



REPORT NO.: RES34776

RESTRUCTURING PAPER
ON A
PROPOSED PROJECT RESTRUCTURING
OF
SOUTH AFRICA - ESKOM RENEWABLES SUPPORT PROJECT
APPROVED ON OCTOBER 27, 2011
TO
ESKOM HOLDINGS SOC LIMITED
GUARANTEED BY THE REPUBLIC OF SOUTH AFRICA

ENERGY AND EXTRACTIVES GLOBAL PRACTICE
AFRICA REGION

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**ABBREVIATIONS AND ACRONYMS**

AfDB	African Development Bank
BSP	Battery Storage Program
CSP	Concentrating Solar Power
CTF	Clean Technology Fund
DEA	Department of Environmental Affairs
DPE	Department of Public Enterprises
EA	Environmental Assessment
EESP	Eskom Energy Storage Program
EIA	Environmental Impact Assessment
EISP	Eskom Investment Support Project
ERR	Economic Rate of Return
ERSP	Eskom Renewables Support Project
GHG	Greenhouse Gas
GORSA	Government of Republic of South Africa
GWh	Gigawatt Hours
IBRD	International Bank for Reconstruction and Development
IFC	International Finance Corporation
IP	Implementation Progress
IPP	Indigenous Peoples Plan
IRP	Integrated Resource Planning
KZN	Kwa-Zulu Natal
MoF	Ministry of Finance
MW	Megawatt
MWh	Megawatt Hour
NERSA	National Energy Regulator of South Africa
OCGT	Open Cycle Gas Turbine
OP	Operational Policy
PPA	Power Purchase Agreement
PPPFA	Preferential Procurement Policy Framework Act
PPSD	Project Procurement Strategy for Development
PV	Photovoltaic
RE	Renewable Energy
REIPPP	Renewable Energy Independent Power Producers Program
SDR	Safeguards Diagnostic Review
SIA	Social Impact Assessment
SSA	Sub-Saharan Africa
TFC	Trust Fund Committee
U	Unsatisfactory
US\$	United Stated Dollar
US\$c	United States Cent
VRE	Variable Renewable Energy
WC	Western Cape
ZAR	South African Rand



The World Bank

South Africa - Eskom Renewables Support Project (P122329)

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The World Bank

South Africa - Eskom Renewables Support Project (P122329)

CURRENCY EQUIVALENTS

Currency Unit = South African Rand (ZAR)

Exchange Rate effective as of October 31, 2018

US\$1.0 = ZAR 14.77

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**BASIC DATA****Product Information**

Project ID	Financing Instrument
P122329	Investment Project Financing
Original EA Category	Current EA Category
Full Assessment (A)	Full Assessment (A)
Approval Date	Current Closing Date
27-Oct-2011	30-Nov-2018

Organizations

Borrower	Responsible Agency
Eskom Holdings SOC Limited	ESKOM Holdings SOC Limited

Project Development Objective (PDO)

Original PDO

To facilitate accelerated development of large scale renewable energy capacity in support of the long-term carbon mitigation strategy of South Africa.

Summary Status of Financing

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net		
					Commitment	Disbursed	Undisbursed
TF-10690	27-Oct-2011	14-Nov-2011	25-Jul-2012	30-Nov-2018	250.00	34.93	215.07

Policy Waiver(s)

Does this restructuring trigger the need for any policy waiver(s)?

No



I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

Project Status

1. To achieve the project development objective (PDO) of 'facilitating the accelerated development of large scale renewable energy capacity in support of the long-term carbon mitigation strategy of South Africa', the original project scope consisted of a 100 MW pilot wind farm (Sere wind farm) and a 100 MW pilot CSP plant (Kiwano CSP) to diversify Eskom's sources of electricity generation. Sere Wind has been in commercial operation since March 2015 and is performing beyond expectations. The project was however at a stand-still over most of the past two years due to issues related to Kiwano CSP. Eskom decided not to continue with the component and requested termination of the procurement process, after the two bids received were found to be non-responsive. As a result, since the completion of the highly competitive Sere wind component, the project disbursement has stalled at 14%, which is still the disbursement rate as of November 28, 2018.



2. The estimated allocation from all financing sources for the original scope of Component 2 (Kiwano CSP) amounted to US\$1.197 billion to deliver 100 MW generation capacity and 525 GWh of clean energy per annum. The estimated joint financing mobilized for BSP is US\$661 million – of which US\$195 million from IBRD and US\$273 million from CTF – for delivery of at least 525 GWh (1440 MWh storage per day) of energy through at least 360 MW of storage capacity -- 60 MW of cumulative new solar PV capacity (Eskom-owned) and enabling optimal use of 300 MW of Variable Renewable Energy (VRE) from the Renewable Energy Independent Power Producers (REIPP) program. Of this amount, at least US\$468 million will be for battery storage and the balance for Eskom-owned solar PV plants and technical assistance, financed by Eskom and the African Development Bank (AfDB).

Table 2: Funding Available for Eskom BSP by Financing Source

Financing Source	Amount (US\$ million)
IBRD	195
CTF (IBRD)	215
CTF (AfDB)	41
AfDB	210

3. The proposed restructuring involves a change in component, to grid-connected battery storage, more details of which are provided under “Description of Proposed Changes”. The project’s current PDO and implementation progress (IP) ratings are both Unsatisfactory (U), essentially due to the absence of implementation of the CSP component (no outstanding covenants or specific project management issues affected the project implementation).

Rationale for Restructuring

4. The main rationale for the restructuring is to substitute Kiwano CSP with a Battery Storage Program (BSP), which would install batteries at some existing Eskom-owned and fully fenced-out substations close to locations where wind and solar photovoltaic (PV) feed into the Eskom grid. This would enable the PDO to be achieved. Battery storage is important for the key objectives of promotion of a low-carbon economic growth because it facilitates the integration of wind and solar PV plants into the grid. The project has been in problem status for the last two years, particularly due to lack of progress of the component subject to the restructuring. If not addressed the ratings will remain unsatisfactory until the project closes.
5. BSP is a suitable replacement for Kiwano CSP as it is a transformational technology that would enhance utilization of energy produced from fast-increasing Variable Renewable Energy (VRE) sources from the Renewable Energy Independent Power Producers (REIPP) program. Kiwano CSP was designed to be implemented by Eskom because at the time of project appraisal (in 2010), Eskom had already been working on preparing this project for over nine years and there was no private sector involvement in renewable energy, including CSP. However, due to delays in the procurement process and receipt of non-responsive bids for Kiwano CSP, the private sector (through the REIPP program) has now overtaken Eskom and is about to commence implementation of a CSP project of the same design as Kiwano. Thus, the learning experience on CSP will now be through the experience of the private sector. Battery storage of energy from VRE is a promising technology that is yet to be implemented commercially or for demonstration at the envisaged scale in South Africa and sub-Saharan Africa, so applying CTF and IBRD resources to this alternative is considered a better utilization of these scarce resources.



6. The proposed restructuring does not entail any (i) change in scope or nature of project objectives; (ii) change in implementation arrangements; or (iii) other amendments to the legal agreements. With the extension of the closing date the project's PDO will be achievable, and the performance of the Borrowers become satisfactory. The World Bank has agreed upon actions with the Borrowers that will be undertaken to complete the project.

II. DESCRIPTION OF PROPOSED CHANGES

7. The following six changes are proposed: (1) a change of activity in the project component 2, from CSP to BSP; (2) change in implementation schedule and closing date; (3) change in disbursement estimates; (4) change in the results framework to reflect the revised scope and project timeline; (5) change in legal covenants; and (6) updated appraisal to reflect the new activity in component 2. The project would also trigger the policy OP 4.10 on Indigenous Peoples.
8. . The proposed changes would not require any amendment to the PDO and environmental assessment (EA) category.

Change in Sub-component

9. The BSP is a demonstration program that would be led and financed by Eskom. Source of funds would be IBRD (EISP project), CTF (ERSP project and CTF funds managed by AfDB) and AfDB (ZAR 3,000 million new loan to be approved on November 29, 2018).
10. BSP would consist of grid-connected electrochemical batteries at (a) Eskom-owned 100-Megawatt (MW) Sere wind farm, financed under the project); (b) 60 MW (cumulative) solar PV plant implemented by Eskom at the 42 sub-project sites; and (c) Eskom substations close to 300 MW of REIPP program plants in Northern Cape. The cumulative storage will be at least 1,440 Megawatt Hour (MWh), the size of energy storage capacity needed to meet the same targets (MW and greenhouse gas (GHG) offset in tCO₂). A technical assistance sub-component would be added to (i) support the final design, procurement and supervision of energy storage infrastructure to be supplied through the project; (ii) strengthen Eskom technical capacity in sustainable operation and maintenance of large scale batteries; and (iii) prepare the enabling environment for further private investment in VRE capacity using storage.

Change in Closing Date

11. The proposed restructuring would require an extension from November 30, 2018 to December 31, 2021. This change would allow implementation of the envisaged activities to be completed. Lessons learned from ERSP's passed implementation and analysis conducted by energy storage experts show that thirty-six months would be required to complete implementation of a program of this magnitude. This schedule includes proactive actions undertaken to prepare procurement and implementation strategy, to recruit the Borrower's technical advisor and to coordinate project preparation with project stakeholders' technical and safeguards teams.
12. The proposed new closing date is December 31, 2021.

Change in Results Framework

13. This change to BSP would require the following adjustment to the Result Framework:
 - (i) a core indicator measuring the storage capacity (in MW) installed under the project would be added;
 - (ii) the intermediate indicator measuring percentage of achievement of Upington CSP plant would be removed;



(iii) end target of core indicator ‘CTF leverage’ would be adjusted to reflect private investment the program would leverage.

Change in Project Financing Plan and Disbursement Estimates

14. There would be no change to the financing instrument, which would remain a CTF concessional loan. The estimated allocation from all financing sources for the original scope of Component 2 (Kiwano CSP) amounted to US\$1.197 billion to deliver 100 MW generation capacity and 525 Gigawatt hours (GWh) of clean energy per annum. The estimated joint financing (CTF, IBRD, AfDB) for BSP is US\$655 million for delivery of at least 525 GWh (1,440 MWh storage per day) of energy through at least 360 MW of storage capacity -- 60 MW of cumulative new solar PV capacity (Eskom-owned) and enabling optimal use of 300 MW of VRE from the REIPP program. Of this amount, at least US\$468 million will be for battery storage and the balance for Eskom-owned solar PV plants (Eskom and AfDB-financed) and technical assistance. The disbursement estimates for the CTF loan through World Bank are as follows: 2019 (US\$10 million), 2020 (US\$80 million), 2021(US\$80 million), 2022 (US\$45 million).

Additional Covenant

15. Two covenants will be added requiring (a) the Borrower to prepare, submit and disclose, in form and substance satisfactory to the World Bank, IPP and any environmental and social assessment in accordance with the Terms of Reference satisfactory to the World Bank for each activity under the Battery Storage Program for which the IPP is required prior to carrying out any Battery Storage installation activity on the site, and (b) the Borrower to refrain from carrying out any Battery Storage Program installation activity in a site which may be subject of an existing or outstanding land claim.
16. These covenants have been inserted as an Amendment to the Schedule 2 to the CTF Loan Agreement.

Safeguard Policies Triggered

17. The Indigenous Peoples policy (OP 4.10) would be triggered with this restructuring, to take in account and manage accordingly issues related to Indigenous peoples for one site of the new project geographical scope.

III. DUE DILIGENCE AND APPRAISAL**Technical Appraisal**

18. Based on the various reviews of proposals and discussions with Eskom teams, the World Bank and AfDB teams assess that Eskom’s battery program is technically feasible and supports an important step towards increasing the value and penetration of wind and solar energy into the grid, through demonstrating an approach to managing the variability of these energy sources and making VRE dispatchable¹. It is in line with Eskom’s Corporate Plan, demonstrating ownership of this strategic direction. Eskom has hired a Technical Advisor to assist in more detailed feasibility work, planning, design, procurement and contact management.

¹ Dispatchable generation refers to sources of electricity that can be made available at the request of power grid operators or of the plant owner according to needs of the power market.



19. Eskom has demonstrated substantial commitment towards the battery storage project as evidenced by its internal approval processes (as shown below):

Table 2: Eskom BSP Internal Approval process

Item no.	Date	Eskom Committee	Government Depart.	Status
1.	February 19, 2018	Eskom Executive Committee (EXCO)	National Treasury (NT)	Submitted letter to Minister of NT requesting exemption of PPPFA.
2.	February 28, 2018	Eskom EXCO	-	Supported the project
3.	March 8, 2018	Eskom Board	-	(i) Approved the battery storage project as a replacement for CSP. - ii) Approved the signing of the power purchase agreement's (PPA) of bid windows 4.0.
4	March 21, 2018	Eskom Group Capital and Investment Committee (GCIMC)	-	Designed Release Approval for further development to complete business case (released funding to proceed to project preparation).
5.	April 30, 2018	Eskom	Department of Public Enterprises (DPE)	Draft pre-PFMA notification; submitted end May 2018. Approved.
6	October 23, 2018	Eskom GCIMC	-	Supported Execution Release Approval - business case.
7.	November 5, 2018	Eskom CAPCOM	-	Supported Execution Release Approval - business case.
8.	November 15, 2018	Eskom Investment and Finance Committee	-	Supported Execution Release Approval – business case.

Economic Appraisal

20. The rationale for implementing BSP is dual -- to enable an increase of the share of VRE into the power mix and to improve the local and overall system reliability, thereby enabling more customers to be connected to the grid. As the proportion of VRE2 (wind and solar PV) in the South African power system increases, the need to quickly ramp

² Variable Renewable Energy is an energy source that is non-dispatchable because it generates electricity only when the sun is shining or wind blowing – factors which cannot be controlled. To mitigate the problem this causes in power system operation, more flexible generation capacity is needed to be on standby, to be used when the renewable resource (solar and wind) is low. This is provided through sources like fossil-fueled gas turbines and hydropower. Storing some of the energy from the variable sources at times when not all of it is needed, through storage in batteries, ensures that the ramping up (see following footnote) is from the same renewable source, thereby replacing the fossil fuel alternative.



up supply³ will also increase. Coal power plants cannot ramp up or down quickly, and battery storage could offer a sustainable solution. In addition, the increasing number of grid-related constraints (bottlenecks at distribution level, aging infrastructure) decreases the quality and reliability of supply, which could be addressed by introducing VRE with battery storage in close proximity to demand. The usual ways through which utilities address the two problems are installation of fossil-fueled peaking plant at such locations, installation of reactive compensation (capacitors) or increasing the size of distribution or transmission line conductors. The rationale for implementing BSP is dual -- to enable an increase in the share of VRE into the power mix and to improve the local and overall system reliability, thereby enabling more customers to be connected to the grid.

21. An economic analysis has been carried out for the ‘battery storage’ component only, as the Sere wind pilot has already been implemented and no economic analysis is needed for the technical assistance sub-components. From a baseline scenario comprising the current power system with the clean energy projects from REIPPP Round 4, the analysis estimates the benefits from adding the battery storage systems, assuming that these batteries displace energy at the evening peak for an average of 4 hours (4 MWh of daily energy displaced per MW of battery installed). Alternative to the batteries in the base case would be a greater use of the existing open cycle gas turbines (OCGT) to cope with peak demand ramp up and localized grid bottlenecks. The analysis estimates the viability of investing in the battery systems, against the economic cost of running OCGTs to cope with VRE variability and keep similar system reliability level.
22. The following assumptions were made to simplify the number of possible scenarios :
 - a. the batteries would store and dispatch four hours of daily generation from VRE (ratio wind/solar in VRE mix and estimated generation costs deduced from the REIPPP data on VRE);
 - b. only one use of the battery is represented, energy displaced to peak period (other uses like offset intermittency or grid frequency modulation would imply several cycles of charge/discharge per day);
 - c. the alternative to new renewable energy (RE) injected through battery is OCGT⁴ as its energy would be displaced at daily evening peak;
 - d. the social cost of carbon (avoided cost due to displacement of CO₂ emissions) used for this analysis is US\$35/tCO₂ (based on World Bank Guidance Note for Social Value of Carbon in Projects, base value, 2020);
 - e. battery load factor of 90 percent (reducing to 80 percent after 7,000 cycles and 70 percent after 10,000 cycles) and a battery replacement after ten years (based on technology with shortest life time, Lithium-ion battery).
23. The economic rate of return calculated from the project data - and using battery capital costs from the World Bank storage consultancy Electricite de France - Store and Forecast (EDF S&F) – provides a economic rate of return (ERR) at 1.2 percent. If we consider load factor decreases in time, and a fixed cost of VRE generation in the RE project life cycle, the net present value of the battery program appears to be negative (- US\$139 million). When we factor in the cost of carbon offset, the ERR moves slightly to 3.1 percent, the amount of energy stored – hence CO₂ offset - being relatively small compared to the investment cost.
24. As the main purpose of the battery is to maintain / increase system reliability by managing VRE intermittency and making VRE a dispatchable resource, the system cost of failure (and then savings from avoided failure) should also

³ To quickly restore demand/supply balance, especially at times when the transition to peak demand is fast. For South Africa, Open Cycle Gas Turbine (OCGT) and pumped hydro plant are used for this purpose. Battery storage has a faster response time than OCGT and when the batteries are charged by VRE they provide a cleaner ramp-up option.

⁴ OCGT generation marginal cost estimated from Eskom annual report 2017 at 97US\$c/kWh.



be included in the evaluation; this analysis would require a much more precise least cost dispatch approach and some robust assumptions on the impact of the grid. This more complex analysis is worth doing (ex post, through the technical assistance sub-component), as it would show the real transformational impact of battery storage into the South African grid.

25. Because of the pioneering role of this battery storage project, its assessment should not be limited to the amount of clean energy enabled and CO₂ offset but the impact that the demonstration would have on maturing the technology, lowering costs and enabling scale-up. Concessional funding is needed at this stage to support maturity of the technology.

Fiduciary appraisal

26. Procurement (National Treasury-'Preferential Procurement Policy Framework Act' exemption): Eskom required this exemption to apply the World Bank Procurement Guidelines/ Framework, which Eskom obtained in May 2018. Eskom is also working on a Project Procurement Strategy for Development (PPSD) to decide on the most appropriate procurement method for the project and avoid the issues experienced with Kiwano CSP. The following is an outline of the procurement plan for the first set of batteries to be installed by end-2020:

f. Appoint of Technical Advisor:	November 9, 2018 {completed}
g. Complete PPSD:	December 10, 2018 {in progress}
h. Complete feasibility analysis:	January 17, 219 {in progress}
i. Finalize technical designs:	February 14, 2019 {in progress}
j. Finalize bidding documents:	March 15, 2019 {in progress}
k. Receipt of bids:	April 30, 2019 {not started}
l. Complete bid evaluation:	June 2, 2019 {not started}
m. Contract award approvals:	August 21, 2019 {not started}
n. Construction Completion:	October 2021 {not started}

27. Eskom and Word Bank teams conducted technology and market reviews (visiting battery storage manufacturers in United States of America and China for both Solid State and Flow technologies) to assist them in deciding on the most appropriate procurement process. Eskom has prepared a Procurement Strategy, which is in the process of being revised to follow the PPSD template.

Safeguards appraisal

28. **Environmental:** The project follows Operational Policy (OP) 4.00 (Piloting the Use of Borrower Systems to Address Environmental and Social Safeguard Issues). All the sites selected in the proposal would require a basic Environmental Impact Assessment (EIA) that takes about 197 days. There is an Eskom environmental representative for each of the four Distribution Operating Units: Western Cape, Eastern Cape, Northern Cape and Kwa-Zulu Natal (KZN). Eskom teams requested for proposals in July 2018 from independent EIA consultants as per Department of Environmental Affairs (DEA) requirements. As most of the sites are in the Western Cape (WC), there are six EIA consultants per group of sites in the WC. Two EIA consultants have been appointed for Eastern Cape, four for Northern Cape and four will be appointed for KZN where there are twelve sites. The basic EIAs will be



conducted for each individual site such that each will have its own EIA approval (Environmental Authorization). Currently, indications are that a full EIA approval is required if the hazardous material volume increases above 500 cubic meters (5000 liters). Based on the high-level analysis the team conducted, indications are that there will not be hazardous materials volume of 500 cubic meters or more. Overall, Eskom anticipates that the entire environmental approvals process timeframe is six months per site (which will be carried out in parallel). A full EIA will also be carried out for Eskom financed and operated distributed solar PV sites which will include a battery storage component. The EIA process for this could take up to 18 months to finalize⁵.

29. **Social:** One of the project sites will involve acquisition of land from the Khomani-San community. This will require application of OP 4.10 (Indigenous Peoples Policy) since its equivalence to Country Systems was not considered in the Safeguards Diagnostic Review (SDR). Eskom has submitted terms of reference acceptable to the World Bank for the Social Impact Assessment (SIA) and Indigenous Peoples' Plan (IPP). Until a SIA and an IPP acceptable to the World Bank are completed there will be no disbursement of the IBRD or CTF loan for this sub-project. A World Bank-appointed consultant will also conduct due diligence on the other sites to ascertain there are no legacy claims, prior to disbursement for these sites.
30. **Regulatory (National Energy Regulator of South Africa NERSA):** NERSA has decided that generation licenses will be required for Battery Storage systems. It will be a four-month license process. Eskom has engaged with NERSA and will submit a license application for each site in December 2018. Implementation of Eskom's PV takes account of the licensing requirement.

IV. RISKS

31. The overall risk rating of the project remains high. Current risk ratings are not being revised but below is a summary of the specific risks associated with the proposed restructuring and the key risks facing the project.
32. Eskom may not progress as planned on measures it is taking to address the issues of governance and internal controls: With appointment of a new board and management, and Government's renewed focus on Eskom performance and enhanced oversight, such as ensuring that Eskom obtains Government approval of contracts and contract amendments above prescribed limits, the risk is considered low. In addition, Eskom financiers' oversight has also increased, and Eskom meets with its main financiers to inform them on the progress made in addressing the issues and on Eskom's financial performance.
33. Eskom's poor financial position may continue: Eskom's current assets in FY18 did not cover its current liabilities and Eskom had to service its debt through additional borrowing. The main factors were a lower than requested tariff adjustment, reduced demand and increased municipality arrears. While measures are being taken to address these issues, the situation is unlikely to affect the project since it is fully financed. In addition, Eskom's large investment program is coming to an end and the financial projections show significant improvement in the next three years.
34. Technology risk may delay implementation: The risk is low since Eskom has been implementing a small battery storage pilot for the past three years and use of the technology worldwide is already being mainstreamed. The risk may be in integrating battery storage to the power grid and ensuring optimal dispatch. Eskom will ensure that this

⁵ These sites would come under CTF-only project financing, proposed to close in 2021.



requirement is appropriately reflected in the bidding documents. Eskom has made and will continue to make study tours to learn from manufacturers and developers and has appointed a technical advisor to support design and implementation.

35. Eskom's lack of commitment may result in BSP not proceeding: Refer to the table in paragraph 20. The proposed alternative has been approved at various stages by Eskom's Board and in Government. Before the change from Kiwano CSP the technology was part of Eskom's Corporate Plan. Eskom considers the technology more important than CSP as it has the dual purpose of addressing low voltage and capacity issues at remote distribution terminals and enabling VRE to be dispatchable. The risk is therefore considered low.
36. The sheer number of Battery Storage sites could be a challenge in meeting the already tight timeline. The locations of the more than 40 sub-project sites are spread over four provinces of South Africa, which if not managed well could pose implementation difficulties. To address this issue Eskom plans to consolidate the sites into 3 or 4 large contract packages and has also put in place separate project teams to manage these packages.
37. Eskom's lack of familiarity with OP4.10 could delay preparation of the IPP. To mitigate this risk the World Bank team is working closely with Eskom to ensure that Eskom and the consultant fully understand the Policy, the requirements and content of the IPP as well as its implementation requirements.
38. Ministerial Determination (DoE allocation/amendment) may be delayed: for Eskom to commence the development of 60MW of solar PV, under the Law the Minister of Energy must approve an allocation to Eskom (other than private sector). Currently, Eskom has an allocation of 100MW for CSP in Integrated Resource Planning (IRP) 2010, which will need to be changed to 100 MW solar PV. Eskom is currently engaging Department of Energy (DoE) and NERSA to amend the allocation. Government policy allows such amendment. The risk of this negatively impacting the project timeline is minimal since implementation of Eskom financed PV is expected to be completed by December 2021 and since Eskom has already commenced the process to amend the allocation.

V. SUMMARY OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Components and Cost	✓	
Loan Closing Date(s)	✓	
Disbursement Estimates	✓	
Safeguard Policies Triggered	✓	
Legal Covenants	✓	
Procurement	✓	
Implementation Schedule	✓	
Economic and Financial Analysis	✓	



Technical Analysis	✓
Social Analysis	✓
Environmental Analysis	✓
Implementing Agency	✓
DDO Status	✓
Project's Development Objectives	✓
Cancellations Proposed	✓
Reallocation between Disbursement Categories	✓
Disbursements Arrangements	✓
Overall Risk Rating	✓
EA category	✓
Institutional Arrangements	✓
Financial Management	✓
APA Reliance	✓
Other Change(s)	✓

IV. DETAILED CHANGE(S)

COMPONENTS

Current Component Name	Current Cost (US\$M)	Action	Proposed Component Name	Proposed Cost (US\$M)
1. Sere Wind Power Plant (100 MW)	0.00	No Change	1. Sere Wind Power Plant (100 MW)	0.00
2. Upington Concentrating Solar Plant (100 MW)	0.00	Marked for Deletion	2. Upington Concentrating Solar Plant (100 MW)	0.00
	0.00	New	Battery Storage Program	655.00
TOTAL	0.00			655.00

**LOAN CLOSING DATE(S)**

Ln/Cr/Tf	Status	Original Closing	Revised Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
TF-10690		31-Dec-2016	30-Jun-2017, 30-Mar-2018, 31-Jul-2018, 30-Nov-2018	31-Dec-2021	30-Apr-2022

DISBURSEMENT ESTIMATES

Change in Disbursement Estimates

Yes

Year	Current	Proposed
2012	0.00	0.00
2013	0.00	12,000,000.00
2014	0.00	10,000,000.00
2015	0.00	12,930,000.00
2016	0.00	0.00
2017	0.00	0.00

COMPLIANCE**Safeguard Policies**

Safeguard Policies Triggered	Current	Proposed
Environmental Assessment (OP) (BP 4.01)	Yes	No
Performance Standards for Private Sector Activities OP/BP 4.03	No	No
Natural Habitats (OP) (BP 4.04)	Yes	No
Forests (OP) (BP 4.36)	No	No
Pest Management (OP 4.09)	No	No
Physical Cultural Resources (OP) (BP 4.11)	Yes	No
Indigenous Peoples (OP) (BP 4.10)	No	Yes



Involuntary Resettlement (OP) (BP 4.12)	Yes	No
Safety of Dams (OP) (BP 4.37)	No	No
Projects on International Waterways (OP) (BP 7.50)	No	No
Projects in Disputed Areas (OP) (BP 7.60)	No	No

LEGAL COVENANTS

Loan/Credit/TF	Description	Status	Action
TF-10690	Finance Agreement: LA: Schedule 2, Section 1.B Description: The Borrower shall ensure that the Project is carried out in accordance with the provisions of the Anti Corruption Guidelines. Due Date :31-Dec-2016	Complied with	No Change
TF-10690	Finance Agreement: LA: Schedule 2, Section 1.C.1. Description: The Borrower shall implement the Project in accordance with the provisions of the Environmental Legislation, the Social Legislation, the EIA, the EMP, the RPF, the RAPs, if any RAPs are required in accordance with the RPF, and the provisions of the Loan Agreement. Due Date :31-Dec-2016	Complied with	No Change
TF-10690	Finance Agreement: LA: Schedule 2, Section 1.C.2. Description: The Borrower shall refrain from carrying out activities under the Project that would result in the involuntary resettlement of person or group of persons residing in the selected site for the CSP and Sere Wind Power projects; provided, however, that if involuntary resettlement would be unavoidable, then the Borrower shall implement such activities in accordance with the RPF, incl. prep. of RAPs. Due Date :31-Dec-2016	Complied with	No Change
TF-10690	Finance Agreement: LA: Schedule 2, Section 1.C.3. Description: Not later than one year after completion of the implementation of a RAP, the Borrower shall cause an audit to be conducted by an independent qualified resettlement expert to monitor the outcomes of the	Partially complied with	No Change



RAP, including a survey and consultation with Displaced Persons, and which audit shall also define any necessary action to address any shortcomings in the implementation of said RAP. | Due Date :31-Dec-2016

	Finance Agreement: GU: Article III, Section 3.01 (c). Description: Guarantor to inform the Bank of any proposal to modify the Environmental Legislation and/or Social Legislation; and if in the opinion of the Bank, any aspects of the proposal would result in adverse environmental or social impacts under the Project, to cause the Borrower to carry out the Project in line with the provisions of SDR or other environmental and social guidelines as agreed with WB. Due Date :31-Dec-2016	Complied with	No Change
TF-10690) the Borrower to prepare, submit and disclose, in form and substance satisfactory to the World Bank, IPP and any environmental and social assessment in accordance with the Terms of Reference satisfactory to the World Bank for each activity under the Battery Storage Program for which the IPP is required prior to carrying out any BS installation activity on the site.	Not complied with	New
TF-10690	the Borrower to refrain from carrying out any BSP installation activity in a site which may be subject of an existing or outstanding land claim.	Not complied with	New

**Results framework****COUNTRY:** South Africa**South Africa - Eskom Renewables Support Project****Project Development Objectives(s)**

To facilitate accelerated development of large scale renewable energy capacity in support of the long-term carbon mitigation strategy of South Africa.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	DLI	Baseline	End Target
Mitigating Carbon Footprint (<i>Action: This Objective is New</i>)			
GHG emissions avoided (Tones/year)		0.00	199,000.00
Action: This indicator has been Revised			
Enhancing Renewable Energy Capacity (<i>Action: This Objective is New</i>)			
Generation Capacity of Renewable Energy (other than hydropower) constructed (Megawatt)		0.00	460.00
Action: This indicator has been Revised			
Generation Capacity of Renewable Energy constructed – Wind (Megawatt)		0.00	100.00
Battery Storage Capacity Constructed (Megawatt)		0.00	360.00
Action: This indicator has been Revised			
Financing Leveraged (<i>Action: This Objective is New</i>)			
CTF leverage (Amount(USD))		0.00	1,200,000,000.00



Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	End Target
Sere Wind Power Plant (100 MW) (Action: This Component is New)			
Component 1: Sere Wind Farm construction progress (Percentage)		0.00	100.00
Battery Storage Program (Action: This Component is New)			
Battery storage capacity (Megawatt)		1.00	360.00
Action: This indicator is New			
Upington Solar (Action: This Component is New)			
Component 2: Upington Solar construction progress (Percentage)		0.00	100.00
Leveraging and Jobs (Action: This Component is New)			
Investments in clean generation as % of investments in electricity generation (CTF Catalytic Replication Outcome) (Percentage)		0.00	17.00
% of clean energy supply in the overall electricity consumption (CTF Catalytic Replication Outcome) (Percentage)		0.00	3.00
Investments in clean energy generation (CTF Catalytic Replication Outcome) (Amount(USD))		0.00	1,900,000,000.00
Number of jobs created (Number)		0.00	800.00