

EnCorr

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PROJECT MANAGEMENT FOR GEFSEC

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Project Name: Public Enterprise Reform and Privatization Technical Assistance (PERPTAL)

VPU/Dept/Div: GEF	Date Logged: 09/15/2000 09:22:29 AM
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CORRESPONDENCE DESCRIPTION:

From:	Lars Vidaeus
Organization:	WB
Reference #:	
To:	Mr. Keneth King
Dated:	09/14/2000
Type:	OP5
Subject:	Concept/PDF B: Ecuador: Public Enterprise Reform and Privatization Technical Assistance (PERPTAL)

ACTION INSTRUCTIONS:

<p><i>Please review and/or technical comments</i></p> <p>Note: Electronic file attached. Project review on Oct 5.</p>

INFORMATION COPIES:

Alan Miller, Michael Sanio, Yasemin E.K. Biro, Maria C. J. Cruz/Person/World Bank, Days, Rittner



Christine E. Kimes
09/14/2000 06:22 PM

Subject: A new submission from the World Bank.
Project Title: Public Enterprise Reform and Privatization Technical Assistance (PERPTAL)
Type: Project Concept for Pipeline Entry & PDF B Request for Comments/CEO No Objection

Please find below the indicated submission(s) for your information and/or action.

Date: 09/14/2000
Name: Christine E. Kimes
Region: LCR
Country: Ecuador
Project Title: Public Enterprise Reform and Privatization Technical Assistance (PERPTAL)
Focal Area: Climate Change
Type: Project Concept for Pipeline Entry & PDF B Request for Comments/CEO No Objection

Please find attached: (i) the cover memo from the WB/GEF Executive Coordinator, (ii) a combined concept note/PDF Block B request, and (iii) a letter from the GOE/Ministry of the Presidency requesting GEF support for the Public Enterprise Reform and Privatization Technical Assistance (PERPTAL) Project; we expect the focal point endorsement letter within the next week. This project proposal is being submitted for both pipeline entry and for PDF approval, and will be discussed at the upcoming September 28 bilateral. The project is submitted under OPs 5 (Removal of Barriers to Energy Efficiency and Energy Conservation) and 6 (Promoting the Adoption of Renewable Energy By Removing Barriers and Reducing Implementation Costs). We look forward to receiving your comments.



PERPTAL Cover Memo.d



PERPTAL Concept-PDF.d



PERPTAL GOE LETTER.i

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To: Gcoordination@Worldbank.Org

OFFICE MEMORANDUM

DATE: September 14, 2000

TO: Mr. K. King, Assistant CEO, GEF Secretariat
Att: GEF PROGRAM COORDINATION

FROM: Lars Vidaeus, GEF Executive Coordinator 

EXTENSION: 3-4188

SUBJECT: **ECUADOR: Public Enterprise Reform and Privatization
Technical Assistance (PERPTAL)
Submission for GEF Pipeline Entry & PDF B Request**

Please find enclosed documentation which simultaneously covers submission of the project concept note for pipeline entry and PDF-B request for the above-mentioned project.

As per agreed procedures, we would appreciate receiving your comments on the combined concept and the PDF B request by September 28, 2000 and look forward to discussing the concept for pipeline entry at the bilateral meeting with GEFSEC scheduled for September 28, 2000.

We are also requesting GEFSEC to issue the CEO's no-objection to the PDF-B upon the concept's entry into the GEF pipeline

Many thanks.

Distribution:

Messrs.: R. Asenjo, UNDP
A. Djoghlaif, UNEP (Nairobi)
K. Elliott, UNEP (Washington, DC)
M. Gadgil, STAP
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C. Parker/M. Perdomo, FCCC Secretariat

CC: Messrs./Mmes. P. Durand, A. Covarrubias, S. Goldmark (LCSFP); B. McDonald (LCCEC); T. Kimes, T. Bradley, T. Serra (LCSES); M. Sharma, R. Khanna, D. Aryal (ENV); ENVGC ISC; IRIS4

Global Environment Facility

Concept Paper for a GEF Proposed Project Proposal and Proposal for Project Development Fund (PDF) Block B Grant

Country and eligibility: Ecuador ratified the United Nations Framework Convention on Climate Change (UNCFCCC) in March 1993.

GEF Focal Area: Climate Change

Operational Program: OP # 5, Removal of barriers to energy efficiency and energy conservation; and OP #6, Promoting the adoption of renewable energy by removing barriers and reducing implementation costs.

Project Title: Public Enterprise Reform and Privatization Technical Assistance (PERPTAL)

Focal Point Endorsement: (./././.) – Ing. Fernando Rendón, Minister of Environment

Requesting Agency: World Bank

Executing Agency: National Council for Modernization of the State (CONAM)-- Project and PDF

Total Project Cost: US\$22.47 million

Financing Plan:

IBRD Loan	US\$15.36 million
GEF Grant	US\$2.25 million
Government	US\$4.86 million

Project Duration: 4 years (PDF duration: 4 months)

Preparation Costs: US\$400,000

PDF Request: US\$350,000

PDF Block B Funds Requested: US\$350,000

PDF Co-Funding:

US\$50,000 (in kind GOE)
US\$350,000 GEF
Total: US\$400,000

Background and Development Strategy

Over the past decade, with support of World Bank loans, Ecuador has made significant progress in modernizing public enterprises and creating the base for enabling ample and sustainable private participation in the economy at large. In particular, the Bank-financed Public Enterprise Reform Technical Assistance Loan (PERTAL) focussed in modernizing the electricity and telecommunications sectors and preparing them for privatization. These efforts have been addressed with the long-run and ultimate goal of meeting the demand for electricity and telecommunications services in a timely, efficient, reliable and commercially oriented manner and, in the case of electricity, with due regard to a rational use and conservation of natural resources. Within this context, the Solidarity Fund was established for the financial management of the revenues to be generated by the privatization of the electricity and telecommunications companies, and the Fund for Electrification of Rural and Urban Marginal areas (FERUM) was created to support investment in these areas.

More recently, in March 2000, the financial and economic crises of the country led to a collapse of the domestic currency and to a drastic transformation of the economic environment of Ecuador reflected in a total dollarization of the economy, a reform of the financial sector by strengthening supervision of banks and regulating interest rates, and renewal emphasis in enabling private participation in the economy by privatizing public services (in particular, up to 51 percent of electricity distribution and generation and telecommunication Government-owned companies, would be offered to private strategic partners). Moreover, protection of the environment for sustainable development and private sector involvement in the economy are two overarching objectives pursued by present Government [See Ecuador: Country Assistance Strategy Progress Report, June 1, 2000, pages 10-11, Annex E, and Annex C1.b)

Electricity Sector

In 1996-98, Ecuador reformed the electricity sector by enacting and implementing a new Electricity Law. This Law segmented the sector into generation, transmission, and distribution corporations; established CONELEC as the regulatory agency of the sector ; launched CENACE, as the entity in charge of the administration of the wholesale electricity market and the coordination of the national power transmission system; and assigned the policy making functions to the MEM. INECEL was segmented into three hydro-generating companies, three thermal-generating companies, and one transmission company. The 18 electricity distribution companies were already organized separately and continue to operate as state-owned corporations. In 1999, with financial support from the InterAmerican Development Bank, the Government recruited an investment bank to help selling 51% of the shares in distribution companies to private strategic partners through competitive bidding, and generation companies as well as the transmission company would be privatized subsequently. Regarding sector regulation, there is need to improve the legal and regulatory framework of the sector and to strengthen the performance of regulatory entities by improving the capabilities of CENACE to manage the electricity wholesale market and CONELEC to regulate the retail market. This is particularly important with regard to the development and application of a methodology for periodic electricity tariff adjustments and reviews. Moreover, these entities need to be provided with the appropriate monitoring tools to manage both markets. The overarching objective of the reform implemented by the Government of Ecuador is to enhance the coverage, efficiency, quality, and long-term viability of the electricity sector operations, and to expand population access to electricity services.

Regarding the coverage of the electricity market, it is estimated that 96 percent of the urban population and 55 percent of the rural population have access to electricity services, or about 80 percent of total population. The implementation of the 2000-2009 Rural Electrification Plan prepared by CONELEC is expected to increase the electricity coverage to 98 percent for the urban and to 65 percent for the rural population (85 percent for all the country). That plan will be implemented by the power distribution companies which are in process of being privatized. It is expected that the distribution companies will finance 100 percent of the investment needed for electrification of the urban population and that the FERUM will finance 80 percent of the investment required by electrification of the rural and marginal suburban population (US\$450 million). Overall, by year 2009 the plan will connect to electricity service about 750,000 additional households. However, the Plan will leave without electricity service most of the rural population located in remote areas. Since the provision of access to electricity to rural population localized in remote areas comprising dispersed low income households is difficult and costly, it poses a challenging economic, financial and technological problem. For this, off-grid renewable energy systems offer a supply alternative worth to be considered. These systems would substitute for inefficient and expensive alternatives such as kerosene, candles, batteries, etc. that are currently used by rural populations with expenditures that can be used as a proxy to estimate the households' minimum willingness-to-pay for more efficient renewable energy systems.

Regarding the efficient use and conservation of energy resources, in the 1980s and the early 1990s the former National Institute of Energy (INE) developed energy efficient programs addressed mostly to the industry through energy audits and initiated the promotion of renewable energy systems (RES) such as mini hydroelectric plants, and solar and wind energy sources. The Directorate of Alternative Energies (DEA) in the MEM has now retaken the initiative to develop incentives for energy efficiency and conservation in the industrial, commercial, public and residential sectors, that would lead to significant savings in investment for generation, transmission and distribution, and is continuing efforts for the expanded use of RES.

Telecommunications Sector

In 1995, Ecuador enacted its Telecommunications Law. This Law separated policy and regulatory functions and assigned operating functions to ANDINATEL and PACICTEL, the two corporations resulting from the segmentation of EMETEL; assigned policy-making functions to SENATEL; created CONATEL as the sector regulatory entity; retained SUPTEL as the sector enforcement entity; and opened the telecommunications market to competition through the creation of multiple operators licensees for cellular telephony, internet services, and cable television. However, this Law is being revised in order to simplify the institutional structure and introduce sophisticated services now offered by technological advances. In addition, the Government intends to sell at least 51% of shares in ANDINATEL and PACICTEL to a private strategic partner, with support of an investment bank financed under PERPTAL, and to set up a fund (FODETEL) to expand rural telephony services.

Climate Change Priorities and Global Environment Strategy

Since the early 1990s Ecuador has shown great concerns about global climate changes that can be induced by the release of gases from intensive and inefficient use of fossil energy resources either as a primary source or transformed into secondary energy such as electricity. It joined the UNFCCC in 1993 and through the INE developed programs to promote efficient use of energy, mainly in the industrial sector. In the 1990s, INE received technical assistance from the European Union and OLADE (Latin America Energy Organization) for studies on mini-hydroelectric plants as well as on

solar and wind energy. Also, INE coordinated with similar programs in Peru and with INECCEL regarding the development of minihydropower. In 1996, INE was replaced by the DEA in the MEM to which part of INE's former staff was integrated as a way to retain institutional memory and experience on climate change problems and RES technologies.

Investment program translating these concerns into action are being developed. For example, within the framework of a Perú-Ecuador Bilateral Technical Committee on Energy and Mining, MEM proposed two programs identified in June 2000: (a) the 2000-2005 Energy Saving Program for Ecuador (of about US\$4.4 million) aiming at: (i) improving the efficiency of the power system by saving electricity that in turn will postpone investment in generating capacity and reduce input of fuel to thermal generating plants; (ii) creating a culture of rational use of energy among the population; (iii) increasing economic competitiveness of Ecuador's industry; and (iv) protecting the local and global environment through conservation of natural resources. This program has a potential to reduce peak demand for electricity by about 150 MW; and (b) a Photovoltaic Rural Electrification Program (of about US\$13.8 million) aiming at: (i) providing access to RES-based electricity to rural communities located in both sides of the Ecuador/Peru border; (ii) reduce negative impacts on the environment by avoiding the installation of thermal generation units; (iii) establish RES as a viable alternative for rural electrification; and (iv) contribute to the development of a sustainable model for delivering RES-based electricity to rural population, that could be applied elsewhere in the world. Also, the MEM and the Ministry of Health (MH) have jointly prepared in July 2000 a US\$0.9 million program for the installation of photovoltaic-based electricity systems for medical refrigerators used in 97 rural clinics located in remote areas of Ecuador. Financing for the above mentioned three programs has not yet been secured.

The Baseline Scenario

In the absence of GEF support, the GOE would implement a program (PERPTAL) whose objectives and strategy are: (a) to enhance, apply and consolidate the legal/regulatory/institutional framework required to develop a competition-based, private enterprise driven electricity sector that ensures and secures an efficient, sustainable supply of electricity, and extends access to electricity to more population; and (b) to strengthen the policy and legal/ regulatory/ institutional environment in the telecommunication sector and encourage private investment in this sector as a way to broaden access to services. These objectives are a logical extension of the PERTAL program already completed. The activities and estimated costs of the baseline scenario are shown in the attached Table 2. In the electricity sector these activities mainly include technical assistance and equipment to strengthen the policy and operational capabilities of CONAM, CONELEC and CENACE. In the telecommunications sector, the activities would consist of supporting the privatization of ANDINATEL and PACIFICTEL, providing technical assistance to CONETEL and SUPTEL, creating a rural telephony fund (FODETEL), carrying out market studies, and reviewing sector policy and telecommunications tariffs. The cost of the baseline scenario is about US\$18.47 million of which the proposed Bank Loan would finance US\$14.21 million and the Government of Ecuador (GOE) would finance US\$4.26 million (see Table 2).

Expected outcomes of the baseline scenario

The baseline PERPTAL is expected to (a) strengthen the policy and regulatory capacity of the State in the electricity and telecommunications sectors; (b) increase private participation in the electricity and telecommunication sectors; (c) increase the variety of services offered by modern telecommunications

technology; and (d) improve the economic efficiency of wholesale electricity trading and retail electricity distribution.

Expected outputs of the baseline scenario

The baseline PERPTAL is expected to: (a) enact an improved legal and regulatory framework for the electricity and telecommunications sectors; (b) privatize the telecommunications companies and increase private investment in the electricity sector; (c) adjust electricity tariffs to cost recovery levels; (d) prepare, issue and apply rules for operation of the whole sale electricity market; (e) complete operational procedures and staffing of CONELEC and CENACE; and (f) conduct training events for management and staff development.

Gaps of the baseline scenario

As currently conceived, PERPTAL would not: (a) allow the GOE to identify existing demand and barriers to efficient end-use of electricity and to RES particularly in rural electrification; (b) allow the GOE to review its policies and strategies on energy efficiency, and launch a comprehensive set of measures promoting efficient end-use of electricity; (c) enable an expanded role for ESCOs in energy efficiency services; (d) the GOE to generate information on energy saving, issue standards on energy efficiency, and carry out a country wide public dissemination of them; (e) promote private participation through public/private partnerships in rural electrification, particularly in areas where consumers are dispersed and RES have real potential; (f) investigate and implement organizational and financial mechanisms for the delivery of electricity service in rural areas; (h) permit ample consultation with stakeholders such as consumers in rural communities, private entrepreneurs, suppliers of appliances.

Objectives of the GEF Alternative

The proposed GEF alternative would expand the objectives of the baseline scenario to also include energy efficiency and conservation and remove barriers to the introduction of RES in the provision of electricity services in rural areas. These objectives fit well into the GEF Global Objectives of OP #5 and OP #6. These GEF global objectives are in line with the overall development objectives of the country, have nation-wide support, and the Government is firmly committed to them. However, the Government is not in position to pursue these objectives alone and wishes to call on the expertise and financial support of the Bank and the GEF to undertake the activities required to achieve them. Without Bank and GEF support the Government will not be able to implement such mitigation programs in the short term, but would most likely wait until the sector reforms were implemented and consolidated.

Commitment of the Government to the GEF global objectives and the GEF alternative PERPTAL

The Government is committed to addressing climate changes issues as demonstrated by (a) the DEA's recently completed implementation of the UNDP/GEF activity aiming at identifying the potential for and barriers to the development of wind power, particularly in the Galápagos Islands; (b) Government active participation in the Ecuador-Perú Bilateral Committee that prepared the preliminary 2000-2005 Energy Saving Program for Ecuador and the Photovoltaic Rural Electrification Program; (c) the creation in June 2000 of the Center for Development and Transfer of Energy Technology (CDTET) within the Electrical Energy Department of the National Polytechnical School is another indication of Ecuador's interest in Global GEF objectives, this time at a high academic level. As a first action, the CDTET will prepare and carry out a 2000-2001 program for the rational use of energy in the

productive and service sectors. This program will offer a training course for managers of maintenance of industrial and commercial facilities and public buildings, and a post graduate course on rational use of energy; and (d) the request of support for the PERPTAL made by CONAM/MEM and by the GEF focal point in Ecuador (the Ministry for the Environment).

Further, MEM's DEA aims at creating a national culture of making rational use of energy/electricity, removing barriers to the use of renewable energy technologies, and increasing competitive private participation in delivering sustainable electricity services and energy efficiency services. Barriers to be removed include lack of information about uses, efficiency options and benefits of RES and energy efficiency services by the public at large and commercial and industrial enterprises; availability of reliable information about size and composition of suburban and rural markets for RES; lack of professionals duly trained on the application, costs, and operation and maintenance of RES technology; lack of experience or knowledge on appropriate mechanisms for delivering and financing RES-based electricity services and energy efficient equipment and practices; and lack of standards on energy efficiency and on RES, and regulations to enforce them or to provide incentives for their application.

Description of the GEF Alternative (See Annex 1: Project Design Summary)

The GEF alternative will seek to establish, over a period of 3-4 years, the regulatory, institutional, financial and technical set up for promoting energy efficiency and rural electrification and fostering removal of barriers to efficient use of electricity and introduction of large scale use of RES and decentralized rural electricity systems in Ecuador, particularly in rural electrification. This is expected to lay the bases for long-term energy efficiency and conservation and create real prospects for future private sector delivery of energy services including large scale use of RES.

The incremental activities of the GEF alternative comprise technical assistance to enhance efficiency of end-use of electricity, expand rural electrification, and prepare and implement demonstration projects utilizing RES. The activities aim at identifying and removing barriers to efficient use of electricity and to the introduction of RES as follows:

1. Enhancing Efficiency of Electricity End-use:

1.1 Identification of barriers to efficiency enhancement:

(a) Survey of energy demand and energy efficiency options in the residential, commercial, industrial, and public sectors;

1.2 Policies and strategies to remove barriers:

(a) Support to the creation of local ESCOs (market assessment, training, information);

(b) Public information program on good practices and energy efficiency options in industrial, commercial, residential, and public sectors. This program will be carried out in coordination with information actions related to the privatization of public services;

(c) Training of energy management staff of commercial buildings and public sector. Training courses, seminars and workshops on energy saving systems, related technologies, and cost/benefits analysis, will be prepared and offered to managers and technicians in charge of operation and maintenance of equipment in the industry and in commercial and public buildings;

- (d) Preparation and issuance of standards for efficient design and use of electrical devices for lighting, ventilation and air conditioning of buildings, and energy-efficient architectural designs;
- (e) Preparation and issuance of standards for labeling of electrical appliances for residential and commercial sectors; and
- (f) Study on tariffs incentives for energy saving and implementation of recommendations.

1.3 Monitoring & Evaluation of the impact caused by measures to remove barriers.

1.4 Administration. This comprises the services rendered by the Project Coordination Unit (PCU) and acquisition of office equipment for the PCU.

2. Rural Electrification

2.1 Identification of barriers to RES:

(a) Surveys of conditions prevailing in the provision of electricity to rural and marginal-urban areas, such as weak interest by private investors, lack of appropriate commercial financing sources, low willingness to pay or capacity to pay of low income rural consumers, poor or lack of knowledge about RES and decentralized electrification technology. This activity will include detailed market assessments and financial and economic evaluations; it would also allow identify candidate areas for the demonstration projects mentioned below.

2.2 Policies and strategies to remove barriers:

- (a) Evaluation and improvement of the legal/regulatory framework for rural electrification;
 - (b) Improvement of database on RES;
 - (c) Identification & evaluation of rural electrification projects (grid extension and concentrated markets). Market surveys for electricity in rural and marginal-urban areas will generate data for each surveyed area on number and topological distribution of consumers, levels of potential electricity consumption, capacity and willingness to pay for various levels of electricity service, cost to consumers of alternative energies sources used for lighting and communications. This would lead to identification of areas where rural electrification projects have potential for either private participation and/or use of RES.
 - (d) Design & evaluation of sustainable organizational and financial mechanisms for delivery of decentralized rural electrification. This will include the technical, economic and financial aspects of grid-connected and off-grid connected electricity supply services, for either concentrated or dispersed consumers considering factors such as weak interest of private investors, lack of appropriate commercial financial sources, low willingness to pay or capacity to pay of low income rural consumers. The design will consider options for organizational and financial mechanisms and incentives, and operation and maintenance of RES which would remove constraints to application of RES. Delivery options to be considered include but are not limited to concession of markets, dealership, leasing, and cooperatives. The possible linkages of electrification delivery mechanisms with other services such as rural telephony, health, education and other services will also be assessed and options for joint delivery of services will be defined when relevant;
 - (e) Training, workshops and information dissemination;
- All of the above activities will allow the MEM to define an overall strategy and action plan for the development of decentralized rural electrification.

2.3 Demonstration projects using renewable energy.

The demonstration projects will serve to test organizational and financial delivery mechanisms that are deemed applicable to the characteristics of each demonstration project. Two demonstration projects have been identified, and a third would be identified, possibly in rural schools, and subsequently implemented

- (a) installation of PV systems to supply electricity to refrigerators storing medical substances in 40 rural clinics selected from a total of 97 clinics belonging to the health program mentioned above; and
- (b) installation of SHS to supply electricity for lighting and communications in 300 rural households to be selected from the rural electrification program mentioned above.

2.4 Monitoring & Evaluation of impacts caused by the measures to remove barriers and by the demonstration projects. Special attention will be paid to the impacts of this component of the project on poverty reduction.

2.5 Administration. This comprises the services rendered by the Project Coordination Unit (PCU) and acquisition of office equipment for the PCU.

Financing Plan

The additional costs of the GEF alternative are estimated at about US\$4.0 million. Recognizing the domestic benefits to be realized through the barrier removal programs and demonstration projects, it is proposed that US\$1.75 million in baseline funds be provided (US\$1.15 million from the Bank loan plus a contribution of US\$0.6 million by the GOE, private operators and customers). A GEF contribution of US\$2.25 million to cover agreed incremental costs would be requested at the time of the World Bank entry (see Table 3).

Expected outputs of the GEF alternative

The PERPTAL will produce a revised legal/regulatory framework for rural electrification; a set of standards and norms for labeling appliances and designing efficient use of lighting, ventilation and air conditioning in commercial and public buildings; a comprehensive set of printed information on energy efficient and conservation measures addressed to the public, the industry and the commerce; a series of notices, news and commercials in newspapers, radio and television intended to create a culture of energy efficiency and conservation. It will also produce a set of studies and recommendations on tariffs and other incentives promoting energy efficiency, a database on size and composition of market for electricity in rural and marginal-urban areas, and capacity and willingness to pay for the service. The PERPTAL is expected to propose innovative mechanisms for the organizational and financial mechanisms for the delivery operation and maintenance of rural electricity services. It will promote and support the development of local ESCOs. Also, the PERPTAL will deliver a number of training courses and workshops on energy saving and technology addressed to energy managers and staff of commercial and public buildings. The demonstration projects will test delivery mechanisms proving that the RES (solar energy) is a viable alternative to provide electricity to rural clinics and households.

Expected outcomes of the GEF alternative

In the energy efficient front, the PERPTAL is expected to increase awareness, education and competence of the Ecuadorian people in the economic and environmental benefits derived from making efficient use of electricity and energy at large and in utilizing energy efficient appliances. This is expected to contribute to a reduction of peak demand and postponement of investment in generating plants. Surveys of industrial, commercial and residential consumers (urban and rural) will provide qualitative indications of the penetration of energy efficient systems, equipment and electrical appliances. The more efficient use of electricity, would decrease fuel consumption by electricity generating plants resulting in a reduction of the release of GHG emissions affecting global climate change.

In the rural electrification front, the PERPTAL is expected to trigger both the application of RES in the provision of electricity services in rural areas, and the interest of private investors in doing it and of consumers/communities in receiving it. This outcome would be indicated by the emergence of a number of specific rural electrification projects and ESCOs, and possibly rural community organizations interested in having access to electricity services, which would raise their living standards and increase opportunities for economic development. Also, the PERPTAL, by opening a door to future involvement of private entrepreneurs in rural electrification projects and energy efficiency related undertakings, would create appropriate conditions for involving support by the IFC and possibly the World Bank and GEF to investment operations designed in public/private partnerships. Moreover, future financial support to social sector operations could also include rural electrification components and use of RES (for example, in rural schools and clinics), in which the Bank/GEF and other donors could also play important roles.

Factors contributing to sustainability

The project aims at improving energy efficiency and removal of barriers to RES. It has been assumed that low efficiency of electricity use is caused by poor or lack of information on energy saving methods and technology, efficiency of appliances, and benefits for the consumer and the environment. The project intends to eliminate these barriers. The dissemination of information, the training of staff responsible for the managing, operation and maintenance of energy systems, and the issuance of standards and norms on energy saving methods and technology have long run positive impacts on the way electricity is consumed by the industrial, commercial and residential sector. It has also been assumed that poor or lack of information on RES, potential markets, appropriate organizational and financial mechanisms for the delivery, operation and maintenance of RES, and support to local entrepreneurs are the main barriers to their application in general and in rural areas in particular. The dissemination of information on size and composition of rural markets, the creation of appropriate delivery mechanisms, the promotion of local ESCOs, and the training, workshops and seminars to be undertaken by the project will address the removal of these barriers. Continued commitment of the Government to the project's objectives, the existence of the FERUM as an institution supporting the financing of rural electrification development, and the expected emergence of local ESCOs and community actions, would be indications that the objectives achieved by the PERPTAL will be sustainable.

Factors contributing to replicability

It is expected that the measures and options developed by the PERPTAL will be replicable in Ecuador and probably elsewhere in the region because it would provide proven samples of sound legal/regulatory framework for rural electrification, technical, organizational and financial mechanisms for delivering electricity in rural and marginal-urban areas, and tested methods for public information on energy efficiency and application of RES in rural areas. The successful installation and operation of SHS will serve to demonstrate the technical and commercial viability of the application of solar-RES in remote rural areas.

Stakeholder involvement

The PERPTAL project will involve significant consultation with beneficiaries and other stakeholders through surveys, workshops, and focus groups. These will include participation of government institutions, private investors, industry, commerce, financial institutions, commercial banks, rural and urban consumers, potential ESCOs and private operators, NGOs, academia, and the media.

Institutional framework

CONAM will be responsible for the overall administration and coordination of the PERPTAL. The activities of the energy efficiency enhancement and rural electrification activities, will be designed and implemented by the DEA and CONELEC, with participation of the private sector, the Ministry of Health and academic institutions.

Coordination with GEF IA programs (WB/IFC, UNDP, UNEP)

The proposed GEF component will build on the UNDP/GEF project that aimed at promoting the use of wind power. Appropriate coordination mechanisms will be established through the GEF focal point – i.e. the Ministry for the Environment.

Justification for the PDF Grant

The proposed PDF Block B Grant will give the opportunity to prepare and carry out several activities that are complementary and need to be completed prior to the implementation of the main activities of the energy efficiency and rural electrification component of the PERPTAL. In particular, the PDF activities will serve to define the scope and prepare in detail the full proposal for the GEF grant expected to support the PERPTAL.

Description of the PDF Activities.

The PDF B grant will finance preparation activities required to develop the full proposal. These activities include technical assistance, national and international consultants, stakeholders consultations, material, documents, travel and institutional strengthening. Specific preparation activities and cost proposed to be financed through the PDF are described below.

1. Enhancing Efficiency of Electricity End-use. **Cost: US\$180,000; GEF Block B grant: US\$160,000; GOE:US\$20,000**

- 1.1 Preparation of TOR for the identification of barriers to efficiency use of electricity and selection of methodology and areas to be surveyed. Review existing policies and regulations.
- 1.2 Preparation of TOR and selection of methodologies to be used in: (a) Supporting local ESCOs (market assessment, training, information); (b) Carrying out the public information program; and (c) monitoring an evaluation of the efficiency component.
- 1.3 Preparation of TOR for the training program for management staff and technicians of commercial buildings and public sector, including courses, seminars and workshops on energy saving systems. (d) Preparation of standards for efficient design and use of electrical devices for lighting, air conditioning and heating of buildings;
- 1.4 Preparation of TOR for the development and enforcement of standards for labeling of electrical appliances for residential and commercial sectors;
- 1.5 Preparation of TOR for the study on tariffs incentives for energy saving;
- 1.6 Detailed definition of expected benefits of energy efficiency activities, as well as methodologies and mechanisms for impact evaluation; and
- 1.7 Initial services rendered by the Project Coordination Unit (PCU), and acquisition of office equipment for the PCU.

2. Rural Electrification. **Cost: US\$220,000; GEF Block B grant: US\$190,000; GOE:US\$30,000**

- 2.1 Preparation of TOR for the identification of barriers to RES and selection of methodology and rural and marginal-urban areas to be surveyed to collect data on conditions prevailing in the provision of electricity. Review of current policies and legal/regulatory framework for rural electrification.
- 2.2 Review of existing RES database and determination of scope of activities required to improve it;
- 2.3 Definition of the scope of the activities, methodology and TOR for the market surveys for electricity in rural and marginal-urban areas
- 2.4 Prepare TOR for the design & evaluation of possible options for organizational and financial mechanisms for delivery of decentralized rural electrification.
- 2.5 Prepare TOR for the training and information dissemination activities;

2.6 Prepare TOR for the implementation of the two demonstration projects using renewable energy, and identify the third one

2.7 Preparation of TOR and selection of methodologies to be used in monitoring & evaluation of impacts caused by the measures to remove barriers and the demonstration projects.

2.8 Initial services rendered by the Project Coordination Unit (PCU) and acquisition of office equipment for the PCU.

Total preparation costs, mainly consultant services, are estimated at US\$400,000 of which GEF is requested to provide US\$350,000.

Table 1: Funding Sources for the Preparation PDF Activities

Activity	GEF-PDF B US\$	GOE US\$	Total US\$
Enhancing efficiency of electricity end-use:			180,000
(a) Consultant services	140,000	0	
(b) Workshops	20,000	10,000	
(c) Project Coordination Unit	0	10,000	
Rural Electrification:			220,000
(a) Consultant services	160,000	0	
(b) Workshops	30,000	15,000	
(c) Project Coordination Unit	0	15,000	
T O T A L	350,000	50,000	400,000

PDF Expected Outputs

Expected outputs from this PDF Block B grant will be (a) a full proposal to achieve the objectives described above; (b) TOR for the all the studies related to all PERPTAL activities supported by GEF; (c) methodologies for carrying out the market surveys; (d) TOR and methodology for carrying out the public information programs; (e) scope and TOR for delivering the courses, seminars and workshops of the training and dissemination programs; (f) expected benefits of the GEF alternative and impact evaluation mechanisms.

Expected Project Preparation Completion

The preparation Phase is expected to be completed by February 2001. Its timetable should be closely linked to the processing of the Bank Loan supporting the PERPTAL as indicated below:

Timetable:	Planned
<u>Bank Loan</u>	
Appraisal mission departure:	09/18/2000
Negotiations:	11/20/2000
Documents to Board	11/30/2000
Board approval:	12/27/2000
Effectiveness:	04/02/2001
Project completion:	12/31/2004
Project ex-post evaluation:	06/30/2005

<u>GEF Grant</u>	
PCN to GEF SEC:	09/15/2000
GEF pipeline entry:	10/12/2000
STAP comments on PCN:	11/15/2000
Documents to GEF Council:	01/11/2001
Appraisal mission departure:	02/15/2001
GEF Council approval:	03/12/2001
GEF CEO Endorsement:	04/15/2001
Board approval:	05/31/2001
Effectiveness:	06/30/2001
Project completion:	12/31/2004
Project ex-post evaluation:	06/30/2005

Implementing Agency Contact Persons

Joerg Uwe Richter: Senior Energy Economist (TTL)	email: JRichter@worldbank.org
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Christine E. Kimes: Global Environment Regional Coordinator	email: Ckimes @worldbank.org

Table 2. ECUADOR - PERPTAL - COST ESTIMATE

	Total US\$'000	Bank US\$'000	GEF US\$'000	GOE US\$'000
BASELINE SCENARIO				
A. Telecommunications Sector Component	7,460			
Completion of new legal/regulatory framework				
Review of communications tariffs				
Privatization of ANDINATEL and PACIFICTEL				
Creation of FONATEL and implementation pilot projects				
Strengthening of CONATEL's and SUPTEL's capacity				
Survey and evaluation of rural markets				
Project implementation CONATEL/SUPTEL				
B. Electricity Sector Component	7,150			
CONAM and MEM: institutional strengthening; communications and public relations	80			
CONELEC: tariffs studies, regulations improvement, strengthening information, supervision and control mechanisms, electricity system planning; training and staff development. Monitoring equipment	1,090			
CENACE: Studies on system models, procedures, wholesale transactions, market development; strengthening the administration of the wholesale market.	1,035			
CENACE: purchase of information systems and equipment to monitor transactions and dispatch.	4,140			
CONELEC/CENACE/MEM: Project implementation	805			
C. Public Information and consultation	2,240			
D. Project Coordination (CONAM)	1,610			
Total Baseline Cost	18,460	14,210	0	4,250

Table 3. INCREMENTAL ACTIVITIES OF THE GEF ALTERNATIVE

	Total US\$'000	Bank/Other US\$'000	GEF US\$'000	GOE/Priv. US\$'000
Enhancing Efficiency of Electricity End-use	1,800	375	1,175	250
Identification of barriers to efficiency enhancement:				
• Survey of energy demand and energy efficiency Options (residential, commercial, industrial, public sectors)	200	25	125	50
Policies and strategies to remove barriers:				
• Support to the creation of local ESCOs (market assessment, training, information)	200	50	150	
• Public information program on good practices and energy efficiency options in industrial, commercial, residential, and public sectors	500	100	300	100
• Training of energy management staff of commercial buildings and public sector	200	50	150	
• Preparation of standards for efficient design and use of buildings and related energy	200	50	150	
• Preparation of standards for labeling of electrical appliances for residential and commercial sectors	200	50	150	
• Study on tariffs incentives for energy saving	100	25	75	
Monitoring & Evaluation	50	25	25	
Component Implementation	150		50	100
Rural Electrification	2,200	775	1,075	350
Identification of barriers to RES:				
• Market surveys in rural and marginal-urban areas	300	75	175	50
Policies and strategies to remove barriers:				
• Evaluation and improvement of the legal/regulatory framework for rural electrification	200	50	150	
• Improvement of database on RES	100	25	75	
• Identification & evaluation of rural electrification projects	200	150		50
• Design & evaluation of sustainable organizational and financial mechanisms for delivery of decentralized rural electrification, with possible linkage with rural telephony and other services	250	50	200	
• Training, workshops and information dissemination	200	50	150	
Demonstration projects using renewable energy:				
• PV systems for rural clinics (40 clinics)	200	100	50	50
• SHS for rural households (300 households)	300	150	75	75
• Other to be identified	100	50	25	25
• Preparation of demonstration projects	150	50	100	
Monitoring & Evaluation of impacts	50	25	25	
Component Administration	150		50	100
COST OF THE GEF INCREMENTAL ACTIVITIES	4,000	1,150	2,250	600
Cost sharing of GEF incremental activities	100%	29%	56%	15%
TOTAL COST OF PERPTAL	19,900	14,200	2,250	3,450
Cost sharing of total cost	100%	71.3%	11.3%	17.3%

Annex 1: Project Design Summary

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Sector-related CAS Goal	Sector Indicators:	Sector and country reports:	(from Goal to Bank Mission)
GEF Global Objectives			
Reduce Impact on Climate Change	Increased awareness of the need for rational consumption and conservation of electricity/energy by the public, and increased interest in the delivery of energy using RES.	Surveys of industrial, commercial, and residential consumers	Improved legal and regulatory framework linked to incentives and programs of public information and dissemination, will create an appropriate socio-economic environment eliciting rational use and conservation of energy
Project Development objective	Outcome/Impact Indicators:	Project reports:	(from Objective to Goal)
OP#5	Actual impact on electricity demand. Emergence of local ESCOs	Surveys of industrial, commercial, and residential consumers	Consumers will use efficient electricity systems and appliances
OP#6	Removal of barriers will be indicated by increased interest for access to electricity sought by marginal-urban and rural consumers, and increased interest in rural electrification by private investors	Statistics on requests for connections to electricity service from consumers	Consumers and providers will utilize RES technologies. Private energy services companies and private delivery of decentralized rural electrification will emerge.
Output from each Component	Output Indicator	Project reports:	(from Output to Objective)
Enhancing Efficiency of end-use of Electricity	-Barriers to energy efficiency such as consumers and providers lacking information on methods and technology for achieving electricity savings. -Dissemination of public information on good practices, methods and technology for efficient end-use of electricity -Formation of ESCOs; -Training events; -Issuance of standards on energy saving methods and technology, and labeling of electrical appliances; -Tariff study and report on recommendations -Impact studies	Surveys of impacts on consumers and electricity providers; Supervision reports Quarterly project progress reports	Activities will be well designed and implemented by CONAM, DEA, and Academia
Rural Electrification	Barriers to RES such as consumers and providers lacking information on RES technology, costs and operation and maintenance. Barriers removed by improved legal and	Supervision reports Quarterly project progress reports	Activities will be well designed and implemented by CONAM, DEA and Academia

	<p>regulatory framework for rural electrification</p> <ul style="list-style-type: none"> -Dissemination of information on RES and good practices -Formation of ESCOs; -Training and dissemination events; -Rural electrification projects are identified and evaluated; -Improved database on RES; -Proposal of organizational and financial mechanisms for delivery of electricity in rural areas; -Demonstration projects prove to be viable. 		
Project Component/Sub-components:	Input (budget for each component)	Project reports:	(from output to components)
Enhancing efficiency of electricity end-use.	US\$1.8 million	Supervision reports and mid-term review of the PERPTAL.	Satisfactory project management and administration by CONAM, DEA and Academia.
Rural Electrification	US\$2.2 million		



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Oficio No. UEP-686-2000
Quito, 23 de agosto del 2000

Señor Economista
Joerg Uwe Richter
Energy and Industry Division
Banco Mundial
Washington D.C.

De mi consideración:

Adjunto a la presente sirvase encontrar, la propuesta para el componente de "Eficiencia energética y electrificación rural" del proyecto PERPTAL, que incluye sus observaciones constantes en comunicación s/n de fecha 14 de agosto del 2000 y otros aspectos que surgieron de conversaciones con el señor Phillippe Durand y representantes del Ministerio de Energía y Minas y el CONELEC.

Atentamente,

Arq. Patricio Donoso
COORDINADOR GENERAL
UNIDAD EMPRESAS PUBLICAS



CONAM CONSEJO NACIONAL DE MODERNIZACION DEL ESTADO
UNIDAD DE EMPRESAS PUBLICAS

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