

Approved Project Preparation Funding Application

Application Title	Public and Private Sector Energy Efficiency Programme (PPSEEP)
Country/ Region	South Africa – Programme based in Johannesburg but operational throughout South Africa
Accredited Entity	Development Bank of Southern Africa (DBSA)
Approval Date	18 January 2018



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“[PPF]-[Agency Short Name]-[Date]-[Serial Number]”

For more information regarding the PPF, please go to:

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A. Executive Summary (in one page)	
Accredited Entity	Development Bank of Southern Africa (DBSA)
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Concept Note Title (reference number)	Public and Private Sector Energy Efficiency Programme (PPSEEP)
Country/Region	South Africa
Request Summary (in 200 words)	<p>Project preparation funding (PPF) is being requested to conduct a detailed feasibility to evaluate the optimal financial & institutional model for a Public & Private Sector Energy Efficiency Programme (PPSEEP) in South Africa. Additionally, PPF funding will be used to prepare the full concept feasibility study and application to the GCF, and to conduct both gender impact, and ESS studies. The estimated budget is \$ 318 060, to complete the studies within 9 months.</p> <p>In line with South Africa's INDC and national climate change mitigation goals, NBI & Carbon Trust will work with Departments of Environment, Energy and Public Works and GIZ to create a national central point of expertise, supported by market enabling financial services. DBSA, NBI and Carbon Trust are the implementation agents for this PPF, GIZ and other stakeholder participation is limited to consultation regarding linkages of the NAMA project to the proposed private sector intervention project. Potential lifetime Green House Gas (GHG) emission savings are more than 12 MtCO_{2e}.</p> <p>This request is based on the Private Sector Energy Efficiency (PSEE) Programme pilot which provided energy efficiency services to 1 148 companies, and further builds on the NAMA facility bid for funding of energy efficiency services for municipal buildings. Uniting these programmes, we will provide services to private sector companies, accelerate services to the public sector and introduce a financial assistance component to increase the implementation of capital projects.</p>
Anticipated Duration	Feasibility studies to take 9 months. Underlying project is to proceed thereafter for 5 years.
Estimated cost	Funding amount requested to GCF for project preparation: \$ 318 060.

B. Description of Activities

It has been established, in the literature and through experience, that the major barriers to energy efficiency implementation are 1) understanding the opportunity and 2) (once understood) financing implementation. These barriers exist in both the public and private sectors in South Africa and are exacerbated by a lack of financial services in the market to support smaller and medium sized private and public sector entities, including a lack of tailored debt based finance, and a low functioning ESCO market. The project therefore aims to establish a central public and private sector energy efficiency programme designed to:

- Identify private and public sector implementation opportunities through the provision of free energy audits, a centralised help desk, advise on project packaging and finance and expert resources to help prepare procurement processes.
- Build a technically feasible pipeline for financial services, thus reducing transaction cost and lowering the cost of capital for project implementers.
- Build the capacity of both beneficiaries (public and private), and suppliers (energy efficiency services and financial stakeholders) to unlock innovation and reduce barriers to energy efficiency implementation.
- Develop a finance mechanism to provide loans to companies of all sizes with the goal of demonstrating profitability in this market to commercial banks.
- Develop a finance mechanism to encourage the ESCO market, initially in the public sector but with increased ESCO capacity they will also be able to serve the private sector.
- Develop a private equity fund to enable support of large energy efficiency (and possibly renewable energy) projects within larger firms.

The project is conceived following the significant experience of the project team (NBI & Carbon Trust) in running public and private sector projects, most recently in the form of the Private Sector Energy Efficiency (PSEE) Programme. It is also designed to enhance the work of the NAMA facility funded project that is presently in appraisal stage.

In order to proceed the NBI and Carbon Trust need to test the feasibility of the financial assistance package that is proposed. This Project Preparation Funding Application is therefore asking for funding to conduct a full concept feasibility study, which will consist of the following 3 activities:

Activity 1: Feasibility Studies

- A. Development of recommended financial interventions:** Although well served with financial products, it is the hypothesis of the implementers of the PSEE pilot, NBI and Carbon Trust, and wider stakeholders (GIZ, DoE, DEA) that the South African market does not have the adapted products for successful energy efficiency uptake, and that there is a need for smaller sized, unsecured loan type products expressly for energy efficiency projects. This hypothesis needs to be tested, and the appropriate financial products designed to meet the market requirements. As part of this, work needs to be done to understand why existing energy efficiency finance products have not worked as anticipated to ensure that this programme does not fail in the same manner.
- B. Development of recommended financial model:** Based on the above, an appropriate financial model needs to be designed that allows effective disbursement of the funds, and at the same time provides value-for money, longevity, and ultimately, sustainability. The financial model would need to demonstrate programme sustainability over the long-term, the potential mixture of financing mechanisms, co-financing ratios (e.g. GCF, public and private sector), leveraging, financial viability of the programme, IRR etc. Several scenarios will need to be developed, highlighting the impact of different structures and financing instruments, which will lead to an optimal financial model being proposed, considering the potential NAMA funding for public sector buildings to provide accurate estimates of funding required by GCF, and co-financiers. As part of this work, a comprehensive financial model needs to be developed which will detail the functioning of the fund, and provide indications on the amount of financing required, and the typical cost of capital that can be offered to the market. Furthermore, the study will identify the level of concessionality needed so that we understand how to best blend GCF monies with private sources for the range of products we wish to offer – be it grant, debt, equity, or blends. Lastly, a risk mitigation plan will be developed to address risks, including developing a replicable and cost effective methodology to assess the credit worthiness of recipients.
- C. Financial/Institutional structure feasibility:** The institutional arrangements need to be developed. This requires designing and recommending a preferred option and motivation for the financial structure of the PPSEE. This will include identifying a suitable host for the administration and management of financial products, and disbursement of concessional loans. This function could be served by a single entity that is also

the Accredited Entity or could be through two separate entities. We will prepare an institutional structure for the establishment and operation of the PPSEE, including both the finance facility and the technical assistance facility, taking account GCF requirements, integration and alignment with the NAMA structure, initial work carried out to date and consultation with key partners and stakeholders.

Activity 2: Gender and ESS studies

- D. Conduct gender studies:** We will, as per GCF requirements, conduct a gender assessment/analysis as well as a project level gender action plan. The gender assessment will examine the roles and different needs of women and men in the context of energy efficiency and serve as a practical tool for identifying opportunities for promoting gender equality in the project, e.g. strategies can to ensure that the finance facility benefits both women and men, particularly the finance package prioritizing small and medium-sized businesses through the provision of reduced-interest loans. The gender action plan will build on this assessment and include gender-responsive activities, indicators, timelines, responsibilities and budget for the main project. Furthermore, a gender-responsive market study will be conducted to understand the demand for appropriate energy efficiency products/routes/services, especially for small to medium enterprises led by women. We have provided a separate scope of works for this workstream as an appendix to this application.
- E. Conduct a study on Environmental and Social Safeguards (ESS):** We will also conduct an environmental and social safeguards study, and develop an environmental and social management framework (ESMF). This study will include consultation with key project stakeholders to understand potential impacts, as well as identify the groups for whom awareness raising and consultation should be provided as part of the project. Elements of the ESMF required are the capacity of the executing entity to implement ESMF, lessons learnt from the pilot phase, capacity building for NBI in terms of E&S screening, implementation of the ESMF and addressing issues related to waste management, pollution prevention and cultural heritage. We have provided a separate scope of works for this workstream as an appendix to this application.

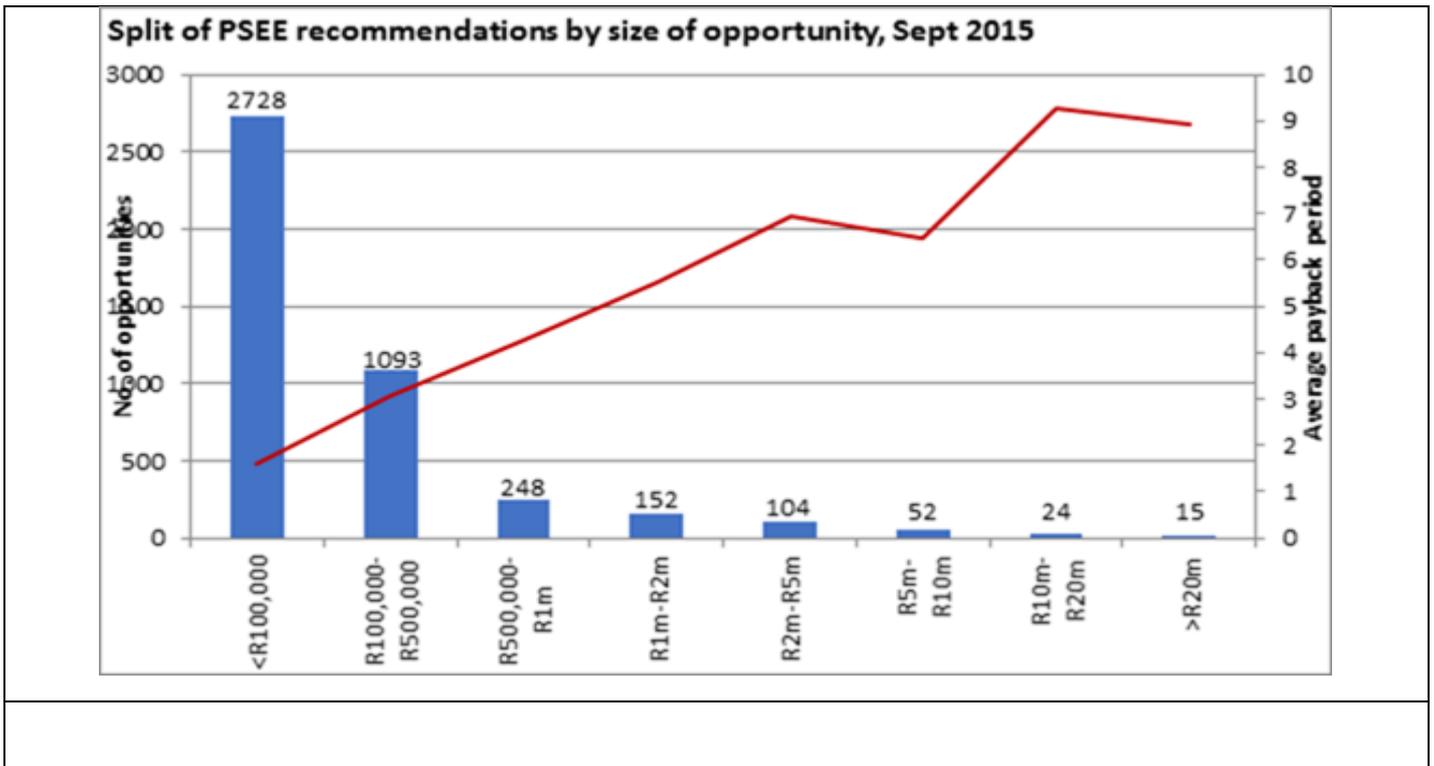
The proposed activities under this PPF request have been categorised as low risk and equivalent to GCF category I-3 given that it involves financial intermediation. The project will result in the implementation of renewable energy subprojects in 120 large companies, 2400 medium-sized companies and 2500 public sector buildings. Based on PSEE pilot data, 92% of the energy efficiency opportunities identified cost less than R 1 million, these would typically be very low risk (category 1). A small number (0.3%) of opportunities cost over R20million and these are mostly renewable energy opportunities involving solar PV up to 5MW, with a longer payback period of 7-10 years, these could be category C projects.

Based on the above categorisation, it is envisaged that the study would also include the development of a stakeholder engagement plan and the criteria that will be employed to exclude activities/subprojects that will have higher environmental and social risk levels, for example medium risk (category B) and high risk (category A). Appendix 5 contains the DBSA's Environmental & Social Safeguard Standards which are in alignment with the GCF and will be applied in this project. This includes an institutional level grievance redress mechanism. A project level grievance redress mechanism will be developed as part of the PPF request.

Activity 3: Development of the underlying Funding Proposal

- F. Development of the GCF project application:** The final stage of the feasibility will be the development of the full project application to GCF, with all the supporting documentation required.

Note that some high-level preliminary work has already been done to investigate these areas as part of KFW's readiness programme, and as such some early hypotheses about the nature and arrangement of the financial product have been developed. However, many questions around the nature of the financial products, and institutional arrangements remain unanswered, and will form part of this study.



C. Rationale

C.1 Background

The PPSEE programme is a relatively unique concept insofar as it provides energy efficiency advice to private and public sector organisations free of charge to drive energy efficiency gains within South Africa. Given its very nature, there are only a very limited number of similar energy efficiency initiatives active within the market, and indeed none offer the same volume of direct support to organisations anticipated. It is therefore key that an extensive feasibility study be conducted to appropriately design the eventual project.

As detailed above, we will during the course of the PPF look at the market's existing initiatives. The project with the most similarities to the PPSEEP is the Industrial Energy Efficiency (IEE) project coordinated by UNIDO. The IEE has predominantly provided energy efficiency training to auditors in the market which has been enormously helpful to the PSEE pilot programme since this has meant a more skilled consultant pool for the PSEE to leverage. In addition to this work, the IEE has also provided a limited number of audits to organisations themselves. The IEE has recently been awarded additional funding to continue its activities, although these will continue to be on a considerably smaller scale than that anticipated by the PPSEEP (estimated at c.100 audits maximum over the next 3 years, as opposed to c.3000 anticipated by the PPSEEP). Additionally, the IEE programme is exclusively targeted at the manufacturing sector, whereas the PPSEEP is intending to be sector agnostic.

Looking specifically at the finance side of energy efficiency, the market is relatively well served, especially through a number of well-established and internationally backed energy funds, including the Industrial Development Corporation (IDC) and German Development Bank's (KfW) Green Energy Efficiency Fund, and concessional finance funds that have been made available to a number of the well-known banks (ABSA, Nedbank, Mercantile, Sasfin) by the French Development Agency, and the International Finance Corporation (IFC). Despite their existence and therefore the availability of energy efficiency finance, the market has however not seen very much disbursement of funds in the last 2/3 years. This is broadly due to two issues. The first is simply that there are hardly any implementation-ready projects available in the market place, since the barriers to energy efficiency (knowledge, capability) have not been addressed in any way. It is for this reason that the PSEE was set up by DFID as a way of addressing these barriers, and hence it is vital that an awareness raising and project identification programme such as the PSEE continue and expand in the market. The second reason for non-disbursement to date is that the finance products that have been made available have not always been most appropriate for the energy efficiency market. What this means is that where attractive energy efficiency opportunities are predominantly found in medium sized organisations and have a typical size of \$5000-50,000 (evidenced by the 7000 opportunities identified by the PSEE programme to date), banks are often targeting larger sized projects within larger organisations. Finally, the ESCO market in South Africa is underdeveloped. While there are some efforts being made to stimulate this market (by the GIZ SAGEN project and also by the IFC) it is

necessary to provide additional support to the ESCO market as a critical element of off-balance sheet funding and risk sharing.

It is for these reasons that we are recommending the provision of a tailored finance facility. However, as has been previously identified, work needs to be done to understand the nature and design of this facility to ensure that the right products are developed for the market, and it is for this reason that this Project Preparation Funding request has been developed. Based on work done to date, for small and medium sized businesses, we recommend a revolving fund of unsecured corporate lending with low interest rates and low minimum project sizes. Such a facility, as based on the facilities managed by the Carbon Trust in the UK, is key to driving implementation of energy efficiency within the market place. Similarly, our recommendation for larger projects is the development of an equity based facility which would essentially 'de-risk' investments for companies.

From a regulatory perspective, we believe that the proposed PPSEEP is well nested within national objectives. The PPSEEP is fully aligned to the current regulatory framework, as the programme forms part of an overarching sector-wide Nationally Appropriate Mitigation Action (NAMA) within the Energy Efficiency and Energy Demand Management Flagship, which is one of the Near-term Priority Flagship Programmes, as prescribed in the National Climate Change Response Policy (NCCRP). South Africa's overarching policy on climate change is captured within the National Climate Change Response Policy (White Paper) of 2011, which presents Government's vision for an effective climate change response and the long-term, just transition to a climate-resilient and lower-carbon economy and society.

The PPSEEP is additionally aligned to the Department of Energy's National Energy Efficiency Strategy, 2005, whose overall objective is to promote energy efficiency as the 'first fuel' in driving balanced, socially inclusive and environmentally sustainable economic growth, boosting job creation and leading technological innovation across the region.

Building on the infrastructure of the NAMA support facility funded Energy Efficiency in Public Buildings Programme, the PSEEP will be instrumental in creating and facilitating an enabling environment for Energy Efficiency in SA by providing a centralized resource for both public and private sector. The programme will serve to assist organisations to respond to regulation that stems from the above policies. Future regulations such as the Carbon Tax, Carbon reporting and mandatory energy management plans will require organisations to understand, identify and implement energy efficiency in a meaningful manner within their operations, and the PPSEEP will provide critical support to achieve this.

C.2 Justification on request

South Africa is still at a relatively early stage in its mission to drive energy efficiency, specifically held back by several key barriers. These barriers include lack of awareness, lack of solution identification capability and lack of market capability, and lack of tailored finance solutions, and it is these that the PPSEE directly addresses. However, to design and tailor the programme to best meet and overcome these barriers, funding is required to conduct a detailed feasibility study. This will not only design the best interventions, and solutions, but also provide an accurate estimate of the full programme costs, impacts and most viable model/structure to attain these impacts. We therefore would like to request funding from the GCF not only to finance the project in the longer term, but in the first instance to design the programme.

Particularly important is the design of the financial intervention to ensure that the appropriate products and routes to market are introduced into the South Africa market place, and not suffer the fate of several credit lines which have been allocated but struggled to be disbursed. Funds directed to the PPSEEP will go directly to help to overcome these barriers, implement energy efficiency measures and contribute directly to the abatement of South Africa's greenhouse gas emissions.

The policy context for this work is very clear and Energy Efficiency is a key component of the South African Climate Change Strategy. The Climate Change strategy aims to meet South Africa's (Intended Nationally Determined Contribution) mitigation goal through 8 flagship projects, one of which is Energy Efficiency. The public and private sectors working on this together have obvious synergies in scaling up impact but also in building trust and mutual capability between public and private sector entities to enhance collaboration and the enabling environment.

D. Implementation Plan

D.1 Implementation approach

This application for Project Preparation Funding is aimed at providing the funding required to conduct the full project design and feasibility study for the new PPSEEP programme. As has been outlined previously, this will concentrate predominantly on the design of the financial element since the technical portion has already been proven during the pilot phase, and can be relatively promptly restarted once full project approval is obtained. The required gender and ESS studies will also be conducted as part of this PPF application.

The DBSA will be implementing this PPF with contractual services by NBI bearing in mind that NBI will likely be the executing entity during full implementation. For the purposes of the PPF, and a number of other areas, the NBI sub-contracts Carbon Trust Africa, a wholly owned subsidiary of Carbon Trust group, a UK not-for-dividend advisory organisation. The NBI and the Carbon Trust has a longstanding partnership that is built on a shared set of experiences, notably running the PSEE in South Africa. It was the largest single energy efficiency project of its type in the country and the NBI and Carbon Trust learnt valuable and different things from the experience. They therefore have a strong partnership on the type of experience needed for the PPF project. Under this same arrangement the NBI and Carbon Trust has performed, or is performing work for the Dept of Energy, the Danish Energy Programme, the AFD, and the GIZ.

Under the overall supervision of DBSA, it is intended that the NBI and Carbon Trust will lead this feasibility study, providing key resources to assist in conducting aspects of the feasibility study including data gathering, setting up workshops and producing draft deliverables. In terms of contracting and procurement, we propose that NBI will have an implementation agreement with DBSA, and in turn NBI will have a contract with Carbon Trust for its input, as has been done in the past. All procurements to be undertaken for this PPF will be in consistent with DBSA's procurement policy. DBSA will be responsible for the implementation of all proposed project preparation activities, financial management, supervision of consultants, overseeing the validation of deliverables, reporting and submission of the studies and funding proposal to the GCF.

It is also envisaged that the NBI will contract additional specialist resource to respond to specific areas of work. These presently include consultants to conduct the ESS and gender studies, and specialist finance and legal experts who will be tasked with the design validation of the financial offer and assessing the legal/institutional arrangements required.

This PPF will be housed under The Innovation Hub (TIH) unit within the DBSA. With regards to the implementation arrangements, a Project Steering Committee (PSC) consisting of NBI, Carbon Trust and DBSA's TIH will be formed. The ToRs for the Project Steering Committee will be agreed by all parties and should include matters such as:

- Providing input on all TOR's for procurement purposes
- Issuing no-objections for service providers to be appointed
- Input into the procurement processes specifically relating to the following PPF deliverables:
 - Development of recommended financial interventions
 - Financial/Institutional structure feasibility

The Carbon Trust and the NBI, together with specialist support will initially design the financial product, including

A) Development of recommended financial interventions

- Market engagement/research to understand
 - What products already exist?
 - Why these are not unlocking the market in the right manner?
 - What products should be deployed to unlock the potential from the PSEE pilot?
 - How can the programme design best address gender equality? Findings will be incorporated in the gender studies to be conducted.
- Product design including
 - Based on the market research, we will select an appropriate set of products for the financial facility. At this stage, it is our belief that this should be a combination of small short term unsecured loans for EE with larger ticket equity portions for larger products
 - This must consider the financial model proposed for the NAMA facility funding of public sector buildings

B) Development of recommended financial model

- Facility design
 - Having selected the products, the Carbon Trust/NBI, together with specialist support will then need to design an appropriate facility to manage the products. This will include modelling how the fund will

work and routes to market, which will in turn inform the finer nature of the products (typical loan sizes, cost, tenor etc.)

C) Financial/Institutional structure feasibility

- Institutional arrangements
 - Carbon Trust/NBI will also advise on the arrangements that need to be made, including the parties involved, and how they interact (e.g. with the PPSEEP programme itself). At this stage, we anticipate the financial arrangements to be done through a bespoke special purpose vehicle (SPV) working under licence from an existing bank (DBSA, IDC or other) who can disburse loans both directly, and to other banks in the market.

Finally, Carbon Trust/NBI will then need to help package the financial product into a series of documents which can be submitted to the GCF to serve as the feasibility study for the full project application.

Carbon Trust/NBI are well placed to design these models given their role in the pilot phase and their experience and expertise in similar models. The NBI/Carbon Trust will then also assist the AE in the submission of the full project application. We have provided a brief supporting document detailing NBI and Carbon Trust’s skills, expertise and experience to deliver the PPF.

Through this preparation phase, Carbon Trust/NBI will engage with appropriate financial institutions, notably the IDC (already engaged with NAMA) and with DBSA to understand their appetite for hosting the facility, and to agree routes to disseminate e.g. directly or through commercial banks. The implementation arrangement for the finance facility will likely be through a service level agreement with the institution deemed most appropriate based on the feasibility study.

As for the programme itself, the PPSEEP will be a self-standing programme with a dedicated staff to manage technical delivery and marketing, with administrative, financial management and leadership support from the NBI infrastructure. The programme will continue to benefit from the Carbon Trust’s long standing expertise which was gained in setting up and delivering similar energy efficiency programmes in the UK and internationally for over a decade. Additionally, the programme will be governed by a multi stakeholder steering committee led by the South African Department of Energy, who were also the pilot’s government sponsor, and will have members from the Energy Efficiency Leadership Network Advisory Committee (an NBI initiative), the NBI board, National Treasury, DBSA, and the National Departments of Environment and Public Works.

D.2 Implementation schedule

The following schedule for the feasibility study is proposed below:

Activity	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
Conduct feasibility study:									
A) Development of recommended financial interventions									
Review pre-existing materials	█								
Engage with NBI / Carbon Trust to understand requirements	█								
Review of PSEE phase 1 materials, including database	█								
Market research and engagement thru desktop and interviews	█	█	█	█	█	█			
Design of potential energy efficiency financial products				█	█	█			
Market testing of proposed financial products				█	█	█			
Financial product/s selection					█	█			
Financial product modelling & sensitivity analysis						█	█		
B) Development of recommended financial model									
Conduct financial modelling				█	█				
Develop risk mitigation plan				█	█				
C) Financial/Institutional structure feasibility									
Propose institutional structure to implement programme				█	█				
Facility and institutional design validation with senior stakeholders					█	█	█		
Develop draft GCF feasibility study report						█	█	█	
Develop final GCF feasibility study report							█	█	█
D) Conduct gender studies									
Conduct a gender assessment/analysis		█	█	█					
Conduct a project level gender action plan				█	█	█	█	█	█
E) Conduct a study on Environmental and Social Safeguards (ESS):									
Development of ESMF & ESS Study						█	█	█	█
F) Development of the GCF project application									
Complete GCF project application document for submission								█	█
▲ Milestone review meeting with GCF/Steercom									

The planned submission dates to GCF are:

End of Month 6 – Submit draft feasibility study report incorporating findings from activities A, B, C and an interim progress report for first disbursement

End of Month 8 – Submit final feasibility study report incorporating findings from activities A, B, C

End of Month 9 – Submit completed GCF project application incorporating findings from activities A, B, C, D, E, an audited financial report and a completion report for final disbursement

D.3 Procurement Plan

Please provide detailed procurement plan including methods, terms of reference of consultancy services.



E. Financing Plan

Based on the plan of works for the feasibility study, we have calculated a total cost of \$ 318 060 which includes NBI and Carbon Trust costs, the time of the technical and legal consultants, the specialist consultants for the gender study and the ESS studies. This phase will culminate with the submission of the full project application to the GCF. We are requesting that this amount be covered by the GCF project preparation facility. Annex 1 provides a detailed budget breakdown.

With regards to a disbursement plan, we propose two tranches of payment. The first payment (80%) being after submission of an interim progress report and a complete draft feasibility report, i.e. completion of activities A, B & C (draft report) at the end of month 6, whilst the second payment (20%) being after completion of the final feasibility report, gender and ESS studies and full GCF funding proposal, i.e. completion of activities D, E & F and an audited financial report & a completion report.

The DBSA approach is to seek cost recovery through fees charged (not to make a profit). The DBSA policy requires that project cost be calculated through an in-house tool managed through their finance department and a recommendation regarding the fees to be charged is then made based on the outcome (the tool takes into account DBSA resources required for the project). Therefore for high value projects, a smaller percentage of the project value would generally cover the costs (full cost recovery). But for very low value projects (e.g. PPF projects with a threshold of \$ 1.5 million) even a high percentage of the project value might not cover the DBSA costs of handling the project. With regard to the PSEE project value of \$ 318 060, the GCF 10% threshold does not necessarily cover our costs, but it still makes sense for the DBSA to continue with the project based on envisaged post PPF potential. The DBSA assumes that at the very least the following staff would be required by the DBSA in order to undertake its role as part of the implementation outlined in section D, evaluation and reporting:

- 3 hours a week for one Project Preparation Unit (PPU) staff member,
- 6 hours a week for an Innovation Hub Unit staff member, and
- 6 hours a week for 2 Climate Finance Unit (CFU) staff members.

Based on an average cost of ~558 USD/day for each staff member and project duration of 9 months, the indicative minimum charge for the DBSA to partly recover costs associated with its role in the project would be ~\$25 100. However, our estimation is that more time will be required from the respective DBSA team members especially from month 4 onwards.

F. Risk and Mitigation measures

For the feasibility study, we have identified the following potential risks, which we believe to be more than manageable given the explanations listed below.

- Inability to develop an appropriate product for the market. The risk here is that upon completion of the market research phase of the feasibility study the conclusion is that there is no need for an additional product in the south African market place, or that the product required cannot be developed. We believe this risk to be low, and to be strongly mitigated by the conclusions of the pilot phase of the PSEE, and the evidence from other interventions in the market place. Also, the expertise and experience of the Carbon Trust will ensure that an appropriate product can be developed for the South African model.
- Challenge in designing a suitable model for final financial products. This risk is potentially more serious than the previous, since there may be institutional, legal or practical risks associated with the development of a finance project, e.g. how to develop a replicable, inexpensive credit assessment framework for small and medium sized enterprises. Whilst a medium level risk, this is mitigated by early stage work done by CAMCO as part of the KFW readiness assessment which examined issues such as these and could point to solutions that already exist in the market. Ultimately, this is also the point of the feasibility exercise to understand the limitations to the selected finance product that is developed.
- Difficulty/lack of engagement from the market place. Good engagement with the market is essential both from a financial product design perspective, but also for successful launch of the PSEE programme. This is a minor risk since the PSEE is well-known after the pilot, and the DBSA, Carbon Trust and NBI have excellent stakeholder relationships into the market, and Carbon Trust and NBI are core members of the NAMA project steering committee and working closely with government departments.
- Effective credit worthiness assessment. A key element to be designed as part of the PPF is an effective methodology suited to the local context to test the credit worthiness of clients and limit the risk of default. Such a methodology needs to be effective, replicable, scalable and cost effective in order to allow the development of the energy efficiency fund itself. The risk is mitigated by the NBI and Carbon Trust's market engagement to date with organisations such as SCF, SEFA, Green Business Partners etc., who have developed similar methodologies for their business models. Note SCF is presently being funded by GCF also. Non-takeup of financial product. To ensure rapid uptake of the financial products offered, the feasibility study must develop a

plan to engage with key stakeholders and recommend sufficient marketing and awareness activities to make this an attractive product.

- Delay in conducting project. This risk is deemed of medium impact, but is mitigated by the presence of the NBI and the Carbon Trust who will manage the delivery of the feasibility project.

At this stage, we do not see any substantial environmental or social risks associated with the PPF, or indeed the programme. In terms of a credit worthiness risk for some recipients, this will be addressed through a risk mitigation plan as part of the financial model developed by the technical consultant. Certain criteria to limit risk will be developed.

If a Concept Note has not been submitted for the underlying project for which the Project Preparation Grant is being requested, kindly complete the following sections.

Project / Programme Information	
Project / programme title	Public and Private Sector Energy Efficiency Programme
Country (ies) / region	South Africa (possible expansion to neighbouring countries)
Mitigation / adaptation focus	Mitigation <input checked="" type="checkbox"/> Adaptation <input type="checkbox"/> Cross-cutting <input type="checkbox"/>
Results areas	Reduced emissions from buildings, cities, industries and appliances
Project / programme description (including objectives)	
<p>There is a pressing need and a great opportunity to address energy efficiency in South Africa. At present, given South Africa's carbon intensive energy mix, the difficulty in transitioning to a lower carbon and more environmentally friendly energy mix, and a shortage of electricity supply, energy efficiency measures are the most feasible, economically appropriate way forward. Unfortunately, despite this, the lack of adequate progress on energy efficiency to date, coupled with rising electricity prices threatens economic growth in South Africa, damaging job and income security, and thus also poverty reduction.</p> <p>This proposal has been prepared to request funding for the provision of energy efficiency services to the private sector (small, medium and large industrial/commercial companies) and public sector (local government and selected provincial and national buildings) in South Africa, together with a financing component to assist in implementing identified renewable energy and energy efficiency opportunities. The request is based on the findings of the pilot phase of the Private Sector Energy Efficiency (PSEE) Programme in South Africa which provided energy efficiency services only (no financing assistance) to 1 148 companies, successfully identifying over 7 000 opportunities with a potential lifetime energy savings of 24 567GWh. Despite the lack of implementation support, approximately 11.6% (2 854 GWh) have been verified as implemented as at November 2015 when the programme came to an end. It is also based on extensive preparatory work for the NAMA facility proposal which will provide technical and financial support for energy efficiency in the public sector.</p> <p>The intent of this funding request is to build upon the previous programmes, providing services to more companies and the public sector and providing a much-needed financial assistance component to increase the implementation of the identified capital projects and help capture the considerable potential that has been identified.</p> <p><u>First phase of PSEE Programme (2013 – 2015)</u></p> <p>Designed by the Carbon Trust, and implemented by the NBI, the PSEE launched in December 2013 and supported companies across the industrial and commercial sectors to identify and implement energy efficiency measures.</p> <p>The PSEE programme offered three levels of service per the different sizes of companies that it worked with. The three levels of service were: Energy efficiency advice, tailored specifically for small businesses (energy spend less than R750k p.a); survey based support in which medium sized companies (energy spend between R750k and R45 million p.a) received on-site support from accredited energy consultants; and strategic energy management, in which larger companies benefitted from a fully-tailored consultancy offering (energy spend greater than R45m p.a).</p> <p>Energy efficiency advice was provided through a comprehensive website offering advice and tips, relevant news, publications for download, and easy to use diagnostic tools, as well as lists of other services. There was also a toll-free advice line that companies could call, which connected them directly to an energy advisor with technical expertise. Small companies also had the opportunity to attend short training courses that were tailored to their size and delivered throughout the country. They were free to attend, in keeping with the concept of increasing uptake and raising awareness. Approximately 50 training courses were held across the country.</p> <p>Assessment based support was primarily for medium-sized businesses, and featured on-site technical support to identify opportunities for energy efficiency improvements. This took the form of a standardised energy audit, delivered</p>	

over several days at the customer's premises, by an approved energy consultant. The number of days allocated per site depended on the estimated potential energy savings and ranged from 4 to 10 days. The audit identified energy saving opportunities that require little or no capital expenditure investment from the customer (e.g. behaviour change or very short payback projects) as well as more capital intensive interventions and provided a suggested implementation plan. After the survey, the customer received an audit report and a follow-up call, as well as an additional call 3 – 6 months later, to track progress and discuss potential next steps. To maximise uptake, the surveys were fully subsidised so they were free to the customer. The follow-up service was funded to a maximum number of days with the potential for co-funding if more time was needed.

For the largest companies, a strategic energy management service was delivered through 40-60 days of consultancy over the course of six months by an approved energy consultancy. These engagements could cover any number of areas, but typically included a company energy baseline, identification of energy saving projects, assessment of the cost-benefit of different options, opportunity prioritisation, the setting of medium/long-term targets, and development of a strategy to implement and communicate the plan. For these services, large companies needed to contribute at least 40% of the cost of the engagement.

To deliver these services, the PSEE programme maintained a pool of approx. 80 external consultants that it had accredited and inducted to carry out the work on its behalf. It was continuously reviewed and enabled the programme to deliver services throughout South Africa. The programme engaged with 992 medium organisations and 37 large organisations.

Proposed PPSEE Programme (2017 – 2022)

To maximize the energy and carbon savings achieved by the PSEE programme, it is proposed in this phase to add a service to public sector buildings (national, provincial and municipality level) and a finance facility, thereby offering an end to end service which helps all customers from those just starting on the energy saving journey, who need help identifying opportunities, to those ready to make energy-saving investments, but who need access to competitive finance offerings, or support with properly structuring the financial plan for an investment in energy efficiency.

The proposed finance facility for the **private sector** will have several elements. The first is a finance package prioritizing small and medium-sized businesses, offering reduced-interest loans which can be disbursed to businesses alongside existing credit lines. The energy savings achieved by purchasing new equipment (which often brings other benefits) or by implementing behavioural and energy management strategies should offset the cost of repaying the loan during the repayment period, after which businesses keep the savings themselves (although we are not proposing repayments be linked to savings as might be the case under EPC contracts from ESCOs). The fund for small and medium businesses should be a revolving fund of unsecured loans, whereby the repayments are used to replenish the original loan fund which could then be recycled as loans to other businesses, thereby making the scheme sustainable in the longer term. Note that the Carbon Trust successfully designed and ran such a loan scheme in the UK for over 12 years, and has designed similar programmes for deployment in Mexico.

The second element would be a finance package for larger businesses which would include equity based funding for projects. Research conducted by the NBI suggests that the availability of private equity for investment in low carbon technologies is an inhibiting factor in the South African market. This is especially so in energy efficiency where companies are reluctant to take further risk on balance sheet. We believe that there is significant potential for a private equity component that could unlock investment in large company energy efficiency implementation as well as in renewable energy installations. Investment would likely take the form of building a series of Special Purpose Vehicles that house the investment in the energy efficiency investment or renewable energy project. The basis of this investment would be to leverage a Green Climate Fund concessional private equity to attract investment from other sources including conventional private equity, company balance sheet finance and blended sources of concessional and commercial loans. It is critical to have more affordable sources of private equity as the basis for this structured finance. Our initial investigation suggests that there are other sources of private equity and concessional debt that would be interested in this kind of large scale investment.

As mentioned previously, the proposed PPSEEP would build upon the present NAMA facility application. The concept note to the NAMA facility for funding an energy efficiency programme to the **public sector** was approved in March 2016 and a full proposal is being developed. That application requested 15 million euros for the financial component and a further 5 million euro for the technical component, with another 9 million euro being provided by national government.

The financial component for the NAMA facility funding will comprise a guarantee fund managed by the Industrial Development Corporation (IDC) with a guaranteed savings model between the public entity and the implementing energy service company. This will be combined with a government capital grant programme allowing the government entities to invest in energy efficiency technology and stimulate the ESCO market. This financial component will be supported by a technical assistance facility which will provide tailored support to public sector institutions to identify, and prepare large scale energy efficiency projects within their building stock. Combining the two technical support facilities from both the NAMA and the proposed PPSEEP into a common technical project support office for both programmes has obvious benefits.

The NBI is therefore requesting a total project finance amount of \$71.5m, split per c.\$15m to re-establish and scale the original PSEE programme (to include the public sector), and the remaining \$56.5m as the finance facility for both public and private parties. Based on our experience to date, this would allow the programme to achieve the following objectives:

- work with an additional 120 large companies, and 2400 medium sized companies throughout South Africa,
- work with 2 500 public sector buildings;
- generate energy lifetime savings of 15,700 GWh,
- carbon lifetime savings of 12.3 MtCO_{2e},
- unlock private sector investment of about R3bn, or \$230m

For the programme itself, based on Carbon Trust and PSEE experience to date, we have estimated the cost of continuing the programme over the next five years to be \$15m, with direct costs (the costs of the consultants providing services to clients) equating to 65% of the total programme, whilst the balance is the cost of running the programme itself (salaries, marketing, training events etc). The programme costs themselves need to be covered using technical assistance grants, since they cannot be commercialised in the short term as by their very nature the programme is looking to overcome significant market barriers in energy efficiency. In the longer term, we will look to introduce payment models to sustain the programme beyond GCF funding.

We have additionally modelled the potential requirements of the finance facility. For small and medium sized companies, to meet the finance requirements of those companies receiving the advice, the most appropriate loan facility would be a revolving fund of unsecured corporate lending, ideally providing small loan amounts (e.g. average of \$5000-20,000) and at a low interest rate. Based on preliminary analysis, we estimate that the total loan amount required to lend to both the historical pipeline (from the existing PSEE phase), and the future pipeline (from PPSEEP) would be in the region of \$46.5m. Note that we have not included any set-up, or running costs for the loan facility itself, since we forecast that these could be recovered from the small interest rate that the banks would put on the loans themselves (estimated at c.3-4%). We anticipate that the loan facility would be made available to the financial partner in the form of a reimbursable grant from GCF. This is because those existing energy efficiency funds which try to target medium sized companies and projects have not been successful in disbursing large amounts of capital as the minimum project requirements are often too large, and the cost of capital too high, both for companies themselves, and for the banks also, which means the latter are not able to take any risk of default on board. To overcome this and catalyse activity in the market where barriers exist, preferential grant money is required.

We estimate an additional \$10 million of GCF funding will help accelerate the energy efficiency services to the public sector provided by the NAMA facility funding. It is important to note that should the NAMA facility not approve the final allocation of capital to the proposed project (currently under review) we would wish to include the full content of this proposal within the bid to the GCF.

For large companies, research conducted by the NBI suggests that the lack of availability of private equity for investment in low carbon technologies is an inhibiting factor in the South African market. This is especially so in energy efficiency where companies are reluctant to take further risk on balance sheet. We believe that there is significant potential for a private equity component that could unlock investment in large company energy efficiency implementation as well as in renewable energy installations (for which we also have data). Investment would likely take the form of building a series of Special Purpose Vehicles that house the investment in the energy efficiency investment or renewable energy project. The basis of this investment would be to leverage a Green Climate Fund concessional private equity to attract investment from other sources including conventional private equity, company balance sheet finance and blended sources of concessional and commercial loans. It is critical to have more affordable sources of private equity as the basis for this structured finance. Our initial investigation suggests that there are other sources of private equity and concessional debt that would be interested in this kind of large scale investment.

We believe that chasing a small number (e.g. 4-5) of large opportunities each in the region of US\$5 million private equity component is an achievable target, requiring a total fund contribution of c.US\$20 million. However, we have modelled that this would become available from the revolving fund as repayments are made in years 3&4, and therefore we have not requested these as additional.

In terms of climate impact potential, based on the first round of PSEE we estimate that this programme has the potential to yield a carbon lifetime savings of 12.3 MtCO₂e in South Africa for a programme cost of \$71.5m. The estimated cost per tonne of CO₂e saved is c.\$5.8, showing that energy efficiency is by far the most cost-effective demand side management action to implement, in comparison to investments supplying more sustainable energy.

In terms of paradigm shifting potential, by the programme becoming self-sufficient through private sector investment we intend expanding into a Southern African programme. We have seen that the first phase of PSEE helped upskill the energy services market in South Africa and provided market access opportunities to smaller energy service companies.

Lastly, the programme is well aligned with the country's national development plan and commitment to reduce its carbon footprint. The Department of Energy would play an ownership role to ensure the success of the programme. Furthermore, it is well aligned with the national climate change strategy and INDC.

Brief Rationale for GCF Involvement and Exit Strategy

South Africa remains one of the most carbon-intensive economies in the world. With a large domestic coal supply, in the past, South Africa has had little incentive to invest in energy efficiency or renewables. Several governmental led consultations and reviews have demonstrated the high potential to induce transformational change, and meet climate targets through adopting energy efficiency measures. This then translated into several policy pieces, namely; the 2011 Climate Change Response White Paper and the 2008 Review of the National Energy Efficiency Strategy.

However, despite this recent push, South Africa is still at a relatively early stage in its mission to drive energy efficiency, specifically held back by several key barriers. Specifically, these barriers include lack of awareness, lack of solution identification capability and lack of market capability, and it is these that the PPSEE directly addresses. Given the relative immaturity of the energy efficiency market domestically, international support is required across the board, in terms of both opportunity identification, and technical capacity building, and energy efficiency finance.

GCF funds directed to the PPSEEP will go directly to help to overcome these barriers, implement energy efficiency measures and contribute directly to the abatement of South Africa greenhouse gas emissions.

Furthermore, it is important to note that the PPSEEP could continue to be administered by the NBI, with its strong links to private sector. Hence it is in a unique position to leverage its different working groups and initiatives to push the energy efficiency agenda. Also, the NBI will continue to be supported by the UK's Carbon Trust. The link has provided invaluable support, and linkage to their experience in setting up similar programs in the UK and elsewhere. The composition of governmental, international support, and market linkage makes the PSEE the strongest proponent to succeed in breaking down barriers to action.

Having been seeded by international finance from DFID to develop and operationalise the programme, the programme is seeking funding to recommence, and expand its operations, and embed itself as the 'go-to' energy efficiency organisation in South Africa, and to become the catalyst for wide ranging energy efficiency behaviours within the private and public sectors. Given the many competing concerns within South African government, especially in energy security and supply, government funding has not yet been a possibility, although the NBI and the Carbon Trust continue to maintain a strong relationship with government on matters of energy efficiency both within the public and private sectors. In the longer term, as the programme seeks to build longer lasting capacity both within organisations, and within the energy efficiency market itself, it is anticipated that the programme could one day become self-sufficient, generating revenues from assistance to both private and public sector organisations.

Financing/Cost Information

Details on financing sources:

FUNDING SOURCE	AMOUNT (USD/EUR/JPY/GBP)	FINANCIAL INSTRUMENT (Equity, loan, guarantee, grant)	Tenor	Pricing	Seniority
GCF financing	\$ 71.5 million	Grants, loans, equity	5 years	100%	Options
Co-financing from AE			() years	%	Options
Other (please specify name of institution)			() years	%	Options
TOTAL PROJECT FINANCING = Total project cost	\$ 71.5 million				

Table 1. Results Areas

Which of the following targeted results areas does the proposed project/programme address?

Reduced emissions from:

- Energy access and power generation
(E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)
- Low emission transport
(E.g. high-speed rail, rapid bus system, etc.)
- Buildings, cities, industries and appliances
(E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.)
- Forestry and land use
(E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)

Increased resilience of:

- Most vulnerable people and communities
(E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.)
- Health and well-being, and food and water security
(E.g. climate-resilient crops, efficient irrigation systems, etc.)
- Infrastructure and built environment
(E.g. sea walls, resilient road networks, etc.)
- Ecosystems and ecosystem services
(E.g. ecosystem conservation and management, ecotourism, etc.)

Table 2. Investment Criteria Guidance Notes

The following guidance note may help to present the potential of the Project/Programme to achieve the Fund's six investment criteria.

<p>D.1. Climate impact potential <i>[Potential to achieve the GCF's objectives and results]</i></p>	<p>The PPSEE is therefore requesting a total project finance amount of \$71.5m, split per c.\$15m to re-establish and scale the original PSEE programme (to include the public sector), and the remaining \$56.5m as the finance facility for both public and private parties. Based on our experience to date, this would allow the programme to achieve the following objectives:</p> <ul style="list-style-type: none"> ○ work with an additional 120 large companies, and 2400 medium sized companies throughout South Africa, ○ work with 2 500 public sector buildings; ○ generate energy lifetime savings of 15,700 GWh, ○ carbon lifetime savings of 12.3 MtCO₂e, ○ unlock private sector investment of about R3bn, or \$230m
<p>D.2. Paradigm shift potential <i>[Potential to catalyze impact]</i></p>	<p>The programme is anticipated to have several long-term impacts, as described below;</p> <ul style="list-style-type: none"> ● Lifetime energy and carbon savings: By its very nature the programme is designed to unlock energy and carbon savings within private sector companies. Based on the

<p><i>beyond a one-off project or programme investment]</i></p>	<p>pipeline of projects identified by the programme so far, the average persistence factor of projects is c.13 years, meaning that savings will be felt far beyond the life of the programme itself</p> <ul style="list-style-type: none"> • Imparting knowledge within organisations: By working with companies to help them understand the value of energy efficiency and the potential value that it can have to their organisation, the programme is hoping to achieve a market shift such as that seen in the UK following the Carbon Trust's intervention. This shift means that organisations understand their ability to impact their energy costs, and have the confidence and the capabilities to execute the required changes far beyond the lifespan of the programme. The benefits of this shift are increased efficiency (i.e. greater output for a similar energy consumption) and therefore improved competitiveness, and a more active energy efficiency market (advice and technology) • Catalysing business relationships: By working for the programme, consultants are exposed to new organisations. As such the programme is catalysing relationships between companies and energy consultants which often continue beyond the involvement of the programme, and continue in a pure commercial manner (i.e. without the need for grant funding). • Upskilling the consultant database: The programme has a quality control process to ensure that audit reports provided to customers have real, quantified and accessible projects, and that clients are left with a clear understanding of what their next steps should be to set about implementing these. As such the programme is upskilling consultants to provide a better-quality product to the market, which will bring up overall market expectations, and skill levels, both of which will persist beyond the life of the programme. • Potential for replication and or expansion: Given the infrastructure and the business model that now exists, there is opportunity for the programme to expand its scope, either in size (a greater number of audits), or in services. There are a range of options available; <ul style="list-style-type: none"> • Provision of more consultant/expert time to companies to develop their opportunities e.g. business case development, project feasibility studies • Development of an accredited supplier list for common technologies • Provision of tendering assistance services for clients • Development of tailored services for specific sub-sectors • Providing services to neighbouring African countries (eg. Swaziland, Lesotho, Botswana, Namibia and Zimbabwe) • Creation of a powerful database of opportunities; One of the key assets that the programme is presently building is its recommendations database, which collects all the opportunities uncovered by the programme. Clearly the primary objective of this is to track which opportunities then go on to be implemented, and to quantify the impact of this implementation. However, a secondary benefit is the statistical importance of this database, since it can also be used as a very powerful tool to understand the savings potential in different regions, different industrial sectors, and to understand the technical nature of the savings potential e.g. which kind of technologies, typical costs, abatement potentials and payback periods. This can be especially powerful when looking to develop energy efficiency policy for example.
<p>D.3. Sustainable development potential <i>[Potential to provide wider development co-benefits]</i></p>	<p>It is well known that energy efficiency can have a wide range of co-benefits, and the PPSEE is no different in this regard. Whilst we have not attempted to estimate the value of these, we remain confident that the PPSEE has, and will continue to have the following impacts;</p> <p>Economic co-benefits</p> <p>The direct benefit for companies of energy efficiency is that they are better able to manage their energy costs. This is particularly important given the electricity price trajectory in South Africa that has resulted in steep increases over the past number of years. In addition, an on-going electricity supply crisis and regular black-outs have negative impacts on cash flow and jobs. Better management of costs has several knock-on effects. The first is that, through reduced energy costs, organisations experience improved cash-flow, which in turn can lead to reinvestment in the company, meaning expansion and therefore creation of jobs. In a difficult economic environment, such as in South Africa, this improved cash-flow can be the difference required to avoid staff redundancies, and therefore energy efficiency can be considered to save jobs. The second is that, in better managing their energy costs, companies are safeguarding their businesses from future price rises, and to a certain degree from black-outs, both of which have macro-economic benefits. Thirdly, as energy efficiency becomes better</p>

	<p>engrained in the economy, this in turn liberates supply capacity in the grid, meaning a reduce risk of load shedding in the future, and providing a platform for future economic growth.</p> <p>The indirect economic benefit is that increased energy efficiency acts as a stimulus for the energy efficiency market, both in terms of advice, and providers of technology and finance. This in itself creates both enterprises and jobs.</p> <p>Social co-benefits The social benefits from energy efficiency stem from the economic benefits outlined above, which result in improved job security and job creation, and therefore support stability in society.</p> <p>Environmental co-benefits The environmental co-benefits are clear in the sense that energy efficiency directly drives avoided carbon emissions, especially in a country such as South Africa where the carbon intensity of energy is very high. This in turn has improved benefits on air quality, and societal health.</p>
<p>D.4. Needs of recipient <i>[Vulnerability to climate change and financing needs of the recipients]</i></p>	<p>There are several key reasons why this envisaged programme believes that it is transformational. The first and arguably the most crucial is that energy efficiency to date in South Africa has had only limited take-up, and this continues to damage South African economically, ecologically and reputationally. As late as 2012, South Africa was ranked as the 4th most carbon intensive and 7th most energy intensive country out of the top 50 economies in the world (IEA). Crucially and most recently, South Africa has had to reinstate an aggressive programme of ‘load- shedding’ or rolling power cuts to manage electrical demands which exceed supply capabilities, and this continues to ravage the country economically, thereby threatening economic development sorely needed to combat the social and climactic challenges that the country faces.</p> <p>From its work to date, the PSEE believes that lack of energy efficiency take-up is due to three main barriers: lack of awareness of the importance of energy efficiency and its potential for cost savings, a lack of capability to identify and take forward opportunities, and lastly a lack of market capability to meet the needs of the marketplace.</p> <p>The lack of awareness stems from the absence of support mechanisms and publicity. To date energy in the South African context has remained an inexpensive resource. It is only in recent times that the expense, and the reliability has caused organisations to lend it greater attention, and as such general knowledge and awareness remains low. By its very nature the PSEE project conducts awareness-raising activities through its website, publications and marketing and raises awareness and understanding within organisations by its one-on-one interventions. Growing and extending its presence and success within the private sector is key to breaking down this barrier further.</p> <p>Within industry there is a failure to identify opportunities for energy efficiency, and a poor understanding of how to develop a business case for energy efficiency projects. This is due to the lack of expertise both within organisations themselves, and within the energy consultancies, and the fact that there is an absence of cost-benefit evidence in the marketplace. To address this, the PSEE project has selected and accredited a base of consultants that meet minimum requirements to deliver energy efficiency audits, and scopes work on behalf of clients to overcome trust and knowledge barriers. Not only does this address the needs of the clients comprehensively, it also provides the additional benefit of upskilling consultants.</p> <p>In addition, the lack of market capability is a major obstacle to transformational change. The project itself acts as a continuous site of support for energy efficiency measures and cutting GHG emissions in the private sector, and fulfils a crucial role as catalyst for change, creating important relationships between companies, and providers of energy efficiency support. Hence, it de-risks the market; influencing the take-up and consolidation of good practices.</p> <p>Going forwards, by adding a bespoke finance facility designed to lend into the opportunities identified by the programme, the PSEE will provide an end-to-end service to the market place that should see considerable levels of implementation of energy efficiency and associated benefits.</p>

<p>D.5. Country ownership <i>[Beneficiary country ownership of project or programme and capacity to implement the proposed activities]</i></p>	<p>The programme fits well within the wider South African policy context on energy efficiency. The South African government has ratified the Kyoto Protocol, associated itself with 2010 Copenhagen Accord, and is an active member in the UNFCCC roundtable negotiations. It has made a concerted effort to establish significant carbon reduction targets: the 2011 Climate Change Response White Paper prescribes a 34% reduction in GHG emissions by 2020. Moreover, its National Energy Efficiency Strategy (revised in 2008) committed it to a 12% reduction in energy intensity by 2015 for the whole economy (2000 baseline).</p> <p>In addition, government interventions have included tax breaks for businesses that can prove they have reduced their energy consumption (Section 12L of the Income Tax Act), as well as grant funding for businesses to invest in energy efficiency (e.g. Eskom's Standard Offer programme). There is also the Energy Efficiency Accord, which is a voluntary agreement with industry to reduce energy consumption and improve efficiency. Furthermore, the proposed introduction of a carbon tax and mandatory energy management plans are under development. Hence, the PSEE project and its aims align directly with national objectives, as well as with many existing, and planned, policies.</p> <p>Given the objectives of the South African Government we believe that both the Department of Energy (a programme partner) and the Department of Environmental Affairs the designated national entity for the Green Climate Fund are supportive of the project.</p> <p>In terms of implementation, as previously mentioned, the programme will be run by the NBI, with technical and expert input from the Carbon Trust. On the ground delivery of advice and audits to clients will continue to be provided by the programme's accredited consultant pool, who continues to improve in quality of output as it becomes more versed in the provision of these audits and as the programmes quality control processes have their effect.</p> <p>In terms of the development and delivery of the finance facility, there are a number of key stakeholders who will need to be engaged. The first is the development bank itself, with who the detailed nature of the facility will need to be discussed and decided. Secondly, the development bank will probably need engage commercial banks to provide the facility to the market (it is unlikely, but not impossible, that the bank will seek to disburse funds directly due to the need to conduct all the associated credit checks etc). Lastly, the programme and the development bank will need to market the facility to generate interest from the market place. This will be done through a variety of channels, but predominantly through the programme itself and its pool of consultants since the facility will be aimed at financing recipients of PSEE audits in the first instance.</p>
<p>D.6. Effectiveness and efficiency <i>[Economic and financial soundness and effectiveness of the proposed activities]</i></p>	<p>With the two elements of the proposal combined, the project is forecasting a lifetime's emission saving of just over 12.3 MtCO_{2e}, for a programme cost of \$71.5m. The estimated cost per tonne of CO_{2e} is c.\$5.8.</p> <p>The programme does include a small element of co-funding, as large companies are required to co-fund their energy engagement with the programme to at least 40%. Based on the modelling for the second phase, we expect this to equate to a contribution of R25m, or \$1.9m.</p>

Appendix 1: Detailed Budget Estimate Breakdown

Activity	Quantity (Days)	Average Unit cost (USD/ Day)	Total cost (USD)	Amount Requested from GCF (USD)
Activity 1: Complete GCF Feasibility Study Report (Financial/Institutional Model):				
A) Development of recommended financial interventions				
B) Development of recommended financial model				
C) Financial/Institutional structure feasibility				
A) Development of recommended financial interventions				
Fee for NBI & Carbon Trust ⁱ	93	\$686	\$ 63 798	\$ 63 798
Technical consultant ⁱⁱ	64	\$609	\$ 38 976	\$ 38 976
Legal consultant ⁱⁱⁱ	5	\$863	\$ 4 315	\$ 4 315
Travel ^{iv}			\$ 3 025	\$ 3 025
Workshop ^v			\$ 3 000	\$ 3 000
B) Development of recommended financial model				
Fee for NBI & Carbon Trust ^{vi}	11	\$686	\$ 7 546	\$ 7 546
Technical consultant ^{vii}	13	\$609	\$ 7 917	\$ 7 917
Travel			\$ 3 025	\$ 3 025
Workshop			\$ 3 000	\$ 3 000
C) Financial/Institutional structure feasibility				
Fee for NBI & Carbon Trust ^{viii}	42	\$686	\$ 28 812	\$ 28 812
Technical consultant ^{ix}	5	\$609	\$ 3 045	\$ 3 045
Legal consultant ^x	23	\$863	\$ 19 849	\$ 19 849
Travel			\$ 6 050	\$ 6 033
Sub-total			\$ 192 358	\$ 192 358
Activity 2: Complete mandatory gender and ESS studies:				
D) Conduct gender studies (gender assessment & project level gender action plan)				
E) Conduct a study on Environmental and Social Safeguards (ESS)				
D) Conduct gender studies (gender assessment & project level gender action plan)				
Gender Consultant ^{xi}	50	\$500	\$ 25 000	\$ 25 000
Travel ^{xii}			\$ 1 600	\$ 1 600
Workshop ^{xiii}			\$ 1 500	\$ 1 500
E) Conduct a study on Environmental and Social Safeguards (ESS)				
ESS Consultant/s ^{xiv}	50	\$400	\$ 20 000	\$ 20 000
Travel ^{xv}			\$ 1 600	\$ 1 600
Workshop ^{xvi}			\$ 1 500	\$ 1 500
Sub-total			\$ 51 200	\$ 51 200
Activity 3 : Development of the GCF project application				
F) Development of the GCF project application				
Fee for NBI & Carbon Trust ^{xvii}	29	\$686	\$ 19 894	\$ 19 894
Legal consultant ^{xviii}	12.5	\$863	\$ 10 787	\$ 10 787
Sub-total			\$ 30 681	\$ 30 681
Total Activities Cost			\$ 274 239	\$ 274 239
Contingency (5%)			\$ 13 711	\$ 13 711

Activity	Quantity (Days)	Average Unit cost (USD/ Day)	Total cost (USD)	Amount Requested from GCF (USD)
DBSA Fee (professional fees only, excl. travel and workshops ^{xvii})				
Input on TOR's (1 PPU staff member & 1 IHU staff member)	4.5 days	\$ 1116 (\$ 558/ Day for each staff member)	\$ 5022	\$ 5022
Issuing no-objections for service providers ^{xx} (1 PPU staff member & 1 IHU staff member)	4.5 days	\$ 1116	\$ 5022	\$ 5022
Input on procurement processes (1 PPU staff member & 1 IHU staff member)	4.5 days	\$ 1116	\$ 5022	\$ 5022
Monitoring and Evaluation (2 CFU staff members)	4.5 days	\$ 1116	\$ 5022	\$ 5022
Reporting (2 CFU staff members)	4.5 days	\$ 1116	\$ 5022	\$ 5022
Audit				\$ 5000
Sub-total			\$ 30 110	\$ 30 110
NB: The rate reflected for DBSA takes into account the need for at least 2 DBSA staff per activity				
Grand Total			\$ 318 060	\$ 318 060

ⁱ Detailed tasks include: review pre-existing materials & clarify scope of works for feasibility study, review of PSEE phase 1 materials, including database, market research (desktop phase), market engagement with public and private financiers (interview phase), design of potential energy efficiency products, market testing of proposed products, product selection, product modelling and sensitivity analysis

ⁱⁱ Same activities as above

ⁱⁱⁱ Detailed tasks include: Understanding project and requirements, including some stakeholder engagement

^{iv} For activity 1, travel consists of one international return flight for one Carbon Trust expert (\$1000 return), staying for three nights at \$ 100 per night (\$ 300), Local flight travel costs to attend regional workshops in three provinces for project team (six people incl. Carbon Trust expert) at \$150 per flight ($\$150 \times 2 \text{ flights} \times 6 \text{ people} \times 3 \text{ workshops} = \underline{\$ 5 400}$), Accommodation costs for six people to attend regional workshops (one night per site at \$100 per night per person x 6 people x 3 sites = \$ 1 800) and travel costs by vehicle to attend meetings with stakeholders, \$100 per person for 6 months for six people = \$ 3 600; thus giving a total of \$ 12 100 which is split as 25% for component A, 25% for component B and 50% for component C

^v Workshop/meeting hiring costs (venue, food etc) for 4 events including regional workshops at \$1 500 per event

^{vi} Detailed tasks include conducting financial modelling, stakeholder engagement and developing a financial risk mitigation plan

^{vii} Same activities as vi

^{viii} Tasks include proposing institutional structure to implement programme, facility and institutional design validation with senior stakeholders, developing the draft and final GCF feasibility study report.

^{ix} Tasks include developing the GCF feasibility report

^x Tasks include proposing institutional structure to implement programme and testing structure from a legal point of view, facility and institutional design validation with senior stakeholders, developing the draft and final GCF feasibility study report

^{xi} Detailed tasks include conducting a gender assessment, project level gender action plan and gender market response study.

The gender consultant may also be contracted to fulfill the social aspects of the ESS study.

- ^{xii} Travel expenses are for local flights for one person at \$ 150 per flight for 3 specific engagements in provinces, in parallel with regional workshops planned, accommodation costs for one person at \$100 per night for 5 nights, travel costs by vehicle to attend meetings with stakeholders, \$100 per person for 2 months
- ^{xiii} Workshop/meeting hiring costs (venue, food etc) for one specific event at \$1 500 per event
- ^{xiv} The DBSA will endeavor to procure the services of one consultant to undertake both the environmental and social studies with the approved budget of \$20 000. In the event that two experts are required with expertise in environmental and social aspects respectively, the total budget will still be \$20 000 and the costs will be split accordingly.
- ^{xv} Travel expenses are for local flights for one person at \$ 150 per flight for 3 specific engagements in provinces, in parallel with regional workshops planned, accommodation costs for one person at \$100 per night for 5 nights, travel costs by vehicle to attend meetings with stakeholders, \$100 per person for 2 months
- ^{xvi} Workshop/meeting hiring costs (venue, food etc) for one specific event at \$1 500 per event
- ^{xvii} Detailed tasks include writing the GCF project application and subsequent updates based on comments from various stakeholders
- ^{xviii} Detailed tasks include writing the GCF project application and subsequent updates based on comments from various stakeholders
- ^{xviii} According to DBSA's internal policy, fees are determined using an-house financing tool taking into account the DBSA resource time required throughout the project. The DBSA approach is to seek cost recovery through fees charged (not to make a profit) to cover staff cost. With regard to the PSEE project value of \$ 318 060, the GCF 10% threshold does not necessarily cover DBSA costs, but it still makes sense for the DBSA to continue with the project based on envisaged post PPF potential. The rate indicated has therefore been discounted for the purpose of this project.
- ^{xx}This involves evaluating the submissions from service providers for the various services being requested for the project in line with the TORs. As part of its role in the Project Steering Committee (PSC), the DBSA requires at least 1 representative from the Innovation Hub Unit (IHU) and 1 representative from the Project Preparation Unit (PPU) to undertake the tender evaluations and only accept (issue no-objection) those which meet the criteria of the TOR.

Appendix 2: Terms of Reference for Gender Consultant

Terms of Reference to appoint Gender Expert to support the development of the Public and Private Sector Energy Efficiency Programme feasibility study for application to the Green Climate Fund (GCF)

Background

The NBI/Carbon Trust is looking to appoint a gender expert to assist in the delivery of a Project Preparation Facility project, funded by the GCF. The project in question is the development of the Public and Private Sector Energy Efficiency Programme, presently being developed by the NBI/Carbon Trust, with the ultimate aim of applying for funding to the Green Climate Fund. The project is a five year, \$71 million (estimate) national scale energy efficiency programme in South Africa. As part of the development, a required component of the feasibility study is to develop an Environmental & Social Management Framework (ESMF).

Launched in December 2013, the PSEE was a 2-year pilot which supported companies across industrial and commercial sectors to identify and implement energy efficiency measures. The programme provided energy efficiency services only (no financing assistance) to 1 148 companies, successfully identifying over 7 000 opportunities with a potential lifetime energy savings of 24 567GWh. Despite the lack of implementation support, approximately 11.6% (2 854 GWh) of savings had been verified as implemented as at November 2015.

The PSEE was established with funding from the UK's International Climate Fund (ICF), administered through the Department for International Development. Although successful in meeting its outcomes, the programme came to an end because of the cessation of bi-lateral aid agreements between the UK and middle income countries such as South Africa.

Given the success of the pilot, and to maximize the energy and carbon savings achieved by the PSEE pilot programme, the implementers (NBI / Carbon Trust), and the accredited entity DBSA would like to relaunch the PSEE programme, with a similar suite of services as the previous programme, but with the major difference being 1) the addition of a finance facility and 2) additionally catering to public sector buildings nationally by scaling up the services anticipated to be provided by the NAMA facility bid.

This would create a Public and Private Sector Energy Efficiency Programme (PPSEEP) able to offer an end to end service assisting all customers from those just starting on the energy saving journey, who need help identifying opportunities, to those ready to make energy-saving investments, but who need access to competitive finance offerings, or support with properly structuring the financial plan for an investment in energy efficiency.

Duties and Responsibilities

Objective

The primary objective of the proposed services is to prepare a gender assessment and project level gender action plan. As part of this, a high level gender responsive market study should be conducted to understand the demand and supply for appropriate energy efficiency products/routes/services, especially for medium – to – small size enterprises. This will include understanding the impact of energy efficiency on gender, and will inform the formulation of the project concept design and help ensure diversity is addressed throughout the lifecycle of the project.

Overall scope of Works

The appointed consultant/s will be working closely with the NBI, Carbon Trust and The Innovation Hub unit of the DBSA on the preparation of a Feasibility Study for the Green Climate Fund (GCF), and be responsible for completing the following tasks over a period of **50 working days**:

Gender Assessment:

- Working closely with the NBI, identify and prioritise all relevant stakeholders to engage with and develop a stakeholder engagement plan;
- Examine the roles, rights and differential needs of women and men in the context of energy efficiency in South Africa through stakeholder engagement;
- Identify opportunities and entry points for promoting gender equality through the full life cycle of the project. For example, strategies can be identified at the project preparation stage to ensure that the finance facility benefits both women and men, particularly the finance package prioritizing small and medium-sized businesses through the provision of reduced-interest loans;
- Recommend practical actions and objectives to implement in the project.

Project level gender action plan

- Using the findings from the gender assessment, identify gender-responsive activities, gender-performance indicators, timelines, responsibilities and anticipated budget against each of the planned activities to be included in the programme's activity logframe;
- Define the monitoring and evaluation process to track progress against this plan.
- The GCF gender action plan ²template will be used to prepare the plan.

Gender responsive market study

- Consult with up to 10 women owned SME's to understand the demand for appropriate energy efficiency products/routes/services;
- Complete a gender responsive market study and recommend how these findings can be incorporated into the concept design.
- The gender response market study would be used to inform the gender assessment and gender and social inclusion action plan. In addition, at least 10 women owned/led SMEs should be consulted in the preparation of the study.

Competencies

Corporate Competencies

- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favoritism;
- Demonstrated strong coordination and facilitation skills;
- Ability to work with a multi-cultural and diverse team.

Functional Competencies

- Demonstrated experience in conducting gender, social pre-feasibility assessments as well as in social inclusion/development issues;
- Demonstrated experience related to energy efficiency and adaptation to climate change;
- Ability to analyze complex and diversified data.

Required Skills and Experience

Qualifications

- At least a master's degree in social sciences, gender studies or related disciplines

Experience

- The gender expert shall have at least 10 years of experience in providing gender expertise in South Africa, especially in facilitating public consultation and conducting gender assessments per the South African legislation and international standards, identifying risks and mitigation measures for promoting gender equality.
- Experience conducting similar studies with multilateral supported climate change adaptation and/or mitigation bodies such as GEF/LDCF/other donors, especially with the new GCF is an asset;
- Excellent written communication skills, with analytic capacity and ability to synthesize relevant collected data and findings for the preparation of high quality reports.

Language

English

² http://www.greenclimate.fund/documents/20182/574712/Form_09_-_Gender_Assessment_and_Action_Plan_Template.pdf/3f4b8173-fbb2-4bc7-9bff-92f82dadd5c0

Appendix 3: Terms of Reference for an Environmental & Social Safeguard Expert

Terms of Reference to appoint Environmental & Social Expert/s³ to support the development of the Public and Private Sector Energy Efficiency Programme feasibility study for application to the Green Climate Fund (GCF)

Background

The NBI/Carbon Trust is looking to appoint an Environmental & Social Expert/s to assist in the delivery of a Project Preparation Facility project, funded by the GCF. The project in question is the development of the Public and Private Sector Energy Efficiency Programme, presently being developed by the NBI/Carbon Trust, with the ultimate aim of applying for funding to the Green Climate Fund. The project is a five year, \$71 million (estimate) national scale energy efficiency programme in South Africa. As part of the development, a required component of the feasibility study is to develop an Environmental & Social Management Framework (ESMF).

The project is conceived following the significant experience of the project team (NBI & Carbon Trust) in running public and private sector projects, most recently in the form of the Private Sector Energy Efficiency (PSEE) Programme. It is also designed to enhance the work of the NAMA facility funded project that is presently in appraisal stage.

Launched in December 2013, the PSEE was a 2-year pilot which supported companies across industrial and commercial sectors to identify and implement energy efficiency measures. The programme provided energy efficiency services only (no financing assistance) to 1 148 companies, successfully identifying over 7 000 opportunities with a potential lifetime energy savings of 24 567GWh. Despite the lack of implementation support, approximately 11.6% (2 854 GWh) of savings had been verified as implemented as at November 2015.

The PSEE was established with funding from the UK's International Climate Fund (ICF), administered through the Department for International Development. Although successful in meeting its outcomes, the programme came to an end because of the cessation of bi-lateral aid agreements between the UK and middle income countries such as South Africa.

Given the success of the pilot, and to maximize the energy and carbon savings achieved by the PSEE pilot programme, the implementers (NBI / Carbon Trust), and the accredited entity DBSA would like to relaunch the PSEE programme, with a similar suite of services as the previous programme, but with the major difference being 1) the addition of a finance facility and 2) additionally catering to public sector buildings nationally by scaling up the services anticipated to be provided by the NAMA facility bid.

This would create a Public and Private Sector Energy Efficiency Programme (PPSEEP) able to offer an end to end service assisting all customers from those just starting on the energy saving journey, who need help identifying opportunities, to those ready to make energy-saving investments, but who need access to competitive finance offerings, or support with properly structuring the financial plan for an investment in energy efficiency.

Duties and Responsibilities

Objective

The primary objective of the proposed services is to prepare an Environmental & Social Safeguard study, including an Environmental & Social Management Framework of the proposed PPSEEP. The findings will inform the formulation of the project concept design and mitigate all environmental/social risks identified through stakeholder engagement.

Overall scope of Works

The appointed consultant/s will be working closely with the NBI, Carbon Trust and The Innovation Hub unit of the DBSA on the preparation of a Feasibility Study for the Green Climate Fund (GCF). The tasks, examined below, are anticipated to take approximately **50 working days**. The consultant is anticipated to cover the following;

- Working closely with the NBI, identify and prioritise all relevant stakeholders to engage with and develop a stakeholder engagement plan

³ An expert with experience in both the environmental and social aspects will be sought. However, in the event that this is not possible and 2 experts may be required to conduct the study, the budget would be split accordingly.

- Develop a stakeholder engagement plan that outlines consultations conducted during project design/formulation, and a plan to continue engaging stakeholders throughout the project as part of the requirement for environmental and social safeguards;
- Following key consultations, develop a draft environmental and social management framework (ESMF) outlining the material issues and metrics to evaluate
- Conduct awareness raising and consultation with project affected persons and communities for ESMF as a part of due diligence
- Elements of the ESMF required at Funding Proposal stage to investigate, document and strengthen are:
 - The capacity of the executing entity to implement ESMF
 - Lessons learned from pilot phase in terms of managing key E&S issues,
 - Assess and address gaps between national policies and the Performance Standards/Targets of the project,
 - Capacity building for NBI in terms of E&S screening, implementation of the ESMF, and addressing issues related to waste management, pollution prevention, and cultural heritage (for historical buildings and sites)
- Recommend key metrics to be incorporated into the overall project reporting and targeting framework
- After incorporating recommendations from GCF and the executing entities, complete and hand over the final ESMF
- In terms of risk management the following aspects will also be conducted:
 - Develop criteria that will be employed to exclude activities/subprojects that will have higher environmental and social risk levels, for example medium risk (category B) and high risk (category A);
 - Screening of sub-projects to ensure that they will have an overall low environmental and social risk level;
 - Environmental and social baseline information at the national level; Procedures to assess potential environmental and social impacts and risks of sub-projects;
 - Arrangements for monitoring and sub-project supervision;
- Develop a project-level grievance redress mechanism

Competencies

Corporate Competencies

- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favoritism;
- Demonstrated strong coordination and facilitation skills;
- Ability to work with a multi-cultural and diverse team.

Functional Competencies

- Demonstrated experience in conducting environmental and social pre-feasibility assessments;
- Demonstrated experience in technical issues related to energy efficiency and adaptation to climate change;
- Ability to analyze complex and diversified data.

Required Skills and Experience

Qualifications

- Environmental expert: At least a master's degree in environment/ climate change or related disciplines.
- Social expert: At least a master's degree in social sciences or related disciplines

Experience

- The environmental expert shall have at least 10 years of experience in the Energy Efficiency sector, especially in providing environmental impact assessment per the South African legislation and international standards, identifying risks and mitigation measures for energy efficiency
- The social expert shall have at least 10 years of experience in South Africa, including public consultation in the local context.
- Experience with multilateral supported climate change adaptation and/or mitigation bodies such GEF/LDCF/other donors especially with the new GCF is an asset;
- Excellent written communication skills, with analytic capacity and ability to synthesize relevant collected data and findings for the preparation of high quality studies.

Language
English

Appendix 4: Profile & key experts within NBI and Carbon Trust to support activity 1 of this PPF

The NBI

The National Business Initiative is a voluntary coalition of South African and multinational companies, working towards sustainable growth and development in South Africa and the shaping of a sustainable future through responsible business action.

Since our launch in 1995 by former President Nelson Mandela, the NBI has made a distinct impact in the spheres of housing delivery, crime prevention, local economic development, public sector capacity building, further education and training, schooling and public private partnerships.

More recently, the NBI has led the environmental agenda for business through our work in energy efficiency, water, the green economy and climate change, most noticeably through work being carried out on climate finance, the CDP Climate and CDP Water programmes, the UNGC, PSEE and the EELN.

The NBI also has an enviable track record in working collaboratively with companies and building successful partnerships. The NBI played a catalytic role in establishing organisations such as the Business Trust and Business against Crime, as well as high level programmes such as The Joint Initiative on Priority Skills Acquisition (JIPSA).

Our membership

The NBI's membership encompasses approximately 100 leading South African corporations and multi-nationals. Our membership includes a significant proportion of the country's leading listed companies, a number of the major state owned enterprises (Eskom, Transnet, the IDC and Telkom) and a variety of medium sized firms.

In addition to a strong membership base, the NBI has an excellent working relationship with hundreds of strategy, risk and sustainability practitioners in South Africa operating within our network of member companies.

A full listing of the NBI's members can be found here: www.nbi.org.za/membership.html

Our convening power

The NBI is one of South Africa's preeminent voluntary business organisations, with a strong emphasis on sustainable development related issues. Our access to wider business, academia, civil society and government is considerable, with the result that we have a strong convening power. We maintain active working relationships with a number of government departments, including the Departments of Higher Education and Training, Energy, Environmental Affairs, Trade and Industry, Science and Technology and Water and Sanitation, as well as the Presidency and National Treasury.

The NBI maintains excellent relationships with South African business as a whole, including outside of our membership base. Through key programmes such as the CDP, EELN, UNGC and PSEE, the NBI maintains good relationships with the overwhelming majority of business in South Africa.

Our bridging role

The NBI plays an important bridging role between business, civil society and government, including through supporting informal dialogue on key issues. This approach can assist in the development of

partnerships across the public and private sector in South Africa, an approach that is key to solving many of the country's socio-economic challenges.

The NBI is also an independent organisation that does not have a rigid mandate from our members. This gives us the freedom and agility, supported by our members, to decide on a forward-looking, innovative and responsible role for business in addressing priority issues.

Project implementation capacity

The NBI has implemented several flagship programmes in South Africa, including the large-scale Private Sector Energy Efficiency (PSEE) project, which was successfully run between 2013 and 2015 on behalf of DFID, as well as the ongoing Energy Efficiency Leadership Network, CDP Climate Change and CDP Water programmes. The NBI has a dedicated team of experts focusing on sustainability issues. In addition, in 2014 the NBI appointed a senior programme manager (Alex McNamara) to support and scale up its water-related activities.

The NBI is a global network partner of the World Business Council for Sustainable Development (WBCSD), the focal point of the United Nations Global Compact (UNGC) Local Network in South Africa and an implementation partner of We Mean Business, the CEO Water Mandate and CDP, with whom we maintain excellent working relationships.

Over the past decade the NBI has collaborated with a multitude of government departments and international partners to deliver value in skills, education, energy, climate change and water, including in partnership with the GIZ, DFID, the South African Green Fund and the UK Foreign and Commonwealth Office.

The Carbon Trust

The Carbon Trust is an independent, expert partner of leading organisations around the world, helping them contribute to and benefit from a more sustainable future through carbon reduction, resource efficiency strategies and commercialising low carbon technologies. We have 170 staff of 30 different nationalities, based in the UK, China, Mexico, Brazil, South Africa and the USA.

Delivering large energy programmes

The Carbon Trust has longstanding experience of advising the UK government on climate related technologies and investments. Over the last 15 years the Carbon Trust has managed the Energy Technology List (ETL), which underpins the UK government's Enhanced Capital Allowances (ECA) scheme for energy saving technologies. Since inception the ETL programme has carried out nearly 440 clean technology market intervention assessments; laboratory tested over 300 ETL technologies and assessed over 60,000 products for inclusion on the ETL. The Carbon Trust's well specified and well implemented ETL has helped the ECA to support ~£13bn in UK product sales and helped abate nearly 57MtCO₂.

The Carbon Trust has a longstanding track record in successfully designing and implementing energy efficiency programmes both in the UK and internationally. In the UK the Carbon Trust developed and ran the Energy Efficiency Loans and Advisory Programme for 10 years on behalf of the UK government. As part of this programme the Carbon Trust accredited consultants to carry out 35,000 on-site energy audits to identify energy savings opportunities across a range of private sector and public sector organisations. Complementarily, the Carbon Trust also operated an energy efficiency loans scheme to help SMEs implement recommendations made by the energy audits. This large-scale nationwide programme disbursed £207m loans, benefitted 4500 organisations and is expected to deliver £600m of energy cost savings, which equates to a 2.4Mt reduction in CO₂.

As technical advisors to the PSEE programme in South Africa, the Carbon Trust provided regular advice to both design the programme, and shape the programme delivery and also published various guidelines including one to access third party finance (government incentives, banks, ESCO's, venture capital) to implement identified energy efficiency and renewable energy projects. The Carbon Trust is also involved in developing similar style SME Energy Efficiency programmes in Mexico, and Peru.

Investing in energy efficiency implementation

The Carbon Trust is experienced at structuring investment facilities in accordance with local regulatory and legal frameworks and is also a leading investor in early stage climate ventures. Since 2001, we have invested more than US\$50 million in 26 innovative clean technology companies at the cutting edge of the low carbon economy, leveraging more than US\$300 million of private co-investment. Initially, we provided seed investment to early stage climate ventures with partners (e.g. UK government, Shell Foundation, and Imperial Innovations). As we grew, the funding gap for early stage climate ventures became more apparent and we therefore launched our own strategic fund with UK government support. We have invested in early stage clean energy companies with the potential to create significant economic value and contribute to a global low carbon economy and in doing so have become one of the most prolific VC investors in the climate technology sector in Europe over the last decade. Through our participation and sector knowledge we have also sought to leverage further private sector investment to deliver large impact from public investment and address a significant market failure in the sector – lack of equity capital for early stage businesses.

The Carbon Trust has taken this UK experience and partnered with organisations to structure and set up new climate technology investment facilities in developing countries. For example, in China, we have set up a climate technology investment fund with the China Energy Conservation and Environmental Protection Group (CECEP), one of the most powerful investment holding groups in the field of energy conservation and environmental protection in China. This required us to consider various investment facility options and structure the facility in accordance with local regulatory and legal frameworks.

Profiles of Key Staff

NBI

Steve Nicholls, Head: Climate Change & Water, NBI

Steve Nicholls leads the Climate Change, Water and Green Economy programmes at the NBI, with an emphasis on harnessing the collective effort of business across these thematic areas. This approach affords him excellent exposure to company best practice, and provides an opportunity to connect NBI members with academic and civil society specialists, as well as a number of large donors working in the area of sustainability. His key focus areas include the strategic business case for environmental management, as well as how ill treatment of the environment impacts on society and the economy.

For the most part Steve has worked in the consulting industry in the United Kingdom and South Africa, working on projects based in Europe and Southern and East Africa. Steve has worked across a number of sectors including Mining, Energy, Telecoms, Government, Oil and Gas, Financial Services and Retail. Prior to joining the NBI, Steve worked within the strategy team at Accenture and headed the sustainability services function for Accenture across Africa. Steve has also worked within KPMG's advisory and assurance team and has completed a number of advisory, reporting and verification engagements on sustainability and voluntary carbon credit data. His speciality is the integration of sustainability issues into governance, risk management and strategy. Steve also spent a few years working in the United Kingdom looking at the sustainability risk inherent in the supply chains of major UK and multi-national retail companies.

Steve holds an MSc from Stellenbosch University and has completed an executive education programme at WITS Business School. He has lectured at a variety of universities on sustainability and business including GIBS, WITS, Stellenbosch and the University of Pretoria.

Alex McNamara, Programme Manager: Climate Change & Water, NBI

Alex McNamara is an inter-disciplinary expert in the field of sustainable development, working in climate change, energy, economic development and water. He has acted as an advisor on sustainability for a range of multinational companies, government departments and international donors, as well as facilitated

training and capacity building at the corporate, university, community and governmental level. He has also appeared as an expert in the domestic and international media.

Prior to joining the NBI, Alex worked as a Principal Consultant at Camco Clean Energy, where he formed part of the Camco South Africa management team and served as team leader for the policy and strategy portfolio.

Alex holds a first class MSc in Environmental Change and Management from Oxford University and a first class Honours Degree in Political Studies from the University of the Witwatersrand.

Carbon Trust

James Wilde, Director, Carbon Trust

James leads the Carbon Trust's Innovation business units. James has in-depth expertise in climate change related issues gained from 10 years at the Carbon Trust – from renewable energy to energy efficiency. Since joining the Carbon Trust, James has worked extensively on engaging and informing senior business and Government stakeholders on business opportunities and risks associated with climate change. He has excellent expertise managing large projects globally, including projects across Africa. James has a large international network of contacts and has worked with development finance organisations. He has authored over 20 publications which have led to fundamental changes in the UK policy and market landscape.

Prior to joining the Carbon Trust, James was a senior associate at McKinsey & Co where he established an excellent grounding in a wide range of sectors, including: cement and concrete, pulp and paper, chemicals, waste management, IT, packaging, transport, and construction. He holds a PhD in Nanostructured Material from the University of Cambridge and a MEng in Metallurgy and Science of Materials from the University of Oxford.

Benjamin Curnier, Associate Director Southern Africa, Carbon Trust

Benjamin provided technical and strategic assistance to the NBI (National Business Initiative) as it implemented the Private Sector Energy Efficiency (PSEE) Programme in South Africa from 2013 - 2015. This programme, supported by the Department of Energy and funded by the UK Department for International Development (DFID) aims to improve energy efficiency in commercial and industrial companies in South Africa through the provision of various services to assist companies in identifying and implementing energy saving measures.

Prior to this, Benjamin was an Associate Director within the Carbon Trust's Certification business where he led the strategy and operations functions. Benjamin was responsible for the development, and execution of the overall strategy for the Certification business, a business which provides organisational and product carbon footprinting certification to clients throughout the UK and worldwide. Benjamin joined the Carbon Trust from PricewaterhouseCoopers, where he worked as a consultant within their strategy group, working on engagements providing commercial due diligence (buy and sell side), and strategic advisory services.

Benjamin holds a master's degree in Aeronautical Engineering from the University of Bath (UK).

Geoff Smyth, Associate Director, Carbon Trust

Geoff completed his studies in Building Services Engineering at the University of Ulster. He is a chartered engineer and a member of the Energy Institute. During his 24 years of experience as an engineer in the renewables and energy efficiency sector, Geoff has worked with international and public sector organisations (DFID, DETI, DoE) to provide technical advice on their renewable energy programmes in South Africa, Mexico, UK and Brazil.

Geoff leads a team of Chartered Engineers providing a wide range of technical services to the Carbon Trust group and clients across the globe including the provision of: technical due diligence for all energy efficiency and renewable energy projects applying for funding from the Carbon Trust's Energy Efficiency Financing Scheme and Interest-free Loan Schemes; energy audits and surveys; energy management training for client companies; and technical assessment of applications to our Accredited Supplier scheme.

Geoff established standards pertaining to the technical assessment of applications to the Carbon Trust's £550m Energy Efficiency Financing Scheme that supports the financing of a wide range of energy efficiency and renewable energy products including lighting, HVAC, refrigeration, controls, biomass boilers and PV systems.

Myles McCarthy, Managing Director, Carbon Trust

Myles is an experienced director who has 20 years' experience, including 12 years in climate change and sustainability. Having joined the Carbon Trust in 2002 at its inception, Myles has developed and deployed a range of programmes at the Carbon Trust spanning finance, technology innovation and low carbon support to the UK economy. More recently, Myles has led the deployment of Carbon Trust's expertise and programme design to new markets overseas including South America, South Africa and South East Asia.

He has launched new services in to the UK market with the aim to unlock the £12Bn opportunity for cost effective energy efficiency equipment by providing finance, advice and implementation support. This has included launching a £550M finance scheme with Siemens Financial Services as well as establishing an accreditation scheme with equipment suppliers recognising excellence in the design and supply of energy efficient solutions.

Myles has a deep understanding across the full range of both supply-side and demand-side technologies in the low carbon sector having established and delivered the Trust's investment programmes. These programmes have provided both venture capital and grant funding to emerging low carbon technology companies and projects.

Clara Wahnich, Manager, Carbon Trust

Clara is an experienced strategy and commercial manager and has worked for 10 years in the environmental finance and innovation industry. She specialises in devising and implementing innovative business and financial models that unlock opportunities for cleantech and clean energy projects in Europe and developing countries. At the Carbon Trust she assists UK cleantech start-ups and entrepreneurs in taking their innovations to market. She is also managing European projects for the Carbon Trust's clients and partners, including in Carbon Capture & Storage, and is involved in generating business development opportunities for the company.

Prior to joining the Carbon Trust, she worked as a Vice-President at Sindicatum Sustainable Resources, a clean energy project developer, where she managed Europe-based and emerging markets-based investment transactions and supported investees for business and organisational development. She started her career as a commodity derivatives credit analyst at BNP Paribas.

Clara holds a master's degree in business management and an investment management certificate from the CFA society in the UK.

Hemal Bhana, Manager, Carbon Trust

Hemal has over 14 years of experience in the energy industry and is based in South Africa. Prior to joining the Carbon Trust, Hemal was the Lead Programme Manager for the Private Sector Energy Efficiency Programme. Hemal has also worked as a Sustainability & Strategy Manager at Accenture and as a Senior Mechanical Engineer at Sasol Synfuels. He holds an MBA from the University of Cape Town and a Mechanical Engineering degree from the University of KwaZulu-Natal.

See attachment



environmental affairs

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Environmental Affairs
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REPUBLIC OF KOREA

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Dear Sir/Madam

PROPOSAL FOR THE GREEN CLIMATE FUND PROJECT PREPARATION FACILITY BY THE DEVELOPMENT BANK OF SOUTHERN AFRICA REGARDING THE RENEWABLE ENERGY - SOLAR PHOTOVOLTAIC PROGRAMMATIC SOLUTIONS FOR THE SOUTH AFRICAN PUBLIC SECTOR: RAIL AND GOVERNMENT BUILDINGS PROGRAMME

The Renewable Energy - Solar Photovoltaic (PV) Programmatic Solutions for the South African Public Sector Programme as included in the project preparation funding proposal (PPF) submitted by the Development Bank of Southern Africa (DBSA) to us on 24 July 2017.

The undersigned is the duly authorised representative of the Department of Environmental Affairs, the National Designated Authority/focal point for South Africa.

Pursuant to the Green Climate Fund (GCF) decision B.08/10, the content of which the Department of Environmental Affairs acknowledges to have reviewed, it hereby communicates its no-objection to the Project Preparation Facility activities as included in the PPF Proposal. By communicating its no-objection, it is implied that:

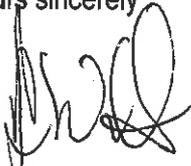
- (a) the government of South Africa has no-objection to the Project Preparation Facility request as included in the PPF Proposal;
- (b) the PPF Proposal is in conformity with South Africa's national priorities, strategies and plans; and
- (c) in accordance with the GCF's environmental and social safeguards, the PPF activities as included in the PPF Proposal is in conformity with relevant national laws and regulations.

PROPOSAL FOR THE GREEN CLIMATE FUND PROJECT PREPARATION FACILITY BY THE DEVELOPMENT BANK OF SOUTHERN AFRICA REGARDING THE RENEWABLE ENERGY - SOLAR PHOTOVOLTAIC PROGRAMMATIC SOLUTIONS FOR THE SOUTH AFRICAN PUBLIC SECTOR: RAIL AND GOVERNMENT BUILDINGS PROGRAMME

We also confirm that our national process for ascertaining no-objection to the PPF Proposal has been duly followed.

We acknowledge that this letter will be made available on the Green Climate Fund website.

Yours sincerely



Ms Nosipho Ngcaba
Director-General
Department of Environmental Affairs
Letter signed by: Mr A Wills
Designation: Director-General (Acting)
Date: 11/09/2017