GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL
Project Type: Full-sized
Type of Trust Fund: GEF Trust Fund

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PART 1: PROJECT INFORMATION

Project Title: Equity Fund for the Small Projects Independent Power Producer Procurement Programme (SP-IPPP)			
Country(ies):	South Africa	GEF Project ID	9085
GEF Agency(ies):	DBSA	GEF Agency Project ID:	
Other Executing Partner(s):	Department of Energy, IPP Office	Submission Date:	December 2016
GEF Focal Area (s):	Climate Change	Project Duration (Months)	48
Integrated Approach Pilot	IAP-Cities ☐ IAP-Commodities ☐ IAP-Food Security ☐	Corporate Program: SGP ☐	
Name of Parent Program	[if applicable]	Agency Fee ($)	1,350,000

A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES[1]

Focal Area Objectives/Programs	Focal Area Outcomes	Trust Fund	(in $) GEF Project Financing	(in $) Co-financing
CCM – 1 Programme 1 Promote the timely development, demonstration, and financing of low-carbon technologies amd mitigation options		GEFTF	15,000,000	147,006,333
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
	Total project costs		15,000,000	162,006,333

B. PROJECT FRAMEWORK

Project Objective: Removing Financial Barriers in the Small Scale Renewable Energy Projects: Establishment of an Equity Fund

Project Components/ Programs	Financing Type2	Project Outcomes	Project Outputs	Trust Fund	(in $) GEF Project Financing	(in $) Confirmed Co-financing
Investment in renewable energy	Inv	Stimulated small scale RE energy market, removal of barrier in energy financing	Total RE installed	GEF TF	15,000,000	147,006,333
	(select)	Removal of barriers to	Increased number of SMEs			

[1] When completing Table A, refer to the excerpts on GEF 6 Results Frameworks for GETF, LDCF and SCCF and CBIT programming directions.
[2] Financing type can be either investment or technical assistance.

		SME renewable energy financing	participating in the RE sector			
	(select)					
Subtotal						
Project Management Cost (PMC)4						
				Subtotal	15,000,000	147,006,333
				Project Management Cost (PMC)3	GEF TF	
				Total project costs	15,000,000	162,006,333

C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include evidence for co-financing for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Cofinancing	Amount ($)
GEF Agency	DBSA	Loans	133,333,333
Donor Agency	Infrastructure Investment Programme for South Africa	Grants	5,340,000
Private sector	SMEs	Equity	8,333,000
Total Co-financing			147,006,333

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country Name/Global	Focal Area	Programming of Funds	(in $)		
					GEF Project Financing (a)	Agency Fee a) (b)2	Total (c)=a+b
DBSA	GEFTF	South Africa	Climate Change		15,000,000	1,350,000	16,350,000
Total Grant Resources					15,000,000	1,350,000	16,385,500

a) Refer to the Fee Policy for GEF Partner Agencies

[3] For GEF Project Financing up to $2 million, PMC could be up to10% of the subtotal; above $2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

E. Project's Target Contributions to Global Environmental Benefits[4]

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	N/A
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	N/A
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	N/A
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	N/A
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO2e mitigated (include both direct and indirect)	**9.03 million tCO_2e** (2,44 million tCO_2e direct emissions over 20 year lifetime of solar PV plants, 6,59 million tCO_2e indirect emissions)
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	N/A
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Phase-out of 303.44 tons of ODP (HCFC)	N/A
	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	N/A
	Functional environmental information systems are established to support decision-making in at least 10 countries	N/A

[4] Update the applicable indicators provided at PIF stage. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the *GEF-6 Programming Directions*, will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

A.0 Describe any changes in alignment with the project design with the original PIF[5]
Since the submission of the project concept (PIF) a few deviations have occurred and these are presented in this CEO endorsement request as follows:

Project structure

- In the original PIF submission, the Development Bank of Southern Africa (DBSA) had put in place the Facility for Investment in Renewable Energy Small Transactions (FIRST) in partnership with the KfW who would provide a project preparation grant and non-interest bearing loan for investment into small renewable energy projects. KfW has since withdrawn from the FIRST structure but is now participating jointly with other partners under the newly established Infrastructure Investment Programme for South Africa (IIPSA). IIPSA will now provide an interest rate subsidy for the small IPPP preferred bidder projects, while the DBSA will still provide debt funding.
- The GEF equity portion will still be blended with equity contribution from the project developers as proposed in the PIF.

Project Preparation

Project preparation funding to the small projects is no longer provided by the DBSA-KfW facility due to the departure of KfW from the initial structure that was proposed in the PIF. SMEs that will reach preferred bidder status under the programme will self-fund their project preparation activities before seeking for funding from the DBSA-IIPSA-GEF facility.

Benefiting projects

In the original PIF, the proposal entailed the funding of 20 projects, and this has since been revised downwards to 10 projects with a capacity of 50MW (compared to 100MW proposed in the PIF). This adjustment is in line with the reduced amount of the facility, increasing cost of implementation which can be attributed to economic factors linked to the depreciating South African Rand and inflation. The GEF-funded equity facility is also limited to 10 projects. Identified projects will be funded between 2017 and 2021.

Project investment

The amount that will be invested in this programme has reduced as the funds previously committed by KfW will no longer be available. The IIPSA facility will contribute USD 5.34 million. DBSA has allocated USD 133,3 million to provide debt financing to a total of 20 SP-IPP national programme. Due to changes in the project structure, reduction in the facility and subsequent number of projects to be funded, only USD 70 million of the DBSA allocated USD 133,3 million will be utilised to finance the 10 projects. The remaining funds (USD 63,3 million) will provide funding to small scale projects that will be sourced under the SP-IPPP, after the ten (10) projects that will be funded from this GEF equity programme have been procured.

Technology mix

The technology mix has changed from 80% solar, 10% wind and 10% biogas to an entire solar PV pipeline of projects. The decision was based on a number of considerations which include the cost of development, technology availability, development lead times as well as the DBSA's competitive advantage and experience in funding solar projects.

[5] For questions A.1 –A.7 in Part II, if there are no changes since PIF , no need to respond, please enter "NA" after the respective question.

A.1. Project Description. Elaborate on: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area6 strategies, with a brief description of expected outcomes and components of the project, 4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and co-financing; 5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 6) innovativeness, sustainability and potential for scaling up.

A.1. Project Description

This project aims to establish a funding facility for the small scale renewable energy projects in South Africa. In a bid to address barriers to accessing financial resources by small and medium enterprises (SMEs) for the installation of renewable energy technology, the DBSA has established an on-balance sheet funding facility. The funding will provide debt finance to small scale projects that have achieved the preferred bidder status under South Africa's Small Projects Independent Power Producer Procurement Programme (SP-IPPP). The small projects will participate in the country's target set to produce at least 3 725 MW renewable energy from the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) by the year 2016 in line with the Integrated Resource Plan (IRP 2030).

As a result of the high risk nature of the SME and the overall small scale renewable energy market, commercial banks seem to be shying away from these types of projects whilst funding from a few Development Finance Institutions (DFIs) is very limited and in most cases not available. As such, financial institutions that are determined to play a role in this market also face difficulties in realising expected returns. To tackle this challenge, the DBSA will partner with the Infrastructure Investment Programme for South Africa (IIPSA) that will provide interest rate subsidy to the small scale renewable energy projects. This subsidy will be available to all DFIs that will participate in funding these projects. Further, the GEF resourced equity fund that will be established through this project will provide equity funding to SMEs that are preferred bidders under the SP-IPPP.

South Africa is a contributor to global climate change with GHG emissions resulting mainly from energy production and consumption. The country is heavily reliant on coal-based energy, with 90% of electricity being produced mainly from this source. This dependence on coal continues to strain the country's efforts to reduce GHG emissions. South Africa's 2010 total GHG emissions including forestry and other land use (FOLU) were 518.2 million tonnes (Mt) carbon dioxide equivalent (CO_2e). In the same period, the country's total GHG emissions excluding FOLU were 544.3 million tonnes tCO_2e.

Energy related emissions (fossil fuel combustion, transport and fugitive emissions), dominated South Africa's emissions profile, and contributed 75.1% of the total 2000-2010 emissions. The inventory revealed an increase in the energy and waste sectors. The energy sector continued to be the main contributor of GHG and was found to be a key category each year (i.e. between 2000 and 2010). The energy intensity of the South African economy has resulted in an emissions profile that differs substantially from that of other developing countries at a similar stage of development. Eskom, the national power utility generates 96% of the electricity consumed in the country.

Combined with strong economic growth, rapid industrialisation and an otherwise ageing power plant fleet, Eskom's surplus capacity was reduced to below safe-production levels. In January 2008 the first major power outages occurred nationwide. In reaction to this, South Africa has since embarked on an aggressive demand side management (DSM), energy efficiency, as well as planning new generation capacity build programmes. The new power generation capacity includes re-activation of three previously de-commissioned coal power stations, the construction of two very large new coal-fired power stations (Medupi and Kusile, with a 4800 MW capacity each), a long term nuclear expansion programme and procurement of 3 725MW of renewable

[6] For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which Aichi Target(s) the project will directly contribute to achieving.

energy under the REIPPP. The programme includes the procurement of a revised total of 400 MW from small scale projects and SMEs.

South Africa has a high level of renewable energy potential and has recently revised its targets to about 17,000 MW, adopted by the Government in 2013 as part of the policy adjusted Integrated Resource Plan (IRP), a blueprint for the energy mix in the period up to 2030. This blueprint indicates the government's clear intention to not only diversify its energy mix away from the tradition of fossil fuel-fired power generation, but also to take advantage of the possibilities relating to the Green Economy in creating new industries and much needed jobs. The REIPPP is a component identified in the IRP, expected to have generated 3,725 MW by 2016.

It is expected that the above-mentioned renewable energy target of power generation would be achieved through participation of both large, small and medium players in the renewable energy industry. However, this has not been the case, since the programme has been dominated by the large players with very minimal participation from the smaller participants. The REIPPPP has also attracted significant private sector investment and managed to diversify the country's energy mix. However, these developments have been marked by the conspicuous exclusion of SME players, notwithstanding the fact that they are a fundamental player and stakeholder in employment creation and building robust economic development. While the bidding rounds for the large scale REIPPPP have been very successful, the small scale REIPPP programme has not taken off. Even though financial markets have proven to be effective in the funding of the large renewable energy projects on a limited-recourse basis, there has been a lack of financing for similar, but small-scale, projects. In addition to these concerns, there are some major constraints / barriers to the participation of SMEs in the renewable energy market which include the following:

- Developers and equity investors in small projects often have limited access to funding from commercial banks. In addition SMEs have a limited track record, thus limiting their access to project finance.
- Due diligence efforts for the banks are more or less as costly for a small project as they are for the large. Therefore, from a developer's and a bank's point of view it is more cost effective to finance and implement large projects.
- The transaction (bid) costs involved in formulating bids are disproportionate to the investment returns achievable. Some of the REIPP programme's critics further argue that its significant up-front administrative requirements and high bid costs have contributed to high prices which also works against SMEs.
- Some of the legislative processes and requirements for small IPPPs are the same as for large players. Numerous regulatory approvals and consents and legislative constraints can function as a deterrent for small IPPs and SMEs and this also depresses the financial viability for small scale projects.

Though some of the projects have reached a preferred status bidder under the SP-IPPP, the following constraints are still evident:

- The developers and equity investors in small renewable projects have found it extremely difficult to access equity and debt funding from commercial banks mainly due to their SME profile limited track record in the renewable energy sector. None of the South African commercial banks have provided debt offers to any of the preferred bidders from Bid Windows 1&2;
- Some limited subsidized long-term debt was made available to participating bidders in Bid Window 1 by development finance institutions such as the Industrial Development Corporation, with support from the Agence Française de Développement (AFD), but that offer was not sufficient to get all preferred bidders to financial close;
- The commercial debt facilities that developers and equity investors have been able to obtain feature credit margins that do not allow projects to maintain the tariffs that they have included in their bids (put together on assumptions around financing costs that were clearly too ambitious) while at the same time ensuring a reasonable return on investment;

Similarly, SMEs play a very specific and crucial role in the South African economy. It is estimated that 91% of the formal business entities in South Africa are SMEs and that these enterprises contribute between 52 to 57%

to GDP and account for approximately 61% of employment. Despite the acknowledged importance and SME contribution to economic growth, SMEs across the globe, and in South Africa in particular, are still faced with numerous challenges that inhibit entrepreneurial growth. The key challenge faced by SMEs in the South African market (including the renewable energy industry) is the inability to access financial resources, either in the form of equity or debt for both project preparation and implementation. External equity in the form of venture capital is usually not available for SMEs, primarily due to the relatively small levels of financing desired.

Renewable energy market overview

Global renewable sector

Global energy demand is projected to continue to grow over the next decades, (Energy Technology Perspectives 2016), the need to integrate policy options for accelerating the transition to sustainable energy systems is increasingly becoming important. The contribution of renewable energy to global power capacity currently stands at about 58 percent with most contribution coming from wind, solar, and hydro. The number of countries with targets and policies increased and now 164 have renewable energy targets and a further 148 have policies in place. On the one hand, feed-in policies continue to dominate as the preferred regulatory mechanism to promote renewable power, while on the other, tendering continues to gain momentum. This continues to be supported by the high level international global policy agreements and commitment to accelerate access to renewable energy in support of in support of the Sustainable Development Goal (SDG 7) on Sustainable Energy for All (SE4ALL).

Wind is now considered the least cost option in most location markets, and its capacity increased by 51GW to 370GW. The most rapid growth and increase in capacity was registered in wind and solar PV. Dramatic growth was registered in 2015, and this remained unchecked by the decline in global fossil fuel prices and continuing fossil fuel subsidies.

Global investment in renewables registered new high levels of an estimated 147 gigawatts (GW) renewable power capacity (REN21, 2016). The role of distributed renewable energy in closing the gap between high and low energy access areas was reportedly advancing rapidly. More diverse and uncongenial sources of financing are being attended to the financing products.

Regional overview

Investment in developing countries surpassed that of developed countries, and the encoring development has been the mainstreaming of renewables within the generation mix and the cost-competitive gains of the renewables with fossil fuels in increasingly more global markets. Record bids in terms of both low price and increasing volume were confined mostly to the developing and emerging countries (REN21, 2016). South Africa takes the lead as the most mature market in sub-Saharan Africa.

For the first time South Africa ranked ninth among the top ten solar photo voltaic (PV) markets. She positioned herself ahead of India, and led the continent in new wind installations (IRENA, 2015) while also emerging as a major market, with further development and interest in Concentrated Solar Power (CSP) in provinces with high direct normal irradiance (DNI). The country's renewable energy investment increased by 5% from USD 3.1 billion in 2014, to USD 5.5 billion in 2015. The country's ability to attract investment into the sector has been attributed to the quantity tender based procurement programme.

South Africa Renewable energy sector overview

In 2008 the South Africa electricity generation network structural integrity went under threat due to strain resulting from the backlog in maintenance backlog, ageing infrastructure, and delays in bringing on line new generation capacity to match with the country's economic and social demands. Although the situation was saved by global economic crisis which resulted in a slowdown of economic activity, the challenges resurfaced in 2015. In order to avoid a total system failure in both instances, Eskom started to implement load shedding in the form of planned rolling blackouts on a rotating schedule throughout the country.

The IRP which is seen as the blueprint for the energy mix in the period up to 2030, indicates the government's clear intention to not only diversify its energy mix away from the conventional fossil fuel-

fired power generation, but also to take advantage of the possibilities relating to the green economy to mitigate the challenges of climate change, create new industries and job creation.

Renewable energy resources

The country has abundant renewable energy sources particularly from the wind and the sun, and the associated derived benefits of employment creation. South Africa's renewable energy resource maps have shown that the country has some of the most viable wind and solar resources. Wind is mostly confined to coastal and some large inland areas. The country has an estimated technical capacity of 70 000 MW which could potentially contribute to 20 per cent of the country's electricity needs by 2025 (SAWEA, 2010).

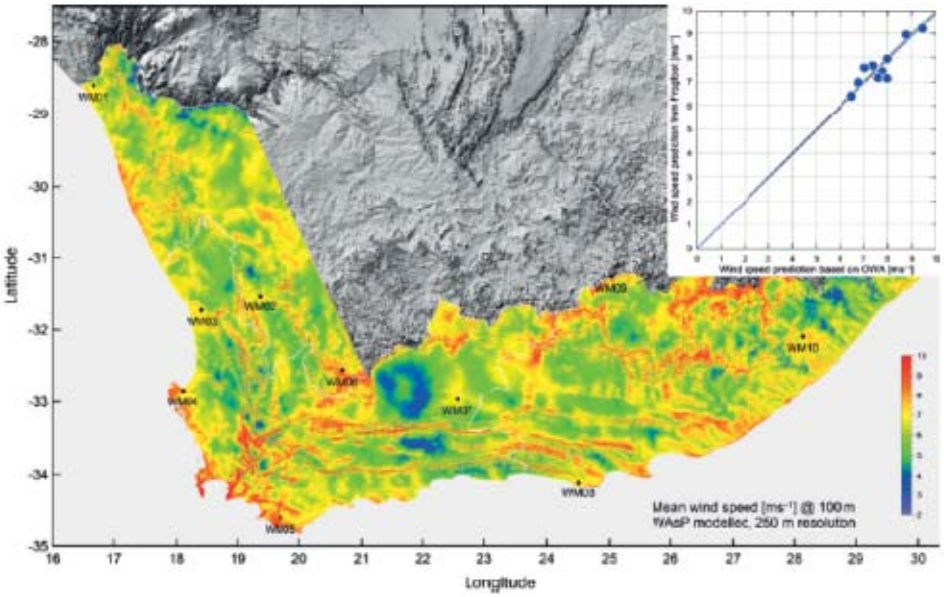

Figure 1: Wind Atlas of South Africa, South Africa National Energy Development Institute, 2015

At the same time, the country also has some of the world's best winter sunshine areas and some of the best direct normal irradiation (DNI) levels (Edkins, Marquard & Winkler, 2010). The Northern Cape has an estimated long-term average DNI of 2 816 kWh/m^2 per annum, and some parts of the North West and Limpopo provinces also have viable solar resources.

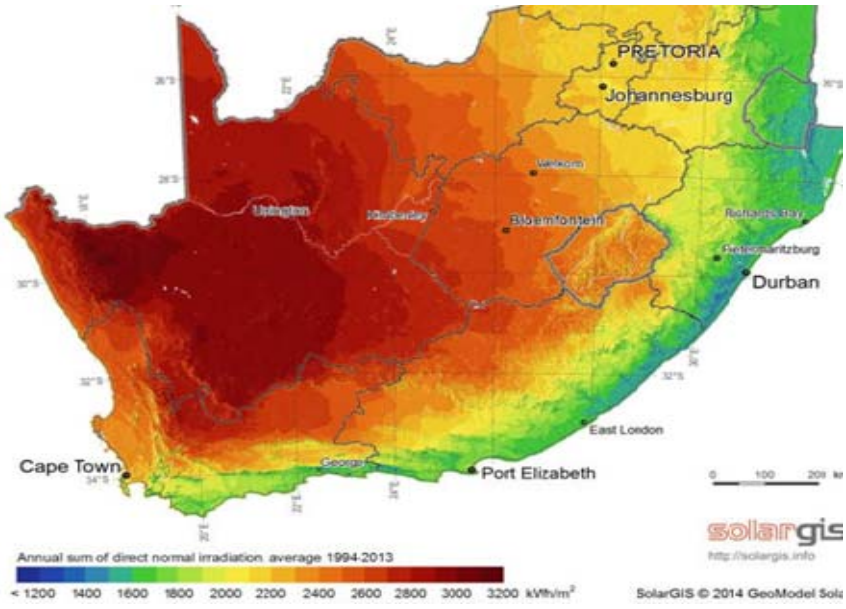

Figure 2: Direct Normal Solar Irradiation (DNI) map of South Africa, 2014

South Africa economic overview

South Africa has a population of approximately 54 million people and in 2015 the Gross Domestic Product (GDP) for South Africa was USD 312.80 billion (World Bank, 2016). Per capita GDP is estimated at USD 6 483 (World Economic Forum). Manufacturing, mining, services and agriculture contribute to 13.7 percent, 8.5 percent and 2.4 percent respectively. The service sector which includes the financial sector and insurance s dominated and contributed at least 67.4 percent (Stats SA).

Energy usage

South Africa is a high energy intense country and a big contributor to global climate change with GHG emissions resulting mainly from energy production and consumption which constitutes 78.9%, industrial processes 14.1% while the agricultural and the waste sectors contribute 4.9% and 2.1% respectively (DEAT, 2009). The country is heavily reliant on the country's coal-fired power stations which contribute to at least 90% of the country's electricity needs. Power stations are mostly confined to the north where the bulk of the coal resources are found. Transmission lines span for thousands of kilometres to the different load centres across the country.

Structure of South Africa electricity industry

The country's electricity industry supply (EIS) is still predominantly vertically integrated and the bulk of the power generation, transmission and distribution of electricity is still controlled by Eskom; the national power utility which is charged with the development of the electricity supply industry. Eskom still generates 96% of the electricity consumed in the country. Some signs of change are however, beginning to emerge, and have largely been influenced by the provisions of the IRP 2010 which are underpinned on achieving long term security of supply and sustainability.

While additional generation capacity is required for the growth of the South African economy, Eskom's ability to provide the additional generation capacity is severely constrained, making the private sector best positioned to meaningfully participate in the power generation sector. In January 2008 South Africa for the first time experienced unprecedented nationwide power outages, and further load shedding characterised much of 2014 and 2015 peak demand seasons.

Generation

The South Africa electricity grid has a capacity of approximately 40.8GW and about 85% of the population has access to electricity (http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS). The bulk of the country's electricity is generated in coal-fired power stations located mainly on the Mpumalanga Highveld from Koeberg, a large nuclear station near Cape Town, provides about 5 percent of capacity and a further 5 percent is provided by hydroelectric and pumped storage schemes. During the period between 1994 and 2000, no new generation capacity was installed. Combined with strong economic growth, rapid industrialisation and an otherwise ageing power plant fleet, Eskom's reserve margin was reduced to below safe-production levels. Since 2014 renewable energy capacity has been introduced and this is progressively altering the power system's configuration.

In reaction to the energy system shocks, South Africa has since embarked on an aggressive demand side management (DSM), energy efficiency, as well as planning new generation capacity build programmes. The new power generation capacity includes re-activation of three previously decommissioned coal power stations, the construction of two coal-fired mega power stations; Medupi and Kusile, with a 4800 MW capacity each, a long term nuclear expansion programme and procurement of 3 725MW of renewable energy under the REIPPP which includes the procurement of a revised total of 400 MW from small scale projects and Small and Medium Enterprises (SMEs).

The IRP for the participation of IPPs is based on a number of sources include existing and approved power stations. The make-up of the proposed projects some of which are already in the construction phase and commissioning include the following:

Table 1: South Africa Planned Power Generation Mix

Source of projects		Location
Coal generation	• Medupi 6 x 800 MW units coal fired • Kusile 6 x 800 MW units coal fired	• Lepalale, Limpopo • Witbank, Mpumalanga
Coal IPP	• Coal IPP 1: 2 x 200 MW • Coal IPP 2: 4 x 250 MW • Coal IPP 3: 2 x 200 MW • Coal IPP 4: 5 x 250 MW	• Witbank, Mpumalanga • Lepalale, Limpopo • Witbank, Mpumalanga • Lepalale, Limpopo
DoE open combined gas turbines power stations	• Dedisa 2 x 147 MW • Avon 5 x 147 MW	
Ingula pumped storage	• 4 x 333 MW units pumped storage	• Drakensberg, Kwa Zulu Natal
Nuclear generation	• 3 x 1 600MW nuclear power	• Port Elizabeth, Eastern Cape
Open and combined-cycle gas generation (OCGT and CCGT)	• 2 x 237 MW CCGT • 3 x 269 MW CCGT • 3 x 269 MW CCGT • 711 MW OCGT	• Dedisa, Eastern Cape • Dedisa, Eastern Cape • Dedisa, Eastern Cape • Dedisa, Eastern Cape
Imported hydropower	• 4 x 570 MW Hydro	Mozambique
Cogeneration and Medium Term Power Producer Programme	• 390 MW (at least 20 MW each)	
RE IPP generation	• Wind • PV • CSP	Country wide and confined to regions of high resource intensity

Source: Eskom Transmission Plan, 2015

Transmission infrastructure

Power is evacuated mostly from Mpumalanga in the Highveld with high voltage transmission lines to distribution centres across the country. Eskom currently runs a transmission network of 28 482km and 4 601km of distribution lines. The utility has invested approximately ZAR12 billon in transmission infrastructure and strengthening projects between 2014 and September 2016. More than 6000km of transmission lines and 32 000MVA of substation transformer capacity have been installed since 2005.

The establishment of the large-scale renewable energy generation has been the primary driver of network development in the Cape provinces of Eastern, Northern and Western Cape. Eskom is implementing its Transmission Development Plan for 2016 to 2025 at an estimated cost of ZAR 210 billion of which ZAR 2.4 billion has already been invested in the connection and integration of the REIPPP bid windows 1, 2 and 3 projects.

Renewable energy drivers

South Africa's carbon Footprint

The dependence on coal continues to be a setback on the country's efforts to reduce GHG emissions. South Africa's 2010 total GHG emissions including forestry and other land use (FOLU) were 518.2 million tonnes (Mt) carbon dioxide equivalent (CO2e). In the same period, the country's total GHG emissions excluding FOLU were 544.3 million tonnes tCO2e. This scenario has seen the government of South Africa's determination to engage in efforts that would reduce emissions, diverting from fossil fuel based to renewable energy resources being a key goal.

Renewable energy policy

Global policies and international relations have continued to influence the developments in the sector, and world-wide efforts under the UNFCCC have been instrumental. The South African Government through the Department of Energy (DOE) has been central to the development of renewable energy policy to accelerate deployment, and it evolved over a decade, during which focus was on formulating policy to create a conducive landscape for the development of renewable energy.

The country's commitment to transition to a low carbon economy is guided by its vision for 2030, as detailed in the 2011 National Development Plan and the National Climate Change Response White Paper. The National Development Plan (Chapter 5) further declares growth in the renewable energy sector by 2030, taking off in response to falling technology costs and government's bold support for the sector, and the introduction of targeted carbon-pricing mechanisms to facilitate further private investment in renewable energy.

Central to the South African energy policy paradigm shift has been the need to diversify energy sources, addressing the challenge of increasing demand for electricity, reducing carbon emissions mostly from coal generation as well as the need to ensure security of supply and access to energy.

White Paper on Renewable Energy (2004)

The White Paper on Renewable Energy (Department of Minerals and Energy, set a medium-term target of 10 000 GWh of renewable energy contribution to final energy consumption by 2013. This would be sourced mainly from biomass, wind, solar and small-scale hydro.

Integrated Resource Plan (IRP 2010)

The primary objective of the IRP 2010 is to determine the long term electricity demand and detail how this demand should be met in terms of generating capacity, the mix of technologies, the timing and envisaged investment costs for 2010 to 2030. It also prioritises deployment and installation of renewables to accelerate the establishment of a local industry. In addition to all existing and committed power plants, the plan includes the deployment of 17.8 GW of renewables by 2030. It also serves as input and guide to other national development planning facets and functions such as economic development, funding, environmental and social policy formulation.

The IRP takes cognizance to achieve a balance between electricity price affordability to support a globally competitive, sustainable and efficient economy that has capacity to create local jobs. The demand on scarce resources such as water and the need to meet nationally appropriate emissions targets in line with global commitments id given consideration. It supports the development of the Southern and Central African region by stimulating the development of hydro power projects in the region and provides a catalyst for further economic development due to increasing energy security.

The plan supports a GDP growth trajectory of on average 4.6% over the next 20 years. Based on the IRP 5 2248 MW of new capacity would be required to meet the projected demand and provide an adequate reserve margin. It assumes at least 3 420MW of DSM programmes, as well as a gradual reduction in electricity intensity. The REIPPP is a component identified in the IRP, expected to ensure the generation of 3,725 MW by 2016.

Renewable energy feed-in tariff (REFIT)

In 2009 the National Energy Regulator of South Africa (NERSA) promulgated the REFIT which provided the tariff guidelines for the different technologies with a change in the initial procurement targets of 1 025 MW to 3 725 MW in line with the IRP 2010.

Renewable Energy Independent Power Producer Procurement Programme

Having started with the price-based policy REFIT instruments in 2009, a significant shift was taken to adopt the REIPPP which is a quantity-based policy instrument in August 2011. The change was necessitated by the need to align procurement with the Public Finance Management Act which provides for competitive bidding.

Since 2011, the REIPPPP has awarded 6,590MW of renewable energy capacity to 102 independent power producers, and at least 44 are already operational. In all the programme will attract new private sector investment worth ZAR194 billion (USD 13,8 billion) in predominantly rural areas.

The price differentials between the REFIT and the REIPPPP show that the latter was more cost effective and relatively affordable to the end users.

Table 2: REFFIT and REIPPP tariffs and bid caps

Technology	REFIT (ZAR / kWh)		REIPPPP (ZAR/kWh		REIPPPP (US c/kWh)
	2009 Tariff	20011 Tariff	Bid Cap	Round 1	Round 1
Wind	1.25	0.94	1.15	1.14	14.3
Photo voltaic	3.94	2.31	2.85	2.76	34.5
CSP trough with storage	3.14	1.84	2.85	2.69	33.6

Source: World Bank Group, 2014

Eskom Transmission development plan

The approach to Eskom's transmission development planning has undergone significant changes in order reprioritize transmission development projects to be responsive to the 2010 Integrated Resource Plan. Plans to extend and reinforce transmission system to ensure the adequacy of the network to evacuate and dispatch power to load centres renewable energy facilities have been put in place and being implemented. At the same the need to ensure reliability and adequacy of transmission network to sustain the increasing load demand and connection of new sources remains critical along with the refurbishment of the ageing infrastructure.

Generation integration projects required to ensure that the network is adequate to evacuate and dispatch power to the load centres from the new power stations (conventional and renewable) connecting to the grid, sustained as load demand increases and new sources of generation are connected to the network. An additional group of projects included those that needed to connect new and growing loads and load centres to the network.

Transmission priorities are on ensuring network reliability for the loads and power stations as well as network connectivity to accommodate the Eskom expansion capacity as well as additional IPP base load and cogeneration plants. Additional large-scale renewable generation (wind and solar energy) is also still being connected to the grid. The establishment of large-scale renewable energy generation is becoming the primary driver of network development in the three Cape provinces. This will not only create jobs to build and operate the stations, but will also attract development to economically depressed parts of the country.

Thirdly, new loads need to be connected to the network, facilitating economic growth and uplifting the lives of all South Africans.

New substations for power evacuation and new transmission lines had to be incorporated as part of the new capital expansion infrastructure which is shown Figure 3 below.

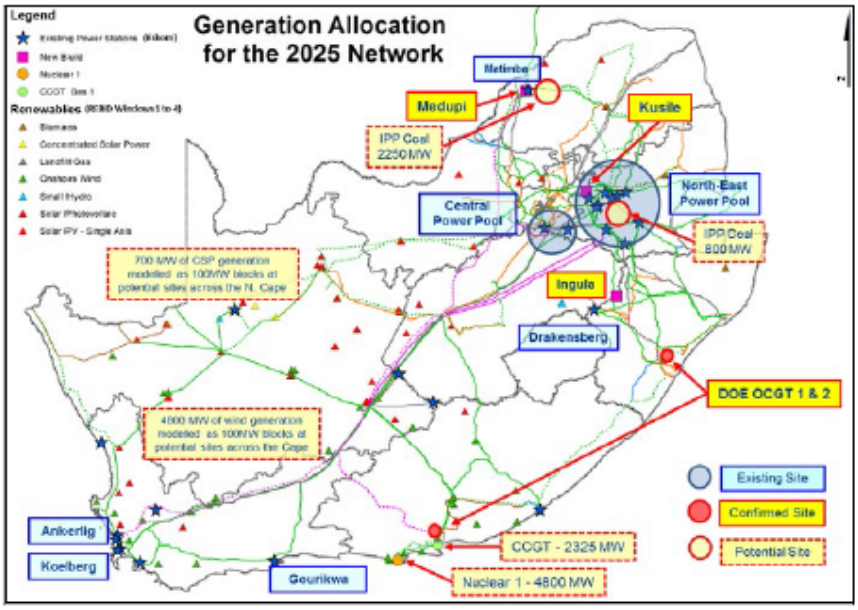

Figure 3: Planned Eskom Transmission Network

In order to accommodate the fast developing renewable energy sector and participation of IPPs, a number of initiatives have been undertaken to facilitate the development of IPP projects, and these include:

- The establishment of the Grid Access Unit (GAU) and the Single Buyer Office to facilitate connection needs of the IPP developers and power purchase;
- streamlining of the connection application process taking cognizance of the needs of IPPs;
- Updating of the relevant and applicable grid codes and connection agreements to incorporate renewable energy capacity;
- Updating publication of Grid Connection Capacity Assessment (GCCA) documentation to provide sufficient guidance to stakeholders on the available network capacity for renewable energy resources across the country for IPP projects in general;
- Allocation of committed resources to work loosely with the Department of Energy (DoE) IPP office to ensure alignment of the IPP programme with feasible network expansion plans;
- Introduction of self-build documentation to provide the option for own construction of connection infrastructure along with shared network in some instances;
- Identification of strategic transmission line routes and engage with the Department of Environmental Affairs to expedite the completion of strategic environmental impact assessments (SEAs) of the routes for the benefit of the project developers; and
- Participation in external independent studies to identify the best resource areas for development of renewable energy development zones (REDZs) and the impact of the integration of large volumes of renewable energy generation.

2) The baseline scenario or any associated baseline projects

The Renewable Energy Independent Power Producer Procurement Programme

Since 2011, the Department of Energy has successfully managed four bidding windows for the large scale projects with a combination of wind, solar PV, hydro, biomass and landfill gas. The outcomes of the first three bidding windows, Table 3, shows that solar and wind have been dominating the new capacity procured.

The REIPPPP was implemented against a background of institutional shortcomings in the country's energy sector. Eskom was initially charged with the responsibility of contracting the IPPs under the overall renewable energy development framework, but there was lack of progress due to institutional capacity constraints and its conflicted position and institutional concerns about potential threat to the dilution of its monopoly position in power generation.

Table 3: Results of bid windows 1 to 3

	Wind	PV	CSP	Hydro	Biomass	Bioga	Landfill	Total
WINDOW 1								
Capacity offered (MW)	1850	1450	200	75	12.5	12.5	25	3625
Capacity awarded (MW)	634	631.5	150	0	0	0	0	1415.5
Projects awarded	8	18	2	0	0	0	0	28
Average tarriff (Sac/kWh)	114	276	269	N/A	N/A	N/A	N/A	N/A
Average tarriff (USc/kWh) ZAR8/$	14.3	34.5	33.6					
Total invetment (ZAR mill)	13312	23115	11365	0	0	0	0	47792
Total invetment (USD mill)	1664	2889	1421					5974
WINDOW 2								
Capacity offered (MW)	650	450	50	75	12.5	12.5	25	1275
Capacity awarded (MW)	562.5	417.1	50	14.3	0	0	0	1043.9
Projects awarded	7	9	1	2	0	0	0	19
Average tarriff (Sac/kWh)	90	165	251	103	N/A	N/A	N/A	N/A
Average tarriff (USc/kWh) ZAR7.94/$	11.3	20.8	31.6	13				
Total invetment (ZAR mill)	10897	12048	4483	631	0	0	0	28059
Total invetment (USD mill) ZAR7.94/$	1372	1517	565	79	0	0	0	3534
WINDOW 3								
Capacity offered (MW)	654	401	200	121	60	12	25	1473
Capacity awarded (MW)	787	435	200	0	16	0	18	1456
Projects awarded	7	6	2	0	1	0	1	17
Average tarriff (Sac/kWh)	74	99	164	N/A	140	N/A	94	N/A
Average tarriff (USc/kWh) ZAR9.86/R	7.5	10	16.6		14.2		9.5	N/A
Total invetment (ZAR mill)	16969	8145	17949	0	1061	0	288	44413
Total invetment (USD mill) ZAR9.86/R	1721	826	1820		108		29	4504
TOTALS								
Capacity offered (MW)	1984	1484	400	14	16	0	18	3915
Capacity awarded (MW)	32	23	5	2	1	0	1	64
Total invetment (ZAR mill)	40590	42130	33797	631	1061	0	288	120263
Total invetment (USD mill)	4683	5085	3806	79	108	0	29	14011

Source: World Bank Group, 2014

The initial bid windows of the Renewable Energy IPP Programme of the DoE have taken advantage of the available generation connection capacity on the existing transmission grid. However, this capacity has been rapidly allocated, especially in the areas with better renewable resources and there are areas with very good renewable energy resources that have no transmission grid access at all. The grid will have to be extended to create more access for the bid windows beyond Round 4, specifically for the period 2020 to 2025. In addition, there are a number of other IPP programmes such as coal and gas that must also be catered for and

overall, these programmes impact on each other for grid development. Renewable tariffs have progressively become more cost competitive with fossil fuels.

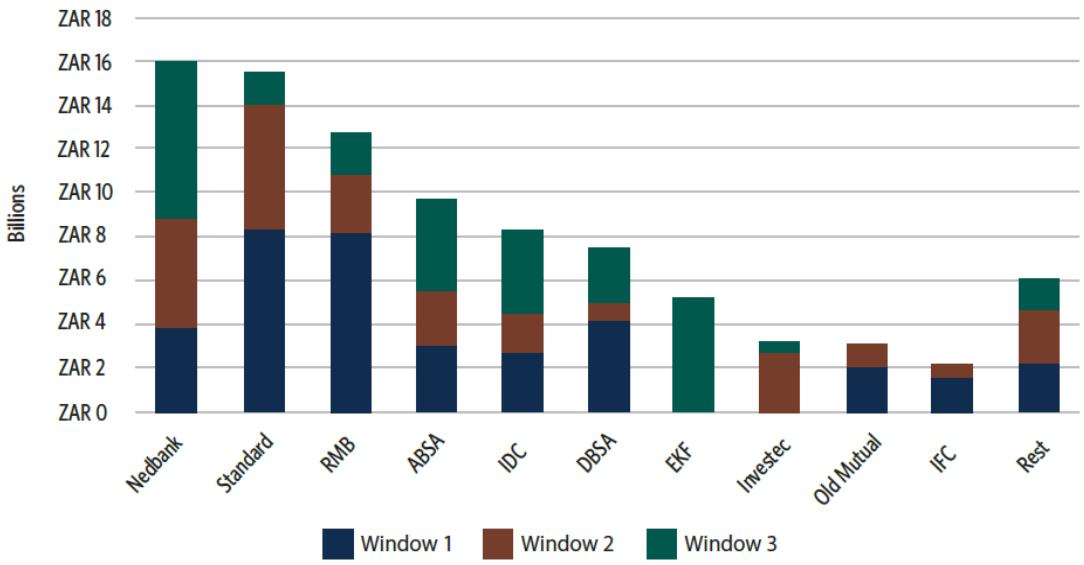

Figure 4: REIPPP sources of debt finance (World Bank Group, 2014)

South Africa has a strong and vibrant financial sector comprising commercial banks, development finance institutions and the insurance sector who have all been the major source of debt financing for the REIPPP developers and investors (Figure 4). This has been catalytic in deploying the new capacity. REIPPP attracted ZAR193 billion private sector funding, of which 28% was foreign direct investment (FDI).

Institutional arrangements for REIPPP

The REIPPP programme is governed by a multiplicity of intergovernmental agreements which requires collaborative stakeholder engagement and management. This is presented in Figure 5 below.

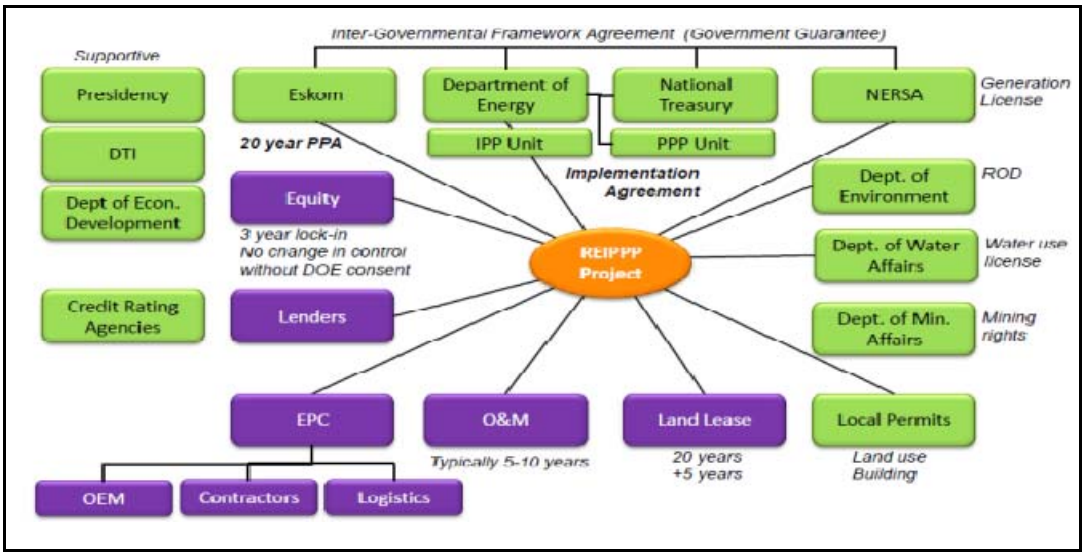

Figure 5: REIPPP Intergovernmental Framework Agreements (Pickering, 2013)

Through international cooperation, financial instruments to reduce costs were also accessed. The introduction of the renewable energy sector in South Africa also saw the establishment of technologies' specific associations and representative bodies. These include the South African Independent Power Producers Association (SAIPPA), South African Photovoltaic Industry Association (SAPVIA), South African Renewable Energy Council (SAREC), the Southern Africa Solar Thermal and Electricity Association (SASTELA), South African Wind Energy Association (SAWEA) and the Sustainable Energy Society of South Africa (SESSA) for the respective technologies. The sector specific technology representatives serve the interests of the developers project development needs and policy representation to facilitate effective delivery.

3) The proposed alternative scenario, GEF focal area7 strategies, with a brief description of expected outcomes and components of the project

In realising the important role that SMEs play in the South African economy, as well as barriers that currently prevent this sector from growth and profitability, particularly in the RE sector, the government of South Africa has initiated several programs in a bid to address these obstacles. The Small Projects Independent Power Producers programme (SP-IPPP) has been designed to procure energy generated from new renewable energy power generation facilities which have the capability (expressed in MW) to generate and provide between 1 MW and 5 MW, in terms of 2 determinations made by the Minister of Energy in 2011 ("First Determination") and December 2012 ("Second Determination") respectively, in terms of section 34 of the Electricity Regulation Act (collectively, "the Determinations").

The objective of the SP-IPPP is to promote the procurement 200MW of small scale renewable energy from IPPs and promote partnerships between large experienced developers and smaller local entities to facilitate skills transfer and risk. The technologies which will be considered in the SP-IPPP include; onshore wind, solar photovoltaic, biomass, biogas, landfill gas and hydro.

In the First Determination, the Minister indicated that new generation capacity is necessary to ensure the continued uninterrupted supply of electricity and determined that 3725 (three thousand seven hundred and twenty five) MW of power was to be generated from Renewable Energy sources. In that Determination, the Minister allocated 100 (one hundred) MW of the 3725 MW to the procurement of small projects. In terms of the Second Determination, a further 100 MW was allocated to the procurement of small projects. A third Determination of an additional 200 MW was made in December 2015 which brings the total MW that will be procured from SP – IPPP to 400MW.

In the SP-IPPP, "SME" is defined as a small and medium business enterprise with the following characteristics; (i) not more than 200 full time equivalent of paid employees, (ii) an annual turnover not greater than ZAR 51 million and (iii) a total gross asset value of no more than ZAR 19 million (excluding fixed property) at the time taking up the shareholding in the Project Company for purposes of the shareholding by SMEs requirement. These SMEs are small independent power producers that develop, own and operate small renewable power plants and supply electricity generated to Eskom (South Africa's electrical utility) under 20-years power purchasing agreements. Eskom then sells the electricity purchased from these small independent power producers to the South African public and municipalities via the national grid. These SMEs are not the manufacturers of the technology and they are not involved in any other business besides generation of renewable energy.

To date, only 10 projects that were submitted under Bid Window 1 have been allocated preferred bidder status (see Table 4). These projects will install 49MW. Although projects have been received by the Department of Energy under Bid Window 2, the evaluation process has not yet commenced.

[7] For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives
and programs, please also describe which Aichi Target(s) the project will directly contribute to achieving..

Table 4: Preferred bidders from SP-IPPP Bid Window 1 stage 2

Technology	Project name	Contracted capacity (MW)	Province
Biomass	Busby Renewables	5.00	Mpumalanga
	George Biomass	5.00	Western Cape
Wind	Kluwer Wind Farm	5.00	Western Cape
	Hopfield Community Wind Farm	4.00	Western Cape
Solar PV	Setynssrus PV1	5.00	Free State
	Setynssrus PV1	5.00	Free State
	Heuningspruit PV1	5.00	Free State
	Solar Model	5.00	Northern Cape
	Solar Model	5.00	Northern Cape
	Du Plessis Solar PV4	5.00	Northern Cape
TOTAL		49.00	

The Institutional and Legal set up of the SP-IPPP

The institutional, legal and contractual scenario for the SP-IPPP mirrors the large scale REIPPP. Figure 6 illustrates the institutional, legal and contractual project structure of the small projects under the programme.

Program Objectives and components

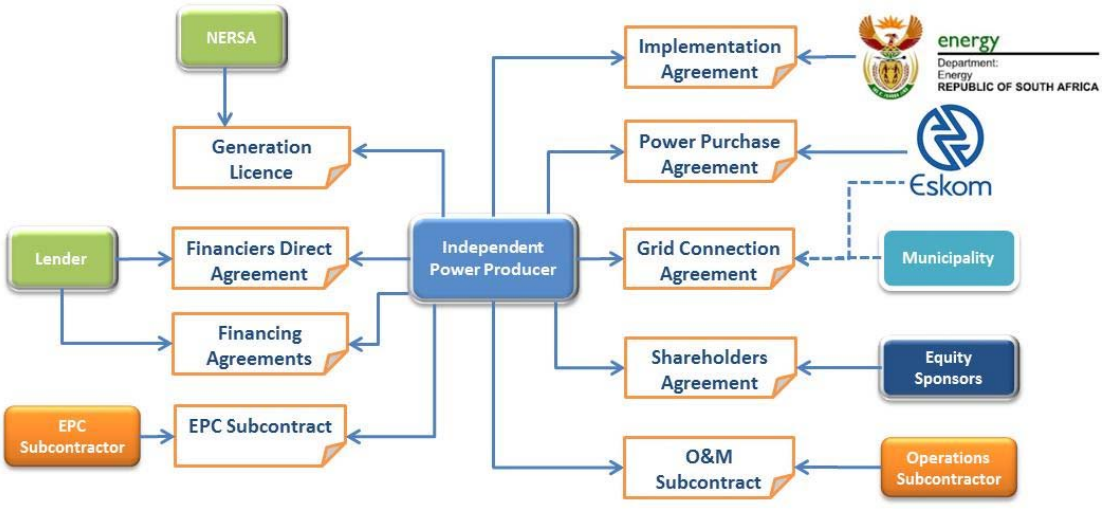

FIGURE 6: Small Projects Programme Structure
(Source: Small Project IPP Procurement Programme Request for Information)

Project Components and Outcomes

This programme aims to address barriers to accessing financial resources by small players/SMEs in the renewable energy sector. The small scale renewable energy market will be catalysed, creating jobs, improving the South African economy and averting the emission of GHGs. The DBSA has established an on-balance sheet debt facility that will be subsidised by the Infrastructure Investment Programme for South Africa (IIPSA) and provide debt to SMEs who will be participating in the small scale projects under the SP-IPPP. As part of this funding mechanism, a GEF capitalised equity fund will be established to provide equity to the renewable energy small projects.

In response to the winning bids, the DBSA has selected three projects; Setynssrus PV1, Setynssrus PV1 and Heuningspruit PV1 described in Table 4 above. The same projects together with an assumed future pipeline of 7 additional solar PV projects to be potentially received through Bid Window 2 of the SP-IPPP have been used to programme the DBSA-GEF funding facility/mechanism described above.

Project preparation

As indicated above, project preparation funding is no longer available for the selected projects that will be funded through the DBSA, IIPSA and GEF funding mechanism. Hence the SMEs will be self-funding their project preparatory activities and only submit proposals that are ready for implementation and require capital development funding.

1. DBSA Debt Facility

DBSA has established an approved balance sheet debt facility with a prudential limit of ZAR2 billion (circa USD 133.3 million) for its participation in the SP-IPPP in which the government of South Africa has made a "Determination" to procure 400MW power. The DBSA's funding is expected to provide debt finance to an estimated twenty (20) small scale renewable energy projects each with a capacity of 5MW. The proposed GEF equity facility that will be blended with the DBSA's debt funding is limited to funding only ten (10) small projects. DBSA's commitment of USD 133,3 million for the SP-IPP still remains. The departure of one key partner, KfW from the original programme structure that was proposed in the PIF has also necessitated the reconsideration of the total number of projects that can be financed with the available resources. As such, in this programme, the DBSA funding will provide senior debt loans to the ten (10) projects that will benefit from the GEF-funded equity facility. The DBSA facility will result in the installation of 50MW. Hence only USD 70 million of the DBSA facility will be utilised in this programme. The remaining funds of USD 63,3 million will be utilised to finance an estimated ten (10) additional projects under the national SP-IPPP (see Annex D, Table 1) in the future. This funding will catalyse the small scale renewable energy both in the near and long terms.

The DBSA's funding allocation is based on current capital expenditure requirements. Long term funding shall be provided to the projects over a tenor of 15-16 years. Based on current capital expenditure requirements, the DBSA has made a decision to provide senior debt financing to a total of 10 solar PV small scale renewable energy projects. The Bank has already secured three of the SP-IPPP projects which achieved the preferred bidder status under Bid Window 1. These projects have also gone through the DBSA internal due diligence process. It is through this process that the DBSA has been able to programme its debt funding, the proposed interest rate subsidy and GEF equity funding that will be provided to the ten (10) projects to ensure that they reach financial close.

The DBSA debt facility has the following objectives:

(i) Providing debt funding to preferred bidder projects under the small IPP programme; and
(ii) Once the projects reach commercial operation date, a securitization process will be followed (through the issue of Senior and Subordinated Notes in the Debt Capital Market ("DCM") thereafter.

2. Infrastructure Investment Programme for South Africa (IIPSA) Interest Rate Subsidy

The Interest Rate Subsidy is an intervention that has been made by the DBSA and its partners in order to address the challenges being faced by SMEs in Bid Windows 1&2 which thus far have prevented most of

the qualified projects that did not benefit from subsidies from other funding initiatives from getting to financial close. These challenges are negatively impacting on the objectives of the small projects programme and reflect a market failure in the sense that there is generally limited interest from commercial investors in providing funding to project sponsors with SME profiles and the fact that many SMEs have difficulty in providing a reasonable equity contribution. The challenges however are also related to the way the programme was structured under Bid Windows 1&2.

2.1 Infrastructure Investment Programme for South Africa

The Infrastructure Investment Programme for South Africa (IIPSA) is an initiative of the Government of South Africa (GoSA) and the European Union (EU). This initiative valued at €100 million at the time of establishment in 2012 is aimed at assisting the GoSA in addressing the country's triple challenges of high unemployment, poverty and inequality through the development of both national and regional infrastructure over the long term. Hence the IIPSA funding is to enhance sustainable economic growth and the delivery of key services affecting development in South Africa and in the SADC region.

The DBSA acts as the Secretariat and Fund Manager to implement the IIPSA Programme Grant Funding for the financing of infrastructure investment projects in support of long term financing by participating DFIs. This funding can take the form of technical assistance or direct investment grants. An IIPSA Project Steering Committee that comprises of the GoSA's National Treasury, Department of Economic Development, Department of Public Enterprises and the Department of International Relations and Cooperation was established and makes the final funding decisions regarding the IIPSA programme.

IIPSA is expected to provide innovative financing involving the co-funding of EU grants together with loans from participating DFIs. The participating DFIs are the following: the DBSA, the European Investment Bank (EIB), Agence Française de Développement (AFD), and the German Investment Bank, (KfW). In order to be eligible, projects should preferably be supported by more than one of the participating DFIs in consortium. Regional finance institutions active in South Africa, like the African Development Bank (AfDB), as well as South African financial institutions, like the Industrial Development Corporation (IDC), may be associated in projects supported by IIPSA

2.2 Interest Rate Subsidy

Preferred Bidder projects in Bid Window 1 only had access to project finance facilities from local financing institutions that had access to subsidised funding from international development banks and were therefore able to offer margins that were acceptable to the developers and retained the viability of the projects. For example AFD allocated 30m Euros subsidise Small IPP support – being debt finance committed under Bid Window 1 which provided support to 5 projects supported through debt. This funding had strong selection criteria biased towards job creation, local content and promotion of local SME's.

The remaining five (5) Preferred Bidder appointed projects in Window 1 will be funded on the basis of corporate finance support and some are now struggling to raise funding at the right price to ensure sustainability of the projects. These form part of the projects that are targeted by the DBSA debt and IIPSA interest rate subsidy. As indicated above, DBSA is already considering 3 of these projects for providing financial support through its debt, IIPSA interest subsidy and GEF equity funding. May need to indicate that we also target the other two.

Subsidised funding or any kind of concessionary funding is no longer available for Bid Window 2. Hence it is likely that most of these projects that will achieve "Preferred Bidder" status will face challenges in getting to financial close. Hence, the IIPSA interest rate subsidy facility has been established with the assumption that at least 5 projects from Bid Window 2 would require some sort of concessionary funding to reach financial close thus benefit from this intervention.

This intervention from the IIPSA is meant to ensure that Bid Windows 1&2 of the SP-IPPP RfP (that are already in the market) will be brought to successful conclusion, thus building support for future Bid Windows to proceed. Thus, this interest subsidy is limited to projects from Bid Windows 1&2. It is also time-bound i.e. will close at latest 12 months after approval. It is anticipated that projects receiving capacity

allocation under future bid rounds of the Programme that will be based on a revised RfP format and will not require IIPSA support.

This interest subsidy is a grant facility of R80 (circa USD 5.34 million) is open for 12 months since its approval by the IIPSA Steering Committee in November 2016 and it is available to all Development Finance Institutions (DFIs) which are participating in financing small projects. It is considered sufficient to cover up to 10 eligible projects from the SP-IPPP Bid Windows 1 and 2 allocation. Hence, on average, each project will be allocated ZAR 8 million (circa USD 533,000).

3. The Small Projects Equity Fund

The GEF funded non-grant equity facility will address the challenges of accessing equity funding by SMEs for the implementation of the small projects. The Equity Fund of USD 15,000,000 will be blended with the DBSA debt facility and provide an equity spilt between the GEF funding and the project developers for each solar PV project.

Without GEF Funding, it is more likely than not that the renewable energy industry shall still be dominated by large scale international companies, with the exclusion of SMEs who are regarded as very important players in the country's economy and may as well do so through participation in the renewable energy generation industry.

Project Outcomes

Financial barriers to the participation of SMEs in the renewable energy (RE) sector shall be removed through an investment of about USD 98,67 million for construction and operation of 10 small scale RE solar PV projects resulting in installation of about 50MW. A reductions of about 9.03 million tCO_2e (2.44 direct and 6.59 indirect) over the 20 year lifespan of each of the 5MW solar PV projects shall be achieved. Financial records of SMEs are expected to improve, skills and capacity enhanced and the small scale RE market shall grow. SMEs may participate in the large scale RE sector going forward. Removal of financial barriers to SMEs in the RE sector shall be achieved and financial mechanisms for funding small scale projects demonstrated successfully.

Figure 7 below depicts the proposed funding structure, incorporating current and future projects.

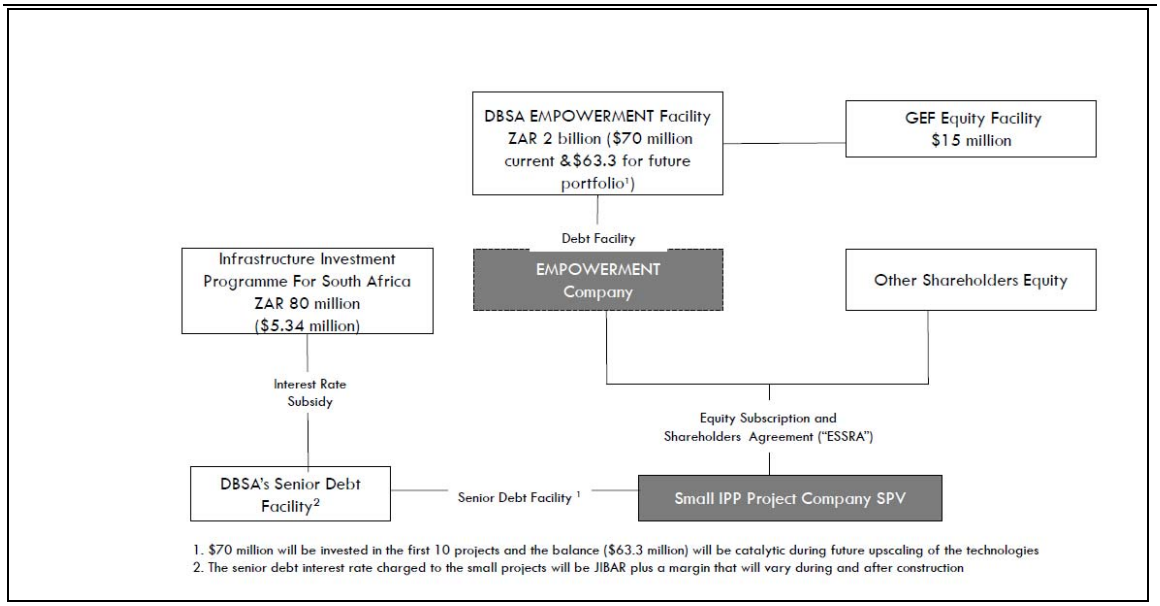

Figure 7: Project structure

Project Selection and Eligibility criteria

The DBSA specific eligibility funding criterial for small projects that will benefit from the DBSA debt facility, IIPSA interest rate subsidy and GEF funded equity fund. The criteria is described below:

(i) Minimum RfP Requirements

DBSA will consider providing funding only to those projects that meet the minimum qualifying criteria of the Small Projects Independent Power Producer Procurement Programme which has been set out by the government of South Africa in the RFP document issued August 2013. At a minimum, the SP-IPPP that will be funded by the DBSA debt facility and the GEF Equity Fund will have addressed the following minimum funding criteria:

- secured land/lease;
- environmental approval;
- grid connection letter/budget quote from Eskom;
- independent resource data review/assessment of the applicable renewable energy technology;
- water availability/allocation from a water services provider;
- preliminary due diligence reports in respect of the Technical, Legal, Insurance and Financial Model; and
- Any other requirements as indicated in the SP IPPP Programme request for proposal ("RFP") as amended/updated from time to time.

(ii) Quality of Sponsors/Shareholders

Although track record and financial strength of the sponsors is a key consideration in funding renewable energy projects, the DBSA understands that the Programme has specific developmental objectives targeted towards SMEs and the project sponsors will not have extensive years of operations in this field.

(iii) SME Ownership

DBSA will support sponsors that are SMEs with Black Economic Empowerment (BEE) ownership level in the Project in line with the RfP. A project will be required to meet the following criteria:

- Controlling share by BEE Entities (50+1%);
- EPC Contractor must not hold majority shareholding in the Project;
- Own Equity Contribution (Proof of availability);
- BEE Entities must have active involvement in the operations of the Project; and
- Acceptable Equity retention criteria in line with the RfP requirements.

(iv) Technology

Only proven technologies will be considered for DBSA funding. Untested technologies will not be considered. The technology profile will be as per the RfP, i.e. Solar Photovoltaic, Wind, Biomass, Biogas, Landfill Gas and Small Hydro. However, the DBSA will be funding only solar PV projects.

(v) EPC Contractors

It is a critical consideration that the construction company that is selected to engineer & construct the project should have (i) a credible track record; and (ii) financial strength to back up their EPC contract obligations (such as performance guarantees and liquidated damages). Preference will be given to those contractors that establish joint ventures with local companies.

(vi) O&M Contractors

Considerations similar to EPC contract arrangements. The important issue is that the structuring should be set up in such a way that the recourse of lenders (where required) can be competently honoured by the counterparty. Preference will be given to those contractors that establish joint ventures with local companies.

(vii) Social and Environmental standards

Projects for consideration will have to meet the DBSA environmental and social safeguard standards requirements. A complete due diligence will be conducted on each of the projects under consideration for funding.

(viii) Location

Small projects from less developed South African provinces will be prioritised.

(ix) Pricing and Credit Assessment

All funding from the DBSA will be competitively priced and take the following into account:

- the cost structure of DBSA, which includes cost of funding but also other overheads;
- the risk of the Loan;
- the market pricing for similar transactions; and
- the market pricing for similar products offered to projects in the REIPPP Programme.

(x) Post Preferred Bidder Status

Projects selected as preferred bidders will have to undergo a full credit assessment on technical, legal, insurance and financial aspects including a model audit. Full Know Your Client (KYC) and sanctions checks will be undertaken on all successful projects.

Technology selection and rationale

At PIF stage, 20 projects were proposed for funding through this facility and a portfolio proportion of 80% solar PV, 10% wind and 10% biogas was proposed. Following completion of the project preparation phase, the DBSA has made a decision to fund only solar PV projects. The rationale for this decision is based on the Bank's experience and market developments as well as the availability and reliability of solar over other technologies. Cost considerations, lead times and logistical aspects also play an important part. Some of the considerations are described below:

Solar

Solar photovoltaic (PV) although thought to be a new technology has been in commercial development since the 1970s. The market has in the recent years witnessed significant technology price declines largely due to growing markets and competition. Such a development has made it conducive for large scale adoption of solar PV leading to increased volume and accelerated growth. As a result of this, an average annual growth rate of 80% has been registered between 2006 and 2010. Solar panels are locally and readily available, and a commercial plant can be developed within six months. While PV grid parity for households was reached in 2012 in Germany, South Africa reached parity for grid tied systems in 2014. Solar has had such significant influence due to the fact that:

- PV technologies are scalable;
- PV cells enjoy economies of scale and steep learning curves due to mass production;
- They are compact, have no moving components and do not require fuel; and
- Innovation cycles are much shorter for PV than for conventional power plants, and planning is also much shorter.

Wind

Wind is comparatively less reliable and the logistics for turbine and procurement are more complex as these are not locally available. Order books for the top five original equipment manufacturers (OEM) are reportedly full and lead times are long. Economies of scale would naturally dictate that large scale developers often with commercial reputation and stronger financial capacity receive priority over small scale developers. Project development time is also much longer

Procurement logistics are complex particularly for small scale developers, especially for wind turbines which are not available locally, whereas, while biogas can be developed in approximately 18 months. The risk of implementing solar energy projects is also much lower than that of wind, and panels are more efficient.

Biogas

Biogas development faces the main risk of feedstock and technology is also more expensive. Project development takes longer, and could take up to 18 months.

Project Selection and Funding Process

In response to the winning bids, the DBSA has selected three projects; Setynssrus PV1, Setynssrus PV1 and Heuningspruit PV1 (please see Table 4 above). The same projects have also been used to programme the IIPSA interest subsidy and GEF equity components of the entire funding mechanism.

The DBSA has sourced the first three projects from Bid Window 1. These are expected to reach financial close by June 2017. The balance of seven projects will be identified from Bid Window 2 and future RfPs (Bid windows) and financial close is scheduled for June 2018. To ensure transparency and access to information to potential SME bidders, the DBSA will post the information on the availability of GEF equity funding to participate on its website and print media.

Small projects that will be financed by this funding mechanism will be assessed through the DBSA and IIPSA project appraisal systems. These two processes may take place at different timeframes or simultaneously. Projects will be adjudicated on an individual basis by the DBSA and IIPSA committees as follows:

(i) The DBSA investment committee (IC) will assess projects in terms of providing the 75% debt funding that will be required by the project from the Bank's debt facility. At this stage, the equity funding required by the project through the GEF equity fund will also be assessed and allocated.

(ii) The IIPSA committee will appraise and approve the interest rate subsidy that will be required by each project.

The proposed mechanism for the flow of the GEF funding is presented in the diagram below.

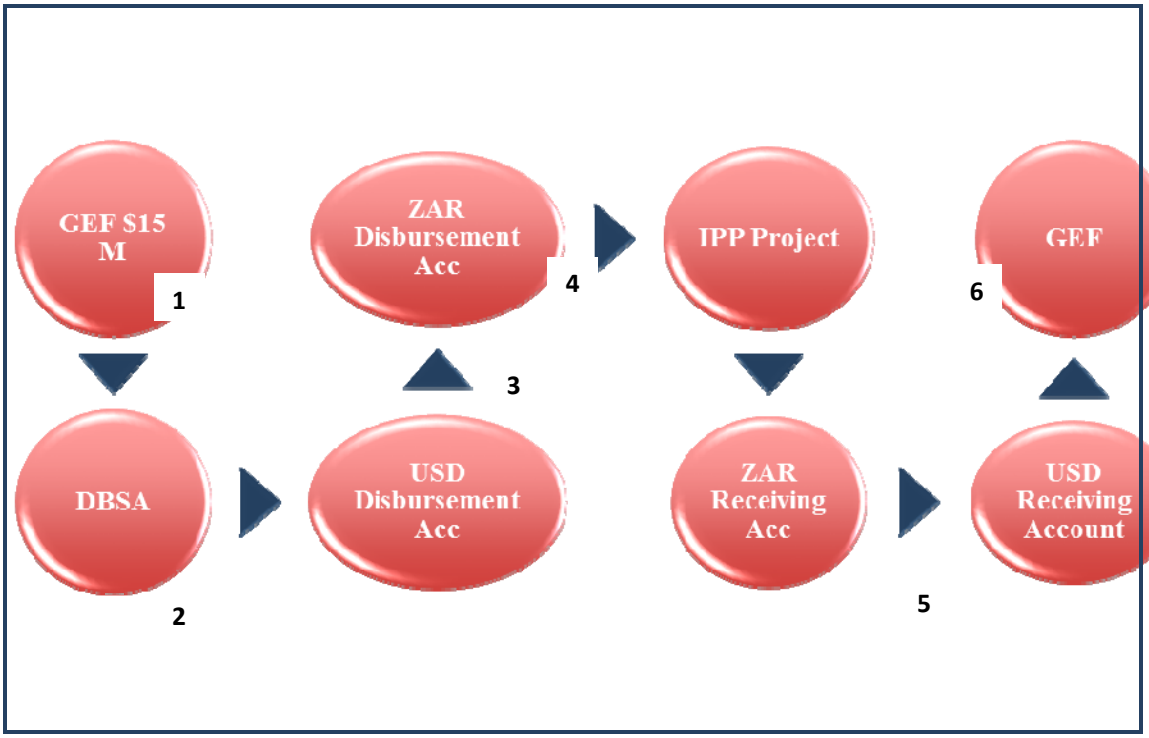

Figure 7: GEF funding flow

GEF Flow of Funds Steps

Step1: The investment funds non-grant valued at USD 15 million will be advanced to DBSA following the approval/endorsement of the project by the GEF CEO. Funds will be advanced to DBSA in line with the Financial Procedures Agreement signed between the DBSA and GEF (through the GEF Trustee). The non-grant funding will be utilized by the DBSA in providing equity funding to SMEs under the Small IPP Programme.

Step 2: The funds will immediately be transferred into a ring fenced USD Bank Account, that will solely be utilized for funding to the projects.

Step 3: When each individual small project reaches financial close, the GEF USD funding equivalent to the approved ZAR denominated DBSA equity funding amount, will be transferred to the ZAR denominated Disbursement Account. This funding will be used solely to fund the SMEs equity requirements, in accordance with each project specific drawdown schedule.

Step 4: Each funded project will make the scheduled interest and capital repayments relating to the GEF BEE funding into a ring fenced ZAR Bank Account that will solely be used for receiving repayments for the GEF funding.

Step 5: The ZAR repayments received will be converted immediately into USD and be kept in a USD Bank Account that will solely be utilized for receiving repayments from the ZAR Receiving Bank Account. The immediate conversion of repayments from ZAR to USD is for the purpose of minimising the risk of forex losses.

Step 6: DBSA will then transfer the funds in the USD Receiving Account back to GEF as and when repayments are received from the projects or at a frequency that DBSA determines being appropriate from an administrative perspective.

Project Pipeline

In response to the winning bids, the DBSA has selected three projects; Setynssrus PV1, Setynssrus PV1 and Heuningspruit PV1 (see Table 5). The same projects have been used to programme the funding facility/mechanism that the DBSA has established, subsidised by IIPSA (interest rate) and GEF equity equity funding. Table 5 below presents the existing and future potential pipeline of projects to be funded by the facility.

Table 5: Existing and proposed future DBSA pipeline

	EXISTING PIPELINE			FUTURE PIPELINE	TOTAL
Investment Name	Heuningspruit PV 1	Steynsrus PV 1	Steynsrus PV 2	7 Projects	
Estimated Agency/DBSA Approval Date	On or before June 2017	On or before June 2017	On or before June 2017	On or before June 2018	
Type of Non-Grant Instrument	Subordinated Debt	Subordinated Debt	Subordinated Debt	Subordinated Debt	
Expected Start of Investment	June 2017	June 2017	June 2017	June 2018	
Project Size (ZAR)	140 000 000	140 000 000	140 000 000	980 000 000	1 400 000 000
ZAR/USD Exchange Rate	15	15	15	15	
Project Size (USD)	9 333 333	9 333 333	9 333 333	65 333 333	93 333 333
Debt to Equity*	75:25	75:25	75:25	75:25	
Total Project Equity (USD)	2 333 333	2 333 333	2 333 333	16 333 333	23 333 333
% Eligible for GEF Funding**	64.286%	64.286%	64.286%	64.286%	
Amount of GEF Investment (USD)	1 500 000	1 500 000	1 500 000	10 500 000	15 000 000
Equity and Other Co-Financiers (USD)	833 333	833 333	833 333	5 833 333	8 333 333
DBSA Senior Loan (ZAR)	105 000 000	105 000 000	105 000 000	735 000 000	1 050 000 000
DBSA Senior Loan (USD)	7 000 000	7 000 000	7 000 000	49 000 000	70 000 000
Additional DBSA Senior Loan (USD)	The DBSA has allocated USD133.3 million to fund up to 20 small projects. Due to the GEF Equity Fund being limited to USD 15 million, the DBSA and GEF can only co-finance 10 projects. Only USD 70 million of the DBSA's allocated USD 133.3 million will be utelised to finance the 10 projects that will constitute this GEF equity funded programme. The remaining USD 63.3 million will be utilised to fund future other small projects under SP-IPPP.			63 333 333	63 333 333
Estimated Interest Rate on GEF Funds (fixed)	600 Bps	600 Bps	600 Bps	600 Bps	
Tenure (years)	Up to 16 years	Up to 16 years	Up to 16 years	Up to 16 years	

Notes:
Given that the investments in the small projects will be identified as the SP-IPPP is implemented by the South African Department of Energy, the illustrative schedule of reflows below is based on the first 3 small photovoltaic ("PV") projects (Heuningspruit PV 1, Steynsrus PV 1 and Steynsrus PV 2). These projects were awarded preferred bidder status by the DOE in October 2015 and are first in line to be funded through the GEF Equity Fund. The projects are expected to reach financial close on or before June 2017. After each project has been negotiated and approved by the DBSA, the Bank will provide the final reflow schedule to the GEF Secretariat and the GEF Trustee. The information presented here is indicative, as the final reflows are dependent on the final financing structure, terms and conditions, and financial close audited model. The summary of the expected number of projects and projected reflows are provided in Annexure D. These are subject to change depending on the development of the DBSA's small projects pipeline. The GEF Secretariat will be informed on a regular basis of any changes in the regard.

4) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and co-financing;

Incremental/additional Cost Reasoning and Expected Contributions from the Baseline and Co-financing

Barriers to the participation of small scale renewable energy players in the SP-IPPP have clearly been elaborated in this document. It has been indicated that even after DFIs such as the DBSA have made efforts to participate in the small scale renewable energy projects market by providing debt funding, there still exist challenges towards ensuring that such cost of funding is affordable to the SMEs for sustainability of projects whilst financiers receive the expected returns. As such, most financiers have avoided this market, leaving those who participate to find innovative means to finance these projects in a transparent, balanced manner that ensures value add without market distortion. In the case of this project, it is proven that the DBSA and other DFIs would not be able to fund small IPPs and receive their expected returns without the IIPSA interest rate subsidy.

There has not been deviations from the initial PIF. As discussed, SMEs will still experience challenges of raising equity despite the availability of debt funding from the DBSA debt facility. It is concluded that without the GEF resources, the small scale renewable energy projects and SME project developers will continue to be excluded from participation in the market yet they are regarded as very important participants in the country's economy. Failure of SMEs to access debt and equity would compromise growth of the RE sector resulting in a suppressed environment and continue to jeorpadise the country's mitigation efforts. Without the GEF proposed equity fund, the chances of success of the Small Scale IPPs and the DBSA facility would be minimal. The GEF funds, through an accurate non-market distortion level of concessionality will enable the financing of some projects that would not happened. The proposed GEF financed Equity Fund will leverage about $147 million from private sector, beneficiaries, the DBSA and IIPSA.

5) Global environmental benefit (GEBs)

The DBSA debt facility, IIPSA interest subsidy and the GEF component proposed here, by design, still fall under Objective CCM-1 program number 1 and Outcome C of the GEF Climate Change Mitigation strategic priorities. The project's objective is to remove barriers to access to finance by SMEs in the RE market ensuring the funding of low carbon technologies which will result in strengthening of financial markets and mechanisms for low GHG development. The 10 project portfolio will consist of all solar PV projects. The GEF proposed Equity Fund and the DBSA debt facility (blended with IIPSA funding) and SME beneficiaries will inject USD15 million, about USD 138,6 million and USD 8,3 million respectively which will result in installation of close to 50MW, reducing about 9.03 tCO_2e, (including both direct and indirect emissions) over the 20 year lifespan of each of the 5MW solar PV projects.

The emissions reduction achieved through this project will contribute towards South Africa's target of reducing its GHG emissions by 34% below Business as Usual (BAU) before 2020 and by 42% BAU by 2025, as declared in the country's BUR.

Providing access to finance to SMEs and installations of small scale energy projects will demonstrate that this type of grid-connected projects can be financed on commercial terms. It will further open doors to increased commercial financing of this class of projects, expediting market acceptance of renewable energy projects and their positive impacts on GHG emissions reductions. It will further leverage funds from private sector and bilateral cooperating institutions in line with the objectives of the GEF-6 non-grant pilot which is expected to play a key role in supporting the GEF's efforts to leverage significant capital from the private sector through the use of innovative and flexible financial instruments, thereby helping stretch the GEF's limited resources and guiding the private sector towards more environmentally sustainable activities. It is also expected to have a high impact.

6) Innovativeness, sustainability and potential for scaling-up

It is the first time in South Africa that an initiative like the DBSA debt facility, particularly supported with the IIPSA interest subsidy, will be implemented. The proposed GEF Equity Fund will by default participate in the innovativeness of the debt facility through the provision of equity finance to the small projects. Innovation in the DBSA debt facility is further observed in the following characteristics:

(i) Providing debt funding at affordable cost to SMEs, due to the blending of the IIPSA interest rate subsidy facility with the DBSA's debt facility.
(ii) Providing interest rate subsidy to a debt facility by IIPSA for the funding of small scale projects by DBSA.
(iii) Providing equity funding (through the proposed GEF funding) at reasonable lending rates to SMEs to ensure their sustainability as project developers and/or investors.
(iv) Include a securitization platform for potential adoption in the market in rolling out infrastructure programmes in sectors where there are similar barriers and/or market failure. The securitisation platform is to catalyse the participation of the private sector in the small scale Renewable IPP sectors upon the projects being derisked at Commercial Operation Date.

Skills transfer and capabilities shall be enhanced, building competence of small project developers, ensuring sustainability and participation in large scale projects in the future. The funding therefore unlocks the participation of commercial banks in the SP-IPP Programme projects as the SMEs would have had the opportunity to build a track record of projects which will assist in the bankability of future projects. The GEF funding will enable the successful full funding package necessary to deliver the small IPP programme. This will have the effect of providing a proven project model which DFI's. The fund aims to provide access to finance for small projects, but not necessarily cheap or subsidised finance as a model needs to be established that the private sector may replicate or build on at a later stage, and which is profitable enough to become sustainable in the near future.

The interest rates offered are not below-market but have been pitched to be competitive. The DBSA debt facility and the Equity fund will securitise the de-risked projects so that the private sector can step in at a later stage. The loan book will be securitised after Commercial Operation Date and thereby assisting in creating a financial market for small, local RE IPPs.

The debt facility blended with the interest rate subsidy is also a self-sustainable funding mechanism. As indicated, should the IIPSA facility run out before DBSA's 10 projects are all funded, there is an opportunity for the Bank to negotiate for replenishment of the facility by the donor agencies thus ensuring sustainability. It will also be funding projects that are financed by other DFIs, opening the opportunity for replication in the future. The GEF funded equity will also ensure generation of sufficient cash flows from the sub-loan investments to ensure that it is able to meet its operating expenses within the DBSA.

The ten projects that are currently funded by the DBSA, GEF and IIPSA in this programme shall further catalyse the funding of additional projects under the SP-IPP programme which will be further financed through the remaining balance of USD 63,3 million in the DBSA debt facility. The Department of Energy has set out the target for the renewable energy (400MW) that will be procured from SP-IPP and so far, only about 50 MW has been allocated through preferred bids in Bid Window 1. The DBSA-GEF facility will provide funding for Bid Window 2 and

subsequent calls for projects. There will still be a substantial partition of the 400MW target that will remain and funded. Hence, the funds remaining in the DBSA facility will provide finance for such projects. This will further contribute towards the sustainability of the SP-IPP programme. It will ensure participation of more SMEs, provide opportunity for additional innovative funding and catalysation of the small scale RE market. There is also scope for regional replication of the programme.

Comparative Advantage of the Agency

The proposed programme (establishment of the DBSA debt facility and the GEF funded Equity Fund) is within DBSA's mandate to support programmes that result in infrastructure development, regional development, industrialisation and job creation. In addition, energy generation and in particular renewable energy is an important sector fostering and sustaining the growth and competiveness of the South African economy and the programme will contribute towards ensuring the security of supply of energy and thus economic growth. The DBSA has, in line with its comparative advantage and government mandate fit, participated in financing the large scale REIPPP programme and properly fit for participation in the small scale market, ensuring catalysation and growth of the industry. In the overall REIPPP (that includes the SP-IPPP), DBSA plays the following key roles which further prove its competitive advantages in implementing this project:

- Involvement in the institutional set up and acts as the custodian organisation for the IPP office
- Acts as the Secretariat for IIPSA

A.3. Stakeholders

Elaborate on how the key stakeholders engagement, particularly with regard to civil society organizations and Indigenous peoples, is incorporated in the preparation and implementation of the project.

The SP-IPPP will bring together multiple stakeholders as indicated in Table 6 below. The key stakeholders in this project still remain the DBSA, the GEF, department of energy and SME investors. However, several key stakeholders have since joined through the Infrastructure, Investment Facility for South Africa. The IIPSA has been established as a bilateral initiative between the government of South Africa and the European Union and several DFIs; KfW, AFD and EIB are participating beneficiaries of the facility.

As described above, the DBSA will receive (preferred bidders of the SP-IPPP) and assess projects that seek financial support from its debt facility and allocate funding including equity from the GEF equity fund, following its internal processes. The IIPSA steering committee, on the other hand will assess projects that require the interest rate subsidy and provide this instrument accordingly.

To ensure that potential SME small scale energy projects participants are aware of the availability of the DBSA funding facility, the GEF equity fund in particular, the DBSA will announce on its website and printed media. The IPP office website shall also be used to announce the availability of the facility. This announcement will not only make potential and current small scale players aware of the facility but also civil society and community based (including women owned companies and groups) organisation that have interest in participating in this market. In this way, all interested and affected parties in the small scale renewable energy market will be encouraged to participate in a transparent manner.

The objective of this project has not deviated substantially from the PIF idea. Hence all stakeholder engagement initiatives proposed in the PIF will still take place. The Department of Energy will be the main execution partner for the SP-IPPP which will be funded by the DBSA debt facility and the proposed GEF Equity Fund. The department is the custodian of the SP-IPP programme and leads its procurement and related processes. SME investors respond by submitting their bids which are funded by different financiers and the former are the key implementers (construct and operate) of small scale projects. The Department of Environmental Affairs (DEA), as the custodian for all environmental conventions, including the UNFCCC, will work closely with all stakeholders in the project at the

project design stage as well as implementation to ensure the achievement of the proposed outcomes, particularly GHG emissions and compliance with Environmental Regulations. Information and lessons gathered from the implementation of this project will be used by the various stakeholders to report on progress on implementation of initiatives on transforming the country to a low carbon economy as well as meeting the international obligations such as formulation of National Communications and Biennial Update Reports. The objective of the GEF funded Equity Fund is to remove financial barriers to the participation of SMEs in the RE market, hence the Department of Trade and Industry (DTI) shall also be closely involved in the design of the project ensuring that the targeted players are reached and benefit accordingly. Other ministries will include the Department of Economic Development whose interest will be mainly ensuring that the economic benefits of the project are achieved.

Table 6: Key project stakeholders

Stakeholders	Roles/Responsibilities
Development Bank of South Africa	• Provides debt funding (USD 70 million facility) for SP-IPPP. • Acts GEF implementing agency for SP-IPPP. • Hosts Project Management Office (PMO) of SP-IPPP. • Hosts the national IPP office. • Reporting to GEF (including non-reflows to GEF trustee). • Conducts mid-term and facilitates terminal evaluations of SP-IPPP. • Reporting to IIPSA
IIPSA	Provides interest rate subsidy (USD 5.34 million) through IIPSA for SP-IPPP).
Project Sponsors	• SMEs that will benefit from the SP-IPPP DBSA/IIPSA debt and GEF Equity Fund • Contribute USD 8,3 million for the programme • Develop projects in line with SP-IPPP, ensuring all legal requirements/permits are in place.
Civil Society Organisations	• Will benefit from small projects through either participating as investors in projects or job creation
Department of Energy	• Custodian department for energy resources in the Republic of South Africa • Undertakes the SP-IPPP following the Determinations issued by the Minister. Department will evaluate the Stage 1 Bid Submissions and select Selected Bidders who will be given the opportunity to submit Stage 2 Bid Submissions at any Stage 2 Bid Submission Date. • Evaluates bid submissions and select preferred bidders. Minister of Energy • Issues the Determinations in accordance with section 34(1) of the Electricity Regulation Act and the SP-IPPP implemented based on such Determinations.
National Treasury (Ministry of Finance)	• Oversees the SP-IPPP as the department of finance in Government, and in order to ensure compliance with the provisions of the PFMA.
Eskom/buyer	• Legal entity designated by the Minister of Energy in the Determinations to purchase the energy output from the small projects in terms of PPAs.
Distributor	• Distributes power output to users

National Energy Regulator of South Africa (NERSA)	• The custodian and enforcer of the regulatory framework provided for in the Electricity Regulation Act. • Issues generation licence to SMEs for operation of a SP-IPPPs (power plants) under the Electricity Regulation Act.

Community based organisations shall be reached through advertisements in the local and national media to ensure that they benefit in accordance with the programme's legal requirements.

A.4. Gender Equality and Women's Empowerment. Elaborate on how gender equality and women's empowerment issues are mainstreamed into the project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men.

Gender mainstreaming and inclusivity are key to the DBSA's commitment to gender equality in development. Renewable energy development in South Africa is a priority sector for the DBSA as it is in line with energy access, and local economic development while also allowing for participation, through employment and ownership opportunities. The DBSA is guided by national legislation and policies which have helped to progressively previous imbalances and inequalities in a manner that promote inclusive and equal growth opportunities for all, and they are summarised below. The SP-IPP through its eligibility criteria encourages participation of all small scale players in the renewable energy market.

Section 9 of the Constitution of the Republic of South Africa (1996), defines the goals towards achieving gender equality and are guided by a vision of human rights which incorporates acceptance of equal and inalienable rights of all women and men. The Bill of Rights - enshrines the rights of all people in South Africa and affirms the democratic values of human dignity, equality and freedom. In terms of the Constitution, every person has basic human rights such as:

- equality before the law and equal protection and benefit of the law
- freedom from unfair discrimination
- the right to life
- the right to human dignity
- the right to freedom and security of the person.

The *Gender Policy Framework* - establishes the national goal, proposes central objectives, defines key indicators for attaining the goal and objectives, and identifies key national structures that are mandated to implement the programme. While the Gender Policy Framework is not prescriptive, it does set standards and norms for the national programme.

The Women Empowerment and Gender Equality Bill aims to give effect to section 9 of the Constitution of the Republic of South Africa, 1996, in so far as the empowerment of women and gender equality is concerned; to establish a legislative framework for the empowerment of women; to align all aspects of laws and implementation of laws relating to women empowerment, and the appointment and representation of women in decision making positions and structures; and to provide for matters connected therewith.

Women in Oil and Energy (SA) WOESA has a mandate to facilitate and promote business opportunities for and to enhance the participation of South African women in the oil and energy sector by facilitating broad involvement of women in the energy sector, interfacing with all relevant stakeholders, in order to foster a conducive environment for the empowerment of women. This organisation is also expected to participate in the renewable energy SP-IPPP.

C3E (Clean Energy Education & Empowerment). The Science, Technology, Engineering, and Mathematics (STEM) is an initiative designed to empower young girls and women in the field of Clean Energy. It aims to recruit young girls and women to take up subjects and pursue careers in the field of.

A.5 Risk. Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation. (table format acceptable):

Table 7: Risks

Risks	Rating	Mitigation
Policy and Political (Low government commitment to support the programme)	Low	The project objectives and outcomes are in line with national policies and priorities. The Programme has the full support of Government through the Department of Energy. It will also be implemented on the same policy provisions which are said to have contributed, to a large extent, to the success of the large scale IPPP.
Sustainability (Failure to achieve programme outcomes and objectives after successful delivery of outputs)	Medium	The SP-IPPP funding mechanism has been set up to be a self-sustainable funding structure. The fund is to initially fund 50MW. The role played by the equity fund from GEF will be important in establishing and testing this model and its sustainability for the future. SP-IPPP facility has been set up to ensure that it is able to generate sufficient cash flows from the small projects sub-loan investments to ensure that it is able to meet its operating expenses. The project securitization platform to be set up by the mechanism is a first initiative of this nature in South Africa. The intention is to encourage the adoption of similar structures in the market when undertaking infrastructure programmes in sectors where there are similar barriers and/or market failure.
IIPSA interest rate subsidy elapsing before DBSA receives all proposed 10 projects for funding (subsidy opened for 12 months after approval by IIPSA committee)	Low	DBSA is part of IIPSA steering committee, will track progress on the IIPSA subsidy and initiate negotiations for extension of timeline and replenishment for the facility.
IIPSA interest subsidy gets exhausted before DBSA's proposed 10 projects reach financial close		DBSA will initiate negotiations to replenish IIPSA subsidy
Environmental (Failure to mitigate environmental risks)	Low	All Small Projects shall conduct Environment Impact Assessments and acquire Environmental Authorisations from the Department of Environmental Affairs before funding is made available to them by the facility and the Equity Fund.
Completion (The risk of projects not reaching Commercial Operation Date)	Low	The completion risk will be managed through the following mitigations: A pre-selected suite of EPC Contractors with the: ▪ financial strength to support required guarantees.

		▪ technical expertise to ensure construction standards and deadlines are met. ▪ previous track record under the Renewable Energy IPP programme in terms of projects successfully completed. Lenders Technical Advisor will sign off for plant design, solar resource, module performance, inverter compatibility, practical completion and provisional and final acceptance of the plant's level of performance and all milestone linked payments.
Operational	Low	A pre-selected suite of Operations and Maintenance ("O&M") contractors with the following expertise shall be appointed: ▪ The financial strength to support required guarantees; ▪ Technical expertise to ensure operations and maintenance regimes are met; ▪ Previous track record under the Renewable Energy IPP programme in terms of projects successfully being operated by the O&M Contractor. ▪ A robust O&M guarantee regime comprised of Performance Liquidated Damages
Sponsor weakness	Medium	The SPIPP is specifically targeted at weak sponsors to encourage capacity build-up and necessary experience to enable them to participate in the REIPP in due course. Sponsor selection will be managed via the Investment Policy and the Department of Energy's 1st Stage Selection process, as per the RfP's requirements. Sponsor risk is also mitigated by: ▪ Suite of capable and competent EPC and O&M contractors available to the sponsors (as detailed above) ▪ The Technical Assistance facility provided by IIPSA to finance the development of the projects. ▪ The appointment of the Facility Manager.
Energy Resource (The risk of lower actual energy yields compared against predicted energy yields)	Low	The solar and wind resources will be independently verified by the Lenders Technical Advisor(s) to confirm P90 and P50 energy yields. It is however known that South Africa is well endowed with Solar and Wind resources, hence the success of the large scale Renewable Energy Programme.
Market/Off-Take	Low	20 years Power Purchase Agreements ("PPA") with Eskom will be signed. The Department of Energy will guarantee Eskom's obligations under the PPA, in the event of Eskom's default.
Seed/Equity Investment (The risk of sponsors/SMEs ability to contribute the required equity)	Medium	The sponsors will put in a minimum of 10% equity into each project, which will effectively be the seed investment. This will be in the form of liquid bank instruments acceptable to the DBSA. It is proposed that a GEF Equity Fund is set up in order to enable SMEs targeted for participation under the Programme, to be able to readily raise the equity funding. The GEF funding will be used to provide 50% of the total required equity investment.
Fund Legal Structure (The risk of enforceability and validity of the proposed structure)	Low	The legal structure for SP-IPPP funding mechanism has been reviewed by an internationally renowned Legal Firm and have provided a positive legal opinion regarding the enforceability and validity of the proposed funding structure.

Refinance Risk at Securitisation (The risk of an unsuccessful securitisation process)	Medium	It must be noted that the DBSA's Facility as currently structured is not dependent on a successful securitization process. An unsuccessful securitisation process will result in the debt facility being settled over the legal tenor of 15years from cash flows generated by the small IPP projects, based on the 20 years Power Purchase Agreement. The following aspects are however in favour of a successful securitization process: ▪ Securitisation process is to be undertaken once the portfolio of Small Projects has been de-risked (i.e. Completion Risk mitigated). ▪ There are robust project cash flows and Debt Service Cover ratios to service project loans at the facility level (i.e. through an optimal tariff structure).

A.6. Institutional Arrangement and Coordination. Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

The key deviation noted from the PIF is the participation of IIPSA through the interest rate subsidy. Since there are several national and international DFIs that will provide their own funding to small projects which are also likely to have benefited from the IIPSA facility, there exists therefore a huge collaboration and coordination opportunity in terms of the implementation of these projects. In addition to this this, there is likely to be learning opportunities from one project to the other as well as sharing of experiences amongst the participating DFIs, investors and the IPP office. As such, the success rate of the projects is likely to increase.

The target projects are still the same small IPP initiatives, therefore collaboration with other projects as proposed at the PIF stage will still be encouraged. However, since the project mix has changed, with the exclusion of small wind and biogas, this project will no longer seek opportunities for funding the pipeline of projects that will likely be generated from the GEF-funded Biogas Market Development project (GEF ID 5704).

This project will further coordinate, with the objective of taking lessons and scaling up, with several projects which have been funded under the large scale REIPPP. The SMEs, the key targets in this project, with their affiliate associations/organisations (including community based organisations) shall be made aware of the availability of the GEF funded Equity Fund through national media as well as future determinations that will be made by the Ministry of Energy. Collaboration with projects which may have a symbiotic relation to the small scale RE initiatives that will be funded by the GEF fund, currently in planning stage or under implementation by these groups, shall be encouraged. Further collaboration with other initiatives will be identified and done through the different stakeholder forums including the Intergovernmental Committee on Climate Change (IGCCC).

Additional Information not well elaborated at PIF Stage:

A.7 Benefits. Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

Socio-Economic Benefits
The aspect of economic development encompasses government's commitment to localisation in support if industrialisation, community development and poverty alleviation in previously-disadvantaged communities, employment creation, land use and efficient resource utilization are central to the REIPPP. Provision for non-price criteria accounted for 30 percent of the total bid value. This paved way for domestic industry creation through the localisation requirement, community development, black economic empowerment, while also increasing economic opportunity and energy security to diverse customers and supporting sectors needing electricity across the country. In addition to that, the programme has also opened up opportunities for capacity development and skill and technology transfer, enterprise development, access through off grid solutions and distributed generation. Direct and indirect jobs, and induced employment opportunities have been availed.

A.8 Knowledge Management. Elaborate on the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

Since 2009, South Africa has developed, implemented and continuously improves its M&E system including the National Climate Change Response database (NCCRDB), a web-based system containing information on the mitigation, adaptation and research projects that have been implemented in the country. Lessons and information gathered from projects implemented through financial, technical and institutional support from the DBSA and the GEF funded Small Projects Equity Fund shall be used to inform the country's M&E system, ensuring improved replicability.

The funding approach that is used for the DBSA facility is the first in the renewable energy market in South Africa. Experiences and data from gathered from funding and implementation of the 10 small projects shall be documented and used to inform and improve future initiatives on building financing models for projects in this market in South Africa.

B. Description of the consistency of the project with:

B.1 Consistency with National Priorities. Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.:

As recent as 2015, South Africa in its intended national determined contribution (iNDC), acknowledged the contribution made by the REIPPPP to the national renewable energy targets, attraction of private sector in this market and the determined reduced GHG emissions portion that will be achieved through this programme in the overall national efforts. It is further declared that South Africa's INDC should be understood in the context of national challenging circumstances, where the global climate change multi-lateral system includes the mobilisation of and access to finance, technology and capacity building for developing countries, and that as a developing country South Africa is putting in place a system to achieve a fair contribution. This funding facility, established by the DBSA, IIPSA and GEF is therefore closely aligned with the national priorities and strategic intents of South Africa.

The project's objectives and nature has not changed from the PIF proposal hence its alignment with national strategies remain the same as described in the PIF. The establishment of the GEF capitalized equity fund is meant to catalyse the

small scale RE markets and in line with South Africa's commitment to transition to a low carbon economy that is guided by its vision for 2030, as detailed in the 2011 National Development Plan and the National Climate Change Response White Paper. The National Development Plan (Ch. 5) further declares growth in the renewable energy sector by 2030, taking off in response to falling technology costs and government's bold support for the sector, and the introduction of targeted carbon- pricing mechanisms to facilitate further private investment in renewable energy. The proposed project also aligns with strategies and initiatives that are being implemented in line with the country's efforts to reduce GHG emissions in accordance with its commitments and contribution to worldwide efforts under the UNFCCC. In its Biennial Update Report (BUR) submitted in November 2014, South Africa reiterates that its energy intense economy has resulted in an emissions profile that differs substantially from that of other developing countries at a similar stage of development. The REIPPP programme, whose component, the SP-IPPP will be funded by the proposed GEF Equity Fund, is reported in the BUR as an additional effort to the country's suite of "Working for Climate" and "Flagship" programmes currently proposed and under implementation. South Africa further undertook in its BUR, to reduce its GHG emissions by 34% below Business as Usual (BAU) before 2020 and by 42% BAU by 2025.

C. DESCRIBE THE BUDGETED M &E PLAN:

The Budget for M&E is estimated at USD 80,000 (funded by the DBSA) for the 10 project portfolio. In the earlier phases of the projects, activities will largely be of a technical nature to ensure that they reach financial close. Site visits will also be critical in the earlier phases as part of the assessment and verification process. Activity will initially be centred around the three projects and extended to the additional seven projects once they become available.

Project monitoring and evaluation (M&E) will be conducted in accordance with established GEF and DBSA procedures. The Strategic Results Framework (SRF) provides performance and impact indicators. The SRF will be the reference for monitoring the project's implementation and for (independent) evaluation of performance and impact. Day-to-day monitoring of implementation progress will be the responsibility of the DBSA. The DBSA will inform GEF of any delays or challenges faced during implementation so that appropriate support can be given and corrective measures adopted, in a timely and remedial fashion.

Reporting

The DBSA shall present periodic reports (project implementation reports – PIR) particularly on the GEF financed Equity Fund. Reports shall include information on progress on the implementation of activities funded by the facility, the outcomes, outputs and indicators.

Mid-term evaluation – the project will be assessed at the mid-term in line with GEF evaluation policies and reports provided to the GEF.

Terminal Evaluation – at least one or two months post completion of the implementation of the project in 2021, the DBSA shall further facilitate the evaluation of the project by an independent third party and provide evaluation reports to the GEF in line with the evaluation policies.

PART II: CERTIFICATION BY GEF PARTNER AGENCY(IES)

A. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies[8] and procedures and meets the GEF criteria for CEO endorsement under GEF-6.

Agency Coordinator, Agency Name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Nomsa T. Zondi +27 11 313 3491 nomsaz@dbsa.org			Nomsa T. Zondi	+2711 313 3987	nomsaz@dbsa.org

[8] GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Project results framework

Project Title: Equity Fund for the Small Projects Independent Power Producer Procurement Programme (SP-IPPP)						
Project Objectives	**Outcomes**	**Indicator (quantified and time-bound)**	**Baseline**	**Target**	**Means of verification**	**Risks and Assumptions**
To remove Financial Barriers in small scale renewable energy market in South Africa: establishment of the SP-IPPP GEF funded equity facility	Investments in Small Scale Renewable Energy Projects by establishing a DBSA (IIPSA)-GEF financial mechanism	DBSA debt facility approved – USD 133.33 million: Senior debt provided to 10 small IPP projects	No funding mechanism in place for Small IPP projects	USD 133.33 million: Senior debt provided to 10 small IPP projects	DBSA small IPP loan portfolio Financing agreements DBSA-GEF progress, mid-term and terminal evaluation reports	**Assumptions:** • SA Government remains committed to development of renewable energy technologies • Implementation of project activities will foster investment in renewable energy technologies and solar energy in particular • Adequate resources mobilized by all parties (DBSA, GEF, IIPSA & SME investors) **Risk:** • PPA agreements not signed by Eskom • Lack of commitment to PPAs guarantees by government • Lack of capacity by SME to raise equity contribution **Mitigation:** • Small scale IPP projects will be implemented under same regulatory provisions as large REIPPP projects
		IIPSA interest rate subsidy USD 5.340 million provided to small IPP projects		USD 5.340 million interest rate subsidy provided to 10 small IPP projects	DBSA-IIPSA interest subsidy facility agreement DBSA small IPP loan portfolio Financing agreements DBSA-GEF progress, mid-term and terminal evaluation reports	

Project Title: Equity Fund for the Small Projects Independent Power Producer Procurement Programme (SP-IPPP)						
Project Objectives	**Outcomes**	**Indicator (quantified and time-bound)**	**Baseline**	**Target**	**Means of verification**	**Risks and Assumptions**
		GEF equity contribution USD 15 million provided to 10 small IPP projects		USD 15 million GEF equity provided to 10 small IPP projects	DBSA small IPP loan portfolio Financing agreements DBSA-GEF progress, mid-term and terminal evaluation reports	• SME investors meet their equity obligations in line with SP-IPP requirements
		SME USD 8.33 million equity contribution for 10 projects		USD 8.33 million equity contribution from 10 projects	DBSA small IPP loan portfolio Financing agreements DBSA-GEF progress, mid-term and terminal evaluation reports (IIPSA) Interest Rate Subsidy	
To remove Financial Barriers in small scale renewable energy market in South Africa: establishment of the SP-IPPP GEF funded equity facility	Install 50MW of renewable energy (solar PV) capacity	50 MW renewable energy capacity installed Energy generated from supported Small IPP solar supported projects (in MWh)	0 MW capacity installed from small scale IPP projects (2017 - 2020)	Install 50 MW renewable energy (solar PV) capacity by 2020	Inspection of constructed plants to ensure completion on target 10 x 5 MW solar PV plants operational by 2020	**Assumptions:** • Financial close is reached. • Projects completed on time in compliance with technical designs • Projects will perform at optimal capacity **Risk:** • Financial close not reached • Failure to complete construction on time **Mitigation:** • Ensure full subscription to all funding components (DBSA, IIPSA, GEF & SMEs)

Project Title: Equity Fund for the Small Projects Independent Power Producer Procurement Programme (SP-IPPP)						
Project Objectives	**Outcomes**	**Indicator (quantified and time-bound)**	**Baseline**	**Target**	**Means of verification**	**Risks and Assumptions**
						• Management of construction process by pre-qualified EPC contractors
To remove Financial Barriers in small scale renewable energy market in South Africa: establishment of the SP-IPPP GEF funded equity facility	Reduction of GHG emissions from fossil fuel power generation in South Africa	CO_2 emission reduced (tonnes of CO_2eq) due to new small solar PV IPP projects Total GHG emissions avoided No of new small IPP solar -based projects	0 Direct CO_2eq emission reductions associated with new projects 0 Indirect CO_2eq emission reductions associated with new projects 0 MWh generated from solar technology financed under the DBSA small IPP equity fund	Total GHG emissions avoided: 9.03 million tCO_2eq • Direct emissions: 2.44 million tCO2eq over the 20-year life time of the projects • Indirect emissions: 6.59 million tCO2eq	• MRV of solar PV plants conducted to calculate impact • Mid-term and terminal evaluation conducted for overall impact of projects	**Assumptions:** • Optimal GHG emission reduction targets achieved • MRV process conducted by qualified experts using verified methodologies **Risk:** • Failure to meet GHG emission targets and impact **Mitigation:** • Studious implementation of M&E project plan in line with approved budget

ANNEX B: RESPONSES TO PROJECT REVIEWS

(from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Response to STAP comments – Project ID 9085 – Small IPP Equity Fund

Question	DBSA Response
1. It is disappointing that the South African government is resorting to large coal-fired power plants given the renewable energy resources are good. Having 9600 MW of new coal-power under construction, plus reactivating of the three older plants, somewhat dwarfs the 3725 MW of large scale plants plus 200MW of small scale plants. The Technical Assistance Facility will provide around $280,000 each for 20 projects. Total of around 100MW anticipated so around 5MW average per project. The SP-IPPP has already been launched. The evaluation of the bids is the next step- will this be done before GEF funding is confirmed or does it hinge on that contribution?	The evaluation of the bids does not hinge on GEF funding. The evaluation would still proceed without the GEF funding but the number of projects and MWs would be restricted. GEF funding will enable the Fund to assist a higher number of SMEs to access funding. This would boost the success rate of the SMEs entering the renewable market and furthermore boost the supply of renewable energy in terms of the MWs. It may be worth noting that bids from Bid Window 1 (RfP) have already been evaluated and selected (preferred bidders) and currently in the market for funding. DBSA will be funding 3 of those projects, they have already gone through the first assessment phase of the Bank's due diligence. It is the same projects and a potential of 7 more that are likely to be sourced from Bid Window 2 and other RfPs that have been used by the DBSA to programme this GEF equity funding.
2. Not clear why the mix of 80% solar PV, 10% wind and 10% biogas was chosen. What criteria will be used to select projects for funding – is this still relevant given that the split is now 90/10?	The proposed mix now consists fully of solar PV projects based on the following considerations: • Risks involved in each technology; • The success rate of SMEs during the bidding process of the initial 100 MWs under small IPP programme; and • Solar PV was preferred most because of low solar resource variations relative to wind resource and availability of biogas/mass feedstock; The Fund will have an investment committee that will select projects in terms of its investment policy guidelines, which would consider the technical and commercial viability of each project. The proposed portfolio mix will also be considered during the evaluation of the projects by the Fund Investment Committee.

<table>
<tr>
<td>3. If you have 100 MW total capacity of that mix and the Eskom estimated generation is 287.6 GWh/yr, then the average capacity factor is 32% which seems fairly high. Where is the Eskom calculation referenced?</td>
<td>The Small Projects Independent Power Producers Programme that will be funded by this facility will only consist of solar PV which has a capacity factor of 24-26 %.
<table>
<tr><th>Technology</th><th>Capacity Factor (%)</th></tr>
<tr><td>Solar PV (Fixed)</td><td>20%-22%</td></tr>
<tr><td>Solar PV (Tracking)</td><td>24%-26%</td></tr>
<tr><td>Wind</td><td>33.5%-39%</td></tr>
<tr><td>Biogas</td><td>15%-20%</td></tr>
</table>
Source: Mott Macdonald Report to DBSA non FIRST

Please note that the above capacity factors are according to Mott Macdonald’s South African experience as Lenders Technical Advisors on Renewable Energy projects in South Africa, under the large scale Renewable Energy Independent Power Producers Programme.
The capacity factors are in ranges as they are highly dependent on project site/location.</td>
</tr>
<tr>
<td>4. Eskom estimated 287.6 GWh/yr so the assessed GHG emission reduction is based on an emission factor for South Africa of around 900 g CO2/kWh. This emissions factor matches that from IEA data of 913 g CO2/kWh in 2012</td>
<td>Noted.</td>
</tr>
<tr>
<td>5. STAP acknowledges that experienced contractors will be employed to operate and maintain the plants. But who owns the land where they will be situated and will the landowner receive a rental?</td>
<td>Each SME will secure the land before the bidding process under long-term lease agreement. These agreements will be entered into with various land-owners and will be for a period of 20-years, in line with the term of the power purchase agreements. The landowners will receive rental payments over this period and this will be factored in the financial models of the projects.</td>
</tr>
<tr>
<td>6. What feedstock will the biogas plants use and how reliable a supply is it? This could be a project risk that has to be considered during project preparation. If there are already 25 biogas projects in the pipeline, will these 2 biogas plants be in addition to those? Will the developers of them under this equity scheme be able to access data and knowledge from the initial ones of the 25 so as to learn from those experiences? It will be difficult to assess the baseline if some of these plants are operational unless, for all the 20 projects in this DBSA proposal, they are all seen to be additional to the other projects already planned. How will that be determined during the bidding process? Will all the power generated be exported to the national grid? Will any be sold to local users? Will the biogas plant also be able to sell any useful heat under a co-generation arrangement or will that just go to waste?</td>
<td>Biogas has been eliminated from the new mix.

Sharing of lessons amongst GEF funded projects shall be encouraged.

The proposed DBSA projects will be additional to other projects being planned, although focus is now only on solar.

All the generated power will be exported to the grid. Developers will sign a 20 PPA with Eskom. Detailed information shall be provided at PPG stage.</td>
</tr>
<tr>
<td>7. Under the knowledge management component, it states that the project aims to share experiences on building financial models in South Africa. STAP recommends DBSA to consider sharing this experience regionally. UNIDO and UNDP have several ongoing projects improving energy access and efficiency in South African SMEs.</td>
<td>Sharing of experiences regionally is planned. This will be made possible through other programmes of this nature that are being planned for some of the SADC countries such as Botswana. DBSA also works closely with the Southern Africa Power Pool (SAPP) and a good opportunity to share lessons through this forum does exist. As mentioned in the CEO Endorsement request under deviations from the PIF</td>
</tr>
</table>

STAP recommends exploring complementarities with the following projects: GEF IDs: 5341, 5379, 5515, and 5704	(and section A.6), biogas is no longer considered for inclusion in this programme portfolio, hence, collaboration with the biogas projects (e.g. GEF ID 5704) may no longer be relevant. Collaboration and sharing of information with other GEF funded and other solar projects is being seriously considered.

German Council Member Comments

Comments	DBSA Response
Germany welcomes this well elaborated proposal which aims at removing financial barriers in the Small Scale Renewable Energy Projects by establishing an Equity Fund. The project addresses a challenge (access to/provision of equity) which is not only focused on SME investments in decentralized renewable energy systems. If successful, it could serve as a blueprint for other economic instruments for low carbon growth in South Africa (e.g. creating a market for Energy Service Companies for Energy Performance Contracting; ESCOs currently also struggle with equity questions).	The funding model can be replicated and modified to fit with the context of other related industries within the sector.
Suggestions for improvements to be made during the drafting of the final project proposal: In South Africa, the challenges are not an absence of financial potential but a lack of trust between stakeholders and a lack of experience, e.g. in the private sector, to invest in a new market like decentralized renewable energy. Trust building, e.g. by providing loan based financial support in whichever way could help to overcome the distrust and gain experience.	DBSA welcomes this comment. It is believed that the debt and equity facilities will catalyze the small scale market and build trust/confidence in the long-run.
In its comments, STAP addresses technical concerns, e.g. in relation to the source of feeding material for biogas plants. Even though, the number of supported biogas plants is small, these concerns should be taken into account, e.g. by being included in the proposed Environmental Impact Assessments.	Biogas has been eliminated in the new mix. It is a requirement that all regulatory issues will be addressed upfront, prior to bid submission. Any further regulatory and compliance issues shall be addressed prior to implementation of the projects. The issues will form part of the scope of work for the Lead Technical Advisor's scope of work.

France Council Member Comments

Comments	DBSA Response
The project's aim is to remove barriers to accessing finance by SMEs in the RE market in South Africa. This will enable more SMEs to participate in the industry. It is assumed these SMEs are manufacturers, installers, and developers of RE equipment and projects. From the wording of the proposal it is not entirely clear who these SMEs are so they could be working in other forms of business (such as dairy farms or car service stations, or retail outlets) but wishing to use RE in their business by investing in their own solar PV panels or wind turbines. It would be useful to give examples of exactly who these SMEs might be. FIRST is looking for funding for: (i) a bridge facility to ensure that the most competitive conditions can be applied – knowing that DBSA has already indicated its willingness to finance it, with partial support from KfW; (ii) a subordinated loan, knowing that the overall amount required stands at 400 MZAR and that DBSA could finance this as well. The initiative is already quite mature thanks to the amount of work conducted by KfW and Fieldstone.	These SMEs are small independent power producers that develop, own and operate small renewable power plants and supply electricity generated to Eskom under 20-years power purchasing agreements. Eskom then sells the electricity bought from these small independent power producers to the South African public and municipalities via the national grid. These SMEs are not the manufacturers of the technology and they are not involved in any other business beside generation of renewable energy.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS[9]

A. Provide detailed funding amount of the PPG activities financing status in the Table below:

PPG Grant Approved at PIF: US$ **200,000**			
Project Preparation Activities Implemented	***GEF/LDCF/SCCF Amount ($)***		
	Budgeted Amount	***Amount Spent To date***	***Amount Committed***
Due diligence: fatal flows and technical diligence	200,000	100,157	99,843
Site visits			
Total	**200,000**	**100,157**	**99,843**

The PPG has been utilised to procure service providers that have conducted technical due diligence and fatal flaw for the three projects that have been selected by the DBSA. A balance of US$ 99,843 is remaining. The DBSA is proposing that the balance of the funds be used to undertake due diligence and other related technical work for the other seven projects that will be funded under the Facility. The funds would cover 46% of costs of due diligence work for the seven project. The remainder of the funds needed would be funded through alternative sources.

[9] If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. Agencies should also report closing of PPG to Trustee in its Quarterly Report.

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

ANNEX D: CALENDAR OF EXPECTED REFLOWS

Table 1: Existing and proposed pipeline

	EXISTING PIPELINE			FUTURE PIPELINE	TOTAL
Investment Name	Heuningspruit PV 1	Steynsrus PV 1	Steynsrus PV 2	7 Projects	
Estimated Agency/DBSA Approval Date	On or before June 2017	On or before June 2017	On or before June 2017	On or before June 2018	
Type of Non-Grant Instrument	Subordinated Debt	Subordinated Debt	Subordinated Debt	Subordinated Debt	
Expected Start of Investment	June 2017	June 2017	June 2017	June 2018	
Project Size (ZAR)	140 000 000	140 000 000	140 000 000	980 000 000	1 400 000 000
ZAR/USD Exchange Rate	15	15	15	15	
Project Size (USD)	9 333 333	9 333 333	9 333 333	65 333 333	93 333 333
Debt to Equity*	75:25	75:25	75:25	75:25	
Total Project Equity (USD)	2 333 333	2 333 333	2 333 333	16 333 333	23 333 333
% Eligible for GEF Funding**	64.286%	64.286%	64.286%	64.286%	
Amount of GEF Investment (USD)	1 500 000	1 500 000	1 500 000	10 500 000	15 000 000
Equity and Other Co-Financiers (USD)	833 333	833 333	833 333	5 833 333	8 333 333
DBSA Senior Loan (ZAR)	105 000 000	105 000 000	105 000 000	735 000 000	1 050 000 000
DBSA Senior Loan (USD)	7 000 000	7 000 000	7 000 000	49 000 000	70 000 000
Additional DBSA Senior Loan (USD)	The DBSA has allocated USD133.3 million to fund up to 20 small projects. Due to the GEF Equity Fund, being limited to USD 15 million, the DBSA and GEF can only co-finance 10 projects. The DBSA co-financing is therefore limited to USD 70 million for this GEF-funded equity programme. The remaining USD 63.3 million will be utilised to fund future other small projects.			63 333 333	63 333 333
Estimated Interest Rate on GEF Funds (fixed)	600 Bps	600 Bps	600 Bps	600 Bps	
Tenure (years)	Up to 16 years	Up to 16 years	Up to 16 years	Up to 16 years	

Table 2: Estimated Reflow Schedule

	Existing Pipeline			**Future Pipeline**	**TOTAL**
Investment Name	**Heuningspruit PV 1**	**Steynsrus PV 1**	**Steynsrus PV 2**	**7 Projects**	
Construction Start Date	1 July 2017	1 July 2017	1 July 2017	1 July 2018	
Construction Period	9 months	9 months	9 months	9 months	
Commercial Operation Start Date	1 April 2018	1 April 2018	1 April 2018	1 April 2019	
Frequency of Reflow Repayments	Semi-annual, on a cash sweep basis	Semi-annual, on a cash sweep basis	Semi-annual, on a cash sweep basis	Semi-annual, on a cash sweep basis	

Table 3: Illustrative Schedule of Reflows (Year 1-10)

Estimated Reflow Schedule					
	Existing Pipeline			Future Pipeline	TOTAL
Investment Name	Heuningspruit PV 1	Steynsrus PV 1	Steynsrus PV 2	7 Projects	
Construction Start Date	1 July 2017	1 July 2017	1 July 2017	1 July 2018	
Construction Period	9 months	9 months	9 months	9 months	
Commercial Operation Start Date	1 April 2018	1 April 2018	1 April 2018	1 April 2019	
Frequency of Reflow Repayments	Semi-annual, on a cash sweep basis	Semi-annual, on a cash sweep basis	Semi-annual, on a cash sweep basis	Semi-annual, on a cash sweep basis	
First Interest Repayment Date	30 September 2018	30 September 2018	30 September 2018	30 September 2019	
First Principal Repayment Date	31 March 2022	31 March 2022	31 March 2022	31 March 2023	
Total Principal Amount to be Repaid to GEF (USD)***	1 500 000	1 500 000	1 500 000	10 500 000	15 000 000

Given DBSA's market based pricing mechanisms, interest rates for equity funding are indicatively about 500 to 600 Bps over the Johannesburg Interbank Agreed Rate ("JIBAR"). Through GEF support for the small projects in this Program, a fixed interest rate of 6% will be obtained from the small projects. This will significantly reduce the amount of interest to be paid by the small projects investors and also allow the investors to achieve acceptable returns for the small projects.

Notes:

* For illustrative purposes the debt to equity ratio for the future 7 projects has been assumed at 75:25. In reality, the projects may have a different capital structure, depending on the acceptable gearing that these small projects can sustain.

** The percentage eligible for GEF Funding for the future 7 projects is likely to differ from the projects in the existing pipeline as this percentage is dependent on the project specific debt to equity ratio.
*** The total principal repaid reflected in the above estimated reflow schedule has not taken into account foreign exchange currency fluctuations (ZAR:USD). The value indicated has assumed that the ZAR/USD exchange rate will remain at 15 ZAR/USD throughout the tenure of the GEF funding.

Illustrative Reflow Schedule, please see Figure 1.

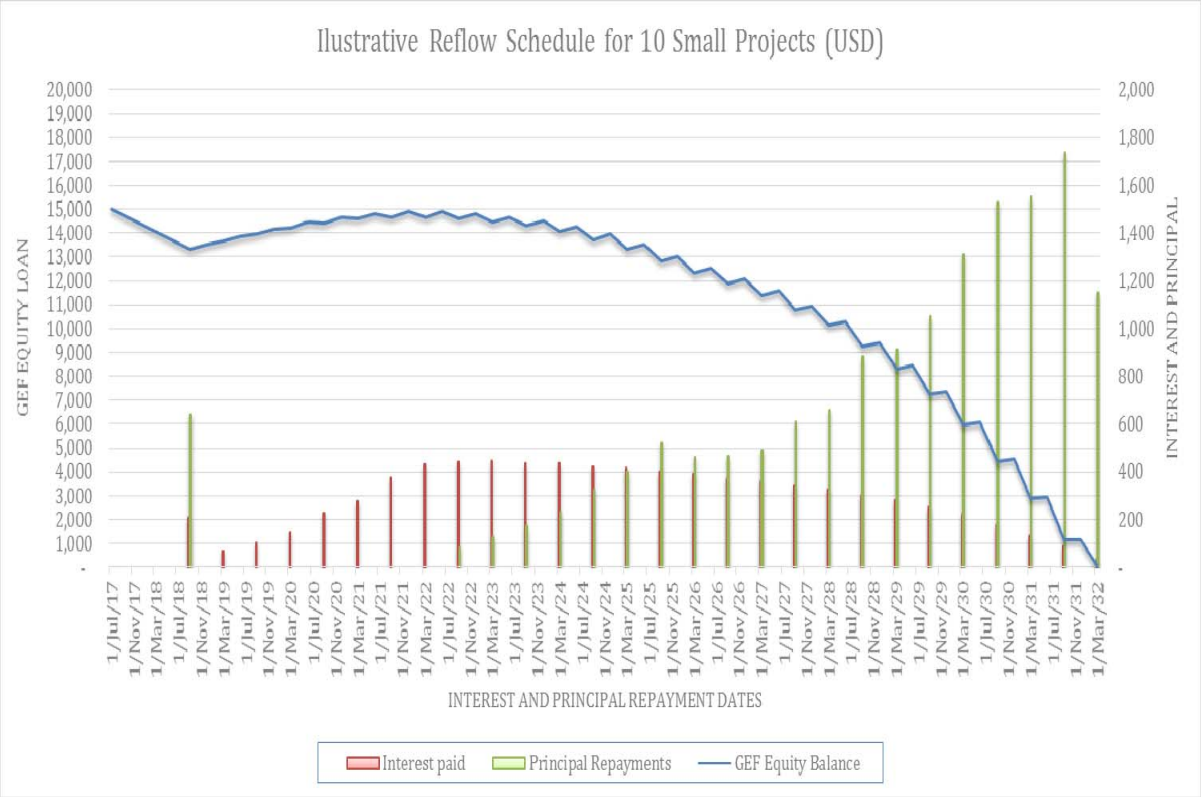

Figure 1: Illustrative Reflow Schedule for 10 Projects in USD

- The above figure depicts the interest and principal repayment profile of the GEF equity loan for all 10 projects to be funded. It is apparent that the GEF equity loan is repayable over an approximate period of 13.75 years, based on an assessment made using the 3 existing pipeline projects.
- The interest and principal payments are reliant on the dividend cash flows from the small projects. The amount of the interest and principal payments are thus dependent on the cash flows during each payment period.
- Available dividend cash flows are first utilised to service the interest and thereafter used to service the principal. Should there be a shortfall in the interest payment made, the interest is capitalised and paid when there are sufficient dividend cash flows to service the interest balance.

ANNEX E: Environmental and Social Assessments

Socio-Environmental Safeguards

Since the GEF funds for the proposed programme will be administered by the DBSA as the accredited entity, the programme will be implemented and operated in accordance with the DBSA's Environmental and Social Safeguard Standards (ESSS). The ESSS also commits DBSA to ensure it has the necessary systems in place to implement the ESSS and to periodically update and revise it. It includes a commitment from DBSA to appoint appropriately skilled people to appraise projects, ensure they meet the minimum Safeguard requirements and apply these fairly.

The DBSA ESSS dated September 2015, has been used to assess project impacts. In line with the DBSA ESSS, the small projects that will be funded through this programme are likely to be classified as Category 4 "FI Category". They are likely to yield positive impacts in the aspects human rights (income and access to energy), environment, and climate change in comparison to the baseline scenario. Each of the projects that will be seeking funding from this facility will be assessed in line with the DBSA ESSS and the related Environmental Appraisal Framework and the Social Institutional Guidelines. Figures 1 and 2 provide a summary of the environmental and social assessment processes.

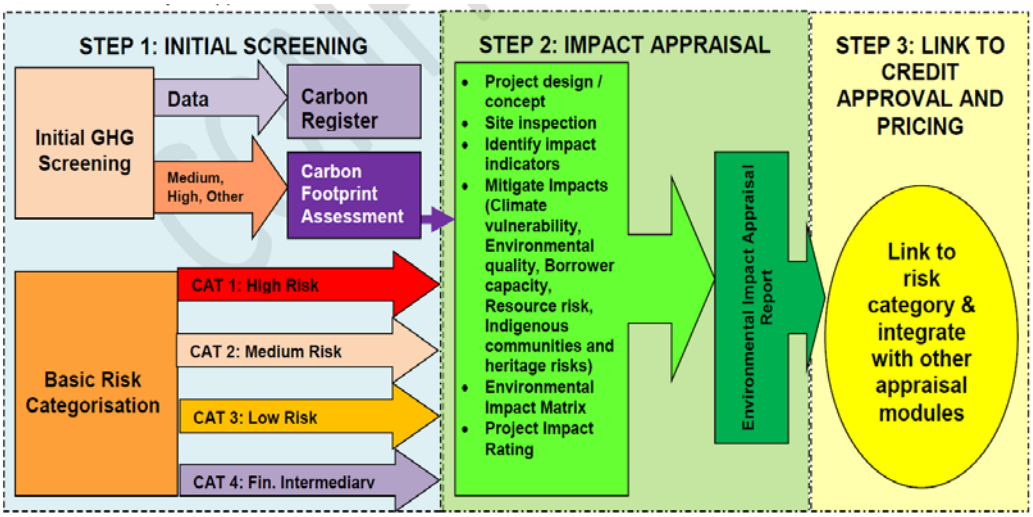

Figure 1: Environmental Impact Appraisal Process

Figure 2: Social Appraisal Process

The client will conduct a process of Social and Environmental Assessment that will consider in an integrated manner the potential social and environmental (including labour, health, and safety) risks and impacts of the project. The Assessment process will be based on current information, including an accurate project description, and appropriate social and environmental baseline data. The Assessment will consider all relevant social and environmental risks and impacts of the project, and those who will be affected by such risks and impacts. Applicable laws and regulations of the jurisdictions in which the project operates that pertain to social and environmental matters will also be taken into account.

Taking into account the relevant findings of the Social and Environmental Assessment and the result of consultation with affected communities, the client will establish and manage a program of mitigation and performance improvement measures and actions that address the identified social and environmental risks and impacts (the management program). Management programs consist of a combination of operational policies, procedures and practices. The program may apply broadly across the client's organization, or to specific sites, facilities, or activities. The measures and actions to address identified impacts and risks will favour the avoidance and prevention of impacts over minimization, mitigation, or compensation, wherever technically and financially feasible. Where risks and impacts cannot be avoided or prevented, mitigation measures and actions will be identified so that the project operates in compliance with applicable laws and regulations.

E.1: Review of Compliance by the 3 Small Projects with Equator Principles and South African Environmental Legislation

A review of the three Small Projects (Heuningspruit PV1, Steynsrus PV1 and Steynsrus PV2) of compliance with the Equator Principles ("Eps") as well as the relevant national environmental legislation and environmental has been done.

Based on information available for these 3 projects is confirmed that they are largely compliant with national and international standards. No major environmental risks or fatal flaws for development of the facilities were identified in the Basic Assessment Reports ("BARs") or specialist assessments as the sites are on agricultural land, however several impact mitigation strategies are required to be implemented for issues identified in the assessments for each of the sites. The approved activities will align with the planned works and updated layouts for the Steynsrus sites must be submitted to DEA for approval prior to commencement of construction.

Compliance with Equator Principles

This section summarises the three projects' compliance with international environmental and social lending requirements i.e. the Equator Principles (EPs), International Finance Corporation (IFC) Performance Standards, World Bank Environmental Health and Safety (EHS) and Industry Guidelines. Based on the project documentation reviewed, it is confirmed that the three projects are largely compliant with international standards with some gaps identified. At this stage it is usual to have some gaps, which will be addressed as the projects progress through to construction and operations.

Equator Principle	Compliance Requirement	Recommendations/Comments
Principle 1: Review and Categorisation	In terms of EP 1, the project must be categorised.	The three PV Projects are all characterised as "*Projects with potential limited adverse environmental and social risks and/or impacts that are few in number, generally site-specific, largely reversible and readily* addressed *through mitigation measures"*. The Projects are therefore categorised as 'Category B' projects. -
Principle 2: Social and Environmental Assessment	In terms of EP 2, a full ESIA needs to be undertaken for the project.	The three PV facilities were each subject to EIAs as per the requirements of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA), as amended. As impacts are limited, only a shorter Basic Assessment Process was required to be carried out and BARs were required in terms of the Act, not full Environment and Social Impact Assessments ("ESIAs"). It is considered this appropriate. Environmental Authorisations ("EAs") for the three facilities have been issued by the DEA on the 28th March 2014 and notably, for all three projects, *at least one of the activities listed above must commence before 28th March 2017 when the EA expires.* The project Sponsor has started the process of requesting extensions to the validity period of the EAs that were granted. The process is in the early stages. ***It is not however foresee that obtaining these amendments would be an issue.***
Principle 3: Applicable Environmental and Social Standards	For projects located in Non-Designated Countries such as South Africa, EP 3 requires that the assessment process evaluates compliance with the applicable IFC Performance Standards on Environmental and Social Sustainability (Performance Standards) and the World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines).	The BARs were completed to meet national legislative requirements and were approved by the South African Department of Environmental Affairs ("DEA") (with the exception of the recent amendments for which approval is still outstanding). Although the BARs do not make specific reference to IFC and World Bank guidelines and standards, given the nature and scale of the Projects and that the environmental and social legislation of South Africa are of a good standard, the Projects would largely meet IFC/World Bank requirements. However, it should be noted that South Africa is not on the EP (III) list of Designated Countries. It is also acknowledged that South Africa has comprehensive legislation and regulations regarding working conditions and in terms of employment.
Principle 4: Environmental and Social Management System and Equator Principles Action Plan	In terms of EP 4, the Sponsor is expected to develop or maintain an Environmental and Social Management System ("ESMS") and an Environmental and Social Management Plan ("ESMP") is required to be prepared by the Sponsor to meet requirements of the EIA and EA and the applicable EP, IFC and EHS guidelines and standards.	The Environmental Management Programmes ("EMPrs") are equivalent to the ESMP as required under EP4 and should capture all the mitigation and management measures identified in the BAR, specialist assessments and the EAs. An ESMS is required for each project and the EMPr would also largely meet this requirement.
Principle 5: Stakeholder Engagement	In terms of EP 5, effective Stakeholder Engagement should have taken place.	A comprehensive public consultation process has been undertaken for each project in the appropriate languages.
Principle 6: Grievance Mechanism	In terms of EP 6, the Sponsor is expected to establish a Grievance Mechanism for the surrounding affected communities.	A Grievance Mechanism is to be set up during construction for both the workers and public.

Equator Principle	Compliance Requirement	Recommendations/Comments
Principle 7: Independent Review	In terms of EP 7, for all Category A and, as appropriate, Category B projects, an Independent Environmental and Social Consultant, not directly associated with the Client, should carry out an Independent Review of the Assessment Documentation including the ESMPs, the ESMS, and the Stakeholder Engagement process documentation, in order to assist the Equator Principles Financial Institution's ("EPFI's") due diligence, and assess Equator Principles compliance and propose or opine on a suitable Equator Principles Action Plan ("EPAP") where gaps are identified.	A consultant has been engaged to provide an independent technical and environment due diligence of the Projects.
Principle 8: Covenants	EP 8 requires covenants to be included in the financing documentation that the project is to comply with all relevant host country environmental and social laws, regulations and permits in all material respects and also requires compliance with the ESMPs and Equator Principles Action Plan (where applicable) during the construction and operation of the project in all material respects. Period reports at predetermined times are to be prepared by in-house staff or third party experts to show compliance with this requirement.	***EP 8 will need to be addressed by Sponsor and Lender when drafting the Facility Agreement pre Financial Close.***
Principle 9: Independent Monitoring and Reporting	In terms of EP 9, an Independent Environmental and Social Consultant, should be appointed by the EPFI to monitor compliance with the EPs after Financial Close and over the life of the loan.	EP 9 is not applicable at this stage.
Principle 10: Reporting and Transparency	In terms of EP 10, at least a summary of the ESIA should be easily accessible and available online and greenhouse gas emissions should be publicly reported.	The Sponsor is required to make copies of the EIA summary reports for all projects accessible and available on-line. There are no greenhouse gas emissions associated with the operations phase of the Projects. Carbon emission reductions have been calculated for the 3 projects including. Information gathered from these projects has been used to provide estimated emission reduction calculations for the overall portfolio of 10 projects

ANNEX E.2 Carbon Emissions Analysis

Eskom's generation mix consists predominantly of coal power stations, with nuclear, wind, hydro and gas power making up a small portion of the fleet. The burning of fossil fuels for electricity production results in the release of large quantities of carbon dioxide and other greenhouse gas (GHG) emissions. The operation of the 10 solar PV facilities that will be funded through this programme would not result in CO_2 emissions, instead there will reduction/prevention of GHG that would otherwise have been produced from a combination of coal, hydro, nuclear, wind and gas plants.

The expected emissions for the equivalent annual energy production of the Eskom fleet can be calculated by multiplying the energy production by the appropriate emissions factor. Based on carbon emission figures provided by Eskom, the Eskom fleet emits 1.01 tons of CO_2 per MWh1 of electricity generated. This can be used to determine the likely reductions as a result of 5 MW of this generation capacity being displaced by each solar plant that will funded in this GEF funded programme.

Direct Emissions

Table 1 below provides the expected power generation for each of the ten solar projects and the estimated direct CO_2 emissions for the same amount of power generated by Eskom's fleet.

Table 1: Direct CO_2 emissions

Plant	**Annual Energy Yield P50 (MWh)***	**Equivalent CO_2 Reductions (tons per annum)**
Steynsrus PV1	12 076	12 196.76
Steynsrus PV2	12 076	12 196.76
Heuningspruit PV1	12 057	12 177.57
Project 4*	12 057	12 177.57
Project 5*	12 057	12 177.57
Project 6*	12 057	12 177.57
Project 7*	12 057	12 177.57
Project 8*	12 057	12 177.57
Project 9*	12 057	12 177.57
Project 10*	12 057	12 177.57
TOTAL per annum		**121 814.08**
TOTAL per annum over 20 year lifespan		**2 436 281.60**

Notes:

* Estimated for future projects.

**20-year mean P50 energy yield figures from the SgurrEnergy 2015 reports.

Indirect Emissions Calculations

Formulae and Assumptions
The guidelines provided by GEF in the "Manual for calculating GHG benefits of GEF projects were followed to calculate the indirect carbon emissions". Both the Bottom Up and Top Down, Bottom Up calculation methodology was applied as indicated in the table below:

Table 2: Formulae and assumptions

Calculating Direct Emissions Reductions
CO_2 direct = E x C
E = cumulative energy saved or submitted
C = CO_2 intensity of the marginal technology or electricity saved
Calculating Indirect Emmission Reductions
Approach 1 - Bottom Up, The bottom-up approach aims to calculate how many times the investments made during the project might be replicated and can be calculated using the following formula:
CO_2 indirect BU = CO_2direct x RF
CO_2 indirect BU = CO_2direct =emission reductions following the project close, calculated using the bottom up methodology
CO_2 direct = estimate for total direct (including post project) emission reductions
RF = replication factor
Approach 2a - Top down information, bottom up methodology
CO_2 indirect TD = CO_2TM X CF
CO_2 indirect TD = emission reductions following the project close, calculated using the top down methodology
CO_2 TM = total market potential for CO_2 emission reductions
CF = causality factor
Approach 2b Top Down information, Top down methodology
E = (Market size - projects) X 8,760 hours X 27% X10 years
GHG emmisions avoided t = E X t CO_2/MWh

The calculation of indirect emissions has been done in line with the GEF STAP methodology (see Table 3 below).

Table 3: indirect emissions

	Approach 1 - Bottom Up, The bottom-up approach aims to calculate how many times the investments made during the project might be replicated and can be calculated using the following formula:									
	CO_2 indirect BU = CO2direct x RF									
	CO_2 indirect BU = CO2direct =emission reductions following the project close, calculated using the bottom up methodology									
	CO_2 direct = estimate for total direct (including post project) emission reductions									
	RF = replication factor									
High Probability	CO_2 indirect BU		121 655	tonnes of CO2 equivalent			Low Probability	CO2 indirect BU	121 655	tonnes of CO2 equivalent
	RF		70	projects				RF	35	projects
	CO_2 indirect BU		*8 515 815*	*tonnes of CO_2 equivalent*	Revised to ten years influence period.			CO2 indirect BU	4 257 907.50	tonnes of CO2 equivalent
Average indirect BU	High Probability	8 515 815								
	Low Probability	4 257 908								
	Average indirect BU	6 386 861								
	Approach 2a - Top down information, bottom up methodology									
	CO_2 indirect TD = CO2TM X CF									
	CO2 indirect TD = emission reductions following the project close, calculated using the top down methodology									
	CO2 TM = total market potential for CO2 emission reductions									
	CF = causality factor									
	Total Market size		400	MW						
	Total Project Size		50	MW	Revised to ten years influence period as well as an 80% GEF Causality Factor.					
	Remaining Market Size		350	MW						
	Remaining Market Size		350	MW						
	GEF Causality Factor		80	%						
	CO2 indirect TD		*6 812 652*	*tonnes of CO2 equivalent*						
Final C02 indirect	Indirect BU	6 386 861								
	Indirect TD	6 812 652								
	Average	6 599 757								

Hence the total GHG emissions reductions that will be achived through the SP-IPPP project will be 9.03 million (2.44 million direct, 6.59 million indirect) tCO_2e.

ANNEXURE F: CO-FINANCING LETTERS

DBSA
Development Bank
of Southern Africa

30 November 2016

The Chief Executive Officer
Global Environment Facility
1818 H Street, NW, Mail Stop N8-800
Washington, DC 20433 USA

Dear Dr Naoko Ishii

SUBJECT: DEVELOPMENT BANK OF SOUTHERN AFRICA CO-FINANCING FOR EQUITY FUND FOR THE SMALL PROJECTS INDEPENDENT POWER PRODUCER PROCUREMENT PROGRAMME, GEF ID 9085

The Development Bank of Southern Africa (DBSA) would like to confirm its support for the project titled "Equity Fund for the Small Projects Independent Power Producer Procurement Programme (SP-IPP)", GEF ID 9085. Following the Council approval of the Project Identification Form for this project in June 2015, the DBSA has completed the project preparation phase and produced the GEF CEO Endorsement request.

The DBSA's co-financing for this project is confirmed as ZAR 2 billion (circa USD 133.3 million) in form of debt that will be provided to the SP-IPP projects.

Yours sincerely

Patrick Dlamini
Chief Executive Officer

Cc: Mohale Rakgate; General Manager: Project Preparation Unit

PJ Moleketi (Chairman), FM Baleni (Deputy Chairman),
PK Dlamini* (Chief Executive), L Bhengu-Baloyi, T Dingaan,
B Mabuza, D Marole, A Moloto, G Mtetwa, K Naidoo*, A Sing
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DBSA
Development Bank
of Southern Africa

28 November 2016

The Chief Executive Officer
Global Environment Facility
1818 H Street, NW, Mail Stop N8-800
Washington, DC 20433 USA

Dear Dr Naoko Ishii

SUBJECT: DEVELOPMENT BANK OF SOUTHERN AFRICA CO-FINANCING FOR EQUITY FUND FOR THE SMALL PROJECTS INDEPENDENT POWER PRODUCER PROCUREMENT PROGRAMME, GEF ID 9085

The Development Bank of Southern Africa (DBSA), through the Infrastructure Investment Programme for South Africa (IIPSA) would like to confirm its support for the project titled "Equity Fund for the Small Projects Independent Power Producer Procurement Programme (SP-IPP)", GEF ID 9085. The co-financing for this project through IIPSA will be in the form of an interest rate subsidy that will be extended to the SP-IPP to the value of ZAR 80 million (circa USD 5.3 million).

Yours sincerely

Mohale Rakgate
General Manager: Project Preparation Unit

PJ Moleketi (Chairman), FM Baleni (Deputy Chairman),
PK Diamini* (Chief Executive), L Bhengu-Baloyi, T Dingaan,
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