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PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 31.1 MILLION (US\$45 MILLION EQUIVALENT)

TO THE

REPUBLIC OF BENIN

FOR AN

ENERGY SERVICES DELIVERY PROJECT

IN SUPPORT OF THE FIRST PHASE OF THE
ENERGY SERVICES DELIVERY PROGRAM

June 7, 2004

Energy Unit
Infrastructure Group
Africa Regional Office

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CURRENCY EQUIVALENTS

(Exchange Rate Effective April 30, 2004)

Currency Unit = FCFA

SDR 1.0 = US\$1.451330

US\$1.0 = FCFA 551.71117372

FISCAL YEAR

January 1 -- December 31

ABBREVIATIONS AND ACRONYMS

AAA	Analytical and Advisory Activities
ABE	Agence Béninoise pour l'Environnement (Benin Environmental Agency)
AFD	Agence Française de Développement (French Agency for Development)
AfDB	African Development Bank
AIC-GRN	Agence Inter-Communale pour la Gestion des Ressources Naturelles (Inter-Communal Agency for Natural Resource Management)
APL	Adaptable Program Loan
ASTER	Accounting Software of the Treasury
BOAD	Banque Ouest Africaine de Développement (West African Development Bank)
CAA	Caisse Autonome d'Amortissements (Ministry of Finances - Debt Management Unit)
CAS	Country Assistance Strategy
CDM	Clean Development Mechanism
CEB	Communauté Electrique du Bénin (Benin/Togo Generation & Transmission Power Company)
CENATEL	Centre National de Télédétection et de Surveillance du Couvert Forestier (National Forest Cover Remote and Monitoring Center)
CER	Certified Emission Reduction
CFAA	Country Financial Accountability Assessment
CIE	Compagnie Ivoirienne d'Electricité (Côte d'Ivoire Power Utility)
CNCD	Commission Nationale des Combustibles Domestiques (National Household Energy Commission)
COD	Commission des Opérations de Dénationalisation (Privatization Commission)
CQ	Selection Based on Consultants' Qualifications
DFRN	Direction des Forêts et des Ressources Naturelles (Directorate of Forests and Natural Resources)
DGE	Direction Générale de l'Energie (Directorate of Energy, Benin)
DPP	Detailed Procurement Plan
EA	Environmental Assessment
ECOWAS	Economic Community of West African States (CEDEAO)
ERR	Economic Rate of Return
ESW	Economic Sector Work
FCFA	Franc CFA
FM	Financial Monitoring
FMR	Financial Monitoring Report
GoB	Government of Benin
GoT	Government of Togo
GPN	General Procurement Notice
HT	High Tension
IC	Individual Consultants
ICB	International Competitive Bidding
ICR	Implementation Completion Report
EIB	European Investment Bank
IPP	Independent Power Producer
kWh	Kilowatt hour

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LCS	Least-Cost Selection
LIB	Limited International Bidding
LIL	Learning and Innovation Loan
LPG	Liquefied Petroleum Gas
MAEP	Ministère de l'Agriculture, de l'Elevage et de la Pêche (Ministry of Agriculture, Husbandry and Fisheries)
MDG	Millennium Development Goals
MMEH	Ministère des Mines, de l'Energie et de l'Hydraulique (Ministry of Mines, Energy and Hydraulics)
MW	Megawatt or 1,000 KiloWatt
N.B.F.	Not Bank-Financed
NCB	National Competitive Bidding
NDF	Nordic Development Fund
NEPA	National Electric Power Authority (Nigeria)
NGO	Non-Governmental Organization
NPV	Net Present Value
NRM	Natural Resource Management
OP	Operational Procedures
OPP	Overall Procurement Plan
PGFTR	Programme de Gestion des Forêts et Terroirs Riverains (Riparian Forest Management Program)
PICU	Project Implementation and Coordination Unit
PIP	Project Implementation Plan
PLC	Power Line Carrier
PNAE	Plan National d'Action pour l'Environnement (National Environmental Action Plan in Togo)
PRG	Partial Risk Guarantee
PRSC	Poverty Reduction Strategy Credit
PRSP	Poverty Reduction Strategy Paper
QBS	Quality-Based Selection
QCBS	Quality- and Cost-Based Selection
REA	Rural Electrification Agency
SBEE	Société Béninoise d'Electricité et d'Eau (Benin Power and Water Utility) until Jan.2004 / Société Béninoise d'Energie Electrique starting Jan.2004 (Benin Electric Power Distribution Company)
SCADA	System Control and Data Acquisition
SDP	Standard Disbursement Percentage
SFB	Selection under a Fixed Budget
SIEF	Système d'Information Ecologique et Forestière (Forestry & Ecology Information System)
SIEP	Système d'Information et d'Evaluation Permanente (Energy Sector Information and Monitoring System)
SIGFIP	Système Intégré de Gestion des Finances Publiques (Finance and Accounting System for Public Finance)
SIL	Specific Investment Loan
SME	Small and Medium Enterprises
SOE	Statement of Expenditure
SONEB	Société Nationale d'Eau du Bénin (Benin National Water Utility)
SS	Single Source
TE	Togo Electricité (Togo Power Distribution Utility)
UNDB	United Nations Development Business
VRA	Volta River Authority (Ghana)
WAPM	West Africa Power Market

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BENIN
ENERGY SERVICES DELIVERY PROJECT

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MAP(S)

IBRD 33245

IBRD 33246

IBRD 33247

BENIN
Energy Services Delivery Project
Project Appraisal Document
Africa Regional Office
AFTEG

Date: June 7, 2004	Team Leader: Said R. Mikhail
Sector Manager: Yusupha B. Crookes	Sector(s): Power (50%), Central government administration (37%), Sub-national government administration (13%)
Country Director: Pedro Alba	Theme(s): Infrastructure services for private sector development (P), Rural services and infrastructure (P), Access to urban services for the poor (P), Regulation and competition policy (P), Land management (P)
Project ID: P079633	
Lending Instrument: Adaptable Program Loan (APL)	

Program Financing Data							
APL	Indicative Financing Plan				Estimated Implementation Period (Bank FY)		Borrower
APL 1 Loan/ Credit	IDA US\$ m	%	Others US\$ m	Total US\$ m	Commitment Date	Closing Date	Government of Benin
	45.00	47.0	50.70	95.70	07/31/2004	12/31/2008	
APL 2 Loan/ Credit	35.20	49.6	35.80	71.00	09/01/2005	06/30/2012	Government of Benin
Total	80.20		86.50	166.70			

☐ Loan ☒ Credit ☐ Grant ☐ Guarantee ☐ Other:			
For Loans/Credits/Others:			
Amount (US\$m): 45			
Proposed Terms (IDA): Standard Credit			
Years to maturity: 40			
Financing Plan (US\$m):	Source	Local	Foreign
BORROWER		1.80	0.00
IDA		7.60	37.40
BORROWING AGENCY		0.28	0.22
NORDIC DEVELOPMENT FUND		2.10	9.90
Société de Gestion Intermédiaire		8.00	20.00
SUB-BORROWER(S)		0.14	0.26
WEST AFRICAN DEVELOPMENT BANK		2.80	5.20
Total:		22.72	72.98

Borrower: GOVERNMENT OF BENIN

Responsible agency: CEB/SBEE/DIRECTION GENERALE DE L'ENERGIE

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Estimated Disbursements (Bank FY/US\$m):

FY	2004	2005	2006	2007	2008				
Annual	0.00	14.00	18.00	8.00	5.00				
Cumulative	0.00	14.00	32.00	40.00	45.00				

Project implementation period: 2004-2008

Expected effectiveness date: 10/15/2004 **Expected closing date:** 12/31/2008

OPCS APL PAD Form Rev March 2000

A. Program Purpose and Project Development Objective

1. Program purpose and program phasing:

1.1 The main purpose of the proposed program is to increase access to modern energy in urban, peri-urban and rural areas, thereby facilitating improved quality of life of the respective communities. It is expected that the electrification rate, currently estimated at 22%, will reach about 30% by the end of the implementation period despite the population growth rate of about 3.25%. The program will comprise reforms necessary for improved performance of the power sector, through private sector participation in the distribution utility, "Société Béninoise d'Energie Electrique" (SBEE), and accelerated access, as well as investments in energy supply infrastructure. It will provide lower cost and more reliable electricity supply, generated by efficient large power plants in the South (mainly from neighboring countries), to substitute for isolated small diesel generating units in the North. It will also utilize low-cost technique for grid-based supply to rural communities along the right of way of the transmission lines. The secondary objectives of the program is to promote the rationalization of the structure and function of the traditional biomass energy sector and to promote rational and economically viable inter-fuel substitution options for the household and SME sectors. These objectives would be attained through the introduction of community-based sustainable forest management systems and of improved carbonization methods in the Moyen Oueme region; the promotion of energy demand management and end-use energy efficiency measures in urban and peri-urban areas; and, the promotion of private sector-based inter-fuel substitution options in the form of LPG, kerosene and modern biofuels.

1.2 In summary, the program will support the efforts towards achievement of at least four of the Millennium Development Goals (MDGs). Provision of electricity to rural health facilities will help improve rural health services (such as enable night time delivery and better vaccination storage) and thus support the effort in reducing child mortality and improve maternal health. Provision of electricity to rural schools will enable evening classes to take place and improve the living conditions of teachers, thus reducing their turnover. It will therefore support the effort in achieving universal primary education. The use of grid electricity produced by hydroelectric power plants and gas turbine power plants to substitute for electricity produced by small- and medium-sized diesel power plants will help ensure environmental sustainability, by displacing between 690,000 tons and 1,460,000 tons of carbon dioxide in the first ten years of operation of the transmission line, depending on the supply mix of gas turbine and hydroelectric generation. The proposed woodfuels supply and demand management measures will result in a minimum combined abatement of a further 1,147,500 tons of carbon per year, equivalent to 11.4 million tons of carbon over a ten year horizon. The proposed biomass energy interventions will provide significant poverty alleviation impacts in the rural areas, increase quality of life in the urban and peri-urban areas, and provide for sustainable environmental benefits in the form of reduced deforestation, increase soil and natural resource conservation and carbon abatement. The privatization of the distribution power utility and the establishment of a proper regulatory framework in the sector will help promote the development of the Benin power sector. A strong power sector in Benin would strengthen the development of the West Africa Power Market, and thereby strengthen the global partnership for development, given Benin's geographical location between Nigeria and the rest of West Africa.

1.3 **Phasing.** It is proposed to divide the 8-year APL into two tranches; the first to be implemented in four and half years and the second in six years, with an overlap in the two tranches. The first tranche would cover the preparation and financing of the transaction cost for the private sector participation in the electricity part of SBEE, the distribution power utility, the creation of an environment conducive for commercially viable acceleration of access to modern forms of energy, and the financing of investments in transmission lines and substations to connect the North of Benin, now supplied by isolated diesel stations, with the Southern grid, which is connected with Togo, Ghana, Côte d'Ivoire and will soon be connected

with Nigeria. The first tranche will also include the implementation of sustainable fuelwood management systems, the introduction of energy demand measures and the assessment of the feasibility to produce charcoal high-efficiency briquettes and ethanol, respectively, from the caju shells and apples. The second phase will comprise the investment activities for rural, peri-urban and urban access to electricity, in 93 towns and villages to be electrified and 61 cities and towns already electrified. The second phase will be financed by IDA and AfD (the French aid agency) and will be triggered if the reforms planned in the first phase, including the measures required to improve the power sector's performance, are adequately implemented. Additionally, the second phase will include the scaling-up of woodfuels management (supply and demand) and, subject to the result of the feasibility studies, the promotion of private sector-based production of charcoal briquettes and ethanol from caju shells and apples, respectively.

2. Project development objective: (see Annex 1)

2.1 The development objectives are to: (a) accelerate, in a commercially viable manner, the use of electricity for economic growth and social services and thus improve the quality of life in un-served and under-served areas (peri-urban and rural); (b) improve governance and ensure the financial sustainability of the sector, through the involvement of the private sector in partnership with the public sector; (c) reduce deforestation and increase access and diversify choice to renewable and cleaner fuels to the household and SME sectors; and (d) promote regional cooperation while protecting the environment in a sustainable manner.

3. Key performance indicators: (see Annex 1)

3.1 Key performance indicators for the program are as follows:

(i) Provision of reliable, affordable, and sustainable electricity supply to the Northern cities, towns and villages of Benin. In the first phase of the program, the extension of the Southern grid to the North of Benin will improve the power supply reliability by reducing the number of outages and the duration of outages. In the first year of service of the transmission line (2007), the number of power outages in Parakou and in Djougou shall amount to an average of no more than two per month with an average duration of no more than two hours per outage. In the second phase of the program, the provision of electricity service to 58 towns and villages throughout Benin and 35 villages and communities along the 161 kV transmission lines. Thus increasing direct access to electricity in urban, peri-urban, and rural areas by about 92,000 connections during the execution of the program. The Program will increase access to electricity by about 8%, bringing the access rate in Benin to about 30 % by 2011, with all the connections being supplied from the main grid. By Midterm Review, the construction of the transmission system in Togo will be completed and by January 2007, the construction of the transmission system in Benin will be completed.

(ii) Private sector participation in the power sector, measured by: (i) participation of the private sector in SBEE's distribution and supply business by the end of the first phase of the program; and (ii) the establishment of a clear strategy for off-grid electrification by the private sector, before the end of the program. By Midterm Review, the study to prepare for the off-grid electrification will be completed, as well as the bidding process for the selection of a private sector operator for SBEE will be launched. By the end of the Project, the off-grid electrification strategy shall be completed and approved by MMEH, and the SBEE concession agreement shall be signed and the private sector operator shall be operating the electricity distribution system.

(iii) Improve performance of the power sector, measured by operational and financial performance of SBEE, in that it will be able to produce unqualified audited financial statements and generate surplus

income by end 2006 to support the access expansion and the customer growth as per (i) above.

(iv) Establishment, by the end of program's implementation cycle, of a permanent community-based fuelwood supply management systems in 300,000 hectares, with a minimum annual environmentally sustainable production capacity of 675,000 tons of woodfuels, equivalent to 135,000 tons of charcoal. These systems will be implemented within five Communes (Dass-Zoume, Glazoue, Save, Ouesse and Tchaorou), directly benefiting a minimum of 180 rural villages and 400,000 people (beneficiaries). By the end of the Project, a minimum of 200,000 ha of community-based sustainable forest and natural resource management system capable of producing a minimum of 400,000 tons/year of sustainable fuelwood, shall be established. By Midterm Review, a minimum of 50,000 ha of protected forests shall be classified and community-based sustainable forest and natural resource management plans for 50,000 ha shall be prepared.

(v) Training of 300 rural workers in the production of charcoal via high efficiency kilns ("*meule cassamance*") and support for the establishment of a minimum of 50 village-based charcoal producer groups.

(vi) Private sector-based production and marketing of 30,000 improved fuelwood stoves (firewood and/or charcoal) for, primarily, urban households use. By Midterm Review, the installation of a minimum of 100 improved/high efficiency carbonization units shall be completed. By the end of the Project, the installation of 150 improved/high efficiency carbonization units and the training of the corresponding rural producers shall be completed.

(vii) Strengthening and improved performance of the biomass energy sector institutions, including: (a) the establishment of a permanent energy sector information and monitoring system (SIEP) and of a permanent forestry and ecology information system (SIEF); and, (b) the effective enforcement of an environmental and socially sustainable regulatory framework for the sector.

(viii) Increased private sector's participation in the biomass energy sector, measured by investments in: (a) the marketing of sustainable traditional biomass fuels; and, (b) the production and marketing of LPG, kerosene and biofuels.

B. Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project: (see Annex 1)
Document number: 26054-BEN **Date of latest CAS discussion:** 07/16/2003

1.1 The main objective of the CAS is to use the current IDA portfolio, new lending operations and planned Analytical and Advisory Activities (AAA) to support three of the four pillars of the PRSP as follows:

Pillar 1 - Bolstering the medium-term macro-economic framework. This will be carried out through:

(a) Accelerated private-sector-led-growth. The proposed project will support the privatization of the electricity operations of the SBEE and finance investments required to improve the distribution of electricity services throughout Benin; (b) Implementing a comprehensive rural development strategy. In addition to electrifying 93 villages in rural and semi-urban areas throughout the country, the proposed project will finance feasibility and detailed studies for off-grid electrification in rural areas. These studies would aim at promoting a more sustainable environment for rural and off-grid electrification schemes. Through its biomass energy interventions, the program will promote increase employment and income

generation in sustainable biomass energy production systems, and will promote medium-to-long term private sector-based production of modern biofuels, resulting on a gradual reduction of dependence on imported petroleum fuels and forex requirements.

Pillar 2 - Strengthening human development and environmental management, including improving access to quality basic services for the poor. In support for improved access to education and health services, the proposed project will provide electricity to schools and clinics within the 93 new villages to be electrified. In addition, the proposed project will improve the quality of the electric services in all 61 already electrified cities and towns in Benin. Through its biomass energy interventions, the program will support the establishment of sustainable forest resource management systems, thus reducing deforestation and ecosystem degradation, and contributing towards conservation of the natural resource assets base and its productive capacity. The program will also contribute toward carbon abatement thus contributing towards Climate Change mitigation.

Pillar 3 - Improving governance and institutional reforms and strengthening of the legal and judicial system. The proposed project supports the establishment and training needs for an energy regulatory commission, to be part of a multi-sector regulatory body which will be set up within the framework of the ongoing sector reforms and private sector development. The biomass intervention will support the strengthening of the sector institutions (energy and forestry), the establishment of a multi-sectorial "National Household Energy Commission - CNCD", and of an "Inter-Communal Agency for Natural Resource Management - AIC-GRN" in the Moyen Oueme region.

2. Main sector issues and Government strategy:

2.1 Main sector issues include: (i) the shortage of generation capacity to meet increasing electricity demand in Benin, and the dependence on imports through a single interconnection with Ghana; (ii) the high operating cost and the poor quality of service in the northern regions; (iii) the low level of electricity penetration in urban and rural areas; (iv) the high reliance of the households and SME sectors on traditional biomass fuels and a correlated high rate of annual deforestation; (v) the dependence of the household sectors on imported petroleum fuels for inter-fuel substitution; (vi) the total dependence of the transport sector on imported petroleum fuels; and (vii) sector governance and weak institutions.

2.2 In 1968, the Governments of Benin and Togo enacted a Treaty establishing a bi-national entity, the Communauté Electrique du Bénin (CEB). The Treaty is still effective and CEB is responsible for electricity generation and transmission in Benin and Togo and supplies electricity in bulk to the two power distribution utilities in the two countries and three high voltage industrial customers. The distribution utility in Togo, "Togo Electricité" (TE) is under a management contract since December 2000, and the distribution utility in Benin will be privatized under this project. The strategy for both governments, in Benin and Togo, is to open the generation market to Independent Power Producers (IPP), while maintaining CEB as the "Independent Buyer" for the two countries.

2.3 A management audit for CEB was carried out, under IDA financing, to define the deficiencies of CEB and to outline an action plan to strengthen its management and operations. The Audit Report defined the following deficiencies:

- a weak system of power supply that depends approximately 75% on one transmission line from Ghana. This issue is being addressed by the construction of the NEPA/CEB transmission line.
- a poor quality of power supply in terms of voltage drop and voltage fluctuation. This is also tied to the single source of supply, and the issue is being addressed by the CEB/NEPA interconnection.

- a poor tariff structure policy. CEB bills its clients on energy consumption only, without consideration for power factor, maximum demand and other key factors. In order for CEB to redress this issue, measuring instruments will have to be added to the substations. These instruments will be financed under this project (phase 1) and a more incentive based tariff structure should be in place by June 2005.
- lack of a tariff adjustment formula to account for the fluctuation of oil prices and other indices that affect the CEB cost. CEB had financial difficulties until mid-2002, when both governments of Benin and Togo authorized CEB to increase its tariff for the first time since the tariff increase that was authorized after the devaluation of the FCFA in 1994. In order to address this situation, and to protect the financial integrity of the power sector, CEB and SBEE have agreed to a tariff adjustment formula to be applied as of January 1, 2005. As a condition of effectiveness of the Development Credit Agreement, the Government shall adopt an electricity tariff adjustment formula in form and substance satisfactory to the Association.
- lack of corporate planning. This has long been an ailment for CEB. This will be addressed under this project (see para. 4.6).
- inadequate cost accounting. This will be remedied through the implementation and operation of a project public utility accounting system by January 2005.

2.4 The project does not address power generation needs in Benin, but the project relies on completion of the interconnection with Nigeria prior to the completion of the transmission lines connecting Southern Benin to the North. CEB investment plan includes the development of Adjarala Hydroelectric project (94 MW and 326 GWh), for which negotiations are underway with different potential suppliers for the supply and erection of the electrical mechanical equipment, including the financing package, and with the Arab bilateral aids for financing the civil works for the project. The interconnection with Nigeria and the Adjarala hydroelectric project, along with the existing imports from Ghana and Cote d'Ivoire, should satisfy CEB needs for power in the near term (i.e. the next five years) after which, with the commissioning of the West Africa Gas Pipeline, new opportunities will be present for IPPs to generate electricity as the need for power arises.

3. Sector issues to be addressed by the project and strategic choices:

Electricity Sector

3.1 The approach used in the proposed project for the electricity sector consists of three elements: (i) engaging the Government of Benin (GoB) in policy dialogue and providing technical assistance for the sector reforms leading to the establishment of the energy regulatory agency, and competitive private sector participation in the electricity sector; (ii) working in partnership with the other donors, given the considerable interest among bilateral/multilateral donors involved in the power sector and the Government's request that the Bank assist it in donor coordination; and (iii) laying the foundations, through investments as well as technical assistance, for commercially oriented expansion of access to electricity.

3.2 In order to deal with the sector issues, the Government of Benin has adopted the following strategy: (i) diversify supply sources among which is the interconnection between Benin and Nigeria. This is being carried out in parallel with, but outside this project, under financing from the Economic Community of West African States (ECOWAS) fund, "Banque Ouest Africaine de Développement" (BOAD) and African Development Bank (AfDB); (ii) increase electricity service coverage in the North of Benin by extending the transmission system to supply Northern Benin from the Southern system which is interconnected with Ghana, Côte d'Ivoire and will soon be connected with Nigeria; and (iii) extend the distribution network to supply loads in peri-urban and rural areas and all villages and towns in the proximity of the Transmission

System. In addition, the Government has approved in December 2001, the following measures: (a) the separation of the water activities from the electricity activities of SBEE in order to better develop each sector; (b) the creation of an energy sector regulatory agency to oversee and assure equity among all stakeholders; (c) the opening of the electricity sector for Private Sector Participation, preferably through a long term concession with a qualified investor; and (d) the creation of a rural electrification agency to promote and supervise rural electrification activities.

3.3 The project will support GoB in the final design and implementation of the sector reforms. The reforms aim at (i) increasing sector efficiency; (ii) enhancing the sector's regulatory framework and institutions; and (iii) fostering new private participation in electricity distribution. The reforms will be implemented on the basis of sector reform strategies approved by GoB.

3.4 The project will finance qualified experts to advise GoB on the sectorial reforms necessary to allow the entry of the private sector, particularly in such areas as the overhaul of the sector's legal framework and establishing the regulatory mechanisms, preparation of bidding documents, evaluation of bids, and negotiations with the winning bidder. The project will also help provide regulatory expertise devoted to capacity building.

3.5 Previous Bank policy was to await for the privatization of SBEE prior to financing investment operations in the power sector. The privatization process has obtained the approval of Government. Expertise, Technical Assistance and consultancy services are now needed to support the preparation for the private sector participation in the power system. This will be provided by the project under APL-1. APL-2 will then provide for the investments which will support the reform.

3.6 Several Donors have indicated their interests in assisting in the power sector expansion to meet economic demand in rural and peri-urban areas in Benin, especially in Northern Benin. The Bank's role will be to coordinate among the Donors to provide with necessary financial resources for the project which includes the expansion of the transmission systems to the North and the provision of the expansion of the distribution system to meet the Government target of supplying 58 new villages and towns with electricity; 35 small villages on the right-of-way of the 161 kV transmission system and reinforcing and extending the distribution system in the 61 already electrified cities and towns.

3.7 In order to support the GoB in its strategy for off-grid rural electrification, the proposed project will finance a study to define the institutional framework and the strategy for off grid electrification. The study will be carried out under APL-1, while the institutional set-up will be financed under APL-2.

Principles for the Restructuring of the Power Sector in Benin

3.8 The Government of Benin has adopted the following principles for the restructuring of the power sector:

- Rely primarily on competition to ensure efficiency for those segments of the industry that are potentially competitive and on regulation where competition cannot be effective;
- Transfer to the private sector the risks and the functions it is ready to assume and envisage a public-private partnership, with GoB assuming the noncommercial risks.
- Share the burden of investments between the private sector, to the limit it can take, and the government.

Proposed Structure

3.9 Power generation. The power generation sub-sector will be opened to private investors interested in power generation in Benin. The revised Electricity law, which is now before the National Assembly for approval, would impose that any new generation will be open to the private sector. By 2006, the West Africa Gas Pipeline is expected to be in service, and Benin would benefit from the Pipeline for power generation through IPPs. The Electricity law in Benin is being revised to allow entry of private investors in power generation.

3.10 Transmission sub-sector. CEB : the bi-national power company, currently responsible for power generation, bulk supply and transmission as well as the planning and the regulation of the power sector in both Benin and Togo, will have its statutes revised. The "Code Dahomeois" (the Benino-Togolese electricity law) is being revised and the responsibilities of CEB as described in their revised by-laws will be as follows: (i) CEB will maintain its bi-national characteristic with the monopoly of power transmission in both countries; (ii) CEB will become the independent buyer from IPPs and with responsibility to negotiate and sign contracts for imports and exports of energy from neighboring countries; (iii) CEB will continue to be the supplier of power to the two distribution utilities in Benin and in Togo; and (iv) CEB would be permitted to sell power to any consumer in Benin or in Togo only after it gets authorization from the distribution utility in the country. CEB also supplies small border towns in Ghana and Mali in agreements with the local utilities. CEB at present imports most of the electricity supplied to Benin and Togo from Côte d'Ivoire and Ghana. CEB also owns and operates the Nangbeto Hydroelectric plant on the Mono River (55 MW and 150 GWh).

3.11 Distribution system. GoB, with the assistance of IDA, aims at promoting private sector participation in the distribution of electricity, which is now carried out by SBEE. The restructured distribution utility will have a well- defined geographic concession limited to the national grid. While GoB intends to privatize the distribution system through long-term concession, market conditions will determine the form of privatization for the Benin power distribution system. In order to promote interest among the potential investors, the financing of the first five-year-investment plan will be considered under APL-2. A Partial Risk Guarantee (PRG) by BOAD will also be considered under APL-2 to mitigate some of the risks associated with the privatization.

3.12 Rural Electrification. The existing distribution system will be awarded to one private operator as a monopoly for a certain period and, the rest of Benin will be open to private initiative. The institutional arrangements will be strengthened with the setting up of a rural electrification agency and a rural electrification fund. Rural electrification concessions will be let on the basis of open competition with either the lowest tariffs or the lowest subsidy as the selection criteria. The Rural Electrification Agency (REA) will define the conditions under which such concessions would be awarded. REA will delineate the geographic zones or concessions to be bid for potential interested entities that would create mini-utilities. REA will determine the minimum qualifications for those who can bid for these concessions and the terms of the concessions.

3.13 The Energy Sector Regulatory Agency. GoB has opted for an energy sector regulatory agency. GoB will create the agency and train its staff with IDA assistance. The agency, with its power department, will regulate all stakeholders in the sector, protecting the investors and the consumers. The appointment of a Power Sector Regulator is a condition for APL-2.

3.14 Role of the Ministry of Energy. The Ministry is to remain as the policy maker in the power sector, providing general policies under which the sector is to function.

Biomass Energy Sector

3.15 The approach used in the proposed project for the biomass energy sector consists of three main elements: (i) introduction of community-based sustainable fuelwood supply schemes; (ii) promotion of improved transformation and end-use technology to increase the technical and economic efficiency of the sector and reduce the pressure over the existing forest resources; (iii) promote private sector-based inter-fuel substitution options for the household and SME sectors, including the development of endogenous renewable fuel alternatives.

3.16 In order to deal with the biomass energy sector issues, the Government of Benin has adopted the following strategy: (i) establishment of a National Household Energy Commission (CNCD) to coordinate the development of the household energy/biomass energy sectors; (ii) establishment at the Ministry of Energy of a permanent sectorial information and monitoring system (SIEP); (iii) within the context of the ongoing process of administrative decentralization, transfer the management responsibilities over the existing protected forests to the rural communities; (iv) establishment of an Inter-communal Agency for the management of natural resources (AIC-GRN); (v) support for the introduction of energy demand management and inter-fuel substitution options for the household and SME sectors; and, (vi) identify and evaluate the existing bio-energy potential in the country.

3.17 The project will support the GoB to analyze, design and implement the rationalization of the structure and function of the biomass energy sector, with an emphasis on helping the GoB to arrive at economically viable, social equitable and environmentally sustainable policy measures and concrete actions.

3.18 In order to support the GoB in its strategy to develop endogenous renewable fuel alternatives for the household and SME sectors, the proposed project will finance studies to: (i) define the existing bio-energy potential in the project implementation zone; (ii) design a relevant institutional, policy and regulatory framework for its mobilization; and (iii) identify the applicable mechanism to promote the participation of the private sector in its development and marketing. These studies will be carried out under APL-1. Concrete investment follow-up under separate funding is expected thereafter.

3.19 GoB has adopted a Letter of Sector Policy outlining the above policies for the sector.

4. Program description and performance triggers for subsequent loans:

APL-1 or Phase 1

4.1 The main objectives of the first phase are to: (i) introduce Private Sector Participation in the distribution of electricity; (ii) build Government capacity for commercially viable expansion of access to modern energy; (iii) bring to the North of Benin a reliable electricity supply at lowest cost; (iv) promote the rationalization of the structure and function of the biomass energy sector. The project will finance technical assistance as well as investments, and support GoB's strategy to increase the access to electricity from 22% to about 30% by 2011; and (v) introduce the production and marketing of 675,000 tons/year of sustainable woodfuels (firewood or charcoal equivalent) equivalent to approximately 30 percent of the current household sector's consumption of firewood (2.5 million tons/year). Investment will be directed at: (i) expanding the main transmission system, which is interconnected in the west to Ghana and Côte d'Ivoire and will soon be interconnected to Nigeria in the East, to supply the North of Benin, thereby bringing reliable and lower cost power to this region; (ii) providing urgent repairs to the existing distribution system to prevent major blackouts and brownouts in the three major cities in Benin; (iii) reducing the energy

consumption in the administrative buildings through load management; (iv) setting-up community-based sustainable woodfuels supply management systems (300,000 ha); and, (v) introducing improved/high efficiency energy transformation (300 producers) and end-up technology (30,000 improved stoves) and methods to reduce pressure over existing forest resources. Technical assistance will consist of various components that will aim at: (i) strengthening the Government's capacity to effectively manage the restructured power sector; (ii) assisting the Government in commercializing and inviting private sector participation in the currently wholly Government-owned power distribution utility; (iii) building-up the sector's capacity to scale up electricity access; (iv) strengthening the Government's capacity to manage and monitor the household/biomass energy sector; and (v) strengthening the rural communities' capacity to manage in a sustainable manner their natural resource base (forests).

Power Sector Reform

4.2 This component will involve transaction advice on SBEE electricity distribution public-private partnership and assistance in the establishment of a regulatory system and an energy regulator. Subsequent to a study of SBEE restructuring and private participation, the Government has separated the water activities from the electricity activities of SBEE, and award through a long-term concession to a private partner the electricity activities of SBEE. Consequently, the Government delegated the responsibility to implement the Government recommendation to "Ministère Chargé de la Coordination de l'Action Gouvernementale, de la Prospective et du Développement" and "Cellule des Opérations de Dénationalisation (COD)", which comprises of staff from different ministries. COD has retained a consultant to assist the Government with the privatization of SBEE. The Government has already created by decree the Société Nationale des Eaux du Bénin (SONEB), the Beninese National Water Company, which has been operating since January 2004.

Engineering Studies

4.3 These studies aim at strengthening the electricity delivery in Benin in rural and urban areas. Included are: (i) a study to define a strategy for off-grid rural electrification; (ii) a study to reinforce the transmission system in order to stand to the demand for the national and international markets; (iii) a study for energy efficiency and load management in the administrative buildings. Preliminary work has identified 42 buildings where investment in energy efficiency and load management could result in a three-year pay back period; and (iv) studies to prepare for the distribution system expansion under APL-2.

Transmission and Distribution System Expansion

4.4 This component will consist of extending the southern 161 kV grid to the North of Benin in order to provide the North with reliable and lower cost electricity. At present, the North is supplied through isolated small diesel generating units. Reliability of service is poor due to the state of the diesel generating units, and demand is suppressed due to the limited generating capacity. The southern 161 kV system is supplied by large hydroelectric plants and large thermal plants running on Gas in Côte d'Ivoire and Ghana. The Southern power system will soon be interconnected with the large power system in Nigeria. The extension of the 161 kV transmission system to Northern Benin would allow: (i) the electrification of some 35 towns and villages along the transmission lines; (ii) the electrification of 22 towns in the center and north of Benin; (iii) the retirement of several existing diesel plants that are old and costly to operate; and (iv) the reinforcement and extension of the distribution system in 12 cities and towns in the North.

4.5 In addition, this component will provide support for investment in urgent repairs and reinforcement to the distribution system in Cotonou, Abomey-Calavi, and Porto-Novo. Quality of services has deteriorated in these three cities and the distribution system risks of collapsing in some areas. Only urgent work will be financed under this component prior to APL-2.

Environmental and Social Component

4.6 This component will address all the environmental impact that was identified in the Environmental Assessment (EA) for the project. This component will also finance an EA for the relocation of the Cotonou Gas Turbine, now in a substation at Cotonou, to a new site outside Cotonou and where the gas from the West Africa Gas Pipeline will be delivered in Benin. Also, this component includes an Environmental Audit for SBEE prior to APL-2.

Institutional Strengthening and Capacity Building

4.7 This component aims at strengthening the energy institutions under the Ministry of Mines, Energy and Hydraulics (MMEH) by delineating their responsibilities and appropriate coordination mechanisms to ensure their optimal working relationships. Furthermore, it aims to provide both on-the-job and classroom training to staff in the energy institutions, and support preparation of APL-2 of the program.

4.8 The project will also help strengthening CEB in areas of corporate planning, environmental management and control, and financial planning; including the establishment of an environmental unit and support training of its members.

Biomass Energy and Inter-fuel Substitution Component

4.9 This component aims at the rationalization of the biomass energy sector and the promotion of effective inter-fuel substitution options for the household and SME sectors, including endogenous renewable fuels. The component entails four complementary and cross-supporting sub-components: (i) Institutional Development; (ii) Community-based Sustainable Woodfuel Supply Systems; (iii) Biomass Energy Efficiency and Inter-fuel Substitution; and (iv) Rural Community Development Support.

4.10 The **Institutional Development sub-component** will support the strengthening of the sector's institutions, primarily including, but not limited to, the General Directorate of Energy (DGE / Ministry of Energy), the Directorate of Forests and Natural Resources (DFRN / Ministry of Agriculture, Husbandry and Fisheries), and the establishment of a **Household Energy Commission (CNCD)** and, within the context of the existing decentralization legislation, of an Inter-Communal Agency (AIC) for decentralized natural resource management. Additionally, rural communities and sub-regional structures will also receive institutional and capacity development support through the sub-component. **The sub-component will finance capacity development, analytical and development planning methods and systems (SIEP, SIEF, etc), office equipment, and vehicles.**

4.11 The Community-based Sustainable Woodfuel Supply Systems sub-component entails the implementation of 300,000 ha of sustainable forest/natural resource management systems in the Moyen Oueme region. The implementation of these participatory systems are expected to result in the establishment of a permanent capacity to produce 675,000 tons/yr of "sustainable" fuelwood, while creating new employment and income generation opportunities in the participating rural villages. This sub-component will finance technical assistance, consultant studies (cashew and apiculture production chains; elaboration of forest management plans; elaboration of feasibility studies on economic diversification activities; classification of protected forests; and carbonization of agricultural residues), field training costs, local capacity building activities, small tools and field equipment for the rural communities, and forest fire control equipment. The design and intervention methods of this sub-component are based on the proven World Bank-funded experiences in other Sub-Saharan countries, such as: Senegal ("*Sustainable and Participatory Energy Management Project*"); Burkina Faso ("*Sustainable Energy Management Project*"); Mali ("*Household Energy Project*"); Madagascar ("*Energy Sector Project*"); Chad ("*Household Energy Project*"); and Niger ("*Household Energy Project*"). As per the accumulated regional experience, this component is based on the effective transfer of the responsibility for the management of the forest -- and other natural resources -- from the central government to the

"Communes". The implementation of this sub-component would be directly supported by the legal, regulatory and institutional mechanisms that are already in place within the context of the ongoing administrative decentralization process in Benin, and by the rural development support measures that will be provided through the rural community development support sub-component.

4.12 The Biomass Energy Efficiency and Inter-fuel Substitution sub-component entails: (i) the introduction of improved carbonization systems (*e.g.*, "*Meule Cassamance*") to maximize wood-to-charcoal conversion efficiency, thus reducing aggregate wood requirements and pressure over forest stocks, while reducing labor effort and maximizing producer revenues; (ii) promotion of private sector-based improved woodfuel cookstove programs (with emphasis on urban charcoal stove options); and, (iii) promotion of private-sector based LPG and kerosene inter-fuel substitution programs and identification and evaluation of the potential to produce and market other renewable biomass fuels (briquettes, biogas, ethanol, etc.). This sub-component will finance technical assistance and field training costs, field equipment (boots, gloves, cutters, etc.) and small tools for the carbonization activities, technical assistance for the establishment and/or expansion of non-subsidized improved woodfuel cookstoves and inter-fuel substitution fuel options (LPG, kerosene, other), and inter-fuel substitution consumer education/awareness campaigns and marketing promotion activities.

4.13 The Rural Community Development Support sub-component entails the delivery of a variety of development support services and elements to the participating rural communities, as an incentive mechanism for the compliance of the "sustainable forest management plans" that will be prepared within the Community-based Sustainable Woodfuel Supply Systems sub-component. These support services and elements are beneficiary-determined in each participating village and can include: capacity development on community organization and/or other specific skills; gender specific training and organization support; crop diversification; economic diversification and market access support; introduction of modern apiculture practices; construction of water wells or other small community facilities; etc. This sub-component will finance technical assistance, local capacity building activities, small tools and field equipment (forestry, apiculture, gardening, etc.) for the rural communities, and equipment and small works (small pumps, grinders, water wells, garden fencing, etc.). The design of this sub-component is also based on World Bank ESW and successful operational experience, and its inclusion has been determined to be essential to the success of community-based activities. In particular, this sub-component is expected to result in the creation of a strong sense of community ownership of the sustainable natural resource management objectives of the Biomass Energy component and, further, to provide for considerable income diversification and generation opportunities at the village level.

APL-2 or Phase 2

4.14 The triggers for Phase 2 will be linked to the accomplishments of the objectives of Phase 1, and comprise the following:

- The Private Partner for the electricity distribution has been selected, the contract between GoB and the Private Partner is signed and effective.
- The tariff adjustment formula for CEB and SBEE have been agreed with GoB and are in effect.
- The Environmental Audit for SBEE is complete.
- The Sector Regulatory framework has been agreed with GoB, and the Regulator for Electricity has been appointed.
- The following laws have been adopted by the Parliament (i) the Electricity Law; (ii) the Law establishing the Rural Electrification Authority; and (iii) the Law establishing the Regulatory Authority.

4.15 **Phase 2** will comprise financing part of the investment plan as determined in the first phase, with a main objective to increase substantially (by at least 33%) the penetration rate for electrification in Benin and a secondary objective of scaling-up and consolidating community-based sustainable fuelwood supply systems in the country. Phase 2 will also finance a management audit of the distribution utility two years after the private partner has signed the contract with GoB in order to determine the effectiveness of the Private Sector Participation.

C. Program and Project Description Summary

1. **Project components** (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

PHASE 1

1.1 The project activities are clustered in the following six activities: (i) Power Sector Reform; (ii) Engineering Studies; (iii) Investment Component; (iv) Environmental and Social Component; (v) Institutional Strengthening and Capacity Building; and (vi) Biomass Energy and Inter-fuel Substitution Component.

Component	Indicative Costs (US\$M)	% of Total	Bank-financing (US\$M)	% of Bank-financing
1. Power Sector Reform	5.40	5.6	5.00	11.1
1.1 Private Sector Participation in SBEE				
1.2 Regulatory capacity Set up & Training				
1.3 Media Communications and PR activities				
2. Studies	2.80	2.9	2.55	5.7
2.1 Strategy for Off-Grid electrification				
2.2 Feasibility study for Onigbolo/Parakou TL				
2.3 Load Management & Energy Eff. in admin. bldgs				
2.4 Studies for distribution expansion, reinforcement and rehabilitation				
2.5 EA, Eng. & Prep. of Bid. Doc. for Sakete - Porto Novo Transmission Line				
2.6 Update the CEB tariff study by 2007.				
3. Investment Component	71.70	74.9	26.00	57.8
3.1 Transmission North Togo/North Benin TL				
Lot 1a Substation in Atakpamé/Kara (Togo)				
Lot 1b Substation in Djougou/Parakou (Benin)				
Lot 2 161 kV line from Atakpamé to the TG/BJ border				
Lot 3 161 kV line from the TG/BJ border to Parakou				
Lot 4 63 kV lines & subs. to Natitingou and Bembéréké				
Lot 6 Construction supervision				
3.2 Distribution				
3.2.1 Equipment for Energy Eff. in admin.bldgs				

3.2.2 Urgent distribution work				
4. Environmental and Social Component	3.50	3.7	1.75	3.9
4.1 Environmental Assessment for relocation of GasTurbine				
4.2 Compensation scheme for the HV lines				
4.3 Environmental audit for SBEE				
5. Institutional Strengthening and Capacity building	6.10	6.4	4.00	8.9
5.1 Capacity building at the Ministry, and DGE				
5.2 Capacity building at CEB				
5.3 Vehicles and Office Equipment				
5.4 Measuring equipment at CEB substations				
6. Biomass Energy and Inter-fuel Substitution Management Component	6.20	6.5	5.70	12.7
6.1 Institutional Development				
6.1.1 National Household Energy Commission				
6.1.2 Permanent Sectorial Information and Monitoring System (SIEP)				
6.1.3 Ecological and Forestry Information System (SIEF)				
6.1.4 Rural Community Capacity Development in Moyen Oueme Region				
6.2 Community-based Sustainable Woodfuel Supply Systems				
6.2.1 Support to Community-based forest management systems in Moyen Oueme Region				
6.2.2 Strengthening of Forestry Service				
6.3 Biomass Energy Efficiency and Inter-fuel Substitution				
6.4 Rural Community Development Support				
Total Project Costs	95.70	100.0	45.00	100.0
Total Financing Required	95.70	100.0	45.00	100.0

PHASE 2

Component	Indicative Costs (US\$M)	% of Total	Bank-financing (US\$M)	% of Bank-financing
1. Institutional, TA component and studies	4.50	6.34	4.20	11.93
1.1 EPC contract for distribution system exp.				
1.2 Detailed studies for Off-Grid electrification				
1.3 Audit of the performance of SBEE two years after privatization				
2. Investment component	60.00	84.51	25.00	71.02
2.1 Distribution reinforcement in all electrified cities				
2.2 Electrification of unelectrified towns				
2.3 Distribution using the shieldwire technology				
2.4 Construction supervision				
3. Biomass Energy and Inter-fuel Substitution Component	6.50	9.15	6.00	17.05
3.1 Institutional Development				
3.2 Community-based Sustainable Woodfuel Supply Systems				
3.3 Biomass Energy Efficiency and Inter-fuel Substitution				
3.4 Rural Community Development Support				
Total Project Costs	71.00	100.00	35.20	100.00
Total Financing Required	71.00	100.00	35.20	100.00

2. Key policy and institutional reforms supported by the project:

2.1 The key reforms aim at facilitating and accelerating private sector involvement in provision of modern energy to urban, semi-urban and rural populations. They consist of (i) the creation of a regulatory framework and a regulatory agency to regulate activities in the energy sector; (ii) the involvement of the private sector in SBEE's electricity activities; (iii) the removal of barriers from rural-off grid electrification; and (iv) the participation of the private sector in the expansion and/or establishment of new efficient end-use equipment and inter-fuel substitution options for the household and SME sectors.

2.2 In addition, the project will support the effective transfer of the management of forest resources from the central government to the rural communities in the Moyen Oueme region, thus significantly supporting the ongoing process of administrative decentralization.

3. Benefits and target population:

3.1 The project has a regional dimension because it involves the utilization of imported energy from Nigeria to supply Northern Benin and Northern Togo. It will support the development of the West Africa Power Market (WAPM). The transmission line between Benin and Nigeria will increase competition in the regional electricity market by providing an alternative source of competitively priced electricity for Benin, Togo and West Africa. The project is fully coordinated with and complements, at the national level, the WAPM project under preparation.

3.2 The access of Northern Benin to the interconnected transmission grid will promote the use of electricity in this region by providing a considerably more reliable supply at a reduced cost, compared with the operation of diesel plants, with limited capacity, in a number of the towns to be connected to the grid. In addition, it will contribute to the reinforcement of the Benin/Togo cooperation in the power sector as the power to Northern Benin will be supplied through the Togo grid.

3.3 The extension of the existing distribution systems in urban and rural areas will increase access to electricity, enabling improved social development through the growth of industrial and commercial activity. The extension of the distribution network will also improve the local and global environment. The privatization of the distribution utility will increase transparency and improve efficiency.

3.4 The biomass energy supply and demand management activities of the project will result in the reduction of the current deforestation trends in Benin, will provide for significant natural resource conservation in the Moyen Oueme region, will provide a replicable sustainable NRM intervention method for the rest of the country. The implementation of the proposed community-based sustainable fuelwood supply management systems, together with the rural development support activities and the inter-fuel substitution activities of the project will result in significant new employment and income generation opportunities for the participating rural communities, with a strong and quantifiable gender development impact.

3.5 The target populations to benefit directly from the project are:

- urban and rural households and businesses;
- isolated rural households and businesses not yet connected to the grid along the right-of-way of the transmission lines;
- the population at large with the improved economic conditions in Benin;
- the provision of electricity to rural health facilities in 93 towns and communities;
- the provision of electricity to rural schools in 93 towns and communities;
- rural communities in the Moyen Oueme region, with an emphasis on women; and
- urban and peri-urban fuelwood consuming household that do not have yet improved cook stoves.

4. Institutional and implementation arrangements:

4.1 Implementing agencies and Coordination.

Program Implementation Period: 2004-2012

Project Implementation Period: 2004-2008

4.2 Executing Agencies, Project Coordination and Oversight :

(i) CEB will implement the following components:

- Interconnection North Benin;
- studies of Onigbolo-Parakou, and the Sakete-Porto-Novo Transmission lines, and EA for the relocation of the 20 MW Gas turbine to Maria Gleta;
- capacity building at CEB;
- measuring equipment at CEB substations; and
- update the tariff study by 2007.

(ii) SBEE will implement the following components:

- Extension of the distribution network - urgent work; and
- studies for distribution expansion and reinforcement.

(iii) The Directorate of Energy (**Direction Générale de l'Energie, DGE**) will implement the following components:

- Power sector reform (with participation of the COD);
- studies for off-grid electrification;
- load management and energy efficiency in the administrative buildings;
- environmental audit of SBEE;
- capacity building at the ministry and DGE;
- procurement of vehicles and office equipment for the PCU; and
- **Biomass Energy and Inter-fuel substitution component** (through the National Household Energy Commission, and in close coordination with the Forestry, and Natural Resources Directorate of the Ministry of Agriculture, Husbandry and Fisheries)

(iv) CEB and the Ministry of Environment will implement the environmental and social component of the project.

4.3 Accounting, Financial Reporting and Auditing Arrangements:

(i) Project accounts, including special accounts and all disbursements under Statements Of Expenditures (SOEs), will be audited annually according to auditing standards by an independent auditor acceptable to IDA; and

(ii) the annual audit report will be submitted to IDA within six months of the end of each fiscal year.

4.4 Monitoring and Evaluation Arrangements :

- (i) Semi-annual progress reports provided by the "Project Coordination Unit" (PCU);
- (ii) Bank's supervision missions that will take place twice a year and a project review will be held at the end of Phase-1; and
- (iii) Government will transmit to IDA a completion report, within six months before credit closing.

4.5 Procurement arrangements : The general organizational and staff capacity of the CEB, SBEE and Ministry of Energy to carry out procurement under the proposed project are as follows:

- CEB is a multinational generation and transmission company for Benin and Togo. Benin and Togo have restructured their power sectors, and CEB has become the common bulk buyer and provider. CEB has already implemented the Nangbeto Hydroelectric Project (Cr. 1507-BEN and Cr. 1508-TG) for SDR 28.2 million, and the Benin-Togo Engineering and Technical Assistance Project (Cr. 2366-BEN and Cr. 2367-TG) for SDR 4.2 million. The company is already versed in Bank procurement procedures and guidelines.
- SBEE has already implemented the Power Rehabilitation and Extension Project (Cr. 2284-BEN) SDR 11.3 million. SBEE is therefore already versed in Bank procurement procedures and guidelines.
- The Directorate of Energy (DGE) -Ministry of Energy, the third entity to implement part of the project, will handle only consultancy contracts under the electricity components of the project, but will be responsible for all the procurement activities for the Biomass Energy and Inter-fuel Substitution component (goods and services, civil works and equipment). With the exception of vehicles, office and field equipment, computer software and some highly specialized services, all other procurement for the Biomass component will be done locally.
- Project Coordination Unit (PCU): The PCU will be domiciled at the DGE. A qualified administrator/financial person as well as an accountant will be recruited under the project. In addition, qualified international consulting firms with expertise in management of power projects will be retained to supervise all major construction works financed by the project.

Financial Management

4.6 The principal objective of the Project's Financial Management System (FMS) will be to support management in their deployment of limited resources with the purpose of ensuring economy, efficiency and effectiveness in the delivery of outputs required to achieve desired outcomes, that will serve the people of Benin. Specifically, the FMS must be capable of producing timely, understandable, relevant and reliable financial information that will enable management to plan, implement, monitor and appraise the Project's overall progress towards the achievement of its objectives.

4.7 From the Financial management perspective, there is a low risk affecting the project. CEB and SBEE which had implemented successfully Bank financed projects in the past will have technical responsibility to implement a large part of project. A large portion of the proceeds would be utilized under a few consultancy and contract packages. The appointment of Financial management specialist in the PCU would greatly contribute to avoiding any potential FM risk. However, the project may face counterpart issues due to the Benin Standard Disbursement Percentage. Qualified and experienced independent auditors will be appointed on approved terms of reference. These external auditors will audit all World Bank funds as well as counterpart funds at all levels of project execution.

Disbursement arrangements

4.8 The Government will on-lend part of the Credit (US\$17 million) to CEB to implement the North Benin transmission line, the Environmental Assessment for the relocation of the Gas turbine to Maria-Gleta thermal plant site, the reinforcement of the transmission system, as well as studies and capacity building. It will provide US\$12.5 million to SBEE to implement the urgently needed distribution work, as well as prepare the studies for the reinforcement and extension of the distribution system. The balance of the credit will be administered by the DGE.

4.9 The proposed IDA credit would be disbursed against the categories shown in Table C of Annex 6(B). Disbursement will be made in accordance with procedures and policies outlined in the Bank's Disbursement Handbook. The project will use the traditional disbursement method (SA, SOE and direct payment procedures). The GoB will open an account at the Treasury in accordance with the terms and conditions acceptable to IDA. CEB and SBEE will also open projects accounts in the Commercial banks. The initial amount required and the replenishment modalities of these accounts are specified in Annex 6.

D. Project Rationale

1. Project alternatives considered and reasons for rejection:

1.1 The option of Learning and Innovation Loan (LIL) was considered but found unsuitable for an environment where one of the main components supports policy changes regarding sector reform and capacity building in the public sector. Furthermore, it would be difficult to apply the small size of a LIL in an operation that includes investments in transmission and substations, technical assistance to support sector reforms and institutional strengthening. The privatization is about a year away, with tendering to be completed before the end of 2004. The availability of post-privatization financing needs to be confirmed prior to tendering. LIL could therefore not be used as the lending instrument. There would also not be enough time to prepare a LIL for privatization and then followed by a SIL for post-privatization investments.

1.2 The option of extending the transmission grid from Benin (Onigbolo to Parakou) was considered, but found more costly than the extension of the transmission line from Togo. CEB has been successful in raising the necessary funds for financing the transmission lines and substations in Togo by issuing bonds in the subregion. The construction of the Onigbolo-Parakou transmission line will be studied under this project for implementation at a later date.

1.3 At the distribution level, power supply will be provided as economically and technically appropriate for meeting the energy needs of people who do not have access to electricity. The alternative cost of absence of access to electricity services is one of the considerations for establishing priority for bringing electricity to each potential area.

1.4 The rationale for including a biomass energy and inter-fuel substitution component within the proposed project is that traditional biomass energy constitutes 90% of total national energy consumption and more than 95% of aggregate household energy consumption. Thus the rationalization of the structure and function of this sub-sector is central to the development of the energy sector in the country.

1.5 Government- private sector- and community-based options for the implementation of sustainable woodfuels supply systems were considered. The government-based option was rejected as the GoB lack the

necessary manpower and financial resources to be able to implement an effective sustainable NRM system. The GoB understands that it should have a policy and regulatory role -- as opposed to an implementation or economic operator role -- in this sector. The private sector option was rejected as it lacks the vocation and financial incentives to undertake long-term sustainable NRM activities within the context of the biomass energy markets, and because it would be neither politically feasible nor socially desirable at this time to consider the privatization of land and natural resources management in Benin. The community-based option was retained because rural communities possess the required labor capacity and knowledge of their respective natural environments, with the appropriate policy and regulatory framework can be effectively mobilized to manage the natural resource base responsibly, and are in need of new and diversified means of employment and income generation. The community-based NRM options have been extensively studied and operationalized in other sub-Saharan countries and has proven to be the most economically viable, socially equitable and environmentally sustainable solution to NRM in the African context.

1.6 The rationale to assess the potential for the local production of modern biofuels in Benin comes from the need to diversify the country energy supply base, the interest in introducing a long-term renewable energy supply platform, and the interest in fully utilizing the economic potential of the country natural resource base and of promoting rural and agricultural development.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned).

Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed			
Construction of the Nangbeto Dam.	The Nangbeto Hydroelectric Project	S	S
The Development of Indigenous Hydroelectric Resources	Engineering and Technical Assistance Project	S	S
The Rehabilitation and Extension of the Distribution Network	Power Rehabilitation and Extension Project	S	S
Sustainable forest resources management	Programme de Gestion des Forêts et Terroirs Riverains (PGFTR)	S	S
Other development agencies			
Fuelwood supply management	Projet Bois de Feu - Phase II		
Forest management	Projet d'aménagement des massifs forestiers d'Agoua des Monts Kouffé et de Wari Maro (PAMF)		

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

3. Lessons learned and reflected in the project design:

3.1 Privatization of the power sector in Africa risks failure, unless the private partner is being supported with donors' financing to prime the pump of private sector interest. In Côte d'Ivoire and Senegal (before the privatization failed), just to state these two examples, little or no financing was carried out by the private sector, except for working capital. In Togo, a concession contract was signed in December 2000 with the expectation that IDA would assist the private operator, through GoT, in the financing of the distribution system expansion. However, given the country's status of non-accrual, such financing could not be mounted and as a consequence, the concessionaire operating as if his contract is a simple management contract. In Benin, investment in the transmission system should strengthen the Private Sector Participation in the electricity distribution since the supply from the main grid would eliminate the high cost of operating isolated centers. Financing from IDA and other donors such as AfD for the distribution system expansion for the first five year investment plan should give comfort to the private sector.

3.2 The Nangbeto Hydroelectric project has been a successful engineering project, in which CEB demonstrated a good implementation capacity. The project was completed on time and within budget, and its average energy production since commissioning has been above expectations. CEB has been retained as the main executing agency for the transmission line. Extensive consultation with co-financiers and completion of the detailed procurement arrangements for Nangbeto prior to Board presentation were key factors that contributed to CEB's success. The same process will be followed for the North Benin Transmission Line and for the Urgent Distribution work needed for SBEE.

3.3 Main-grid based electrification. Isolated diesel power plants in Africa have proven to be ineffective to provide reliable power at reasonable cost. Usually, spare parts for the diesel units are not available when needed and maintenance is not carried out properly by the utility. In addition, delivery of fuel to the isolated plants is sometimes unreliable. Where a national power tariff is applied throughout the country, utilities find it penalizing to connect new customers to a grid supplied by small inefficient diesel units. Thus, one of the key lessons learned is that it is best to shift to grid-based electrification when it is economically justifiable.

3.4 Supply to villages along the transmission line right-of-way. Another key lesson from experience of rural electrification in Ghana, is the use of the shield wire technique to supply villages along the right-of-way of the transmission lines. This technique, already in use for over twenty years, will provide electricity to small villages along the transmission lines at a fraction of the cost for power from a regular substation or diesel station.

3.5 Experience in Africa with the power sector reforms, has demonstrated that the success of the process depends mainly on Government's commitment to the reform. The road to achieve this step, in Benin, has been long, but crucial. This was finally achieved in the Fall of 2001. Additional patience may need to be exercised in Benin, to get all parties involved in the decision process to be on board, given the political and social structure of the country. The public relation component, financed under this project, should be helpful to disseminate information to all stakeholders.

3.6 The design and intervention methods of the proposed Biomass Energy and Inter-fuel Substitution component are based on the proven World Bank-funded experiences in other Sub-Saharan countries, such as: Senegal (*Sustainable and Participatory Energy Management Project*); Burkina Faso (*Sustainable Energy Management Project*); Ethiopia (*Energy Project II* and *Energy Access Project*); Mali (*Household Energy Project*); Madagascar (*Energy Sector Project*); Chad (*Household Energy Project*); Niger (*Household Energy Project*); and Mozambique (*Urban Household Energy Project*).

4. Indications of borrower commitment and ownership:

4.1 GoB has demonstrated commitment to the project. In the Fall of 2001, the Council of Ministers has approved the privatization of SBEE along with some other institutional measures. GoB has also taken upon itself the financing of the institutional studies that led to the decision taken by the Council of Ministers.

4.2 GoB is also committed to the extension of the transmission grid to the North (the cotton growing region) to supply towns and villages currently supplied by unreliable diesel generation, as well as supplying industrial load (now supplied by private diesel units) and new areas. GoB has shown its interest in the transmission component by providing studies and analysis stating the impact of this component on the economy of northern Benin.

4.3 The GoB is fully aware of the importance of the economic, social and environmental importance of the biomass energy sector in Benin. The decision by the Bank to include the Biomass Energy and Inter-fuel Substitution component in the project came at the official request of the GoB. The national commitment to and ownership of the proposed component is not limited to the central government agencies, but rather is present at all levels within the Moyen Oueme region, specially at the level of the Communal authorities and of the village beneficiaries.

5. Value added of Bank support in this project:

5.1 One of the main contributions of the Bank to this project is its ability to function as a "knowledge bank" that brings to Benin practical and well-proven approaches to solving the institutional issues, while incorporating the experience and key lessons learned in other countries. Our assistance in knowledge would be geared at fostering a consensus, in Benin and among donors, towards approaches to sector development and maximizing aid effectiveness in order to achieve sustainable development impact of aid-financed investments.

5.2 Another major contribution of the Bank would be to catalyze external public and private investment resources for the sector and improve the country's growth prospects by providing economically viable infrastructure.

E. Summary Project Analysis (Detailed assessments are in the project file, see Annex 8)

1. Economic (see Annex 4):

☒ Cost benefit NPV=US\$56 million; ERR = 25 % (see Annex 4)

☐ Cost effectiveness

☐ Other (specify)

1.1 The main economic issue in the project is related to the policy component, in particular to the extent and speed with which the Government is able to implement the policy framework for the sector. While the Government has already accepted the concept of restructuring the power and water sectors and conceded the power sector operation to a private operator, it still remains new to the Beninese economy, so it is possible that some difficulties may arise in implementation. A related issue is to what extent the private operator/investor sees participation in power investments as risky or attractive, how the pricing decisions will be handled by the regulator, and what types of incentives or assurances private sector participants may require.

1.2 This issue is being addressed by widespread consultation and participation during the preparation as well as the implementation phases of the project. A "Communication Component" is included in the project to finance "Public Relations Information" and an awareness campaign about the power sector restructuring benefits. A privatization Partial Risk Guarantee (PRG) component may be considered under APL-2, to give comfort to the private operator/investor.

1.3 The quantitative economic analysis is valid for the investment component transmission line North Togo/North Benin covering the Northern region in both countries.

1.4 The estimated future electricity sales for the northern regions are based on the load forecast for 2004-2015, prepared by CEB and updated in January 2004.

1.5 To value the interconnection line, a series of differential cost cash flows has been developed, comparing the economic cost of supply by interconnection line with an alternative supply option based on isolated power plants.

1.6 When including the cost of power failures (valued at FCFA 600 per kWh), the estimated ERR become 35% and the NPV of the differential cost cash flows US\$65 million (US\$66.7-68.7 million if CO2 emissions reductions are included). The summary table for the economic cash flow analysis is included in Annex 4.

1.7 The investment will generate income to the government through VAT applied to SBEE's sales and through corporate tax (CEB and SBEE). This fiscal impact is evaluated to be US\$5.6 million (NPV at 10% over the forecast horizon).

1.8 Under the second phase of the program (APL-2), investment activities will take place to increase electricity access by intensifying the grid in currently electrified cities and towns and by connecting un-served centers to the main grid. The investment package for increasing electricity access is US\$40 million. In addition, about US\$20 million are planned to be invested in upgrading and reinforcing the distribution system in Cotonou and Porto-Novo.

1.9 As a direct result of the investment in increasing the access to electricity, an additional 80,000 household connections in 146 sites across the country are expected, allowing SBEE to attain a coverage rate in year 7 of 30%.

1.10 The investments in electrification in the proposed 146 sites have been ranked according to estimated economic cost per kWh. The investment figures used are based on low cost techniques. The proposed sites fall roughly into four categories: (i) the major southern cities with a cost of US\$10 cents per kWh; (ii) other major cities with a cost of US\$20 cents per kWh; (iii) other electrified cities with a cost of US\$28 cents per kWh; and (iv) un-electrified areas with a cost per kWh between US\$50 cents and US\$1. Sites with an estimated prohibitory high economic cost (above US\$100 cents per kWh) were deleted from the scope. The economic costs in electrified towns falling under categories (i) and (ii), have been valued as marginal investments. The results of the analysis are detailed in Annex 4.

1.11 Investments in intensifying the grid in densely populated areas show the highest rate of return the calculation does however not include the aspects of balancing the national economy (rural Vs. urban).

1.12 The economic evaluation of the biomass energy activities has not been included in the analysis. Operational experience in other similar Bank projects has shown that ex-ante evaluation in the absence of a detailed social and economic profile base-line have limited value and normally and largely under estimate the value of the resulting benefits. Within the implementation of the component a detailed evaluation base-line will be established -- specially for the community-based sustainable woodfuels supply systems -- and relevant monitoring indicators and systems will be established to periodically assess poverty alleviation impacts (employment, income, gender development, resource sustainability, carbon abatement, etc.).

2. Financial (see Annex 4 and Annex 5):

NPV=US\$ 15 million; FRR = 14 % (see Annex 4)

Financial Assessment

2.1 CEB and SBEE cooperate in providing electricity services in Benin with CEB as bulk supplier and SBEE as the distributor. CEB buys approximately 75% of its electricity from two major sources, the Volta River Authority (VRA) in Ghana and the Compagnie Ivoirienne d'Electricité (CIE) in Cote d'Ivoire and generates the remainder. In addition, SBEE generates electricity in the country's interior through its own diesel-powered facilities. Power demand in Togo and Benin increased over the last ten years at rates varying between 6% and 8% annually.

Communauté Electrique du Bénin (CEB)

Past Performance

2.2 Rising input costs and fixed low selling rates caused a continuous deterioration of CEB's financial position, losses in 2001 reached 11.1 billion FCFA. In April 2002, CEB was allowed to raise tariffs and this improved the situation.

2.3 CEB's revenues increased 16% annually from 1999 to 2003 while costs of operation also grew by an average of 16% in the same period, these averages cover large annual fluctuations due to variations in input costs (mainly cost of purchased energy which increased by 28%).

2.4 CEB's varied performance is reflected by the development from 1999 onwards of the operating and working ratios, which increased from 93% and 79% respectively, to 117% and 106% by 2001 and decreased by 2002 to 89% and 79%. Likewise, the rate of return on average net fixed assets, which was at 3.4% in 1999, became with 11% negative by 2001 and regained a level of 9% in 2002.

2.5 CEB's liquidity position deteriorated drastically by mid-2002 as SBEE stopped paying its bills. This development compounded an already strained situation with large arrears from now defunct former state-owned enterprises and substantial cost increases. As a result, CEB was unable to pay its electricity suppliers VRA and CIE and make debt service payments. By late 2002, agreements for settling arrears and overdue debt service payments were concluded by CEB with the CAA, CEB's electricity suppliers, and present customers and for the defunct state enterprises with GoB and GoT. Annex 5 provides details of these arrangements. The tariff increase in 2002 and regular payments of current electricity bills by the end of 2002 as well as the settling of arrears, stabilized CEB's liquidity situation in 2003.

Future Financial Performance

2.6 CEB's financial projections for the next seven years (2004-2010) are summarized in Annex 5. Cost of power generation and purchases will drop significantly from 2005 onwards, first with the supply of cheaper gas through a gas pipeline from Nigeria and then by 2008, with the operation of the Hydropower Plant at Adjarala. CEB's tariff structure should change by 2005 with the planned introduction of marginal cost pricing that would give the right economic signals to its customers.

2.7 Overall power demand is expected to increase around an annual average of 6.5%.

2.8 CEB's investment program for the next seven years (2004-2010) with the corresponding financing plan is summarized in the table below.

Investment and Financing Plan (in US \$ million)

	2004	2005	2006	2007	2008	2009	2010	Total	%
Investment Plan									
Proposed Project	17.9	31.6	11.7	0.00	0.00	0.00	0.00	61.2	20%
Other Investments	37.1	53.1	58.5	51.0	34.4	4.0	4.0	242.2	80%
TOTAL	55.1	84.7	70.1	51.0	34.4	4.0	4.0	303.3	100%
Financing Plan									
Internal Cash Generation	1.6	11.9	8.3	6.3	9.2	4.0	4.0	45.2	15%
On-lent IDA Credit	4.9	8.3	3.0	0.00	0.00	0.00	0.00	16.3	5%
Other Project Lending NDF	3.6	6.0	2.4	0.00	0.00	0.00	0.00	12.0	4%
Other Project Lending BOAD	2.3	3.8	1.5	0.0	0.0	0.0	0.0	7.5	2.0%
Other Identified Lending	42.7	54.8	54.9	44.8	25.2	0.00	0.00	222.4	73%
TOTAL	55.1	84.7	70.1	51.0	34.4	4.0	4.0	303.3	100%

2.9 CEB's projected internal cash generation will be sufficient to meet the funding requirements for the execution of its investment program till 2010.

2.10 CEB's liquidity position as expressed by the current ratio will improve from 1.07 in 2002 to 1.3 by 2010. This, however, requires that CEB will achieve a reduction in its accounts receivable so that they reach an average 2-month of sales by 2008.

2.11 CEB's tariff structure differentiates between the retailing electricity companies (SBEE and TE) and the HT customers (Lafarge-Ciment, WASEM-Ciment, IFG Phosphate). Timely adjustments of tariffs for increases in input costs caused a serious deterioration of CEB's financial position. In order to avoid reoccurrence of this situation, it is essential that CEB be allowed to automatically adjust the selling price of the power following cost increases. Such an indexation of the tariff is foreseen from July 1, 2004 onwards.

2.12 CEB's present flat rate does not reflect differences in the cost of providing the service. The installation of specialized measuring equipment, such as power factor meter, maximum demand, etc., will be completed in the second half of 2004, after which CEB will introduce a tariff structure that reflects real cost.

2.13 CEB's tariff structure should be reexamined in 2006/07 to determine if and what changes to its structure and level are needed to ensure CEB's financial viability and affordability to its customers.

The IDA Credit

2.14 Part of the IDA Credit (US\$17 million) would be on-lent by GoB to CEB. The yearly interest rate will be 3.0 percent, and the repayment period will be 20 years including a grace period of five years. CEB will bear the foreign exchange risk on the on-lent amount.

Société Béninoise d'Electricité et d'Eau - SBEE (prior to January 2004)

Past Performance

2.15 SBEE does not have an effective cost accounting system and management information system. SBEE collects, prepares and analyses only limited data on a regular basis. Long intervals in budget control result in overspending of the amounts budgeted.

2.16 SBEE's financial results of its power operations in the last three years were unsatisfactory. By 2002, SBEE was unable to pay its regular bills for electricity purchases from CEB let alone make debt service payment to CAA.

2.17 In June 2002, GoB approved a tariff increase for SBEE of about 15% thereby rescuing SBEE. By early 2003, SBEE's financial operations had improved and its cash balances were adequate for covering its operating needs, working capital requirements, and current debt service payments and for settling arrears as negotiated with CEB.

Future Performance

2.18 With the new tariff SBEE should make a profit, provided that GoB and its agencies pay their electricity bills. GoB and SBEE have agreed on a budgeting process to ensure monthly electricity bills will be paid in full. Sustaining SBEE's improved financial situation requires upgrading the billing and collection activities and the system of controls. This may only be achieved through direct private sector participation in the management of the utility.

Tariffs

2.19 SBEE applies a uniform tariff structure to the whole country, differentiated according to consumer groups and consumption level. From July 1, 2004 SBEE will implement a price adjustment formula that increases in input costs.

Financing Plan

2.20 SBEE's tentative financing plan for APL-1 and APL-2 operations of the proposed project is presented below. For the APL-1 operation, only a limited amount of US \$4 million is proposed for an environmental audit and the execution of urgent distribution work. The main financial assistance will then be forthcoming with the implementation of the APL-2 operation.

Investment and Financing Plan (in US \$ million)

	2004	2005	2006	2007	2008	2009	2010	Total	%
Investment Plan									
Proposed Project	1.59	9.57	9.58	6.85	8.20	8.02	4.19	48.00	100%
TOTAL	1.59	9.57	9.58	6.85	8.20	8.02	4.19	48.00	100%
Financing Plan									
Internal Cash Generation	0.09	0.41	0.41	0.22	0.25	0.23	0.12	1.73	3.6%
On-lent IDA Credit (proposed)	1.50	9.16	6.42	2.76	5.20	5.04	2.44	32.51	67.7%
Other Project Lending AfD	0.00	0.00	2.75	3.87	2.75	2.75	1.63	13.76	28.7%
TOTAL	1.59	9.57	9.58	6.85	8.20	8.02	4.19	48.00	100%

2.21 Implementation of the proposed project should not raise unduly SBEE's high level of debt. Therefore, IDA's contribution towards the financing of the SBEE's components of the proposed project should be passed on by GoB as an equity contribution.

On-Lending Terms.

2.22 The Government will on-lend US \$ 12.5 million to SBEE. The yearly interest rate will be five percent, and the repayment period will be 20 years including a grace period of 5 years. SBEE will bear the foreign exchange risk on the on-lent amount.

Fiscal Impact:

2.23 GOB will receive substantial revenues from SBEE in the form of value added tax (18% on its sales and services except for the lowest tranche), income tax of 37% with a floor of FCFA 5 for each FCFA 1000 turnover in case of the company did not generate any taxable income.

3. Technical:

3.1 The technical parameters and estimated project costs for the transmission and distribution lines have been established by detailed feasibility and engineering studies carried out by internationally recognized consultants and checked against actual unit costs for similar undertakings in Benin and in the region.

3.2 Opportunities for less costly distribution techniques in rural electrification, and for adopting innovative technologies to provide electricity from the grid have been explored and incorporated in the project design.

4. Institutional:

The main institutional issue is the limited human resources at the Ministry of Mines, Energy and Hydraulics (MMEH). One of the project objectives is to strengthen the capacity of the Ministry through technical assistance and training. In the short run, efforts are being made to lighten the Ministry's burden in terms of project preparation by engaging consultants for this task.

4.1 Executing agencies:

4.1.1 CEB has a proven experience in similar undertakings and is the appropriate implementing agency for the transmission component of the project. The Privatized SBEE will be entrusted with the implementation of the extension of the distribution network. The Ministry will implement the institutional component of the project.

4.2 Project management:

4.2.1 Project management: both CEB and SBEE have had experience implementing IDA and other donors financed projects. Both companies have competent staff. However, consulting engineers would assist in all phases of project implementation. The project management unit to oversee the implementation of the institutional components of the project will be adequately staffed and reinforced as necessary.

4.3 Procurement issues:

4.3.1 The transmission lines and the substations for the Southern-Northern Benin transmission system will be financed by several bilateral and multilateral donors. A donors' conference took place in June 2003 to define the financing packages. Pre-qualification of bidders has taken place and the bidding process will soon start. It is expected that the bid analysis will be completed before the Board takes place and the contract award will be done by effectiveness.

4.3.2 A formal assessment of the procurement capacity and systems of CEB and SBEE has been carried out in accordance with IDA procedures. Both CEB and SBEE have already implemented IDA-funded projects in the past and therefore have the capacity to carry out procurement following World Bank guidelines and procedures. The Ministry of Energy, the third entity to implement part of the project will handle only consultancy contracts under the project, but will be responsible for all the procurement activities for the Biomass Energy and Inter-fuel Substitution component (goods and services, civil works and equipment). With the exception of vehicles, office and field equipment, computer software and some highly specialized services, all other procurement for the Biomass component will be done locally. The Ministry of Energy has staff who can handle this limited procurement responsibility. In addition, they will be assisted by qualified consulting firms in the major procurement matters.

4.4 Financial management issues:

4.4.1 Financial management issues: CEB has an extensive experience in project management and the human and material resources necessary to carry out this task. Financial management of the project raises no particular issue. This applies equally to SBEE. Nevertheless, to keep staff abreast of new developments in procurement and financial management a training program will soon be implemented.

4.4.2 The capacity of the Ministry of Energy in financial management and monitoring should be strengthened. Existing staff will be trained and missing skills be filled in. Technical, accounting and financial data will be kept by the project implementation coordinating unit (PCU). This will allow the PCU to exercise its full responsibility across all project management functions.

4.4.3 Given the number of donors involved, each with its own rules and procedures, it is important to put in place a management information system capable of providing reliable and global information about the project. Training of staff in financial management, disbursements and procurement is paramount. Lastly, particular attention will be paid to counterpart funds to ensure that they do not unduly delay or hamper project implementation.

4.4.4 In application of Benin Standard Disbursement Percentage (SDP), the counterpart fund

issue may affect the implementation of the project due to the importance of fund allocated for Consultants Services. To mitigate this risk, the beneficiaries namely CEB and SBEE may contribute of their own resources.

5. Environmental: Environmental Category: B (Partial Assessment)

5.1 Summarize the steps undertaken for environmental assessment and EMP preparation (including consultation and disclosure) and the significant issues and their treatment emerging from this analysis.

5.1.1 Following Bank Operational Procedures, CEB hired a consultant with wide international experience in power projects and transmission lines, to conduct a full environmental assessment of the main interconnection line and proposed new secondary lines, with the help of national specialists. Field missions helped identify potential environmental impacts associated to the operation. The project team visited the projected electrical corridors in order to verify whether or not the construction-operation of the transmission lines to be financed under the project will displace populations or affect protected areas, important ecosystems and/or cultural and historic settings.

5.1.2 No major environmental risks were identified, although, as it is common for this kind of infrastructure, minor and localized impacts were identified. The proposed right-of-way for the interconnection avoids ecologically sensitive areas. Impact on biodiversity and natural habitats was found to be negligible. The line crosses gazetted forests near urban sites and CEB will ensure that appropriate areas are gazetted to offset this loss. There will be a limited loss of agricultural land and shelter because of restrictions in the right-of-way. Preparation of the EA included a survey of the potentially affected people along the alignment. and their registration. Affected communities were consulted regarding compensation options.

5.1.3 The EA includes a detailed Environmental Mitigation Plan to mitigate the environmental and social impacts of the project, including a budget, monitoring and evaluation and an identification of the institutions involved. The plan was discussed with the affected communities along the right-of-way.

5.1.4 Based on the accumulated Bank operational experience, the proposed Biomass Energy and Inter-fuel Substitution component of the project is not expected to create any negative environmental impacts. On the contrary, it is expected to result in significantly improved NRM practices, deforestation reduction, carbon abatement and poverty alleviation. All project interventions within rural communities will be design and implemented in a fully participatory basis, thus avoiding the emergence of possible conflicts of interest at the local level. Under Phase I studies will be conducted to assess the possibility to utilize the existing caju plantations by-products in the Moyen Oueme region for the production of charcoal briquettes and ethanol alcohol. The environmental impact assessment of that option will be an integral part of the studies to be conducted.

5.2 What are the main features of the EMP and are they adequate?

An EMP was prepared in the standard format for a transmission line. It identifies a number of environmental mitigation measures, many of which have already been incorporated to the project design, including:

- The environmental and social teams worked jointly with the topography teams in order to make minor adjustments to the alignments, to eliminate or minimize local impacts.
- The alignments for the interconnection was modified to avoid crossing villages and rural compounds
- The alignments for the interconnection was modified to avoid cutting forests, sacred woods, and other protected areas. An alternative alignments was developed to avoid crossing the Fosse aux Lions Protected Forest.

- The project will support a program of ecological monitoring in selected areas, to be executed by local research institutes.
- As much as possible, the proposed alignments are close to existing roads, to reduce the need to open new accesses to the right-of-way.

5.3 For Category A and B projects, timeline and status of EA:

Date of receipt of final draft: December 2003

5.4 How have stakeholders been consulted at the stage of (a) environmental screening and (b) draft EA report on the environmental impacts and proposed environment management plan? Describe mechanisms of consultation that were used and which groups were consulted?

Public consultations were organized by the consultant conducting the EA.

5.5 What mechanisms have been established to monitor and evaluate the impact of the project on the environment? Do the indicators reflect the objectives and results of the EMP?

Implementation of the EMP will be funded through the project and jointly implemented by the governments of Togo and Benin, through their binational institution (CEB). A special unit within CEB will manage and monitor EMP implementation, and establish a continuous dialogue with the affected people, communities, NGOs, and other stakeholders. Common standards, practices and coordination have been established for both countries through joint environmental and social studies. The implementation of the environmental action plan will be closely monitored by the national environmental agencies (PNAE in Togo, and ABE in Benin).

6. Social:

6.1 Summarize key social issues relevant to the project objectives, and specify the project's social development outcomes.

Compensation will be needed for building access roads and right-of-way for the pylon. A resettlement action plan will be done to address these issues.

The implementation of the Biomass Energy and Inter-fuel Substitution component of the project is expected to result in significant and quantifiable social benefits in the participating rural communities, including, but not limited to, increased employment and income generation opportunities, new economic advancement opportunities for rural women, improved rural nutrition as result of village crops diversification, improved health as a result of increased access to potable water and other human development services, and overall improvement of quality of life. Additionally, the dissemination of improved stoves among urban and peri-urban household is expected to result in the reduction of "in-door" pollution and thus reduction of health risks and affections (with emphasis on women and children).

6.2 Participatory Approach: How are key stakeholders participating in the project?

6.2.1 The social studies were conducted concomitantly with the environmental assessment in 1994 and 1998. These studies have been consolidated and the compensation modalities were updated in September 2003. They have been discussed extensively with the affected people.

6.2.2 The Biomass Energy and Inter-fuel Substitution component of the project will establish, by the end of the implementation cycle, a permanent community-based fuelwood supply management system in 300,000 hectares, with a minimum annual environmentally sustainable production capacity of 675,000 tons of fuelwood, equivalent to 135,000 tons of charcoal. These systems will be implemented within five

Communes (Dass-Zoume, Glazoue, Save, Ouesse and Tchaorou), directly benefiting a minimum of 180 rural villages and 400,000 people (beneficiaries). Following established Bank operational practices for this type of activities, the detailed design, implementation and monitoring of these systems will be done in a fully beneficiary participatory basis. The value of the participation and in-kind contribution (labor and knowledge) of the rural communities to the implementation of the biomass energy component has been estimated at approximately US \$12 million, which equals the total investment costs of the proposed component.

6.3 How does the project involve consultations or collaboration with NGOs or other civil society organizations?

The biomass energy and Inter-fuel Substitution component will have substantial participation by the rural community (Moyen Oueme region), NGOs and other civil society organizations. All these parties have and will be further consulted and will participate in all relevant aspects of the component's design, implementation and monitoring.

6.4 What institutional arrangements have been provided to ensure the project achieves its social development outcomes?

6.4.1 All villages along the transmission line will benefit from the project through the offer of electrification.

6.4.2 The Biomass Energy and Inter-fuel Substitution component will be implemented on a fully beneficiary participatory manner based on community producer associations and the existing local institutions. The establishment of the sustainable woodfuels (and natural resource) management systems will be processed within the policy, legal and regulatory framework of the administrative decentralization process.

6.5 How will the project monitor performance in terms of social development outcomes?

The monitoring of the social development outcomes of the Biomass Energy and Inter-fuel Substitution component will be monitored through the methodology that will be established for that purpose within the component's Participation Action Plan (PAP).

7. Safeguard Policies:

7.1 Are any of the following safeguard policies triggered by the project?

Policy	Triggered
Environmental Assessment (OP 4.01, BP 4.01, GP 4.01)	☒ Yes ☐ No
Natural Habitats (OP 4.04, BP 4.04, GP 4.04)	☐ Yes ☒ No
Forestry (OP 4.36, GP 4.36)	☐ Yes ☒ No
Pest Management (OP 4.09)	☐ Yes ☒ No
Cultural Property (OPN 11.03)	☐ Yes ☒ No
Indigenous Peoples (OD 4.20)	☐ Yes ☒ No
Involuntary Resettlement (OP/BP 4.12)	☒ Yes ☐ No
Safety of Dams (OP 4.37, BP 4.37)	☐ Yes ☒ No
Projects in International Waters (OP 7.50, BP 7.50, GP 7.50)	☐ Yes ☒ No
Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)*	☐ Yes ☒ No

7.2 Describe provisions made by the project to ensure compliance with applicable safeguard policies.

The proposed project has been submitted to a full environmental and social assessment, and the mitigation measures will be incorporated into the project design.

F. Sustainability and Risks

1. Sustainability:

1.1 Project sustainability and the sustainability of the reforms rest on the sound concession contract and regulatory arrangements put in place and are enhanced by the continuing commitment of the Government to sector modernization and private sector participation.

2. Critical Risks (reflecting the failure of critical assumptions found in the fourth column of Annex 1):

Risk	Risk Rating	Risk Mitigation Measure
From Outputs to Objective		
Government's commitment to implement the necessary measures could weaken.	M	To show their commitment to the project the government has already taken politically demanding measures such as issuing the Letter of Sector Policy outlining the Government policy for the Sector and the adoption of the Electricity Laws by the Parliament.
From Components to Outputs		
Financing plan might not be completed.	N	Early indications following a meeting involving several donors, are that there is enough interest among the donors to finance the project. However, should the financing available be insufficient, the financing package will be redesigned accordingly giving priority to high value mutually consistent components.
Inability to implement the project within budget and in accordance with schedule	N	Experience in implementing similar projects (experience with the Nangbeto Hydroelectric Project, undertaken by CEB, was highly satisfactory: the project was commissioned below cost and on schedule) and assistance of consulting engineers.
Market risk for transmission and distribution.	M	Much of the transmission expansion will displace existing thermal generation. Market risk for distribution system expansion will be mitigated through the adoption of a demand-driven approach to the assessment of the customer base at the design stage of the proposed interconnection sub-projects. Also, the tariff structure will be reviewed to reduce customer entry cost, while preserving the financial integrity of the utilities.
Inability to build the transmission line in Togo which will be extended to Benin under this project.	N	CEB has already signed the contracts with two reputable contractors for the construction of the transmission line and substations in Togo. Work is underway. CEB has already raised all the financing needed for the work in Togo.
Overall Risk Rating		

	M	
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Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N(Negligible or Low Risk)

3. Possible Controversial Aspects:

- (i) Private Participation in SBEE
- (ii) Availability of power import from neighboring countries

G. Main Loan Conditions

1. Effectiveness Condition

- a. The CEB Subsidiary Loan Agreement and the SBEE Subsidiary Loan Agreement have been executed on behalf of the Borrower and CEB and SBEE, respectively;
- b. The Borrower's Project Account has been opened and the initial contribution of FCFA 150 million has been deposited therein;
- c. The CEB Project Account has been opened and the initial contribution of FCFA 70 million has been deposited therein;
- d. The SBEE Project Account has been opened and the initial contribution of FCFA 40 million has been deposited therein;
- e. The Borrower, CEB and SBEE have each established an accounting and financial management system for the Project satisfactory to the Association;
- f. The Borrower, CEB and SBEE have each employed independent auditors to audit the Project Accounts, under terms and conditions satisfactory to the Association;
- g. The Borrower has established the PCU with the following staff: a financial management specialist and a procurement specialist, both employed under conditions satisfactory to the Association;
- h. The Borrower has adopted an electricity tariff adjustment formula in form and substance satisfactory to the Association;
- i. The Borrower, CEB and SBEE have each adopted the PIM, in form and substance satisfactory to IDA; and
- j. The BOAD Loan Agreement has been executed and delivered and all conditions precedent to its effectiveness or to the right of CEB to make withdrawals thereunder, except only the effectiveness of the Development Credit Agreement, have been fulfilled.

2. Other [classify according to covenant types used in the Legal Agreements.]

2.1 Financial Performance

- 2.1.1 CEB shall gradually reduce its accounts receivable from electricity sales to an average amount equivalent to 2 months of electricity sale by January 1, 2006.

2.1.2 GoB shall ensure that its arrears due to SBEE for electricity consumption as well as all cross debts between SBEE, CEB and CAA as of December 31, 2003, shall be fully settled by September 30, 2004 through cash payments and/or through offsetting the arrears against SBEE and CEB own indebtedness to CAA.

2.2 Accounts/Audit

The accounts of each of the implementing agencies shall be audited annually by independent auditors acceptable to the Association, and shall be submitted to IDA within six months of the end of the fiscal year.

2.3 Monitoring and Reporting

The implementing agencies shall prepare semi-annual project management and progress reports, which shall review with IDA. These reports will be sent to IDA through the PCU.

H. Readiness for Implementation

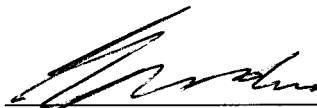
- ☒ 1. a) The engineering design documents for the first year's activities are complete and ready for the start of project implementation.
- ☐ 1. b) Not applicable.
- ☒ 2. The procurement documents for the first year's activities are complete and ready for the start of project implementation.
- ☒ 3. The Project Implementation Plan has been appraised and found to be realistic and of satisfactory quality.
- ☐ 4. The following items are lacking and are discussed under loan conditions (Section G):

I. Compliance with Bank Policies

- ☒ 1. This project complies with all applicable Bank policies.
- ☐ 2. The following exceptions to Bank policies are recommended for approval. The project complies with all other applicable Bank policies.



Said R. Mikhail
Team Leader



Yusupha B. Crookes
Sector Manager



Pedro Alba
Country Director

Annex 1: Project Design Summary
BENIN: Energy Services Delivery Project

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
Sector-related CAS Goal:	Sector Indicators:	Sector/ country reports:	(from Goal to Bank Mission)
● Bolstering the medium-term macro-economic framework through private sector led growth. ● Improving access to quality basic services for the poor. ● Promote a rational and sustainable use of natural resources (forestry)	● Investment in electricity projects and number of connections. ● Increase rural access to modern energy. ● Increase output from productive use of modern energy. ● Improve delivery of social services. ● Bring 300,000 ha of natural forest under community- based sustainable management systems	● Utility / GoB and Annual report. ● Household income and expenditure survey. ● Enterprise survey. ● Surveys to social services institutions. ● Natural resources management information system ● Annual progress review	● Power sector reform and extension of the power network to the North will remove a major stumbling block to economic growth and contribute to poverty alleviation. ● Rural development through access to modern energy, reduce rural poverty. ● GoB commitment to implement community based sustainable natural resources management ● Sound management and operation of AIC –GRN ● Active participation of beneficiaries in project implementation zone

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
Program Purpose: ● Improve the quality of life for urban, peri-urban and rural communities through the provision of modern energy. ● Support the effort towards achievement of four MDG's : reduce child mortality; improve maternity health; support the effort in achieving universal primary education; ensure environmental sustainability ● Improve the management, environmental sustainability and the social and economic efficiency of the biomass energy sub-sector Promote end-use energy efficiency and rational inter-fuel substitution options to the household sector	End-of-Program Indicators: ● Access to electricity now estimated at 22 % will reach 30 % by end of program ● Improved health facilities and services due to electricity provision. ● Improved school attendance and teachers quality of life. ● Increase adult classes. ● Reduce carbon dioxide emissions. ● 30 percent of fuelwood supplies in the country come from sustainable forest management. ● 180 villages (400,000 direct beneficiaries) have direct positive rural development impact as a result of project implementation. ● 300 rural workers trained on improved carbonization methods ("Meule Cassamance"). ● 4,800 LPG stove disseminated (Private sector/NGO). ● 18,000 improved kerosene stove disseminated (Private sector/NGO). ● 30,000 fuelwood improved stoves disseminated (Private sector/NGO).	Program reports: ● Supervision missions and annual utility reports and report from PCU. ● Supervision reports. ● PCU reports. ● Surveys of relevant social services institutions. ● Natural resources management information system ● Annual implementation progress report ● Annual implementation progress report	(from Purpose to Goal) ● The Power Sector Reform leads to visible and significant benefits to consumers and the economy. ● Electricity is essential for improved delivery of social services. ● GoB commitment to implement community based sustainable natural resources management ● Active participation of Communal institutions and effective empowerment of rural population. ● Effective project implementation management by DGE ● Active participation of private sector/NGOs

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
Project Development Objective: - Accelerate, in a commercially viable manner, the use of electricity in underserved areas for economic growth and improved quality of life. - Strengthen the capacity of Benin to expand the power sector. - Promote Benin's regional cooperation capacity	Outcome / Impact Indicators: - Reliable electricity supply is available for northern Benin through the interconnected grid from the south. - In the first year of service of the transmission line (2007), the number of power outages in Parakou and Djougou shall amount to an average of no more than two per month with an average duration of no more than two hours per outage - By Midterm Review, the study to prepare for the off-grid electrification will be completed, as well as the bidding process for the selection of a private sector operator for SBEE will be launched. By the end of the Project, the off-grid electrification strategy shall be completed and approved by MMEH, and the SBEE concession agreement shall be signed and the private sector operator shall be operating the electricity distribution system. - By Midterm Review, the construction of the transmission line in Togo will be completed and by January 2007, the construction of the transmission line in Benin will be completed and operational.	Project reports: - PCU progress reports; regular supervision missions reports; and impact evaluation reports. - CEB and SBEE operational reports - Regulatory reports - CEB and SBEE financial and performance audits.	(from Objective to Purpose) - GoB remains committed to private sector involvement in the power sector. - Macroeconomic and political stabilities are maintained. - Concession and private sector participation in the distribution utility are successfully transacted. - Nigeria honors its contractual obligation for power supply delivery to Benin.

● Improve governance of the biomass energy sub-sector and strengthen the relevant institutions	● Establishment and effective functioning of CNCD and coordination of domestic energy sub-sector by June 2004. ● Establishment and effective functioning of Inter-Communal Agency for Natural Resource Management by December 2004. ● Effective devolution of natural resource management rights to rural communities.	● In-country supervision and progress implementation report. ● In-country supervision and progress implementation report. ● Effective functioning of CNCD and coordination of domestic energy sub-sector by June 2004	● GoB commitment to project implementation. ● GoB commitment to project implementation. ● Commitment to project implementation by Mayors and relevant decentralized institutions. ● Active participation of beneficiaries.
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Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
Output from each Component: 1. Power Sector Reform. - There is a private sector partner in SBEE's distribution business. - A regulatory framework is established. - The Benin public is well informed about the purpose of the power sector restructuring 2. Engineering Studies. - A strategy for off-grid electrification is defined. - Investments in transmission system are well defined. - A well defined program for load management and energy efficiency in the administrative buildings. - The investment plan for distribution reinforcement and expansion is well defined. 3. Investment Components. - North Benin is supplied from the southern grid. - Benin Gas Turbine will run on gas from the West Africa Gas Pipeline. - The distribution system voltage fluctuation is maintained within acceptable standards. 4. Environmental and Social Component. - Affected population with the Transmission line are compensated for their losses. - An Environmental Audit for SBEE is carried out.	Output Indicators: - Private partner in distribution by end 2005. - The Regulatory Agency is set up by June 2005. - Propagation, through the media, of information regarding GoB policy for the sector. - All studies are launched within the first year of project implementation - June 2005. - The 161 kV transmission system is complete by end 2006 - The Benin Gas Turbine is ready to run on WAGP as soon as the latter is commissioned - Voltage fluctuation in the major cities are within +/-7%. - Affected population are satisfied - Environment Audit report for SBEE is prepared.	Project reports: - Regular supervision reports. - Quarterly progress reports. - Consultants reports. - Regular supervision reports. - Quarterly progress reports. - Consultants reports. - Consultants reports. - Progress reports - Supervision reports - Affected population survey. - NGO and consultant report. - Supervision mission report	From Outputs to Objective) - GoB will select dynamic and competent managers for the utility to be privatized. - Competent consultants are retained according to IDA guidelines. - The Nigeria (NEPA) /Benin (CEB) transmission line is in service and NEPA is honoring the contact with CEB. - The West Africa Gas Pipeline project materializes. - SBEE performs in implementing the urgent distribution work. - GoB and CEB remain committed to the Environmental Action Plan.

- MMEH, DGE, and CEB staff are better trained and prepared to execute properly formulated work plans in a timely manner.

- MMEH, DGE, and CEB staff are better trained and prepared to execute properly formulated work plans in a timely manner.

Sub-Component 1: Effective sound management of the domestic combustible sub-sector

- ### Sub-Component 1: Effective sound management of the domestic combustible sub-sector

- Minimum number of trained staff.
- Vacant positions are filled up

- Quarterly progress reports.
- External performance reviews.
- Supervision mission reports

- Management commitment to staff development

- Effective functioning of CNCND by June 2004
- Effective sub-sector reform by mid-term
- SIEP is set-up and operates by end of year 2
- AIC – GRN is created and operates 4 months after project launching
- DFRN capacity to regulate private and public forest resources management is effective by end of year 1.
- CENATEL's new statutes is clarified and effective by end of year 1.
- SIEP is set-up by end of year 1, and operates by end of year 2

- In-country supervision and annual progress reports.

- GoB will create CNCD
- SIEP is set-up and implemented by DGE
- A sub-sector policy reform is set-up and implemented by CNCD
- Local Governments in Moyen Oueme will create and manage AIC – GRN
- AIC-GRN is established with adequate/qualified manpower capacity.
- GoB will clarify CENATEL statutes
- SIEF is set-up and implemented by CENATEL

- **Sub-Component 2:**
Improved biomass energy production and supply
- Effective sustainable community based natural resources management in the Moyen Ouémé region

- Effective functioning of AIC – GRN by June 2004
- Effective transfer of unclassified forests management to local governments in the Moyen Ouémé, by June 2004.
- 300,000 ha of forests under community based sustainable management by end of implementation

- In-country supervision and annual progress reports.

- AIC – GRN will be created as the Moyen - Oueme Local Governments association
- Management of unclassified forests in the Moyen Ouémé is transferred to Local Governments / AIC – GRN. GoB (DFRN)
- Forest management plans are designed, approved and implemented.

● Sub-component 3: Private -sector/NGO based energy end-use efficiency (stoves) and inter-fuel substitution options are effectively introduced. ● Feasibility studies for the production of charcoal briquettes (Caju shell) and ethanol (Caju apple) are carried-out. ● A regional development strategy for Caju -based charcoal and ethanol production is set-up and implemented. ● A feasibility study on the use of ethanol for transport and household applications is undertaken and the recommendations are implemented by the end of the project.	cycle. ● 30% of current household demand for fuelwood produced in a sustainable manner. ● Private partner in distribution of substitution domestic energy and equipment ● 4,800 LPG stoves, 18,000 kerosene stove, and 30,000 improved fuelwood stoves are produced and marketed by end of project ● Feasibility studies are successfully completed. ● Private sector with support from CDM instruments (GEF, Carbon Funds, etc.) invests in production and marketing of charcoal briquettes (Caju shells) and ethanol (Caju apples) by 2006.	In-country supervision and annual progress reports. ● sub-project reports and annual progress reports. ● Review of feasibility study.	● Improved technologies for charcoal and wood fuel are disseminated by AIC – GRN and village hunters brotherhoods ● Competent consultant are recruited for feasibility studies of caju processing for biomass energy production ● Effective private based mechanisms for caju processing for biomass energy production are set-up. ● DGE will design and implement mechanisms for promoting private sector investments. ● DGE will undertake feasibility studies, in collaboration with qualified research centers and private operators.
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Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
Project Components / Sub-components:	Inputs: (budget for each component)	Project reports:	(from Components to Outputs)
1. Power Sector Reform.	US\$5.40 million	Quarterly progress reports; Consultant reports; and regular supervision missions reports.	- Timely commissioning of consultants by the PCU - GoB remains committed to private sector participation in SBEE.
2. Engineering Studies	US\$2.80 million	Consultants and quarterly progress reports.	Competent consultants are retained according to IDA guidelines.
3. Investment Component in Transmission and Distribution.	US\$71.70 million	Consultants and quarterly progress reports.	Timely completion of the interconnection with Nigeria
4. Environmental and Social component	US\$3.50 million	- NGO, consultants and quarterly progress reports. - Independent surveys among the affected population	Affected population misuse the compensation given to them
5. Institutional Strengthening and Capacity Building.	US\$6.10 million	Consultant, training and quarterly reports	Trained staff switch jobs too quickly.
6. Biomass Energy and Inter-fuel Substitution Component.	US\$6.20 million	Quarterly progress reports; Consultant reports; and regular supervision missions reports.	- Project implementation commitment by GoB and decentralized institutions - Implementation commitment and ownership by beneficiaries.

Annex 2: Detailed Project Description

BENIN: Energy Services Delivery Project

By Component:

Project Component 1 - US\$5.40 million **Power Sector Reform**

1. This component consists of three parts: (i) Private Sector Participation (PSP) in the electricity activities of SBEE, the distribution power company; (ii) setting-up a regulatory authority for the power sector and a training program for its staff; and (iii) dissemination to the public, through the media, of the power sector reform agenda for education and information. All parts of this component will be financed by IDA and implemented by MMEH /DGE
2. In December 2001, the Government of Benin (GoB) approved the following restructuring scheme for the power sector: (i) the separation of the water and the electricity activities in SBEE and creating a separate water company; (ii) disengagement of GoB from the operation of the electricity sector by allowing private sector participation in the sector; and (iii) establish a proper legal and regulatory framework for the sector and a regulatory agency.
3. An institutional sector study will be carried out to cover all governmental departments and agencies having an interest in the sector such as the Ministry of Mines, Energy and Hydraulics (MMEH), Direction de l'Energie and the Rural Electrification Agency (REA). This study will define a program of sector specific courses for managers and staff of the agencies in energy planning, energy conservation, renewable energy, rural electrification, subsidy administration, and regulatory and administrative aspects. CEB had a management audit performed under IDA financing. The management audit identified areas for improvements in its operations such as planning, tariff setting policies and cost accounting.
4. For the Private Sector Participation (PSP) in SBEE electricity activities, the project will finance the following activities: the inventory and revaluation of assets, an environmental audit, drafting of a concession agreement as well as assistance with stakeholders consultations. The work will be led by a specialized firm, who will also assist in the bidding phase, negotiations and financial closure.
5. The GoB is considering setting up an energy sector regulatory agency for electricity. The project will finance the services of a specialized firm for assisting in the setting-up agency, possibly under a twinning arrangement, and for defining a comprehensive training program for its staff.
6. The Third sub-component will cover the cost of the dissemination of information and public education, through the media, of the Beninese concerning the reform process, including its goals and objectives. A qualified public relation firm will carry out this assignment under a twinning arrangement with a local firm.

Project Component 2 - US\$2.80 million **Engineering Studies**

7. This component comprises five engineering studies for the preparation of APL-2 as follows: (i) a study to define the strategy for off-grid electrification; (ii) a feasibility study for the Sakété-Parakou 161 kV transmission line; (iii) a load management and energy efficiency study of the administration buildings;

(iv) detailed engineering studies including preparation of bidding documents for the rehabilitation, reinforcement and expansion of the distribution system; and (v) Environmental Assessment, Engineering study and preparation of bidding documents for the construction of the 161 kV transmission Line between Sakété and Porto-Novo. All studies will be financed by IDA. Studies (i) and (iii) will be implemented by MMEH / DGE, studies (ii) and (v) will be implemented by CEB, and study (iv) will be implemented by SBEE.

8. The implementation of the strategy for off-grid electrification will be followed by detailed studies in APL-2. The outcome and recommendations of these studies will be made available to other donor agencies for possible financing. Several donor agencies are now present in Benin and willing to finance rural electrification projects that are part of a well-defined strategy.

9. In order to provide a more reliable supply to the North and to maximize the benefits from the CEB/NEPA interconnection, the transmission loop supplying the North has to be closed. The feasibility study will determine the optimal timing for building the Sakété-Parakou line, and its financial and economic effect on CEB.

10. Furthermore, the project will finance a feasibility study for energy efficiency in the administrative buildings, for implementation under APL-2. A pre-feasibility study has demonstrated that about 42 buildings can benefit from such an operation with a potential 17 % reduction in consumption.

11. The fourth study includes the detailed design and preparation of bidding documents for (i) the reinforcement and extension of the distribution system in Cotonou, Abomey-Calavi, and Porto Novo; (ii) the extension of the distribution grid in 58 cities and towns already electrified; (iii) the electrification of 35 new towns and villages in the South and 23 towns and villages in the North; and (iv) the electrification of 35 villages along the 161 kV transmission lines using shield wire technology. The output of these studies will be implemented under APL-2.

12. The last study is for the extension of the supply from Nigeria to Sakété and to Porto-Novo by a 161 kV transmission line. The portion of the Sakété-Porto-Novo line is about 30 km long and the purpose is to provide an alternate supply to Porto-Novo which is currently supplied from Cotonou. The study will address the potential environmental impacts of the line; the feasibility; the engineering and the preparation for bidding documents for a possible financing under APL-2.

Project Component 3 - US\$ 71.70 million

Investment Component

13. This component comprises two sub-components: (i) a transmission sub-component (North Togo-North Benin interconnection); and (ii) a distribution sub-component.

(i) Transmission - North Togo/ North Benin Transmission Line

14. This sub-component consists of a main transmission of about 436 km of 161 kV connecting Atakpamé in Togo with Parakou in Benin, and passing by Kara in Togo and Djougou in Benin; and the two lateral transmission lines in Benin connecting Djougou to Natitingou, 76 km, and Parakou to Bembereke, 106 km. This project comprises four lots of supply and erection of equipment and one lot for construction supervision as follows:

15. Lot 1A. Extension of Atakpamé substation and construction of new 161 kV substation in Kara. The extension of the Atakpamé substation includes the supply and erection, including the civil and electromechanical works, for the extension of the 161 kV bus, and switchgear. The new Kara substation includes one 161/20/34.5 kV transformer, a 161 kV bus, a 20 kV bus, and a 34.5 kV bus to supply the isolated neutral. This lot will be financed and implemented by CEB.

16. Lot 1B. Supply and erection of two 161 kV outdoor substations at Djougou and Parakou, each with one 161/34.5/20 kV transformer. Each substation will be controlled locally and by the Lome Control Center through a SCADA System, and communications will be carried out by Power Line Carrier (PLC) and by the fiber optic line. In addition, radio communications are also added. This lot will be financed by IDA and implemented by CEB.

17. Lot 2. 161 kV line from Atakpamé substation in Togo to Kara and extended to the boundary with Benin. This lot comprise the civil work and the supply and erection of about 270 km of 161 kV lines. The transmission line will include two isolated neutrals, where one is fiber optic for carrying data, and the other energized at 34.5 kV for electrification of villages along the transmission line. This lot will be financed and implemented by CEB.

18. Lot 3. This lot consists of about 165 km of 161 kV transmission line in Benin. The transmission line includes two isolated neutrals with one neutral as a fiber optic cable for data transmission and the second neutral for carrying current at 34.5 volt to supply the villages and towns along the right of way. This lot also includes the interconnection between the Parakou diesel station and the new 161 kV substation in Parakou through two 20 kV lines. Also included in this lot are the supply points to 20 villages and towns. These supply points include the first pole with the 34.5 kV line, along with the necessary switchgear, line fuse and line switch. This lot will be financed by BOAD and implemented by CEB.

19. Lot 4. The lateral lines in Benin. This includes 76 km of 161 kV line from Djougou to Natitingou, and 106 km of 161 kV line from Parakou to Bembereke. Each line will have two isolated neutrals with one in fiber optics for transmission of data and the other to carry current at 34.5 kV to supply the villages along the right of way. The two transmission lines will be energized initially at 34.5 kV until the load justifies the 161 kV. Eight villages will be supplied from the Djougou/Natitingou line and 13 villages will be supplied from the Parakou Bembereke line. This lot will be financed by NDF and implemented by CEB.

20. Lot 5. Construction supervision. This lot will be financed by IDA and implemented by CEB.

(ii) Distribution

21. The distribution sub-component includes: (i) supply and erection of the equipment needed for energy efficiency improvement in the administrative buildings. This will be financed by IDA and implemented by MMEH / DGE; and (ii) supply and erection of urgent distribution work needed to maintain the distribution system functioning until the private partner is in place. This will be financed by IDA and implemented by SBEE.

Project Component 4 - US\$3.50 million **Environmental and Social Component**

22. This component comprises: (i) the Environmental Assessment for the relocation of the 20 MW Gas Turbine from Cotonou to a new site outside Cotonou. This will be financed by IDA and implemented by CEB; (ii) compensation scheme for the high voltage transmission line. This will be financed by CEB and

implemented by CEB in coordination with the Ministry of Environment; and (iii) an environmental audit for SBEE. This will be financed by IDA and implemented by MMEH / DGE.

(i) Environmental Assessment for the relocation of a 20 MW Gas Turbine.

23. The project includes the decommissioning of the 20 MW gas turbine, now in Cotonou substation, and transfer the unit to a new site (Maria-Gleta) outside Cotonou, about 9 km away, and where the "West Africa Gas Pipeline" will arrive. This new site will also be used for future IPPs in Benin.

(ii) Compensation for the construction of the HV Transmission Line.

24. The Environmental Impact study has revealed that 17 families that occupy 57 dwellings in Benin are situated in the right-of-way, and they will have to be resettled. The total cost of this sub-component is estimated at US\$1.5 million.

(iii) Environmental Audit for SBEE

25. In preparation for the Private Sector Participation in the electricity activities of SBEE, a full Environmental Audit will be carried out to ascertain the status of the environmental liabilities that exist prior to privatization and determine the necessary remedies.

Project Component 5 - US\$6.10 million

Institutional Strengthening and Capacity Building

26. This component aims at strengthening the electricity institutions under the Ministry of Mines, Energy and Hydraulics (MMEH) and helping establish/operationalize their role and function in the sector. It would assist to ensure optimal working relationships between the energy institutions and provide the necessary training, and tools for carrying out these tasks. The sub-components are:

(i) Capacity Building at the Ministry, and the Directorate of Energy. (US\$2.20 million) - Financed by IDA and implemented by MMEH / DGE.

This amount will cover an institutional diagnostic study for the agencies and departments involved in the energy sector. It will include short management courses, as well as courses in Energy Planning, Energy Conservation, Renewable Energy, Rural Electrification, Regulation and Administration. The training will be provided through local and foreign workshops or seminars, and by local or international institutions. A detailed first year training program will be provided in the Project Implementation Plan. This amount will also finance the Project Implementation and Management Unit, including the financial audits.

(ii) Capacity building at CEB. (US\$2.00 million) - Financed by IDA and implemented by CEB.

This amount will finance training as recommended in the management audit of CEB, and the reinforcement of CEB capabilities in planning, financial and environmental management. Also included in this amount is a review of the tariff adjustment formula and the tariff structure. This amount will also provide for financing a cost accounting software for CEB and the required training for its implementation.

(iii) Vehicles and Office Equipment (US\$0.80 million) - Financed by IDA and implemented by MMEH / DGE.

This amount will finance equipment and vehicles required for the Project Coordination Unit, including the Direction Générale de l'Energie, as well as support the implementation of an "Information Technology" strategy for DGE and SBEE.

(iv) Measuring Equipment for CEB substations (US\$1.10 million) - Financed by IDA and implemented by CEB.

This amount will provide for financing the necessary equipment, at CEB substations, to improve billing and to apply a more efficient tariff structure.

Project Component 6 - US\$6.20 million
Biomass Energy and Inter-fuel Substitution

27. This component aims at the rationalization of the biomass energy sector and the promotion of effective inter-fuel substitution options for the household and SME sectors, including endogenous renewable fuels. The component entails four complementary and cross-supporting sub-components: (i) Institutional Development; (ii) Community-based Sustainable Woodfuel Supply Systems; (iii) Biomass Energy Efficiency and Inter-fuel Substitution; and (iv) Rural Community Development Support. The overall implementation of this component is the responsibility of MMEH/DGE, agency which will coordinate its actual implementation with MAEP /DFRN, Household Energy Commission (CNCD) and the Inter-Communal Agency (AIC). This last two will be established with support of this component. This will be financed by IDA and implemented by DGE.

28. The Institutional Development sub-component will support the strengthening of the sector's institutions, primarily including, but not limited to, the General Directorate of Energy (DGE / Ministry of Energy), the Directorate of Forests and Natural Resources (DFRN / Ministry of Agriculture, Husbandry and Fisheries), and the establishment of a Household Energy Commission (CNCD) and, within the context of the existing decentralization legislation, of an Inter-Communal Agency (AIC) for decentralized natural resource management. Additionally, rural communities will also receive institutional and capacity development support through the sub-component. The sub-component will finance capacity development, analytical and development planning methods and systems (SIEP, SIEF, etc), office equipment, and vehicles.

29. The Community-based Sustainable Woodfuels Supply Systems sub-component entails the implementation of 300,000 ha of sustainable forest/natural resource management systems in the Moyen Oueme region. The implementation of these participatory systems are expected to result in the establishment of a permanent capacity to produce 675,000 tons/year of "sustainable" fuelwood, while creating new employment and income generation opportunities in the participating rural villages. This sub-component will finance technical assistance, consultant studies (cashew and apiculture production chains; elaboration of forest management plans; elaboration of feasibility studies on economic diversification activities; classification of protected forests; and carbonization of agricultural residues), field training costs, local capacity building activities, small tools and field equipment for the rural communities, and forest fire control equipment. The design and intervention methods of this sub-component are based on the proven World Bank-funded experiences in other Sub-Saharan countries, such as: Senegal ("*Sustainable and Participatory Energy Management Project*"); Burkina Faso ("*Sustainable Energy Management Project*"); Mali ("*Household Energy Project*"); Madagascar ("*Energy Sector Project*"); Chad ("*Household Energy Project*"); and Niger ("*Household Energy Project*"). As per the accumulated regional experience, this component is based on the effective transfer of the responsibility for the management of the forest -- and other natural resources -- from the central government to the "Communes". The implementation of this sub-component would be directly supported by the legal,

regulatory and institutional mechanisms that are already in place within the context of the ongoing administrative decentralization process in Benin, and by the rural development support measures that will be provided through the rural community development support sub-component.

30. The Biomass Energy Efficiency and Inter-fuel Substitution sub-component entails: (i) the introduction of improved carbonization systems (*e.g.*, "*Meule Cassamance*") to maximize wood-to-charcoal conversion efficiency, thus reducing aggregate wood requirements and pressure over forest stocks, while reducing labor effort and maximizing producer revenues; (ii) promotion of private sector-based improved woodfuel cookstove programs (with emphasis on urban charcoal stove options); and, (iii) promotion of private-sector based LPG and kerosene inter-fuel substitution programs and identification and evaluation of the potential to produce and market other renewable biomass fuels (briquettes, biogas, ethanol, etc.). This sub-component will finance technical assistance and field training costs, field equipment (boots, gloves, cutters, etc.) and small tools for the carbonization activities, technical assistance for the establishment and/or expansion of unsubsidized improved woodfuel cookstoves and inter-fuel substitution fuel options (LPG, kerosene, other), and inter-fuel substitution consumer education/awareness campaigns and marketing promotion activities.

31. The Rural Community Development Support sub-component entails the delivery of a variety of development support services and elements to the participating rural communities, as an incentive mechanism for the compliance of the "sustainable forest management plans" that will be prepared within the Community-based Sustainable Woodfuel Supply Systems sub-component. These support services and elements are beneficiary-determined in each participating village and can include: capacity development on community organization and/or other specific skills; gender specific training and organization support; crop diversification; economic diversification and market access support; introduction of modern apiculture practices; construction of water wells or other small community facilities; etc. This sub-component will finance technical assistance, local capacity building activities, small tools and field equipment (forestry, apiculture, gardening, etc.) for the rural communities, and equipment and small works (small pumps, grinders, water wells, garden fencing, etc.). The design of this sub-component is also based on World Bank ESW and successful operational experience, and its inclusion has been determined to be essential to the success of community-based activities. In particular, this sub-component is expected to result in the creation of a strong sense of community ownership of the sustainable natural resource management objectives of the Biomass Energy component and, further, to provide for considerable income diversification and generation opportunities at the village level.

Annex 3: Estimated Project Costs
BENIN: Energy Services Delivery Project

Project Cost By Component	Local US \$million	Foreign US \$million	Total US \$million
1. Power Sector Reform	0.60	4.40	5.00
2. Engineering Studies	0.26	2.34	2.60
3. Investment Component	14.20	52.20	66.40
4. Environmental and Social Component	1.90	1.30	3.20
5. Institutional Strengthening and Capacity Building	0.64	5.00	5.64
6. Biomass and Household Energy Component	3.40	2.35	5.75
Total Baseline Cost	21.00	67.59	88.59
Physical Contingencies	0.85	2.70	3.55
Price Contingencies	0.85	2.71	3.56
Total Project Costs¹	22.70	73.00	95.70
Total Financing Required	22.70	73.00	95.70

Project Cost By Category	Local US \$million	Foreign US \$million	Total US \$million
Goods & Works	13.65	54.45	68.10
Goods	1.45	2.56	4.01
Services	4.32	13.27	17.59
Training	1.30	2.20	3.50
Operating Cost	1.75	0.00	1.75
Project Preparation Fund (PPF)	0.25	0.50	0.75
Total Project Costs¹	22.72	72.98	95.70
Total Financing Required	22.72	72.98	95.70

¹ Identifiable taxes and duties are 0 (US\$m) and the total project cost, net of taxes, is 95.7 (US\$m). Therefore, the project cost sharing ratio is 47.02% of total project cost net of taxes.

Annex 4: Cost Benefit Analysis Summary

BENIN: Energy Services Delivery Project

[For projects with benefits that are measured in monetary terms]

	Present Value of Flows		Fiscal Impact	
	Economic Analysis	Financial Analysis ¹	Taxes	Subsidies
Benefits:	N/A	\$74 million	\$6 million	0
Costs:	N/A	\$118 million	0	0
Net Benefits:	\$65 million	-\$44 million	\$6 million	0
IRR:	35%	-1%		

The economic assessment of the interconnection North Togo/ North Benin is done by comparative analysis in which the transmission line solution is measured against an alternative solution based on isolated power plants. The net economic benefits thus express the benefits gained by choosing the interconnection over the alternative.

The financial analysis values the benefits and costs related to the proposed interconnection only, i.e. energy sales to the north. Valuation of CEB's consolidated financial position under the program integrating sales to the North and to the South is done in the financial section of the PAD.

¹ If the difference between the present value of financial and economic flows is large and cannot be explained by taxes and subsidies, a brief explanation of the difference is warranted, e.g. "The value of financial benefits is less than that of economic benefits because of controls on electricity tariffs."

Summary of Benefits and Costs:

1. The economic analysis considers the sub-component transmission line North Togo/North Benin only; this sub-component makes up approximately 60% of the APL-1. The contract for work on the transmission line in Togo has been signed, the estimated final capital expenditures for the interconnection line totals about US\$54 million of which 20% are expected disbursed in 2004, 70% in 2005 and the remaining 10% in 2006.
2. The estimated electricity demand for the northern regions is based on the CEB load forecast 2004–2015. The forecast was extended to 2020 using end of forecast period growth rates. During the appraisal mission in March 2004, a separate load forecast for the villages and towns to be electrified in Northern Benin was prepared, this load forecast proved to be coherent with the Benin section of the CEB load forecast.
3. No reliable figure is available for the economic value of a kWh supplied in rural towns and areas in West Africa; it is therefore not possible to value the economic benefit of meeting the forecasted electricity demand. The transmission line has therefore been valued by comparison with an alternative supply scenario based on isolated diesel power grids.

4. The transmission line investment will lead to CO₂ emissions reductions valued at between US\$1.7 and 3.7 million (NPV @ 10% for a 10-year period) depending on the electricity supply mix (gas and hydro power) and assuming a value of US\$5 per ton CO₂. The value of CO₂ reduction is not included in the differential cost cash flows.
5. Comparing the interconnection with the isolated power plants shows an economic rate of return (real) of 26% and a NPV (@10%) of US\$37 million; when including the cost of unsupplied demand the ERR becomes 35% and the NPV (@10%) US\$65 million.
6. The NPV (@10%) of the financial flows of the transmission line solution is valued to be a negative - US\$44 million, the F-IRR is estimated at - 1%.
7. In the further financial analysis the transmission line is valued as a project company using the weighted average cost of capital method. The value of the project company is estimated to be - US\$35 million with a calculated WACC of 6%.
8. The NPV (@10%) of the fiscal revenues to the government of Benin over the forecast period is estimated at US\$5.6 million.

The average economic cost of a kWh is calculated to be US\$14 cents.

9. If the costs of power failure, valued at XOF 600/kWh (US\$1.07/kWh) are included, the average economic cost of a kWh becomes US\$16 cents.

Main Assumptions:

10. The analysis includes energy supply to CEB's Northern region. The CEB electricity demand forecast used was updated in January 2004; the forecast includes supply to rural villages using shield wire.
11. The interconnection of the Northern towns to the Southern grid will result in CO₂ emissions reduction; the value of these reductions are estimated to be between US\$1.7 and 3.7 million, this value has not been included in the analysis.
12. The analysis is done in real prices using market exchange rates (base year = 2004).
13. The economic evaluation of the proposed transmission line is based on a comparison with an alternative scenario with supply from isolated power plants. The construction scheme for the power plants was identified in earlier studies.
14. In the financial analysis, the transmission line sub-component has been treated as a project company and pro-forma financial statements have been developed for the period 2004-2020.
15. The analysis assumes that the XOF/EUR exchange rate remains stable at XOF 655 to 1 EUR.
16. The cost stream consists of the following elements:
 - capital cost of the transmission line disbursed over the construction period: 20% in 2004, 70% in 2005 and 10% in 2006.
 - depreciation period of 25 years for substations and 30 years for lines.

- O&M costs: 2.5% of the initial investment for substations and 0.5% of the initial investment for transmission line.
- energy purchase from the main grid at XOF 37.5/kWh.

17. The project company is assumed 100% debt financed, i.e. financed by the APL 1, the terms are assumed as follows:

- 10% interest.
 - grace during construction 2004 – 2006, hereafter a 15 year repayment period.
 - zero up-front fee.
- Positive earnings are assumed subject to 37% corporate tax with a minimum tax of 0.5% of sales.

18. Valuation of the fiscal impact is based on the following assumptions:

- 75% of SBEE sales is subject to 18% VAT, the remaining sales are assumed to small consumers exempt from VAT.
 - 50% of the corporate taxes of the transmission line project company accrue to the Government of Benin.
- SBEE is assumed to pay the minimum tax of XOF 5 per XOF 1000 of sales.

Sensitivity analysis / Switching values of critical items:

19. The sensitivity of the project has been assessed by calculating the below switching values for which the economic NPV (@10%) without the cost of unsupplied demand becomes zero.

Variable	Switching value
Economic cost of fuel	- 38 %
Investment in interconnection	65%
Energy cost at Atakpamé	64%
Energy demand	- 90%

The table shows the transmission line to be a very robust solution for bringing electricity to the North.

20. Under APL-2, US\$40 million will be invested to increase the access to electricity across the country. The increase in electricity access is intended to cover all regions in Benin, for a total of 146 cities, towns and villages. As a direct result of this investment, about 80,000 additional household connections are expected by the end of the program. Compared with the current 245,000 connections by SBEE, this corresponds to an increase in household connections of 20%. It is estimated that this investment will help SBEE maintain a high connection growth rate and possibly allow SBEE to attain a coverage rate, in year 7, of 30%, despite the population growth rate of 3.25%. It is expected that the increase in electricity access from the investment in the 146 sites will add a demand of 52 GWh in year 1, growing to 108 GWh in year 7.

21. The expected demand from the 146 sites was analyzed based on demographics and statistics on connection rates and specific consumption. Available information on energy expenditure (batteries, petroleum etc.) in the rural area between Djougou and Parakou indicate a potential willingness to pay for electricity equivalent to 300-500 kWh per year per household.

22. The proposed grid electrification was measured against isolated power plants. The proposed investments are all based on connection to the main grid. The capital cost is estimated on the basis of: (i) low-cost techniques, including changing voltage standards and applying designs based on local conditions; (ii) application of low cost Single Wire Earth Return technology; (iii) application of wooden poles; and (iv) conceptual design of simplified low-cost HV/MV substations. The total impact of using low-cost techniques compared to a traditional design are estimated to be a reduction from US\$50 million to US\$40 million for the same number of consumer connections and level of energy supplied. Details of the low cost techniques are available in the project file.

23. A conventional economic approach would require that the investments in electricity access increase be placed in the major towns where the population density is high and investment per added consumer correspondingly low. A different approach is suggested, aiming to balance the national economy. At present, the major cities in the Southern region are acting as the driver for the whole country, contributing to the rural exodus by attracting the labor force from remote regions. Investing in rural areas and larger towns in the Northern region will counter act this negative spiral.

24. Rural electrification will provide peripheral regions with the opportunity to attract and retain qualified teachers and medical staff, giving the rural population a chance to improve their quality of life. Access to electricity is not a guarantee for economic growth, it is however a requirement if long-term goals of poverty eradication are to be achieved. Electricity is also a necessity if the objective of having Internet access in every African school is to be reached.

25. Increasing rural electricity access will expand opportunities for employment and income-generating activities for the poor. Examples, hereof, are telephone access points, welding, carpentry, tailoring and sale of cold drinks. For households, torch lights and petroleum lighting will be substituted by electricity, providing superior service at approximately the same cost.

26. The economic analysis is summarized in the table below:

energy supply to the north

USD summary of comparative economic analysis - base year 2004

energy demand - GWh	NPV	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CEB northern region	844	0	10	76	82	89	96	104	114	123	132	142	152	164	177	191	206	223
supply shortage - GWh																		
interconnection	13	0.0	0.2	1.1	1.2	1.3	1.4	1.6	1.7	1.8	2.0	2.1	2.3	2.5	2.7	2.9	3.1	3.3
isolated power plants	38	0.0	0.5	3.4	3.7	4.0	4.3	4.7	5.1	5.5	5.9	6.4	6.8	7.4	8.0	8.6	9.3	10.0

interconnection line

costs in M USD	NPV	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	resid.
total investment transmission lines	55	13	44	6	0	0	0	8	0	0	0	0	0	0	0	0	0	0	-35
total O&M transmission lines	63	0	1	6	6	7	7	8	8	9	10	10	11	12	13	14	15	16	
total economic costs transmission lines	118	13	45	12	6	7	7	15	8	9	10	10	11	12	13	14	15	16	-35

economic cost of energy supplied 0.14 US cents per kWh

economic costs of TL power failure	14	0	0	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	4
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economic cost of energy incl shorta 0.16 US cents per kWh

isolated power plants in northern towns

costs in M USD	NPV	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	resid.
total investment power plants	45	1	34	0	5	0	7	0	0	6	0	5	0	7	0	2	5	8	-29
total O&M power plants	110	0	2	10	11	12	13	13	15	16	17	18	20	21	23	24	26	29	0
total economic costs power plants	155	1	37	10	16	12	20	13	15	22	17	23	20	28	23	26	31	37	-29

economic cost of energy supplied 0.18 US cents per kWh

economic costs of TL power failure	41	0	0	4	4	4	5	5	5	6	6	7	7	8	9	9	10	11	
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economic cost of energy incl shorta 0.23 US cents per kWh

interconnection Vs isolated power plants

costs difference in M USD	NPV	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	resid.
cost difference excl. Shortage	37	-11.5	-8.5	-2.1	9.6	4.9	12.4	-1.9	6.2	13.1	7.4	13.0	8.4	16.2	9.8	12.5	16.4	20.7	5.4

ERR excluding cost of shortage 26%

costs difference in M USD	NPV	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	resid.
cost difference excl. Shortage	65	-11.5	-8.2	0.4	12.3	7.7	15.5	1.4	9.8	17.1	11.6	17.6	13.3	21.5	15.4	18.7	23.0	27.8	5.4

ERR including cost of shortage 35%

Annex 5: Financial Summary
BENIN: Energy Services Delivery Project
Years Ending

	IMPLEMENTATION PERIOD						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Total Financing Required							
Project Costs							
Investment Costs	23.0	45.0	20.0	5.0	1.0		
Recurrent Costs	0.4	0.6	0.4	0.4	0.0	0.0	0.0
Total Project Costs	23.4	45.6	20.4	5.4	1.0	0.0	0.0
Total Financing	23.4	45.6	20.4	5.4	1.0	0.0	0.0
Financing							
IBRD/IDA	8.9	19.7	10.6	4.9	0.9		
Government	0.5	0.6	0.3	0.3	0.1		
Central	0.0	0.0	0.0	0.0	0.0		
Provincial	0.0	0.0	0.0	0.0	0.0		
Co-financiers	6.0	10.0	4.0				
User Fees/Beneficiaries	0.0	0.0	0.0	0.0	0.0		
Other	0.0	0.0	0.0	0.0	0.0		
CEB	8.0	15.1	5.5	0.0	0.0		
SBEE	0.0	0.2	0.0	0.2			
Total Project Financing	23.4	45.6	20.4	5.4	1.0	0.0	0.0

Financial Assessment

Communauté Electrique du Bénin (CEB)

Background

1. CEB was founded 1968 by Benin and Togo as an international public organization to provide electricity in bulk to the local distribution companies TE and SBEE and some three companies using large amounts of energy. CEB became operational in 1973 and provides power through transmission from imports and from its own generation. It is headquartered in Lomé, Togo and employed in 2003, 309 staff members. Given its charter as an international organization, a High Authority with equal representation from the two member countries supervises its operations. A general manager is in charge of daily operations and sees to it that the decisions of the High Authority are being implemented.

2. CEB provides the two distributing companies (TE and SBEE) with about 90% of their electricity requirements through imports of about 85% of its total demand from the VRA and from CIE and the rest through its own power generation by the hydropower plant at Nangbeto and by two gas turbines installed in Lomé and Cotonou. Power transmission from CIE over the network in Ghana is marked by sometimes unusually high transmission losses affecting CEB's operation. VRA recently imposed reduction of hydropower deliveries to 20 MW instead of the previous amount of 50 to 60 MW and proposed to CEB to

replace that energy amount with supply from diesel generators, however at a much higher price of US\$0.08/kWh, which was recently reduced to US\$0.06/kWh instead of the normal price of US\$0.051/kWh. Power demand in the two countries served by CEB increased over the last ten years varying between 6% and 8%. Table 1 gives the cost of Generation and imports by CEB.

Table 1 : Cost of Power Supply

GENERATION	Consumption l/kWh	Capacity MW	Fuel	Cost of Fuel FCFA/l	Fuel Cost F/kWh	Total Prod. Cost FCFA/kWh
TAG Lomé + Cotonou au JetA1	0.315	20+20	JetA1	181.52	57.18	67.80
TAG Lomé + Cotonou au Gaz	3.000	21+21	Gaz Nat.	6.56	19.68	29.00
Togo Electricité	0.271		DDO	204.20	55.34	71.20
SBEE	0.270	12	HFO	176.00	47.53	63.90
	0.300	6	DDO	241.00	72.30	88.00

IMPORTED ENERGY	Guaranteed Energy GWh/year	Max. Demand MW	Contractual Period	Cost US\$/kWh	Cost FCFA/kWh
ELECTROTOGO	360 à 500		2005-	5.36	35.16
WEL - Centrale de Kraké, Bénin / autre IPP	570 à 937	68 à 103		4.90	32.14
NEPA - garanti	300	75	2005-2020	5.00	32.80
NEPA - excédent				4.43	29.06
NEPA - excédent 2					0.00
CIE	200		1999-2003	4.78	31.35
VRA - mix	300	34	1998-2007	5.10	33.45
VRA - Additionnel	87	10	1998-2007	5.10	33.45
VRA - diesel	358	41	1998-2007	6.00	39.36

Past Performance

3. CEB's financial situation deteriorated in the beginning of this century through the nonpayment of electricity bills by now defunct state owned companies, increases in its inputs, foreign exchange losses associated with foreign debt and dollar denominated electricity purchases, and growing arrears of its bulk purchases which reached in the first half of 2002 such a point that it was unable to make timely payments to its electricity suppliers (VRA and CIE). Therefore, CEB concluded in 2002 agreements with its suppliers of electricity VRA, CIE for settling its arrears, as well as with the Caisse Autonome d'Amortissement (CAA) of Benin for GoB loans to CEB and finally with SBEE for SBEE's outstanding electricity bills. These agreements were honored in 2002 and 2003. However, in the second half of 2003, SBEE's financial situation had again deteriorated to such an extent that it was unable to make timely payments to CEB because of nonpayment by GoB agencies. Therefore, another set of agreements were reached in late February 2004 whereby through compensation arrangements between CEB, SBEE and CAA. SBEE's overdue electricity bills were compensated with debt service arrears by CEB to CAA.

4. Improvement of CEB's financial position in the second half of 2002 was mainly due to a tariff increase from 38 FCFA/kWh to 50 FCFA/kWh for retailing electricity companies and from 40 FCFA/kWh to 54 FCFA/kWh for HT consumers.

5. Other factors influencing CEB's results include : (i) expenses for fuel that were in 2003 at the same level as in 1999 after having dropped by about 40% in 2000; (ii) differences in annual rainfalls, which strongly influenced the generation of hydropower, explaining the variations in the generation from gas

turbine and hence cost of operations; (iii) maintaining costs for personnel at the same level in 2003 as in 1999; and (iv) finally, adjustments and provisions, primarily for foreign exchange variations.

6. In 2002 a substantial increase in accounts payable provided temporarily the necessary financial relief. The average collection period varied from 273 days in 1999 to 196 days in 2002 with a drop to 177 days in 2001.

7. CEB's statute as a bi-national company with limited equity requires financing of its investments mostly through loans, which results in an accumulation of debt and substantial debt service payments. Its debt equity ratio increased from 61.3% in 1999 to 71% by 2003.

8. CEB still has accounts receivables from electricity sales to agencies of GoT. Discussions are under way to settle these accounts through compensatory arrangements in the near future. CEB's accounts with its suppliers (VRA and CIE) are current.

9. In line with its standard operating procedures, AfD is the beneficiary of a special account, which holds FCFA 1.8 billion as guarantee for debt service payments by CEB, as AfD loans do not benefit from a government guarantee.

Investment Program

10. CEB's demand forecast as well the planned expansion of production and transmission capacity reflects the need for increasing transmission capacity which is the least cost solution. This program consists of the following components:

- a) Interconnection with Nigeria through a 330 kV line between CEB Sakété (Benin) and Ikeja-West (Nigeria) at an estimated project cost of FCFA 12 billion with implementation from 2003 to 2005;
- b) Extension of CEB's network by a 161 kV to North Togo and Benin at an estimated project cost of FCFA 30 billion with implementation from 2004 to 2006;
- c) The Hydropower plant at Adjarala on the Mono river, with an installed capacity of 94 MW and an average annual production of 326 GWh at an estimated project cost of about FCFA 101 billion with implementation to start in 2004;
- d) The Onigbolo-Bohicon power line including a substation at an estimated project cost of FCFA 7 billion with implementation in 2003;
- e) A power station at Maria Gleta and the acquisition of gas turbines at an estimated project cost of FCFA 6.4 billion with completion of installation by 2006.

Future Financial Performance

11. CEB's financial projections are summarized below (billions FCFA).

	Historical							Projections									
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		
Income Statement Items																	
Revenues	34.0	35.5	40.1	50.4	58.1	64.2	70.2	78.8	84.0	89.3	94.9	101.1	107.2	113.7	120.7		
Operating Income	0.4	-1.4	-9.1	4.4	12.1	12.8	10.7	19.8	15.5	15.9	15.2	14.8	14.9	15.1	17.3		
Net Income	0.6	-4.7	-11.1	4.4	13.8	3.7	7.3	16.7	18.8	23.6	24.4	26.8	29.4	34.0	38.1		
Funds Statements Items																	
Internal Sources	59.5	3.3	-2.7	9.9	19.2	11.1	15.0	26.6	29.2	37.0	37.5	39.7	41.8	46.1	49.8		
Borrowings	0.0	0.0	0.0	0.0	16.0	22.5	37.3	37.1	26.9	15.1	0.0	0.0	0.0	0.0	0.0		
Equity Investments	7.4	-0.8	-0.6	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.7	0.0	0.0	0.0	0.0		
Total Sources	66.9	2.6	-3.3	9.1	34.4	32.8	51.6	62.9	55.2	51.4	36.8	39.7	41.8	46.1	49.8		
Capital Expenditures	126.1	1.5	1.6	0.3	1.7	33.0	50.8	42.1	30.6	20.7	2.4	2.4	2.4	2.5	2.5		
Working Capital Increase (decrease)	-0.4	-3.7	-16.1	14.4	24.1	-7.1	-6.6	12.9	16.6	15.1	16.0	17.0	23.1	28.8	32.6		
Debt Service	-58.8	4.8	11.2	-5.6	8.6	6.8	7.3	7.9	8.1	15.6	18.5	20.3	16.3	14.8	14.7		
Total Applications	66.9	2.6	-3.3	9.1	34.4	32.8	51.6	62.9	55.2	51.4	36.8	39.7	41.8	46.1	49.8		
Balance Sheet Items																	
Current Assets	35.8	36.6	29.9	35.1	46.9	40.7	34.4	47.1	63.9	78.8	95.3	112.8	136.5	165.9	199.2		
Net fixed Assets	76.7	73.2	76.6	70.6	65.8	92.1	135.7	170.0	193.6	204.3	196.7	189.1	181.6	174.1	166.6		
Total Assets	112.5	109.9	106.5	105.7	112.8	132.8	170.1	217.1	257.6	283.1	292.0	302.0	318.1	340.0	365.8		
Current Liabilities	8.6	12.9	21.7	17.7	5.3	6.2	6.5	6.2	6.5	6.2	6.8	7.3	7.8	8.4	9.0		
Debt	64.0	63.6	64.2	64.3	71.6	88.6	119.8	151.8	174.6	178.1	163.4	146.5	133.2	121.0	108.5		
Equity	39.9	33.4	20.7	23.7	35.9	38.0	43.8	59.1	76.5	98.7	121.9	148.2	177.1	210.6	248.3		
Total Liabilities and Equity	112.5	109.9	106.5	105.7	112.8	132.8	170.1	217.1	257.6	283.1	292.0	302.0	318.1	340.0	365.8		
Financial Ratios																	
Income Statement Ratios																	
Operating Income % of Revenue	1%	-4%	-23%	9%	21%	20%	15%	25%	18%	18%	16%	15%	14%	13%	14%		
Net Income % of revenue	2%	-13%	-28%	9%	24%	6%	10%	21%	22%	26%	26%	27%	27%	30%	32%		
Operating ratio	93%	98%	117%	89%	76%	84%	81%	70%	68%	64%	66%	67%	67%	68%	68%		
Working ration (%)	79%	86%	106%	79%	67%	75%	72%	61%	59%	53%	55%	56%	58%	59%	60%		
Balance Sheet Ratios																	
Current Ratio	295%	232%	135%	131%	363%	284%	238%	344%	298%	326%	360%	489%	618%	733%	893%		
Debt/Debt+ Equity	62%	66%	76%	73%	67%	70%	73%	72%	70%	64%	57%	50%	43%	36%	30%		
Return on Net fixed Assets	3%	1%	-11%	9%	25%	12%	10%	14%	14%	16%	16%	17%	19%	20%	22%		
Collection period (days)	273	266	177	196	106	98	91	86	86	86	87	87	87	87	88		
Cash Flow Ratios																	

Debt Service Coverage	(0.13)	1.11	(0.24)	(1.98)	2.30	2.44	2.77	3.96	4.31	2.77	2.36	2.23	2.87	3.29	3.47
Self Financing Ratio, annual	85%	100%	38%	100%	100%	10%	12%	38%	64%	95%	100%	100%	100%	100%	100%
Self Financing Ratio, 2 year average		86%	83%	100%	100%	23%	11%	24%	49%	77%	100%	100%	100%	100%	100%

12. CEB's financial operations gained already considerable strength in 2003 through the devaluation of the dollar which decreased the dollar denominated power imports from VRA and through excellent rainfalls permitting the production of low cost hydropower. This strengthening will be reinforced through with the restructuring of the sources of its power supply. In the future, imports from VRA will be limited to electricity generated by hydropower and fuel based electricity generation will be eliminated by end 2005. Future use of gas turbines from 2005 onwards and hydropower available by 2008 from the Adjarala hydropower station will replace presently costly sources of power. This will allow decreasing tariffs, which are projected to be reduced by 7.5% in 2005, 9% in 2007 and 4% in 2008. These measures will enable CEB to make timely payments for its electricity imports, and to manage its working capital requirements. The projections indicate that with the restructuring of its sources of supply CEB will on the basis of existing tariff levels be from 2005 onwards in a position to restructure its debt through prepayment and depending on the size of the debt restructuring program to reduce its tariffs.

Financing Plan

13. CEB's financing plan was recently firmed up and sources of finance have been earmarked for specific investments. The financing of the interconnection with Nigeria through a 330 kV line, and extension of CEB's network by a 161 kV line including ancillary investments is already secured as are the investments in Togo through the financing from SGI Togo through a FCFA 25 billion bond with an interest rate of 9% and a maturity of 7 years and a grace period of 4 years, beyond 2008 provision for financing a modest replacement program was made. These investments include also the power lines and substations in Togo associated with the proposed project as well as the Onigbolo Bohicon power line with a substation.

14. CEB's investment and financing plan is shown in the table below:

Investment and Financing Plan (in US \$ million)

	2004	2005	2006	2007	2008	2009	2010	Total	%
Investment Plan in million US \$									
Proposed Project	17.9	31.6	11.7	0.0	0.0	0.0	0.0	61.2	20%
Other Investments	37.1	53.1	58.5	51.0	34.4	4.0	4.0	242.2	80%
TOTAL	55.1	84.7	70.1	51.0	34.4	4.0	4.0	303.3	100%
Financing Plan									
Internal Cash Generation	1.6	11.9	8.3	6.3	9.2	4.0	4.0	45.2	15%
On-lent IDA Credit	4.9	8.3	3.0	0.0	0.0	0.0	0.0	16.3	5%
Other Project Lending NDF	3.6	6.0	2.4	0.0	0.0	0.0	0.0	12.0	4%
Other Project Lending BOAD	2.3	3.8	1.5	0.0	0.0	0.0	0.0	7.5	2%
Other Identified Lending	42.7	54.8	54.9	44.8	25.2	0.0	0.0	222.4	73%
TOTAL	55.1	84.7	70.1	51.0	34.4	4.0	4.0	303.3	100%

15. Over the period from 2004 to 2010, CEB will finance a portion of its investment program out of internally generated funds, partly for the Adjarala hydropower project and partly for rehabilitation and replacement works. The funding plan for the Adjarala project foresees a 11% contribution by CEB out of internally generated funds towards the investment program; this and other investments will result in an overall contribution of 15%.

16. Different sources of finance will fund CEB's investment program. These sources, their terms and conditions and respective components are summarized in the tables below.

Investment Components				
Investment Component	Billion FCFA	Source	Percentage of Financing	Amount in billion FCFA
Interconnection NEPA-CEB	11.824			
financed by	5.912	BOAD	50%	5.91
financed by	4.730	CEDEAO	40%	4.73
financed by	1.182	FAD	10%	1.18
Adjarala	101.334			
financed by	35.484	Supplier Credit	35%	35.484
financed by	8.191	BOAD 2	8.1%	8.191
financed by	46.421	Fonds Arabes	45.8%	46.421
Lot 1A (postes Togo)	5.790	SGI-Togo	100%	4.46
Lot 1B (postes Bénin)	4.878	IDA	98%	4.780
Lot 2 (lignes Togo)	7.200	SGI-Togo	100%	7.200
Lot 3 (lignes Bénin)	4.500	BOAD	100%	4.500
Lot 4 (lignes Nati. + Bemb.)	7.200	NDF	100%	7.200
Lot 5 (ligne Dapaong-Mango)	2.720	SGI-Togo	100%	2.720
Lot 6 (Supervision)	5.682	IDA	88%	5.000
Achat transformateurs	2.986	SGI-Togo	100%	2.986
Liaison Bohicon-Onigbolo	3.900	SGI-Togo	100%	3.900
Centrale M. Gléta + TAG Gaz	6.400	BOAD	100%	6.400
TOTAL	163.388			123.544

Amounts, Terms and Conditions of Sources of Finance

Source of Finance	Amount in billion FCFA	Maturity	Grace Period	Interest	Front end Fee	Commitment Fee	Guarantee Fee
IDA	9.780	13	3	3.0%	0%	0%	0.0%
NDF	7.20	13	3	0.0%	0%	.75%	0.0%
BOAD I	5.91	12	3	8.0%	1.0%	0.5%	0.0%
BOAD II	4.50	12	3	8.5%	1.0%	0.5%	0.0%
CEDEAO	4.73	12	3	7.5%	0.8%	0.8%	0.0%
Credit fourni.	35.484	14	4	2.0%	1.0%	1.0%	0.0%
FAD	1.18	25	20	0.0%	0.0%	0.0%	0.0%
Fonds Arabes	46.421	25	5	2.0%	1.0%	0.5%	0.0%
SGI-Togo	25.40	7	4	9.0%	1.0%	0.0%	1.5%

17. The transmission line investment shall be sought approved as a "Clean Development Mechanism" (CDM) project with a 10 years crediting period for carbon dioxide emissions. It is expected that the project will displace between 690,236 tons and 1,463,543 tons of carbon dioxide in the first ten years of operation of the transmission line, depending on the supply mix of the replacement energy. The present value (at 10%) of the Certified Emission Reductions (CER's) generated by the investment are estimated between US\$2.0 million and US\$4.3 million, depending on the electricity supply mix (gas and Hydro) and assuming a sales price of US\$5.0 per CER.

18. In determining the on-lending rate for the IDA credit an assessment was carried out to see whether the operations in the North of Benin could support on-lending arrangements commensurate with prevailing conditions. As the cost per kWh delivered to the North is FCFA 60 and the tariff is FCFA 50, only the tariff would need to be increased beyond reasonable levels. This would also be in conflict with stated GoB policy on electricity tariffs, which foresee application of the same tariff level in the whole country.

Therefore, any debt service for the IDA credit would be supported by CEB's overall operations. The projections, therefore, assumed an interest rate of 3%, a maturity of 20 years with 5 years of grace.

Tariffs

19. CEB's tariff has two kWh rates, one for the retailing electricity companies and the other for all other large volume customers without any differentiation for time and location of delivery. Tariffs were last adjusted in June 2002, only after long delays for recovering increases in the cost of inputs as well as foreign exchange fluctuations. There is, therefore, the need to introduce a more efficient tariff structure as well as to define a formula that would allow periodic adjustments for tariffs if certain thresholds were reached.

20. Introduction of a "Tariff Adjustment Formula" is necessary because of fluctuations in cost of inputs and foreign exchanges. The GoB has agreed to the introduction of an indexation formula which would become applicable from January 1, 2005.

21. A program for installing measuring equipment necessary for billing according to the marginal cost is presently being implemented. Once the equipment is tested, a new tariff structure will be implemented, that would allow for billing according to the marginal cost from January 1, 2005 onwards.

22. Finally, the completion of the North Togo/North Benin transmission line and of the CEB/NEPA project together with the switchover to less costly sources of energy would warrant a review of the overall level and structure of tariffs. A review of CEB's tariff should be initiated in 2006/2007.

Audit

23. CEB's accounts are regularly audited by independent auditors. While the quality of the audits covering the years 1998 to 2000 was adequate, the 2001 audit was initially not of the same scope as earlier ones, as the auditor had been changed in line with CEB's provision that foresee appointment of the auditor for a three year cycle. New auditors will be retained by CEB to Audit the 2003 accounts.

Insurance

24. CEB carries at present, insurance coverage for the following risks: breakdown of equipment, lightning, and liability of the chief executive and third party liability for vehicles.

Société Béninoise d'Electricité et d'Eau (SBEE)

25. SBEE assured electricity and water services in Benin until January 2004 (from January 2004 onwards, SBEE is operating electricity services only, while water services are operated by SONEB). A number of operations are combined for the two services such as billing and collection, financial management, accounting, personnel management and audit/internal control.

26. In general, SBEE's operations do not convey the picture of a well-managed public utility. Its operations resemble more those of a government agency, willing to provide services and not very much concerned about timely payment of bills for services rendered, monitoring of its cash flow so that obligations are met, performing cost control and internal audits. Inadequate office space leads in the accounting department not only to overcrowding of workstations but also to unacceptable storage facilities for accounting data. While its staff show motivation to improve operations, lacking of hardware and software still require that a number of operations are either performed manually or repetitive entering of the

same data for different purposes. This gives rise to a number of errors and discrepancies, which show up in the annual external audits. Although SBEE has received, over the years, substantial technical assistance its operations are in such a state that only the involvement of a private operator in the electricity sector could remedy the situation.

Past Financial Performance

27. In 2000 and 2001, SBEE experienced losses in its power operations. Its cash flow was barely sufficient to meet regular expenses and meet debt service payments. In 2001, the financial constraints became so evident that SBEE had to secure a bank overdraft of FCFA 1.9 billion. In the same year, prepayment by consumers increased by another FCFA 1 billion and still, SBEE was unable to meet debt service obligations that amounted at end-2001 to FCFA 2.4 billion. Accounts receivable amounted by end-2001 to FCFA 24 billion representing about 7.6 months of combined electricity and water sales. The net amount of accounts receivable was at end-2001, FCFA 17.5 billion following provisioning for bad debt of FCFA 6.5 billion. System losses varied between 13.4% and 14.1% between 1996 and 2000 and jumped to 17.4% in 2001. Over the same time, the average rate per kWh increased from FCFA 64.07 in 1996 to FCFA 70.65 in 1997 from which time onward, it was relatively stable till 2000 when it dropped to FCFA 67.87 before increasing to FCFA 72.46 in 2001.

28. In the first half of 2002, SBEE's financial situation continued to worsen when it could not pay its regular bills for electricity purchases from CEB. Finally, the tariff increase in June 2002 improved the situation but only in the last quarter because of problems in reflecting the new tariff structure in the electricity bill. In the first half year of 2003, SBEE was able to pay CEB's bills. Subsequently, late payment by GoB and its agencies forced it to stop payments in the second half of 2003.

29. The table below summarizes the SBEE accounts receivable and its accounts payable. At the end of 2003, SBEE's accounts receivable amounted to FCFA 10.3 billion and its accounts payable to FCFA 9.9 billion. In addition, SBEE owed CAA FCFA 6 billion. Through a compensation in February 2004, SBEE's outstanding bills to CEB were compensated with CEB's arrears to CAA in the amount of FCFA 8.8 billion for loans received from GoB. As a result of this compensation, SBEE's arrears to CAA were increased by FCFA 5 billion totaling to FCFA 11 billion. This amount corresponds more or less to GoB accounts payable to SBEE, which could be settled through another compensation scheduled to be completed before June 30, 2004.

Accounts Receivable of SBEE

from	2002	2003	Total
Local Governments	FCFA 4 billion	Not yet available	FCFA 4 billion
Administration	FCFA 2,9 billion	FCFA 2,5 billion	FCFA 5,3 billion
University Hospital		FCFA 0,98 billion	FCFA 0,98 billion
State Television		FCFA 0,360 billion	FCFA 0,360 billion
		Total	FCFA 10,28 billion

Accounts Payable of SBEE

To CEB	2002	2003
		FCFA 9,9 milliards part of compens.arrangement

Overdue Debt Service of SBEE

To CAA	FCFA 6 milliards + FCFA 5 milliards resulting from compensation with CEB
	Total FCFA 11 milliards

30. All sector arrears and debts as of December 31, 2002 have been settled. Debts and arrears in the sector for 2003 will be settled no later than September 30, 2004. The Ministry of Finances is carrying an audit to determine the exact amounts for the cross debts in the sector.

Future Performance

31. Under the ongoing privatization of SBEE, the consultants will study in details the financial situation of the utility. A Financial model will be prepared as well as detailed technical studies for what need to be carried out to provide quality service to all potential and existing customers. An investment plan will be defined as well as the financial impact of such investments. The APL-2 component of this project will address the financing of such investment plan as well as the financial projections for SBEE. Financial projections, which were based on the new tariffs and an investment plan that includes the investments to attain the objectives of the project, produced encouraging and satisfactory results.

Accounting System

32. The accounting system is a double entry system on accrual basis and follows the format prescribed for companies in Benin. Timely recording of transactions is a serious problem, which is to some extent, explained by serving the whole country with centralization of accounting operations in Cotonou. However, this cannot clarify the considerable deficiencies raised over the years in the auditors' report which relate to great delays in closing off the accounts, the improper posting of transactions requiring substantial adjustments by the auditors and difficulties in determining the correct amount of revenues. Inadequate record keeping causes great difficulties in the review of posting.

Financial Management

33. Despite the considerable technical assistance extended to SBEE, practically only few and very limited data is collected, prepared and analyzed on a regular basis that would permit managing the company in line with standard public utility practices. This is a considerable inadequacy of the company. A good indication of the weakness of its financial operation is the result of a tax audit, which assessed in 2001 back VAT taxes of FCFA 1.3 billion and a fine of FCFA 192 million.

Cost Accounting, Budgeting and Internal Audit

34. While the organizational setup of SBEE shows divisions in charge of cost accounting, budgeting and internal audit, the services performed leave much to be desired. An effective cost accounting does not exist and budget control is not performed on a daily basis resulting in frequent overspending of the amounts budgeted. Also, the clear delineation of the tasks of the internal audit function does not ensure that, most of the controls are performed, partly due to lack of training, and partly because of inadequate systems and hardware. The only regularly prepared report is the annual report on operations which cannot be used for management purposes because of the considerable time delay required for its completion. With the exception of a monthly forecast of the cash requirements, no other regular reports provide information on the financial situation of SBEE.

Tariffs

35. The tariff adjustment in June 2002, introduced the same tariff structure for the whole country by setting tariffs according to consumer categories and level of consumption. The low voltage tariff has three brackets going from FCFA 56/kWh for the first 20 kWh to FCFA 85/kWh for consumption up to 250 kWh, and FCFA 95/kWh beyond that ceiling. The industrial tariff at FCFA 56/kWh provides one alternative without fixed fee but cut-off during peak demand and the other with a fixed fee of FCFA 5,315/kVA. The tariff for small commercial activities is set at FCFA 88/kWh and for larger ones, including hotels at FCFA 72/kWh. The highest rate applies to public lighting with FCFA 98/kWh.

Billing and Collection

36. Meters are read on a monthly basis with the bill for the previous month being distributed at the same time. Payment can be made either by cash or check. With the exception of one regional direction for which the bills are processed in Cotonou, all bills are prepared in the regional center with computers. Bills are considered overdue after three months. Cut-off of connections is only practiced with domestic customers. No statistics on cut-offs are compiled on a regular basis.

37. Collections show discrepancies between customer categories and regions. Provision of services over the years to liquidated or privatized state-owned companies is still carried in SBEE's books with about FCFA 8 billion. Like operations in other fields, collections are not monitored and accounts receivable are only compiled on an annual basis without an analysis of their structure.

Taxes

38. SBEE's operations are subject to a number of taxes. With the exception of goods and services financed under foreign assistance lending, all purchases of goods and services are subject to VAT at 18%. SBEE can recuperate the VAT payments directly by imposition of VAT on its electricity bills to all customers except for government agencies and the so-called social tranche of 20 kWh per month. While a mechanism exists allowing for the recovery of the VAT for electricity sales to government agencies, this does not exist for the social tranche. Here, SBEE has to absorb the VAT related to the inputs, which applies not only to those customers that limit their consumption to the social tranche but to all customers as any electricity sale benefits from the lower first tranche. Given this abnormality, SBEE absorbs about FCFA 520 million out of which FCFA 400 million for consumption exceeding 20 kWh per month.

39. Other taxes include a corporate income tax at 37% with a minimum of FCFA 5 for each FCFA 1,000 turnover in case of the company did not generate any income. All tenders have to be registered with the national tender board and require a registration fee of 7%. Imported goods are subject to customs duties. Normally, goods procured and imported under financial assistance programs are not subject to the tender registration fee and customs duties.

Audit

40. The 2001 and again the 2002 auditor's report raised a number of observations, which relate to the control of payments, record management, posting errors and differences in the recording of accounts receivable by different systems. Although SBEE agreed in the past to take corrective actions, the matter has not, so far, been resolved satisfactorily.

Insurance

41. SBEE carries insurance for its vehicles and third party liability for damages associated with the delivery of electricity and water. SBEE is reviewing the adequacy of its insurance coverage so that agreement can be reached at appraisal on the appropriate coverage.

Main assumptions:

42. In preparing the financial projections of CEB the following major assumptions were used:

Income Statement	
Inflation	All cost and revenues are assumed to be subject to an annual inflation of 2% from 2003 onwards
Electricity Revenue	Sales are forecast according to detailed demand forecasts
Import of Electricity	According to detailed projections of available sources of electricity supply by selecting the least cost alternative
Purchase of Electricity	According to detailed projections available sources of electricity supply by selecting the least cost alternative
Fuel, Gas	Calculated in line with power generation by turbines and diesel
Payroll	Increased according to projected increase in service provision
Contracted Services	1.5% of fixed asset value, adjusted for inflation
General & Administrative Cost	5% of Payroll and other Expenses
Forex Provision	Provision of .75 % of outstanding loan balances
Non Operating Income	Settling of OTP electricity bills of FCFA 3.3 billion in equal installment of FCFA 0.66 billion over 5 years from 2002
Balance Sheet	
Cash	Minimum 1 month of cash operating expenses excluding electricity purchases
Accounts Receivable	Reduction to 2 ½ months of billing by 2005 and to 2 months by 2006
Other debtor	1.5 % of cash operating expenses
Inventory	1.5% of fixed assets adjusted for inflation
Other Accounts Payable	1.5 months of cash operating expenses
Overdue Debt Service	Settling of overdue bills and outstanding debt service payment of FCFA 2.24 billion in 2002, FCFA 7.02 billion in 2003, FCFA 1.8 billion from 204 onwards to 2007, and payments according to agreement with CAA; settling of FCFA 5.41 billion in equal installments over 5 years

Annex 6(A): Procurement Arrangements

BENIN: Energy Services Delivery Project

Procurement

General

1. A Country Procurement Assessment Report (CPAR) for Benin was carried out in April 1999. The implementation of the recommendations of the CPAR materialized in November 2002 at a national workshop on the procurement system in Benin, and the creation, by Ministerial Decision No. 2003/696/MFE/DC/DGML/CNMP/SP dated 19 June 2003, of the National Coordination and Monitoring Committee (Comité National de Coordination et de Suivi (CNCS)). This committee is in charge of conducting the reform initiated with technical support from a joint World Bank and African Development Fund mission (FAD).

2. The action plan retained by GoB, for the reform of the Procurement System, will help, among other things : (a) to put in place a regulatory and institutional framework in order to attain the objectives of the reform through the following five pillars : (i) improvement of the regulatory and institutional framework of public contracts, (ii) modernization of public procurement procedures, (iii) increase capacity building, (iv) establishment of an independent control system, and (v) adoption of anti-corruption measures; (b) to gradually and coherently increase the empowerment of the decentralized procurement entities; (c) to define a strategic framework for capacity building in procurement; and (d) to update tools such as standard bidding documents and manual for procurement procedures to ensure effective use of the procurement Code. All the above actions are being implemented under the PRSC, and GoB is committed to implement these reforms before end 2005.

Procurement capacity

3. A procurement capacity assessment for CEB, SBEE and DGE has been conducted in December 2003. The assessment showed that procedures of CEB and SBEE who had already implemented the Bank Projects are satisfactory to ensure adequate transparency and efficiency. The assessment also showed that these entities are staffed with qualified procurement specialists. The experience of the General Directorate of Energy (DGE) is insufficient to implement the Project procurement activities. The main recommendations of this assessment will be taken into account in the project implementation mechanisms and specifically in the implementation manual. A Procurement specialist will be recruited for the DGE.

4. We underline that the national procurement procedures are being reformed and the documents currently used are not yet acceptable by the Bank; hence, no special exception may be stipulated in the Credit Agreement regarding the respect of IDA Guidelines, which override national regulations.

Guidelines

5. Procurement for goods and works, financed under IDA Credits, must be awarded in accordance with *the World Bank's Guidelines for Procurement under IBRD Loans and IDA Credits dated May 2004*; For International Competitive Bidding (ICB), the Project must use the Bank's standard bidding documents and model of evaluation report. National Competitive Bidding (NCB) advertised locally would be carried out in accordance with Benin's procurement laws and regulations acceptable to IDA, provided that the principles of economy, efficiency, transparency and fair competition in line with Bank's Guidelines, are respected. For National Competitive Bidding, the following conditions must be met: (a) the procurement notice shall be advertised in the national press or official gazette with wide circulation; (b) bidders must be given sufficient time (at least 4 weeks) to prepare and submit their bids; (c) the evaluation and qualification

criteria for bidders should be clearly specified in the bidding documents and applied without discrimination; (d) bids must be opened in public; (e) no bid can be rejected during the bid opening session; (f) no preferential margin must be given to local contractors and manufacturers; (g) contract award should be on the basis of best evaluated and responding to the norms of competence/quality and resources; (h) a clear indication in the bid evaluation report of reasons for rejecting any bid considered unsatisfactory; and (i) acceptance of bids from any eligible firm, even foreign. The above conditions applicable to the NCB must be specified in the project implementation manual. Any standard bidding documents elaborated for NCB would be submitted to IDA for prior examination before being used on the present project.

6. Consultant services, financed by the IDA Credit, will be procured in accordance with *the Bank's guidelines for the Selection of Consultants by World Bank Borrowers dated May 2004*. The Standard Request for Proposal (RFP) and the Sample Form of evaluation Report for the Consultant, as developed by the Bank, will be used for appointment of consultants. Simplified contracts will be used for short-term assignments, that is those not exceeding six months, carried out by firms or individual consultants.

7. Within two weeks of (i) receiving the Bank's no objection to the recommendation of contract award or (ii) the finalization of the evaluation (if the Bank no-objection is not required), the Borrower shall publish the results of the evaluation and the contract award in accordance with Bank Guidelines provisions.

Advertising procedure

8. A General Procurement Notice (GPN) will be submit to the Bank that will arrange for its publication in *UN Development Business online (UNDB online)* and in the *Development Gateway Market (dgMarket)*, as well as in one newspaper of national circulation and in the official gazette, as recommended in the Guidelines. Specific Procurement Notices (SPN) must be published in at least one newspaper of national circulation or official gazettes for each ICB, NCB, and "Requests for expression of interest" relating to Consultancy services. Moreover, for all ICB, and for all Requests for Expression of Interest relating to any contract of an estimated amount of about US\$ 200,000, the SPN should be published in the *UNDB online* and the *dgMarket*. The borrower may publish it in a well-known international newspaper or in a technical magazine.

Procurement mechanism

9. Procurement by the DGE. DGE will have overall responsibility for procurement coordination for the project. The following measures were recommended to strengthen DGE procurement capacity: (i) recruitment, for the first two (2) years of the project implementation, of a Procurement Specialist who will be in charge of the coordination of all procurement activities. The Specialist will work together and ensure gradual transfer of procurement competences to a high level staff at DGE, who will be designated by MMEH. This staff shall be entirely responsible for procurement aspects after the first two years of project implementation. The selection process for the procurement specialist at DGE must be completed and submitted to the bank for no-objection before project effectiveness; (ii) preparation of a detailed procurement plans for the first two (2) years of project implementation; the plans must be ready before the Project negotiations; (iii) elaboration of a project execution manual specifying the procurement procedures which must be submitted for the Bank's review prior to project effectiveness; (iv) provision of necessary training for the procurement personnel in each of the three organizations CEB, SBEE and DGE.

10. The procurement specialist of the DGE will be responsible for coordinating procurement activities under the project. He will also be responsible for all procurement matters concerning the MMEH, the COD and all other organizations except CEB and SBEE. The work load will comprise of: (a) programming of acquisitions (b) updating of the procurement plan; (c) preparing, finalizing and launching

of the Requests for Proposals and bidding documents; (d) drafting of Minutes of opening and evaluation of the bids as well as preparing of the bids evaluation reports; (e) submitting procurement documents (ToRs, RFP, Bidding documents, evaluation reports, contracts, ...) to the Bank when prior review is required; (f) preparing, and managing of contracts.

11. Procurement by the CEB and the SBEE. The CEB and the SBEE will each carry out their own procurement activities as per Annex 2. Every three (3) months, CEB and SBEE shall provide DGE with a procurement activities report in order to keep the DGE informed on procurement matters and facilitate an effective coordination of all project procurement activities. The task of CEB and SBEE will also include (a) providing input to the procurement plan prepared by DGE; (b) preparing, finalizing and launching of the Requests for Proposal and bidding documents; (c) drafting of Minutes of opening and evaluation of bids as well as preparation of the bid evaluation reports; (d) submitting of procurement documents (ToRs, RFP, Bidding documents, evaluation reports, contracts, ...) to the Bank when prior review is required; (e) preparing the contracts, and overseeing the payments to contractors. Before submitting the first application for disbursement, CEB and SBEE must furnish to the DGE a copy of the final contract.

Procurement methods (Table A)

Table A: Project Costs by Procurement Arrangements
(US\$ million equivalent)

Expenditure Category	Procurement Method ¹				Total Cost
	ICB	NCB	Other ²	N.B.F.	
1. Works	19.35	2.70	2.70	43.35	68.10
Supply and Erection of Plant and Equipment & Small Works	(17.40)	(2.43)	(1.02)	(0.00)	(20.85)
2. Goods	1.50	0.85	1.86	0.00	4.21
	(1.35)	(0.72)	(1.68)	(0.00)	(3.75)
3. Services	0.00	0.00	18.14	0.00	18.14
	(0.00)	(0.00)	(15.90)	(0.00)	(15.90)
5. Training	0.00	0.00	3.50	0.00	3.50
	(0.00)	(0.00)	(3.50)	(0.00)	(3.50)
6. Operating Expenses	0.00	0.00	1.25	0.50	1.75
	(0.00)	(0.00)	(1.00)	(0.00)	(1.00)
Total	20.85	3.55	27.45	43.85	95.70
	(18.75)	(3.15)	(23.10)	(0.00)	(45.00)

^{1/} Figures in parentheses are the amounts to be financed by the IDA Credit. All costs include contingencies.

^{2/} Other Procurement Method includes: (i) shopping; (ii) LIB; (iii) consulting services; and (iv) operational cost.

NOTE:

ICB	=	International Competitive Bidding
NCB	=	National Competitive Bidding
NBF	=	Not Bank-Funded

Procurement Methods

12. Works. Apart from small rehabilitation of office space, there are no major civil works contracts financed under the project. All other works to be financed under the project will be for the supply and erection of plant and equipment. Small civil works contracts estimated to cost less than US\$50,000 per contract, up to a maximum of US\$100,000 will be procured through procedures in accordance with paragraph 3.5 of the guidelines.

13. Contracts for supply and erection of plant and equipment estimated to cost more than US\$200,000 or equivalent per contract will be procured under International Competitive Bidding (ICB). Contracts estimated to cost less than US\$ 200,000 per contract will be procured through the National Competitive Bidding (NCB).

14. Goods: Contracts of Goods financed by IDA will concern equipment for energy efficiency & measuring CEB substations, vehicles and office equipment (furniture, computers and small materiel). These goods would be grouped in bid packages estimated to cost at least US\$150,000 per contract and will be procured under ICB procedures. The contracts with an estimated cost less than US\$150,000 for goods would be procured under NCB procedures or LIB. Small articles and office supplies as well as small equipment and furniture available locally and whose estimated cost is less than US\$50,000 may be awarded through Shopping; in those cases, the written request proposal must be addressed to several suppliers (not less than three) regularly established and in order with the administration of the Borrower in terms of their fiscal and social status. The contract may be awarded after comparing a minimum of three quotation. For the last procedures, CEB, SBEE and DEN should keep updated a register of suppliers regularly established and having shops for the articles to be acquired. Goods and works which meet the requirements for "Direct Contracting", referred to in paragraph 3.1, 3.6, and 3.7 of the procurement guidelines, may with the Bank prior agreement, be procured in accordance with the provision of said paragraphs.

15. Consultant services: The project will finance Consultant Services such as studies, technical and financial audits, technical assistance, training and workshops. Consultants will be selected through the following methods: (a) Quality and Cost Based Selection for firms (QCBS); (b) Least Cost Selection (LCS) for financial audit; (c) selection based on the Consultant's Qualification (CQ) for the selection of firms for contract estimated to cost less than US\$100,000 and US\$ 50,000 for individual consultants; (d) Single Source Selection (SS) shall be used, with agreement of IDA for services in accordance with the paragraphs 3.10 to 3.13 of the Guidelines; (e) Individual consultant (IC) will be selected in accordance with paragraph 5.1 to 5.4 of Bank guidelines.

16. The short list of consultants for service, estimated to cost less than US\$100,000 equivalent per contract may comprise entirely of national Consultants in accordance with paragraph 2.7 of the guidelines.

17. Training: It that there will be Various training is envisaged for operating staff estimated to cost about US\$3 million equivalent in total. The training will generally cover individual training attached to specific institutions, on-the-job training and hiring consultants for developing training materials, conducting training, and support for training activities through seminars, workshops and training abroad based on individual needs as well as group requirements. A detailed training program giving categories of training, number of trainees, duration of training, staff months, timing and estimated cost etc., will be submitted to IDA for review and approval prior to initiating the training process. The appropriate methods of selection will be derived from the detailed schedule.

Frequency of procurement supervision missions and audits

18. The Association should conduct a supervision mission every six (6) months and a post review every year. Separate technical audits would be conducted during the financial audits.

Action plan for procurement capacity building and management

19. The following action plan is recommended for the project :

- A Procurement Specialist should be recruited for the DGE. The Terms of Reference proposed for the latter are attached in the procurement capacity assessment report in the project file. The recruitment of the Procurement Specialist, on terms satisfactory to the Association, is a condition of effectiveness. The project Procurement staff should benefit from continuing training at a Center accredited by the Bank in order to be kept informed of the latest changes that might be brought to the Bank's Procurement Guidelines and standard documents;
- Elaborate the procurement plan for the first two years.
- The procurement staff appointed by the DGE shall be trained on the IDA procurement procedures by the Procurement Specialist recruited by the DGE.
- Elaborate an procurement execution Manual for CEB, SBEE and DGE.
- Carry out, during supervision missions, a diagnostic of contracts awarded with a view to identifying possible weaknesses and advising the procurement staff on the relevant improvements.

20. The action plan needed during the project preparation is as follow :

Task	Responsibility	Completion date
1. Recruitment of procurement specialist	DGE	Before effectiveness date
2. Elaborate the procurement plan for the first two years of the project implementation	DGE	Before negotiations
3. Elaborate a procurement execution plan in the PIM for CEB, SBEE and DGE	CEB, SBEE, DGE	Before effectiveness date

Procurement Plan

21. During Negotiations, the Borrower has submitted a Procurement plan for project implementation. During the project implementation, the procurement must be done in accordance with the procurement plan (which must cover at least the first two (2) years of project implementation) agreed by the Association during the Negotiations. At the beginning of each year, the Borrower shall update the Procurement Plan with the detailed procurement schedule for the coming year. All updated procurement plans must be submitted to the Association for review before using.

Table A1: Consultant Selection Arrangements (optional)
(US\$ million equivalent)

Consultant Services Expenditure Category	Selection Method							Total Cost ¹
	QCBS	QBS	SFB	LCS	CQ	Other	N.B.F.	
A. Firms	14.50 (12.76)	0.00 (0.00)	0.00 (0.00)	0.10 (0.09)	0.60 (0.50)	1.74 (1.53)	0.00 (0.00)	16.94 (14.88)
B. Individuals	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	1.20 (1.02)	0.00 (0.00)	1.20 (1.02)
Total	14.50 (12.76)	0.00 (0.00)	0.00 (0.00)	0.10 (0.09)	0.60 (0.50)	2.94 (2.55)	0.00 (0.00)	18.14 (15.90)

¹ Including contingencies

Note: QCBS = Quality- and Cost-Based Selection

QBS = Quality-based Selection

SFB = Selection under a Fixed Budget

LCS = Least-Cost Selection

CQ = Selection Based on Consultants' Qualifications

Other = Selection of individual consultants (per Section V of Consultants Guidelines), Commercial Practices, etc.

N.B.F. = Not Bank-financed

Figures in parentheses are the amounts to be financed by the Bank Credit.

Prior review thresholds (Table B)

Review by IDA

22. Table B provides the prior review thresholds. Each supply and erection of plant and equipment contract estimated to cost US\$500,000 equivalent or more and each contract for goods estimated to cost US\$150,000 or more will be subject to IDA prior review as per paragraph 2 and 3 of Appendix 1 of the Guidelines. In addition, the first two contracts of each procurement method of selection, irrespective of the amount, will be subject to prior review. All other contracts will be subject to post review in accordance with paragraph 4 of Appendix 1 of the Guidelines. All consulting contracts exceeding US\$100,000 for individuals and US\$100,000 for firms, and all training will be subject to IDA prior review.

23. For all other contracts for Works, Goods and Services that are not submitted to the prior review, the procurement documents will be submitted to IDA post review in accordance with the provisions of paragraphs 4 of Annex 1 of the Bank's Guidelines. The post review will be based on a ratio of at least 1 to 5 contracts.

Table B: Thresholds for Procurement Methods and Prior Review¹

Expenditure Category	Contract Value Threshold (US\$ thousands)	Procurement Method	Contracts Subject to Prior Review (US\$ millions)
1. Works			
1a. Supply & Erection of Plant & Equipment	Equal to or greater than 200,000	ICB	All contracts equal to or greater than 500,000. In addition the first two contracts irrespective of their estimated cost
1b. Supply & Erection of Plant & Equipment	less than 200,000	NCB	The first two contracts irrespective of their estimated cost
1c. Small Civil works contracts	Less than 50,000	Shopping	The first two contracts irrespective of their estimated cost
1d. Goods and Works	No threshold (All)	Direct Contracting	All Contracts
2. Goods			
2a. Electrical Equipment vehicles and office equipment	Equal to or greater than 150,000	ICB	All contracts equal or greater than 150,000, and the first two contracts irrespective of their estimated cost
2b. Electrical Equipment vehicles and office equipment	Less than 200,000	NCB	The first two contracts irrespective of their estimated cost
2c. Small electrical and			

office equipment	Less than 50,000	Shopping	The first two contracts irrespective of their estimated cost
3. Services			
Consulting firms	Equal or greater than 100,000	QCBS (international advertisement)	All contracts greater than or equal to 100,000.
Firms	Less than 100,000	CQ	All post review
Individuals	Less than 50,000	CQ	All post review
Individuals		IC	All contracts greater than 100,000
Individual / firms	No threshold (All)	SS	All contracts
4. Miscellaneous/ Compensation	No threshold (All)		All contracts
5. Miscellaneous: Training	Various training modules	Various */	All contracts
6. Miscellaneous			

Total value of contracts subject to prior review: US\$30.00 Million

Overall Procurement Risk Assessment: Average

Frequency of procurement supervision missions proposed: One every six months
(includes special procurement supervision for post-review/audits)

*/ A detailed training program giving categories of training, number of trainees, duration of training, staff months, timing and estimated cost etc., will be submitted to IDA for review and approval prior to initiating the training process. The appropriate methods of selection will be derived from the detailed training schedule.

NOTE:

ICB	=	International Competitive Bidding
NCB	=	National Competitive Bidding
Shopping	=	International/National Shopping
QCBS	=	Quality-and Cost-Based Selection
CQ	=	Consultants' Qualifications
IC	=	Individual Consultants
SS	=	Single Source

^{iv} Thresholds generally differ by country and project. Consult "Assessment of Agency's Capacity to Implement Procurement" and contact the Regional Procurement Adviser for guidance.

Annex 6(B): Financial Management and Disbursement Arrangements BENIN: Energy Services Delivery Project

Financial Management

1. Summary of the Financial Management Assessment

1.1 The Bank's policy (OP 10.02) requires borrowers and project implementing agencies to maintain financial management systems including accounting, financial reporting and auditing systems adequate to ensure that they can provide to the Bank accurate and timely information regarding projects resources and expenditures. A project coordination unit will be responsible for overall coordination of various project activities that will be implemented by SBEE, CEB and Direction Générale de l'Energie-DGE (Biomass component and overall project coordination). The PCU will be headed by a project coordinator (Head of DGE). He will be assisted by a core team comprising a financial and procurement specialist. The financial and accounting system is yet to be set up in DGE. As a result of the assessment of the financial management capacity of DGE, the needs to be fulfilled have been identified and an action plan has been defined in order to set up, prior to Credit effectiveness, an appropriate financial management system satisfactory to the Association. An accounting and financial manual will be prepared and a finance specialist will be recruited. The TOR is prepared and the recruitment of the consultant is in progress. Therefore, it is not possible at this stage to assess: (a) the financial management capacity of the DEN; (b) and the compliance of its financial management system with Bank procedures. The DGE financial management system will be assessed as soon as it will be set up. This should include explicit opinions on the status of the financial management system in place at the time of assessment (accounting and reporting systems, internal control system), including any financial management risk. Eventually, an action plan to strengthen the financial management system will be provided. However, CEB and SBEE which implemented world bank financed projects in the past have an acceptable financial and accounting system.

1.2 **CEB**, a multinational generation and transmission company for Benin and Togo, has already implemented the Nangbeto Hydroelectric Project (Cr.1507-BEN and Cr.1508-TG) and the Benin-Togo Engineering and Technical Assistance Project (Cr. 2366-BEN and Cr.2367-TG). The company is already versed in Bank financial management procedures and guidelines.

1.3 **SBEE** has already implemented the Power Rehabilitation and Extension Project (Cr. 2284-BEN) and is therefore already versed in Bank financial management procedures and guidelines.

1.4 **Project Coordination Unit (PCU):** Experienced staff will be recruited and a financial and accounting system will be set up.

1.5 **Financial Management Arrangement:** The project's management would be the responsibility of the DGE and its Director would act as the Project Coordinator. The DGE would be responsible for the day-to-day management of project activities, preparation of technical and financial reports, as well as the annual work program including the consolidated budget for all project components. He will closely work with SBEE, CEB to prepare the annual work programs and budgets. The DGE is responsible for overall coordination and the financial management of the project. The DGE will be also responsible for the management of Biomass component. However, CEB and SBEE have full autonomy to manage their respective component in respect to procurement guidelines. At the same time, they have to provide information to DGE on the financial, procurement and technical information on their component execution. The format and content of financial reports to be issued by CEB and SBEE will be specified in the project financial manual.

1.6 Country Issues: There is no significant country issues that may affect the smooth implementation of the project except counterpart fund issue. The Government contribution is estimated to US\$1.7 million over a period of 3 years. This issue was discussed during the appraisal mission and the government is committed to provide counterpart funds to facilitate the smooth implementation of the project.

1.7 Risk Analysis: From the financial management perspective, there is low risk affecting the project. The project will not be implemented through the public financial management system. CEB and SBEE, which have managed IDA funded projects in the past and have versed in Bank procedures and guidelines, will manage more than 65 percent of the credit. About 75 per cent of the credit will be subject to prior review due to the low volume/high value nature of its transactions.

2. Audit Arrangements

2.1 Independent and qualified auditors will carry out the audit of project accounts. The selection of auditors will be on a competitive basis in accordance with the World Bank's guidelines. There will be two audits required under this project:

- Audit of the consolidated annual financial statements of the project and
- Audit of the financial statement of SBEE and CEB.

All the reports will be submitted to IDA no later than six months after the close of each fiscal year.

3. Disbursement Arrangements

3.1 Disbursements under the proposed Credit will be made as indicated in Table C, according to the percentage indicated for the different categories. The credit will be disbursed mainly (about US \$ 25 million) through the direct payment method. The Financial specialist at the PCU Office would be entrusted with the Project's overall financial management and reporting and would serve as the principal contact for Bank disbursement purposes. The Project will be completed in five years.

Disbursement based on FMR

3.2 The Report-based Disbursements will not be used in this Project due to the low volume but high value nature of transactions. More than 70 percent of credit will be subjected to prior review and disbursed based on the full documentation.

Flow of funds

3.3 **Credit:** The Caisse Autonome d'Amortissement (CAA) is the assigned representative of the borrower for the mobilization of IDA credit. For direct payment or reimbursement methods, funds withdrawal requests with supporting documentation are prepared by CEB, SBEE and DGE, sent to the CAA for signing and forwarding to the Bank to authorize direct payments or reimbursement. The funds are transferred directly into the beneficiary account. Copies of withdrawal applications prepared by SBEE and CEB are sent to the DGE as a project coordinator. For SA replenishments, the withdrawal application is prepared by DGE and sent to the CAA for signing and forwarding to the Bank.

3.4 **Government contribution.** The government will open a Project Account at the Treasury which will be managed by a Cash Advance Account Manager appointed by government. The annual allocation is communicated to the project at the beginning of year after the vote of government budget. The project Cash Advance Account Manager will take necessary measures to mobilize the first tranche of funds which represent usually the quarter of the annual allocation. As the project account is functioning as an advance account, it is replenished if acceptable justification of the expenses is provided by the Cash Advance Account Manager.

Allocation of credit proceeds (Table C)

Table C: Allocation of Credit Proceeds

Expenditure Category	Amount in US\$million	Financing Percentage
Goods and Works for supply and erection contracts	19.40	100 percent of foreign expenditures and 90 percent of local expenditures
Goods and Vehicles	3.40	100 percent of foreign expenditures and 90 percent of local expenditures
Services	13.50	90% of foreign expenditures and 80% of local expenditures
Training	3.10	100%
Operating expenses	0.85	85%
Refinancing PPF	0.75	
Unallocated	4.00	
Total Project Costs with Bank Financing	45.00	
Total	45.00	

Use of statements of expenditures (SOEs):

3.5 Disbursements for all expenditures would be made against full documentation, except for items of expenditures related to contracts costing up to US\$500,000 for works, US\$150,000 for goods, US\$100,000 for Individuals Consultant, and US\$100,000 for firms and miscellaneous expenses which would be claimed on the basis of Statement of Expenditures. All expenses related to contracts below prior-review thresholds would be claimed on the basis of SOEs and the supporting documentation underlying all SOEs would be made available for review by Bank supervision missions. Supporting documentation would be retained by the PCU. The primary responsibility of maintaining the records rests on the project's Financial Specialist.

Special account:

3.6 To facilitate disbursements, the project coordination unit (PCU) will open and maintain one special account in a Commercial Bank acceptable to IDA to finance project eligible expenditures. Except expenditures subject to direct payment method, CEB and SBEE may also pre-finance some expenditures and will be reimbursed by PCU through the project special account. The authorized allocation for the SA will be FCFA 800 millions to be withdrawn from the Credit Account. Upon effectiveness, authorized allocation shall be limited to an amount of CFA Francs 400 millions until the aggregate of SA replenishment equal or exceed the equivalent of US \$ 10 million. The Special Account would be audited annually by external auditors acceptable to IDA.

3.7 **Government Counterpart Fund.** The Government Counterpart Fund for the project is estimated at 930 million FCFA over a period of 3 years. The Borrower will open a Project Account at the Treasury, in accordance with terms and conditions acceptable to IDA, in order to cover the share of investment and operating expenditures partially financed by IDA or other donors. The counterpart fund will also finance the Borrower's civil servants additional allowance ineligible to the credit. Before the effectiveness of the project the Government will deposit into the project account an initial contribution of FCFA Francs 150 million. The project account will be an advance account to be managed by the Cash Advance Account Manager. The project account will be replenished every semester, until the completion of the project, to the amount of the initial deposit or whenever its balance is less than FCFA Francs 60 million. The government must ensure that amounts deposited in the Project Account are used exclusively for the project expenditures.

3.8 **CEB and SBEE contributions.** The respective contributions are estimated to US\$0.75 and US\$0.45 million over the 3 years. To facilitate the implementation of the project and follow up CEB and SBEE contributions during the payment of the project expenditures, it is agreed that each of the two institutions will open a specific account in order to cover the share of investment expenditures partially financed by them. All their payment relative to the project will be made through these accounts. Before the effectiveness of the project, CEB and SBEE will deposit into the account initial contribution respectively of FCFA 70 million and FCFA 40 million to be replenished whenever their balance are less than FCFA 30 million and FCFA 15 million.

Financial Management Action Plan

Task	Responsibility	Completion date
1. Recruitment of project key staffs (Financial specialist, procurement specialist, accountant ..) · Preparation of TOR · Publication of request for selection of consultant responsible for recruitment · Recruitment of consultant · Signature of contract with project staff and beginning of assignment	DGE	Done Done Done July 15, 2004
2. Administrative and Accounting Manuel. · Preparation of TOR · Selection of consultant · Preparation of the draft manual · Review and validation of manual · Finalization and submission to IDA.	DGE	Done Done June 30, 2004 July 7, 2004 July 15, 2004
3. An accounting and financial management software · Preparation of TOR · Selection of software · Implementation and training of staff.	DGE	Done July 7, 2004 July 21, 2004
4. Assessment of the financial management capacity of the DGE. · Mission to assess the compliance of the DGE's FM capacity level according to WB requirements · Compliance with WB requirements.	IDA	Mid-August, 2004 after the completion of steps 1, 2 and 3

Annex 7: Project Processing Schedule
BENIN: Energy Services Delivery Project

Project Schedule	Planned	Actual
Time taken to prepare the project (months)		
First Bank mission (identification)		
Appraisal mission departure	01/22/2004	02/23/2004
Negotiations	05/03/2004	05/05/2004
Planned Date of Effectiveness	10/15/2004	

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Annex 8: Documents in the Project File*
BENIN: Energy Services Delivery Project

A. Project Implementation Plan

B. Bank Staff Assessments

- Procurement Capacity Assessment of CEB, SBEE and DGE (by Itchi Gnon Ayindo, Procurement Analyst)
- Main recommendations resulting from procurement assessment of CEB, SBEE and DGE (by Itchi Gnon Ayindo, Procurement Analyst)
- Procurement Capacity Assessment - Summary of findings and Actions Handling (by Itchi Gnon Ayindo, Procurement Analyst)

C. Other

- Renforcement, Extension et Densification des réseaux électriques dans les villes de Cotonou, Porto-Novo, Calavi & Actions urgentes sur ces réseaux - Aka Ahoulou (Rapport définitif - Mars 2004)
- SBEE - Rapport d'Audit des comptes au 31/12/2001 - Deloitte & Touche Burkina (rapport définitif)
- SBEE - Rapport d'Audit des comptes au 31/12/2000 - Deloitte & Touche Burkina (rapport définitif)
- SBEE - Rapport d'Audit des comptes au 31/12/1999 - Deloitte & Touche Burkina (rapport définitif)
- SBEE - Audit des comptes exercices 1999, 2000, 2001 - Lettre de contrôle interne et recommandations destinées à améliorer le fonctionnement - Deloitte & Touche Burkina (rapport définitif)
- Décret No. 2003-203 du 12 juin 2003 portant création de la SONEB (Société Nationale des Eaux du Bénin)
- Décret No. 2003-204 du 12 juin 2003 portant approbation de statuts de la SONEB
- SBEE - Budget 2004 (Electricité) - Adopté par le Conseil d'Administration le 5 novembre 2003
- SBEE - Budget 2004 (Eau) - Projet
- Etude de l'approvisionnement de la CEB en électricité - SOGREAH (Rapport définitif - Août 2003)
- Analyse financière pour les institutions en charge de la production, du transport et de la distribution électrique, CEB, Togo Electricité et SBEE - Projections financières pour la CEB - SOGREAH (Rapport définitif - Septembre 2003)
- Rapport d'Etude d'Impact Environnemental et Social - Volet Etude Economique et Sociale - CIMA International (Mai 2003)

- Rapport d'Etude d'Impact Environnemental et Social - Volet Etude Environnementale - CIMA International (Mai 2003)
- Rapport de balisage définitif - Volet Etudes topographiques - CIMA International
- Audit de Gestion CEB - Rapport détaillé - KPMG
- Audit de Gestion CEB - Synthèse des points d'amélioration - KPMG
- Ligne d'Interconnexion Nord Togo/Nord Bénin - Etude d'Impact sur l'Environnement + Annexes - Coyne et Bellier - Final (Novembre 2003)
- Ligne d'Interconnexion Nord Togo/Nord Bénin - Plan de Réinstallation des Populations + Annexes - Coyne et Bellier - Final (Novembre 2003)
- Etude de la Réforme institutionnelle des secteurs de l'électricité et de l'eau - Rapport de Diagnostic final
- Booz-Allen & Hamilton (Août 2000)
- Rapport sur le cadre réglementaire - Booz-Allen & Hamilton (10 mars 2000)
- Rapport sur le diagnostic et la stratégie - Booz-Allen & Hamilton (10 mars 2000)
- Rapport préliminaire - Booz-Allen & Hamilton (15 décembre 1999)
- Interconnexion du Nord Togo/Nord Bénin: Electrification de l'Atakora et du Borgou au Bénin - Rapport d'étude d'avant-projet détaillé - SOGREAH/ELECTROWATT Engineering (Mai 1999)
- Interconnexion du Nord Togo/Nord Bénin: Etude d'Impact sur l'environnement - SOGREAH/ELECTROWATT Engineering (Rapport final Mars 1998)
- Interconnexion du Nord Togo/Nord Bénin: Etude d'avant-projet détaillé - SOGREAH/ELECTROWATT Engineering (Rapport final Novembre 1998)

*Including electronic files

Annex 9: Statement of Loans and Credits

BENIN: Energy Services Delivery Project

29-Apr-2004

Project ID	FY	Purpose	Original Amount in US\$ Millions			Cancel.	Undisb.	Difference between expected and actual disbursements*	
			IBRD	IDA	GEF			Orig	Frm Rev'd
P072003	2004	Benin PRSC1	0.00	20.00	0.00	0.00	19.63	0.00	0.00
P073118	2002	BJ:HIV/AIDS MULTI SECTOR	0.00	23.00	0.00	0.00	19.04	4.62	0.00
P072503	2002	BJ:Cotton Sector Reform Project	0.00	18.00	0.00	0.00	17.00	6.91	0.00
P070204	2000	Labor Force Dev. Proj.	0.00	5.00	0.00	0.00	3.28	2.51	0.00
P067329	2000	BJ Distance Learning Project - LIL	0.00	1.83	0.00	0.00	0.23	12.99	0.13
P039882	2000	PRIVATE SECTOR	0.00	30.40	0.00	0.00	13.00	-17.34	8.81
P037580	2000	Benin: NAT PARKS CONS.& MGT	0.00	0.00	6.00	0.00	2.29	-4.28	0.00
P035648	1999	1ST DECEN.CITY MGMT.	0.00	25.50	0.00	0.00	2.34	2.56	2.57
Total:			0.00	123.73	6.00	0.00	76.81	7.97	11.51

BENIN
STATEMENT OF IFC's
Held and Disbursed Portfolio
Mar - 2004
In Millions US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1991/93/95	AEF BOAB	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00
1999	AEF Vision +	0.19	0.00	0.00	0.00	0.19	0.00	0.00	0.00
2000	FINADEV	0.00	0.34	0.00	0.00	0.00	0.34	0.00	0.00
	Total Portfolio:	0.19	0.34	0.01	0.00	0.19	0.34	0.01	0.00
FY Approval	Company	Approvals Pending Commitment							
		Loan	Equity	Quasi	Partic				
	Total Pending Commitment:	0.00	0.00	0.00	0.00				

Annex 10: Country at a Glance

BENIN: Energy Services Delivery Project

POVERTY and SOCIAL

	Benin	Sub-Saharan Africa	Low-income
2002			
Population, mid-year (millions)	6.6	688	2,495
GNI per capita (Atlas method, US\$)	380	450	430
GNI (Atlas method, US\$ billions)	2.5	306	1,072

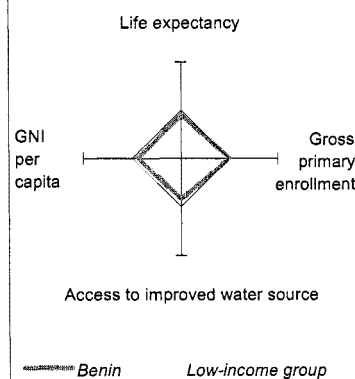
Average annual growth, 1996-02

Population (%)	2.6	2.4	1.9
Labor force (%)	2.9	2.5	2.3

Most recent estimate (latest year available, 1996-02)

Poverty (% of population below national poverty line)	..	..	..
Urban population (% of total population)	44	33	30
Life expectancy at birth (years)	53	46	59
Infant mortality (per 1,000 live births)	92	105	81
Child malnutrition (% of children under 5)	23	..	..
Access to an improved water source (% of population)	63	58	76
Illiteracy (% of population age 15+)	60	37	37
Gross primary enrollment (% of school-age population)	95	86	95
Male	113	92	103
Female	78	80	87

Development diamond*

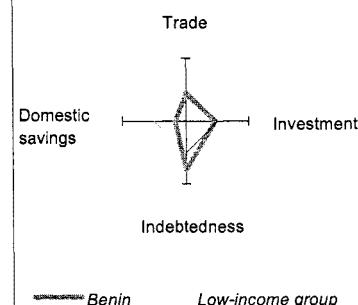


KEY ECONOMIC RATIOS and LONG-TERM TRENDS

	1982	1992	2001	2002
GDP (US\$ billions)	1.3	1.6	2.4	2.7
Gross domestic investment/GDP	27.6	13.8	19.2	19.2
Exports of goods and services/GDP	17.8	14.8	15.2	14.3
Gross domestic savings/GDP	5.3	0.0	6.5	6.8
Gross national savings/GDP	12.7	2.6	12.5	10.7
Current account balance/GDP	-29.8	-4.5	-3.1	..
Interest payments/GDP	0.5	0.7	0.6	0.8
Total debt/GDP	55.8	84.5	70.5	68.6
Total debt service/exports	10.0	4.3	13.4	16.8
Present value of debt/GDP	..	..	35.4	..
Present value of debt/exports	..	..	227.1	..

	1982-92	1992-02	2001	2002	2002-06
(average annual growth)					
GDP	2.3	5.0	5.0	5.3	..
GDP per capita	-0.9	2.2	2.3	2.6	..

Economic ratios*

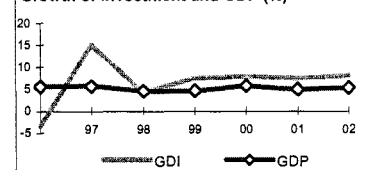


STRUCTURE of the ECONOMY

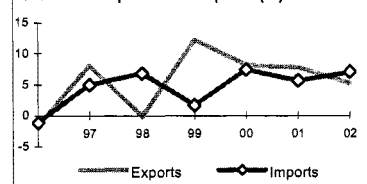
	1982	1992	2001	2002
(% of GDP)				
Agriculture	32.5	36.0	35.5	35.5
Industry	15.1	13.3	14.4	14.4
Manufacturing	9.1	8.3	9.2	9.1
Services	52.4	50.7	50.0	50.1
Private consumption	84.2	89.2	81.9	80.5
General government consumption	10.5	10.7	11.6	12.7
Imports of goods and services	40.1	28.6	27.9	26.7

	1982-92	1992-02	2001	2002
(average annual growth)				
Agriculture	5.8	5.7	3.1	5.6
Industry	1.7	4.5	9.1	6.5
Manufacturing	4.1	5.7	9.0	6.4
Services	0.3	4.6	5.4	4.6
Private consumption	2.7	4.7	4.5	5.5
General government consumption	-0.4	4.3	3.0	3.1
Gross domestic investment	-1.4	7.0	7.5	8.0
Imports of goods and services	-1.6	3.7	5.6	7.0

Growth of investment and GDP (%)



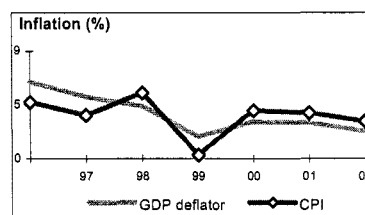
Growth of exports and imports (%)



* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

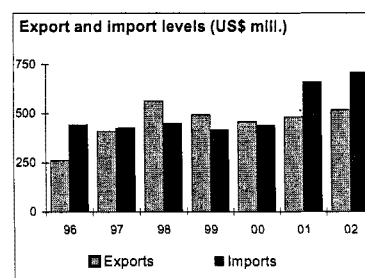
PRICES and GOVERNMENT FINANCE

	1982	1992	2001	2002
Domestic prices				
(% change)				
Consumer prices	..	5.9	4.0	3.3
Implicit GDP deflator	16.1	3.4	3.1	2.4
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	11.9	17.3	16.8
Current budget balance	..	-4.5	4.8	3.3
Overall surplus/deficit	..	-8.9	-2.9	-4.9



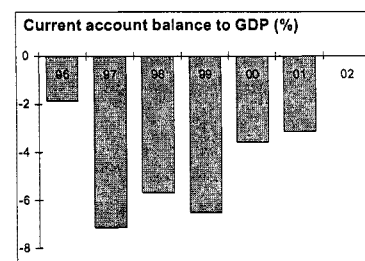
TRADE

	1982	1992	2001	2002
(US\$ millions)				
Total exports (fob)	..	132	484	518
Ginned cotton	..	104	191	201
Crude oil	..	16	..	..
Manufactures	..	..	..	..
Total imports (cif)	..	384	661	710
Food	..	117	202	217
Fuel and energy	..	40	120	129
Capital goods	..	215	371	398
Export price index (1995=100)	..	38	101	84
Import price index (1995=100)	..	47	116	114
Terms of trade (1995=100)	..	79	87	73



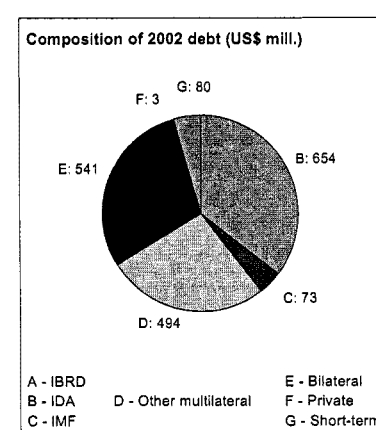
BALANCE of PAYMENTS

	1982	1992	2001	2002
(US\$ millions)				
Exports of goods and services	214	514	362	368
Imports of goods and services	700	719	665	688
Resource balance	-486	-205	-303	-320
Net income	-6	-60	-21	-24
Net current transfers	100	115	165	131
Current account balance	-377	-73	-74	..
Financing items (net)	227	165	94	..
Changes in net reserves	150	-92	-19	-20
Memo:				
Reserves including gold (US\$ millions)	..	..	..	..
Conversion rate (DEC, local/US\$)	328.6	350.6	733.0	697.0



EXTERNAL DEBT and RESOURCE FLOWS

	1982	1992	2001	2002
(US\$ millions)				
Total debt outstanding and disbursed	708	1,373	1,671	1,845
IBRD	0	0	0	0
IDA	73	389	598	654
Total debt service	25	28	50	63
IBRD	0	0	0	0
IDA	1	5	8	7
Composition of net resource flows				
Official grants	26	166	132	..
Official creditors	79	65	91	41
Private creditors	177	0	0	0
Foreign direct investment	0	78	131	..
Portfolio equity	0	0	0	..
World Bank program				
Commitments	23	40	10	41
Disbursements	11	33	48	23
Principal repayments	0	2	4	3
Net flows	11	31	44	20
Interest payments	1	3	4	4
Net transfers	10	29	40	16



Note: This table was produced from the Development Economics central database.

8/20/03

MAP SECTION

