

ELECTRIC POWER SECTOR PROGRAM

(CO-0202)

EXECUTIVE SUMMARY

**BORROWER AND
GUARANTOR:** Republic of Colombia

EXECUTING AGENCY: Ministry of Finance (MHCP)

AMOUNT AND SOURCE: IDB: US\$350 million (OC)
Total: US\$350 million

**FINANCIAL
TERMS AND
CONDITIONS:** The financial terms and conditions for disbursement of the program resources will be determined in accordance with the policy on emergency sector loans to be approved by the Bank's Board of Executive Directors.

Currency: U.S. dollars from the
Single Currency Facility

OBJECTIVES: The purpose of the proposed program is to create the enabling environment for electric power service to be provided as economically as possible, by making the agents of the electric power service more efficient. The program's specific objectives are to: (i) promote the sector's financial sustainability; (ii) consolidate the regulatory function within the sector; (iii) define a rural energization policy in areas that are not connected to the grid; (iv) promote establishment of an institutional and regulatory system within the electric power sector for environmental matters; and (v) facilitate private-sector involvement in the electric distribution business.

DESCRIPTION: This fast-disbursing program is in two groups: the first group involves policy-related, regulatory and institutional measures spread between two tranches; the second group is composed of measures to involve the private sector in distribution companies and will be carried out with three floating tranches. The first group, with financing totaling US\$175 million, includes specific measures relating to the sector's financial sustainability, regulation, rural energization and environmental issues.

With regard to financial sustainability, measures are planned to have energy-assistance funds [*fondos de*

solidaridad] operating in both the gas and electric power subsectors. As for regulation of the sector, the program will support actions to consolidate the independence and soundness of the Comisión de Regulación de Energía y Gas [Energy and Gas Regulatory Commission] (CREG). Also planned are measures to devise a rural energization policy for areas in the country not now connected to the grid, and to establish an institutional system in environmental matters.

The second group of measures is supported by three floating tranches with financing totaling US\$175 million. These tranches – the first of which has already been completed and will be disbursed once this proposal is approved and the respective conditions precedent fulfilled – have specific goals to involve the private sector in 19 of the 21 distribution companies. Private-sector involvement is understood as: the sale of assets to private parties, privatization, concessions or contracts with private parties for full management of a company. Separating the generation, transmission, distribution and marketing services is essential for the organizational system adopted for the Colombian electric power sector to function efficiently, promote competition and properly control possible monopolistic practices. Therefore, as part of the private-sector involvement process, the program includes measures to eliminate the companies' vertical integration.

**ROLE OF THE
PROGRAM IN THE
BANK'S COUNTRY
AND SECTOR
STRATEGY:**

One objective of the Bank's strategy is to support programs that promote efficiency and equity by assisting institutional development and higher productivity, particularly in the infrastructure sectors. Possible Bank actions to further the government's sectoral strategy include institutional strengthening, traditional loans and operations to support private-sector participation. The Bank's strategy was recently reviewed with the new administration. This consultation confirmed the need to implement reforms in public finances and in the electric power and financial sectors and the importance of continuing to support modernization of the State and consolidation of the decentralization process, through three emergency sector loans. These loans reflect actions that the Bank had been carrying out in Colombia and include a strong measure of sector reform. This program fits into the Bank's country and sector strategy. Through it, the Bank can continue to support consolidation of the new sectoral framework and implementation of the

government's decision to solve the problem of the national distribution companies by involving the private sector.

The actions adopted are part of a larger plan for modernization of the electric power sector, with competition among generators, separation of activities - especially generation and distribution - establishment and viability of the wholesale energy market, free access to transmission grids, and the state's increasing disengagement from the business activities to focus more on regulation and oversight. The actions planned under this program also lend a dimension of continuity, since the Bank has been supporting structural change in Colombia through sectoral-adjustment and technical-cooperation operations.

**ENVIRONMENTAL AND
SOCIAL REVIEW:**

Under the program, specific measures will be taken to develop an institutional system and stronger regulations where environmental issues are concerned. It will also support policy measures related to the organization of energy-assistance funds and rural energization with a positive social impact.

BENEFITS:

The program's most important benefit is that it helps consolidate the development model for the electric power industry based on competition and private-sector participation. The program will improve the State's net revenues by bringing in new revenues or ridding it of a drain on fiscal coffers. The actions planned under the program will directly improve management of distribution and marketing with the new technologies introduced by the private sector, which would run the new or restructured distribution companies according to sound business practices. The program will consolidate the wholesale energy market, currently experiencing a crisis caused by the electric power companies' repeated failure to meet their financial obligations. Private-sector discipline will also be good for the wholesale market.

The financial sustainability measures are intended to eliminate business debts, which will have a salutary effect on the generation companies; transfers of energy-fund contributions between regions will better redistribute revenue within the region. As for regulation, the program will make the sector more efficient at locating and expanding generation and transmission capabilities and at using the existing generating equipment. It will also produce growth in the supply of frequency regulation services, thus

helping to prevent abuses of market dominance. Under the rural energization measures, different types of fuels will be available, adapted to their economic uses.

Other benefits include more economy-minded agents in the electricity market and a more efficient, competition-driven sector overall. Also, the State will be able to focus more on its regulatory, oversight and control functions, and disengage itself from the business functions that it performs, albeit with problems of various kinds.

RISKS:

One major risk for the program is that the private sector ultimately might not become involved in some aspect of a distribution company's restructuring in any of the ways anticipated. With the exception of one departmental company, the central government owns more than a 50% share of all companies included in the program. The funds earmarked for the floating tranches will only be disbursed when the capitalization process has been completed or when concession or full-management contracts have been signed with private parties. The success achieved with the recent capitalization of the CORELCA electric distribution companies, complications notwithstanding, and with earlier processes suggests that the conditions are there for the private sector to become involved. In any event, the program actions will make private-sector participation in these processes even more viable.

There is a risk that the process of private-sector involvement could be opposed by the labor unions representing employees of the distribution companies in anticipation of possible downsizing. Judging from the privatization processes already concluded, especially those of the Bogota, El Valle and CORELCA companies, this is a minor risk since the opposition comes up before the process starts and then tends to dissipate once it is set in motion. In any event, to minimize this risk, the government has undertaken to conduct specific studies and programs in job retraining, should they prove necessary, as in the case of the earlier processes of private-sector involvement. It will also introduce mechanisms to prevent workers who accept early retirement packages and incentives financed with government funds from making their way back on to the government payroll.

**SPECIAL
CONTRACTUAL
CONDITIONS:**

The loan contract will include the conditions set forth in the matrix of actions (see Annex II-1), the policy letter (see Annex II-2) and the plan of action

(see Annex II-3), which includes the means of verification.

**POVERTY TARGETING
AND SOCIAL SECTOR
CLASSIFICATION:**

This does not apply. Nevertheless, the program does include measures to set up energy-assistance funds for the gas and electric power subsectors, to ensure that the low-income strata's basic consumption is subsidized. It also involves measures to devise a strategy for energizing areas that are not currently connected to transmission grids, generally in poor areas. This has collateral benefits both in terms of process of building a peaceable society and sustainable development in Colombia.

I. BACKGROUND

A. Introduction

- 1.1 Since the start of this decade, the Bank has supported a process of structural change in Colombia through two sectoral programs financed jointly with the World Bank and supported by separate loans. Both the sector program for public sector reform (PRSP) (615/OC-CO; PR-1752) and the investment sector program (PSI) (640/OC-CO; PR-1799) were aimed at modernizing the public sector, cultivating competition and promoting private-sector participation in sectors traditionally either monopolized or dominated by the public sector. 1/
- 1.2 One of the sectors that has undergone the most far-reaching changes in this process is the electric sector. Modernization of this sector is informed by the following general guidelines: (i) free competition in electric power generation; (ii) free access to transmission; (iii) regulation of electricity transport activities, in both transmission and distribution; and (iv) regulation of sales to consumers whose demand is less than 0.5 MW, and open pricing with all other types of consumers.
- 1.3 Because of these companies' critical financial situation and the government's budgetary constraints, the feasibility of the modernization process currently under way very much depends upon the availability of fresh revenues, some of which would come from private-sector capitalization, while the rest would come from credit. That modernization process also depends upon effective implementation of measures to guarantee the sector's financial sustainability, to strengthen regulation of the sector and decide on an approach for energization of areas that are still isolated and without electric power service, all within an environmentally sustainable context.
- 1.4 The present document presents a sectoral program to help the Colombian government consolidate the electric sector reform process, following the general criteria adopted and with emphasis on private-sector involvement, mainly through capitalization processes and, in exceptional cases, through concession contracts or contracts for full management of national distribution companies.

1/ The IDB and the World Bank (IBRD) supported execution of the PRSP through technical-cooperation funding for a total of US\$13 million (662/OC-CO; IDB amount: US\$5 million); the IDB supported execution of the PSI with technical-cooperation funding in the amount of US\$5 million (666/OC-CO). The activities supported through these programs included reorganization of the electric sector, a process that began in the early part of this decade.

B. Macroeconomic framework

- 1.5 After several decades of sustained economic growth, the Colombian economy is now experiencing a difficult period. Colombia has traditionally featured prudent macroeconomic management and has not been affected by any significant crises. This is reflected in the fact that the country has not needed a formal economic program with the International Monetary Fund (IMF) since the mid-1970s. Even in the 1980s, Colombia did not restructure its debt inasmuch as it had a relatively low level of debt, and only required IMF monitoring of progress in the implementation of its macroeconomic programs. However, the new administration found a fiscal deficit of close to 4% of GDP and, as a result, has begun to implement measures to reduce the fiscal gap and the balance-of-payments deficit in 1999.
- 1.6 In view of this situation and the unfavorable international economic climate, the government has decided to finance a significant part of the 1999 budget with resources from multilateral organizations. Disbursements from these sources are expected to total about US\$2.2 billion, approximately half the external credit resources projected for 1999. The other major source of this financing will be privatization, particularly in the electric power distribution sector, as envisaged in the proposed operation.
- 1.7 The multilateral agencies have reacted quickly and positively to the needs expressed by the Colombian authorities and have put together a frame of reference for the emergency. The IDB and the World Bank have undertaken to support the reform program with resources totaling US\$1.5 billion in fast-disbursing operations, with US\$1 billion from three IDB operations and US\$500 million from the World Bank. IMF staff has completed a review of the country's macroeconomic situation based on the Article IV consultation. This evaluation identifies the fiscal deficit as the main challenge to macroeconomic sustainability and recommends IMF support for the new government's economic program, recognizing that the measures being proposed are adequate for reducing the fiscal gap and the balance-of-payments deficit. Subsequent reviews based on the recommendations of this report are scheduled for the first and third quarters of 1999.

C. Colombia's electric sector

1. Institutional framework

- 1.8 The highest authority in Colombia's electric sector is the Office of the President of the Republic, which is assisted by the Consejo de Política Económica y Social [Economic and Social Policy Council] (CONPES). Most institutions in this sector are under the Ministry of Mines and Energy (MME), although the Ministries of Finance (MHCP), Development (MD), and Environment (MMA), and the National

Planning Department (DNP), as an advisory agency to the Office of the President to the Republic, are also directly involved.

- 1.9 The MME is one of the sector's central authorities. It conducts its activities through its specialized divisions, the Financiera Energética Nacional [National Energy Finance Corporation] (FEN) and the Mining and Energy Planning Unit (UPME). It also serves on the Energy and Gas Regulatory Commission (CREG). As the sector's financial support entity, the FEN's role is to raise funds on capital markets and to lend them to companies in the energy sector. However, it has also participated in activities to control the operations of public companies through implementation of financial restructuring plans and plans for curbing electricity losses. The UPME is in charge of the energy sector's indicative planning and monitors expansion of the electric power system. 2/
- 1.10 The Superintendencia de Servicios Públicos Domiciliarios [Residential Utilities Administration] (SSPD), part of the MD, oversees the administration and quality of service of all electric power, gas, telephone and water utility companies. When circumstances so warrant, it has the authority to penalize companies or recommend intervention. The MMA performs its environmental-control functions either directly or through the regional corporations attached to it.
- 1.11 The rest of the electric power sector is made up of agents and consumers. Agents are businesses that engage in one or more of the following: generation, transmission, distribution or marketing of electric power. Consumers may be either regulated or unregulated.

2. Legal and regulatory framework

- 1.12 The sector is governed by the provisions of the Residential Utilities Act (142/94), the Electric Act (143/94), the Environment Act (99/93) and the regulations of the CREG.
- 1.13 The regulatory framework for matters legislated under Law 143/94 is very advanced, although still in preparation: (i) guidelines for design, standardization and efficient use of equipment; (ii) regulation of electric power service delivery in subnormal areas and in less developed rural areas; and (iii) the scope of the authority for awarding concession contracts. As for the amendments that are to be introduced in the existing regulations, the CREG is about to determine a new way of apportioning, among agents, the costs stemming from transmission restrictions, the value of certain ancillary generation services and a number of mechanisms to reduce the market power that some generating companies might have because

2/ The CREG is composed of the Minister of Mines and Energy, the Minister of Finance, the Director of the DNP, and five independent specialists.

they are located within a transmission grid with active restrictions or because they have large dams.

3. The model for modernization of the electric sector

- 1.14 Economic globalization and liberalization began in Colombia in the late 1980s and led to structural reforms to make economic activities more efficient and competitive and to focus the State's action on planning, coordination and regulation. With enactment of the new Constitution in 1991, the way was cleared for the private sector to participate in every area of business, including residential utilities, among them electricity.
- 1.15 Until the early 1990s, the electric power sector had been directly controlled by the State: the MME was nominally in charge of the sector while the DNP approved investment plans and the Junta Nacional de Tarifas [National Tariff Board], attached to the DNP, approved tariffs. With the sector's modernization and in furtherance of Laws 142 and 143 of 1994, a new sectoral framework was adopted, its purpose being to cultivate competition among generation companies; split generation, transmission, distribution and sales into separate businesses; establish a wholesale energy market as a mechanism for dispatching load from generation plants and setting prices at the generation level; and free access to transmission and distribution grids, thus enabling agents to trade no matter where they are located.

4. The electric power market

a. The Colombian electric power market

- 1.16 **Generation.** In 1997, net electric power generation peaked at 7,300 MW. The average annual growth rate of generation for the last 20 years was 6.4%, although it varied considerably from one period to the next. ^{3/} The low growth rate in recent years is due to energy substitution, changes in patterns of consumption and the effect of price on the demand for electric power. Effective installed capacity as of late 1997 was 11,200 MW: 8,100 MW in hydraulic power and 3,100 MW in thermal power. Between the second half of 1996 and the first half of 1997, drastic changes occurred

^{3/} Between 1975 and 1980, it was 9.8%, while between 1980 and 1990, it was just 5.8%; more recently, between 1990 and 1996, it dropped to 3.7%. The years 1992 and 1993 were atypical, because growth was either negative or 0, owing to rationing.

in the ownership of the generation complex; within less than a year over 50% was under private control. 4/

- 1.17 **The market's sectoral structure.** The distribution of final demand for electric power has remained relatively stable for the last decade, with residential sales in first place (46%), followed by industry (33%) and business (11%); other sales were to government sectors and street lighting. In the medium-term, these figures are expected to change as natural gas gets a larger share of the residential market. In 1996, unregulated customers accounted for 14% of total consumption.
- 1.18 **The market's regional distribution.** Approximately 50% of consumption is within the major cities of Bogotá, Medellín and Cali. In Bogotá the vendor is a private company; in the other two cities, the vendors are municipal companies. Some 18% of consumption is marketed by the two Atlantic coast distribution companies that were formed when the market of the former Corporación Eléctrica de la Costa Atlántica (CORELCA) was reorganized. The remaining 32% is marketed by national companies with departmental coverage.
- 1.19 **Demand forecast.** Studies forecasting the final demand for electric power, which are the function of the UPME, use two mutually reinforcing methods. The first is econometric models, which figure energy demand by postulating deterministic relationships with the variables used to explain the demand, which are time, the GDP, value added, population, and prices or tariffs of the various energy forms. The second method is the ENPEP 5/ analytical model which takes into account changes in energy policy set forth in the national energy plan, both within the demand sector (energy-saving programs, substitution with natural gas) and within the supply sector (programs that vary the availability of the various fuels, new refineries, new pipelines and gas distributions, etc.). The econometric models work with macroeconomic scenarios and their results are the input for the ENPEP analytical model, which posits scenarios involving energy substitution, energy savings, changes in supply, and so on.
- 1.20 Because growth was negative in July and August 1998, the UPME revised the most likely scenario and now considers the following to be the variables that determine the demand for electricity:

4/ The hydroelectric plants at Chivor (1,000 MW) and Betania (500MW) were sold to private investors (Chilgener and ENDESA); EPSA was sold with a generating plant of 855 MW; 49% of the EEB's generation (2,160 MW) was sold to private investors. This is in addition to previous sales (Termocartagena and Termotasajero, with 340 MW) and the already existing private generation plants (Las Flores 255 MW).

5/ Energy and Power Evaluation Program

(i) growth of GDP on the order of 3.3% for 1998 and 2.9% for 1999, based on the DNP's most recent projections; (ii) as for energy saving programs, natural gas replacing electric power at the rate predicted in the expansion plan, and only slight penetration by the efficient light bulb program; and (iii) the companies' 1998 losses on management and performance programs. Because of this, projections have been reworked and now forecast more modest long-term increases: demand would go from some 7,700 MW in 1998 to some 9,720 MW in the year 2004 (4% annual growth).

- 1.21 **Supply forecast.** The energy supply picture is a dynamic one, with installed capacity predicted to increase from some 11,000 MW as of late 1997 to around 14,300 MW by the year 2001. By law, the UPME produces an indicative plan containing the information available on any given date and serving as a guide for investors. It shows what the electric power system needs to produce to supply demand with a certain degree of reliability. In the short term, the addition of 1,884 MW from gas turbines, 549 MW from combined-cycle steam turbines, 150 MW from coal-steam turbines and 733 MW from hydraulic systems, for a total of 3,316 MW, represents approximately 30% of the capacity in 1997.
- 1.22 **Electricity losses.** The national grid's electricity losses increased steadily up to 1988, when they peaked at 24%. Since then, various campaigns have been waged to reduce losses, although the results have been modest; 1997 losses were 23%. The magnitude of the losses varies considerably from one company to the next, with some showing losses as high as 30%.

b. The market of the national distribution companies

- 1.23 **Information available.** A study financed by the Bank ^{6/} resulted in a detailed analysis of the markets served by the national distribution companies. The Bank's technical files contain statistics on the electric markets, and the debt, investments and staffing of the various companies included in the proposed program.

5. Controlling possible monopolistic positions

- 1.24 In Colombia there is no specific anti-trust law for the electric power sector nor are the various regulations to control the eventual dominance that agents may acquire codified into a body of law. The regulations are those that appear in the Electric Act and the regulations issued by the CREG. Control of the vertical integration of activities provided for in Law 143 of 1994 is

^{6/} The document "Caracterización de 23 empresas eléctricas para identificar políticas de participación privada" [Description of 23 electric companies to Identify private-sector participation policies] is on file.

relatively lax. Under the law, only companies formed since July 1994 are barred from engaging in more than one activity associated with the delivery of electric power service; an exception is made for marketing, which can be done in combination with either generation or distribution. Companies established prior to that date are only required to carry separate books for each business activity. Under Law 143, an electric power transmission company may not participate in generation, marketing or distribution. The law does not stipulate, however, that shareholders may not hold shares in generation companies and distribution companies simultaneously.

- 1.25 Under 1996 Resolution 128, the CREG introduced limitations on a company's size relative to the size of the market. It stipulated that no holding company could own more than a 25% market share, whether that market be for generation, distribution, or marketing. It further stipulated that both direct ownership and indirect ownership through affiliates would be factored in when computing market share.
- 1.26 Regulations are being developed to control eventual dominant positions by generation agents that have a share of the wholesale market. The CREG has issued regulations providing for the intervention of generation plants that have reservoirs when a water shortage occurs. Regulations will soon be issued to avoid possible monopolistic practices on the part of generation companies that enjoy some privileged position by virtue of their location within the transmission network or because they have frequency-regulation equipment. The idea of introducing changes in the system of pricing and volume per time interval now in effect on the wholesale market is also being studied.

6. The wholesale energy market

- 1.27 Functioning since July 1995, the wholesale energy market is a set of systems that enable generation plants and vendors of large blocks of electric power within the national grid to exchange information in order to negotiate contracts on volume and prices, in accordance with the operating regulations and other applicable rules. This market is able to operate because there is: (i) an energy exchange (pool of generators) where electric power outputs are traded on a time-of-day spot market, and a central operator of the national grid (National Dispatch Center) where generation-plant dispatches are determined; and (ii) a long-term or contract market, which reduces the risks implicit in the energy exchange.
- 1.28 One of the reform's major accomplishments is the fact that it has introduced a relatively successful wholesale market. In fact, despite difficulties with the market's operation and pricing during the drought caused last year by El Niño, the wholesale market enjoys credibility among its participants. To keep that credibility intact, evaluations of the system's operation under

extreme conditions must continue to be done to find ways to control the dominant market positions that some agents might use. As for price signals intended to encourage efficient expansion of the generation system, under critical circumstances, in January 1997 the CREG tacked on a monthly capacity charge of US\$5.25 per effective kilowatt hour for each plant that contributes to meeting system demand to add to the income the generating plants receive for their output at the exchange price.

- 1.29 The rules of the electric power market presuppose payment in full of the obligations resulting from energy purchased on the wholesale market. This assumption did not materialize with the national distribution companies. Eight distribution companies belonging to the CORELCA group, EADE and Tolima, accounted for 80% of the debt. Year after year, the government made its transfers to the distribution companies contingent upon fulfillment of the performance plans that they had signed with the FEN. However, the results obtained were modest since the companies' structural problems were never addressed. To correct these problems, the government has reforms in process, premised upon the State's growing withdrawal from the business end of the electric power sector, to focus more on indicative planning, regulation and control.

7. Tariff and subsidy regime

- 1.30 **Tariff regime.** Electric power prices are in two categories: unregulated contract prices and regulated tariffs. The unregulated contract prices are freely negotiated between vendors and large-load users, i.e., those with a maximum demand in excess of 0.5 MW. The tariffs that apply to regulated consumers are equal to the standard unit cost for delivery of the service, less the subsidies or plus the respective energy-fund contributions. ^{1/} The income from the standard distribution cost pertains to the distributing companies, whereas the standard marketing cost pertains to the marketing companies. If a company's costs are higher than the standard costs - for example, if its electric power losses exceed the standard losses - the income it receives will be less than its actual costs; on the other hand, if its actual costs are lower than the standard costs, it will realize a profit.
- 1.31 **Subsidy targeting.** For the electric power subsidies to reach the poorest population, the Electric Act stipulates that only residential consumers in the three lowest socioeconomic strata are

^{1/} The standard unit cost for delivery of the service includes the costs of purchasing energy, the average costs for use of the national grid (STN), the standard distribution cost, the additional costs of participating in the wholesale market, the standard marketing cost and a standard level of losses.

eligible, as follows: for stratum 1 consumers, the maximum subsidy is 50% of the unit cost of service delivery. Similarly, the subsidy for stratum 2 is 40%, while for stratum 3 it is up to 15%, provided the CREG so decides. Only subsistence consumption is subsidized, defined as the first 200 kWh/month. Proper apportionment of the subsidies to the poorest population is based on the assumption that there is a strong correlation between residential consumers' income level and the socioeconomic stratum of their housing. Socioeconomic stratification is the responsibility of the municipalities and should be done according to the method established by the DNP, and has implications for the other household utilities and for the property tax, among others.

- 1.32 **Extralegal subsidies.** At the present time a number of subsidies are classified as "extralegal" and are basically subsidies above the threshold stipulated in the law and subsidies to housing in stratum 4. No company is subsidizing residential consumption above the subsistence level. The extralegal subsidies began as the old rates were gradually being adjusted to the levels prescribed by the current tariff formulas established by the CREG. The Commission has ordered that the extralegal subsidies be phased out quickly, and are to be eliminated altogether by the year 2000.
- 1.33 **Contributions.** To pay for the subsidies, residential users in socioeconomic strata 5 and 6 and industrial and commercial users pay an energy-fund contribution, which is an add-on to the unit cost of the service which is supposed to be 20%. Some contributions over 20% but less than 30% are being phased out and will be eliminated by the year 2000.
- 1.34 **Compensations.** Companies are entitled to be able to balance contributions paid in with subsidies paid out in their respective markets and are to send any excess contributions to the central government. They are also legally entitled to receive transfers from the central, departmental and municipal governments to compensate for any subsidies paid out that the paid-in contributions did not cover. Thus far the system of transfers from the surplus markets to the central government has not worked, which is why the government is determined to implement the mechanisms needed to make the system function properly.
- 1.35 **Tariff level.** In 1995, the tariff level was 81% of the reference cost, which that year was the long-term average incremental cost (LTAIC). In 1996, the average tariff level was 88% of the LTAIC; the coverage is estimated to have reached 94% in 1997. The tariff formulas mentioned earlier take effect in 1998. With those formulas, the standard per unit cost for delivery of electric power service includes as one of its components the value of the purchased energy, whether purchased through long-term contract or on the energy exchange. Thus, the long-term average incremental cost will no longer serve as a useful reference for setting the

tariff level. Under the tariff formulas now in effect, all company costs are standard costs if the company achieves the efficiency level upon which those formulas are based; an 8% return for the company is built into the computation of the standard distribution cost.

- 1.36 **Total value of the subsidies.** By the SSPD's calculations, subsidy contributions in 1996 totaled US\$100 million. The subsidies the central government remitted to companies where the cross-subsidy system ran a deficit totaled around US\$300 million that year, which meant that in 1996 subsidies totaled almost US\$400 million. That year, directly-crossed subsidies accounted for 14% of total billing; total subsidies represented 18% of billing. With the phase-out of the extralegal subsidies, it will be less onerous to cover the final deficit, which in practice has been carried solely by the central government; delays in payment have caused serious liquidity problems for vendors.

8. The electric power distribution companies

- 1.37 As of July 1998, there were 32 distribution companies: 30 were public and two were semi-public. Of the public companies, four are municipal: the public companies of Medellín and Pereira and the municipal companies of Cali and Cartago, together representing 20% of the country's distribution. The Bogota and El Valle companies, representing 26% of the national distribution, brought in private-sector agents through capitalization. The State is the majority shareholder in the remaining public distribution companies, which account for around 54% of national distribution, although the departments and municipalities own a minority share as well. As part of the proposed program, the process of involving the private sector began in August 1998 with capitalization of the CORELCA companies, discussed at greater length in the next chapter.
- 1.38 **Situation of the national distribution companies.** The national distribution companies' situation is critical because of serious financial and structural problems that necessitated financial rescue operations on the part of the central government. Salient among these problems are the following: (i) high losses; (ii) poor recovery of costs for delivery of electric power service; (iii) deficient business systems; (iv) a failure to maintain the system; (v) rudimentary planning; (vi) a failure to pay obligations of every kind (long-term purchases, purchases on the energy exchange, fees to connect to and use the power grids, contributions to the commercial trading system - SIC); and (vii) cost overruns caused by technical, administrative and institutional inefficiencies.
- 1.39 **Vertical integration of the national distribution companies.** Generation services must be completely separated from distribution services if the model adopted for the electric sector's

modernization is to function properly. Separating these services in companies where the private sector is being brought in (considered new companies) implies their institutional restructuring, including ownership restructuring, as the government recently did with the CORELCA companies. Generation and distribution services are still vertically integrated in the Boyacá, Caldas, Norte de Santander, Santander and Tolima companies and, to a lesser extent, in Cauca, Cundinamarca, Huila, Quindío and Nariño, which have small generation plants.

- 1.40 **Financial restructuring of the distribution companies.** In the last five years, the critical situation of the distribution companies (electrificadoras) has necessitated large transfers from the central government in an attempt to remedy their financial problems. From 1992 to 1996, the transfers totaled over US\$550 million. In 1997 alone, US\$350 million of the surpluses from profits of the State's industrial and commercial companies and semi-public companies in the electric power sector went toward paying the distribution companies' obligations for power purchases, connection fees, charges for use of the STN and SIC accounts. Transfers notwithstanding, the distribution companies still have not managed to correct their serious structural and financial problems and continue to mount up debts on the wholesale market.
- 1.41 The government has, therefore, decided to solve the structural problem of the national distribution companies through private-sector involvement. This solution is consistent with the model adopted for modernizing the electric power sector, whose goal is to confine the State's participation to indicative planning, regulation and control. Accordingly, the restructuring strategy the government has adopted for these companies is predicated upon some form of private-sector involvement.

D. The electric power sector's unsolved issues

- 1.42 When preparing its program, the Bank's technical team coordinated preparation of a diagnostic study of the electric power sector in Colombia ^{8/} and the other Andean countries. In Colombia's case, the study found that the restructuring process had succeeded in disengaging the public sector from the generation business and in the process had reduced the drain on State coffers of the past decade. At the same time, the study also raised a number of unsolved issues that need to be addressed to ensure that the sector's restructuring will be satisfactorily completed in the medium-term.
- 1.43 Those issues are: (i) the CREG's independence and strength; (ii) the balance between supply and demand and the likely evolution

^{8/} Study of Colombia's electric power sector, July 1998.

of wholesale prices; (iii) the soundness and financial situation of the wholesale market and financial restructuring of the distribution companies, and (iv) energy coverage. ^{9/} The actions included in the proposed program are intended to address the topics raised in this diagnostic study and are designed to answer these unsolved issues and make the electric sector's model more viable.

E. The program in the context of the Bank's country and sector strategy

- 1.44 One objective of the Bank's strategy is to support programs that further efficiency and equity by supporting institutional development and increasing productivity, particularly in infrastructure sectors. Among the possible actions the Bank could take to further the government's strategy in this sector are institutional strengthening, traditional loans and operations in support of private-sector participation. The Bank's strategy was recently reviewed with the new administration. This consultation confirmed the need to implement reforms in public finances and in the electric power and financial sectors and the importance of continuing to support modernization of the State and consolidation of the decentralization process, through three emergency sector loans. These loans reflect actions that the Bank had been carrying out in Colombia and include a strong measure of sector reform despite their emergency nature.
- 1.45 The proposed program fits into the Bank's country and sector strategy and enables it to continue to assist with the consolidation of the new sectoral framework and implementation of the government decision to solve the problem of the national distribution companies by bringing in the private sector.
- 1.46 The measures proposed under the present program are a package aimed at furthering modernization of the electric power sector to increase competition among generation companies, separate integrated activities - especially generation and distribution - establish the wholesale energy market and make it viable, and open up access to the transmission grids. Another feature is the State's increasing disengagement from business activities to focus more on regulation and oversight. There is also a dimension of continuity to the proposed actions, since the Bank has been supporting structural change in Colombia through sector-adjustment and technical-cooperation operations.

^{9/} In early September 1998, the Bank team submitted the study's recommendations to the new national authorities and the consensus was that the issues identified were priorities.

F. Environmental and social issues

- 1.47 Law 99 of December 22, 1993, establishes the regulatory framework for environmental management in Colombia. The law provides for the following: (i) creation of the Ministry of the Environment; (ii) reorganization of government agencies in charge of environmental and natural-resource management and conservation; (iii) organization of the National Environmental System [Sistema Nacional Ambiental] (SINA); and (iv) the various tools of environmental policy. One such tool is that environmental licenses are now mandatory to execute works, set up industries or engage in any activity that, by law and under the regulations in effect, could be harmful to renewable natural resources or the environment. The environmental licenses are granted by the Ministry of the Environment when the activities are national in scope, large-scale works, or petroleum-industry facilities; by the regional autonomous corporations that are decentralized units of the Ministry, and by certain municipalities or districts where the population exceeds one million.
- 1.48 The law also stipulates the procedures for citizen participation in environmental administrative procedures, salient among them the public administrative hearings. These are to be conducted by the competent environmental authorities whenever so requested by the Attorney General or the delegate for environmental affairs, the Office of the Ombudsman, the Minister of the Environment, other environmental authorities, governors, mayors, at least 100 persons or three nonprofit agencies.
- 1.49 **Labor-related matters in the processes of private-sector involvement in the electric power sector.** Under labor law, there are three different regimes applicable to workers, depending on the employer with which the contractual relationship is established. These are: (i) the Labor Code, which applies to employees in the private sector, including private utility companies or semi-public utility companies; ^{10/} (ii) the government employees statute, which applies to all those who work for State-owned companies, including utility companies in which 100% of the capital is State-owned; and (iii) the civil service statute, which regulates the civil service in the central government.
- 1.50 In general terms, the chief differences among these statutes can be summarized as follows: under the government employees statute contracts are more heavily regulated; in the case of the government

^{10/} Companies in which the majority of the capital belongs to private interests are "private" and those in which the State owns a majority percentage, provided it is less than 100%, are "semi-public". Utilities include street cleaning, electric power service, telephone service, and others.

employees statute, dismissal is, for all practical purposes, impossible, whereas dismissal (even without just cause) is possible under the Labor Code provided indemnification is paid.

- 1.51 As with the rest of the private sector, the Labor Code is the applicable law in the case of those electric power companies in which the private sector has a stake in ownership. For companies in which there is no private-sector participation, the applicable law is the government employees statute. Analysis of and planning for future privatization processes in the electric power sector will need to consider in detail the aspects regulatory framework described above.
- 1.52 The processes of private-sector involvement already completed were marked by the conclusion of an employer substitution agreement that kept the terms of the existing labor contracts, both individual and collective, intact. These agreements sent a message that the change in ownership of the electric power companies would not in itself adversely affect employees' acquired rights. In some cases, the new private management of the company implemented downsizing plans, based on a general finding that these companies were overstaffed. The reductions-in-force consisted mainly of three components, the first two being the most important: voluntary resignation incentives, where those who opted for voluntary resignation were paid special compensations; an early retirement package for workers over age 60, and other benefits such as training.
- 1.53 In the CORELCA case, the State attempted to conduct this process before ownership was transferred. While an already financially restructured company might have brought a higher sales price (with a lower premium from the uncertainty about labor-related liabilities), labor entered into a bargaining process with the State. By contrast, in the case of Empresa de Energía de Bogotá the deals offered by the new owners, after organized labor expressed open opposition in the end turned out satisfactorily and had the employees' support.
- 1.54 Another feature of these processes has been that the State did not offer job retraining programs for workers from the sector. Also, unlike similar processes in other countries of the region, the practice of offering workers shares in the company has not been applied in these processes.

G. The experience of the Bank and other financial institutions

- 1.55 The Bank has played an important part in the electric sector since 1961. Its technical and financial support has financed expansion of electric power generation by hydroelectric plants, improved coverage of rural electrification, helped rehabilitate urban distribution systems and reduce losses, and expanded the transmission system of the national grid. More recently, the Bank

supported the sector's reform through sectoral loans that financed advisory assistance to facilitate private-sector participation. It also financed two technical cooperation initiatives 11/ that have helped to carry out measures in the regulatory area and to properly structure projects being offered to the private sector. Moreover, the MIF helped the CREG define and consolidate the sector's regulatory system.

- 1.56 The FEN satisfactorily carried out the global program for rehabilitation of the distributions and subtransmission systems (237/IC-CO). Two loans were granted for private energy projects, one for US\$19 million to help build the gas main to carry natural gas to Medellín, and another for US\$35 million to help finance construction of the Termovalle thermoelectric plant. These operations have syndicated US\$32 million and US\$60.4 million, respectively.
- 1.57 **IBRD Participation.** The World Bank has also played an important role in the growth of the electric power sector and has loaned resources jointly with the Bank for specific projects. Thus far, it has financed a similar number of loans to the energy sector, totaling US\$2.556 billion, to build generation, transmission and distribution projects. The principal recipients of these loans have been the Bogotá company, the Medellín company, the ISA and the FEN. At the present time, a program totaling US\$245 million is in progress, to finance the third expansion plan of the national transmission system and a technical assistance of US\$11 million to provide technical support to the UPME and to the CREG, and to implement the new structure of the natural gas industry.

11/ Technical cooperation loan for the infrastructure privatization and concession process (927/OC-CO; PR-2121); and a technical cooperation loan for the energy efficiency program (1063/OC-CO; PR-2216).

II. THE ELECTRIC POWER SECTOR PROGRAM

A. Objectives of the program

- 2.1 The purpose of the electric power sector program (program) is to create the enabling environment for electric power service to be supplied as economically as possible, by making the electric power agents more efficient. The program's specific objectives are to: (i) promote the sector's financial sustainability; (ii) consolidate the regulatory function within the sector; (iii) establish a rural energization policy for regions not connected to the grid; (iv) promote establishment of an institutional and regulatory system within the sector concerned with environmental issues; and (v) facilitate private-sector involvement in distribution activities.
- 2.2 With the distribution companies, the objectives are twofold: one is institutional rationalization of the distribution companies, and the second is rationalization of their operations. The goal of the institutional rationalization is to eliminate vertical integration of services within any one company, particularly to separate the generation business from the distribution business. The goal with rationalization of distribution companies' operations is to make them more efficient by bringing the private sector into the ownership or management of the companies in which vertical integration has been eliminated and which are engaged exclusively in electric power distribution and marketing.

B. Description of the program

- 2.3 The program has been planned in two tranches that include specific measures regarding the sector's financial sustainability, regulation, rural energization and environmental issues relevant to this sector and crucial for its modernization. The program also involves three floating tranches with specific goals to involve the private sector in the national electric power distribution companies. These measures are described briefly in the attached matrix of actions (see Annex II-1). The following is a description of the background, objectives, rationale and goals of each action, following the order in which they appear in the matrix and in the policy letter (see Annex II-2). The program goals and tentative plan of action with proposed verification measures appear in Annex II-3.

C. Macroeconomic context

- 2.4 The measures included in the program are to be implemented in a macroeconomic context consistent with program objectives. During the execution phase, the national authorities will be working very

closely with the IMF on the semiannual reviews to assess the progress of the Colombian macroeconomic program.

D. Financial sustainability

- 2.5 In Colombia, electric power consumption by low-income residential consumers has always been subsidized. Initially the Junta Nacional de Tarifas [National Tariffs Board] approved tariff schedules with rates that differed according to socioeconomic stratum and company. The higher the consumption, the higher the rate, which meant that consumers in the first energy brackets were paying less than the cost of supplying the service. This way, subsidies were built into the tariff schedule and were not clearly perceived by the consumer.
- 2.6 Law 142 of 1994 stipulates that only the poorest residential consumers are eligible for subsidies, and sets the following limits on those subsidies: for stratum 1, up to 50% of the economic cost of basic consumption; for stratum 2, up to 40%; for stratum 3, up to 15%, provided the respective regulatory commission approved it. Consumers in stratum 4 pay the full cost of the service, whereas those in strata 5 and 6 pay the cost of the service plus an additional 20% as a contribution toward the fund that finances the subsidies for the consumers in the first three strata. Industrial and commercial users are also charged the additional 20% for the energy-assistance fund. Under Law 142, all users, without exception, pay the costs of administration, operation and maintenance. Bills explicitly indicate the discount for the subsidy or the 20% additional charge for the subsidy fund.
- 2.7 Because the markets of the various companies differ in terms of the percentage that low-income customers represent, and the percentages that are residential, industrial, commercial, governmental and so on, it was to be expected that some would have a deficit, while others would have more energy-assistance fund contributions than they paid out in the form of subsidies. Therefore, energy-fund contributions were to be transferred from companies operating with excess contributions to those with a subsidy-related deficit. These transfers never materialized, however, because the mechanism to authorize them was never put into operation. The financial condition of the deficit companies weakened because their income depended in part on the transfers from the central government in the form of national contributions; as a rule, the transfers were too small and came too late. Conversely, companies with surplus monies from the energy-fund contributions used them to pay off other, non-subsidy-related, debts.
- 2.8 To strengthen the wholesale energy market, starting in January 1998 the CREG expanded the universe of unregulated users authorized to negotiate prices and volumes freely with energy vendors, to include those that have an installed capacity with maximum demand of over 0.5 MW per month. This wholesale market rule further weakened the distribution companies' markets because it encouraged industrial

users to negotiate their contracts directly with the generation companies, which meant that residential consumption accounted for a larger share of the total consumption billed by the distribution companies. To correct this effect, which could have discouraged private capital investments in the weakened companies, in 1997, government decree 3087 ordered that those required to make contributions to the energy-assistance fund were to pay them directly to the distribution company in the area where they were located if that company was running a subsidy deficit; if not, they were to send them directly to the central government for subsequent redistribution. These transfers have not been effected because the institutional structure of the energy-assistance fund through which to channel those funds is lacking.

- 2.9 In the gas sector, whose access and pricing could have a positive impact on generation of electric energy, subsidies are a novelty since heretofore they were designed to benefit only the customers of companies that distributed through newly created physical networks. There is no rationale for payments to an energy-assistance fund or subsidies when the gas comes from cylinders or stationary tanks owned by the customers themselves.
- 2.10 **Energy-assistance fund for subsidies and redistribution of revenues.** This fund is a special account for managing public revenues. It has no legal status and is subject to the provisions and procedures established in the Constitution, the Basic Statute of the General National Budget and the other legal provisions in effect. It is within the Ministry of Mines and Energy and has separate accounts for residential electric power service and residential gas distributed by way of a physical network. Once the contributions to the energy-assistance fund have covered all subsidies required in the subnational areas, the excess contributions are deposited into this fund, as are the appropriations from the general national budget.
- 2.11 **Proposed actions.** The purpose of this component is to eliminate the company deficits caused by subsidies, by putting into operation an energy-assistance fund for subsidies and revenue redistribution (fund) both in the gas sector and in the electric power sector. To do this, procedures have to be organized for assigning the subsidies, billing for and collecting energy-fund contributions, and putting into effect the mechanisms that make the planned transfers possible and that take priorities into account when apportioning the revenues. The ultimate goal is to have companies with no subsidy-related deficits.
- 2.12 The actions the program plans for the first tranche are those needed to start up this fund in that part of the gas subsector in which gas is distributed via a physical network. The fund in this subsector needs to function properly in order to organize, pay out, charge for, collect and manage the energy-fund contributions and

subsidies. In launching the fund, potential obstacles to its operation will be identified and steps will be taken to ensure that a budgetary appropriation is there should the contributions fall short of what is needed. This is an important part of the process because the net cost of the subsidies will be established, which will invariably have a bearing on pricing decisions for the electric power sector.

- 2.13 The measures planned for the **second tranche** include launching the fund for the electric power subsector and, if necessary, establishing the respective budgetary appropriation. Proper operation of the fund in the electric power sector is even more critical than it is in the gas sector, and not just because the electric power sector has more customers and handles much larger subsidy amounts and energy-assistance fund contributions than the gas sector. Perhaps the most compelling reason for implementing this fund is that without it, the distribution companies' markets would become weaker with expansion of the unregulated markets, making institutional modernization of the electric power sector difficult. Absent the fund and the other mechanisms instituted to achieve the same purpose, residential consumers would account for a larger share of the distribution-sales markets of the companies, rendering those companies less attractive to private investors.
- 2.14 For these reasons, the fund is more than a vehicle for paying, billing for, collecting and managing the subsidies and contributions; it will directly influence private agents' motivation for capitalizing the distribution companies. By the program's end, the goal is to have eliminated the subsidy-related deficits of gas and electric power distribution companies. Elimination of these deficits will help accomplish the objectives of the program's floating tranches because, by improving the financial condition of the companies, they will become more attractive to potential private agents.

E. Sectoral regulation

- 2.15 **Autonomy and independence of the CREG.** The autonomy and strength of the CREG are essential for modernization of Colombia's electric power sector. There are two dimensions to this issue. The first is the express need to consolidate the Commission's independence, while the second concerns the introduction of incentives and identification of measures to strengthen the CREG and the accountability of its members.
- 2.16 The regulation-related measures must be transparent for all agents participating in the electric market. This kind of transparency is vital as more and more private agents become involved in the various electric power services, especially generation and distribution. Under the existing system, the specialists serving on the CREG work full-time for the CREG, are government employees,

are appointed by the President of the Republic to four-year terms, may be re-appointed and are not under the civil service system. However, a recently enacted law (Law 443 of 1998) introduces an element of ambiguity and contradiction in that the specialists serving on the CREG may now be freely appointed and removed, which is clearly at odds with the overall independence that regulatory commissions must have.

- 2.17 Unlike other commissions, the CREG operates under certain budgetary and administrative constraints. Under the current legal system, the CREG ought to have more **budgetary autonomy**. By law, expenses incurred to provide the regulatory service are financed by all public and private institutions that the CREG regulates, through payment of a special fee.^{12/} However, the CREG's annual budget is processed through the MME, whereas the budgets of other regulatory commissions are not processed through the ministries of the areas they regulate, but directly through the Ministry of Finance (MHCP). The arrangement in the case of the CREG's budget creates a potential means for controlling CREG policy, as appropriations could depend on how much or how little priority a given matter is considered to have. Budgeting solely through the MHCP would not only be more expeditious, but would also make the CREG more independent.
- 2.18 As for **administrative autonomy**, the CREG has a minimum staff whose numbers includes the specialists who are members of the Commission and other officials. The Commission does not have the authority to appoint its own staff. As for specialized staff, the Commission brings them on board under service contracts processed through a trustee and at the request of the Executive Director, to perform the annual budget which, as noted earlier, is processed by way of the MME. The CREG's administrative autonomy is also restricted in the sense that the MME is in charge of the CREG's internal control and management.
- 2.19 **Regulatory development.** Despite its relatively recent establishment and its limited autonomy, the CREG has managed to issue virtually all of the regulations essential for the wholesale energy market and delivery of regulated services to function properly.
- 2.20 At the present time, the CREG has to change some decisions originally issued as transitory provisions, in order to make them final. It also needs to issue other regulations. The transitory provisions include the determination and apportionment of the costs of transmission restrictions. As for new regulations yet to be issued, these include regulations to govern the ancillary

^{12/} Article 85 of Law 142 of 1994 for the gas subsector; and Article 22 of Law 143 of 1994 for the electric power subsector.

generation services, among them rules on delivery of the secondary frequency regulation service and reactive power within the national grid. 13/

- 2.21 As for **transmission restrictions**, the regulation in effect, which was issued as a transitory provision, divides the transmission-restriction costs between generators and consumers, based on equity criteria that do not take economic efficiency sufficiently into account and, therefore, do not serve to properly locate the resources. Instead, they send the wrong signals to the market. Transmission-restriction costs 14/ have hovered at around US\$300 million each year, a figure large enough to cause resources to be located incorrectly, both in the short-term through transactions on the energy exchange and in the long-term through misguided decisions about where to build new generating plants or through inadequate expansion of the transmission system. As for **ancillary generation services**, second-tier frequency regulation 15/ and treatment of reactive power 16/ need to be determined. This regulation will fill important gaps, promote economical installation of equipment in both existing units that are adequate to supply service at a low cost and the new units, and will curb eventual monopolistic practices.
- 2.22 **Proposed actions.** The institutional studies on Colombia's electric power sector all conclude that the CREG needs to be autonomous to be able to perform its functions adequately and transparently vis-à-vis all regulated agents within the sector. Therefore, the **first tranche** includes activities for consolidation of the CREG's budgetary and administrative autonomy and the specialists who are members of the Commission will continue to have fixed-term

13/ The "Study on generation restrictions and ancillary generation services" was presented to the agents of the wholesale energy market and to the national authorities last July. The final report is available on the Internet, through the CREG's server (www.creg.gov.co).

14/ These depend on a variety of circumstances, chief among them: generation and transmission equipment operative at any given time; past, present, and anticipated hydrological conditions associated with each hydroelectric plant, and the volume and prices that generation plants offer for the next day's energy market, at hourly intervals, within each one's territory and for inclusion on the scheduled dispatch.

15/ In Colombia, few plants are equipped with the velocity regulators and communication systems needed for frequency regulation, with the result that offers made to provide this service have not faced much competition.

16/ In such a way as to encourage solutions to the voltage problems that match demand as closely as possible and encourage proper use of the production equipment or absorption of reactive energy.

appointments, through decrees declaring that the CREG shall administer its own budget and shall not be required to route its requests for authorization by way of the MME. It will be given the authority to appoint its staff and autonomy for purposes of its internal control and management. Another regulatory decree will be approved to eliminate the existing ambiguity and reaffirm that the appointments of the specialists on the Commission are fixed-term appointments. These measures are intended to give the CREG greater stability and independence for decision-making purposes. The foregoing notwithstanding, national authorities will conduct an institutional review of the CREG to continue to look for ways to encourage and ensure its professionalization (see Annex II-2).

- 2.23 As for regulatory development, equity criteria need to factor in economic efficiency and thereby send the right signal to generating agents, transmitting agents and consumers, correct the economic use of resources and expand the system. It is also important to keep business opportunities alive in a sector. Therefore, the actions under the **second tranche** include: (i) elimination of transitory regulations in effect regarding transmission restrictions, replacing them with the corresponding definitive resolutions; and (ii) regulations for ancillary generation services.
- 2.24 **Additional activities.** There are other regulatory development issues, chief among them measures to control collusive and monopolistic practices on the part of generating agents. It is not yet clear how those issues ought to be studied and approached. Even so, they are critical issues and a source of constant concern to the CREG. The government has undertaken to identify measures in this regard (see Annex II-2).

F. Rural energization

- 2.25 The issue of rural energization comes up whenever: (i) estimates are made of electricity coverage and (ii) the consumption of fuelwood is compared with that of other fuels, particularly in the residential sector. Generally speaking, the rural population does not have access to modern fuels and, even when connected to the system, some continue to rely heavily on fuelwood, especially for cooking. This intensive use of fuelwood has negative collateral effects such as the harm caused to the users' health and deforestation (although deforestation is mainly due to expansion of the agricultural frontier). For that reason, solutions need to be found that better accommodate the type and volume of energy consumed in rural areas.
- 2.26 The rural energy problem was recognized some time back. In percentage terms, the situation in 1986 was not much different from what it is today, with fuelwood consumption high in rural areas. A

DNP document on energy policy 17/ proposed programs in rural areas to replace fuelwood with liquid petroleum gas (LPG). The national energy plan [Plan Energético Nacional] (PEN) of 1994 18/ proposed two strategies for targeting the problem: (i) a rural energization program consisting of fuelwood savings and substitution, rural electrification and reforestation, and (ii) rural energy planning and management, which would include projects carried out with community participation.

- 2.27 Three years after these plans were devised, little has been achieved for a variety of reasons, such as a lack of clarity on legal issues, a failure to articulate the concepts with the functions, local constraints and problems enlisting effective community participation due to political and social factors. In fact, much of what was accomplished in terms of access to electric energy is confined to rural electrification programs conducted by the Instituto Colombiano de Energía Eléctrica [Colombian Electric Energy Institute] (typically very costly) and have not reached the communities most in need of modern energy to offer them something other than the traditional solutions.
- 2.28 For a new approach to the problem, the various dimensions that need to be addressed should be examined: (i) the institutional dimension (who is involved and how); (ii) the financial dimension (resources and feasibility); (iii) the technological dimension (what is needed), and (iv) execution, including operation and maintenance of projects. Paradoxically, many elements needed to address the various dimensions of the problem are already in place. Institutions to conduct these programs exist at the national level (MME and the institutions attached to it) and at the local level, as are a number of NGOs. Direct financing is available through the Fondo Nacional de Regalías [National Royalties Fund]. The investments needed are also very clear (distribution of LPG, small hydroelectric plants, nonconventional energy).
- 2.29 When putting together a rural energization policy, one question to ask is why, if the essentials are in place, nothing has been accomplished. One reason is the complex interaction of the various institutions that need to interface at the various levels of government, and at the same time involve communities and private organizations. For this reason, the policy to be developed needs to focus less on technology and do more to support the underpinning of institutional coordination.

17/ DNP, "Bases para una política energética" [guidelines for an energy policy], 1986.

18/ PEN: Plan Energético Nacional [National Energy Plan], UPME 1994.

- 2.30 **Proposed actions.** At the present time, the work done by the UPME - analysis of the rural energization problem, 19/ for one - indicates that there is a consensus as to how to introduce new technology and to what purpose. The proposed goals are to: (i) rework the policy to emphasize institutional coordination as a means of achieving objectives; and (ii) an implementation study that identifies and executes private projects that locate those institutional bottlenecks and the inflexibility that have made it impossible to accomplish more in this area.
- 2.31 Prior to disbursement of the **first tranche**, terms of reference are to be submitted and agreed upon for the studies needed to devise a policy that addresses the issues identified above, including the objectives, scope and timetable. For the **second tranche**, an energization policy for areas not connected to the grid is to have been established and launched and is to include, inter alia, a definition of the project selection criteria, financing arrangements, methods of execution and operation, and a proposed pilot project.

G. Environmental aspects of the electric power sector

- 2.32 The 1994 Electric Law contains very clear criteria and provisions on environmental management for the sector's development. Under that law, all companies are required to avoid, repair and pay compensation for any detrimental effects their operations cause to the natural and social environment. 20/ For their part, the MME, the MMA and 32 electric power companies have signed an agreement to support specific measures to improve environmental management and control and reduce pollution. The agreement provides for strategies such as promoting self-regulation and self-management. These strategies are understood as instruments between environmental authorities and the electric power sector to facilitate environmental management, and are based on commitments undertaken by all contracting parties. Under this agreement, the MMA and regional environmental authorities will establish negotiated goals for the sector that will be voluntary in nature and take into account the long-term expansion models, which include the environmental dimension and the operating conditions of the subsectors.
- 2.33 This agreement also involves commitments to a combined effort to review and officially certify terms of reference for all

19/ "Energización Rural", UPME-CID, 1997.

20/ A 1995 interadministrative agreement between the Ministry of the Environment (MMA) and the Ministry of Mines and Energy (MME) stated that one of its objectives was to implement effective measures for management, use, conservation, recovery and protection of natural resources and the environment.

environmental studies for the various activities in the sector, and for preparation of environmental manuals for optimum environmental management within each subsector. The recently completed environmental guide for electric power distribution projects is a reference tool and a guide to the concepts, law, methods and procedures that will facilitate environmental management throughout the life cycle of a project.

- 2.34 To further modernization of the electric power sector and as part of an initiative expanded to include the energy sector, the Ministry of Mines and Energy will prepare an energy-sector environmental policy that pulls together environmental-policy initiatives developed at the subsectoral level, and steers decision-making on projects and investments within the sector that will be part of future national development plans. This environmental policy will be based on a strategic evaluation of the sector, which is to provide criteria and basic elements to be included as input for land-use planning and zoning. 21/
- 2.35 As a result of this initiative, the plan is to formulate an environmental management strategy that makes the electric power sector's sustainable development environmentally feasible. It will include criteria and methods for defining sustainability indicators, and environmental objectives and targets. The strategy will also include recommendations on policy and on the relevant regulatory areas for preparation of national development plans, and an environmental action plan for the sector that defines the actions, responsible companies and institutions, and the sources to finance it.
- 2.36 Through the legal framework in force, the environmental variable has become a factor in the process of involving the private sector in the electric power sector. Private and public agents alike must comply with the rules in effect for new projects. Nevertheless, the regulatory system can be improved, particularly with regard to existing companies and how they will be handled in the program to involve the private sector.
- 2.37 Despite the agreements mentioned above and the progress made in the area of the environment, there is still room to improve the existing institutional framework and the rules applicable to

21/ The SEA is to include the following: (i) an evaluation of the environmental diagnostic studies, environmental issues in each subsector; (ii) a review of the sector's investment planning process that examines its objectives, methods, and procedures for review and approval of plans and projects; (iii) an evaluation of the nature and objectives of the plans and programs in the electric power sector that identifies the potential environmental effects associated with the programs and analyzes investment options and strategies in terms of their environmental costs and benefits.

companies in the sector. A better organized institutional structure is crucial to defining what the environmental responsibilities are within the public sector and to establishing clear rules for potential investors, which is vital to getting the private sector involved in the electric power companies.

- 2.38 **Proposed actions.** To help consolidate the institutional and regulatory framework in the environmental area, one of the conditions precedent to the **first tranche** is that a proposal and plan of action be submitted on the environmental issues germane to the electric power sector, including responsibilities for preparing existing and new projects to be offered to the private sector, for supervising environmental commitments and for organizing the rules applicable to all agents of the sector. Based on this proposal and at the time the actions of the **first tranche** are reviewed, the actions for the **second tranche** will be decided and are to be successfully implemented by the time the respective disbursement under the second tranche occurs. The goal is an institutional and regulatory framework for environmental matters that is clear to private investors as well as to public sector authorities.

H. Private sector involvement in national distribution companies

- 2.39 The government has decided to solve the structural problem of the national distribution companies by privatizing them. This solution is consistent with the model adopted for modernization of the electric sector, which seeks to confine the role of the State to the activities involving indicative planning, regulation and control. Accordingly, in 1997 CONPES adopted a strategy for restructuring these companies. It was, however, predicated upon implementation of private-sector participation schemes.
- 2.40 There were basically two different underlying reasons for the policy decision to bring private agents into the electric power distribution business. One was acceptance of the fact that the strategy applied in the past had not worked; that strategy had been to promote the performance plans concluded with the FEN and, later, management and performance plans concluded with the UPME. Neither variation on the strategy worked. Furthermore, because of its difficult fiscal predicament, the government can no longer carry the electric power distribution companies or keep up the system whereby existing electric power distribution companies were public companies.
- 2.41 Experiences in Colombia and elsewhere in the world showed that the involvement of private agents did help to solve the problems mentioned in the preceding paragraph. This was the basic reason for the government's policy decision to involve the private sector, as described below.

- 2.42 The recent completion of the capitalization of the seven energy distribution companies in the CORELCA group, carried out as part of this program, provided invaluable experience with which to pursue the policy to involve the private sector, described earlier. Nevertheless, while the policy adopted by the government emphasizes capitalization of the distribution companies, capitalization may not work in some cases if good offers are not forthcoming. If that happens, an attempt will be made to involve private-sector initiative by using concession contracts or comprehensive management contracts to ensure that such companies will be operated and maintained independently and according to private-business criteria. This is considered a necessary and sufficient condition for them to achieve the desired objectives.
- 2.43 This component has two specific objectives: one is institutional rationalization of the distribution companies, and the other is rationalization of their operations. The goal for institutional rationalization is to eliminate the vertical integration of services within any one company, with the emphasis on separating generation from distribution. The goal with rationalization of operations is to make them more efficient by introducing the private sector in either the ownership or management of the companies that are no longer vertically integrated, which will engage exclusively in distribution and marketing services.
- 2.44 **Proposed actions.** To fulfill these objectives and at the same time make the wholesale energy market and the model adapted for the Colombian electric sector viable, the program will support private sector involvement in the national distribution companies and elimination of the vertical structure of these companies, through three floating tranches (FT) for a total of US\$175 million.
- 2.45 Involving private agents in either ownership or comprehensive management of the electric power distribution companies can be done by selling them or capitalizing them, or by concluding concession contracts or comprehensive management contracts. Regardless of the procedure followed, in order for the private-sector involvement to be considered sufficient to fulfill the objectives the private agent must be given decision-making authority over the company's operation and maintenance. The majority shareholders must give the private parties decision-making authority, whether it is a concession or a comprehensive management contract, and even when it is a case of capitalization in which the private agent is not the company's majority shareholder.
- 2.46 If the total replacement of management that happened with the previous private-sector involvement operations does not materialize, specific studies and programs will be done for labor retraining. If necessary, the private-sector involvement processes will include ways to prevent workers who opt for some resignation

or retirement package or incentives financed with public resources from getting back onto the public sector payroll (see Annex II-2).

- 2.47 The disbursement corresponding to the **first floating tranche (FT1)**, which is the equivalent of US\$70 million, requires private-sector involvement in at least seven companies which together represent 27% of the residential customers of the 21 eligible companies. This condition has been fulfilled since capitalization of the seven electric distribution companies that were attached to CORELCA has been formalized, creating the Electrocosta and Electrocaribe distribution companies. A consortium made up of Houston Industries and Electricidad de Caracas now owns 65% of those distribution companies. Accordingly, once this loan proposal is approved and the respective conditions precedent fulfilled, the US\$70 million allocated to this tranche will be disbursed.
- 2.48 The disbursement corresponding to the **second floating tranche**, in the amount of US\$60 million, requires that private-sector agents be brought on board in six more companies (over and above those included in FT1), bringing the total to at least 13 companies, accounting for at least a 55% share of the residential customers of the 21 eligible companies. At the present time, the government is making preparations to involve private agents in 10 more companies which, combined, represent 37% of the customers. Once this process has been completed, the condition for disbursement of the second floating tranche will have been met (even if there are delays in some companies).
- 2.49 Disbursement of the **third floating tranche**, for the equivalent of US\$45 million, requires that the private sector be involved in at least 19 of the 21 eligible companies, which would represent 90% of the residential users.
- 2.50 **Eligible companies.** In the matrix of actions (see Annex II-1), the 21 companies eligible for the floating tranches are listed by the name of the department in which they have jurisdiction. For additional clarity, the following table lists these companies and shows what percentage of each company the central government owns and the number of residential customers.

BASIC DATA ON THE PROGRAM'S ELECTRIC DISTRIBUTION COMPANIES

| DEPARTMENT | NAME | ACRONYM | % | RESIDENTIAL CUSTOMERS (% TOTAL) |
|-----------------------------|---|------------------|----|---------------------------------|
| Antioquia | Empresa Antioqueña de Energía | EADE | 19 | 363,702 (10.7) |
| Atlántico | Electrificadora del Atlántico | ELECTRANTA | 92 | 290,484 (8.6) |
| Bolívar | Electrificadora de Bolívar | ELECTRIBOL | 99 | 169,488 (5.0) |
| Boyacá | Electrificadora de Boyacá | EBSA | 87 | 239,250 (7.0) |
| Caldas | Central Hidroeléctrica de Caldas | CHEC | 50 | 274,229 (8.1) |
| Caquetá | Electrificadora del Caquetá | ELECTROCAQUETÁ | 75 | 30,088 (0.9) |
| Cauca | Centrales Eléctricas del Cauca | CEDELCA | 75 | 126,209 (3.7) |
| Cesar | Electrificadora del Cesar | ELECTROCESAR | 86 | 91,373 (2.7) |
| Chocó | Electrificadora del Chocó | ELECTROCHOCÓ | 79 | 25,470 (0.8) |
| Córdoba | Electrificadora de Córdoba | ELECTROCÓRDOBA | 96 | 145,432 (4.3) |
| Cundinamarca | Empresa de Energía de Cundinamarca | EEC | 86 | 132,380 (3.9) |
| Guajira | Electrificadora de la Guajira | ELECTROGUAJIRA | 90 | 55,397 (1.6) |
| Huila | Electrificadora del Huila | ELECTROHUILA | 83 | 153,192 (4.5) |
| Magdalena | Electrificadora del Magdalena | ELECTROMAGDALENA | 99 | 122,927 (3.6) |
| Meta | Electrificadora del Meta | EMSA | 56 | 89,838 (2.6) |
| Nariño | Centrales Eléctricas de Nariño | CEDENAR | 94 | 171,578 (5.1) |
| Quindío | Electrificadora del Quindío | EDEQ | 53 | 93,541 (2.8) |
| Norte de Santander | Centrales Eléctricas del Norte de Santander | CENS | 82 | 192,996 (5.7) |
| Santander | Electrificadora de Santander | ESSA | 87 | 329,581 (9.7) |
| Sucre | Electrificadora de Sucre | ELECTROSUCRE | 93 | 91,788 (2.7) |
| Tolima | Electrificadora del Tolima | ELECTROTOLIMA | 73 | 206,580 (6.1) |
| TOTAL (21 companies) | | | | 3,395,523 (100.0) |

Notes:

- (i) The% column indicates the percentage that the national government owns in these companies; with the exception of EADE, where the Department of Antioquia owns 52% of the shares, the central government is the majority shareholder in all the listed electric distribution companies.
- (ii) All the companies are corporations and utility companies.
- (iii) The number of residential users is based on 1996 data provided by the Public Services Superintendency. This information will serve as a benchmark for supervising fulfillment of the targets for the floating tranches.

III. FINANCING AND EXECUTION

A. Borrower and executing agency

- 3.1 The borrower is the Republic of Colombia and the executing agency the Ministry of Finance. Because of the many activities included under the program, the work will be closely coordinated with the Ministry of Mines and Energy, the National Planning Department, the CREG, the FEN, the UPME, and other sectoral agencies involved.

B. Amount of the program and source of financing

- 3.2 The amount of the program totals US\$350 million, and will be financed in its entirety out of the Bank's ordinary capital from the Single Currency Facility. The availability of these resources will be subject to satisfactory completion of the activities included in the program. The financial terms and conditions for disbursement of the program resources will be determined in accordance with the policy on emergency sector loans to be approved by the Bank's Board of Executive Directors.

C. Disbursements

- 3.3 The conditions for approval of the operation's tranches appear in the matrix of actions (see Annex II-1). In addition to the specific actions included under each tranche, disbursement of all tranches will be conditional on maintenance of a macroeconomic environment that is consistent with the program's objectives; it will also be conditional on the progress made on the commitments included in the policy letter. The means of verifying that the actions have been carried out appear in the plan of action (see Annex II-3).
- 3.4 The program's total financing breaks down as follows:

| Tranches | Amount (millions of US\$) | % of total |
|----------|------------------------------|------------|
| First | 70 | 20 |
| Second | 105 | 30 |
| Subtotal | 175 | 50 |
| FT1 | 70 | 20 |
| FT2 | 60 | 17 |
| FT3 | 45 | 13 |
| Subtotal | 175 | 50 |
| Total | 350 | 100 |

- 3.5 Completion of the first tranche is a condition precedent for disbursements from floating tranches two and three. The reason for this condition is that, on the one hand, accomplishing the goals of the first tranche is good for the entire electric power sector and thus strengthens the frame of reference in which the private sector agents to be incorporated under floating tranches two and three will operate. On the other hand, the conditions for the first tranche are well on their way to being fulfilled, thus ensuring that the first tranche will not stand in the way of completion of the second tranche. Quite the contrary, it will allow all the elements included in the matrix of actions to be carried out in an orderly sequence.

D. Procedure for disbursement

- 3.6 The fast-disbursing resources will be used to finance the full cost, in foreign currency, of eligible imports from Bank member countries. The Bank's new simplified procedures for sector loans will be used, in accordance with document GN-2001-2. Disbursements will be made once the borrower files the appropriate request, accompanied by documents showing that the policy conditions set forth in the loan contract have been met.
- 3.7 The borrower will keep a separate account wherein the loan disbursements will be deposited. The MHCP will be responsible for keeping the accounting records for this account and for preparing and presenting disbursement requests. The Bank will require that the borrower keep proper records of the loan proceeds and reserves the right to request that the borrower submit an audited report on these resources.

E. Inspection and supervision

- 3.8 The Bank will establish the inspection procedures it deems necessary to ensure the program's satisfactory development. The

borrower will provide all cooperation and information required to that end.

F. Program monitoring

- 3.9 To provide technical support and evaluate the program's progress, the project team will retain technical responsibility for the operation. Coordinating closely with the Country Office, the team will make quarterly technical visits to oversee the progress made toward completion of the actions planned under the program. Accordingly, no ex post evaluation should be needed.

IV. BENEFITS, FEASIBILITY AND RISKS

A. Benefits

- 4.1 The program has multiple benefits, the most important being the support provided to consolidate the development model for the electric power industry, which is based on competition and private-sector participation. Also, the program will increase the State's net revenues, either in the form of fresh resources or in the form of relief from fiscal burdens. The revenues will come from the following sources: (i) resources obtained through capitalization by private agents who participate in the purchase of the new distribution companies and that would go toward the investments that those companies require and toward ensuring that they have sufficient working capital, which means freeing up State funds (since, as matters now stand, the State would be paying for investments of that type); (ii) proceeds from the sale of the power generation or transmission companies formed when the vertical structure of the electric power distribution companies that currently provide these services is dismantled; these resources would represent new income for the State; and (iii) funds freed up because as matters now stand, the State is underwriting costs that the electric power distribution companies are not paying for a variety of reasons.
- 4.2 The actions planned under the program will directly improve management of distribution and marketing activities with the introduction of new technologies by the private sector, which would run these new distribution companies (or the existing, but restructured electric power distribution companies) according to efficient business practices. They will also help consolidate the wholesale energy market, which is currently in a crisis because of the repeated failure on the part of the electric power distribution companies to make payments; the wholesale energy market will also benefit from the private sector's discipline.
- 4.3 The financial-sustainability measures are intended to eliminate the business deficit, which will have a positive impact on the generation plants. Moreover, transfers of energy-fund contributions among regions will lead to an improved regional redistribution of revenues. As for sectoral regulation, the actions will promote greater efficiency in the location and expansion of generation and transmission plants; will put the existing generation equipment to better use; and will grow the supply of frequency regulation services and thus prevent abuses of dominant market position. The actions associated with rural energization will make available different sources of energy, adapted to their economic uses.

- 4.4 Other benefits include the fact that the agents that participate in the electric power market will be more economy-minded and the sector's efficiency will improve thanks to open competition. The State will be able to focus more on its regulatory, oversight and control functions, as it disengages itself from the business functions that it is currently performing with limitations of various types.

B. Feasibility and risks

- 4.5 One of the program's major risks is that the private sector might not get involved in some aspect of an electric-power distribution company's restructuring, in any of the anticipated avenues. To minimize this risk, the resources assigned for the floating tranches will only be released once the capitalization process has been completed or concession or comprehensive management contracts have been concluded with private parties. The success achieved in the recent capitalization of the CORELCA electric power distribution companies, although very complex, and the success achieved in earlier processes, demonstrates that the conditions are there for the private sector to become involved in the electric power sector. In any event, the actions planned as part of the fixed tranches will make private sector participation in these processes even more feasible.
- 4.6 There is also the risk that employees of these companies may be against the program, because of possible opposition on the part of organized labor to any reduction-in-force. The privatization processes that have already been completed, especially those of the Bogota, El Valle and CORELCA companies, indicate that this risk is small, since the opposition tends to manifest itself before the process gets under way, but then dissipates once the process is in progress. In any event, to minimize this risk the government will conduct specific studies and programs in job retraining absent the across-the-board substitution of management that occurred with the earlier private-sector involvement processes. It will also introduce mechanisms to prevent workers that accept any voluntary resignation/early retirement benefits package and incentives financed with public resources from getting back on the government's payroll.

COLOMBIA: ELECTRIC POWER SECTOR PROGRAM (CO-0202)
MATRIX OF ACTIONS

| Objectives | First Tranche (US\$70 million) | Second Tranche (US\$105 million) | Floating Tranches (FT) (US\$175 million) |
|--------------------------------|--|--|--|
| Macroeconomic scenario | Maintenance of a macroeconomic policy that is consistent with the program's objectives. | Maintenance of a macroeconomic policy that is consistent with the program's objectives. | Maintenance of a macroeconomic policy that is consistent with the program's objectives. |
| Sustainability | The energy-assistance fund for the gas subsector in effect, an institutional system introduced, and the first payment made. Determination of the source that will finance the fund's shortfalls and budgetary appropriation. | The energy-assistance fund for the gas subsector in effect, an institutional system introduced, and the first payment made. Determination of the source that will finance the fund's shortfalls and budgetary appropriation. | <p>Private-sector involvement in 19 of the 21 electric power distribution companies, equivalent to:</p> <p>FT1. (US\$70 million) At least 7 companies that represent 27% of residential consumers. Condition fulfilled.</p> <p>FT2. (US\$60 million) At least 13 companies representing 55% of residential consumers.</p> <p>FT3. (US\$45 million) At least 19 of the 21 companies, representing 90% of the residential consumers.</p> |
| Private sector | Budget of the CREG approved directly by the MHCP; CREG autonomous for purposes of internal control and management and appointments; appointment of experts serving on the Commission for fixed terms. | Final regulations on transmission restrictions and ancillary generation services. | |
| Unconnected zones not covered. | Terms of reference agreed upon for the studies required to implement the rural energization policy (zones not interconnected). | A rural energization policy that includes the criteria for selecting projects, financing plans and mechanisms for execution and operation. A proposed pilot project. | |
| Environmental concerns | A proposal and plan of action on environmental issues in the electric power sector, including a determination of responsibilities, supervision of environmental commitments and codification of regulations. | Execution of the activities in the plan of action previously agreed upon. | |

Floating tranches. Private-sector involvement includes the sale of assets to private parties, privatization, concessions or contracts turning over full management to private parties. Private-sector involvement to be considered sufficient to meet the conditions necessary to be in compliance with the objectives of the floating tranche, and regardless of how it is done, private parties must be given decision-making authority over the companies' operation and maintenance. To comply with the objective of institutional rationalization, private-sector involvement must include rationalization of the vertical structure in eligible companies, with particular emphasis on separating generation from distribution. Completion of the first tranche will be a condition for the release of disbursements from floating tranches 2 and 3. The following are the 21 eligible electric power distribution companies: Atlántico, Bolívar, Cesar, Córdoba, Guajira, Magdalena, Meta, Nariño, Cauca, Caquetá, Cundinamarca, Huila, Meta, Quindío, Tolima, Antioquia, Boyacá, Caldas, Norte de Santander and Santander.

POLICY LETTER

Mr. Enrique V. Iglesias
President
Inter-American Development Bank
Washington, D.C.

Dear Mr. Iglesias:

The Government of Colombia is requesting a fast-disbursing loan from the Inter-American Development Bank which requires a commitment on the part of the government to continuity in the electric power sector reform policy. These reforms constitute a key piece of the national strategy to consolidate Colombia's model for development of the electric power sector, which is based on competition, efficiency and linkage with strategic private operators and capital. The purpose of this policy letter is to present the achievements in the sector reform that began in the early 1990s and outline the foundations for the specific activities the government will continue to carry out to achieve consolidation of the sector.

Colombian economic policy in the 1990s has been one of economic openness, liberalization of the economy, and decentralization by transferring more resources and responsibilities to the regions. The mining and energy sector has played a leading role, since in recent years it has become one of the most dynamic sectors of the economy, with growth that is outpacing the average for the economy as a whole.

The role of the energy sector and the subsector policies now being implemented are playing a key role. The natural gas subsector has helped cut energy consumption and allowed low-cost development of the thermoelectric subsector; with the electric power sector's restructuring, it is becoming less and less of a drain on the national budget and is expected to become financially self-sufficient shortly; the processes of linking capital through strategic investors and operators in electric power companies has generated funds to strengthen public finances in response to the crises mentioned earlier; the petroleum and coal subsectors continue to generate foreign exchange earnings, and fiscal and regional revenues through petroleum and mining royalties.

Electric power sector. This industry has undergone the most change since the start of its restructuring in 1991. Enactment in 1994 of Law 142 on Public Utilities and Law 143 on Electricity laid the groundwork for implementing the policies that followed. The role of the State was changed to gradually disengage it from the business end of the energy sector, so that it might focus instead on its regulatory and oversight functions; at the same time, private-sector participation was being

encouraged. A wholesale electric power market has been created that works on a competitive model. The State has divested itself of some of its power generation assets, and private-sector participation has been encouraged in electric power generation and distribution.

Transformation of the sector has been so far-reaching that 62% of the power generation stock and service to 42% of end-users is now being provided by utilities controlled by the private sector. This process is continuing, and by the end of 1999, private enterprises are expected to be providing distribution service to over 75% of users, including almost all the enterprises in which the State is a shareholder. The primary examples of these transactions are EPSA SA ESP, EEB SA ESP, Chivor SA ESP, Centrales Hidroeléctricas de Betania SA ESP, Electricosta SA ESP, and Electrocaribe SA ESP. It should be noted that the latter two examples are more recent operations in which Houston Industries and Electricidad de Caracas, operators with established track records, will take over distribution service in the seven Atlantic coast departments, serving over 15% of the population.

In addition, a wholesale market (Energy Exchange and long-term contracts) has been created and launched, in which electric power prices are determined by supply and demand. Now that sector regulations are clear and reasonable, new thermoelectric plants have added another 1,000 MW of privately-generated power over the past five years.

At present, the regulation of end-users tariffs is based on recognition of efficiency costs for each activity in the sector, including incentives for agents to improve service quality, for instance the treatment of energy losses, not allowing end-user inefficiencies above a technically acceptable level according to international loss standards.

The government's policy is to involve private-sector agents in the electric power distribution companies while at the same time conducting a restructuring to institutionally separate the generation services from distribution services, especially in companies that have over 25 MW generation, as in the case of CORELCA.

As for the rest of the country, the next step is to fully consolidate the distribution subsector by expanding linkage with strategic operators and capital to the other electric power companies in which the State is a major shareholder (Chocó, Cauca, Nariño, Caquetá, Cundinamarca, Huila, Meta, Quindío, Tolima, Boyacá, Caldas, Antioquia, Norte de Santander and Santander). The methods used in the process may vary, depending on the structure and situation of the various companies. However, the goal will always be to have strategic agents in full charge of company management and to separate the generation, transmission and distribution services. If these objectives are achieved, the model adopted for the electric power sector will work efficiently, promote competition and adequately control any monopolistic practices.

With the Bank's technical support, we are conducting an evaluation of our experience in labor-related matters thus far, to identify measures that would allow progress in this area. As for the benefits of the workers of the companies undergoing linkage with strategic operators and capital, I would like to recall the policy on workers' rights the government has been following. The government has sought, and will continue to seek, new employment for all the workers affected by these processes, in which the State is significantly reducing its role as a direct employer. However, depending on the volume of services delivered by each utility, in certain cases the government has assumed and will have to assume part of future pension liabilities to ensure the financial viability of the enterprises. We intend to conduct the studies necessary to promote outplacement and to devise mechanisms to limit any future return to the public sector payroll of workers making use of retirement plans and incentives financed with public resources.

In addition, the government will continue with the plan for cross-subsidies at the levels mandated by law. Recently, the Ministry of Mines and Energy (MME) signed a contract with Financiera Energética Nacional [National Energy Development Bank] (FEN) to organize and administer the energy-assistance fund for income redistribution in the electric power and gas subsectors. Implementation of that fund is an integral part of the electric power sector program. The fund is expected to be operational by the end of the year. These measures will expedite the flow of resources among enterprises, which will provide for greater certainty for business management and any necessary tariff adjustments, and will thereby support linkage with the strategic operators and capital in the distribution business.

The government is aware that the success of the linkage with strategic operators and capital and economic and financial rehabilitation of the electric power sector is closely connected to maintaining a sound, independent energy and gas regulatory commission (CREG). To give assurances of the commission's independence and autonomy, the government is prepared to take the necessary measures to ensure that the specialists that are CREG members and those that assist it with independent and expeditious budget management for efficient and competent administration, are secure in their positions. It is our intention to conduct an institutional review of the commission so as to continue to find ways to encourage and guarantee its continual professionalization.

At the level of the electric power wholesale market, the goal is to separate the functions of the ISA commercial trading system, assigning them to a new institution that will focus exclusively on operation of the wholesale market. At the same time, an effort has been made to rationalize the apportionment of costs on that market, especially in regard to transmission restrictions and ancillary services; measures have been identified to send economic signals that encourage the supply of these services and the lifting of these restrictions. The actions carried out under the electric power sector program are designed to make the operation of the wholesale energy market viable and stronger. Even

so, with this program the government is committed to identifying additional measures to enable the wholesale market to function even more efficiently and to strengthening the capacity to supervise the sector. As for control of any monopolistic practices, the CREG is conducting studies to identify ways to avert such practices.

As for **rural energization** in areas not interconnected, it is important to note that access to secure and economical energy sources on the part of the rural population is vital because of the consequences it has for economic development and peace. Cognizant of the difficulties encountered in implementing policies in this regard, the government is seeking a new approach emphasizing institutional coordination with the participation of regional authorities and private agents in the delivery of energy services, including other areas besides electrification. To this end, the national government is conducting a study to identify the best energy alternatives in each region and the institutional arrangements that will ensure proper development and delivery of the services.

As for **environmental aspects**, the energy policy has for some years been geared toward sustainable development. In the case of the electric power sector, environmental assessments have been conducted on the sector as a whole and on specific projects. Furthermore, the new thermoelectric plants powered by natural gas generate electric power with less adverse environmental impact. An interagency agreement has recently been entered into by the Ministry of the Environment and the Ministry of Mines to expedite processing of environmental permits for energy projects, establishing clear procedures for compliance with legislation on environmental protection. The strategy for the sector includes establishment of a clear and stable institutional and regulatory framework that articulates responsibilities for preparation of new private projects and private-sector linkage with ongoing projects, and for supervision of environmental commitments undertaken by public and private operators. The strategy for the sector will be based on the findings of a study to identify responsibilities in the preparation and execution of energy projects and the strategies to be implemented to achieve sustainable development.

It is important to highlight the government's commitment to modernization of the sector, with a view to improving its efficiency through competition and linkage with strategic investors with knowledge of the sector, in a regulatory framework that will ensure the financial sustainability of the enterprises and will establish incentives for cost reduction that is passed on to consumers and thereby improves the competitiveness of the Colombian economy.

In the electric power sector program, emphasis is placed on the sector's financial sustainability, regulation, rural energization, environmental issues and linkage with strategic investors with extensive knowledge of the sector in national distribution companies. However, the Government

of Colombia will also identify and implement actions in the natural gas, coal and oil subsectors, related to pricing policies, regulatory systems and institutional structures that are suitable for promoting increased competition and creating more opportunities for linkage with entities governed by private law in these subsectors.

Natural gas subsector. With the discovery of large deposits of natural gas both on the Atlantic Coast and in the country's interior, and given the advantages of this fuel, the government has encouraged its commercialization by building a gas pipeline that will reach the country's main cities. With parallel development of urban distribution networks, the idea is to rationalize energy consumption, especially in the residential sector, by using gas instead of electric power for cooking and water-heating. The engine driving this development is the thermoelectric power sector whose gas-powered turbines provide a solid basis for the economic justification of some of the gas mains. Despite abundant reserves, the government is aware of the need to increase them, and has therefore awarded off-shore drilling blocks along the Atlantic Coast to companies in the oil sector.

As the subsector is relatively new, thus far the product has been marketed exclusively by Ecopetrol. However, the applicable legislation allows other marketers to enter the market, as in the case of the electric power sector. The government would welcome private-sector participation. Gas prices are currently regulated for every phase of the natural gas chain, in principle until the year 2005. As competition within this subsector increases, the policy will be adjusted to introduce incentives for drilling and private-sector participation.

The **coal subsector** is almost entirely in private hands (the State's participation is limited to Carbocol in the Cerrejón Norte consortium). However, to make Colombian coal more competitive on the international market, two factors have to be addressed that currently make it costly to market: the land transportation infrastructure and port capacity. Land transportation agreements have been concluded to share the Cerrejón Norte rail infrastructure with other producers from the area; Ferrovías will rehabilitate the railway routes to bring out coal further to the south, as in the case of the coal mines in La Jagua. Furthermore, the support that the government is providing to this subsector is geared toward encouraging the competitiveness of Colombian coal on the foreign market, by allowing prices to react to market signals, without using artificial interference in the market.

In the **oil subsector**, the basic goal of the petroleum policy is to increase wells and investments with a view to exploring all the country's sedimentary basins. The national government has been reviewing the petroleum policy through periodic analyses of the market and of prevailing conditions for private investment in other producing or potentially producing regions. As a result of these reviews, adjustments have been made to the fiscal framework, such as elimination of the war

tax for discoveries made subsequent to 1996, to allow sufficient flexibility to introduce any changes that the new contracts for private-sector involvement might necessitate to guarantee exploration and reserves sufficient to meet domestic demand and the proposed levels of exploration and export. To that end, the government is promoting proper economic conditions for exploration and development of medium- and small-sized fields, which are the most common types and where the degree of State participation has a strong impact on the economics of exploration and exploitation. In addition to changes in contracting, the government is studying other measures to attract sufficient levels of investment, including the introduction of a more stable and equitable structure for investors.

In closing, we would like to express our firm commitment to continuing with consolidation of modernization and financial and technical strengthening of the electric energy sector. It is also our intention to maintain the enabling macroeconomic environment for the actions supported under this program to be carried out effectively and sustainably.

The technical and financial support we hope to receive from the Inter-American Development Bank will make our policy objectives viable and achievable.

Very truly yours,

Juan Camilo Restrepo
Minister of Finance

COLOMBIA: ELECTRIC POWER SECTOR PROGRAM (CO-0202)

PROGRAM GOALS AND PLAN OF ACTION

| | GOALS |
|----------------|---|
| sustainability | Enterprises in natural gas and electric power subsectors without subsidy-related deficits |
| ulation | CREG stability and independent and consolidation of sector regulations |
| gization | Rural energization policy in areas not connected to the network and pilot project |
| ntal concerns | Clear institutional and regulatory framework for environmental protection in the power sector |
| tor linkage | Improved service delivery in at least 19 distribution companies of national scope, covering 60% of residential consumers nationwide. Divestment of public investment in those companies. Establish financially sound enterprises with clearly defined businesses and greater competition and efficiency |

COLOMBIA: ELECTRIC POWER SECTOR PROGRAM (CO-0202)**PROGRAM GOALS AND PLAN OF ACTION**

| POLICY CONDITIONS | RESPONSIBLE PARTIES | MEANS OF VERIFICATION | OUTPUTS |
|--|----------------------------|--|---|
| FINANCIAL SUSTAINABILITY | | | |
| Existence of a fund for subsidies and income redistribution in the electric power subsector in operation | MME, FEN | Consolidated quarterly report (FEN). Transfers sent to the companies (MME, FEN). | Companies without subsidy-related losses |
| REGULATORY FRAMEWORK | | | |
| Existence of administrative autonomy of the Energy and Gas Regulatory Commission (CREG). | MHCP, MME, DNP | Presidential decree granting autonomy to the CREG for budget management and appointment of advisors. Decree regulating Law 443 of 1998 (Article 5). | Greater stability and independence in decision-making. |
| Existence of a fund for the specialists on the CREG for fixed terms. | | | |
| ENERGY EFFICIENCY | | | |
| Existence of studies needed to formulate and implement a policy for energizing areas not connected to the network. | UPME, MME, DNP | TOR and timetable | Existence of a policy for energizing areas not connected to the network. |
| ENVIRONMENTAL ASPECTS OF THE ELECTRIC POWER SECTOR | | | |
| Existence of a proposal and plan of action | MME, MMA, DNP | Proposal and plan of action | |
| FINANCIAL SUSTAINABILITY | | | |
| Existence of a fund for subsidies and income redistribution in the electric power subsector in operation. | MME, FEN | Consolidated quarterly report (FEN). Transfers made to the companies (MME, FEN). | Companies without subsidy-related losses |
| REGULATORY FRAMEWORK | | | |
| Existence of regulations on transmission restrictions and ancillary generation | CREG | Resolutions on apportionment of transmission-restriction costs, reactive energy contributions, and frequency regulation. | Efficient apportionment of costs and economic signals intended to lift transmission restrictions; better equipment and more competitive frequency regulation service. |

| POLICY CONDITIONS | RESPONSIBLE PARTIES | MEANS OF VERIFICATION | OUTPUTS |
|--|---------------------|--|--|
| of areas not connected to the network energizing zones not connected to the network, including a e criteria for selecting projects and mechanisms for operating those projects. | MME, UPME, DNP | CONPES document approved. Pilot project proposal. | Policy and a pilot project. |
| l aspects of the electric power sector | MME, MMA | To be agreed upon at the time of the first tranche, based on the proposal and plan of action. | An institutional framework and c regulations. |
| RANCHES Private-sector linkage in national electric power distribution companies. | | | |
| st 7 companies representing 27% of residential users. | MHCP, MME, FEN, DNP | Private parties take control of and operate the electric power distribution companies. Vertical integration eliminated. | Improvement in service delivery |
| st 13 companies representing 55% of residential users. | MHCP, MME, FEN, DNP | Private parties take control of and operate the electric power distribution companies. Vertical integration eliminated. | Improvement in service delivery |
| st 19 of the 21 companies, which represent 90% of ntial users. | MHCP, FEN, MME, DNP | Private parties take control of and operate the electric power distribution companies. Vertical integration eliminated. | Improvement in service delivery |
| ER | | | |
| he commitments in the policy letter | MME, MHCP | Policy letter | Adequate sector framework |
| NOMIC CONTEXT | | | |
| ic context consistent with program objectives | MHCP | International Monetary Fund (Article IV) | Adequate macroeconomic frame |

PROPOSED RESOLUTION

COLOMBIA. LOAN ___/OC-CO TO THE REPUBLIC OF COLOMBIA
(Electricity Sector Program)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Colombia, as Borrower, for the purpose of granting it a financing to cooperate in the execution of an Electricity Sector Program. Such financing will be for the amount of up to three hundred and fifty million United States of America dollars (US\$350,000,000), from the Single Currency Facility of the ordinary capital resources of the Bank, and will be subject to the "Special Contractual Conditions" and the "Terms and Financial Conditions" set forth in the Executive Summary of the Loan Proposal.