

mis file

The World Bank/IFC/MIGA
O F F I C E M E M O R A N D U M

DATE: April 1, 1996 03:25pm

TO: Christine Kimes (CHRISTINE KIMES)

FROM: Ali Azimi, GEF (ALI AZIMI)

EXT.: 33163

SUBJECT: RE: Argentina - PDF Block B for Renewable Energy in Rural Markets

Tina:

That fine. Please also insure that the project will be developed as a barrier removal project under Operational Program # 6 of the Op.Strategy. Thanks.

CC: Kenneth King (KENNETH KING)
CC: Dilip Ahuja (DILIP AHUJA)
CC: Charles Feinstein (CHARLES FEINSTEIN)
CC: LARS O. VIDAEUS (LARS O. VIDAEUS @A1@WBWASH)
CC: Ken Newcombe (KEN NEWCOMBE)
CC: Ricardo Klockner (RICARDO KLOCKNER)
CC: ENVGC ISC Files (ENVGC ISC FILES)

The World Bank/IFC/MIGA
OFFICE MEMORANDUM

DATE: March 29, 1996 06:33pm

TO: Ali Azimi (ALI AZIMI)

FROM: Christine Kimes, ENVGC (CHRISTINE KIMES)

EXT.: 33689

SUBJECT: Argentina - PDF Block B for Renewable Energy in Rural Markets

Ali -

Further to the minutes of the March 1 GEFOP meeting (point 2), I wanted to let you know that the Bank has informed the Govt. of Argentina that GEF funding will only be used for the following activities: evaluation of renewable sources, calculation of global benefits (GHG savings vis-a-vis baseline), estimation of incremental costs, and preparation of related reports/recommendations for action. GEF funds will not be used for environmental impact analysis (I understand that this was an issue at the GEFOP review). The cost-sharing arrangements among GOA/GEF/NREL have been adjusted to reflect this change.

I hope this is satisfactory. Please let me know if you need any additional information. Best regards,

Tina

CC: Kenneth King (KENNETH KING)
CC: Dilip Ahuja (DILIP AHUJA)
CC: Charles Feinstein (CHARLES FEINSTEIN)
CC: LARS O. VIDAEUS (LARS O. VIDAEUS @A1@WBWASH)
CC: Ken Newcombe (KEN NEWCOMBE)
CC: Ricardo Klockner (RICARDO KLOCKNER)
CC: ENVGC ISC Files (ENVGC ISC FILES)

The World Bank/IFC/MIGA
OFFICE MEMORANDUM

DATE: April 1, 1996 05:16pm

TO: Ali Azimi

(ALI AZIMI)

FROM: Christine Kimes, ENVGC

(CHRISTINE KIMES)

EXT.: 33689

SUBJECT: RE: Argentina - PDF Block B for Renewable Energy in Rural Markets

Thanks Ali - we'll proceed as suggested.

CC: Kenneth King

(KENNETH KING)

CC: Dilip Ahuja

(DILIP AHUJA)

CC: Charles Feinstein

(CHARLES FEINSTEIN)

CC: LARS O. VIDAEUS

(LARS O. VIDAEUS @A1@WBWASH)

CC: Ken Newcombe

(KEN NEWCOMBE)

CC: Ricardo Klockner

(RICARDO KLOCKNER)

CC: ENVGC ISC Files

(ENVGC ISC FILES)

(a) no descriptions of consultations for PDF- B

PROPOSAL FOR PDF BLOCK B GRANT (B)

M PI
during project
look at institutional arrangements?

Country Argentina
Focal Area Climate Change
Project Title Renewable Energy in Rural Market
Project Costs tbd (\$90 million ?)
Financing Plan tbd (\$15 million IBRD/GEF ?) (4) NGOs
Requesting Agency World Bank
National Executing Agency : Secretaría de Energía (SE, Secretariat of Energy)
Block B
Amount of funding requested : GEF US\$115,000
Co-funding : GOA US\$ 90,000
: NREL US\$115,000
Block A Grant : No
Convention Ratification : December 1994

Sector Background

1. After completing the reform and privatization of the federal electric sector, the Government of Argentina (GOA) and the provincial governments are gradually implementing the reform and privatization of the provincial distribution utilities. The province level reforms will introduce an innovative concession system in which service territory "franchises" will be awarded on a bid-out basis. The goal of the new system is to ensure that: (i) users obtain good quality electricity at prices in line with the costs of supply, and (ii) the investment level will be sufficient to meet demand in the long term. Most of the provinces are expected to reform their electricity sector, assuring a national coverage. The provincial electric sector will be divided into two markets, the concentrated and the dispersed. The concentrated market corresponds to the urban area of the province that has traditionally enjoyed electricity supply through national or provincial interconnected networks, or in some cases through isolated mid-sized generation systems with local distribution networks. The dispersed market corresponds to the rural areas located outside of these urban concentrations.

2. Due to the topographic characteristics of the dispersed rural markets (as well as the dispersed population patterns), even mini-distribution networks appear to be uneconomic. Small-scale renewable generation sources, such as photovoltaic systems, small wind generators or hydraulic micro-turbines are likely to be the most suitable. Upon completion of the provincial reform/rural electrification program, it is expected that 80% of homes supplied will obtain their power from renewable sources. With electricity being mostly provided by renewable sources, greenhouse gas emissions will be significantly reduced (as LPG for lighting and diesel fuel for small generators will be displaced). Positive environmental benefits are also expected from the discontinued use of lead acid batteries associated with small diesel generators.

* scope/size of impacts
11 pages?
of hrs

Program Background

3. The rural electrification program using renewable sources is a multi-phase program expected to be implemented over five years. Each phase of the program will proceed as provinces complete their reform of the legal and regulatory framework applying to the provincial electric sector. The first phase corresponds to a pilot project to be carried out in the province of Jujuy over the next 12 months. The second phase, which corresponds to the proposed project, will cover an additional 5 provinces that have completed their reforms of the electric sector. Phase three would expand the program to an additional 4 provinces which are in the process of implementing the necessary reforms, and phase four would cover the remaining provinces. It is expected that within the framework of the rural electrification program, a cumulative 20 GWh

would be generated by using renewable sources. This would supply electricity to some 300,000 households (about 1.4 million population) and about 6,000 public services (schools, first aide centers, civil and police stations). Program financing would come from three sources: (i) customers (who would pay both a connection fee and a tariff); (ii) national electrical funds provided to the provinces; and (iii) funds provided by the GOA.

Description of the Project

4. The proposed "Renewable Energy in Rural Markets Project" aims to assist the GOA and provincial governments in providing electricity to the rural areas of Argentina within the context of an environmentally sound energy resource development strategy. The project would facilitate the participation of the private sector in advancing renewable energy commercialization through the creation of a sustainable "market comforting" framework. In particular, the project is expected to catalyze the rapid penetration of solar PV systems within the framework of a least cost rural electrification strategy. Although the proposed project is at an early stage of preparation, potential project components would include:

- (a) installation and operation of small renewable power supply by concessionaires to provide electricity to rural dispersed customers;
- (b) development of reliable resource data and establishment of an effective information dissemination system;
- (c) strengthening of the technical capabilities and institutional coordination at the provincial level required for broader adoption of renewable energy systems; and
- (d) project implementation support to the GOA and provincial governments.

At this preliminary stage of project identification, the magnitude of incremental costs associated with the renewable energy rural electrification program is not yet clear. Answering this question will be one of the primary purposes of the proposed PDF work program.

Justification for GEF funding

5. The Government of Argentina ratified the Framework Convention on Climate Change (FCCC) in December 1994. Proposed investments under the Renewable Energy in Rural Markets Project are consistent with the GEF Climate Change Operational Program "Promoting the adoption of renewable energy by removing barriers and reducing implementation costs." The innovative concession system for rural electrification promises to promote efficiency through competitive private sector service provision. The public sector has an important role in setting the conditions to maximize competition, including provision of support for overcoming information and institutional barriers. The cumulative amount of CO₂ eliminated over the 5 year period is estimated at 35,000 metric tones (mt), with supplementary 12,000 mt to 15,000 mt for each additional year after the final objectives are achieved.

National Level Support

6. In ratifying the FCCC, the GOA recognizes the importance of the "stabilization of greenhouse gases in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The Government has established a National Committee for Global Climate Change which is in the process of formulating the country's climate change

strategy with support from a recently approved UNDP/GEF project. The Secretaría de Energía (SE, Secretariat of the Energy) within the Ministry of Economy is a member of the Committee and is participating in this planning process. The PDF request and proposed project concept have been endorsed by the national GEF operational focal point.

7. The GOA and the World Bank have included a renewable energy project in the agreed World Bank country assistance program. Responsibility for the overall electrification program lies with the Secretaría de Energía (SE, Secretariat of the Energy) within the Ministry of Economy. A project unit within the SE has been formed specially for the purpose of managing the rural market concessions. The proposed project is fully consistent with government energy sector plans, in which development of renewable energy to avoid the use of hydrocarbon combustion fuels in rural areas is a top priority.

Sustainability

8. The project's national and global environmental benefits are expected to be sustainable over the long term, due to the converging interests and shared responsibilities of the stakeholders of the program, i.e. Federal Government, Provinces, users and concessionaire enterprises. The Argentinean program is an innovative example of private participation and sound design of a subsidy system based on the principle of public-private partnership.

Description of Proposed Preparation Activities

9. Preparation of the proposed project will proceed in two phases. The first phase will consist of scoping work on resource endowments and technical capabilities, and analysis of institutional issues and economic viability. The proposed Block B grant, in combination with other funding sources, would support this first phase of project preparation. Activities in the first phase preparation work program include:

- (a) description and evaluation by province of existent energy renewable sources (ERS) in the country (solar, wind and mini-hydraulic) in order to remove the information barriers that prevent development;
- (b) environmental impact analysis and economic comparison between electricity supply with renewable and conventional sources (diesel generation groups-DGG) in dispersed rural markets;
- (c) evaluation of whether the proposed tariff system covers the actual electricity supply costs in the different provisioning cases;
- (d) consumer surveys to collect data on current energy expenditures by rural populations and to assess their capability of payment;
- (e) calculation of global environmental benefits derived from the project, especially CO₂ mitigation by substituting renewable technologies for conventional systems based on hydrocarbon combustion; and
- (f) preparation of a final report summarizing the findings of the first phase and recommendations for future project development.

Based on the findings of the first phase preparation activities and the initial results from the pilot project in Jujuy Province, detailed preparation and feasibility work would then be initiated for the proposed renewable energy project. A subsequent PDF may be requested to support Phase

Two activities, if the expected global benefits and incremental costs identified during Phase One indicate that further GEF support is warranted.

Outputs

10. The output of the PDF supported program of activities would include detailed working papers and a summary report that would cover the following topics: (i) the general and specific objectives of the proposed renewable energy rural electrification project; (ii) timetable for provincial projects, characteristics and diagnosis of the dispersed electricity market in each province; (iii) investment, operation and maintenance costs; (iv) economic evaluation of incremental costs; and (v) estimation of global environmental benefits.

Implementation Arrangements and Co-financing

11. The Argentinean counterpart SE has agreed to provide local expertise to collaborate in the case studies of renewable energy applications. The US National Renewable Energy Laboratory (NREL) is also contributing expertise and co-financing for this exercise. The World Bank team is providing engineering, economic and financial analysis skills, institutional specialists and international renewable energy technology expertise. Co-funding of activities from these partners is estimated at US\$205,000, as detailed in the attached budget table.

Budget

12. The total cost of Phase One preparation activities is estimated at \$320,000. The requested PDF Block B grant of \$115,000 would be used for in-country activities that would assist in defining the GEF contribution to the Renewable Energy in Rural Markets Project. The GEF support would be concentrated primarily on resource data analysis, incremental cost calculations, estimation of global benefits, and preparation of the Phase One summary report. PDF funds would finance local renewable energy experts and international consultants to support these in-country activities. The attached table presents the expenditure categories and budget allocations, by funding source, for the proposed Phase One preparation activities for the Renewable Energy in Rural Markets Project.

Timetable

13. Assuming that the preparation activities described above could start by the end of March 1996, it is estimated that the PDF studies and final report should be finished by December, 1996.

Budget for Phase One Preparation Work Program				
Study	GOA	NREL	GEF	TOTAL
	Figures in US\$ Thousand			
Evaluation of existing energy renewable sources	10.0	63.0	24.0	97.0
Environmental impact and economic evaluation	5.0		47.0	62.0
Tariff study	20.0	27.0		47.0
Case survey on Customer payment capability	15.0	20.0		35.0
Global Environmental benefit and CO2 mitigation	10.0		25.0	35.0
Preparation of final reports with findings and recommendations	20.0	5.0	19.0	44.0
TOTAL	90.0	115.0	115.0	320.0