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**AFRICAN DEVELOPMENT
BANK GROUP**

PROJECT : RURAL AND PERI-URBAN ELECTRIFICATION

COUNTRY: DEMOCRATIC REPUBLIC OF CONGO

PROJECT APPRAISAL REPORT

Date: November 3rd 2010

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CURRENCY EQUIVALENTS
October 2010

UA 1	USD 1.51852
UA 1	CDF 1366.39
USD 1	CDF 899.8169

Fiscal Year

1 January - 31 December

Weights and Measures

- | | |
|---|---|
| <ul style="list-style-type: none"> • m meter • cm centimeter = 0.01 metre • mm millimeter = 0.001 metre • km kilometer = 1,000 metres • m² square meter • cm² square centimeter • km² square kilometer = 1,000,000 m² • ha hectare = 10,000 square meters • T (T) Tonne (1,000 kg) | <ul style="list-style-type: none"> • koe Kilogramme of oil equivalent • kV Kilovolt = 1,000 volts • kVA Kilovolt ampere (1,000 VA) • kW Kilowatt = 1,000 watts • GW Gigawatt (1,000,000 kW or 1,000 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	ONEC	Energy, Environment and Climate Change Department
ADF	African Development Fund	OPsCOM	Operations Committee
CDFO	ADB Regional Office in Kinshasa	PAR	Project Appraisal Report
CTB	Belgian Technical Cooperation	PC	Project Coordination
DRC	Democratic Republic of Congo	PCN	Project Concept Note
ECCAS	Economic Community of Central Africa States	PCR	Project Completion Report
EIB	European Investment Bank	PMEDE	Project for the Rehabilitation and Strengthening of the Inga Hydro-Power Stations and Kinshasa Distribution Grid
ESIA	Environmental and Social Impact Assessment	PRGSP	Poverty Reduction and Growth Strategy Paper
ESMP	Environmental and Social Management Plan	RBCSP	Results-Based Country Strategy Paper
FSF	Fragile States Facility	RMC	Regional Member Countries
HV	High Voltage	SAPMP	Southern Africa Power Market Project
IEC	Information, Education and Communication	SIU	Inga Study Implementation Unit
IEPF	Energy and Environment Institute of <i>La Francophonie</i>	SME	Small- and Medium-Sized Enterprises
LV	Low Voltage	SNEL	DRC National Electric Power Company
MV	Medium Voltage	TSU	Technical Support Unit
NELSAP	Nile Equatorial Lakes Subsidiary Actions Programme	WB	World Bank

PROJECT INFORMATION

Client Information	
Borrower/Donor	Democratic Republic of Congo
Executing Agency	Société Nationale d'Electricité de la RD Congo (SNEL) [DRC National Electric Power Company]

FINANCING PLAN		
Sources	Amount (UA Million)	Instrument
ADF	9.69	Grant
FSF (Pillar 1)	60.00	Grant
Government	0.69	Counterpart Funds
Total Project Cost	70.38	

ADB KEY FINANCING INFORMATION	
Grant Currency	Unit of Account (UA)
Type of Interest*	Not applicable
Interest Rate Margin*	Not applicable
Commitment Fees*	Not applicable
Other charges*	No charges
Type of Interest*	Not applicable
Tenor	Not applicable
Grace Period	Not applicable
FIRR, NPV(baseline scenario)	15.3% (CDF 67.5 billion)
EIRR (baseline scenario)	30.5% (CDF 171 billion)

TIMEFRAME – MAIN MILESTONES	
Concept Note Approval	August 2010
Project Approval	December 2010
Effectiveness	January 2011
Last Disbursement	December 2014
Completion	May 2015
Last Repayment	Not applicable

PROJECT SUMMARY

1 Project Overview

1.1 The Rural and Peri-Urban Electrification Project (PEPR) is an investment project concerning the rehabilitation and extension of the electric power distribution system of Kinshasa and selected localities in four provinces of the Democratic Republic of Congo (DRC). It comprises the improvement, rehabilitation and extension of the MV/LV lines, establishment of connections, installation of public lighting units and promotion of specific commercial operations to increase the number of new subscribers and reach the maximum number of inhabitants, especially the most disadvantaged segments of the population. All these operations will contribute to increasing available energy, improving network operating conditions and enhancing the operational performance of sector players. They will also help reduce technical and non-technical losses, in particular through the installation of pre-payment meters. Lastly, with a view to preparing future Bank operations in the sector, fifteen studies have been integrated into this project.

1.2 Furthermore, the project will help improve: (i) conditions for the development of businesses (micro-enterprises, SMEs) established in the areas covered; (ii) security conditions, in particular by reducing the risk of damaging electrically-powered equipment, lowering the risk of fires attributable to other sources of lighting (candles, paraffin lamp), reducing the risk of accidents, theft and crime, thanks to the installation of public lighting and the availability of household electricity; and (iii) the functioning of administrative and social services as well as the activities of economic operators established in the project area (better working conditions, possibility of using IT equipment, communication facilities).

1.3 The total project cost is estimated at UA 70.38 million. It will be implemented over 48 months as from 2011.

2 Needs Assessment

2.1 The Democratic Republic of Congo is classified as a Fragile State. Its growth prospects fall far short of the country's real potential and opportunities as a result of armed conflicts and malfunctioning of the institutional framework and the business environment. Central Government is currently engaged in promoting a series of reforms in the public and private sectors in order to boost investments, enhance public service efficiency and begin the country's reconstruction. The country's electric energy access rate is very low at below 10% (compared to an African average of about 18%); the rural access rate is only 1%.

2.2 The current demand satisfaction level is deemed very low. However, the scale of ongoing projects and programmes, in particular the PMEDE with donor support, will enable the country to have sufficient hydropower supply by 2020.

2.3 The current network loss rate is about 40%, which explains the poor quality of service and confirms the need to improve the densest network - that of Kinshasa. The different parameters that characterise DRC's electric power system underscore the scale of the country's electrification needs.

3 Bank's Added Value

3.1 Although the Bank has intervened with other partners in rehabilitating generation unit and network extension operations, these operations did not systematically reach the end consumers, especially urban and peri-urban dwellers. The proposed operation also provides the Bank with an opportunity to initiate the financing of rural and peri-urban electrification. The PEPR will benefit from the Bank's relevant experience in the sub-sector, in particular with regard to implementation monitoring.

3.2 The Bank also participated in preparing technical documents with FSF support, within the framework of implementing the Bank's Strategy for Enhanced Engagement in Fragile States.

3.3 The Rural and Peri-urban Electrification Project (RPEP) will allow for taking over some unfinanced components of the PMEDE, in particular the Kinshasa Load Reduction Programme.

4 Knowledge Building

4.1 Knowledge management will be achieved through training activities, project monitoring/evaluation and capacity building of the Project Implementation Unit. The training activities will target the technical staff involved in the project's different phases of implementation (definition of technical specifications, technical handover at factory, compliance control, commissioning tests and works acceptance).

4.2 The Project 'studies' component will build knowledge on the country's water resources and opportunities for harnessing them for electric power generation.

4.3 The Project Implementation Unit will regularly monitor the implementation of all project activities, procurement, management of various contracts and coordination among different consultants, contractors and all public structures and services concerned, as well as periodic project evaluation. It will be strengthened with a monitoring/evaluation expert. Monitoring of the key impact indicators at project start-up and assessment of the impact of the project on completion will provide useful information on its outcomes and impacts, especially for the National Energy Information System.

4.4 Collaboration between the specialists and SNEL staff of the PIU will allow the transfer of useful knowledge, to ensure smooth project implementation and management of future operations.

RESULTS-BASED LOGICAL FRAMEWORK

⑩ Project Name : Rural and Peri-Urban Electrification Project ⑩ Start-up Date : January 2011 ⑩ Completion Date : December 2014 - ⑩ Design Team : I. KONATE; O. FALL; R. KITANDALA.					
Hierarchy of Objectives		Reach (Target population)	Performance Indicators	Indicative Targets & Timelines (Availability of Baseline Data?)	Assumptions/Risks
1 PROJECT GOAL 1.1 Contribute to improving the population's living conditions through access to modern forms of energy while supporting the economic and social development of Democratic Republic of Congo, with a view to reducing poverty and achieving the MDGs.	IMPACTS (Long-Term Outcomes) 1.1 Increase in population's electricity access rate 1.2 Improvement in quality of service delivery to consumers;	- Central Government - Inhabitants of project areas; - Economic agents in all sectors (industry, tourism, agriculture, etc.); - Social sectors	1.1 National electricity access rate 1.2 Rural electricity access to rate <u>Source</u> : Ministry of Energy, SIE, SNEL <u>Methods</u> : Ministerial Reports, SIE Statistical Reports SNEL Master Plan and Annual Reports	1.1 Nationwide electricity access rate up from 9.75% in 2010 to 13.9% in 2015 and 26.03% in 2020; 1.2 Rural electricity access rate up from 1% in 2010 to 12% in 2015 and 25% in 2020. 1.3 The Low Voltage Plan will shift from 400/230 V (- 20%, +10%) in 2010 to 400/230 V (- 10%, +10%) in 2015,	Risks: fragility of the peace process, political instability in the country. Assumptions: Restoration of the Central Government's authority throughout the national territory.
2 PROJECT OBJECTIVES 2.1 Develop electric power distribution facilities in Kinshasa and in the four (4) selected localities. 2.2 Contribute to the preparation of a portfolio of credible, bankable energy projects in Democratic Republic of Congo	EFFECTS (Medium-term Outcomes) 2.1 Length of power outage and load shedding times reduced 2.2 Increase in number of subscribers billed 2.3 Reduction in technical and non-technical losses 2.4 SNEL's capacity to produce studies and have a portfolio of studies built up.	Companies Population Industry Commerce Cottage industry	2.1 Electric power outage and load shedding times 2.2 Population's energy access rate in the project areas; 2.3 Technical loss reduction rate in Kinshasa; 2.4 Number of bankable studies made available by SNEL.	2.1 Electric power outage and load shedding times will fall from 20% in 2010 to 9% in 2015 in Kinshasa 2.2 The electricity access rate will rise from 1% (national average) in 2010 to 50% in 2015 in the localities concerned by the project 2.3 The rate of technical losses will fall from 30% in 2010 to 10% in 2015 in Kinshasa. 2.4 Have 15 full electrification studies available in 2015	Risks Vulnerability of the economy, resumption of inflation and inability of the target population to pay. Mitigation: Effectiveness of the of economic policy; control of inflation; factoring in of connection costs by the project.
3 ACTIVITIES AND RESOURCES 3.1 Activities 3.1.1 Construction of electricity infrastructure and networks 3.1.2 Conduct and/or updating of studies 3.1.3 Institutional support with capacity building of SNEL (training, procurement of materials and software, etc.)	OUTPUTS (Short-Term Outcomes) 3.1 MV/LV networks constructed, extended and/or rehabilitated in the project areas. 3.2 New connections and extension of public lighting network completed 3.3 Studies conducted on infrastructure in rural and peri-urban areas 3.4 Negative impacts mitigated with the	Central Government Companies Population Industry Commerce	3.1 Length of transmission lines: MV and LV substations; 3.2 Number of MV/LV substations installed	3.1 280 km of MV lines and 1,350 km of LV lines. 236 new MV/LV transformer stations installed and 291 MV/LV transformer stations rehabilitated. 3.2 Nine (9) new transformer stations installed and 5 rehabilitated in 2014.	Risks Long implementation period, which could lead to cost overruns. Mitigation: Rehabilitation works are

<p>3.1.4 Management of environmental and social aspects.</p> <p>3.1.5 Works monitoring and evaluation</p> <p>3.1.6 Project management and audit</p>	<p>implementation of the ESMP</p> <p>3.5 Logistics and operating equipment and spare parts procured.</p> <p>3.6 Annual audit missions conducted</p>	<p>Cottage industry</p>	<p>3.3 Number of localities and neighbourhoods electrified</p>	<p>3.3 Eight (8) localities electrified and 16 communes of Kinshasa rehabilitated by 2014.</p>	<p>usually shorter than those for power generation.</p>
<p>3.2 <u>Financial Resources</u></p>			<p>3.4 Number of connections made</p>	<p>3.4 23,000 connections made out of which 15,000 pre-payment meters installed by 2014.</p>	<p>Reliability of studies conducted between 2009 and 2010.</p>
<p>3.2.1 ADF: UA 9.69 million</p> <p>3.2.2 FSF: UA 60 million</p> <p>3.2.3 Gvt: UA 0.69 million</p> <p>3.2.4 Total: UA 70.38 million</p>		<p>Government, ADF, other domestic and external users</p>	<p>3.5 Number of public lighting units installed</p> <p>3.6 Number of electrification studies conducted</p>	<p>3.5 4,000 public lighting units installed</p> <p>3.6 Conduct of 15 studies of bankable projects. Start of studies: March 2011</p>	
<p>3.3 <u>Human Resources</u></p> <p>3.3.1 SNEL and Ministry of Energy personnel</p> <p>3.3.2 Consultants</p> <p>3.3.3 Contractors</p>			<p>3.7 Logistics and operating equipment procured</p> <p>3.8 Number of staff receiving training</p> <p>3.9 Number of audit reports submitted</p>	<p>3.7 Batch of equipment procured by SNEL: 5 vans, 26 computer sets with accessories, software and maintenance equipment;</p> <p>3.8 Training activities carried out between April 2011 and end 2013 in favour of 15 senior managerial staff and 50 operators.</p> <p>3.9 Four (4) audit reports submitted between 2011 and 2014</p>	

REPORT AND RECOMMENDATION OF BANK GROUP MANAGEMENT TO THE BOARD OF DIRECTORS ON A PROPOSAL TO AWARD A GRANT TO THE DEMOCRATIC REPUBLIC OF CONGO

Management hereby submits this report and recommendations on a proposal to award a UA 69.69 million grant to the Democratic Republic of Congo for the Rural and Peri-Urban Electrification Project.

1 STRATEGIC THRUST AND RATIONALE

1.1 Project Linkages with Country Strategy and Objectives

1.1.1 The Project is aligned with the country's sector policy as reflected in the 'Electricity Sector Policy Paper for the Democratic Republic of Congo', which focuses on the gradual improvement of the population's access to reliable, non-polluting energy, enhancing all available resources, while prioritizing electrification in the country's interior. This vision is enshrined in the Poverty Reduction and Growth Strategy Paper (PRGSP) and the Government's Priority Action Programme (PAP) for the 2009-2010 interim period. The Government's overall objective is to *'gradually and evenly meet domestic, public and industrial demand for electric energy throughout the national territory and, at the same time, develop a policy for exporting part of the electric energy, by supplying electricity under optimal conditions of reliability, price and ecosystem protection'*.

1.1.2 The project is consistent with the second pillar of the 2008-2012 Results-Based Country Strategy Paper (RBCSP) prepared by the Bank, which targets pro-poor growth by improving, among others, the population's access to basic services including electricity, through the rehabilitation of electricity infrastructure and rural electrification. It is also in keeping with the priorities of ADF-11, the focus of which has shifted to promoting poverty reduction through investment-led growth in three fundamental operational priority areas: infrastructure, governance and regional integration.

1.1.3 The implementation of the project in Kinshasa is justified, on the one hand, by overloaded transformer stations and lines, resulting in poor quality of electricity service marked by frequent load shedding, voltage drops that exceed acceptable standards and excessive technical losses and, on the other, the very low electrification rate of certain peripheral neighbourhoods of the city commonly known as 'dark centers'.

1.1.4 Furthermore, it is necessary to extend electricity to rural inhabitants of the Democratic Republic of Congo for whom electrification now appears as a national priority and a major stimulus for development under the decentralisation policy that, moreover, is supported by the Bank.

1.1.5 This project will have direct benefits, in particular: (i) enhanced quality of service throughout the network; (ii) reduction in the network's technical losses; (iii) connection of 23,000 new subscribers representing access to electricity for about 130,000 people; (iv) improved network maintenance due particularly to the procurement of equipment and a reduction in the total volume of maintenance work; as well as (v) provision of complete project studies to the DRC.

1.1.6 In some localities, the project will complement the Bank's previous initiatives, especially the above-mentioned PMEDE, by continuing the rehabilitation of the Kinshasa distribution networks. Due to the essential nature of energy, particularly as it affects the economic and social sectors, the project will contribute to poverty reduction and women's advancement in the project area.

1.2 Rationale for Bank's Involvement

1.2.1 The Democratic Republic of Congo is classified as a Fragile State. Its growth prospects fall far short of the country's real potential and opportunities because of armed conflicts and malfunctioning of the institutional framework and the business environment. Central Government is currently actively engaged in the promotion of a series of reforms in the public and private sectors (reform of business law, decentralization, public administration reform, public finance reform, reform of the public procurement code, etc.) to boost investments, enhance public service efficiency and begin the country's reconstruction. Following its resumption of cooperation with the country, the Bank Group has since 2002 initiated a series of projects and studies to support the Central Government's efforts in the areas of reforms, institutional and technical capacity building, and upgrading of economic infrastructure, including energy infrastructure.

1.2.2 By supporting this project's implementation, the Bank is strengthening the impact of investments made under ongoing projects, in particular the PMEDE and NELSAP. Indeed, rehabilitation of the Inga plants and strengthening of the Kinshasa networks under the PMEDE, as well as interconnection of the power grids of the Nile Equatorial Great Lakes Countries under NELSAP will ensure reliable supply to Kinshasa and major centres in the East of the country. The improvement or extension of the distribution networks planned under the project will develop these actions by providing an outlet for the energy made available under the above-mentioned projects. Moreover, by financing this project, the Bank, is providing the population with basic infrastructure, which is essential for poverty reduction, improving living conditions, enhancing women's status and ensuring youth development through access to modern information and communication systems.

1.2.3 It is worth noting that Kinshasa's peripheral neighbourhoods are the result of demographic pressure that has expanded the city's boundaries, gradually spreading to absorb the suburbs and invade the surrounding rural areas. This expansion, combined with a lack of development investments (investments slowed down by the socio-political context experienced by the Democratic Republic of Congo), the unsuitability of the existing distribution networks and the demand trend, has led to the increasing deterioration of the overall condition of these neighbourhoods, characterised by a lack of basic infrastructure, including electricity. The Bank's operation will enable SNEL to go ahead with the extension of the Kinshasa network, with a view to supplying these neighbourhoods.

1.2.4 The 2009 Portfolio Review Report notes, among others, that given the constraints and risks inherent in the functioning of a Fragile State, the Bank, in light of the country's limited portfolio implementation capacity, should improve project quality at entry. It notes that the absence of sector and technical studies constitutes a major handicap to high project quality at entry. To address this, the report recommends that such studies be conducted by the Bank and the Government party, and regularly updated to maintain their relevance and usefulness. Through its 'studies' component, the project will seek to implement this recommendation, thereby taking into consideration one of DRC's major concerns. This

concern, expressed by the country's Highest Authorities, relates to harnessing all energy resources (especially solar, mini-hydro-power and gas) to diversify the country's energy mix. Through the 'studies' component, the project will help to lay the foundation for the large-scale tapping of the country's great renewable energy potential.

1.2.5 Furthermore, because of the Bank's commitment to Africa's development, it is its duty to facilitate the participation of other partners in financing the required investments to improve the population's access to electricity and development of the country's energy resources. The studies conducted under this project could serve as an anchor point for the development partners.

1.3 Aid Coordination

1.3.1 In the Democratic Republic of Congo, mobilisation of external resources for project financing is the responsibility of the Ministry of Finance, while the Ministry of Planning sees to the coordination of development assistance. The two Ministries coordinate and centralise all the preparation and monitoring activities of the public investment programme, the financing of which is partially covered by external assistance. The Sector Ministries are responsible for managing the investment programmes. Project management and/or steering units have been set up in these Ministries.

1.3.2 The Table below provides information on the sector's financing:

Project Name	Location	Sub-Sector	Donors	Amount (millions)	Current Status
Project to Rehabilitate and Strengthen the Inga Hydro-Power Plants and Kinshasa Distribution Grid (PMEDE)	- Inga Site - Kinshasa	- Generation - Transmission - Distribution	- World Bank - European Investment Bank - ADB	USD 296 EUR 80 UA 37.5	Ongoing
Rehabilitation of the Tshopo Power Plant and the Kisangani Distribution Network	Kisangani	- Generation - Distribution	Belgian Technical Cooperation (CTB)	EUR 19	Ongoing
Rehabilitation of the G27 Generator at the Inga II Power Plant and the Inga Distribution Substation	Inga Site	- Generation - Transmission	KfW (German Cooperation)	EUR 62.36	Preparation
Southern Africa Power Market Project (SAPMP)	Inga Site Kolwezi Lubumbashi Kasumbalesa	- Transmission	- World Bank -European Investment Bank	USD 177.5 and 180.6 EUR 30	Ongoing
Rehabilitation of a Generator (G3) at the Ruzizi 1 Power Plant and Supply of Spare Parts for a Second Generator (G4)	Bukavu (South-Kivu)	- Generation	World Bank	USD 6.9	Ongoing
150 MW Zongo II Power Plant	Lower Congo	- Generation	China	USD 300	Preparation

1.3.3 Level of AID Coordination

Existence of Thematic Working Groups	Yes
Existence of an Overall Sector Programme	Yes
ADB's Aid Coordination Role	M (the Bank serves as the Secretariat of the Energy Thematic Group)

1.3.3 The Bank participates actively in the joint financing of the Project to Rehabilitate and Strengthen the Inga Power Plants and the Kinshasa Distribution Grid (PMEDE) with a UA 35.7 million contribution. Under the PMEDE, the Democratic Republic of Congo is making efforts to coordinate the actions of different donors. These efforts have resulted in the organisation of joint supervision missions and exchange of information.

2 PROJECT DESCRIPTION

The project goal is to contribute to improving the population's living conditions by providing access to electricity and supporting the country's economic and social development, with a view to reducing poverty and achieving the MDGs. Thus, the project objectives are to develop the electric power distribution facilities in Kinshasa and in the four (4) localities in the interior, and contribute to preparing a portfolio of credible and bankable energy projects in the DRC.

2.1 Project Components

No.	Component Title	Cost (UA million)	Component Descriptions
A)	Construction of Electricity Infrastructure (Extension and/or Rehabilitation of Distribution Networks)	58.95	<ul style="list-style-type: none"> • Electrification of 5 'dark centers' in Kinshasa by extending the neighbouring network. • Load reduction Programme for the 16 Districts (Communes) of Kinshasa (improvement and strengthening the capacity of the Medium and Low Voltage lines and MV/LV transformer stations) • Construction Work on the Ngombe Matadi Network (Lower Congo) by extending the Sanga network • Construction work on the Dima and Bendela network (Bandundu) by extending the Bandundu network • Construction work on the Kabare network (South Kivu) by extending the Bukavu network • Construction work on the Yakusu network (Eastern Province) by extending the Kisangani network
B)	Studies on the Electrification of Rural and Peri-Urban Areas (technical, economic, financial, environmental and social studies of priority projects, project working drawings, etc.)	3.44	<ul style="list-style-type: none"> • Mini-hydro-power plant studies: Tshilomba (Kasai Oriental); Bumba (Equateur); Kamimbi (Maniema); Ilebo (West Kasai), Bamba (Bandundu), Portes d'Enfer ('Hell's Gates') (Katanga), Ruki (Equateur), Nepoko (East Province), Baraka (South Kivu) and Kisalala (North Kivu) • Studies on Mini-Solar Power Plants: Dimbelenge (West Kasai) and Kongolo (Katanga) • Studies on the Goma Gas-Fired Plant (North Kivu) • Studies on the Rehabilitation of the Sanga Power Plant (Lower Congo) and Electrification of Surrounding Areas. • Study on the Kiliba Distribution Network
C)	Works Monitoring and Supervision	5.92	<ul style="list-style-type: none"> • Studies • Quality and Standards • Works Monitoring and Supervision
D)	Project Management	2.07	<ul style="list-style-type: none"> • Management of Environmental Aspects (ESMP, mitigation, etc.) • Institutional Support (Governance, Operation, Maintenance). • Project Management and Audit
	Total Project Cost	70.38	

2.2 Technical Solutions Retained and Alternatives Explored

2.2.1 The different project alternatives are briefly presented in Table 2.2 below, with the reasons for their rejection.

	<i>Solution Retained</i>	<i>Alternative Solution</i>	<i>Reason for Rejection</i>
<ul style="list-style-type: none"> • Electrification of 5 'dark centers' in Kinshasa 	<ul style="list-style-type: none"> - Strengthening of existing transformer stations and sub-stations; - Creation of new MV feeder circuits; - Installation of MV/LV cabins; - Creation of LV networks (+ connections) 	<ul style="list-style-type: none"> - Construction of new transformer stations and sub-stations in the 'dark centers' 	<ul style="list-style-type: none"> - Solution not retained in SNEL Transmission and Distribution Network Master Plan for optimisation reasons.
<ul style="list-style-type: none"> • Load Reduction Programme for 16 Districts ("Communes") of Kinshasa 	<ul style="list-style-type: none"> Improvement: strengthening the capacity of existing infrastructure (Medium and low voltage lines and MV/LV transformer stations, etc.) 	<ul style="list-style-type: none"> Establishment of new additional networks (Medium and Low voltage lines and MV/LV transformer stations, etc.) 	<ul style="list-style-type: none"> - Implementation difficult due, in particular, to the non-availability of space for new structures and costs
<ul style="list-style-type: none"> • Rehabilitation and Extension Works on the Ngombe Matadi (Bas Congo), Dima and Bendela (Bandundu), Kabare (South Kivu) and Yakusu (East Province) 	<ul style="list-style-type: none"> Supply to Ngombe Matadi and Nkamba, Dima and Bendela, Kabare and Yakusu localities, respectively, via extension of the Sanga, Bandundu, Bukavu and Kisangani networks by constructing the MV lines, then the new MV/LV stations and the related LV network 	<ul style="list-style-type: none"> Creation of local electric power generating and distribution systems 	<ul style="list-style-type: none"> - Problem of profitability of these systems, especially in the case of thermal power generation; - Longer implementation period; - Higher investment and operating costs

2.3 Project Type

2.3.1 For the Bank, this is a stand-alone project aimed at improving the reliability of DRC's electric power grid and consolidating its spatial expansion, with a view to increasing the supply of electric energy and improving connection rates in accordance with the country's sector objectives.

2.3.2 The Democratic Republic of Congo is only eligible for ADF Grants and financing under the Fragile States Facility. The instrument selected for this project is the project grant, comprising ADF country allocation resources (UA 9.69 million) and FSF resources (UA 60 million).

2.4 Project Cost and Financing Arrangements

2.4.1 The **total project cost**, net of taxes and customs duty, is estimated at UA 70.38 million, comprising UA 52.15 million in foreign currency and UA 18.23 million in local currency. This includes an 8% provision for technical and physical contingencies as well as an annual 4.45% provision for price escalation for the foreign currency and local currency costs. Tables 2.3, 2.4, 2.5 and 2.6 below present the project cost by component and expenditure category, as well as the project financing arrangements.

2.4.2 The project is co-financed by the ADF, the FSF and the Government of the Democratic Republic of Congo, with respective contributions of UA 9.69 (14%), 60 (85%) and UA 0.69 (1%) million.

Components	F.C.	L.C.	Total	% F.C.
Construction of Electricity Infrastructure	40.07	12.35	52.42	76.4%
<i>Kinshasa 'Dark centers'</i>	17.65	5.83	23.48	75.2%
<i>Load Reduction Programme</i>	17.08	4.27	21.35	80.0%
<i>Rural Electrification</i>	5.34	2.25	7.59	70.3%
Electrification Studies	2.80	0.49	3.29	85.0%
Works Monitoring and Supervision	3.69	1.58	5.27	70.0%
Project Management	0.31	1.67	1.98	15.7%
<i>Project Management and Audit</i>	0.16	0.70	0.86	18.3%
<i>Management of Environmental Aspects</i>	0.00	0.66	0.66	0.0%
<i>Institutional Support</i>	0.15	0.31	0.46	33.2%
Base Cost	46.87	16.09	62.96	74.4%
<i>Physical Contingencies</i>	3,23	1,18	4,41	75.9%
<i>Price Escalation</i>	2,05	0,96	3,01	74.4%
Total Cost	52.15	18.23	70.38	74.5%

Note: the exchange rates used are given in the introduction to this report (Page (i))

Expenditure Categories	Project by Expenditure Category (in UA million)						Total
	ADF		FSF		DRC		
	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	
Goods	5,39	1,09	27,8	8,2	-	-	42,55
Works	0	1,31	6,9	2,0	-	-	10,27
Services	0,21	0,71	6,5	2,1	-	-	9,48
Others	-	-	-	-	0	0,66	0,66
Base Costs	5,60	3,10	41,3	12,3	0	0,66	62,96
<i>Physical Contingencies (8%)</i>	0,43	0,18	2,8	1,0	-	-	4,41
<i>Price Escalation (4.45%)</i>	0,25	0,13	1,8	0,8	-	0,03	3,01
Total Cost	6,28	3,41	45,9	14,1	0,0	0,69	70,38

Table 2.5
Estimated Cost by Component and Source of Financing

Components	UA Million				% ADF + FSF
	ADF	FSF	DRC	Total	
Construction of Electricity Infrastructure	7.59	44.83	-	52.42	100%
<i>Kinshasa 'Dark centers'</i>	-	23.48	-	23.48	100%
<i>Load Reduction Programme</i>	-	21.35	-	21.35	100%
<i>Rural Electrification</i>	7.59	-	-	7.59	100%
Electrification Studies	-	3.29	-	3.29	100%
Works Monitoring and Supervision	-	5.27	-	5.27	70%
Project Management	1.11	0.21	0.66	1.98	67%
<i>Project Management and Audit</i>	0.86	-	-	0.86	100%
<i>Management of Environmental Aspects</i>	-	-	0.66	0.66	0%
<i>Institutional Support</i>	0.25	-	-	0.25	100%
<i>Support to DDK</i>	-	0.21	-	0.21	100%
Base Costs	8.70	53.60	0.66	62.96	99%
<i>Contingencies</i>	0.99	6.4	0.03	7.42	100%
Total Cost	9.69	60.0	0.69	70.38	99%

Financing Plan

Project Financing Plan by Source (in UA million)				
Sources of Financing	F.E.	L.C.	Total	% Total
ADF	6.28	3.41	9.69	13.8%
FSF	45.87	14.13	60.0	85.3%
DR Congo	0.00	0.69	0.69	1.0%
Total Project Cost	52.15	18.23	70.38	100.0%
Percentage	75.5%	25.5%	100%	

2.4.3 DRC's ability to contribute to the project financing has been assessed and the amount of this contribution has been entered in the annual investment budgets. DRC financing will focus on the costs of environmental and social impact mitigative measures, and the compensation plan.

2.4.4 ADF and FSF resources will be used to cover 99% of the project cost and ensure the financing of the foreign and local currency cost of goods, works and services. The Democratic Republic of Congo will make available 1% of the project cost.

Table 2.7					
Expenditure Schedule by Component (in UA million)					
Components	2 011	2 012	2 013	2 014	Total
Construction of Electricity Infrastructure	14.97	28.37	10.32	5.28	58.95
Electrification Studies	1.15	1.15	1.15	0.00	3.44
Works Monitoring and Supervision	1.48	1.48	1.48	1.48	5.92
Project Management and Audit	1.14	0.46	0.26	0.20	2.07
Total Cost	18.74	31.46	13.21	6.97	70.38

2.5 Project Target Area and Beneficiaries

2.5.1 The project covers several localities of DRC territory as presented in Annex 4. It concerns the improvement of the Kinshasa network, electrification of Kinshasa's 'pockets of darkness' as well as rehabilitation and extension of the networks in the provinces of Lower Congo, Bandundu, South Kivu and East Province. Therefore, the project will benefit the rural and peri-urban inhabitants of the localities concerned. The studies also concern the Provinces of East Kasai, Equateur, Maniema, West Kasai, Bandundu, Katanga, Equateur, East Province, South Kivu and Lower Congo. These studies will allow improved sector planning of investments and facilitate dialogue with the Government and coordination among donors.

2.5.2 The Democratic Republic of Congo has an estimated population of about 62 million (2009), over 70% of which live in rural areas. The population comprises about 52% women and has grown at an annual rate of 6.2% over the past five years. The project will serve approximately 130,000 inhabitants, i.e. about 23,000 households, providing around 0.2% of the country's population with access to electric energy.

2.5.3 The main project beneficiaries are: (i) SNEL whose revenue from the sale of electricity will increase as a result of new subscribers and improved network reliability; (ii) SNEL's new urban and rural subscribers, who will benefit from an improvement in the quality of service, a reduction in their energy expenditure through independent generation and motive power for different uses; (iii) the inhabitants of the project area, who will be employed on the project sites; (iv) the social sectors (water, sanitation, education); (v) the Government, which will collect additional fiscal revenue and; (vi) the private sector, especially through local enterprises, which will benefit from the different contracts for supplies and services, and improved service delivery and reliability.

2.6 Participatory Approach

2.6.1 For this project, the participatory process involved three stages. An initial audiovisual communication on the major projects was made by SNEL to inform the population of the activities in the energy sector. Secondly, SNEL organised a meeting with the mayors, local elected representatives, neighbourhood leaders, women's organisations, youth associations, members of civil society, opinion leaders, etc. These consultations revealed strong support for the project from the population, who wished to see an end to the inconvenience caused by lack of access to energy or to the poor quality of service delivery.

2.6.2 Finally, during the environmental impact study, local residents, NGOs in the districts concerned, the local authorities and institutions involved were consulted and given assurances that the project complied with the relevant environmental and social provisions of DRC, and that it met the beneficiary population's expectations. The Environmental and Social Management Plan describes the mitigative, monitoring, optimisation and consultative measures required to prevent, minimise, mitigate or offset the project's negative impacts, or enhance its positive impacts.

2.6.3 During project implementation, the Bank's supervision mission will seek assurances from the population that their concerns have been taken into consideration.

2.7 Bank Group Experience and Lessons Learned for Project Design

2.7.1 The Bank has implemented several projects in the electric energy sector in DR Congo, including two rural electrification projects in Lower Congo, approved respectively on 01/08/1983 and 21/09/1983. The following are ongoing: (i) an operation to rehabilitate and strengthen the Inga hydro-power plants and the Kinshasa distribution grid (PMEDE) for UA 35.7 million, approved on 18/12/2007; and (ii) a study on development of the Inga Site costing UA 9.5 million, approved in April 2008. As of today, there have been no disbursements on the PMEDE since one of the four conditions precedent has not been fulfilled. To fulfil that condition involving paying compensation to displaced persons as soon as possible, SNEL has lodged in a dedicated account the estimated amount of compensation to be paid to the displaced population, and is awaiting the preparation of the resettlement plan. However, the goods and services procurement process has been initiated. Regarding development of the Inga Site, the procedure for the selection of the consulting firm to conduct the study has been delayed by a bidder's complaint. This complaint has now been resolved. The successful consulting firm's contract will be signed shortly. The Study Implementation Unit displayed great professionalism in handling the complaint.

2.7.2 Within sub-regional frameworks involving the Democratic Republic of Congo, the Bank is financing: (i) the project to strengthen the interconnection of the Nile Equatorial Lakes Electric Power Grids under the aegis of the Nile Basin Initiative; (ii) the Study on the Inga-Cabinda-Pointe-Noire connection; and (iii) the study on cross-border electrification projects in Central Africa. Only the study on cross-border electrification has effectively started. The two other projects are still at the stage of fulfilling conditions precedent to effectiveness.

2.7.3 The 2009 review report rated DR Congo's portfolio performance as fairly satisfactory. Indeed, the performance is satisfactory overall for fulfilment of conditions precedent and undertakings. In contrast, it is deemed unsatisfactory regarding the procurement of goods and services, financial management and implementation of activities. The portfolio, whose disbursement rate for active public sector projects was 47.81% at end July 2010, is faced with problems such as weaknesses in preparing and designing the first post-conflict projects approved, lack of familiarisation with the Bank's rules, inadequate monitoring of project implementation, and difficulties in releasing Government counterpart funds for project financing.

2.7.4 The following lessons can be drawn from the different operations of the Bank and other donors: (i) the need to envisage a 'commercial action' component comprising, in particular, connections (connecting the population to the grid), which guaranteed the broad success of previous Bank operations in the Democratic Republic of Congo; (ii) the definition of conditions precedent to first disbursement should take into account DRC's status as a Fragile State; (iii) the need to have a competent Project Implementation Unit to ensure smooth implementation; and (iv) the need to build project preparation and implementation capacity. These lessons have been taken into account in this project. Indeed, the project provides for payment of the connection costs of new subscribers and organisation of capacity building actions for personnel involved in project implementation, through formal training sessions with the support of an engineering consulting firm and qualified experts. Furthermore, the conditions for first disbursement have been discussed and deemed acceptable.

2.8 Key Performance Indicators

2.8.1 The key performance indicators are specified in the results-based logical framework matrix. They concern available energy, outage time, system yield, the number of new localities connected to the grid, the number of new subscribers, the length of lines and the number of distribution sub-stations built or rehabilitated. Data on power outage times will be automatically captured by counting and measuring systems installed in the sub-stations and power supply centres.

2.8.2 Regarding the performance indicators, the Project Implementation Unit will be responsible for determining a benchmark, then for compiling and analysing the corresponding indicators, especially matching them against those stipulated in the logical framework. Therefore, the Unit will be strengthened with a monitoring/evaluation expert. At SNEL level, the project performance indicators will be incorporated into the periodic activity reports. They will be analysed by comparing them with the project target values, time series, international standards and outputs of similar companies on the Continent or elsewhere. At national level, the team in charge of the Energy Information System (EIS) at the level of the Ministry will collect then use the different indicators to incorporate them in the national report, which will be validated by the different actors in the sector. The EIS is a decision-making tool which, in its reports, presents key energy policy elements.

3 PROJECT FEASIBILITY

3.1 Financial and Economic Performance

FIRR and NPV (baseline scenario)	FIRR: 15.3%	NPV: CDF 67.5 billion
ERR and NPV (baseline scenario)	ERR: 30.5%	NPV: CDF 171 billion
<i>N.B. Detailed calculations and scenarios in Annex B.7</i>		

3.1.1 **Financial Performance:** The project's financial rate of return (FIRR) was estimated based on the investment costs as presented in the related tables. These costs concern the procurement of equipment, works, supplies and services required for construction of project structures. The estimates include physical contingencies and price escalation. The service life of the project structures was set at 30 years and a residual value was determined for the materials at the end of this period. Annual operating and maintenance costs were estimated at about 2.5% of the investment amount. The project's incremental revenue derives from additional consumption generated by the new connections as well as additional energy made available following a reduction in losses due, in particular, to the improvement of the networks.

3.1.2 Based on the above data, the project's FIRR was estimated at 15.3%. The scenarios and detailed calculation of the FIRR are presented in Annex B.7 of the technical annexes. A sensitivity test using a 15% increase in the investment cost, then 15% rise in operating and maintenance costs, was carried out to determine the strength of the project's rate of return. The results of this analysis confirm the FIRR sustainability in the event of slippage on project operation and implementation. Indeed, a simultaneous increase in investment and operating costs lowers the FIRR to 11.6%, which remains acceptable in relation to the 8% discount rate.

3.1.3 **Economic Performance:** From the economic standpoint, project implementation with the extension of the SNEL network will enable DR Congo to increase the population's electricity access rate, both in urban and rural areas, thereby improving its living environment and conditions. The project will enable the country to mitigate the negative impact of the malfunctions noted in the supply of electricity on its economy and the performance of its social services. The operational effectiveness of the country's social, health, education and administrative management services in a decentralised context will be enhanced. In addition to the financial revenue, the project will lead to reduction in the consumption of fuel for independent producers of electricity and will have a positive impact on Government finances.

3.1.4 The economic rate of return (ERR) was based on the same calculation scenarios as the FIRR. The economic costs were estimated using the investment costs net of taxes, adjusted by appropriate conversion factors for equipment, works, services and skilled and unskilled labour. Similarly, the maintenance and operating costs were converted from their financial values estimated at 2.5% of the investment costs. The EIRR is 30.5% and the economic NPV CDF 171 billion. Details of the calculation are presented in Annex B.6 of the technical annexes. These results show that the project is economically viable. A sensitivity

analysis of the impact on the EIRR of a 15% increase in the investment costs and the operating costs was carried out. The results of this analysis are acceptable and show that the project remains viable, with a lower EIRR of 26.02%.

3.2 Environmental and Social Impact

3.2.1 **Environment:** from the environmental standpoint, the project was classified on 26 July 2010 in Category II according to the ADB Group's sorting criteria, since it contains physical environmental interventions albeit with a clearly delimited spatial impact, which may be addressed by adequate mitigative and compensation measures. The negative impact especially relates to the works on the construction of new lines in Kinshasa and in the country's interior.

3.2.2 **Negative Impact and mitigation measures:** Mainly concerned by the MV and LV lines, the rehabilitation works will be implemented on the road right-of-way and should not require any housing displacement. Therefore, the project should not, generate any specific displacements nor land impact nor losses of economic activities. For the entire project, damage to the natural environment will concern potential hydrocarbons leakage from plant engines, transformers' dielectric oil containing PCB spillage and air pollution. Local fauna and flora can be disturbed by sites activities and noises made by construction works on MV lines. In urban areas, natural environment is delimited by natural trees and deep landscape used for marshland activities. The fauna and flora may be disrupted by worksite activities and noise caused by MV line construction works. In urban areas, the natural environment consists mainly in fruit tree plantations and lowlands used for market gardening. There are no fauna, except birds. In rural areas, the power line routes generally run through bush savannah and marshy lowlands (Lower Congo, Bandundu) or in forest areas, such as Yakusu. The installation of lines along roads will limit impacts on the flora. Experience shows that after the works, the fauna and original vegetation will be restored around the project structures.

Nuisance in the human environment is caused by the organization of works (noise, traffic, transport of materials, security (accidental fall of conductors, electrocution; etc.). Any classified or cultural site will be impacted by the works. Little health impacts can arise due to the electromagnetic fields (EMF), noise and ozone produced by the MV lines. The EMF impact on health is a subject of controversy and is very low for MV lines. There could be some risk of leukemia for children living in the immediate vicinity of the lines. The electric power lines are equipped with lightning conductors, earth connections and anti-climbing devices.

The local population will be notified, prior to the start of works, of provisional limited access to certain areas after worksite organization for security reasons. The sites will remain well marked out (signboards, indicators, blinking lights, etc.) and protected by security barriers, set up in conjunction with the highway services of the municipal councils, etc. Road deviations will be organized as necessary. The machinery used will have soundproofing devices to limit sound nuisance to the extent possible. The destroyed herbaceous, shrub or tree vegetation will be restored. The various wastes will be removed; all the sites will be restored.

Periodical maintenance will be carried out so as to minimize soil and natural and human environment disruption. There will be no direct measures to reduce noise from transformers and lines, except placing them far away from residential areas and building suitable fences.

3.2.3 **Positive impact:** the positive impact will stem from the subsequent operation of the networks, which will help to: (i) reduce pockets of poverty caused by lack of power (pockets of darkness) and foster the development of cottage industry, SMEs/SMIs, cold chains,

household equipment; (ii) minimise energy losses from the grid and reinforce its operating security; (iii) improve security and diversify social infrastructure (public administration, health centres, public educational establishments; (iv) reduce GHG emissions currently caused by the widespread use of small private electric generators, etc.

3.2.4 Climate Change: the supply of energy in DR Congo is highly dependent on hydropower. Given the size of its forest assets, the country, which has signed the Kyoto Convention, is a prime beneficiary as a 'CO₂ Pump'. The electrification of Kinshasa's 'dark centers' and other localities will reduce significantly the usage of individual power producing groups and hence reduce gas emissions.

The project integrates technical measures for energy control that will help reduce the production of greenhouse gases (GHG): (i) rehabilitation of equipment to reduce network losses; (ii) sensitisation to the use of energy-efficient electrical appliances through an IEC campaign; (iii) installation of pre-payment electricity meters; and (iv) a reduction in the number of heavily polluting individual thermal generators. Thus, almost 30% of energy could be saved in households.

3.2.5 Gender: overall, in areas targeted by the project, women represent approximately 52% of the population and almost 60% of the productive population. Women face many handicaps such as illiteracy, prejudice, ignorance, the preponderance of customary practices and exclusion. In 2001, the female illiteracy rate (48.2 %) was higher than the male illiteracy rate (25.8 %). The enrolment rate for girls is lower than that for boys (32.3 % compared to 49.7 %). Therefore, women start off disadvantaged on the labour market. While it is difficult at present to estimate the number of poor women, a 2005 survey indicates that, on average, 44% of women compared to 22% of men have no income and are therefore unable to take advantage of the opportunities they need. Their deteriorating economic situation is reflected in an increase in the mortality rate due to unmonitored pregnancy and a rise in the death rate attributable to HIV/AIDS. From the organisational standpoint, there is a National Council for Women, which is represented in all the provinces and includes representatives of public institutions, NGOs and associations working in the area of women's affairs.

3.2.6 It is established that only a slim minority of women (10%) have the right to manage their property on their own. In rural areas, women are responsible for 75% of food production, as well as the storage and processing of food products for their families' survival. They market 60% of production. Even so, they have no income per se. In times of war, women are exposed to sexual violence perpetrated especially by armed forces from countries with high HIV/AIDS prevalence rates.

3.2.7 In Kinshasa, women's activities focus mainly on foodstuff trading (artisanal processing), hairdressing, embroidery, sewing, etc., which require cold chains and sources of electric energy. In the project's four rural areas, agricultural production is affected by significant losses of yields and revenue due to electric power supply shortages. The electric energy supplied under this project would ensure the operation of the equipment required to preserve meat and processed dairy products, and the processing of agricultural products.

3.2.8 Other artisanal activities carried out by women and youths will be developed, thanks to the availability of energy for drinking water supply (operation of boreholes), lighting (security and evening activities), literacy education, operation of health centres, operation of work tools (grinding or pounding of cassava, maize, rice, sewing and embroidery, hairdressing, soap manufacture, dyeing) and the running of cultural cafés (video,

games, media, reloading mobile phones etc.). Home comfort and domestic hygiene, which are specifically women's activities, also require adequate lighting and energy for the operation of equipment. Furthermore, women will benefit specifically from the education, sensitization and information programmes accompanying the project, as well as from more accessible educational TV and radio broadcasts for the rural communities. The facilitation of domestic chores due to the availability of electric energy will give women free time that they can use for informal education.

3.2.9 **Social:** young people under 15 make up 49% of the population and adults between 15 and 60 years old 48.2%. The urban population now represents 44.3% of the population. With seven to eight million inhabitants, Kinshasa, the capital, is the second largest urban centre in black Africa. The DRC economy is in a very advanced state of decay. The informal economy has reached a level unknown to exist anywhere else. The degradation of official economic circuits makes any analysis of statistical data highly uncertain. The regions concerned by the project are in a state of critical poverty due, among others, to the condition of the electric power grid - either unsuitable or totally non-existent. The lack of quality electric power supply is a serious constraint on the development of education, health centres, commercial, agricultural and processing activities. The Democratic Republic of Congo is one of the world's poorest countries, with annual per capita GDP estimated at USD 298 in 2007. Seventy per cent (70%) of the population is reportedly living below the absolute poverty threshold, with daily income barely exceeding USD 0.30. The Human Development Index (HDI) was 0.389 in 2007, below the average for Sub-Saharan Africa (0.514). This overall situation conceals wide disparities among provinces, with GDP varying from USD 32 in Bandundu and East Provinces to USD 138 in the provinces of Lower Congo and Katanga and to USD 323 in Kinshasa. These very low GDP levels contrast starkly with the vast human potential and the country's abundant natural resources. Women are more seriously affected than men.

3.2.10 **Forced resettlement:** the project should not give rise to any displacement of people or expropriation since the project equipment will be located along roads, streets and avenues. Much of the work concerns rehabilitation with no land impact. Some small areas of land will be acquired to install the transformer cabinets.

4 PROJECT IMPLEMENTATION

4.1 Implementation Arrangements

4.1.1 From an institutional standpoint, the project will be steered by the Project Coordination Unit (PCU) set up within the Ministry of Energy and responsible for other ongoing projects, in particular the PМЕDE and SAPMP. The PCU comprises delegates from the Energy, Finance and Portfolio Ministries, and from SNEL. The PCU will meet at least quarterly to review the project status.

4.1.2 SNEL will be the Project Executing Agency. Its role will be to regularly monitor project activities: management of different contracts, coordination among different operators and all the public facilities and services concerned, as well as periodic assessment of project implementation. The project's administration will have a sure impact on its effective implementation.

4.1.3 Given the existing organisation of the sector and SNEL with regard to executing projects, it will not be necessary to create a new project management structure. Thus, the responsibilities of the Inga Study Implementation Unit (SIU) will be expanded to include the management of this new project. In fact, the SIU is a suitable choice for managing the project as it has solidly mastered ADB rules and procedures. Furthermore, it has the necessary experience and qualified personnel. Staffing will be increased to implement all these activities successfully.

4.1.4 The SIU will submit quarterly analytical reports to the Bank on the project status. These reports will include outputs, disbursement status, problems encountered and solutions implemented as well as the status of environmental impact mitigation measures and monitoring/evaluation.

4.1.5 The SIU is headed by a coordinator and currently comprises an representative of the Ministry of Energy, three electrical engineers, a power generation engineer and a grid engineer, a computer engineer, a procurement expert, an environmentalist, a legal person, an accountant and a secretary. It will be periodically supported by consultants specially recruited under this project. Project implementation will be backed by SNEL's operational departments (the Rural Electrification Directorate (DER), the Kinshasa Distribution Regions Department (DDK) and Project Coordination (CDP), each of which will appoint a focal point. These representatives will ensure coordination between the SIU and their respective units.

4.1.6 **Procurement:** all procurements will be conducted in line with the Bank Group's Rules of Procedure for the Procurement of Goods and Works or Rules of Procedure for the Use of Consultants, as necessary, using Bank standard bidding documents. The procurement methods retained are: (i) international competitive bidding for works with pre-qualification for contracts exceeding UA 20 million; (ii) local competitive bidding for transport equipment, office consumables and computer equipment; and (iii) recruitment of consultants on the basis of a shortlist.

4.1.7 **Financial Management:** the project's administrative, financial and accounting management will be carried out by the SIU. It will be responsible for maintaining the project accounts and preparing annual project financial statements as well as quarterly expenditure reports by component, category and source of financing. The financial accounting will follow generally accepted international standards using software specifically procured for that purpose. At project start up, a cohesive financial management information system will be established at the SIU level (the Unit already has an experienced and qualified accountant who will be supported by a financial expert). A procedures handbook will be prepared to guarantee an efficient and permanent internal control system, in accordance with the Bank's financial management requirements. SNEL's Organization and Control Department will carry out the project's internal audit function. In addition, the scope of the first project supervision mission will include financial management, thanks to which the intensity of supervision in the area will be assessed, based on fiduciary risks identified and analysed.

4.1.8 After assessing the Executing Agency's capacity in financial management and the fiduciary arrangements in place, it can be concluded that, subject to implementation of the above-mentioned actions, the administrative, financial and accounting system required by the Bank for a public sector project is acceptable and that, on the whole, the residual fiduciary risk has been reduced to a moderate level, given both the nature of the project and the low volume of fund flows to be directly managed by the project.

4.1.9 The audit of financial statements will be carried out yearly by an independent audit firm to be recruited in accordance with the Bank's standard terms of reference. The audit report will be submitted no later than six months following the closing date of the accounting period. Audit-related expenditure will be financed from the grant resources. The first financial statements and audit report are expected on 31 March 2012 and 30 June 2012, respectively.

4.1.10 *Disbursements* will be made in accordance with the related Bank procedures. In particular, disbursements relating to the procurement and installation of electrical equipment as well as the services of consulting engineers, other consultants, the auditors and training programmes will be made using the direct payment method in favour of the different contracting parties. However, the different disbursement methods specified in the Disbursement Handbook may be used, if necessary. Furthermore, in accordance with the Bank's guidelines, the project Executing Agency will open a special account for the payment of the revolving fund for the project management with a bank deemed acceptable by the ADF, upon receipt of a comfort letter issued by the said bank. The opening of this account constitutes a condition precedent to first disbursement.

4.2 Project Monitoring/Evaluation

4.2.1 Throughout the implementation period, regular and attentive monitoring will be carried out at two levels for all project activities:

- i) The Project Implementation Unit, backed by a monitoring/evaluation expert, will regularly monitor implementation of all project activities, procurement, management of various contracts and coordination among the different consultants, contractors and all public structures and services concerned, as well as the periodic evaluation of the project. It will also formulate recommendations for the Steering Committee, approve and validate the project status reports as well as the acceptance reports for the different project components.

Regarding environmental monitoring, the PIU, SNEL's Environment Unit and the environmental officers of the different service providers will ensure the implementation of the ESMP.

- ii) These actions will be complemented by the Bank's technical and financial supervision missions at least every six months as well as the annual project account audit missions, to prevent any slippage on implementation, achieve and maintain the planned indicators. The sector indicators will be verified annually and will permit the timely implementation of necessary corrective measures in relation to project objectives. Specifically, SNEL will ensure compliance with project objectives and implementation conditions. Its responsibilities will include the resolution of any problems that might arise between SNEL, the contractors and consulting engineers during project implementation.

4.2.2 Furthermore, the Democratic Republic of Congo has an Energy Information System (EIS) since 2009, the objective of which is to design, implement and monitor more efficient

energy policies. The system mainly comprises energy balances and key sector indicators, validated at the national level. It thus constitutes a reference tool for monitoring the project impact.

4.2.3 External financial audits will complement this monitoring system. The SIU will submit to the Bank quarterly status reports throughout the project implementation period and a completion report latest six months following project completion. The Bank will carry out a launching mission after project approval. The project launching will include a record of the status of the logical framework indicators.

4.3 Governance

4.3.1 DRC's socio-political situation in the nineties, marked by the withdrawal of its principal partners, partially explains the current state of electric power infrastructure in the country. It resulted in the virtual halting of investments and financing of private projects in the country. The business climate and the economy in general have shown encouraging signs of improvement in 2010. Such signs include: (i) the promulgation in February 2010 of the Law authorising ratification of the Treaty of the Organisation for the Harmonisation of Business Law in Africa (OHADA); and (ii) a USD 12.3 billion reduction in DRC's debt, comprising USD 11.1 billion under the HIPC Initiative and USD 1.2 billion under the Multilateral Debt Relief Initiative (MDRI).

4.3.2 The governance risk in project implementation usually occurs in the procurement process. This risk is mitigated by the fact that the Bank will ensure the strict application of its rules of procedure. In addition, the Bank supervision missions and technical and financial audits will enforce conformity and consistency between the specifications, services delivered and work effectively carried out, disbursements and the Grant Agreement.

4.3.3 The involvement of the Ministry of Finances, the Ministry of Energy and the Ministry of Portfolio in steering the Project is a guarantee of good governance, given that the missions have been clearly defined. The proposal to reform SNEL and place it under a management contract would also improve project governance

4.4 Financial Reports and Audit

4.4.1 The SIU will maintain separate project accounting to permit the identification and monitoring of expenditure by component, expenditure category and source of financing. The summary project financial statements will be audited at each year end by an independent auditor acceptable to ADF. The audit reports should reach the Bank latest six (6) months after the end of each accounting period. The Government will also regularly submit quarterly interim financial reports to the Bank. These reports will include: (i) a statement on the utilization of funds; (ii) a sources and uses table, (iii) a special account reconciliation statement; (iv) a reconciliation statement of disbursements received from the Bank; and (v) explanatory notes.

4.5 Sustainability

4.5.1 The Democratic Republic of Congo has embarked on an ambitious energy deficit reduction programme. Implementation of this project will facilitate the supply of

supplementary energy produced at Inga under the PMEDE project to users, including those living in rural and peri-urban areas.

4.5.2 Project sustainability will depend mainly on SNEL's ability to ensure the upkeep and maintenance of the equipment and installations provided by the project. Given the level of SNEL personnel, the Bank will contribute, through the PMEDE, to strengthening these skills by financing the rehabilitation and equipping of the SNEL training centre as well as the training of trainers. It is estimated that annual maintenance of project facilities would represent about 2.5% of the investment amount, i.e. approximately UA 2.3 million.

4.5.3 SNEL is being transformed into a commercial company, capable of ensuring better planning and improved management of its structures. Indeed, an efficient maintenance policy could be introduced with the new works, which will cost less to maintain. The first stage of transforming SNEL into a commercial company consists of recruiting three (3) experts, whose role will be to assist SNEL's GM in the areas of informatics, finances and supply. The recruitment process is underway. Consolidation of the accounts will be followed in time by placing SNEL under a management contract.

4.5.4 This project takes into account new subscriber connections as well as the related metering equipment, which will guarantee additional revenue for SNEL through billing based on actual consumption rather than the commonly used lump-sum billing.

4.5.5 SNEL's current tariffs were fixed in 1998. Tariffs differ, depending on the area of the country. The West and South Zones represent 95% of SNEL's turnover. They are mainly supplied by hydropower sources and have lower LV domestic tariffs than those in the East Zone which makes more use of thermal plants. The 1998 tariff structure was completely revamped in 2009 (Decree of 7 March 2009). The main changes planned under this reform concern the following points: (i) setting of new tariffs in US dollars, which effectively means pegging electricity prices to the dollar; (ii) aligning tariffs in the West and South Zones on those applied since 1998 in the East Zone; and (iii) a reduction of approximately 7% in MV tariffs and a significant increase of low voltage rates in four six monthly adjustments. Thus, the 2009 tariff structure provided for an increase in all low voltage rates, with the average price per kWh rising from 1.6 cents to 4 cents.

4.5.6 However, in January 2010, in the wake of protests threatening social order, the DRC Government decided not to apply the new tariffs fixed in the decree of 7 March 2009 and to return to those in force in 2008.

4.5.7 A study conducted as part of preparation of SNEL reforms indicates that it would be preferable to postpone the increases for a few years for different reasons, including the political context, the existing quality of SNEL's service delivery, the time required to achieve efficient commercial management and the need to create a reliable customer database. In particular, efficient commercial management requires the establishment of an appropriate measuring system for a critical mass of clients.

4.5 Risk Management

4.5.1 There are no major risks involved in implementing works relating to the rehabilitation, extension and connection of new clients. The technologies to be used are tested

and well known, and SNEL has considerable experience with this type of structure. The project's institutional assistance will provide the required services to guarantee the timely implementation of the project. The project will provide pre-payment meters to mitigate the risk of non-collection of consumption bills.

4.5.2 The political risk created by the fragility of the peace process and political instability in the country, which could render access to certain areas to implement the project activities difficult: this is mitigated by the Government's efforts to restore the Central Government's authority throughout the national territory.

4.5.3 The vulnerability of the Congolese economy to external shocks and a difficult economic context, characterised by a high inflation rate which could affect the project by limiting the population's ability to afford electricity services: this risk is mitigated by the effective economic policy implemented by the Government, with tight control of inflation by the Congolese Central Bank. This risk is also mitigated by factoring into the project the cost of connections and the installation of pre-payment meters. Such meters will enable new subscribers to manage their consumption as they currently do for their mobile phones.

4.5.4 SNEL's ability to establish and manage an adequate organisational framework and ensure financial viability, which will guarantee the project's sound performance: this risk is mitigated, on the one hand, by the pursuit and completion of the ongoing reforms at SNEL carried out by the Public Enterprise Reform Steering Committee and, on the other, by institutional support to SNEL for operations and maintenance. A development partner has financed studies costing USD 1 million on the SNEL reform programme. It is planning a USD 18 million support to cover the management contract recommended by the study.

4.5.5 A long implementation period could lead to higher-than-expected costs. This risk is mitigated by the nature of the rehabilitation works (they take little time) and the reliability of the studies.

4.6 Knowledge Building

4.6.1 Some of the technical equipment to be procured is of the latest generation (relay, protection, handling, etc.); it requires adequate training of technicians. Thus, the personnel concerned will receive targeted training, enabling them to efficiently operate the new equipment. The different supplier contracts will have a mandatory 'training' component. In addition, SNEL's technical personnel will be involved in the different project implementation phases (defining technical specifications, factory technical acceptance, compliance control, commissioning trials, works acceptance, etc.).

4.6.2 The project's 'studies' component will build knowledge on the country's water resources and opportunities for harnessing them to generate electricity.

4.6.3 The trainers of the Sanga Training Centre will be involved in training activities geared towards designing specific modules for future training.

4.6.4 Periodic reports (with monitoring of performance indicators) will be tapped to build an interesting knowledge base on project outcomes and impacts.

5 LEGAL FRAMEWORK

5.1 Legal Instrument

5.1.1 To finance this project, the Bank will award two grants to the Democratic Republic of Congo from the resources of the ADF country allocation and the Fragile States Facility.

5.2 Conditions Associated with Bank's Intervention

5.2.1 **Conditions Precedent to Effectiveness of the Grant Protocols of Agreement:** effectiveness of the Grant Protocols of Agreement is subject to their signature by the Donee, the ADF and the Bank.

5.2.2 **Conditions Precedent to First Disbursement:** in addition to effectiveness of the Grant Protocols of Agreements, the first disbursement of grant resources is subject to the fulfilment of the following conditions by the Democratic Republic of Congo, to the ADF's and the Bank's satisfaction:

- i) Provide ADF and the Bank with the original document signed by SNEL authorities increasing the responsibilities of the SIU and strengthening it to serve as the Project Implementation Unit and appointing three persons who will serve as focal points during the project implementation;
- ii) Provide ADF and the Bank with evidence of opening a special account under the project name for the payment of the project management funds and a comfort letter issued by an acceptable bank;
- iii) Provide ADF and the Bank with evidence of opening an account for the payment of the counterpart funds earmarked for financing activities to be implemented by the Democratic Republic of Congo and the evidence of funds available in the account amounting at least 50% of the total counterpart funding ; and
- iv) If applicable, the Donee should have compensated and/or resettled the identified persons affected by the project component or in the project area for which the disbursement is being requested

5.2.3 **Conditions Precedent to subsequent Disbursement :** subsequent disbursements of the Fund's resources are subject to the entire fulfilment of the following conditions by the Donee :

- i) If applicable, provide before works start in the located site, evidence of compensation and/or resettlement of project affected persons, according to the Fund's Policy in involuntary resettlement of PAPs and to every other applicable policy or regulatory
- ii) Provide before 31st march 2011, a copy of the signed contract with the consultant assisting SNEL in the management of environmental and social aspects, for whom the experience and qualifications would be acceptable to the Fund

5.2.4 **Undertaking:**

- (i) The Democratic Republic of Congo, through SNEL, will provide evidence of undertaking to implement the Environmental and Social Management Plan.

5.3 Compliance with Bank Policies

5.3.1 The Rural and Peri-urban Electrification Project complies with all the Bank's applicable rules.

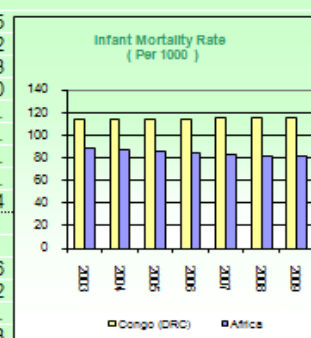
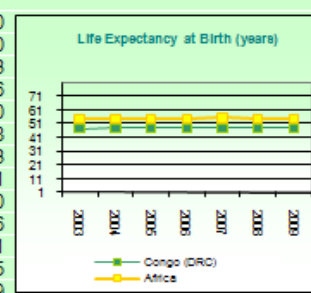
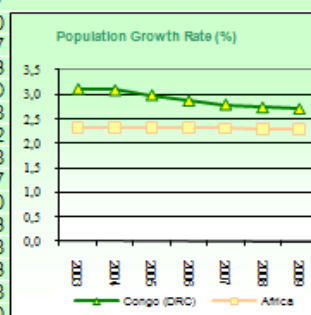
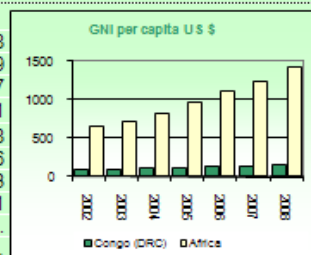
6 RECOMMENDATION

6.1.1 Management recommends that the Board of Directors approve the proposal to award an ADF and a FSF grants amounting respectively UA 9.69 million and UA 60 million to the Democratic Republic of Congo for the Rural and Peri-urban Electrification Project, under the conditions set forth in this report.

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• **Appendix I: Country's Socio-Economic Indicators**

	Year	Congo (DRC)	Africa	Developing Countries	Developed Countries
Basic Indicators					
Area ('000 Km ²)		2 345	30 323	80 976	54 658
Total Population (millions)	2009	66,0	1 008	5 629	1 069
Urban Population (% of Total)	2009	34,6	39,6	44,8	77,7
Population Density (per Km ²)	2009	28,2	3,3	66,6	23,1
GNI per Capita (US \$)	2008	150	1 428	2 780	39 688
Labor Force Participation - Total (%)	2009	37,6	41,2	45,6	54,6
Labor Force Participation - Female (%)	2009	38,5	41,2	39,8	43,3
Gender -Related Development Index Value	2005	0,398	0,525	0,694	0,911
Human Develop. Index (Rank among 182 countries)	2007	136	0,514	n.a	n.a.
Popul. Living Below \$ 1 a Day (% of Population)	2006	59,2	50,8	25,0	...
Demographic Indicators					
Population Growth Rate - Total (%)	2009	2,7	2,3	1,3	0,7
Population Growth Rate - Urban (%)	2009	4,6	3,4	2,4	1,0
Population < 15 years (%)	2009	46,7	56,0	29,2	17,7
Population >= 65 years (%)	2009	2,6	4,5	6,0	15,3
Dependency Ratio (%)	2009	97,3	78,0	52,8	49,0
Sex Ratio (per 100 female)	2009	98,2	100,7	93,5	94,8
Female Population 15-49 years (% of total population)	2009	22,5	48,5	53,3	47,2
Life Expectancy at Birth - Total (years)	2009	47,8	55,7	66,9	79,8
Life Expectancy at Birth - Female (years)	2009	49,4	56,8	68,9	82,7
Crude Birth Rate (per 1,000)	2009	44,3	35,4	21,5	12,0
Crude Death Rate (per 1,000)	2009	16,8	12,2	8,2	8,3
Infant Mortality Rate (per 1,000)	2009	114,9	80,0	49,9	5,8
Child Mortality Rate (per 1,000)	2009	195,3	83,9	51,4	6,3
Total Fertility Rate (per woman)	2009	5,9	4,5	2,7	1,8
Maternal Mortality Rate (per 100,000)	2005	1100,0	683,0	440,0	10,0
Women Using Contraception (%)	2006	61,0	75,0
Health & Nutrition Indicators					
Physicians (per 100,000 people)	2004	10,2	42,9	78,0	287,0
Nurses (per 100,000 people)*	2004	50,6	120,4	98,0	782,0
Births attended by Trained Health Personnel (%)	2007	74,0	50,5	63,4	99,3
Access to Safe Water (% of Population)	2008	46,0	64,0	84,0	99,6
Access to Health Services (% of Population)	2006	...	61,7	80,0	100,0
Access to Sanitation (% of Population)	2008	23,0	38,5	54,6	99,8
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2005	3,2	4,5	1,3	0,3
Incidence of Tuberculosis (per 100,000)	2007	392,0	313,7	161,9	14,1
Child Immunization Against Tuberculosis (%)	2007	94,0	83,0	89,0	99,0
Child Immunization Against Measles (%)	2007	79,0	74,0	81,7	92,6
Underweight Children (% of children under 5 years)	2003	71,0	25,6	27,0	0,1
Daily Calorie Supply per Capita	2005	1 485	2 324	2 675	3 285
Public Expenditure on Health (as % of GDP)	2006	1,3	5,5	4,0	6,9
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	2008	90,4	100,2	106,8	101,5
Primary School - Female	2008	82,2	91,7	104,6	101,2
Secondary School - Total	2008	34,8	35,1	62,3	100,3
Secondary School - Female	2008	24,7	30,5	60,7	100,0
Primary School Female Teaching Staff (% of Total)	2008	25,7	47,5
Adult Illiteracy Rate - Total (%)	2006	...	59,4	19,0	...
Adult Illiteracy Rate - Male (%)	2006	...	69,8	13,4	...
Adult Illiteracy Rate - Female (%)	2006	...	57,4	24,4	...
Percentage of GDP Spent on Education	2006	...	4,5	...	5,4
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	2007	3,0	6,0	9,9	11,6
Annual Rate of Deforestation (%)	2006	...	0,7	0,4	-0,2
Annual Rate of Reforestation (%)	2006	...	10,9
Per Capita CO2 Emissions (metric tons)	2008	0,0	1,1	1,9	12,3



Sources : ADB Statistics Department Databases; World Bank: World Development Indicators;

last update : septembre 2010

UNAIDS; UNSD; WHO; UNICEF, WRI, UNDP: Country Reports.

Note : n.a. : Not Applicable ; ... : Data Not Available.

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• **Appendix II: Table of ADB's Portfolio in the Country**

SECTOR	PROJECT ABBREVIATION	AMOUNT (UA)		Disbursement Rate	LOCATION				KEY DATES		
		COMMITTED	DISBURSED						SIGNATURE	EFFECTIVENESS	EFFECTIVE COMPLETION
Agriculture and Rural Development	PARSAR	18 000 000.00	7 751 849.14	43.07%	Bas-Congo	Bandundu	-	-	25/5/2004	02/04/2005	31/03/2011
		7 000 000.00	4 331 064.54	61.87%	Bas-Congo	Bandundu	-	-	25/5/2004	02/04/2005	31/03/2011
	PRESAR	35 000 000.00	21 906 564.33	62.59%	Katanga	Kasai Or	Kasai Occ	-	02/02/2006	05/12/2006	31/01/2013
	ESA	1 850 000.00	1 052 051.72	56.87%	Bas-Congo	Bandundu	2 Kasai - Kin	Manie - P.Orient	10/11/2006	17/1/2007	30/12/2010
	PRODAP	6 790 000.00	491 224.04	7.23%	DRC	BURUNDI	TANZANIA	ZAMBIA	02/01/2005	19/12/2008	31/01/2012
Four (4) operations, of which three (3) projects and one (1) study.		68 640 000.00	35 532 753.77	51.77%							
Infrastructure	Roads	52 450 000.00	22 249 259.74	42.42%	Kinshasa	Bandundu	Kasai Occ	Kasai Oriental	29/12/2005	27/6/2007	31/12/2011
	PMEDE	35 700 000.00	-	0.00%	Kinshasa	Bas-Congo	-	-	04/10/2008	-	31/12/2014
	PEASU	70 000 000.00	17 593 468.69	25.13%	Bas-Congo	Equateur	Kasai Occ	-	08/09/2007	04/04/2008	31/12/2012
Three (3) operations, all projects.		158 150 000.00	39 842 728.43	25.19%							
Social Sectors	PAPDDS/Health	20 000 000.00	3 783 881.14	18.92%	P: Orientale	-	-	-	25/05/2004	17/03/2005	30/09/2010
		5 000 000.00	1 816 841.23	36.34%	P: Orientale	-	-	-	25/05/2004	17/3/2005	30/09/2010
	PARSEC	15 000 000.00	1 399 262.40	9.33%	Katanga	N.Kivu- S.Kivu	P.Orientale	Maniema	08/09/2007	25/09/2008	30/09/2011
Three (3) operations, all projects.		40 000 000.00	6 999 984.77	17.50%							
Multi-sector	PMURIS	27 000 000.00	24 166 418.65	89.51%	Kinshasa	Bas-Congo	-	-	06/04/2003	02/03/2004	31/07/2010
	PUIAICF	65 000 000.00	65 000 000.00	100.00%	DRC				13/05/2009	23/07/2009	31/07/2010
One (1) project operation.		92 000 000.00	89 166 418.65	96.92%							
TOTAL: 11 operations, of which 10 active projects and one study	For a UA value of:	358 790 000.00	171 541 885.62	47.81%							
	Or the USD equivalent of:	545 360 800.00	260 743 666.14	47.81%							

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- **Appendix III: Major Projects Related to the Country's Development**
 - 1. Project to Rehabilitate the Inga Hydro-Power Plants and the Kinshasa Distribution Grid (PMEDE)**

This project is financed by the African Development Bank, the World Bank, the European Investment Bank and the Government of the Democratic Republic of Congo for an initial UA 301 million. It comprises the following components: (i) Generation; (ii) Transmission; (iii) Distribution; (iv) Capacity Building and Governance; and (v) Project Implementation Support. Implementation of the 'Generation' component will help to increase the generating capacity from 917 GWh in 2009 to 3668 GWh/year in 2012, to supply additional 1779 GWh to the Kinshasa region per year and export 1100 GWh/year as from 2012. It will concern the rehabilitation of 10 of the 14 generators of the Inga Complex (6 out of 6 Inga 1 generators and 4 out of 8 Inga 2 generators). The aim of the 'Transmission' component is to increase the transit capacity between Inga and Kinshasa from 450 MW to 1100 MW by the construction of a dual circuit high voltage transmission line about 260 km long, designed for a nominal voltage of 400 kV and equipped with an optical telecommunications cable. Improvements will be made to the end-of-line stations in Inga and Kinshasa to integrate the line into the transmission network. The 'Distribution' component comprises the electrification of Kimbanseke and the Mpasa, Kinseso and Malweka zones (MKM Electrification) as well as rehabilitation of the Kinshasa grid. The electrification will be carried out by extending the network through the construction of 60 km of MV lines, 53 km of public lighting network, 1196 km of LV lines and 160 distribution sub-stations, to reach about 30,000 new subscribers to the distribution grid.

2. South African Power Market Project (SAPMP)

This USD 300 million project is financed by the World Bank, the European Investment Bank and the DRC Government. It aims to increase the export of electric energy to Southern Africa. Its actions involve: (i) rehabilitation of the Inga-Kolwezi (Katanga) DC transmission grid, including converters and the 1774km long EHVDC line between Inga and Kolwezi (the converters will be reinforced to increase their capacity to 1120 MW); (ii) rehabilitation of the Katanga 220 kV lines on the Fungurume-Zambian border corridor and construction of a new line between Karavia (Lubumbashi) and the Zambian border.

3. Nile Equatorial Lakes Subsidiary Actions Project (NELSAP)

This project, financed by the Bank under the Nile Basin Initiative (NBI), concerns the following five countries: Burundi, Kenya, Uganda, the Democratic Republic of Congo and Rwanda for a total UA 161 million. It focuses on strengthening the interconnection of the transmission grids of these countries by building and

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reinforcing 769 km of 220 kV and 110 kV lines and the related 17 transformer sub-stations. The project aims to improve the living conditions of the population as well as the quality of the region's economic and social development by the increased availability of electric energy at an affordable cost through cross-border power trading. Regarding the Democratic Republic of Congo, the project comprises strengthening the interconnection with Burundi and Rwanda by increasing the 112 km long Ruzizi I-Goma line from 70 kV to 220 kV; building eight transformer stations, a 19 km long 110 kV line between Bujumbura and Kiliba, and a 60 km long 220 kV Goma-Mukungwa (Rwanda) line with 12 km on Congolese territory. The project amount for DR Congo is UA 26.67 million.

4. Ruzizi I Power Plant Rehabilitation Project (RUZIZI Project I)

This project concerns the rehabilitation of Generator 4 and the supply of spare parts for generator 3 of the Ruzizi I power plant located in South Kivu Province. This plant supplies two provinces in DR Congo (North Kivu and South Kivu) as well as Rwanda and Burundi. The project is financed by the World Bank for EUR 6.9 million.

5. Other Projects

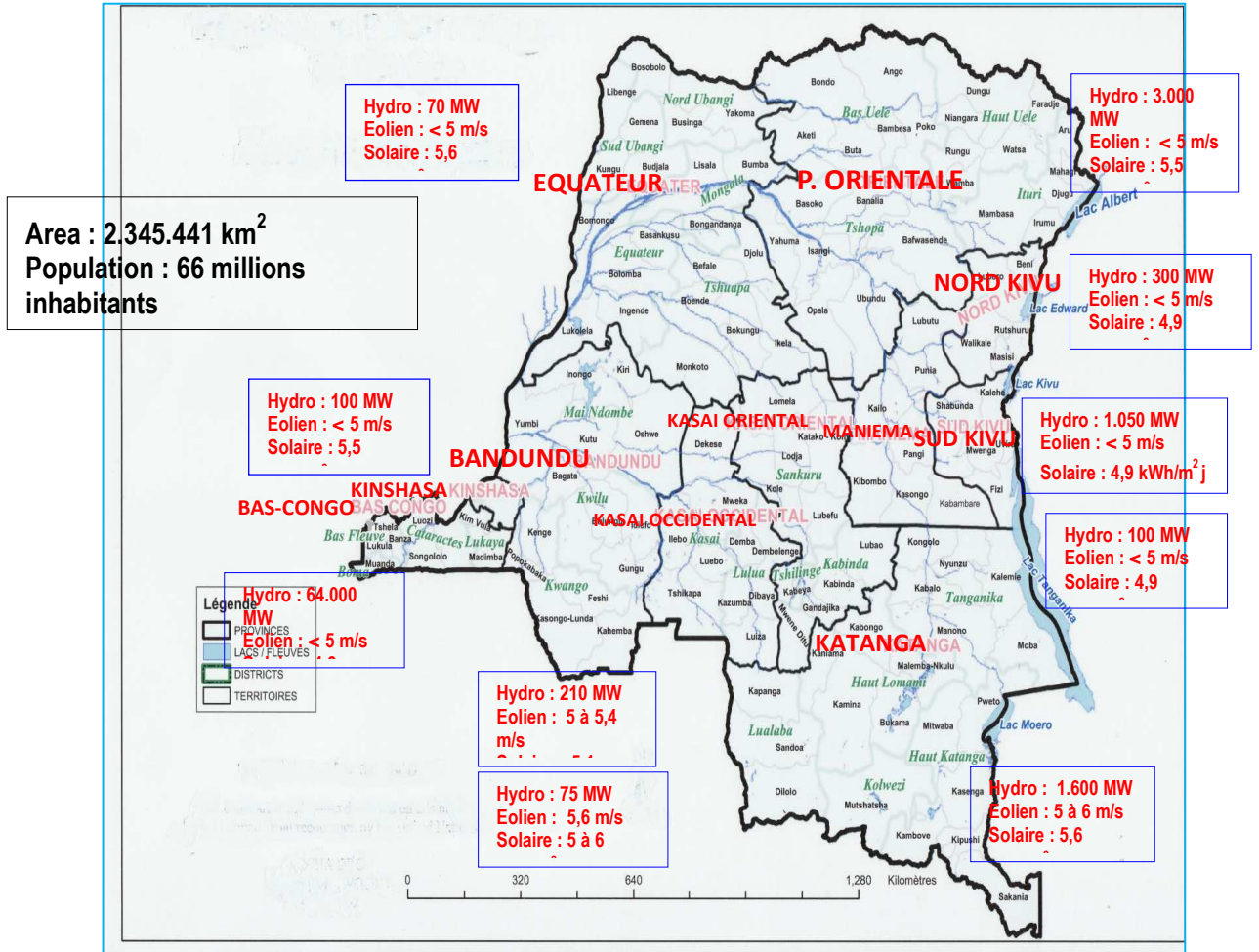
Other projects are currently being prepared with different development partners, in particular the following hydropower plant construction projects (related transmission lines):

- (i) Zongo II (Lower Congo) with 150 MW on Chinese financing of about USD 300 million. This plant will strengthen the existing Zongo I (75 MW) plant. Both plants will constitute a second source of supply for Kinshasa, currently supplied solely as part of the Inga branch network;
- (ii) Katende 18 MW (West Kasai) with a projected capacity of 36 MW to supply the towns of Kananga and Mbuji-Mayi, as well as the surrounding areas;
- (iii) Kakobola (Bandundu) 9 MW to supply the towns of Kikwit, Gungu and the surrounding areas.

The last two projects are financed by Indian Cooperation.

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• **Appendix IV: Map of Project Area**



The map has been provide by African Development Bank Staff exclusively for the convenience of the readers of the report to which it is attached. The dimensions used and the boundaries shown on the map do not imply on the part of the AfDB Group and its affiliates, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries