AFRICAN DEVELOPMENT FUND

KENYA

GDC MENENGAI 105MW IPP PARTIAL RISK GUARANTEE

APPRAISAL REPORT

ONEC/EARC

October 2014

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Appendices

CURRENCY EQUIVALENTS
[September 2014]

UA 1	[USD 1.52]
UA 1	[EUR 1.15]
UA 1	[KSH 134.46]

FISCAL YEAR

1 January - 31 December

WEIGHTS AND MEASURES

- m Metre
- cm centimetre = 0.01 metre
- mm millimetre = 0.001 metre
- km kilometre = 1 000 metres
- m^2 square meter
- cm^2 square centimetre
- km^2 square kilometre = 1 000 000 m^2
- ha hectare = 10 000 m^2
- t (t) metric tonne (1 000 kg)
- KOE kilogram of oil equivalent
- kV kilovolt = 1 000 volts
- KVa kilovolt ampere (1 000 Va)
- KW kilowatt = 1 000 Watts
- GW gigawatt (1000 000 kW or 1000 MW)
- MW megawatt (1 000 000 W or 1 000 kW
- KWh kilowatt hour (1 000 Wh)
- MWh megawatt hour (1 000 KWh)
- GWh gigawatt hour (1 000 000 KWh)

ACRONYMS AND ABBREVIATIONS

ADB	African Development Bank
ADF	African Development Fund
BD	Bidding Documents
CSI	Corporate Social Investment
CSP	Country Strategy Paper
DFI	Development Finance Institution
DGE	Deemed Generated Energy
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EHS	Environment, Health and Safety
ESAP	Environmental and Social Action Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
GDC	Geothermal Development Company
GDP	Gross Domestic Product
GOK	Government of Kenya
IPP	Independent Power Producer
IRR	Internal Rate of Return
KETRACO	Kenya Transmission Company
KPLC	Kenya Power Lighting Company
LCPDP	Least Cost Power Development Plan
MTP	Medium Term Plan
NPV	Net Present Value
O&M	Operation and Maintenance
PAP	Project Affected Person
PFM	Public Financial Management
PPP	Public Private Partnership
PPE	Personal Protective Equipment
PISSA	Project Implementation and Steam Supply Agreement
PRSP	Poverty Reduction Strategy Paper
SCF	Strategic Climate Fund
SGS	Steam Gathering System

PROJECT INFORMATION SHEET

Client Information	
Guarantee ultimate beneficiary	Republic of Kenya
Executing Agency (Obligor)	National Treasury
Implementing Agency	Kenya Power and Lighting Company (KPLC) and Geothermal Development Company (GDC)

FINANCING PLAN		
Sources	**Amount (UA million)**	**Instrument**
African Development Fund	**[8.24]** **[ADF**	PRG
Total Guarantee Outstanding	**[8.24]**	

KEY ADB FINANCIAL INFORMATION	
	ADF Partial Risk Guarantee
Guarantee Currency	USD
Interest Type	N/A
Interest Rate Margin	N/A
Guarantee fee	Equivalent to ADF service charge of 0.75% per annum on the Maximum Guaranteed Amount, payable in advance on a semi-annual basis.
Front-end Fee	1.00% of the Guarantee Amount.
Tenor	The Guarantee tenor will be fifteen (15) years, corresponding to the term of the PPAs and PISSAs, plus up to twelve (12) months for the repayments under the Reimbursement and Credit Agreement.
Grace Period	N/A

KEY FINANCIAL & ECONOMIC OUTCOMES		
	Financial	**Economic**
Net Present Value	US 72.6 million	US 465.1 million
Internal Rate of Return	16.5% real	12% real

TIMEFRAME – MAIN MILESTONES	
Concept Note Approval	28 March 2014
Project Approval	[22 October 2014]
Effectiveness (of PRG)	[31 December 2014]
Completion (reflects expected date of expiry of PRG)	[31 December 2029]

PROJECT SUMMARY

1. **Project Overview**: The GDC 105 MW Menengai Independent Power Producers project involves the supply of steam by the Geothermal Development Company (GDC) to, and the purchase by Kenya Power and Lighting Company Limited (KPLC) of the power generated by, three (3) modular power plants at the Menengai Geothermal field to be financed, designed, constructed, installed, operated and maintained on a build-own-operate basis by three (3) independent power producers (Sosian Menengai Geothermal Power Limited, QPEA GT Menengai Limited, an affiliate of Quantum Power East Africa BV and OR Power Twenty-Two Limited, the "IPPs"). The three IPPs will develop and construct three geothermal power plants with a total capacity of 105MW comprising Sosian Menengai Geothermal Energy-35MW, OR Power Twenty-Two Limited-35MW and QPEA GT Menengai Limited -35MW. The availability factor of the plants will be 98% and electricity will be sold to the grid at a price of US$0.05 per Kwh. The main objective of the Project is to diversify the energy mix, provide clean, reliable, low-cost power and to strengthen Kenya's national grid by increasing national installed renewable power by approximately 10%. The Project will be one of the biggest geothermal projects in Africa. The AfDB private sector window is in preliminary discussions with the IPPs regarding potential debt financing.

2. The ADF Partial Risk Guarantee (ADF PRG) which this document describes will mitigate the risk to the IPPs and the providers of debt financing to the IPPs for KPLC's PPA offtake obligations and GDC's steam supply obligations. Specifically the ADF PRG will provide credit enhancement to GDC and KPLC on their payment obligations relating to (a) *Steam Supply: GDC Deemed Energy payments;* (b) *KPLC Deemed Energy Payments and Energy Charges.*

3. In the event that KPLC and GDC do not meet their obligations to the IPPs under the PPA and PISSA respectively, the IPPs may draw on the L/C which will be opened by KPLC and GDC in favour of the IPPs. Following a drawing under the Letter of Credit facility by the IPPs, KPLC / GDC would be obligated to repay the L/C Bank the amount drawn under the L/C facility together with accrued interest within the reimbursement period from the date of each drawing pursuant to a reimbursement and Credit Agreement to be concluded between KPLC / GDC and the L/C Bank.

4. In accordance with the Strategic Framework and Guidelines for the ADF PRG instrument, in connection with the approval of the Project the Board will also approve an increase of the commitment capacity of ADF by 75% of the face value of the guarantee extended in accordance to the ADF PRG Operational Guidelines.

5. Given that the guarantee amount will be denominated in USD while the Fund commitment currency remains the Unit of Account (UA), the Fund exposure upon a call on the guarantee may exceed the approved initial UA amount. Accordingly, the ADF Board acknowledges and approves any such additional exposure resulting from the currency fluctuations.

6. **Project Impact**: By mitigating the risk of non-payment by state owned enterprises (KPLC and GDC) the PRG is in fact providing credit enhancement to the overall project structure securing cash flows for repayment purposes for debt providers. This mitigation of perceived political risks will promote foreign direct investment in Kenya and "crowd in" private financing for power generation. By reducing the risk profile for the IPPs and the lenders to the IPPs, the ADF PRG will accelerate financial closure and reduce the overall cost of capital to the Project. It will also allow GDC, an institution of relatively recent origin, to build a solid track record for the drilling of steam wells and supply of steam which will benefit future geothermal Independent Power Producers in the future.

7. **Needs Assessment:** In order to meet the demand for electricity in the context of unreliable hydropower generation capacity (due to extreme drought during the last 3 to 4 years), the Government of Kenya is currently obliged to rely on providers of emergency generation capacity. This emergency capacity, while having the advantage of a relatively rapid installation time, is very expensive. Load shedding frequently occurs in Kenya particularly during the dry season and therefore there is need to

increase generation capacity to meet rising demand for electricity. This need is validated by the recent launch of the 5000 MW + by 2016 Power to Transform Kenya Initiative by the Government.

8. Geothermal power generation in the Menengai region has significant potential to contribute to Kenya's energy generation capacity with low cost energy that does not require fuel imports. Geothermal energy is a clean resource with positive carbon impact. Menengai itself is located in a region with a sparse population and the construction of the associated Transmission Line (T-line) and Steam Gathering System (SGS) will have relatively minor and manageable environmental and undesirable social impact.

9. **Bank's Added Value:** The provision of an ADF PRG to mitigate KPLC's PPA offtake obligations and GDC's steam supply obligations will facilitate financial closure and, by reducing project risk, reduce the overall financing cost of the investment.

10. **Knowledge Management:** The ADF PRG will provide risk mitigation and credit enhancement for privately-owned IPPs, supporting a private sector power project. The innovative approach will have a catalytic replication effect both in Kenya and more broadly across the continent, "crowding in" private financing for infrastructure investments. The IPPs aim to reach financial close by December 2014, and in the run-up it is assumed more lenders will come on board, as other DFIs and commercial lenders have expressed interest in providing debt. The lessons learned from this operation will provide useful insight into the promotion of private investment for infrastructure projects using guarantees.

Country and Project Name: African Development Fund Partial Risk Guarantee Project in Support of the Menengai 105MW Geothermal Power Generation Project
Purpose of the project: Provide a partial risk guarantee for GDC Steam Supply Risk and KPLC Payment Default Risk

	RESULTS CHAIN	PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS / MITIGATION MEASURES
		Indicator (including CSI)	Baseline 2013	Target		
IMPACT	* Decrease in cost of energy to end-users * Increased access to energy in rural Kenya * Increase in national electrification rate * Decreased dependence on fossil fuel hydro nationally	Average cost, per user per kWh Rural electrification rate Urban electrification rate Co2 emissions reduction of 529,473 tCO2e/yr. % of total power generation derived from hydro power	US/c13kWh 18% 16.1 32%	Decrease of 10% by yr 2020 Increase of 10% by 2020 Increase of 15% by 2020 Increase in trade volumes by 20% Decrease of 10% in energy generation by fossil fuels	* Kenya National Bureau of Statistics *Rural Electrification Agency * Kenya Ministry of Energy and Petroleum * Energy Regulatory Commission * Project progress and completion reports * Least Cost Power Development Plan	*Political risk.* **Mitigant:** Implementation of Government issued Letter of Support and PRG *Construction Risk*. Mitigant: Turn-key EPC contracts
OUTCOMES	**Outcome 1**					
	Provision of additional MW of power available in Kenya	% of total power generation derived from renewables	40%	Increase of 10%	* Kenya Power and Lighting Company * KETRACO * Geothermal Development Company * Kenya Ministry of Energy and Petroleum * Project progress and completion reports	*Transmission Line construction delay.* **Mitigant:** GoK LOS *Market/Off-take risk.* **Mitigant:** 25-year "take-or-pay" PPA with KPLC, supported by PRG *Fuel Risk*: **Mitigant**: 25 year PISSA with GDC supported by PRG *Commercial (viability) risk.* **Mitigant:** 2 years of project preparation + GOK letter of support
	Outcome 2					
	Improved hard infrastructure and delivery power and social services in the District	Incremental increase in of schools with access to power Incremental increase of households with access to power Incremental increase of hospitals with access to power	8,258 200000per/yr 4,082	825 schools 2000 households 10 hospitals / clinics	* Kenya National Statistics Office * KPLC/KETRACO * Kenya Ministry of Health * Ministry of Education * Supervision missions, project progress and completion reports	*Stakeholder/Reputational risk.* **Mitigant:** Extensive stakeholder workshops held with the community prior to project in 2013
	Outcome 3					
	Improved employment opportunities	Total number of newly employed (construction & operational phase) Total number of women employed	N/A	Estimated 600 during peak construction + 150 during operational phase At least 30% female staff	* Supervision missions, project progress and completion reports	*Lack of local human capital.* **Mitigant**:EPC Contractor
	Output 1					
	Power Plant construction Transmission Line Substations Steam Gathering Systems	Number of IPPs and total installed capacity GDC-Steam Gathering System and piping in KM KETRAC0-132 KV Substation KETRAC0-13km, 132 kv T-Line/offsite roads	N/A	3 IPPs-combined 105MW Steam gathering systems substations 15 Km transmission line Est 40km of offsite roads	* Supervision Missions, program progress and completion reports	Maintenance Risk. **Mitigant:** The line will be owned and maintained by KETRACO; SGS will be owned and maintained by GDC Integration Risk. **Mitigant:** Existing 241MW Geothermal power on grid, system upgraded for Geothermal power evacuation Construction risk. **Mitigant:** The line will be constructed by EPC contractor Environmental Risk. **Mitigant:** Completion of ESIA and ready for implementation.
KEY ACTIVITIES	1.Construction of Transmission Line, SGS and IPPs 2. Procurement of L/C Bnak				**INPUTS** **Land and Way leave** for T-Line route **Equipment** and materials (i.e.modualr plants, pipelines, SGS pylons, double circuit wires, poles and busbars) **Financial resources:** GOK financing for SGS:USD40m and T-Line-USD15M, Plant financed on BOO/BOT by IPPs AfDB :UA.1,855,192.70 million (7,420,770.82). million PRG Value)	

Project and PRG Timeline		Legend / Color coding
Project Tenor	2014-2029 (15 years)	IPPS/GDC/KPLC
PRG Tenor	15 years	PRG
Beneficiary	GoK	PRG Closure

		2014			2015				2017				2018				....				2029			
	Activity	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
IPPs/GDC/KPLC	IPP Financial Close																							
Commissioning	Commissioning																							
T-Line	Completion of T-Line Construction																							
SGS	Completion of SGS																							
PRG																								
Activity 1	Board Approval																							
Activity 2	Effectiveness																							
Activity 3	PRG available for drawing																							
Activity 4	Availabuilty for full drawdown (12 months after first L/C DD)																							
Activity 5	First Invoice (available from IPP first month of invoice)																							
Activity 6	PRG Closure																							
...																								

REPORT AND RECOMMENDATIONS OF MANAGEMENT TO THE BOARD OF DIRECTORS REGARDING ON A PROPOSED PARTIAL RISK GUARANTEE TO KENYA FOR THE MITIGATION OF KENYA POWER AND LIGHTING POWER COMPANY'S POWER PURCHASE OBLIGATION'S AND GEOTHERMAL DEVELOPMENT COMPANY STEAM SUPPLY OBLIGATIONS FOR THE THREE MENENGAI IPPS.

Management submits the following Report and Recommendations on a proposed African Development Fund (ADF) Partial Risk Guarantee (PRG) of approximately [UA 7,420,770.82 million ($11,267,550 equivalent)] to the Republic of Kenya to mitigate against power purchase payment obligations and Steam supply obligations needed for the implementation of the three GDC Menengai 105MW Independent Power Producers (IPPs) project. In accordance with the ADF PRG Strategic Framework, only 25%, equivalent to [UA 1,855,192.70 million] of the above amounts will be deducted from Kenya's Performance Based Allocation (PBA) with the ADF.

1 STRATEGIC THRUST AND RATIONALE

Project Linkages with Country Strategy and Objectives

The Bank Group's Country Strategy Paper (CSP) for Kenya (2014-2018) seeks to support two strategic pillars, namely: (i) enhancing physical infrastructure to unleash inclusive growth; and (ii) developing skills for the emerging labour market of a transforming economy. Pillar 1, seeks to create job opportunities by establishing a more conducive environment for the private sector through investments in physical infrastructure. Specifically in the Energy sector, Bank investments in energy will increase access to more affordable and reliable electricity. The CSP is in line with the country's long term development strategy, Vision 2030, and its more recent 5000 + MW by 2016 Initiative in which the expansion of electricity infrastructure is among the top priorities. The Project will assist in improving the supply of power in Kenya through renewable sources. The Project will also foster regional integration by allowing for the transfer of knowledge and experience for geothermal developments in the region.

The proposed ADF PRG is in line with the CSP as it aims to expand electricity infrastructure as foreseen by pillar one (infrastructure development). Furthermore, active participation of the private sector, which has an important role to play in generating growth and creating jobs and thereby reducing poverty, is required to implement the MTP (Medium Term Plan) and Vision 2030. The proposed ADF PRG encourages private sector participation by mitigating certain political risks. The country's comparative socio-economic indicators are provided in Appendix 3. The country's development agenda and sector brief are also provided in Annex A of the Technical Annexes.

Rationale for ADF Involvement

Kenya is currently experiencing significant shortages of power due to insufficient generation capacity. The GOK is seeking to address this by encouraging private sector participation in the power sector through the use of independent power producers (IPPs). Kenya's power industry generation and transmission system planning is undertaken on the basis of a 20-year rolling Least Cost Power Development Plan (LCPDP) that is updated every year. According to the latest LCPDP, the country has an installed electricity generation capacity of 1,664 MW and a reliable capacity of 1,397MW under average hydrological conditions. The peak demand stands at 1,146MW. In order to address this issue, the Government has launched the **5000 + MW by 2016 Power to Transform Kenya Initiative.** The current effective power generation in Kenya is 1,664MW, which comprises: hydro 770MW, geothermal 241MW, thermal 622MW, co-generation 26MW and wind 5.1MW. The suppressed demand which is largely due to transmission and distribution system weaknesses stands at about 1,357MW, while the peak demand is estimated at 1,700MW, thus depicting a shortfall of 536MW after providing for a 30% reserve margin.

In this vein, the ADF is trying to assist Kenya's efforts to increase its access and affordability to renewable energy. Poor access to energy/power is one of the major challenges for a successful economic transformation on the African continent generally and in Kenya specifically. This objective is underpinned by the AfDB Group's Ten Year Strategy 2013-2022, aiming to help member countries to gradually transition to "Green Growth" through financing sustainable infrastructure. Furthermore the project supports the Bank Group's Energy Sector Policy which promotes innovation to increase financial flows to the energy sector, energy security, increase in access, and renewable energy.

To facilitate the participation of the private sector in the energy sector, the ADF proposes to extend PRGs in support of the following three IPPs who won the tender to generate power from the Menengai geothermal field: **Sosian Menengai Geothermal Energy Limited**, **QPEA GT Menengai Limited** and **OR Power Twenty-Two Limited**. The Strategic Framework for the ADF PRG states that private undertakings that involve sovereign exposure carry an additional risk premium as they are subject to, among others, political risks including government's failure to honour commitments. Therefore the ADF PRG was approved by the ADF Deputies as a means of stimulating additional private sector investments in low income countries and to support the strategic objectives of the ADF by complementing existing instruments through which the Bank Group supports private sector development and attracts private financing for development.

11. In recognition of the need for risk mitigation vis-à-vis the GDC IPP project and to catalyse private sector investment, the GOK made a request to the ADF to use part of its PBA towards the provision of this ADF PRG.

2 PROJECT DESCRIPTION

The proposed ADF PRG will be designed to cover GDC and/or KPLC reimbursement obligations associated with non-payment under the three (3) Power Purchase Agreements (PPAs) and the three (3) Project Implementation and Steam Supply Agreements (PISSAs), as applicable, payable by GDC and /or KPLC. The proposed coverage will be for payments due to the IPPs at US$0.05c/Kw/h as revenue lost in case of non-payment by KPLC under the PPA for power generated and ready to be evacuated by the IPPs or power the IPPs are unable to generate as a result of either (A) KPLC's failure to comply with its take-or-pay obligations under the PPA or (B) GDC's failure to provide steam in accordance with the PISSA.

Project Design

GDC Menengai IPPs: The three modular power plants for a total of 105MW is part of the 400MW Menengai Phase I Project development scheduled for commissioning by 2016/2017. Each of the three selected IPPs will enter into a Project Implementation and Steam Supply Agreement (PISSA) with GDC, and a Power Purchase Agreement (PPA) with KPLC.

a) **Sosian Menengai Geothermal Power Limited**, will construct a 35MW power plant. It will finance the project through a mixture of equity (30%) and debt (70%) and is currently in discussions with AfDB and other Development Finance Institutions (DFIs) and several commercial banks for debt financing.

b) **OR Power Twenty-Two Limited**, is construct a 35MW power plant. The ownership of the consortium is divided as follows: Ormat-51%, Symbion-24.5% and Civicon-24.5%. They are also expected to commence discussions with AfDB for debt financing.

c) **OPEA GT Menengai Limited** will construct a 35MW power plant. . It will finance the project through a mixture of equity (30%) and debt (70%) and is currently in discussions with AfDB and other Development Finance Institutions (DFIs) and several commercial banks for debt financing

GDC will develop the Menengai steam supply field and supply steam to the IPPs who will generate electricity from the steam. The steam will be delivered by GDC to the power plant boundaries at the interfaces between GDC and each IPP. Power evacuation facilities (a transmission line and a substation) will be constructed by KETRACO. The IPPs will finance, procure and install facilities to connect to the KETRACO substation for evacuation.

KPLC will provide off-take for the electricity generated by the IPPs.

The payable tariff will be as stated in Clause 3.27-3.28 OF the Ministry of Energy and Petroleum Feed-in-Tariff Policy (December 2012). The tariff will be capped at US$ 0.085/kWh exclusive of Value Added Tax (VAT) which includes the cost of steam and the cost of generation (Power Conversion). The tariff is escalable and the escalable portion of the tariff will be 20% for the first 12 years and 15% thereafter. The application process for the project under the Feed-in-Tariff has been undertaken by GDC. The tariff will be split and allocated to Generation (Power Conversion) and Steam Supply components:

d) Generation component capped at US$ 0.05/kWh will be paid to the IPPs.

e) The steam supply component will be paid to GDC as a pass-through cost by KPLC for the net power delivered to the grid. However, the IPPs shall, from their revenue pay GDC for the steam consumed for generation of electricity for their own use at the stated rate of steam including escalations, consumption of steam above the guaranteed plant steam consumption rate, penalties for under generation as a result of the IPPs failure to meet their obligations.

Steam Gathering System: GDC will own and operate the steam field and will be responsible for the supply of steam to the IPPs who will own and operate the power plants. In order to achieve this objective, GDC is required to construct steam gathering systems to transmit steam from the drilled wells to the power plants. The Steam Gathering System (SGS) will be financed out of GoK budget allocations. The procurement for the EPC contractor has been concluded and construction has commenced and scheduled to be completed on first quarter 2015 ahead of the commissioning of the IPPs.

Transmission: Kenyan Electricity Transmission Company (KETRACO) will build, own and transfer operation of the transmission line to KPLC (based on the existing service agreement between KPLC and KETRACO). The scope of the transmission line system includes construction of 132 kv substations comprising communication and control facilities at Menengai and at Soilo and Lanet substations. The feasibility study for the 13 Km T-Line and 132kv substation has been completed; funding from the GoK for the T-Line has been allocated and the first tranche disbursed. The procurement for the EPC contract has been concluded and awarded to CCCE-Nari Consortia. The line is due to be completed in first quarter 2015, ahead of schedule of the commissioning of the IPPs

GDC 105 MW Menengai IPP Construction Timeline. Under the PPAs and the PISSAs, the financial close of the IPPs is anticipated to occur on December 2014 with commercial operations scheduled to commence July 2015. Payments due to non-honouring of PPA or PISSA payment obligations will be payable in the event of the commissioning of the power plants and receipt of written confirmation from KPLC and GDC of said commissioning as of (a) the effective date of the PPA or (b) the first commercial operation date of the IPPs. Significant buffers have been built into the project timelines to mitigate the risk of any delay in the completion of the SGS and availability of steam.

f) The PPA and PISSA have been agreed, initialled and approved by the ERC between KPLC/GDC and the IPPs.

g) The budgetary allocation for the construction of the Steam Gathering System has been approved and disbursement has commenced;

h) The EPC contract for the SGS has been awarded and construction is due to be completed in first quarter 2015;

i) The first invoice for payments from the IPPs (Sosian Menengai Geothermal Energy, QPEA GT Menengai Limited and OR Power Twenty-Two Limited) to KPLC is not due until after the expected commissioning of the plants on July 1st 2015.

Table 1 below shows the amounts due commensurate to the PPA and PISSA obligations which would be invoiced on a monthly basis. It also indicates that the face value of the ADF PRG would provide cover for 3 months on a rolling basis for the life of the project.

Table.1 Three Months Contracted Capacity/Monthly and Yearly PPA Payments

Contracted Combined Gross Power Output (KW)	***Annual Generation Hours***	***Availability Factor***	***Tariff to IPP for Electricity generated***	***Total Expected Annual Payment due to IPP (USD)***	***Coverage (if 3 Months) - 25% of annual payments (USD)***
105,000	*8760*	*98%*	*USD0.05/KWH*	*45,070,200*	*11,267,550*

IPPS (Based on 98%AF)	***Monthly PPA Payments(USD based on USD.05 kw/H)***	***Yearly PPA Payments(USD based on USD.05 kw/H))***
Quantum E.A-35MW	*1,251,950*	*15,023,400*
OR Power-35MW	*1,251,950*	*15,023,400*
Sosian-35MW	*1,251,950*	*15,023,400*

(Data source: provided by GDC.)

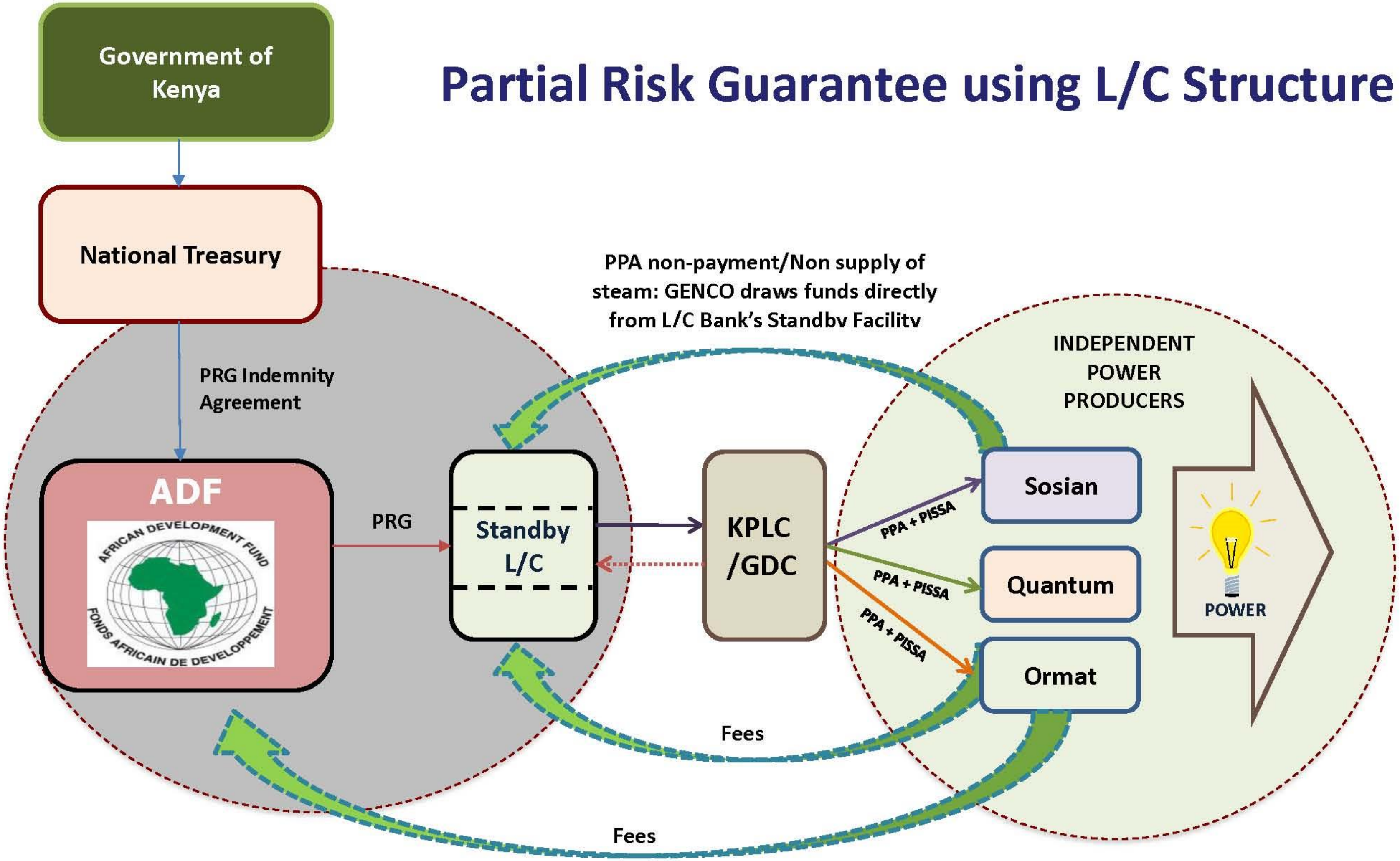
Financing Structure. ADF is proposing a financing structure that would involve a commercial bank (the “L/C bank”) issuing, at the request of KPLC and GDC, revolving letter(s) of credit (“L/C(s)”) in favour of the three (3) selected IPPs, which they would have the right to draw upon in the event of non-payment under the PPA and/or the inability to generate electricity due to GDC’s default under the PISSA. The L/C Bank will enter into Reimbursement and Credit Agreement(s) with KPLC and GDC, pursuant to which such entity would undertake to repay the L/C Bank any amounts drawn by any of the three (3) IPPs under the L/C(s) within a specified agreed reimbursement period. The ADF PRG would guarantee KPLC’s and GDC’s reimbursement obligations under the said Reimbursement and Credit Agreement following a guaranteed event.[1]

As is required pursuant to the Strategic Framework and Operational Guidelines for the African Development Fund Partial Risk Guarantee Instrument, the Republic of Kenya will enter into an indemnity agreement with the ADF pursuant to which it undertakes to repay the Fund on demand for any and all payments made by ADF to the L/C bank.

The indicative terms and conditions of the PRG are summarized in Appendices 1 and the project structure is set out in Figure 2 (*GDC 105 MW Menengai IPP Project*) below.

[1] The precise period of potential non-payment for which total cover will be provided is a function of the date of commissioning of the IPPs and the amount of steam available at that time.

Partial Risk Guarantee using L/C Structure



Project's Target Area and Development Impact

The Menengai geothermal development project lies within nine administrative sub-locations, six in Nakuru North Sub-County and three in Rongai Sub-County. Studies show that Menengai geothermal field has a potential to produce about 1,600MW. Currently GDC is developing the geothermal field to produce 105MW from 3 modular power plants.

The issuance of the PRG, which is providing comfort with regards to PPA payment obligations and PISSA payment obligations to the IPPs and their lenders, has a number of cross-cutting benefits, including:

a) **Social**: The IPPs and SGS will increase the supply of electricity to households benefitting 2,000 households, which will largely benefit women and children; enterprises and industries, which will create employment opportunities for youth and women; social services such as schools and hospitals; as well as government facilities in Kenya, which will enhance service delivery especially at the county level. These cross-cutting benefits are expected to contribute to poverty reduction. There will be no resettlement for the IPPs and associated SGS.

b) **Gender**: Shifting to renewable energies from the traditional energies will positively impact women and children. For instance renewable energy substitutes the need for traditional biomass, alleviates the labor of fuel wood collection and promotes gender equality and women's empowerment. Having access to energy may contribute to women having greater opportunities of employment through the development of new businesses which will generate income among women and as such contribute to their economic empowerment. Equally girls benefit from improved homework and school performance, fewer eye problems, and increased enrolment in school. There are also health benefits to be gained as women and children no longer have to be exposed to smoke and carbon monoxide from cooking

c) **Economic**: Access to affordable and reliable electrical energy will contribute to overall economic growth in Kenya through among other things increased firm productivity and creation of small and medium sized businesses and as such contribute to poverty reduction and tax revenue generation.

d) **Job Creation**: Direct jobs will be created during the construction phase, including casual labour for construction that could be sourced directly from the project areas and during operations. The one third gender rule will be embraced to assure that gender equality is respected in line with the new Constitution. Therefore, increased economic growth will create jobs elsewhere in the economy which will benefit both youth and women

e) **Environmental**: The Environmental and Social Impact Assessment (ESIA) and supporting Environment and Social Management Plan (ESMP) were completed in accordance with Kenya's, the Bank's, and best international environmental practices. It is estimated that the GDC 105MW IPP project will save 529,473tCO_2e/yr.

Participatory Approach

The main participatory processes undertaken for project identification emanated from developing the Vision 2030 and 5000 + MW by 2016 Power to Transform Kenya Initiative which identified development of infrastructure as a priority. Design and implementation modalities benefited from public consultations conducted as part of the ESIA study which involved interviews with communities, stakeholders and Project Affected Persons (PAPs). The ESIA included an adequate analysis of the project's environmental, social, and economic impacts as well as public/ stakeholder consultations. The project benefited from insights of various stakeholders during project preparation and design. Public consultation was initiated during the ESIA process in 2013 and community engagement is ongoing.

Bank Group Experience and Lessons Reflected in Project Design

This will be the third PRG approved by the Fund and the second PRG in Kenya. As such the project design has drawn heavily from the Fund's experience from the Kenyan Lake Turkana Transmission Line Delay PRG and the PRG in Support of the Nigerian Power Sector Privatization, as well as exchanges on lessons learned from World Bank's partial risk guarantee projects and the Multilateral Investment Guarantee Agency's (MIGA) political risk guarantee program. Typically PRGs in Kenya have been used as tools for credit enhancement of a PPA only. Under this project the Fund has broadened its coverage to include steam supply obligations under the PISSAs. It is important to note that the structure of this PRG is unique in its nature as it covers risks on both the supply side and the demand side, ensuring that save for commercial or operational risk the IPPs should be able to produce the much needed power using these newly developed steam fields. . Therefore this experience will serve as a learning process for subsequent PRGs delivered across the Bank Group, particularly, where the government is keen to push for generation using newly found or developed resources.

The Bank Group has been active in Kenya's energy sector since 1983. Since that time, the Bank Group has financed eight projects in the sector for a total amount of UA 352.75 million. The Fund has approved the following projects: UA 39.77 million financing for Kenya under the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) regional interconnection project (2008); UA 50 million to finance the Mombasa-Nairobi Transmission Line Project (2009); UA 46.7 million financing for the Power Transmission System Improvement Project (2010), UA 80 million ADF financing and USD 25 million Strategic Climate Fund (SCF) financing for the Menengai Geothermal Development Project (2011) and more recently UA 75 million for the Ethiopia-Kenya Electricity Highway Project in 2012. These projects are under active implementation. Through its private sector window, the Bank has financed the Thika Power HFO Plant in Kenya, Lake Turkana Wind Project where the bank is providing senior debt of EUR 110 million, EUR 5 million of sub debt and a PRG with a total coverage amount of EUR 20 million. An overview of the implementation status of the active projects in the energy sector is given in the Appendix 5.

Key Performance Indicators

The first set of key outcome indicators will be the volume of additional power available to the grid and the share of renewables in the total power generated in Kenya. The second set of key outcome indicators will be the incremental increase of schools, households and hospitals with access to power. The third set of outcome indicators will be the number of jobs created during construction and the operational phase, and the percentage occupied by women.

An important impact indicator will be the amount of avoided CO_2 that will result from the backing out of thermal energy by geothermal-generated electricity, estimated at 529,473tCO_2e/yr.

The key output indicator for this operation relates to the three power plants. The targets will be the commissioning date for full operation of the power plants and submission to KPLC of the first invoice for electricity generated after commissioning. The secondary output indicator will be the installation of the SGS and commencement of steam supply in accordance with the PISSA.

3 PROJECT FEASIBILITY

Financial and Economic Performance

This PRG will support three PPAs and three PISSAs between the IPPs and KPLC and GDC respectively. The PRG is essential to the viability of the IPP projects.

Financial Performance. The individual IPPs have produced comprehensive financial models that demonstrate the financial viability of each plant and therefore the overall project. In addition to the ongoing inputs from the Bank's Private Sector Department which is providing debt finance to the IPPs. The project has a FIRR of 16.5% and EIRR of 12%.

Economic Performance. Kenya is expected to benefit from geothermal resources at Menengai, which have to date not been fully exploited. This Project will allow the country to substitute electricity generated from more expensive plants operating on imported diesel and fuel oil. The analysis takes into account the actual fuel costs on KPLC units used at different times of the day, and expected to be substituted by energy from the IPPs. The actual daily load curve in Kenya shows a pattern of peak consumption from 19 to 22 hours, low "base" load generation from 01 to 06 hours, and medium "shoulder" load during 07-18 and 23-24 hours. The energy supplied by the IPPs will substitute different thermal units, which consume different fuel types and therefore have different unit generation costs.

Environmental and Social Impact

Environmental impact

In accordance with the Bank Group policies on Environment and Involuntary Resettlement, as the PRG Program will support the construction of power generation facilities, the Program has been classified as Category 1 operation which requires the preparation of a full ESIA as well as an ESMP. The ESIA was finalized in September 2013 and it indicates impacts related to biodiversity and other temporal and localized impacts associated with construction activities. The potential adverse impacts of the project will be mitigated in line with the requirements of applicable Bank procedures. The GDC has developed an ESMP which details the impacts of the project and measures to enhance positive impacts while avoiding, minimizing and mitigating negative impacts. The project sponsors are also in engagement with the national environmental regulatory agency who will oversee the assessment, management and monitoring requirements for the project in accordance with the environmental legislation of the country. A detailed environmental and social analysis is provided in Annex B8.

The direct positive environmental impacts will be that of cleaner production and reduction of greenhouse gases. Geothermal energy is considered as green energy resource and as such generation of electricity from geothermal energy is an integrated cleaner production technology. The proposed project replaces use of fuel energy to generate electricity. The environmental benefits of the proposed project are realized in terms of reduction of greenhouse gas emissions hence contributing significantly to reduction of global climate change. It is estimated that the project will avoid 529,473 tCO_2e/yr

Climate Change

Climate change is expected to have multifaceted impacts on Kenya. Overall, the country is expected to be warmer and experience a large degree of rainfall variability with extreme weather events such as severe droughts and floods. These impacts will be linked to the already existing economic and infrastructural deficit in the country. In this context, the project is aligned with the provisions of the country's National Climate Change Action Plan which was approved in March 2013. On the other hand the project's engineering design and implementation are cognizant of the long term physical impacts due to climate change.

The proposed development will have no impact on the local climate; however geothermal power stations emit methane and carbon dioxide which are both greenhouse gases. The modular power plants will have no significant effect on the climate of the area. An equivalent amount of electrical energy delivered by a coal-fired power station would result in the emission of much higher tons of carbon dioxide. Nevertheless, the quantities of these gases emitted will be substantially less than from a fuel-burning power station of a similar capacity.

Impact on Gender

In the 2012 Social Institutions and Gender Index, Kenya was ranked 46th out of 86 countries, this demonstrates a slight improvement from 2009 when Kenya was ranked 57th out of 102.[2] Furthermore,

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[2] http://genderindex.org/country/kenya

Kenya positioned itself 78th out of 136 countries in the 2013 Global Gender Gap Index, with a score of 0.680 (0.00 = inequality, 1.00 = equality).[3] This also demonstrates some progress since 2011 where Kenya positioned itself at 99th out of 135 countries. Since the adoption of the new Constitution in 2010, which underscores the Kenyan government's respect and commitment to gender equality and stipulates for a 'one third gender rule', more women have joined senior positions in government. The government has also enacted legislation and programmes to enhance women's access to resources and employment opportunities. Kenya ratified the Convention on the Elimination of All Forms of Discrimination against Women in 1984 and has submitted periodic reports on schedule.

Overall the project is not expected to negatively impact a particular gender group in a disproportionate manner. However, an assessment of the project area shows evidence that traditional practices prohibit women from possessing property or land, unless the husband is deceased; although the law gives the right to women to possess land. As such, women still remain a disadvantaged group. Efforts are underway to reverse these trends through implementation of the Kenya National Gender and Development Policy and the New Constitution (2010).

Beneficial impacts to women in the project derive mainly from employment opportunities. Already, this is evident by looking at the efforts undertaken by the stakeholders involved in the operation, namely KPLC, GDC, KETRACO and the Ministry of Energy and Petroleum, all of which have developed a Gender Policy and a Gender Based Violence Policy within their own institutions. In addition to the policies, they have appointed gender focal points and gender committees responsible for mainstreaming gender within their institutions and outside and are required to report back to the Ministry of Devolution and Planning on a quarterly basis as part of their Performance Contracts. To date, in a traditionally male dominated sector, GDC has a 27.6% female representation out of which 30.3% are represented in senior management positions, KPLC has a 20% female employment rate with 21% of women in senior management positions, KETRACO has 28.6% female representation in senior management positions and 32.8% of contract staff, and finally the Ministry of Energy and Petroleum has 36.1% female representation of its total staff.[4] This policy thrust will be reflected in the project with a target of at least 30% women in unskilled and semi-skilled jobs. This is in line with the Kenyan Constitution which requires organizations to take affirmative action aiming at obtaining at least 30% of the work-force being women.

In addition to the above mentioned benefits, providing light to households, health facilities and schools impact women and children largely. Given that traditionally women are responsible for most household chores, lighting and access to electricity facilitates the efficiency of cooking and childrearing activities. This will allow women to have more time for other productive activities, such as working or studying. Additional income-generating opportunities in particular lead to greater financial independence, and are thus a key mechanism in achieving gender equality. An increased access to communication technology and mass media is said to have a positive influence on attitudes about gender roles and a greater awareness of women's rights and as with the rest of society, women will benefit from improved health and education services as a result of affordable and reliable power. (See Technical Annex Gender Profile for more details)

Social Impact

The main social impact of the project is linked principally to the delivery of an additional 105MW to the national grid. This will lead to the improved welfare of households with better quality, cleaner and safer energy at a more affordable price. The project will provide a number of other socio-economic benefits such as improvement of roads, which will increase the area's accessibility; power and telephone network arising from the project will provide reliable and consistent energy supply and communication respectively. This will go a long way to stabilize electricity supply in the country and

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[3] http://reports.weforum.org/global-gender-gap-report-2013/#=&section=country-profiles-kenya

[4] Information on gender balance in senior management was not available.

reduce power outages during periods of high demand which contributes to income loss of households and businesses. Moreover, the project will contribute to improved public services, in particular in the health and education sector and to the development of the private sector by offering more affordable and reliable sources of energy than the current alternative (generator or batteries).

Project activities will provide local employment opportunities especially in case of unskilled labour. An estimated 600 new jobs are expected during peak construction and another 150 jobs during operational phase, out of these jobs created at least a third of the jobs will be reserved for women. In addition to this, it is also expected that this project will contribute to indirect job creation through increased productivity of firms and the creation of small and medium sized business, which will impact both women and youth.

Geothermal power plants within the Menengai Caldera will enhance the scenery and therefore increase local tourism. Educational tours will equally increase as the power plants provide unique training facilities in the area.

GDC has a clear and operational corporate social responsibility (CSR) policy which will benefit institutions such as schools and health facilities in the project area. GDC will seek to support the delivery of education for children in Silali and Menengai by equipping educational institutions as well as rehabilitating the existing facilities. GDC will seek to employ young and innovative youth members from their areas of operation in their plants to ensure economic empowerment which will cause ripple effects to the economic status of the communities. GDC also endeavors to support environmental conservation through supporting innovative community projects. GDC will also support the rehabilitation of water pans and sink boreholes for the communities. GDC will provide among other things equipment for health centers in Silali and Menegai, will assure provision of medical care through partnerships with other health providers and the Ministry of Health and will support preventive health campaigns through information, education and screening facilities. Finally, GDC will partner with other organizations to show case the heritage of the communities they operate in and also encourage preservation of their culture, through schools and community activities. GDC will also encourage sporting activities to foster peace between Turkana and Pokot communities and amongst schools.

In addition to these socio-economic benefits, the GDC has submitted to the Bank a Direct Use (DU) Project proposal seeking potential funding from the SEFA window. The DU Project would serve as a 'bolt-on' project to the Menengai Geothermal Project. The DU project would make use of the heat retained from the geothermal hot brine for notably, agricultural production and agro processing uses which can open up employment opportunities and improve income generation for small and medium size enterprises and farmers. This will unlock low skilled employment and value addition economic activities for the local community and as such contribute to the green and inclusive growth agenda.

Impact on land use

The proposed project will be located in Menengai Caldera, which is a gazetted government land. As such there will be no displacement of settled communities. Further, geothermal exploration drilling is already on-going in the Caldera where power plants will be located. The proposed project fits in the ongoing activities and therefore change of user will not be needed for the proposed project. However, the way leave for power transmission lines will pass through individual farms. The width of land affected will normally depend on the magnitude of the transmission line voltage and for the case of 220 kV, the way leave width may range up to 40 m. Way leave ensures safety of the people living close to the transmission lines. There are no resettlement issues with regard the power plant and GDC and KETRACO has commenced the process of compensation for people affected by the Transmission line.

4 PROJECT IMPLEMENTATION

Implementation Arrangements

The purpose of the PRG is to provide comfort to the private sector investors and lenders that the Government of the Republic of Kenya will respect its obligations to them, this will be outlined in the GoK Letters of Support, the PPAs and the PISSAs, concerning the fulfillment by KPLC and GDC of their respective payment obligations under the PPAs and the PISSAs. GDC will be the technical implementing agency in relation to the PISSA and KPLC will be the implementing agency for the PPA.

GDC is a wholly Government-Owned limited liability company, under supervision of the Ministry of Energy and Petroleum. GDC was appointed to undertake integrated development of geothermal energy generation through the initial exploration, drilling, resource assessment and promotion of direct utilization of geothermal energy. The establishment of GDC was based on the government's policy on energy – Sessional paper No. 4 of 2004, and the energy Act No. 12 of 2006 - which unbundled the key players in the electricity sector to ensure efficiency.

GDC's most important objectives are: the promotion of a rapid development for geothermal resources in Kenya, through surface exploration and drilling making the steam available for electricity generation; and the correct management of the geothermal reservoirs to ensure constant supply of steam. Furthermore, GDC promotes alternative use of geothermal resources other than electricity generation, including greenhouse heating, drying of grains, pasteurizing milk, space heating and cooling. The quest for geothermal energy is not new in Kenya, as it started in 1957. So far it has yielded 520 MW, against a massive potential estimated to range between 7,000 MW and 10,000 MW. The exploitation of geothermal resources has been clearly too low, thus necessitating the establishment of GDC.

In the past, Kenya widely relied on hydroelectricity and emergency diesel production, with perennial power outages, and GoK has identified the country's untapped geothermal potential as the most suitable indigenous source of electricity. GDC is anticipated to drill 1,400 steam wells to provide steam for the generation of 5,000 MW of geothermal power by 2030.

KPLC, the PPA implementing agency, is the off-taker in the power market, buying power from all power producers on the basis of negotiated power purchase agreements for onward transmission, distribution and supply to consumers. KPLC is responsible for all electricity distribution systems and some transmission systems in Kenya. The transmission system comprises 220 kV, 132 kV and 66 kV transmission lines. The company is a listed on the Nairobi Stock Exchange, with the GoK (including investment of the National Social Security Fund) holding 50.1 % and private shareholders holding 49.9 %.

Procurement: The Bank Group's "*Rules and Procedures for Procurement of Goods and Works*", and "*Rules and Procedures for the Use of Consultants*" (both dated May 2008 and revised July 2012) apply to the project in accordance with Article 1.2 and its charter to "…ensure that the proceeds of any loan made or guaranteed by it are used only for the purposes for which the loan was granted, with due attention to considerations of economy and efficiency." Following the provisions of Article 3.16 of the Rules, if the AfDB guarantees the repayment of a loan made by another lender, the goods and works financed by the said loan shall be procured with due attention to economy and with procedures that meet the four principles of procurement. In this case, the lender is an L/C Bank and the case is of partial risk guarantee from the ADF associated with the implementation of the PPA and PISSA.

GDC invited interested investors to bid for supply and installation of three Geothermal Modular Plants of a total of 105MW at Menengai Geothermal Field in July 2013 under a Build-Own-Operate model. The electrical output of the project will be sold to KPLC) under a power purchase agreement to be executed by the IPP and KPLC as the Offtaker.

The procurement of the IPPs was guided by the Feed-in-Tariff Policy published by the Ministry of Energy and Petroleum. Applicants who express interest under the Feed-in-Tariff (FiT) Policy are expected to identify and undertake a prefeasibility assessment of a site for generation of electricity and renewable energy projects, and apply to Ministry of Energy for license to develop, construct and commission the proposed project. The selected Bidder(s)/IPPs were required to conclude Twenty Five (25) year Project and Steam Supply Agreement(s) (PISSA) and Site Agreements with GDC; finance, procure and install facilities to connect to the KETRACO substation for evacuation; and enter into a Twenty Five (25) year Power Purchase Agreement (PPA) with KPLC. The bidding documents clearly specified the technical and financial requirements as well as the acceptance criteria for the IPPs.

Following this process, three IPPs (M/S Sosian Menengai Geothermal Energy, M/S QPEA GT Menengai Limited and M/S OR Power Twenty-Two Limited) were selected out of a total of twelve (12) firms that expressed interest. The evaluation process followed the requirements set out in the bidding documents and the factors, methodologies and criteria used in arriving at the preferred bidders were as defined in the tender documents.

The procurement process undertaken for the IPPs was found to be in line with the Bank Group's procurement guidelines because advertisement was done in a manner that reached the widest possible audience, contained sufficient information to stimulate bidder interest; and provided potential bidders with detailed information and sufficient time for preparation of their proposals. Bidding Documents were clear and included precise descriptions of the requirements for submission of proposals, public bid opening and non-discriminatory and non-restrictive evaluation criteria. The evaluation process applied well-defined criteria as specified in the bidding documents to determine the most economically advantageous bidders.

Financial Management

The mission assessed the Financial Management (FM) capacities of GDC as adequate for the project. The organization has proper structures in place as well as adequate staff to carry out the FM responsibilities of the project. GDC is currently implementing a project funded by the AfDB. The project will make use of the GOK's Financial Management systems in all aspects of the project.

GDC's Finance Manager will assign a Project Accountant to the project to be in charge of the day to day financial management operations of the project using GDC's financial management systems.

GDC uses SAP Version 7 which is adequate and capable of recording accurate and complete transactions and delivering financial reports timely. The system utilizes the SAP Project module to distinguish different project activities and costs.

Finance Department coordinates the budgeting process of GDC. Heads of departments prepare estimates that are verified by the Finance Manager and consolidated by the Budgetary Control, Management Accounts & Projects division.

The approved budget is entered in the Funds Management Module to ensure funding from different Financiers is separated and the controlling module that features the operating expenditure. Capital Expenditure is keyed in the project system in line with planned project activities. The fund management module also enables budget holders to view the approved budget, actual utilizations and variances. The fund management module also includes availability control which prevents overruns in budget lines by triggering graduated error messages giving early warnings for corrective action when certain tolerance limits are reached

GDC has an audit, risk and compliance department headed by a Manager who reports functionally to the Audit Committee and administratively to the Managing Director & CEO. The functioning of the department is guided by the Board Audit Committee Charter that spells out roles, responsibilities, internal controls to be instituted and reporting procedures. The department is comprised of 8 staff that are qualified accountants. The team currently does not have IT skills and technical skills on board. Technical audits have not been done as well as systems audit due to lack of these skills. Management will make necessary plans to ensure these areas are covered. The internal audit will cover an important role on the project and reports will be shared with the Fund.

The annual project financial statements will be prepared in accordance with the International Financial Reporting Standards (IFRS) annually by 30th September. The annual financial statements should include: (i) a statement of comprehensive income; (ii) a statement of financial position that shows assets and liabilities; (iii) statement of cash flows and (iv) notes to the Financial Statements describing the applicable accounting principles in place and a detailed analysis of the main accounts. In addition, the Project will provide an update on financial performance of the project as part of the Quarterly Progress report (QPR) as required by the Fund not later than 45 days after the end of the Quarter.

The project financial statements will be audited by the Auditor General or any other private audit firm contracted by the Auditor General, using the Fund's audit Terms of Reference. Currently GDC is audited by PricewaterhouseCoopers. The audited project financial statements will be submitted to the Fund within six months after the close of the fiscal year. At the program midterm, a Value for Money (VfM) Audit will be carried out by the Auditor General or his appointee on Terms of Reference agreed with the Fund.

KPLC will assign a Project Accountant to the project to be in charge of the day to day financial management operations of the project. KPLC uses SAP version 7 as its accounting system. This system is adequate for recording accurate and complete transactions and delivering financial reports timely.

Departments' heads coordinate the preparation of budget estimates based on the work plans for their department with the help of staff in the budgeting department. For the projects, the project accountants prepare budget estimates based on the procurement plan. The project estimates are reviewed by the Chief Accountant for projects and approved by the Chief Manager-Projects. The project engineers provide the estimated time for various activities to be included in the procurement plan. All departmental and project estimates are forwarded to Finance Division, budgeting department for consolidation. The Management Budget Committee headed by Head of Finance reviews the consolidated budget with the budget division team who defend the proposals and revisions are made where necessary until the budget is finalized. The Management Budget Committee sends the final budget to the Board Budget Committee of KPLC for approval. Once the Board Budget Committee approves the final budget, it is sent to the KPLC Executive Board for approval. Approved donor funded budgets are sent to the Ministry of Energy & Petroleum (MoEP) to be included in the government printed estimates.

Budget monitoring is done through the SAP system. All expenditure is captured into SAP on a monthly basis and variance analysis reports are produced monthly for recurrent expenditure and quarterly for projects. The system does not allow any amounts in excess of the budgetary allocation to be captured as part of expenditure. Budget performance is used to monitor expenditure and take necessary actions, monitor the extent of implementation of key projects and the level of budget absorption for each manager.

KPLC has an internal audit department comprising of 40 staff. The internal audit department is divided into three units which include technical audit, general audit & investigations and systems audit. Flexible risk-based annual audit plans are developed using appropriate risk-based methodology for implementation throughout the year. Quarterly audit reports are issued to the audit committee summarizing the results of the audit which are reviewed and track of previous recommendations by management is done. The internal audit department will audit the project at least once yearly and the reports will be shared with the bank.

The annual project financial statements will be prepared in accordance with the International Financial Reporting Standards (IFRS) annually by 30th September. The annual financial statements should include: (i) a statement of comprehensive income; (ii) a statement of financial position that shows assets and liabilities; (iii) Statement of cash flows and (iv) Notes to the Financial Statements describing the applicable accounting principles in place and a detailed analysis of the main accounts. In addition, the Project will provide an update on financial performance of the project as part of the

Quarterly Progress report (QPR) as required by the Bank not later than 45 days after the end of the Quarter.

The project financial statements will be audited by the Auditor General or a private audit firm contracted by the Auditor General, using the bank's audit Terms of Reference. The audited project financial statements will be submitted to the Bank within six months after the close of the fiscal year**.**

The PRG will have the following disbursement arrangements

GDC/KPLC will request a commercial bank to issue a revolving Letter of Credit (L/C) in favour of the three IPPs (QPEA GT Menengai Limited, Sosian Menengai Geothermal Limited and OR Power Twenty-Two Limited)

- The IPPs will have the right to draw on the L/C in the event of inability to generate electricity due to GDC's default under the PISSA and/or KPLC default on the PPA
- The L/C bank and GDC/KPLC and GOK will enter into a Reimbursement and Credit Agreement. In this agreement GDC/KPLC will undertake to repay the commercial bank any amounts drawn by the IPPs under the L/C within a specified reimbursement period and GOK will undertake to make the reimbursement to the L/C bank in the event that GDC/KPLC fails to remit within the specified period.
- The ADF-PRG will guarantee GOK repayment obligations under the Reimbursement and Credit Agreement following the occurrence of a guaranteed event. Any amount paid by the ADF to the L/C bank under the guarantee would be deducted from the Maximum Guaranteed Amount. It should be noted that even if the payment default is remedied by KPLC / GDC, following a payment under the guarantee, those amounts would not be reinstated.
- GOK and ADF will enter into an Indemnity Agreement in which GOK undertakes to repay the ADF on demand for any reimbursement that ADF makes to the L/C bank under the PRG.

Project Monitoring and Evaluation

The monitoring and evaluation of the performance of the Project will be realized at three levels. The first is the monitoring of the Project's outcomes and outputs by tracking progress in the implementation of the SGS construction. The second level is the monitoring of the financial performances of the IPP Project sponsors and the third level concerns the environmental and social indicators.

The PRG will be monitored over the contractual period of the PPA and PISSA and prior to the construction of the SGS before the IPP commercial operation date in July 2015. The breakdown of this period is as follows:

- The EPC contract has been awarded, budgetary allocations approved and the SGS is expected to be completed by first quarter 2015;
- The IPPs are expected to reach financial close by December 2014, and commercial operations are expected to commence in July 2015;
- The L/C facility to be covered by the PRG will be available from the date of first invoice, and will remain open for a period of 24 months.

The total guarantee period corresponds to the total monitored period of 15 years.

The Implementing Agencies, KPLC and GDC, will work closely with the L/C Beneficiaries and will report to ADF on a regular basis concerning the project's implementation progress. GDC will submit quarterly and annual progress reports on the state of progress of SGS prior to commissioning and further reports on the steam wells and supply to the ADF. A regular supervision of the Project will be undertaken by the Fund approximately 30 months after the effectiveness of the PRG. The execution of the ESMP will also be monitored through quarterly and annual progress reports. Within six months of the completion of the project, the Fund, together with the Implementing Agencies will prepare and submit a Project Completion Report (PCR).

Implementing Agency Governance

The Board of Directors (BoD) appointed by the Minister of Energy and Petroleum will provide strategic direction and guidance to KPLC and GDC. The Board is composed of members with different complementary skills and relevant experience to carry out their duties. Functions of the BoD are governed by set policies and procedures.

This Project will be implemented by KPLC and GDC, using Kenya's regular corporate sector financial reporting systems and procedures. KPLC and GDC will utilize their corporation's usual project management systems for the implementation of the project. The Internal Audit Department of KPLC and GDC will assist in monitoring and evaluating the internal controls. External oversight will be provided by the Government's Auditor General. The Fund will provide some oversight especially during supervision missions.

More broadly, fighting corruption in Kenya is one of the priorities of the GOK. A new body, the Ethics and Anti-Corruption Commission formed through an Act of Parliament with effect from November this year as provided for in the new 2010 Constitution, has been instituted. It is mandated to fight corruption among other responsibilities. It replaces the Kenya Anti-Corruption Commission which has been disbanded. This new Commission will have authority over public enterprises and will therefore play an important governance oversight role with respect to KPLC and GDC.

Finally, it should be noted that KPLC and GDC's governance, procurement and fiduciary standards have passed the acceptance of a number of important DFIs such as the World Bank who provided debt financing to KPLC in the past and ADF which has financed projects for GDC.

Sustainability

This Project is transformative in the sense that it focuses on gradually changing the mix of Kenya's electricity generation from fossil fuel to renewable energy. The Project is also sustainable from a financial and economic point of view, with low operating costs due to low marginal costs for what is essentially a freely available resource.

Tariffs: Kenya's retail tariff is bundled and incorporates the combined cost of the different functional components (generation, transmission and distribution) and ensures sustainability as it is based on the revenue requirements of KPLC which is responsible for the sale of electricity throughout the country. The revenue requirements are based on prudently incurred costs including power purchase costs, transmission, distribution and retailing costs as well as a reasonable rate of return on the capital invested to provide the services.

In the case of electricity delivered by IPPs into the national grid, KPLC will pay USD 0.05/kWh on a take-or-pay basis, a level below current peak generation costs for the Kenyan system.

To ensure the affordability of electricity to end users, the domestic tariff category is divided into three consumption blocks with increasing energy charges. As of the end of 2013, the average retail tariff was USD 19.78 cents per kWh for domestic customers, 14.14 for small industrial customers and 16.36 for commercial and industrial customers.[5]

The 5000MW + 2016 Initiative is expected to reduce tariffs from USD 19.78 cents per kwh to USD 10.45 cents per Kwh for domestic customers and USD 14.14 to 9.00 cents per kwh for small industrial customers.

[5] LCPDP, March 2011

Private sector participation: The purpose of this PRG is to support investment by the private sector in the GDC 105 MW Menengai IPP project thereby generating capacity and diversifying the sources of Kenya's electricity supply. The investment in the associated Steam Gathering System and the Transmission Line will be public-sector funded by the GoK.

Risk Management

While the purpose of the ADF PRG is to provide comfort to the private sector project sponsors and financiers, it is not intended to be called except as a final resort. Therefore, a number of important mitigation measures have been put in place to ensure that the trigger events will not occur. Primary among these are the availability of steam and contingency wells periods built into the project timeline. In addition, a number of other mitigation measures have been included in the PRG design:

j) Penalties for construction delay in the form of a performance bond have been built into the EPC contract for the SGS, providing strong incentives to the construction company H-Young Limited to commission the SGS on time;

k) Regular monitoring reports will be prepared by GDC and KPLC and provided to the Fund during the construction period as part of PRG supervision, which will allow Fund staff to intervene rapidly and resolve outstanding issues with the Government of Kenya if schedules go off track.

l) Feasibility studies showing availability of steam and contingency wells to mitigate against dry wells.

Knowledge Building

This Project will have a catalytic replication effect, which will come from: (i) significant leveraging of resources through ADF's third PRG; and (ii) learning and demonstration.

a) **Catalytic Effect:** ADF resources, through this PRG, will crowd in significant amounts of private sector and other financing. The [US $11,267,550] million PRG will catalyse an overall project of US $220,027,569 million for the GDC Menengai power plants as well as further investments by the GoK for the Transmission Line and Steam Gathering System.

b) **Learning and Demonstration**: In addition to the catalytic effect of the project, the experience gained from processing the project has allowed for capacity building and knowledge creation which will be leveraged within the Bank Group and the broader development community concerning the use of guarantee instruments to mobilize private sector financing.

5 LEGAL FRAMEWORK

The key legal agreements and contractual structure for the PRG are set out below and in Appendices 1 and 2. The key PRG legal documents are:

m) <u>Guarantee Agreement</u> between ADF and the L/C bank which sets out the terms and conditions under which ADF would reimburse the L/C bank;

n) <u>Indemnity Agreement</u> between ADF and the Republic of Kenya_under which Kenya undertakes to indemnify ADF on demand for any payments made by ADF under the Guarantee Agreement;

o) <u>Standby Letter(s) of Credit</u> issued by the L/C Bank at the request of KPLC and GDC and in favor of the IPPs;

p) <u>Reimbursement and Credit Agreement</u> between the L/C bank and KPLC and GDC, under which KPLC and GDC undertake to reimburse the L/C bank for amounts drawn under the L/C; and

q) <u>Project Agreements</u> between the ADF and each IPP agrees to provide relevant project information, comply with applicable laws, including environmental laws, refrain from making amendments to the underlying project documents without ADF's consent, and make certain warranties, representations and undertakings.

A guarantee fee of 75 basis points per annum on the Maximum Guarantee Amount will be payable semi-annually in advance to the Fund. A one-time front-end fee in an amount equal to up to a maximum of 100 basis points of the Maximum Guarantee Amount of the PRG will be charged by the Fund to partially compensate the Fund for costs associated with processing the guarantee for approval as well as recover development costs. The legal fees of the ADF's external counsel up to an agreed amount will also be payable or reimbursed. All PRG-related fees will be payable by the L/C Beneficiary, i.e. the IPP Project sponsors as stipulated in the Letter of Payment Undertaking

The indicative terms and conditions of the PRG are summarized in Appendix 1

Compliance with Bank Policies

This Project complies with all applicable Bank policies.

6 RECOMMENDATION

Management recommends that the Board of Directors:

r) Approve the proposed ADF Partial Risk Guarantee in a face value of UA 8,246,753.25 (equivalent to USD $12, 700,000.00) to the Republic of Kenya for the GDC 105MW Menengai IPP Project. In accordance with the Strategic Framework and Operational Guidelines for the ADF PRG Instrument, only twenty-five percent (25%) of this amount, equivalent to UA million 2,061,688.31 will be deducted from Kenya's PBA; and

s) Authorize an increase of the commitment capacity of the Fund by seventy-five per cent (75%) of the face value of the guarantee extended in accordance with the Strategic Framework and Operational Guidelines, and to approve an increase in the commitment capacity of the Fund to take account of currency fluctuations between the amount of the Fund's commitment currency of the PRG USD$ 11,267,550.00 and the amount of the currency of denomination of the PRG.

t) Acknowledge and approve any additional exposure resulting from currency fluctuations that may arise upon a call on the guarantee as a result of the difference between the commitment currency of the Fund (UA) and currency of the guarantee amount.

Appendix 1 – INDICATIVE TERM SHEET

INDICATIVE TERMS AND CONDITIONS OF AN ADF PARTIAL RISK GUARANTEE

This Summary Terms and Conditions does not constitute an offer or commitment to provide the envisaged guarantee, and as such any commitment would be pursuant to internal approvals, conclusion of due diligence and successful negotiation of definitive legal documentation. The terms and conditions outlined below are not a comprehensive statement of all applicable terms and conditions that would be contained in the definitive legal documentation for the guarantee facility and the transaction contemplated herein, but are an indicative summary of the proposed guarantee structure normally required by the African Development Fund (ADF) for similar types of transactions.

ADF PARTIAL RISK GUARANTEE (ADF PRG)

PROJECT:	The supply of steam by the Geothermal Development Company to, and the purchase by Kenya Power and Lighting Company Limited of the power generated by, three (3) modular power plants at the Menengai Geothermal field to be financed, designed, constructed, installed, operated and maintained on a build-own-operate basis by three (3) respective independent power producers.
PURPOSE:	The ADF PRG will backstop the failure by an L/C Applicant to reimburse the L/C Bank amounts drawn by an L/C Beneficiary under the L/C following the occurrence of a Guaranteed Event (as defined below).
L/C APPLICANT(S):	The Kenya Power and Lighting Company Limited (**KPLC**) and Geothermal Development Company (**GDC**)
L/C BENEFICIARIES:	Sosian Menengai Geothermal Limited Energy (**Sosian**), QPEA GT Menengai Limited (**Quantum**) and OR Power Twenty-Two Limited (**Ormat**)
L/C BANK:	A commercial bank with an international long-term foreign currency investment grade rating by either Standard & Poor's and/or Moody's Investors Services, acceptable to the ADF, GoK and the L/C Beneficiaries, that is selected through a competitive bidding process.
GUARANTEED L/C:	Revolving Standby Letter of Credit (L/C) issued in favor of the L/C Beneficiaries by the L/C Bank at the request of KPLC and GDC to backstop: (1) KPLC's payment obligations for Energy Charges under each Power Purchase Agreement (**PPA**) and (2) GDC's payment obligations for Actual Generation under each Project Implementation and Steam Supply Agreement **(PISSA)**, in each case, entered into between KPLC and GDC, respectively, with each of Sosian Menengai Geothermal Limited, QPEA GT Menengai Limited and OR Power Twenty-Two Limited, respectively. KPLC's and GDC's obligations to reimburse the L/C Bank amounts drawn under the L/Cs, up to a cumulative maximum amount equivalent to [XXX] United States

	Dollars (US$xxx), will be guaranteed by the ADF. Any amounts drawn by the L/C Beneficiaries that are reimbursed by KPLC and/or GDC to the L/C Bank within the L/C Reimbursement Period will be reinstated as described below.
GUARANTEED EVENT:	KPLC's and GDC's failure to perform their reimbursement obligations under the Reimbursement and Credit Agreement entered into between KPLC, GDC and the L/C Bank (**Reimbursement Agreement**).
MAXIMUM L/C AMOUNT:	An amount sufficient to cover three (3) months of payment obligations for Energy Charges under the PPAs and Actual Generation under the PISSAs up to a cumulative total amount of United States Dollars (US$ 11,267,550).
CURRENCY:	US Dollar
L/C TERM:	Three months rolling period over a term of 15 years, or as agreed with the L/C Bank, commencing from the Full Commercial Operation Date of the respective plant.
L/C:	In a form satisfactory to ADF, the L/C Applicants and the L/C Beneficiaries.
L/C BANK INTEREST:	An appropriate spread above LIBOR, to reflect ADF risk, and acceptable to the L/C Beneficiary and GoK, and agreed by ADF.
L/C REIMBURSEMENT PERIOD:	Following a drawing on the L/C by an L/C Beneficiary, KPLC and/or GDC will be obligated to reimburse the L/C Bank the amount drawn, plus accrued interest thereon, within [*a period to be agreed between the L/C Bank, the L/C Applicants and the ADF*] of the drawdown (**L/C Reimbursement Period**) in accordance with the terms of the Reimbursement Agreement.
L/C REINSTATEMENT:	If the L/C Applicant reimburses the L/C Bank before the expiry of the L/C Reimbursement Period, the L/C will be reinstated by the amount so reimbursed.
CALL ON ADF PRG:	If any amount drawn under the L/C remains unreimbursed following the expiry of the L/C Reimbursement Period, the L/C Bank will have the right to call on the PRG for an amount equal to the amount drawn under the L/C and not reimbursed by an L/C Applicant plus accrued interest, if any, due from the L/C Applicants under the terms of the Reimbursement Agreement. Any amount paid by ADF to the L/C Bank under the PRG will be deducted from the ADF Guaranteed Amount (as defined below). Even if the L/C Applicants' payment default is remedied, following a payment under the ADF PRG, the amounts paid by ADF will not be reinstated to the ADF Guaranteed Amount.

PROVISIONAL PAYMENTS: In the event of a dispute between an L/C Beneficiary and an L/C Applicant in connection with a Guaranteed Event, the L/C can be drawn for provisional payments pending the settlement of the dispute, provided that the respective L/C Beneficiary claiming such provisional payment provides security to the L/C Applicants in the full amount of the provisional payment in the event the final dispute settlement determines that neither L/C Applicant had any liability or its liability was for less than the amount of the provisional payment.

ADF GUARANTEED AMOUNT: Cumulative amount equivalent to United States Dollars (US$ 11,267,550.

ADF PRG GUARANTEE PERIOD: The validity period of the L/C plus [*twelve months/TBD]*.

ADF PRG FEES:

Front-End Fee: 1% of the ADF Guaranteed Amount payable by the L/C Beneficiaries to ADF prior to the effectiveness of the ADF PRG.

Guarantee Fee: 0.75% per annum on the ADF Guaranteed Amount, payable six monthly in advance, by the L/C Beneficiaries to ADF.

External Legal Counsel Fees: In the amount agreed between the external legal counsel, the L/C Beneficiaries and ADF, and payable by the L/C Beneficiaries directly to external legal counsel.

L/C BANK FEES: An amount agreed between the L/C Bank, the L/C Beneficiaries and the ADF to be payable by the L/C Beneficiaries to the L/C Bank.

HOST COUNTRY INDENMITY: The issuance of the ADF PRG is subject to the Republic of Kenya (**Host Country**) agreeing to reimburse and indemnity the ADF on demand for any payment made by the ADF under the ADF guarantee agreement and for all losses, damages, costs and expenses incurred by the ADF arising from or in connection with the ADF guarantee agreement. **The Indemnity Agreement between the Host Country and the ADF must be negotiated and initialed prior to submission of the Project to the ADF Board for consideration / approval**.

PROJECT COMPANY AGREEMENT:

The issuance of the ADF PRG is subject to each L/C Beneficiary entering into a project agreement relating to matters of concern to the ADF such as, among other things, provision of information, compliance with contractual obligations, compliance applicable laws and regulations (including environmental and social laws of the Host Country, the ADF's environmental and social policies and guidelines, sanctionable practices (coercive, corrupt, collusive, obstructive and fraudulent practices) and no revisions to underlying project documents without

ADF's consent. **The project agreements between each L/C Beneficiary and the ADF must be negotiated and initialed prior to submission of the Project to the ADF Board for consideration / approval.**

EXCLUDED LOSSES: The ADF PRG will not cover any losses arising in connection with:

(i) the application of any law, decree or regulation in force in the Host Country as of the effective date of the Guarantee or any action or inaction of the Government of the Republic of Kenya (**Host Government**) or any other event occurring prior to such effective date;

(ii) Corrupt Practices, Fraudulent Practices, Coercive Practices, Collusive Practices, Obstructive Practices, Money Laundering, or violations of any bona fide non–discriminatory laws or regulations of general application not designed by the Host Government to have a confiscatory effect, in each case attributable to a Beneficiary in connection with the Project;

(iii) the non–compliance by an L/C Beneficiary with the Environmental and Social Policies and Guidelines that were in effect on the effective date of the PRG in connection with the Project;

(iv) the failure of an L/C Beneficiary to use all reasonable efforts to ensure that all documentation relating to the Project has been duly authorized and executed and that the obligations contained therein are legal, valid, binding and enforceable in accordance with their terms;

(v) the breach by an L/C Beneficiary in any material respect of its obligations toward or assurances given to the Host Government in connection with the Project;

(vi) any action or inaction of the Host Government that was agreed to by an L/C Beneficiary in connection with the Project;

(vii) L/C Beneficiary event of default; or

(viii) claims arising from pre-existing litigation.

TERMINATION OF COVERAGE: ADF may, by written notice to the L/C Beneficiaries, terminate its obligations under the ADF PRG and deny guarantee coverage to subsequent losses if:

(i) Any representation or warranty made by the L/C Beneficiary is untrue in any material respect, or omission of material information;

(ii) The L/C Beneficiary is in breach of any other responsibility or obligation under guarantee agreement;

(iii) The L/C Beneficiary is in material violation of laws and regulations of Host Country in respect of Project;

(iv) The L/C Beneficiary is in material violation of the Environmental and Social Policies and Guidelines in connection with the Project;

(v) The L/C Beneficiary has engaged or is engaging in Money Laundering in connection with the Project;

(vi) The L/C Beneficiary has engaged or is engaged in Corrupt Practices, Fraudulent Practices, Coercive Practices or Obstructive Practices in connection with the Project;

(vii) Suspension of lending by ADF to the Republic of Kenya or breach by the Republic of Kenya of its obligations under the Indemnity Agreement;

(viii) Suspension or lapse of the Republic of Kenya from membership in ADF or the African Development Bank;

(ix) Breach of a covenant by the L/C Beneficiary under the ADF Project Agreement; or

(x) Liquidation, bankruptcy, insolvency, winding up, dissolution, or similar measure in relation to the LC Bank.

GOVERNING LAW: English law.

DISPUTE RESOLUTION: Arbitration in accordance with UNCITRAL Arbitration Rules.

ADF PRIVILEGES AND IMMUNITIES: ADF shall not waive the privileges, immunities and exemptions afforded to it under the Agreement Establishing the African Development Fund and applicable laws.

<u>Appendix 2</u>: CONDITIONS PRECEDENT TO EFFECTIVENESS OF ADF PRG

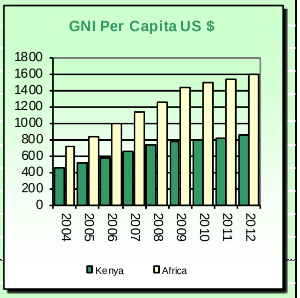
Usual and customary for financings of this type including, but not limited to, the following, **all in form and substance satisfactory to ADF**:

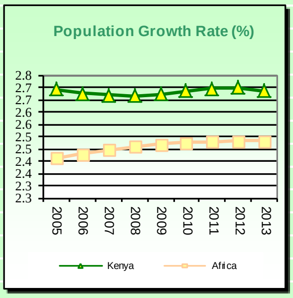
1. Execution, delivery and effectiveness of the following agreements:
   a. GoK Letter of Support in form and substance acceptable to the ADF;
   b. the Reimbursement and Credit Agreement between KPLC and GDC and the L/C Bank;
   c. the Standby Letter of Credit(s) from the L/C Bank in favor of Sosian Menengai Geothermal Limited, QPEA GT Menengai Limited and OR Power Twenty-Two Limited;
   d. the Indemnity Agreement between GoK and ADF;
   e. the Project Agreement(s) between each L/C Beneficiary and the ADF;
   f. the Guarantee Agreement between the L/C Bank and ADF;
   g. each PPA;
   h. each PISSA
   i. the agreement between KPLC and GDC on Steam Supply Payments; and
   j. all other relevant project financing agreements as advised by ADF.

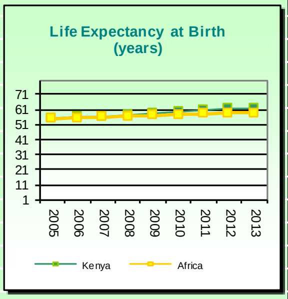
2. Confirmation of budgetary appropriation for the GoK counterpart funding for the construction of the Transmission Line and Steam Gathering System
3. Confirmation from an authorized officer of the L/C Bank of the satisfaction of all conditions precedent to the issuance of the Guaranteed L/C, other than satisfaction of any condition precedent therein requiring the effectiveness of the ADF Guarantee Agreement.
4. Issuance of original legal opinions to ADF from: (a) the Attorney General of Kenya in agreed form relating to the agreements to which GoK is a party; (b) counsel to KPLC relating to the agreements to which it is a party; (c) counsel to GDC relating to the agreements to which it is a party; (c) counsel to the L/C Bank relating to the counsel to KPLC relating to the agreements to which it is a party; and (d) counsel to each L/C Beneficiary relating to the agreements to which such L/C Beneficiary is a party.
5. Documentary evidence of the authority of each person who has signed each project-related document referenced in 1 above.
6. Delivery of all environmental assessments and documentation required by ADF, including evidence that all project affected persons have been compensated or resettled in accordance with applicable ADF policies, determination by ADF that all relevant parties are in compliance with applicable ADF requirements, and receipt of all relevant Kenyan environmental approvals.
7. Payment in full by the L/C Beneficiaries of all fees payable by the time of the effectiveness of the guarantee agreement.
8. Other appropriate certificates and evidence taking into account the nature of the financing.

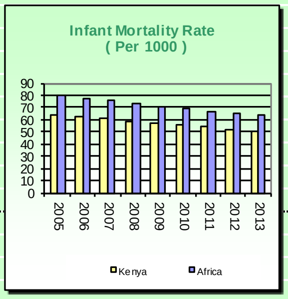
Appendix 3: Kenya's Comparative Socio-Economic Indicators Kamara Update

	Year	Kenya	Africa	Develo-ping Countries	Develo-ped Countries
Basic Indicators					
Area ('000 Km²)	2011	580	30,323	98,458	35,811
Total Population (millions)	2013	44.4	1,109.0	5,909.3	1,252.8
Urban Population (% of Total)	2013	24.8	40.2	47.7	78.3
Population Density (per Km²)	2013	71.7	46.9	70.7	23.5
GNI per Capita (US $)	2012	860	1 719	3 815	38 412
Labor Force Participation - Total (%)	2012-2013	36.8	37.4	67.9	72.1
Labor Force Participation - Female (%)	2012-2013	46.3	42.5	38.6	44.6
Gender -Related Development Index Value	2007-2011	0.538	0.502	0.694	0.911
Human Develop. Index (Rank among 187 countries	2012	145	...	...	...
Popul. Living Below $ 1.25 a Day (% of Population	2005-2011	43.4	40.0	20.6	...
Demographic Indicators					
Population Growth Rate - Total (%)	2013	2.7	2.5	1.3	0.3
Population Growth Rate - Urban (%)	2013	4.4	3.4	2.5	0.6
Population < 15 years (%)	2013	42.2	40.9	28.3	16.4
Population >= 65 years (%)	2013	2.7	3.5	6.1	16.8
Dependency Ratio (%)	2013	82.2	77.9	52.4	49.9
Sex Ratio (per 100 female)	2013	99.6	100.0	103.3	94.4
Female Population 15-49 years (% of total populatio	2013	24.3	24.0	53.1	45.2
Life Expectancy at Birth - Total (years)	2013	61.7	59.2	68.4	77.8
Life Expectancy at Birth - Female (years)	2013	63.6	60.3	70.3	81.2
Crude Birth Rate (per 1,000)	2013	34.9	34.8	21.2	11.2
Crude Death Rate (per 1,000)	2013	8.2	10.4	7.6	10.4
Infant Mortality Rate (per 1,000)	2013	51.0	61.9	39.8	5.5
Child Mortality Rate (per 1,000)	2013	76.0	97.4	56.3	6.6
Total Fertility Rate (per woman)	2013	4.4	4.6	2.6	1.7
Maternal Mortality Rate (per 100,000)	2010	360.0	415.3	240.0	16.0
Women Using Contraception (%)	2013	50.7	34.9	62.6	71.3
Health & Nutrition Indicators					
Physicians (per 100,000 people)	2004-2011	18.1	47.1	117.8	297.8
Nurses (per 100,000 people)*	2004-2011	79.2	132.6	202.7	842.7
Births attended by Trained Health Personnel (%)	2006-2011	43.8	52.6	66.3	...
Access to Safe Water (% of Population)	2012	61.7	68.8	87.2	99.2
Access to Health Services (% of Population)	2000	77.0	65.2	80.0	100.0
Access to Sanitation (% of Population)	2012	29.6	39.4	56.9	96.2
Percent. of Adults (aged 15-49) Living with HIV/AID	2012	...	3.9	1.2	...
Incidence of Tuberculosis (per 100,000)	2012	272.0	223.6	144.0	23.0
Child Immunization Against Tuberculosis (%)	2012	84.0	83.0	81.5	96.1
Child Immunization Against Measles (%)	2012	93.0	74.0	83.0	94.3
Underweight Children (% of children under 5 years	2005-2012	16.4	19.7	17.0	1.4
Daily Calorie Supply per Capita	2009	2 092	2 481	2 675	3 285
Public Expenditure on Health (as % of GDP)	2011-2012	1.8	2.9	3.0	7.5
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	2009-2012	111.9	101.9	109.4	100.9
Primary School - Female	2009-2012	110.6	97.9	107.6	100.6
Secondary School - Total	2009-2012	60.1	47.4	69.1	100.2
Secondary School - Female	2009-2012	57.1	44.0	67.8	99.7
Primary School Female Teaching Staff (% of Total)	2009-2012	43.9	46.6	58.0	84.3
Adult literacy Rate - Total (%)	2007-2012	72.2	62.0	80.3	99.2
Adult literacy Rate - Male (%)	2007-2012	78.1	70.7	85.9	99.3
Adult literacy Rate - Female (%)	2007-2012	66.9	53.7	74.9	99.0
Percentage of GDP Spent on Education	2010-2012	6.7	5.3	4.3	5.5
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	2011	9.7	7.6	10.7	10.8
Annual Rate of Deforestation (%)	2000-2009	0.5	0.6	0.4	-0.2
Forest (As % of Land Area)	2011	6.1	23.0	28.2	35.0
Per Capita CO2 Emissions (metric tons)	2010	0.3	1.2	3.0	11.6









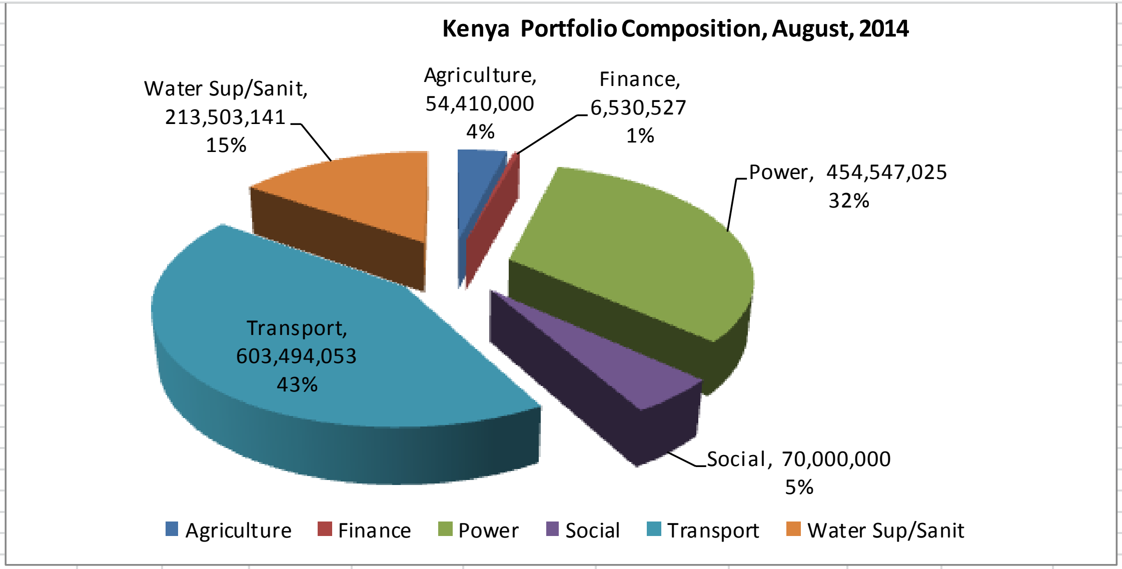
<u>Appendix 4</u>: AfDB Group Portfolio in Kenya

Sector Name	Long name	Approval Date	Signiture Date	Entry Into Force	Effective for .1st Disb	Approval to Signiture or To Date (Months)	Approval to Effectiveness or to Date (Months)	Into force to Effect for 1st Disb or to Date (Months)	Netloan (MUA)	Disbursed Amount. (MUA)	Disb Ratio %	Latest Disb	Final Disb Date	last mission	Project Age (Years)	PFI STATUS
Agriculture	KENYA-DRGHT RSILCE & SUSTAIN.LIVIHOOD	12/19/2012	2/27/2013	5/5/2013	8/14/2013	-2	-5	-3	37,410,000	279,934	0.75%	7/24/2014	6/30/2018	5/12/2014	1.6	NPPP
	SMALLSCALE HORTICULTURE DEVELOPMENT PRO	09/05/2007	11/26/2007	3/13/2008	5/20/2008	-3	-6	-2	17,000,000	11,634,485	68.44%	8/12/2014	12/31/2015	3/17/2014	6.9	NON PP / NON PPP
Agric Sub						**-3**	**-5**	**-3**	**54,410,000**	**11,914,419**	**34.59%**				**4.3**	
Finance	GUARANTEE FACILITY -WOMEN ENTERPRISES DE	10/19/2005	11/28/2006	(blank)	(blank)	-14			6,530,527			(blank)	(blank)	4/7/2014		NON PP / NON PPP
Fin Sub Total						**-14**			**6,530,527**							
Power	ADF - PRG FOR TURKANA T-LINE	10/02/2013	(blank)	(blank)	(blank)	10	10		0	0		(blank)	(blank)	(blank)	0.9	
	ETHIOPIA-KENYA ELECTRICITY HIGHWAY(KENYA	09/19/2012	12/6/2012	3/1/2013	9/26/2013	-3	-5	-7	75,000,000	1,116,294	1.49%	3/13/2014	12/31/2018	5/25/2014	1.9	NPPP
	LAKE TURKANA WIND POWER EKF	04/26/2013	3/24/2014	3/24/2014	(blank)	-11	-11	5	17,459,929	0	0.00%	(blank)	(blank)	(blank)		NO SUPERVISION
	LAKE TURKANA WIND POWER PROJECT	04/26/2013	3/24/2014	3/24/2014	(blank)	-11	-11	5	100,394,594	0	0.00%	(blank)	(blank)	(blank)		NO SUPERVISION
	LAKE TURKANA WIND POWER SUB DEBT	04/26/2013	3/24/2014	3/24/2014	(blank)	-11	-11	5	4,364,982	0	0.00%	(blank)	(blank)	(blank)		NO SUPERVISION
	MENENGAI GEOTHERMAL DEVELOPMENT PROJECT	12/14/2011	3/12/2012	3/12/2012	7/10/2012	-3	-3	-4	11,428,422	2,492,834	21.81%	7/11/2014	12/31/2017	3/11/2014	2.7	NPPP
				7/10/2012	7/10/2012	-3	-7	0	4,897,895	1,124,256	22.95%	6/6/2014	12/31/2017	3/11/2014	2.7	NPPP
									80,000,000	40,966,017	51.21%	8/11/2014	12/31/2017	3/11/2014	2.7	NPPP
	MOMBASSA NAIROBI TRANSMISSION LINE	05/06/2009	6/4/2009	1/22/2010	1/23/2010	-1	-9	0	50,000,000	24,272,932	48.55%	7/21/2014	6/30/2015	6/5/2014	5.3	NON PP / NON PPP
	NELSAP INTERCONNECTION PROJECT - KENYA	06/16/2010	9/20/2010	7/26/2011	1/23/2012	-3	-14	-6	39,770,000	6,573,949	16.53%	12/17/2013	12/31/2014	6/5/2014	4.2	NON PP / NON PPP
	POWER TRANSMISSION IMPROVEMENT PROJECT	12/06/2010	3/23/2011	12/14/2011	5/14/2012	-4	-12	-5	46,700,000	9,721,289	20.82%	7/21/2014	6/30/2015	3/4/2014	3.7	NON PP / NON PPP
	THIKA THERMAL POWER PROJECT	12/07/2011	5/31/2012	10/19/2012	10/19/2012	-6	-11	0	24,531,201	24,531,201	100.00%	11/28/2013	1/15/2014	1/24/2014		NON PP / NON PPP
Power Sub						**-4**	**-8**	**-1**	**454,547,025**	**110,798,772**	**25.76%**				**3.0**	
Social	COMMUNITY EMPOWERMENT PROJECT (CEISP)	12/17/2007	2/23/2009	7/2/2009	7/2/2009	-14	-19	0	17,000,000	10,533,885	61.96%	8/12/2014	6/30/2015	7/3/2014	6.7	NON PP / NON PPP
	SUPPORT FOR TIVET PROJECT	12/16/2008	2/23/2009	4/7/2009	5/15/2009	-2	-4	-1	25,000,000	15,524,128	62.10%	8/4/2014	12/31/2014	6/23/2014	5.7	NON PP / NON PPP
	SUPPORT TO HEST TO ENHANCE QUALITY	11/14/2012	12/6/2012	2/19/2013	2/19/2013	-1	-3	0	28,000,000	1,463,260	5.23%	8/1/2014	6/30/2018	6/23/2014	1.7	NPPP
Social Sub						**-6**	**-9**	**0**	**70,000,000**	**27,521,273**	**43.10%**				**4.7**	
Transport	ARUSHA - NAMANGA-ATHI RIVER ROAD DEV PJ	12/13/2006	2/8/2007	4/30/2007	1/4/2008	-2	-5	-8	49,241,000	44,428,150	90.23%	2/3/2014	11/30/2014	4/24/2014	7.7	NON PP / NON PPP
	EMERGENCY ASSISTANCE TO ADDRESS THE DAMA	09/30/2013	10/25/2013	10/25/2013	(blank)	-1	-1	10	653,053	0	0.00%	(blank)	6/30/2014	(blank)	0.9	
	MOMBASA-NAIROBI-ADDIS CORRIDOR III - KEN	11/30/2011	3/12/2012	6/29/2012	9/17/2012	-3	-7	-3	120,000,000	28,887,466	24.07%	8/4/2014	12/31/2017	4/7/2014	2.7	NPPP
	MOMBASA-NAIROBI-ADDIS CORRIDOR II - KEN	07/01/2009	12/11/2009	4/2/2010	4/6/2011	-5	-9	-12	125,000,000	59,386,912	47.51%	7/10/2014	12/31/2015	4/7/2014	5.1	NON PP / NON PPP
	MULTINATIONAL: EAST AFRICA: ARUSHA-VOI	04/16/2013	7/15/2013	10/18/2013	10/18/2013	-3	-6	0	75,000,000	4,730,988	6.31%	5/2/2014	12/31/2018	(blank)	1.3	
	NAIROBI-THIKA HIGHWAY IMPROVEMENT PROJECT	11/21/2007	11/26/2007	11/26/2007	5/7/2010	0	0	-30	3,150,000	1,441,793	45.77%	8/12/2014	11/30/2014	4/7/2014	6.7	NON PP / NON PPP
				7/11/2008	6/3/2009	0	-8	-11	117,850,000	105,662,148	89.66%	6/16/2014	6/30/2015	4/7/2014	6.7	NON PP / NON PPP
	OUTER RING ROAD IMPROVEMENT PROJECT	11/13/2013	1/27/2014	5/8/2014	5/8/2014	-3	-6	0	77,040,000	0	0.00%	(blank)	12/31/2018	(blank)	0.7	
				(blank)	(blank)	-3	9	0	560,000	0	0.00%	(blank)	12/31/2018	(blank)	0.7	
	REHABILITATION OF TIMBOROA ELDORET ROAD	11/24/2010	3/23/2011	7/20/2011	1/6/2012	-4	-8	-6	35,000,000	21,220,969	60.63%	7/28/2014	2/29/2016	4/23/2014	3.7	NON PP / NON PPP
Transp Sub						**-2**	**-4**	**-6**	**603,494,053**	**265,758,425**	**36.42%**				**3.6**	
Water Sup/Sanit	EXPANDING BRANDED TOILET ENTREPRENEURSHI	01/03/2014	(blank)	(blank)	(blank)	7	7		0	0		(blank)	(blank)	(blank)		
	NAIROBI RIVERS BASIN REHABILITATION AND	12/06/2010	3/23/2011	12/9/2011	12/9/2011	-4	-12	0	35,000,000	16,005,743	45.73%	8/12/2014	12/31/2015	3/13/2014	3.7	NON PP / NON PPP
	SCALING UP RAINWATER MANAGEMENT	07/05/2012	12/7/2012	12/7/2012	3/27/2013	-5	-5	-4	601,931	427,332	70.99%	4/14/2014	12/7/2015	(blank)	2.1	
	SMALL MED TOWNS WATER SUPPLY & WASTE WAT	11/03/2009	4/5/2010	5/14/2010	1/21/2011	-5	-6	-8	70,000,000	26,275,373	37.54%	8/12/2014	12/31/2015	4/1/2014	4.8	NON PP / NON PPP
	THWAKE MULTIPURPOSE WATER DEVELOPMENT PR	10/30/2013	1/27/2014	1/27/2014	(blank)	-3	-3	7	1,210,000	0	0.00%	(blank)	12/31/2019	(blank)	0.8	
				5/28/2014	(blank)	-3	-7	3	61,680,000	0	0.00%	(blank)	12/31/2019	(blank)	0.8	
	WATER SERVICES BOARDS SUPPORT PROJECT	11/21/2007	11/26/2007	11/18/2008	3/12/2009	0	-12	-4	35,190,000	29,596,560	84.11%	8/12/2014	6/30/2014	4/1/2014	6.7	NON PP / NON PPP
		12/05/2007	6/24/2008	6/24/2008	3/12/2009	-7	-7	-9	9,821,210	8,536,718	86.92%	8/6/2014	6/30/2014	4/1/2014	6.7	NON PP / NON PPP
W&S Sub Total						**-2**	**-6**	**-2**	**213,503,141**	**80,841,725**	**46.47%**				**3.6**	
Grand Total						**-4**	**-6**	**-3**	**1,402,484,746**	**496,834,614**	**37.27%**				**3.8**	

Summary Statistics

Indicator	Value
Number of Potent	0
Number of Proble	0
Number of Projec	18
%PAR	4%
CAR	6,530,527
%CAR	0.6%
Average Size in (U	38,957,910
Number of Ageing	0

Agriculture	54,410,000
Finance	6,530,527
Power	454,547,025
Social	70,000,000
Transport	603,494,053
Water Sup/Sanit	213,503,141



Appendix 5: Similar Projects in Kenya update

Donor	Title	Main GoK priority	Status	Period of implementation	Commitment in credit currency ('000 000)	Currency
AFD/PROPARCO	**Mumias Sugar co-generation**	Promotion of renewable energies	Completed	2007/2009	35,00	USD
AFD/PROPARCO	**Rabai Thermal Plant**	Generation capacity expansion	Completed	2008/2011	23,00	EUR
AFD/PROPARCO	**Lake Turkana Wind Farm**	Promotion of renewable energies	Planned	2011/2015	35,00	EUR
Proparco	**Olkaria III**	Promotion of renewable energies	Ongoing	2008/2010	15,00	USD
AFD	**Olkaria II-3rd Unit**	Promotion of renewable energies	Completed	2007/2010	20,00	EUR
AFD	**Olkaria I and IV Project**	Promotion of renewable energies	Ongoing	2010/2014	150,00	EUR
AFD	**Support to the development of renewable energy and geothermal energy**	Promotion of renewable energies	Ongoing	2010/2014	56,00	EUR
AFD	**Renewable Energy and Energy Efficiency credit line**	Promotion of renewable energies	Ongoing	2011/2015	30,00	EUR
AfDB	**Lake Turkana Wind Power**	Promotion of renewable energies	Planned	2012-2014	50,00	EUR
AfDB	**Thika Thermal Power Project**	Generation capacity expansion	Planned	2011-2012	26,00	EUR
EIB	**Olkaria II Extension**	Promotion of renewable energies	Ongoing	2006-2007	50,00	USD
EIB	**Olkaria I and IV Project**	Promotion of renewable energies	Ongoing	2010/2014	119,00	EUR
Government of PRC/CHINA EXIMBANK	**Olkaria I and IV Geothermal Project**	Promotion of renewable energies	Ongoing	2010/2013	95,00	USD
Go Spain	**Ngong II Wind Project**	Promotion of renewable energies	Ongoing	2010/2011	20,00	EUR
IDA /WB	**Energy Sector Recovery Project**	Various	Ongoing	2005/2010	80,00	USD
IDA/WB	**Energy Sector Recovery Project Additional financing**	Various	Ongoing	2009/2013	80,00	USD
IDA/WB	**Electricity Expansion Project**	Various	Ongoing	2010-2015	330,00	USD
IDA/IFC/MIGA	**Partial Risk Guarantee Project**	Generation capacity expansion	Planned		-	USD
MIGA/WB	**OrPower4 (Olkaria III)**	Promotion of renewable energies	Ongoing		-	USD
JICA	**Sondu-Miriu Hydropower Project Sang'oro Power Plant**	Generation capacity expansion	Ongoing	2007-2012	5 620,00	Yen

JICA	**Olkaria I Unit 4 and 5 Geothermal Power Project**	Generation capacity expansion	Ongoing	2010-2013	29 516,00	Yen
KfW	**Olkaria IV appraisal drilling (geothermal)**	Promotion of renewable energies	Planned	2006-20011	10,60	EUR
KfW	**Hydropower Plant Kindaruma**	Generation capacity expansion	Ongoing	2009-2013	39,10	EUR
KfW	**Olkaria I and IV Project**	Promotion of renewable energies	Planned	2010-2014	60	EUR
KfW/DEG	**Olkaria III (geothermal)**	Promotion of renewable energies	Ongoing	2007-2010	20	USD
KfW/DEG	**Olkaria III (geothermal)**	Promotion of renewable energies	Planned	2011-2014	0	USD
UNEP/GEF	**Cogen for Africa**	Promotion of renewable energies	Ongoing	2007/2013	5,25	USD
UNEP/GEF	**Greening the Tea Industry in East Africa (GTIEA)**	Promotion of renewable energies	Ongoing	2007/2011	2,85	USD
UNEP/GEF	**African Rift Geothermal Development Facility (ARGEO)**	Promotion of renewable energies	Ongoing	2010/2015	2,85	USD
UNDP	**Access to Clean and sustainable energy services**	Promotion of renewable energies	Completed	2006 - 2010	0,10	USD
UNIDO	**Africa Adaptation Programme**	Promotion of renewable energies	Ongoing	2010-2011	1,44	USD
MIGA/WB	**OrPower4 (Olkaria III)**	Promotion of renewable energies	Ongoing		-	USD
JICA	**Sondu-Miriu Hydropower Project Sang'oro Power Plant**	Generation capacity expansion	Ongoing	2007-2012	5 620,00	Yen
JICA	**Olkaria I Unit 4 and 5 Geothermal Power Project**	Generation capacity expansion	Ongoing	2010-2013	29 516,00	Yen
KfW	**Olkaria IV appraisal drilling (geothermal)**	Promotion of renewable energies	Planned	2006-20011	10,60	EUR
KfW	**Hydropower Plant Kindaruma**	Generation capacity expansion	Ongoing	2009-2013	39,10	EUR
KfW	**Olkaria I and IV Project**	Promotion of renewable energies	Planned	2010-2014	60	EUR
KfW/DEG	**Olkaria III (geothermal)**	Promotion of renewable energies	Ongoing	2007-2010	20	USD
KfW/DEG	**Olkaria III (geothermal)**	Promotion of renewable energies	Planned	2011-2014	0	USD
UNEP/GEF	**Cogen for Africa**	Promotion of renewable energies	Ongoing	2007/2013	5,25	USD
UNEP/GEF	**Greening the Tea Industry in East Africa (GTIEA)**	Promotion of renewable energies	Ongoing	2007/2011	2,85	USD
UNEP/GEF	**African Rift Geothermal Development Facility (ARGEO)**	Promotion of renewable energies	Ongoing	2010/2015	2,85	USD
UNDP	**Access to Clean and sustainable energy services**	Promotion of renewable energies	Completed	2006 - 2010	0,10	USD
UNIDO	**Africa Adaptation Programme**	Promotion of renewable energies	Ongoing	2010-2011	1,44	USD