainability of energy efficient businesses.

Environmental impact of energy efficiency interventions:

The energy efficiency interventions implemented may have a negative environmental impact. An environmental screening process will be developed and interventions 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.

Gender, equity and social inclusion risk

There is a risk that the project fails to uplifts woman and other vulnerable groups. DBSA Gender marker system will apply and a gender and social inclusion action plan to reduce and avoid negative impacts and optimize positive potential impacts will be developed and implemented. The mitigation measure will reduce the impact and probability of the risk to very low. It will also ensure opportunities for gender mainstreaming and gender empowerment are sought and pursued and reported against.

Environmental legal compliance of SMMEs involved in the programme

All entities that are located in enterprises or contexts with environmental and social risk will need to submit an independent environmental audit of their company and its supply chains, together with their application to ensure they qualify by being environmentally/socially fully legally compliant in their business operations, investments and key supply chains.

2. The ESS safeguards have been applied according to the GEF guidelines. The safeguards report is attached in the PIF

Annex E: Rio Markers

8.8 Are the Rio Markers for CCM, CCA, BD and LD correctly selected, if applicable?

Secretariat's Comments

for CCA, a Rio marker of 2 is noted which does not seem justified with available information as the objective of the project is in its current wording solely focused on GHG emission reductions and the content of project description does not elaborate on CCA co-benefits (which do exist in the EE sector but further elaboration is needed to support this in the case of this project). Similarly, the BD marker of 1 seems unjustified at this stage with available information. Please revise to indicate this is solely a CCM project.

DER, RR, AB 11/22/23 Rio-marker revised for only CCM. Comment cleared.

Agency's Comments Revised Rio Markers to only reflect CCM

Annex F: Taxonomy Worksheet

8.9 Is the project properly tagged with the appropriate keywords?

Secretariat's Comments

Financial intermediaries and market facilitators tag could be added given the nature of this intervention.

DER, RR, AB 11/22/23. Comment cleared

Agency's Comments N/A

Annex G: NGI Relevant Annexes

8.10 Does the project provide sufficient detail (indicative term sheet) to take a decision on the following selection criteria: co-financing ratios, financial terms and conditions, and financial additionality? If not, please provide comments. Does the project provide a detailed reflow table to assess the project capacity of generating reflows? If not, please provide comments. Is the Partner Agency eligible to administer concessional finance? If not, please provide comments.

Secretariat's Comments

No. After reviewing the multiple technical comments in this review sheet, and adjusting the financing model, the term sheet and other annexes should be completely revised. Please use the most updated version of termsheet and reflow table template from the 2nd call for proposals on resubmission.

DER, RR, AB 11/22/23. The term sheets have been revised in the new PIF. Comment cleared

Agency's Comments Updated termsheet, financial model and other annexes provided

9 GEFSEC Decision

9.1 Is the PIF and PPG (if requested) recommended for technical clearance?

Secretariat's Comments

DER/TK: This project has received a preliminary screening under the Blended Finance Call for Proposals that closed February 27, 2023. Although the project has merit, it is not sufficiently developed to allow a full technical or financial review at this stage. This project will not be further considered for this round of the Blended Finance calls. We look forward to discussing the results of the preliminary screening with the Agency to inform decisions on whether to submit a revised project in a future call for proposals.

Some notes from the preliminary screening are included below.

- The lessons learned from Phase 1 should be included
- Documentation of prior GEF energy efficiency projects in South Africa that have addressed similar challenges

- The market demand for energy audits by SMEs is undocumented
- The capacity of the agency to deliver energy audits, training and support
- Specific types and market segments of SMES, such as industrial, building, HVAC must be identified
- Types of energy efficiency technologies to be deployed should be listed and prioritized
- The proposed financial structure does not reflect lessons learned from other MDB efficiency risk sharing approaches where a very small amount of GEF funding unlocked substantial commercial lending
- The lack of commercial lending partners points to a need to re-design the financial structure
- Proposed use of technical assistance requires more justification
- DBSA co-financing is minimal and not justified
- Estimated market demand for lending on energy efficiency projects should be described. The market demand for energy efficiency may need not be sufficient without policy/regulatory changes to stimulate demand.

DER, 10/4/23. Not yet ready for technical clearance. This project has undergone revision and re-submission. It has been screened positively for consideration. The PIF requires major clarifications and amendments as identified in the review sheet. Please address those comments and resubmit.

DER, RR, AB 11/22/23

Not yet ready for technical clearance. Most comments have been addressed. Please address the remaining comments in boxes 1,3.2, 5.4, 5.5, 5.6, 6.1, 8.7, and 8.10, then revise the PIF and review sheet in Portal, upload updated annexes, and re-submit as soon as possible.

DER, 11/28/23

Comments have been addressed in box 1, 3.2, 5.4, 5.5, 5.6, 8.7. However, please respond to the remaining comment on KM in box 3.2. Also, please note that all review is performed on the PIF loaded into the Portal. The uploaded PDF 11-28 version of the PIF was not consistent with the Portal version. Make all updates to the Portal version. Once the agency has responded to the comments in box 3.2 and made any other revisions, please resubmit in Portal as soon as possible.

DER, 11/30/23. The agency has responded to comments in box 3.2 point by point. The program manager is ready to clear contingent on PPO clearance.

Agency's Comments

1. **GEF COMMENT: THE LESSONS LEARNED FROM PHASE 1 SHOULD BE INCLUDED**

The PSEE (Private Sector Energy Efficiency) program and its database provide valuable insights into interventions, market behavior, and implementation rates. The program analyzes the characteristics of interventions based on enterprise size, which informs the design of financial instruments, products, and the Technical Assistance Hub. Here are the key findings:

- ? Intervention Characteristics: 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 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 PSEE program will inform the tailoring of financial products and offers to applicants based on their specific profiles.

Overall, the PSEE 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.

Please refer to Appendix 1 for detailed information on lessons Learnt

2. **GEF COMMENT: DOCUMENTATION OF PRIOR GEF ENERGY EFFICIENCY PROJECTS IN SOUTH AFRICA THAT HAVE ADDRESSED SIMILAR CHALLENGES**

We are not aware of Energy efficiency programmes funded by the GEF in South Africa. We are open to have a discussion with GEFSEC on this matter. We have outlined past and current energy efficiency programmes that we are aware of as detailed below.

Existing support programmes

In addition to the policy environment, there are several support programmes presently active with relevance to the private sector. There are two main forms of energy efficiency support provided in South Africa: financial support and capacity building. Each of these forms of support aims to address different gaps and barriers to energy efficiency implementation. Both financial and technical support offerings current and recently available for the private sector in South Africa are described below.

1.1.1 Technical support

Technical support for energy efficiency to the private sector is essentially being provided by:

- ? The National Cleaner Production Centre of South Africa (NCPC-SA) as part of its on-going mandate (part of the UNIDO Industrial Energy Efficiency programme);
- ? SANEDI, either in its general capacity or as part of its selective assistance in the AFD's SUNREF II programme;
- ? Incidentally through residual capacity provided by Eskom from resources remaining active after closure of its Integrated Demand Management (IDM) and ESCO support programmes;
- ? Selective support is afforded to the tourism industry by the Department of Tourism's GTIP;
- ? An instance of market coordination by GreenCape in the form of a financing register (which provides information beyond only energy efficiency financing options); and
- ? Although the PSEE is inactive, its web-based knowledge products, tools and templates remain available for consumption, although these are not maintained.

Table 1 below details the substance of the support provided by each of these noted. This is also demonstrated, together with the coverage that the PSEE had previously provided, for the range of technical support needs by the different actors in Figure 1 (active and nominally active programmes described in Table 1 below).

Table 1: Detail of active (and nominally active) technical support programmes in South Africa

Name	Details
Eskom Integrated Demand Management (IDM)	<p>Although the EEDSM and ESCO model support programmes are presently closed, there remains residual support offered in the following forms:</p> <p>Eskom maintains non-exhaustive lists of project developers for performance contracts, technology suppliers and standard technologies on its website.</p> <p>Eskom maintains a knowledge product repository coming from its Integrated Demand Management (IDM) (guidance and sector energy use case studies)</p>

Green
Tourism
Incentive
Programme
(GTIP)

The Green Tourism Incentive Programme (GTIP) is an energy efficiency incentive of the Department of Tourism. The objective of the programme is to promote renewable energy and energy and water efficiency under private sector tourism operators. The GTIP offers technical support to qualifying tourism operators in the form of a 90% subsidy of the cost for a new energy-efficiency audit or the full cost for reviewing an existing energy-efficiency audit. (This is also supported with selective grant funding support, refer Chapter 2 Section 4.3.2).

If applying for the grant funds, the NCPC-SA is required to conduct a resource efficiency audit to determine the best possible solutions to be implemented. If such an audit already exists for an entity, the NCPC-SA will review the existing audits.

National
Cleaner
Production
Centre of
South Africa
(NCPC ? SA)

The NCPC-SA is a national government programme that promotes the implementation of resource efficiency and cleaner production. The NCPC-SA is hosted at the Council for Scientific and Industrial Research (CSIR) on behalf of the Department of Trade and Industry.

The programme?s focus areas are energy, water, waste and resource efficiency, with four strategic elements:

- RECP interventions identification in the industrial sector;
- RECP capacity building;
- Supporting RECP adoption; and
- Policy advice, advocacy and demonstration of RECP.

The energy efficiency component is delivered primarily through the South African Industrial Energy Efficiency (IEE) Project. The IEE project was established in 2010 in response to the growing need to improve energy efficiency in South Africa with an aim to promote and assist industrial and selected commercial sectors to change their energy use patterns by adopting Energy Management Systems (ISO50001) and the Energy Systems Optimisation (NCPC-SA, n.d.).

The NCPC-SA:

- provides extensive energy auditor training and vocational training; is recognised as having created significant energy auditors, MRV experts and related energy specialists.

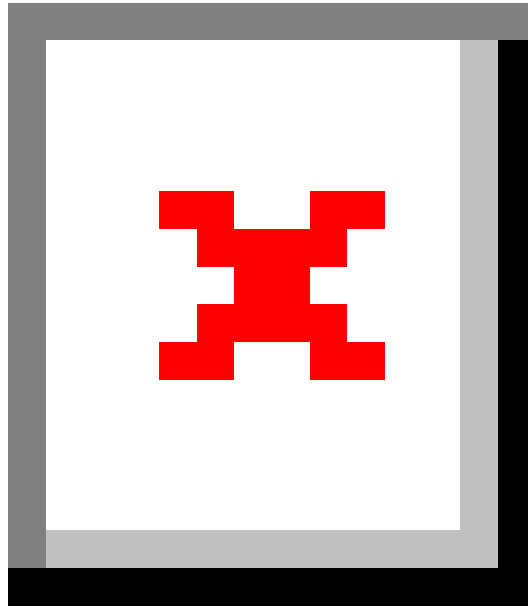
- maintains a knowledge product repository (including energy efficiency case studies and best practice guides).

- implemented the Industrial Energy Efficiency (IEE) programme (now in phase II) which includes for:

- o fully subsidised RECP assessments (including for energy efficiency interventions), for which a website application form is available for interested registrants, to be evaluated by NCPC-SA for support.
- o specialist training on Energy Management Systems ISO50001 (EnMS), Energy Systems Optimisation (ESO) and Energy Performance Management Indicators (EnPMI).

The IEE project has consisted of two phases. Phase I ran from 2010-2015. Phase II launched in 2016 and is planned to continue until or 4 years until 2019. During both phases, UNIDO provided oversight and implementation support into the project. Phase I received funding from

	<p>the Swiss Secretariat for Economic Affairs and the UK Department of International Development. Phase II is funded by the Global Environmental Facility and co-financed by Department of Trade and Industry and Department of Energy to the value of R80m. The Department of Environmental Affairs and SANEDI also provide support (Makhafola, 2018).</p> <p>It is also understood that phase II has included training to the banking and financial services sector regarding energy efficiency and aims to include a greater focus on supporting policy and capacity development (James, 2016).</p> <p>From 2010 to 2016, the IEE project saved 2140GWh of energy and mitigated 2 mtCO_{2e}, trained 3800 professional such as energy-managers, maintenance staff, plant engineers and engineering consultants at an advanced level and trained 161 South African ESO/EnMS experts who are UNIDO certified and internationally recognised (NCPC-SA, n.d.).</p>
<p>SANEDI Technical Assistance under the SUNREF II</p>	<p>The AFD's SUNREF II facility is support by a Technical Assistance Facility (TAF) implemented by SANEDI. The TAF can be contacted by applicants to SUNREF II to engage in evaluation of project and application feasibility, and SANEDI provides project technical appraisals for submission to the IDC as part of the loan agreement process. Swiss Confederation (SECO) provides financial support to the TAF so it provides its services free of charge.</p>
<p>SANEDI support to ESCOs</p>	<p>With the support of the GIZ and DoE, SANEDI has developed a non-exhaustive list of ESCOs as a market development tool. At the time of this study, the listing was in the process of being updated to include an additional category (tier, 1, tier 2 and (newly) tier 3 with differentiation according to maturity and comprehensiveness of services). The process for registering to the list required proactive application, and therefore the listing is not complete, but voluntary. SANEDI also reported providing ESCO development support, especially focused on SME ESCO capacity building.</p>
<p>GreenCape Finance Listing</p>	<p>GreenCape's Green Finance Desk developed and hosts a financing database (includes a broad range of financing needs, including energy efficiency) and a government incentives database.</p>



Key Active programmes Inactive, but accessible PSEE programme as
information executed 2013 ? 2015

Figure 1: Energy efficiency technical support elements provided by active programmes and the PSEE (now inactive) in South Africa, to the major energy efficiency value chain actors requiring support (end-users, suppliers and financiers), across increasingly proactive technical assistance options

The following is noted:

- ? In general, programmes' awareness raising approaches offer passive web-based resources, requiring users to recognise energy efficiency needs and engage the programme (registers, knowledge repositories etc.).
- ? More recently, both SANEDI and the NCPC-SA, especially under phase II, are noted to include more proactive engagement measures; holding roadshows, engaging with industry forums and training financiers, each with the potential for expanding awareness.
- ? Except for the finance register provided by GreenCape and the ESCO register provided by SANEDI, all other tools, templates and datasets presently available are residual resources from now-inactive programmes (PSEE and Eskom's IDM) and are not kept up to date. In the case of the two registers mentioned, the first has been noted to not be confined to energy efficiency and the second has been noted not to be complete.
- ? In the case of standard templates, tools and datasets, the coverage indicated is largely because the information provided is open access, however the resources may be of varying utility to different market segments, as most have been developed to serve the initial purpose, and are only nominally tailored for a target market segment.
- ? It is unclear that any of these programmes offer tools, templates and datasets to financiers. (For the GreenCape Finance Register, coverage is indicated to include financiers as this dataset also serves to connect the actor to the market).
- ? The programmes undertaking pipeline development are either selective (only for tourism, or only for those projects which are eligible under SUNREF II) or still require the end-user to be aware of and apply to the programme (as for NCPC-SA, which noted very few selected examples supporting NCPC-SA IEE participants engage with local commercial banks for financing).
- ? ESCOs are largely unsupported other than in a general association with existing knowledge resources and periodic training by SANEDI.

The technical assistance landscape is fragmented, further exacerbated by the absence of the PSEE. Moreover, there is only extremely limited support to any particular sector or enterprise size, and no comprehensive support that stretches across or encourage progress along the journey that the end user must travel from awareness to final implementation. While programmes have achieved some measures of success, they have most often focused on selected market development gaps and interventions, and not provided a widespread implementation plan to addressing market constraints.

The need for technical support is therefore clear, and must promote:

- ? reactivating now-inactive awareness raising and knowledge resources;
- ? updating, extending and elaborating tools, templates and datasets matching the needs of each of the respective actors (providing more to financiers and to small and medium enterprises);
- ? filling the missing gaps in project assessment functions;
- ? encouraging and enabling end-users to traverse the maturity journey to final energy efficiency implementation;
- ? better connecting the different ecosystem actors in general; and
- ? promoting a more widespread and proactive means to connect projects with potentially suitable finance.

Please refer to Appendix 2 for past and current Financial assistance programmes in South Africa.

3. **GEF COMMENT: THE MARKET DEMAND FOR ENERGY AUDITS BY SMES IS UNDOCUMENTED**

The smaller type opportunities that SMEs would bring, cumulatively could provide large energy savings and environmental benefits. This was evidenced most clearly during the delivery of the Private Sector Energy Efficiency (PSEE) programme during 2013 ? 2015. The PSEE, funded by the UK's Department for International Development, and implemented by the not-for-profit organisations National Business Initiative (NBI), and Carbon Trust, provided subsidised audit and consulting support to both small and medium-sized enterprises (SMEs) and large corporates to identify and encourage implementation of energy efficiency opportunities. From only ~1000 small and medium site surveys, and engagement with nearly 50 larger corporates, potential lifetime savings of 21,896 GWh (equivalent to 16.9 MtCO_{2e}) were identified in the 3 years of the programme (NBI, 2016).

Extrapolating the results from the PSEE to the national context. our estimate of the total national market size (capex requirement) for energy efficiency is R 270 billion. The SME component of this constitutes about 99% of the total market size (R 266 billion), and large entities comprises the difference of 1% (R 3.3 billion). This is by virtue of the significant

number of SMEs in South Africa. The average CAPEX value required to implement an intervention by an SME is R 156,000, and R 745,000 for large entities (this includes a wide range of interventions and includes Combined Heat and Power (CHP), energy from waste and renewables switching opportunities).

Based on the PSEE database extrapolated to national level, the total lifetime saving potential to the national market is estimated at R 912 billion. Again, because of the number of SMEs in the market, these comprise 99% of this savings potential. Average lifetime saving per intervention for an SME is R 520,000, and R 3.1 million for a large enterprise. The total lifetime energy savings and lifetime carbon emissions savings are computed as 1 million GWh lifetime savings and 834 MtCO_{2e} lifetime savings for the national population.

The designed programme detailed in this report and request to GEF proposes to only directly engage less than 4500 organisations, which equates to less than 0.2% of the market. However, in designing the programme, the aim is to have greater indirect impact by catalysing wider market action. The programme as described in this report has been specifically designed to catalyse demand and encourage commercial financial institutions to continue tailored energy efficiency after the programme closes, initiating the much-needed paradigm shift in the market, such that energy efficiency uptake might scale and this enormous latent opportunity and benefit achieved.

4. **GEF COMMENT: THE CAPACITY OF THE AGENCY TO DELIVER ENERGY AUDITS, TRAINING AND SUPPORT**

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

1. **GEF COMMENT: SPECIFIC TYPES AND MARKET SEGMENTS OF SMES, SUCH AS INDUSTRIAL, BUILDING, HVAC MUST BE IDENTIFIED**

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

2. **GEF COMMENT: TYPES OF ENERGY EFFICIENCY TECHNOLOGIES TO BE DEPLOYED SHOULD BE LISTED AND PRIORITIZED**

Technologies to be prioritised include: Heat pumps, LED lighting, variable speed drives, demand controlled ventilation, insulation and air sealing. The list below is not exhaustive

- 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) 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.
- iv) 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.
- 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.

3. **GEF COMMENT: THE PROPOSED FINANCIAL STRUCTURE DOES NOT REFLECT LESSONS LEARNED FROM OTHER MDB EFFICIENCY RISK SHARING APPROACHES WHERE A VERY SMALL AMOUNT OF GEF FUNDING UNLOCKED SUBSTANTIAL COMMERCIAL LENDING**

The financial structure has been updated. In the amended structure, the leverage ratio is 1:22, which aligns with other MDB efficiency risk sharing approaches. Kindly refer to the attached financial model for details.

4. **GEF COMMENT: THE LACK OF COMMERCIAL LENDING PARTNERS POINTS TO A NEED TO RE-DESIGN THE FINANCIAL STRUCTURE**

Commercial lending partners have confirmed their interest to participate in the programme. 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 general interest.

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.

5. **GEF COMMENT: PROPOSED USE OF TECHNICAL ASSISTANCE REQUIRES MORE JUSTIFICATION**

For an energy efficiency market to function effectively, all components of the value chain must be functioning and integrated. Our analysis has identified that in the South African context, both finance and technical challenges are major constraints to the market.

At this stage of the market, most SMEs and many large entities are unaware of the significant energy efficiency opportunity and the financial benefits that it may bring. Energy efficiency is often not a priority for organisations as it does not comprise core business. Also, SMEs are especially capital constrained and will therefore be unwilling to pay for a 'non-core' business service such as an energy audit. This is exacerbated by the low economic growth that South Africa has experienced in recent years. Therefore, there is a need for grant funding to provide technical assistance in the market to prove the commercial value of energy efficiency and to grow the pipeline of projects.

It is unlikely that financial institutions will, at this stage of the market, offer a debt product with sufficiently attractive interest rates (below the borrower demand threshold of 15%) for uncollateralised loans with a relatively small value, without support from climate finance providers such as GEF, together with some certainty of product demand that must be created through a targeted awareness raising and demand stimulation programme as is proposed for the Technical Assistance hub. This is due to the perceived risk of energy efficiency financing and a lack of commercially proven examples, as well as absence of clear demand from customers. The Credit Risk Guarantee will enable financial institutions to overcome the credit risk associated with energy efficiency loans and enable offering tailored energy efficiency financing at rates below the borrower threshold of 15%. By offering affordable tailored energy efficiency financing, it will have a roll-on effect through demand stimulation, pipeline creation, 'learning by doing' and eventually lead to a commercially proven market.

There is a strong need for concessionality to increase the affordability of financing energy efficiency interventions. In order to be attractive to end users. To encourage these to adopt energy efficiency over business as usual investments, we believe concessional finance is required, in the order of 1-2 pppts. Our analysis has indicated that a Credit Risk Guarantee is the instrument that will most effectively pass through the required concessionality to borrowers, whilst requiring the minimum concessionality and also require the participation of a partner financial institution that will benefit from the Programme implementation directly and indirectly.

Employing these mechanisms ? the Technical Assistance and the tailored financial product supported by the Guarantee ? simultaneously is critical, as one without the other is projected to fail in the essential positive feedback cycle that needs to be set off to assist in overcoming the challenges and barriers that the South African energy efficiency market faces. The GEF funding will serve as the much-needed catalyst to enable the market to break its inertia, prove its commercial viability and unlock private sector resources.

This therefore motivates and justifies GEF investment in the form of both a Credit Risk Guarantee to assist in overcoming the financial barriers and grant funding for the Technical Assistance hub to assist in overcoming technical and knowledge barriers.

6. GEF COMMENT: DBSA CO-FINANCING IS MINIMAL AND NOT JUSTIFIED

Addressed. Please refer to the attached financial model

7. GEF COMMENT: ESTIMATED MARKET DEMAND FOR LENDING ON ENERGY EFFICIENCY PROJECTS SHOULD BE DESCRIBED. THE MARKET DEMAND FOR ENERGY EFFICIENCY MAY NEED NOT BE SUFFICIENT WITHOUT POLICY/REGULATORY CHANGES TO STIMULATE DEMAND.

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 PSEE programme completed site surveys at 1087 sites and identified 6,921 energy efficiency opportunities. These opportunities were captured in the PSEE 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 PSEE programme.

Given the breadth and depth of the PSEE programme, and in the absence of any other such extensive samples aggregated in a similar dataset, the PSEE database has been used as the basis for market estimations. PSEE 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 PSEE.

1.1.1 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 PSEE 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 PSEE 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.

1.1.2 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.

1.1.3 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 PSEE 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 PSEE, the total average intervention implementation rate was approximately 10%.)

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 participation of new participants in the Technical Support programme, based on leveraging the already established awareness of the 2013-2015 PSEE (minimal brand building required) and more proactive awareness raising approach to be employed. Because of the longer operational time projected (5 years rather than 3 years as before, accounting for a 1-year establishment period in both programmes), we anticipate;
 - o At least half as many new SMEs entering the Technical Assistance Hub programme (approximately 1,000 new participants)
 - o 2 x as many new LCs (Commercial letter of credit) entering the Technical Assistance Hub programme (we have capped this figure, to liberate resourcing to target SMEs) (200 new participants).
- ? From this data, the number of additional interventions the Technical Assistance Hub (by means of energy audits) is expected to identify (as described for the national market estimate but applied to the 1,200 new participants) was extrapolated.
- ? We intend to refresh engagement with the 2013-2015 PSEE cohort, to make these entities aware of the availability of a tailored energy efficiency financial product through which we anticipate revived interest in the programme.
- ? We have assumed segmented market behaviour for implementation by the market having received Technical Assistance Hub/PSEE programme support;
 - o For interventions types with payback period > 2.1 years and for those interventions for which implementation rates during PSEE already exceeded 40%, we have assumed that overriding factors of business culture or other environmental factors will constrain further uptake. For

these interventions, the same rate of implementation noted through PSEE will prevail in the PSEEP2 programme.

- o For interventions types with payback period \approx 2.1 years and implementation rates during PSEE $<$ 40%, we have modelled that the availability of affordable finance and proactive customer journey support may induce implementation for each intervention up to 40%.

These combined assumptions result in an average uptake rate of 32% of interventions, across all interventions identified through the Technical Assistance Hub and the PSEE (this being a more conservative figure than the 40 \approx 45% achieved in the UK by Carbon Trust before).

- o We have excluded those interventions already financed at the time of the PSEE M&E exercise and assumed that subsequent implementation has been minimal.

? We have accounted for a significant interest in the tailored energy efficiency financial product also arising independently of the Technical Assistance Hub pipeline. As a result of the proactive and general awareness raising approach, we anticipate the number of \approx independent? enterprises applying for the financing to be in the order of 1,000 additional SMEs and 200 additional LCs (a total of 1,200 additional enterprises making application for financing, aside from pipeline developed through the Technical Assistance Hub programme).

? We have assumed that only 50% of these interventions going on to implementation will be financed with the tailored energy efficiency product (the difference may be funded by the enterprise balance sheet, or an alternative financing mechanism may be preferred such as direct credit from the enterprises established banking relationship or ESCO support.)

Although a large volume of applications is expected to be received, it is estimated that 159 companies will be financed assuming that they will apply for the maximum loan amount of R2,000,000 (\$117,647) each. The total capex requirement will be in the order of US\$ 18.75 million and financing in the order of US\$ 15 million (as we have assumed a financial product coverage of 80% for all borrowers).

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]¹.

8. The market demand for energy efficiency may need not be sufficient without policy/regulatory changes to stimulate demand.

The Following Policies support the market demand for Energy Efficiency

Policy instrument	Description
Policies	

White Paper
on Energy
Policy,
1998

The White Paper on Energy was developed to examine the energy sector's 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 through 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 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

<p>Industrial Policy Action Plan (IPAP) 2018/19 - 2020/21</p> <p>(Released in 2018)</p>	<p>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 plans and programmes across a myriad of industrial sectors and covers information on constraints to an optimal industrial strategy.</p> <p>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.</p> <p>IPAP identifies the necessity for energy efficiency programs addressing appliance standards, capacity building and skill development and includes in its action plan:</p> <p>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.</p> <p>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 industrial companies, to develop energy management experts and to developing tools and platforms for the energy management industry.</p> <p>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.</p> <p>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.</p>
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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.

<p>Integrated Energy Plan 2016 (IEP)</p>	<p>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 economy'. This objective is rooted in the fact that reduced energy intensity can decrease overall energy system costs.</p> <p>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:</p> <ul style="list-style-type: none"> ? 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. <p>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.</p>
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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:

- ? Industry and mining:
 - o Norms and standards for horizontal technologies
 - o Energy audit scheme, targeting industry capacity building
 - o Energy management best practice promotion
 - o Technology and information research
 - o Promotion of ESCOs
 - o Maximise energy efficiency benefits, related to carbon credit mechanisms to improve energy efficiency interventions? financial viability
- ? Commercial and public buildings
 - o Energy efficiency standards for commercial and public buildings
 - o Mandatory energy audits for commercial buildings
 - o 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 on 2000 baseline)	Performance to 2012
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Economy-wide	12%	23.7%
Industry	15%	34.3%
Residential	10%	28.2%
Commercial and public	15%	0.3% (electricity only 2003 ? 2013)
Transport	9%	14.1% (reduction in sector-wide energy intensity)
Power sector	15%	26% (estimated by Eskom)
<p>Some progress was made in terms of all programme activities, and most have found their way into extensions in the draft Post-2015 NEES. The draft Post-2015 NEES remains in draft at present.</p>		

Legislation

National Energy Act (Act 34 of 2008)	The purpose of the act was to ensure the availability of diverse energy sources, in sustainable quantities 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 develop an Integrated Energy Plan annually. It also makes provision for the implementation of energy efficiency measures through the establishment of the South African National Energy Development Institute (SANEDI).
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Electricity Regulation Act (Act 4 of 2006)	The Electricity Regulation Act was developed to establish a national regulatory 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 promote use of diverse energy resources and energy efficiency. Additionally, the regulation stipulates the requirement for a license that enables individuals to operate any generation, transmission or distribution facility, to import or export any electricity, and trading should comply with energy efficiency standards and requirements.
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Regulations

Building Regulations & Building Code (SANS 10400-XA:2011) with SANS 204	The SANS 10400-ZA is an addition to the standard for environmental sustainability and energy usage in buildings and is part of the National Building Regulations. The standard requires various ?deemed to satisfy? technical requirements in order to comply. This has relevance to all new build and extensions to residential and commercial buildings and may in time help to phase out energy inefficient buildings stock, but this is expected to have limited impact in the short-term as retrofits are not required for existing inefficient buildings.
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[1] The Technical Assistance Hub and financial support package will not be accessible to enterprises conducting fossil fuel extractive operations.

APPENDIX 1

Lessons Learnt from PSEE concerning interventions and market behaviour

The PSEE programme and the database offers useful insights to the interventions frequency, costs and savings, and the market implementation rates (as measured during the PSEE duration), as well as the basic characteristics. These are analysed by **enterprise size** below, the results of which are applied to inform design aspects of the financial preferred instrument, financial product and Technical Assistance Hub.

1.1.1 Intervention characteristics

Figure 12 and Figure 13 demonstrate the number of opportunities of each type identified through PSEE (respectively for average capex cost below and above R1 million) and the average cost for each intervention type. This demonstrates the more frequently identified opportunities also tend to be those of smaller capex requirement and, the average capex requirement per intervention for more than >85% of interventions identified (not considering enterprise size) is in the range R 150,000 to R 800,000. Projects requiring (on average) more than R 2 million constitute <1.0% of the interventions identified. This has relevance to the design of the financial product and facility size.

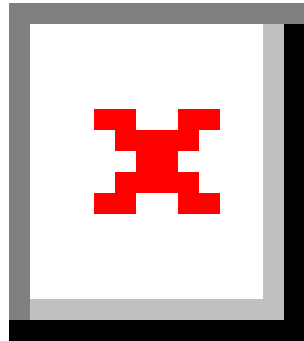


Figure 12: Number of opportunities and average cost of each intervention type (capex below R1 million)

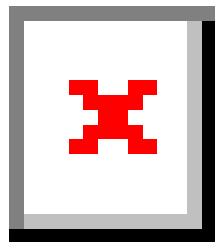


Figure 13: Number of opportunities and average cost of each intervention type (capex above R1 million)

Table 15 and Table 16 (for SMEs and large enterprises respectively) provide summary of the frequency at which interventions were identified in the PSEE population (times identified per site), the average cost and payback characteristics of that intervention, and the frequency with which the intervention was implemented, accounting for the enterprise size.

These intervention type characteristics, identification frequency and implementation rates have been applied in computing the attributable market to be targeted through the financial support package (as discussed in Chapter 2 Section 3.3). These benchmarks were also applied in the evaluation of financing applications (adding to them as the Technical Assistance Hub grows the dataset) and to advise on of the sectoral and intervention type profiles that could be targeted for financing.

1.1.2 Interventions identified and implemented by SMEs

Table 17 and Table 18 (for SMEs and large enterprises respectively) demonstrates the PSEE insights identified for SMEs per sector:

- ? The profile of total number of interventions, the average payback and average lifetimes savings identified for all interventions identified.
- ? The profile of implemented interventions (i.e. those identified which went on to be implemented, according to the PSEE M&E results), and the associated average payback and average lifetime savings.

The dataset highlights:

- ? The sectors that demonstrate the most opportunities overall in SMEs was the manufacturing sector (1093 interventions), followed by the retail and motor trade and repair services sector (499 interventions), finance and business services sector (302 interventions) and agriculture, forestry & fisheries sector (298 interventions).
- ? The sectors with the highest uptake rates of identified opportunities by SMEs was the agriculture, forestry & fisheries (24% of interventions implemented) and manufacturing (22% of interventions implemented) sectors, closely followed by the construction and other sectors (both 20% of interventions implemented). The mining, quarrying, oil & gas and finance and business services sectors had the worst uptake for the SME enterprise size (0% and 6% respectively), pointing to significant obstacles or enterprise inertia.

The average payback of implemented projects was below the average of the total identified interventions, and in all cases (except for the 'other' category), was below 2 years. Except for 'Wholesale Trade, Commercial Agents and Allied Services', average lifetime savings achieved by these implemented measures were less than the average of the total population of interventions. This is expected as 'easier' to implement opportunities with lower CAPEX

and shorter payback periods will typically be implemented before energy efficiency opportunities that require larger CAPEX with longer payback periods.

The average payback for all identified interventions at SMEs comes to 1.9 years on average, and the average payback of implemented interventions comes to 1.5 years on average.

1.1.3 Interventions identified and implemented by large entities

Table 18 demonstrates the PSEE insights identified, now for large enterprises per sector:

- ? The profile of total number of interventions, the average payback and average lifetimes savings identified for all interventions identified.
- ? The profile of implemented interventions (i.e. those identified which went on to be implemented, according to the PSEE M&E results), and the associated average payback and average lifetime savings.

The dataset highlights:

- ? The two sectors for which the most opportunities were identified in large enterprise were manufacturing sector (1255 interventions) and agriculture, forestry & fisheries (1079 interventions). The finance and business services sector had the third most identified opportunities (397 interventions). This indicates that under large entities, the largest market opportunity and the greatest impact may be achieved by targeting these three sectors.
- ? The sectors with the highest uptake rates by large enterprise of identified opportunities were the miscellaneous sectors classified as 'Other' (32% of interventions implemented), the construction sector (30% of interventions implemented) and again the agriculture, forestry & fisheries sector (20% of interventions implemented). The sectors with the worst uptake were electricity, gas & water and wholesale trade, commercial agents & allied services which both had a 0% uptake, followed by mining, quarrying, oil & gas with a 2.3% of interventions implemented.

As for SMEs, across all sectors, with the exception of mining, quarrying & oil, large enterprises first implemented opportunities with a shorter average payback period (no more than 2.2 years average payback).

1.1.4 Sectoral savings opportunity and capex requirement

Figure 14 plots the total lifetime energy spend savings against the total capex required to implement the energy saving opportunities, per sector for the PSEE population.

Whilst the PSEE population will not map directly to the national sectoral composition, it is a useful corollary to understand that mining and manufacturing sectors offer significant energy efficiency opportunities (and as discussed in Chapter 2 Section 4.1.2, these sectors are also highly energy intensive, and have historically been inefficient although recent improvements have been noted).

The analysis indicates that manufacturing presents the largest capex need (R 836 million capital required) and may provide the second largest energy savings potential (R 2.7 billion lifetime savings). However, the mining sector presents the most lucrative market, as the size of the total lifetime energy spend savings is very large when compared to the total CAPEX required to achieve financial savings, and the types of interventions typically identified for mines are large scale projects (therefore cost and savings per intervention is relatively high).

The third and fourth largest market in terms of both lifetime energy spend savings and capex is the transport, storage and communications; agriculture, forestry & fisheries; and finance and business services sectors, presenting a R 219 million, R 193 million and R 179 million capital needs respectively.

The remaining of the sectors tend to be quite closely grouped in terms of lifetime energy spend savings and market size, below R 300 million and R 100 million, respectively.

1.1.5 Insights for solutions design

The financial preferred instrument, financial product and Technical Assistance Hub designs have been informed by the PSEE dataset analysis, as discussed below.

Sectoral focus for the Technical Assistance Hub

Overall, the design decision was made for the financial support package and the Technical Hub to be sector agnostic, in that enterprises of any sector would be accepted into the programme for support, should the enterprise request support and be eligible for the particular support package. This aligns with the project's primary objectives to build feasible pipeline and to build beneficiary capacity (the ambition is to change general market behaviour and catalyse more widespread energy efficiency adoption).

However, taking note that mining and manufacturing offer significant and lucrative energy efficiency opportunities, followed by transport, storage and communications; agriculture,

forestry & fisheries; and business services; the Technical Assistance Hub will tailor its awareness raising programme to target these sectors by the following means:

- ? Ensuring the awareness and marketing plan includes a specific focus for these sectors, in addition to general activities;
- ? Ensuring sector-relevant knowledge materials are made available;
- ? In addition to general introductory training and awareness raising, conducting sector-targeted training and awareness activities;
- ? Convening training opportunities (events and workshops) preferentially in regional hubs where these sectors are concentrated.

As described in the Environmental and Social Safeguards Management Framework, the programme will screen out fossil fuel extractive industries (e.g. coal mining) from receiving support.

It is noted that there is some support that will be offered to the small and micro-enterprises in the Tourism Industry. Although this may constitute a minor overlap, the proposed design does not exclude tourism but will not especially target this sector.

Interventions sizes for which support is needed

The interventions implemented tended to be smaller capex, faster payback projects and this result is largely inherent in the nature of the energy audit recommendations and business approach to implementation, which is structured to prioritise these types of interventions and promote more expensive longer payback period interventions for later implementation. (This is also a recognised consequence of the timing of PSEE's M&E activities, having been conducted at the close of the programme shortly after the bulk of the energy efficiency audits were conducted.)

The Technical Assistance Hub design has been informed by the following insights:

- ? Whilst the prioritised audit recommendation approach is standard, the Technical Assistance Hub will also encourage energy audit service providers to consider and recommend bundled opportunities; cross-subsidising longer payback period projects with shorter ones where plausible (this is part of a paradigm shift that these audits might achieve with very low effort in an adaptation of their communications approach).

? Although the implementation rates show that many enterprises (SMEs and large) are willing to fund lower capex, shorter payback period projects from their balance sheets, these are still in the minority of cases. The deployment mechanism for the financial support package should therefore accommodate functions and products that anticipate:

- o Most applications being made for 'lower hanging fruit' - smaller financing amounts with relative short financing duration.
- o A lesser, but still evident potential, to support enterprises to implement the next tranche of project types (longer payback, larger capex requirement).

Therefore, the financial support package should make facility to finance a range of types of interventions, wherefore the specified minimum or maximum financing limits should provide sufficient bandwidth to achieve both the 'lower hanging fruit' and the next tranche. (In practice, the financial product design was undertaken utilising the intervention and implementation profiles measured by the PSEE and therefore is designed weighted toward a greater frequency of smaller requests, differing by the enterprise size.)

Enterprise size focus for Technical Assistance Hub and financial support package

Motivated by the significant number of SMEs in South Africa, the latent energy efficiency opportunity and the objectives of the programme to build capacity in the private sector and catalyse the market (especially less attractive and active segments), coupled with the lesser general ability of SMEs to fund energy efficiency out of their balance sheets and challenges accessing finance due to generally weaker balance sheets, the financial support package has been designed to accommodate a substantially greater number of SMEs than large enterprises. To support this, the Technical Assistance Hub will focus on SME pipeline development.

This design decision has numerous implications, not least in terms of:

- ? The volume of individual interactions that both Technical Assistance Hub and the financier must plan for;
- ? The approach to programme level awareness raising;
- ? The format and content of capacity building activities;
- ? Typical financial product design, types and frequencies of interventions for which financing is likely to be applied for, and financier risk management functions.

Benchmarking funding applications by sector and technology

The PSEE data tables demonstrate that there is a range of capex requirements, differing by enterprise size, sector and intervention type. The financier is expected to have a high and very diverse financing demand. These benchmarks developed in this study (and updated continually through the Technical Assistance Hub support functions) are to inform the tailoring of the product to be extended to any particular applicant, tailoring the offer according to the applicant's profile in terms of these dimensions (enterprise size, sector, intervention type).

Table 15 Intervention types profiles (SMEs)

Intervention type	SME intervention profile					
	Frequency identified	Frequency implemented	Average intervention cost of all identified opportunities (ZAR)	Average intervention payback of all identified opportunities (years)	Average intervention lifetime energy savings (kWh)	Average intervention lifetime GHG emission savings (tCO ₂)
Air conditioning and cooling	21%	19%	152,158	3.0	411,141	370
Alternative fuels	0%	0%	35,000	0.2	960,756	257
Building construction, installation and commissioning	0%	0%	580,000	3.0	693,974	625
Building fabric opportunities	6%	13%	51,457	2.3	1,251,510	1,126
Building instrumentation and control	16%	4%	113,618	2.0	413,365	372
Building services distribution systems	25%	11%	72,942	1.8	497,989	413
Carbon and Energy Management	186%*	19%	41,351	1.2	137,514	119
Combined heat and power	0%	0%	3,337,414	3.2	10,040,493	9,036
Compressed air	25%	26%	48,982	1.2	473,095	421
Drying and evaporation	2%	13%	653,565	0.7	845,249	-63
Energy from waste	1%	0%	851,667	6.8	4,504,213	4,019
Equipment	2%	18%	138,180	2.1	169,730	153
Fuel efficient vehicle fleet	0%	0%	-	-	90,380	24
Fuel switch	3%	31%	212,956	2.3	2,677,231	1,088
Lighting	114%*	18%	144,828	2.3	824,938	742
Materials handling	2%	18%	866,411	2.2	884,433	791
Metering and Monitoring	0%	0%	25,000	0.5	273,438	246
Motors and drives	34%	16%	124,880	3.2	699,873	630
Operational measures	3%	15%	18,815	0.5	167,157	51

Process design and optimisation	18%	23%	162,710	1.6	467,560	317
Process heating and cooling	39%	18%	119,150	2.0	1,242,586	849
Process instrumentation and control systems	9%	29%	57,453	2.4	394,593	233
Refrigeration	13%	12%	217,075	2.0	1,417,197	1,275
Renewable energy sources (only biomass boilers, heat pumps, and solar water heating)	53%	4%	280,067	3.4	954,335	853
Space Heating	6%	3%	93,647	2.2	650,129	511
Swimming pools	1%	33%	22,000	0.9	180,964	163
Ventilation	10%	12%	83,729	1.5	247,390	223
Waste minimisation	1%	33%	61,776	1.4	30,469	24
Total across all	-	17%	155,907	2.0	568,312	474

*Frequency more than 100% as these interventions have further sub-categories and maybe

identified multiple times per site.

Table 16 Intervention types profiles (large enterprises)

Intervention type	Large enterprise intervention profile					
	Frequency identified	Frequency implemented	Average intervention cost of all identified opportunities (ZAR)	Average intervention payback of all identified opportunities (years)	Average intervention lifetime energy savings (kWh)	Average intervention lifetime GHG emission savings (tCO ₂)
Air conditioning and cooling	30%	9%	716,397	2.8	6,157,846	5,542
Alternative fuels	1%	0%	82,133	0.2	1,870,561	457
Building construction, installation and commissioning	0%	0%	840,000	10.9	366,470	330
Building fabric opportunities	6%	8%	629,545	4.2	6,878,256	6,090
Building instrumentation and control	16%	8%	340,367	1.7	1,572,093	1,415
Building services distribution systems	23%	10%	155,979	1.6	1,000,310	746
Carbon and Energy Management	205%	20%	163,232	0.8	1,054,489	715
Combined heat and power	1%	0%	19,666,667	4.7	84,550,000	76,095
Compressed air	40%	20%	277,174	1.1	3,411,254	2,930
Drying and evaporation	2%	0%	1,688,693	1.0	22,024,039	16,290
Energy from waste	2%	0%	10,946,667	5.1	19,795,543	17,205
Equipment	4%	21%	131,383	2.0	175,253	158
Fuel efficient vehicle fleet	1%	0%	7,500	3.4	644,365	172
Fuel switch	4%	17%	2,907,205	2.0	33,260,781	23,201
Lighting	103%	21%	504,555	2.7	2,627,355	2,363
Materials handling	2%	20%	9,268,757	2.6	74,409,825	66,969
Metering and Monitoring	56%	11%	569,741	2.4	7,258,671	6,513
Motors and drives	6%	15%	223,922	0.6	7,258,671	6,513
Operational measures	20%	19%	1,246,622	1.8	1,953,223	538

Process design and optimisation	61%	11%	900,342	2.0	15,926,428	11,109
Process heating and cooling	16%	16%	219,650	1.5	11,265,087	5,502
Process instrumentation and control systems	11%	21%	747,517	2.3	3,562,578	2,903
Refrigeration	57%	4%	433,309	3.4	5,820,280	4,921
Renewable energy sources (only biomass boilers, heat pumps, and solar water heating)	4%	17%	195,155	1.5	2,148,476	1,637
Space Heating	1%	0%	4,500	0.1	590,919	532
Swimming pools	5%	19%	95,530	1.3	88,511	80
Ventilation	2%	0%	294,105	1.7	1,069,526	963
Waste minimisation	0%	9%	523,555	1.8	5,045,525	1,089
Total across all	-	15%	744,742	2.8	4,565,457	3,379

*Frequency more than 100% as these interventions have further sub-categories and maybe

identified multiple times per site.

Table 17: Number of opportunities identified, implementation rate and average payback period and lifetime energy spend savings per sector for SMEs (PSEE database)

Per sector (SMEs)	Total opportunities identified			Implemented opportunities				
	No. of opportunities identified	Average Expected payback period	Average of Expected lifetime energy spend savings (ZAR)*	Implementation rate	Average Expected payback period	Average of Expected lifetime energy spend savings (ZAR)*	Average expected energy savings (kWh)	Average expected GHG emissions savings (tCO2)
Agriculture, Forestry & Fisheries	298	2.4	267,397	25%	1.8	242,309	298,384	246
Catering, Accommodation and other Trade	204	2.3	558,100	11%	1.7	493,331	589,791	531
Community, Social and Personal services	104	2.4	481,108	14%	1.4	446,954	380,961	340
Construction	44	1.8	624,033	20%	0.6	306,793	213,389	146
Electricity, gas and Water	2	No data	23,334	0%	-	-	-	-
Finance and Business services	301	2.2	497,699	7%	1.4	571,057	754,089	679
Manufacturing	1,093	1.7	631,572	22%	1.5	510,070	532,165	454
Mining, quarrying, oil & gas	34	1.4	684,791	0%	-	-	-	-
Other	76	2.5	606,320	24%	2.5	386,777	153,887	138
Retail and Motor Trade and Repair Services	499	1.7	428,260	12%	1.2	313,771	293,171	264
Transport, Storage and communications	95	2.1	497,843	11%	1.5	555,587	468,706	422

Wholesale Trade, Commercial Agents and Allied Services	82	1.5	392,824	15%	0.6	472,315	380,538	342
Total/Average	2,832	1.9	520,380	16%	1.5	436,360	449,895	388

* at current prices

Table 18: Number of opportunities identified, implementation rate and average payback period and lifetime energy spend savings per sector for large entities (PSEE database)

Per sector (large enterprises)	Total opportunities identified			Implemented opportunities				
	No. of opportunities identified	Average Expected payback period	Average of Expected lifetime energy spend savings*	Implementation rate	Average Expected payback period	Average of Expected lifetime energy spend savings (ZAR)*	Average expected energy savings (kWh)	Average expected GHG emissions savings (tCO2)
Agriculture, forestry & fisheries	1,077	1.6	884,148	21%	1.2	631,261	865,377	674
Catering, accommodation and other trade	151	2.0	1,222,288	15%	1.0	950,548	1,307,803	1,174
Community, social and personal services	174	1.4	1,929,423	7%	0.5	385,484	382,596	323
Construction	76	0.8	2,338,992	32%	0.6	624,993	665,841	465
Electricity, gas and water	27	1.4	8,617,383	0%	-	-	-	-
Finance and business services	397	2.4	1,997,463	14%	2.0	1,298,058	1,295,622	1,166
Manufacturing	1,255	1.8	2,579,395	16%	1.6	2,591,479	5,850,133	4,317
Mining, quarrying, oil & gas	206	1.2	19,900,931	2%	2.2	2,660,989	1,238,488	709
Other	72	3.0	1,516,193	35%	1.4	953,027	1,743,207	988

Retail and motor trade and repair services	139	1.9	721,694	12%	1.5	1,238,490	2,094,761	1,885
Transport, storage and communications	152	2.0	7,645,741	10%	1.9	3,675,657	4,605,165	3,190
Wholesale trade, commercial agents and allied services	33	1.5	5,122,690	0%	-	-	-	-
Total/Average	3,759	1.8	3,075,769	15%	1.4	1,479,402	2,742,195	2,054

* at current prices

APPENDIX 2

1.1.1 Financial assistance programmes

Table 22 lists the financing options available and recently active in South Africa most targeted at energy efficiency, with details of instruments and products.

Table 22: Listing of active and inactive targeted energy efficiency financing options in South Africa

Provider	Facility name and focus	Instrument	Coverage	Rate (%)	Tenor	Investment size
Active or establishing						
DBSA	Climate Finance Facility (CFF)	Sub-ordinated debt/first loss and tenor extension	<30%	Risk related	Project related	Targeting large projects and funds (loosely >R50 million)
IDC	Green Tourism Incentive Programme (GTIP) FY 2017/18 to FY 2019/20	Grant, only available for tourism sector	30% - 90% of project cost	Project related	Project related	< R1 million
IDC	SUNREF II	Debt	Up to 100%	prime+2.8	> 3 years	Maximum \$16,653,000

Provider	Facility name and focus	Instrument	Coverage	Rate (%)	Tenor	Investment size
IDC	AFD Green Energy Fund	Debt	-	prime+1.6 or equivalent fixed rate	> 3 years	Maximum of R 250 million per project
Sasfin Bank (Sunlyn)	Sasfin Eco Finance	Debt	Applicant and project related	Applicant and project related	Applicant and project related	Any
FNB	Business ecoEnergy Loan	Debt, only available to existing customers	-	Fixed, risk related	5 ? 10 years, allows 3-month capital holiday	R100 000 ? R1 million
Closed or inactive finance						
DBSA	The Green Fund	Grants Loans Equity	Applicant and project related	Applicant and project related	Applicant and project related	-
Eskom	Eskom ESCO Model	Grant	Applicant and project related	Applicant and project related	Applicant and project related	-
IDC	Green Energy Efficiency Fund (GEEF)	Debt	Project related	prime -2%	15 years	R 1 million ? R 50 million
ABSA, Nedbank	SUNREF I	Debt	Applicant related, 7% rebate	Applicant related	Project related	-
IFC and AfDB	CTF Energy Efficiency Program	Debt	-	-	-	-

The active financing options are mostly suited to large projects and/or large enterprises, with few having relevance to smaller enterprises, most notably Sasfin and FNB's offerings; these are specifically for existing clients of the respective banks, and in the case of Sasfin the offering encourages implementation through an ESCO. The GTIP programme is very narrow in its eligibility. (See Appendix 9 for more detail for each facility/programme,

including description, funding source, applicability (sector, company size) and products). Through engagement with stakeholders, we have also understood that there is a general disinclination to engage with ESCOs and that major ESCOs also prefer large projects, whereas smaller and emerging ESCOs are those with appetite for smaller projects, but these also suffer from lower capacity and diminished trust. (Refer Chapter 2 Section 5 for more regarding existing market challenges) This indicates an evident gap in the financial alternatives available to SME, as demonstrated in

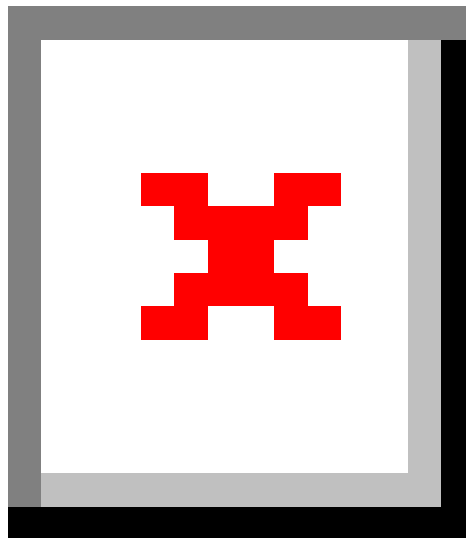


Figure 25: Offerings and gap in systematic energy efficiency financial support to the range of enterprise and/or project sizes

The following is also noted:

? There is presently no significant programmatic equity-type financial support programme activity for energy efficiency. We have noted instances of equity support, that do not characterise as programmes and are therefore not included further below. For instance:

- o A boutique bank equity and debt financing for major projects typically > R 10 million, such as cogeneration at ferrometals smelting facility;
- o An equity fund's business develop support to a manufacturer and ESCO of efficient chilling and cooling services for the mining industry, with the intention of equity co-investment (no deals yet concluded);
- o Equity investments by ESCOs, for which data is not captured or available centrally or systematically.

? We have noted many financial assistance programmes and financing opportunities that list energy efficiency as part of a much wider mandate, for example in addition to resource efficiency, renewable energy and clean technology manufacturing (including debt and equity supported by donors and private equity). We have noted that these financing mechanisms have generally struggled to develop a pipeline of energy efficiency projects and tend to fund the other parts of their scope preferentially. We have therefore not listed these financing options as genuine energy efficiency focused support. An example of this is the KfW First Fund which is a well-known debt fund that focuses on renewable energy (including small-scale renewable) and does not presently include energy efficiency in its remit.

? We have also not included funding and financing that targets the clean tech industry, which is for business incubation and not specifically for the uptake by the end user of energy efficiency interventions. Some of this type of support is noted to be in the form of equity investment

Table 23 provides an outline of each mechanism's processing elements, that these facilities require for end users to access to funds. We note the following differences, focussing on the debt options, to consider in design of the financial product:

? Sasfin EcoFinance and FNB EcoLoans do not appear to require rigorous formal project technical assessment, bespoke agreement structuring, evaluation committee reviews, rigorous implementation monitoring or complex disbursement arrangements, all of which should decrease the cost and rate at which financing could be deployed.

- ? FNB EcoLoans are only available for existing customers, which may be linked to the reduction in applicant review requirements (although credit risk review still applies), whereas Sasfin EcoFinance will evaluate the applicant and place additional reliance on accreditation and references (more applicable to ESCOs and technology providers).
- ? Larger finance options (such as SUNREF II, CFF and Green Energy Fund) scrutinise projects and applicants, as well as undertake evaluation committee reviews and bespoke contracting arrangements; more feasible for larger ticket sizes.
- ? Almost all have shared risk arrangements.
- ? Only SUNREF II appears to undertake project monitoring, which is costly and more appropriate to non-standard energy efficiency technologies and applications.

Table 23: Overview of application assessment elements of active (green) and inactive (blue) targeted energy efficiency financing options in South Africa

Due diligence, contracting and project management approach	Current and recent financial support programme/offering									
	Grant			Debt						
	GTIP	The Green Fund	Eskom ESCO Model	SUNREF II	CFF	Green Energy Fund	Sasfin EcoFinance	First National Bank Business Eco Loan	GEEF	The Green Fund
Technical review										
Project screening	?	?	?	?	?	?			?	?
Formal technical assessment			?	?	?	?			?	
Project/ business proposal	?									
Existing project agreements										
Applicant review										
Existing client only								?		
Applicant characteristics	?		?	?	?	?	?		?	
Governance demonstration		?		?	?	?				?

Accreditation/certification			?				?			
Personal or company reference							?			
Credentials and references							?			
Standard credit risk review				?	?	?		?	?	
Contracting approach										
Bespoke agreement structuring				?	?	?			?	?
Evaluation committee review	?			?	?	?			?	?
Shared risk arrangements	?	?			?	?	?		?	?
Post-investment (decision) processes										
Disbursement tranches				?	?	?				
Project monitoring				?						

Table 24 highlights the interconnectivity between ?

- ? the relative size of project targeted (we anticipate many more small and straightforward projects to exist than large complex projects);
- ? how reflective financing details of the technical merit of a project (financing that structures costs and payback around technical merit and savings potential of the project should be more viable);
- ? the ease of access to the financing (simpler processes for applying and contracting should encourage applicants and promote successful access);
- ? the existence of a pipeline of projects to finance (financing demand is required);

? and the relative energy efficiency deal flow.

The analysis highlights that those financing mechanisms that score well in all four dimensions tend to have higher deal flow (though we only identified two such cases).

Table 24: High-level evaluation of active (green) and inactive (blue) targeted energy efficiency financing options in South Africa in terms of the influence on deal flow

Overview of market engagement with the financial support programme	Current and recent financial support programme/offering										
	Grant			Loan							
	GTI P	The Green Fund	Eskom ESC O Model	SUNR EF II	CF F	Green Energy Fund	Sasfin EcoFinance	First National Bank Business Eco Loan	GE EF	The Green Fund	SUNR EF I
Preference for large projects or companies	N	Y	P	Y	Y	Y	N	N	Y	Y	Y*
Product structure not related to project merit (include prime+ rate, minimum tenor)	N	P	N	Y	N	Y	N	P	N	P	Y*
Onerous/complex application and/or contracting process	Y	Y	N	Y	Y	Y	N	N	Y	Y	Y
Weak links to pipeline	N	P	N	N	N	Y	Y	N	P	Y	N

Deal flow (energy efficiency)	L	L	H	L	U	L	L	M	L	L	L
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Y	Yes	H	Comparatively high
N	No	M	Moderate
P	Partial, or somewhat	L	Comparatively low
*	Effective result, although initially designed for small to medium and concessional	U	Unknown, not yet evident

The hypothesis for the low rate of energy efficiency project finance by current and recent financial support programmes and offering (not commenting on CFF, which was only launched late 2018), as described in Chapter 2 Section 1.1, breaks down to three principle challenges:

- ? The major preference for large projects and large companies; a consequence of complex internal approval processes by commercial banks and DFIs, that create the necessity for high return on effort.
- ? Inappropriately priced energy efficiency loan products priced according to applicant risk, and/or complex and onerous structured contracts, not necessarily reflective of commercial value, benefit or risk of projects.
- ? Absence of pipeline development efforts (often through a lack of marketing and supporting mandates) or poor links to technical support programmes and project developers, to support deal flow.

These factors collectively and individually frustrate the ease of access to finance and the suitability of that finance for the market, which does not benefit the large-scale uptake of energy efficiency opportunities (especially not in SMEs). The result is evident as low deal

throughput. Overall, there are currently few financial offerings to market that demonstrate the needed markers to induce substantial uptake ? especially from small and medium organisations and for smaller projects.

9.2 Additional Comments to be considered by the Agency at the time of CEO Endorsement/ Approval

Secretariat's Comments

DER 11/28/23

- 1) Additional explanation on the costs of audits should be supplied in order to understand how the grant resources are being allocated to the highest value technical assistance that will contribute to overall project success.
- 2) Additional GEB estimates methodology refinement to address multiple sectors and SMEs will be needed.
- 3) Additional description on the commercial lending partners, selection process, and handling of potential defaults will be needed.
- 4) Additional consultation with GEFSEC on the allowable uses of interest and fees for operations will be needed.

Agency's Comments N/A

Review Dates

	PIF Review	Agency Response
First Review	3/24/2023	
Additional Review (as necessary)	11/15/2023	
Additional Review (as necessary)	11/22/2023	
Additional Review (as necessary)	11/28/2023	
Additional Review (as necessary)	11/30/2023	