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MULTILATERAL INVESTMENT FUND

**CHILE**

**PROMOTION OF CLEAN ENERGY MARKET OPPORTUNITIES**

**(CH-M1009)**

**DONORS MEMORANDUM**

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## ACRONYMS AND ABBREVIATIONS

CESI	Committee on Environment and Social Impact
CNE	Consejo Nacional de Energía [National Energy Commission]
CORFO	Corporación de Fomento de la Producción [Economic Development Agency]
EPDP	Environmental Prevention and Decontamination Plan
ESCO	Energy service company
GEF	Global Environment Facility
GTZ	German Technical Cooperation Agency [Deutsche Gesellschaft für Technische Zusammenarbeit]
NGOs	Nongovernmental organizations
OR	Operating Regulations
PAU	Project Administration Unit
PPDA	Plan ambiental reformulado de la prevención de la decontaminación [Reformulated environmental prevention and decontamination plan]
PPEE	Programa País de Eficiencia Energética [Energy Efficient Country Program]
SMEs	Small and medium-sized enterprises

## PROMOTION OF CLEAN ENERGY MARKET OPPORTUNITIES (CH-M1009)

### I. EXECUTIVE SUMMARY

**Executing Agency:** Fundación Chile

**Beneficiaries:** The direct and immediate beneficiaries of this program will be small and medium-sized enterprises that will benefit from new market opportunities in the areas of renewable energy and energy efficiency. The energy service companies (ESCOs), most of which are small and medium-sized enterprises, will benefit from the opening of a viable market with the potential to grow significantly in the next few years. ESCO customers will also benefit because of their energy cost savings.

<b>Financing:</b>	Modality:	Nonreimbursable
	MIF Facility III-A:	US\$ 975,000 (50%)
	Local Counterpart:	US\$ 975,000 (50%)
	Total:	US\$1,950,000 (100%)

**Execution Timetable:** Execution period: 36 months  
Disbursement period: 42 months

**Project objectives:** The overall objective of the project is to increase market opportunities for small and medium-sized enterprises and enhance their competitiveness. The purpose is to promote the use of renewable energy and energy efficiency by facilitating access to financial incentives that support the use of low-carbon-emitting technologies.

**Description:** To achieve this objective, the project will have four components: (i) development of local clean energy capacity and demonstration cases; (ii) development of an ESCO market; (iii) strengthening of financial instruments and incentives; and (iv) promotion of clean energy and dissemination of results.

**Special contractual clauses:** The conditions precedent to the first disbursement are as follows: (i) the project director has been selected; and (ii) the project Operating Regulations are in force.

**Exceptions to Bank policy:** None.

**Environmental/social review:** The Committee on Environment and Social Impact (CESI) reviewed and approved the project abstract without comments at CESI meeting 06-06 of 10 February 2006.

**Coordination with other donors:** The German Technical Cooperation Agency (GTZ) has ongoing activities in Chile (see paragraphs 2.5 and 2.6) and the Consejo Nacional de Energía [National Energy Commission] (CNE) is managing a Global Environment Facility (GEF) initiative (see paragraph 2.6). This project seeks to cooperate closely with both institutions.

## **II. BACKGROUND AND RATIONALE**

### **A. Current situation in the energy sector**

- 2.1 Current electricity generation in Chile is produced primarily from natural gas (34%) and hydroelectric facilities (43%). Periodic and cyclical droughts affect hydroelectric generation and the available source of electricity, forcing the country to look for alternative sources as backup and to cover daily peak consumption periods. In 2004 and 2005 cuts in the supply of natural gas from Argentina occurred at various levels and at random. In 2005 the average shortfall was around 20% of the country's needs. These recent cuts in natural gas availability are forcing Chile to consider other types of resources for generating energy and promoting opportunities for energy efficiency. In May 2005 the Chilean Congress passed an amendment to the Electricity Law (Law 20,018) as a means of achieving these two objectives. The diversification of energy sources, especially through the use of nonconventional renewable energy, is of crucial importance to the country.

### **B. Experiences with renewable energy**

- 2.2 In 2004, 43% of domestic electricity generation was based on renewable energy, mainly hydropower. Nevertheless, the current role of renewable energy is marginal. The amendments to the Electricity Law (19,940) improved the opportunities for small generating projects using renewable energy, as did the promotional instruments for the open market envisaged in the law. Law 19,940, which was passed early this year, established several support mechanisms for nonconventional renewable energy projects that are small-scale, (e.g., less than 20 MW) that include such benefits as guaranteed right-of-way for transmission and distribution rights with no additional fees. It should be noted, however, that the country's limited experience with renewable energy sources is impeding their implementation. Meanwhile, increased energy costs in Chile and the continuing decline of investment costs in renewable energy technologies bode well for the development of renewable energy projects.

**C. Barriers to the introduction of energy efficiency**

- 2.3 Energy efficiency in Chile faces a major initial barrier, namely, lack of awareness among the public and the various economic sectors of the importance and impact of energy efficiency on consumption (and expenditure), the environment, and the country's development. This impact has increased owing to the absence of an ongoing initiative to drive energy efficiency policy in Chile and to the lack of importance that consumers attach to energy expenditure. Thus, ignorance of technologies, lack of consumer education, and lack of information about consumption and efficiency of consumption units have become the primary barriers to the implementation of energy efficiency plans.
- 2.4 A worthwhile market opportunity associated with energy efficiency involves energy service companies (ESCOs), which operate in many countries around the world. ESCOs are engineering firms engaged in the development, installation, and financing of energy efficiency upgrades to their customers' facilities. Therefore, in an ESCO project, the ESCO evaluates the energy savings potential, develops a plan, pays the cost of implementing the changes, and is repaid based on the energy savings or on other payment arrangements. Typically, ESCOs are paid on the basis of performance and the amount of energy saved. The total amount paid to the ESCO is based on project performance and represents a percentage of the energy cost savings realized by the project. In Mexico, the Multilateral Investment Fund (MIF) has had success in helping to develop the ESCO market through its participation in the Latin American Clean Energy Services Fund (FLACES) (EQU/MS-7493-RG). This experience has enabled the MIF to understand the obstacles and impediments to the development of an ESCO market.

**D. Initiatives to promote renewable energy and energy efficiency**

- 2.5 In 2005, through a presidential initiative, the Energy Efficient Country Program (Programa País de Eficiencia Energética - PPEE) was launched in Chile to contribute to the principles of sustainability, efficiency, and diversification of the country's energy policy and enhance economic competitiveness. This initiative calls for government agencies, civil society representatives, and the national productive sector to participate in the coordination of efforts to implement a set of specific measures for improving energy efficiency with an impact in the short and medium terms, while paving the way for ongoing societal efforts to make efficient use of energy resources. For 2006 and 2007, PPEE activities will focus on the housing sector, with the support of the German Technical Cooperation Agency (GTZ).
- 2.6 The Comisión Nacional de Energía [National Energy Commission] (CNE) has been working to eliminate the various legal and regulatory barriers that have thus far impeded or hampered the development of renewable energy sources such as small hydroelectric facilities, wind energy, cogeneration, etc. Renewable energy producers would be able to sell their output to the electricity networks, which was



virtually prohibited in the past. Still to be developed are some technical standards that will likely be promulgated in the next few months. The CNE is also receiving GTZ support for improving government policies and regulations that are impeding the development of nonconventional renewable energy sources, such as wind, geothermal and biomass energy. The CNE, together with its counterpart agencies in the other Southern Cone countries, received funds from the Global Environment Facility (GEF) to prepare a project centered on developing standards and labels for equipment and other materials related to their energy consumption.

- 2.7 The Corporación de Fomento de la Producción [Chilean Economic Development Agency] (CORFO) makes a number of funds available to enterprises to support their modernization needs in key areas for increasing productivity and innovation and to encourage environmental stewardship. It offers various grant instruments and long-term loans that might be considered for energy efficiency projects. In 2005 CORFO launched a specific call for proposals pursuant to which the development of renewable energy projects would be financed. As a result of this initiative, 46 clean energy projects that use a variety of renewable energy technologies, such as biomass, geothermal, and wind energy and small hydroelectric facilities, were identified. CORFO will launch another call for proposals before the end of this year.
- 2.8 Chile Sustentable (Sustainable Chile) is a Chilean nongovernmental organization (NGO) that focuses on incorporating the issue of sustainability into the country's efforts and activities. For example, incorporating the environmental sustainability issue as part of the private-sector approach could provide a competitive advantage in the market while at the same time helping to ensure a rational use of natural resources. Among its activities, Chile Sustentable is promoting renewable energy and energy efficiency because of the opportunities they offer to create new market niches for Chilean products and services.
- 2.9 In 2003, the Bank approved a loan for a rural electrification program (CH-0174), the objective of which is to help improve living conditions and reduce social exclusion among the low-income rural populations in various regions around the country and strengthen the decentralization process. The program has a self-generation subcomponent for rural residences based on the use of renewable energy sources. In addition to introducing and spreading the use of clean energy generation techniques using micro- and mini-hydropower facilities, aerogenerators, and photovoltaic panels, the component allocates resources for studies to support project development.

## **E. Economic instruments and incentives for the clean energy market**

- 2.10 Market-based fiscal instruments or other incentives for the development and use of technologies, tradable certificates like credits to reduce greenhouse gas emissions and other pollutants represent an important additional source of revenue for

financing the transition to clean energy. In 1992, for example, the city of Santiago, launched a trading scheme as a market-based solution to its serious air pollution problem. The compensation system was structured to enable existing companies to comply with the required targets by trading additional reductions, providing additional benefits beyond those that are required, while affording other companies a least-cost alternative for complying with the emission standards.

- 2.11 The system had problems but has improved. The reformulated Environmental Prevention and Decontamination Plan recently approved for Santiago and credit transactions have been incorporated as key instruments for achieving the environmental targets set by the environmental authority. The reformulated plan seeks to incorporate new sources and pollutants as well as indirect sources of emissions.
- 2.12 At the international level, there are numerous opportunities for selling emission reduction credits, as a means of enabling private companies to comply with established requirements or as part of their corporate social responsibility efforts. This interest on the part of foreign firms generates opportunities for joint projects with entities in developing countries and presents an opportunity for countries like Chile, which can take advantage of this interest and channel financial incentives toward its transition to clean energy. This interest and additional support could provide the necessary economic impetus for cleaner technologies with fewer greenhouse gas emissions.

#### **F. Proposed project**

- 2.13 Despite the opportunities presented by renewable energy sources and energy efficiency, the private sector still has not taken advantage of the situation, mainly because of the barriers identified above and lack of knowledge about how to use the financial incentives and fiscal instruments to enhance the profitability of projects in these sectors. This opportunity is especially significant for small and medium-sized enterprises (SMEs) that would benefit from the growing opportunities for electricity generation through renewable energy, use of energy efficiency measures, and the economic benefits obtained through market-based incentives.
- 2.14 From the current standpoint of the various technological centers of Fundación Chile and their professional networks, the sectors from which the projects will be selected are: (i) small and medium-sized agroindustry; (ii) small and medium-sized agricultural producers; (iii) refrigeration and freezer service companies; (iv) SMEs involved in commercial and residential air-conditioning; (v) energy engineering SMEs; and (vi) hospitals and public schools and tourism facilities (hotels). For more details on the sectors, see Annex IX in the technical files.
- 2.15 This project is the first among similar projects that the MIF could support to promote clean energy opportunities in the region.

### **III. PROJECT OBJECTIVES AND COMPONENTS**

#### **A. Objectives**

- 3.1 The overall objective of the project is to increase market opportunities for small and medium-sized enterprises and enhance their competitiveness. The purpose is to promote the use of renewable energy and energy efficiency by facilitating access to financial incentives that support the use of low-carbon-emitting technologies.

#### **B. Description and components**

- 3.2 To achieve this objective, the project will have four components: (i) development of local clean energy capacity and demonstration cases; (ii) development of an ESCO market; (iii) strengthening of financial instruments and incentives; and (iv) promotion of clean energy and dissemination of results.

##### **1. Component I: Development of local clean energy capacity and demonstration cases (MIF: US\$213,400 and Counterpart: US\$107,600)**

- 3.3 The principal objective of this component is to develop local capacity to facilitate the implementation of clean energy initiatives. An important part of the component is the development of demonstration cases to promote market opportunities. The activities include: (i) identifying the potential market and project approach; (ii) developing a methodology for identifying and evaluating projects; (iii) providing training in the application of the methodology; (iv) conducting specific studies of clean energy projects; (v) executing clean energy demonstration cases; and (vi) providing technical support for the project.
- 3.4 One of the first activities consists of identifying opportunities for demonstration cases based on the project's priority sectors (spelled out in paragraph 3.5). This search will include information on owners of clean energy resources, user SMEs, market potential and impact, details on possible barriers/obstacles, and incentives to be incorporated.
- 3.5 Another related activity is the development of a methodology for analyzing and evaluating clean energy projects that will in turn incorporate a number of elements, such as use of market instruments and incentives, which lead to job creation, productivity enhancement, and social and environmental impacts, among others. The methodology will be incorporated into a handbook that will be published and used as the basis for training enterprises and professionals and for disseminating the project results. Two training courses in the application of the methodology will be conducted with a view to identifying and evaluating clean energy projects.
- 3.6 The component's next activity consists of helping to develop clean energy demonstration cases. These cases will be executed with advisory and technical

support from the project. An effort will be made to disseminate replicable cases that have already been implemented successfully. The costs of preparing designs for the three clean energy pilot projects will be covered by the project and will be limited to US\$5,000 per project, bearing in mind that this represents technical assistance support with MIF resources covering no more than 75% of the technical assistance cost. The remainder is to be financed by the enterprise or project developer. The investment cost will be borne by each of the beneficiary enterprises.

## **2. Component II: Development of an ESCO market and demonstration cases (MIF: US\$256,000 and Counterpart: US\$227,700)**

- 3.7 The principal objective of this component is to help generate a supply of energy service companies (ESCOs) that are able to meet the demand for these types of services on the part energy consumers in general, but especially SMEs, under competitive market conditions. To this end, the following activities are planned: (i) conducting energy audits; (ii) training potential ESCOs; (iii) providing technical assistance to selected ESCOs in preparing their business plans; and (iv) executing ESCO demonstration projects.
- 3.8 Energy audits will be conducted in several enterprises as a way to expose the potential savings they could achieve. The expectation is that, as the opportunities are presented, the number of enterprises interested in working with an ESCO will increase. In view of Chile's relative inexperience with energy audits, it is expected that international consultants specializing in energy efficiency and technical audits will be hired to assist national consultants in carrying out the audits. The costs of the energy audits will be limited to a maximum per project of 75% of the audit cost. The companies receiving this support would have to finance at least 25% of the audit costs (for further details, see the Operating Regulations in Annex V).
- 3.9 The project will offer training courses to potential ESCOs in the country. The courses will cover technical subjects, such as energy audits and measurement and control, as well as the business, economic, and financial aspects of operating an ESCO. It is also important to train participants in subjects that, while not technical, are essential to an ESCO, such as the use of energy performance contracts, equipment leasing with payments calculated on the basis of shared savings, and per-project financing.
- 3.10 More specialized technical assistance will be provided to a selected group of ESCOs in preparing business plans that take into account various market segments and operating methods. These prospective ESCOs will be selected for their experience in the sector (years of experience, number of customers served, etc.) and their potential to offer services in different segments of the economy, to ensure that such services cover a variety of experiences and possible sectors.

- 3.11 ESCO pilot projects will be developed using specific experiences to demonstrate the benefits that ESCOs could offer in the market. A group of at least seven cases from the energy audits mentioned in paragraph 3.8 will be selected to receive additional technical assistance in developing energy efficiency projects. The costs of preparing the pilot projects will be limited to a maximum amount per project, bearing in mind that this represents technical assistance support with MIF resources covering no more than 75% of the technical assistance cost. The remainder should be financed by the enterprise/project developer. The investment cost will be borne by each of the beneficiary enterprises.

**3. Component III: Strengthening of financial instruments and incentives  
(MIF: US\$90,000 and Counterpart: US\$357,000)**

- 3.12 The objective of this component is to strengthen the environment for clean energy and energy efficiency in Chile by supporting financial instruments and incentives that could be useful to enterprises and that provide additional economic benefits. To this end, the following activities will be included: (i) developing proposals for sector instruments and models needed for clean energy and energy efficiency; (ii) developing financial instruments for energy efficiency and renewable energy; and (iii) providing technical assistance for the preparation of carbon financing projects.
- 3.13 The first step will be to conduct an analysis of the existing legal and institutional regulatory framework with regard to clean energy and energy efficiency, as well as the incentives, mechanisms, and instruments for promoting, developing, and financing projects of this type and the current ESCO status of the market. This will be the basis for formulating a comprehensive proposal to strengthen the development of a renewable energy market in Chile.
- 3.14 Options for establishing a business sector model for the development of energy efficiency and ESCOs projects will also be analyzed, taking into account technical, economic, financial, legal, and tax considerations. A comprehensive proposal will be formulated on sector models for the development of the ESCO market that will foster the growth of demand for and supply of services of this type.
- 3.15 This activity has two main subactivities: the first consists of strengthening the existing incentives and creating financial instruments for ESCO activities in Chile and creating new ones, and the second consists of the development and implementation of an investment/financing fund for ESCO projects and renewable energy generation projects.
- 3.16 A comprehensive proposal will be submitted on strengthening financing instruments for preinvestment studies and renewable energy and energy efficiency projects. There are currently a number of instruments for clean energy projects (see paragraph 2.7) but not for ESCO projects. Moreover, a fund will be established for

financing ESCOs and energy efficiency and clean energy projects. It will be a private fund but will operate not only within reasonable profitability parameters but also with a view to financing social interest projects.

**4. Component IV: Promotion of clean energy and dissemination of results (MIF: US\$100,700 and Counterpart: US\$56,500)**

- 3.17 The objective of this component is to make the business sector, the public sector, and civil society organizations, as well as industrial and commercial enterprises themselves, aware of the advantages and benefits to be gained from emission-reduction incentives to make clean energy and energy efficiency projects feasible from the demand side, especially among SMEs, which are the focus of the project. To this end, activities consisting of promotion, awareness-raising, information, and dissemination of project activities, especially showcases to be developed with project support, will be carried out. The ultimate aim is to promote cultural change in society such that the concepts of energy efficiency, use of clean energy, and the environment will be incorporated into daily activities.
- 3.18 A promotion campaign will be conducted that will include the publication of promotional materials, the development of a Web page, and project-launching events to publicize the activities and opportunities associated with the project. Other major inputs for disseminating the project results include the demonstration cases (see paragraphs 3.6 and 3.11), to be documented in a comprehensible way.
- 3.19 Toward the end of the project, various events will be held to disseminate its results. Project staff are expected to participate in other events and exhibitions around the country to present the project activities and results.
- 3.20 To close the project and disseminate the project results, an international congress on clean energy and energy efficiency will be held at which not only project technical staff but SMEs and ESCOs themselves will present their experiences and the pilot projects executed with project support. In addition to conferences and panel discussions, an exhibition and business matchmaking opportunities will be organized at which SMEs in need of services and equipment can make contact with suppliers of those items.

**IV. EXECUTING AGENCY AND EXECUTION MECHANISM**

**A. The executing agency**

- 4.1 The executing agency for the project will be Fundación Chile. Fundación Chile is a not-for-profit private corporation established in 1976. Its aim is to promote the country's use of technology, provide support to the private sector and to the establishment of new enterprises in the market.

- 4.2 Fundación Chile has successful prior experience in several MIF projects, namely: the labor competency certification program (ATN/MH-6698-CH), the program for development and investment in small technology firms (ATN/ME-5444-CH), and the development investment fund (EQU/MIF-0009-CH).

**B. Execution mechanism**

- 4.3 A Project Administration Unit (PAU) that includes a director and an administrative assistant, will be established to execute the project. The director will have the following principal functions: (i) manage the project activities; (ii) monitor and evaluate the activities, ensuring compliance with established agreements; (iii) formulate terms of reference for the contracting of consulting firms and individual consultants; (iv) prepare the bidding documents and conditions for consulting services or procurement using project resources; (v) process requests for disbursement of the MIF contribution and take steps to obtain local counterpart resources; (vi) prepare such financial statements and reports as may be requested by the Bank. The project director will report to the Institutional Coordinator appointed by the Executive Director of Fundación Chile.
- 4.4 To support and facilitate the execution of the work to be carried out in the framework of project activities, an Advisory Council will be established, comprised of representatives of the following entities: PPEE, CORFO, CNE, GTZ, Fundación Chile, and Chile Sustentable, as well as representatives of the SMEs working with the project. The project director (see paragraph 4.3) will act as secretary of the Advisory Council.

**C. Project readiness**

- 4.5 The project is ready to be implemented, since the detailed budget, Operating Regulations, and terms of reference of the director have been prepared (see Annexes IV, V and VIII, respectively, in the technical files), with the participation of the executing agency. Letters of interest from various entities serving on the project's Advisory Council have also been received (see Annex X in the technical archives).

**D. Execution and disbursement periods**

- 4.6 The project will be executed over a 36-month period, with a 42-month disbursement period. The Bank will establish a revolving fund for up to 10% of the MIF contribution, which will be managed through a separate account.
- 4.7 **Procurement of consultants and goods.** For the contracting of services financed by the project, Fundación Chile will follow the Bank's procedures set out in the "Policies for the selection and contracting of consultants financed by the IDB" (document GN-2350-6). For contracts amounting to less than US\$50,000, the selection and contracting processes will be subject to post review by the Bank,

except for the first three procurements, which will be subject to prior review. The procedures should ensure transparent and competitive processes and secure the lowest costs. The price comparison method will be used for the procurement of goods and will be carried out in accordance with the “Policies for the procurement of works and goods financed by the IDB” (document GN-2349-6). Fundación Chile will submit the procurement plan for approval by the Bank. The initial procurement plan is included in Annex XI.

## V. COST AND FINANCING

### A. Cost

- 5.1 The total budget for the project, presented below, is US\$1,950,000, of which US\$975,000 (50%) will be contributed by the MIF. Of the counterpart contribution of US\$975,000 (50%), at least 50% will be in cash.

**Budget (in US\$)**

Components	MIF	Local Contribution	Total	%
1. Development of local clean energy capacity and demonstration cases	213,400	107,600	321,000	16.5%
2. Development of an ESCO market	256,000	227,700	483,700	24.8%
3. Strengthening of financial instruments and incentives	90,000	357,000	447,000	22.9%
4. Promotion of clean energy and dissemination of results	100,700	56,500	157,200	8.1%
5. Project administration	195,000	207,000	402,000	20.6%
6. Evaluation	40,500	10,500	51,000	2.6%
7. Financial audits	20,000	--	20,000	1.0%
8. Contingencies	59,400	8,700	68,100	3.5%
<b>Total</b>	<b>975,000</b>	<b>975,000</b>	<b>1,950,000</b>	<b>100.0%</b>
<b>Percentage</b>	<b>50%</b>	<b>50%</b>		

### B. Project sustainability

- 5.2 The project should promote the use of market-based incentives to make it feasible to carry out energy efficiency projects in SMEs, generate interest among firms, and thus future demand for services to put their projects into effect, as well as a supply of services to meet these demands and financial mechanisms to introduce them. The project will also provide proposals for improving existing financial mechanisms and create an investment and financing fund for ESCOs or ESCO projects. In other words, the project will help to create the basic elements of a market: demand for services, supply of services, and financial arrangements, so that the market thus created will ensure post-project sustainability.



## **VI. BENEFITS AND RISKS**

### **A. Benefits**

- 6.1 The direct benefits of more efficient energy use and use of renewable energy will be reflected in cost abatement and a higher-quality and more secure energy supply for enterprises, resulting in their enhanced competitiveness. More efficient energy use (quality and quantity) will have a direct impact on Chile's energy matrix, reducing its dependency on unsecured imported sources. The reduction of greenhouse gas emissions is another direct benefit to society and the economy as a whole, not only because of the improvement in the environment, but also because of the development of a carbon-credit export market with benefits for the national economy.

### **B. Beneficiaries**

- 6.2 The direct and immediate beneficiaries of this program will be small and medium-sized enterprises, which will benefit from new market opportunities in the areas of renewable energy and energy efficiency. The energy service companies (ESCOs), primarily small and medium-sized enterprises, will benefit from the opening of a viable market with the potential to grow significantly in the next few years. The ESCOs' customers will also benefit because of their energy cost savings.

### **C. Risks**

- 6.3 The project has two main risks: (i) the first is the demand for energy efficiency services; and (ii) the second risk is related to the sustainability of clean energy and energy efficiency markets after the project ends.
- 6.4 The *first risk* is mitigated by the training that will be provided to Chilean enterprises, not only through this project, but also through the activities of other projects in the country (most notably, PPEE activities) that are helping to increase knowledge of and interest in rational energy use in the private sector and among consumers. The *second risk* is mitigated by project activities aimed at strengthening the financial instruments and incentives available for clean energy and energy efficiency projects, and by the creation of new financial instruments. With these additional benefits, the projects will be even more viable and attractive. Furthermore, no dramatic fall in oil prices is anticipated in the future, a factor that will help to maintain a strong interest in alternative energy sources.

## **VII. MONITORING AND EVALUATION**

### **A. Monitoring**

- 7.1 The executing agency will prepare and submit reports to the Bank's Country Office in Chile on the status of the project within 30 days following the end of each six-month period and a final report within 30 days following the final disbursement. Such reports will conform to the format previously agreed upon with the Country Office, and will cover project activities and finances, as well as the results measured against the indicators and parameters specified in the logical framework for the project. The Country Office will use the reports to monitor the progress of project execution and to prepare a project completion report within three months following the final disbursement. A **closing workshop** will be scheduled towards the end of execution to evaluate the results achieved and the actions required to increase the project's impact.

### **B. Evaluation**

- 7.2 The Bank will use project funds to directly hire external consultants to conduct a midterm evaluation and a final evaluation of the project. The midterm evaluation will be carried out 18 months after project startup or when 50% of the MIF contribution has been spent, whichever occurs first. This evaluation will examine compliance with the logical framework considerations and the following special considerations: (i) the level of interest among firms in hiring an ESCO to help them reduce their energy use; (ii) the level of investment made by the project developers after receiving initial support from the MIF project; and (iii) complementarity between this project and other initiatives to develop new energy sources. On the basis of the recommendations proposed by the evaluator, the Bank and the executing agency will agree on corrective action to ensure the proper execution of the project.
- 7.3 When 95% of the Bank's resources have been disbursed, it will hire an independent consultant to prepare a final project evaluation. This evaluation will consider: (i) the impact on project beneficiaries and participants (beneficiary firms and customers), taking into account the logical framework indicators; (ii) the level of satisfaction of ESCO customers; (iii) changes in public policy related to the energy sector; and (iv) lessons learned and best practices.

## **VIII. SOCIAL AND ENVIRONMENTAL IMPACT**

- 8.1 This project is expected to have positive social and environmental effects, since the approach is centered on promoting cleaner technologies and improvements in energy use. Local and global environmental and health benefits are expected from the use of such low-(or no) carbon-emitting technologies. Specific references on

promoting equal access, irrespective of ethnicity and gender, to training activities and technical assistance provided for in the project will be included in the project's operating manual.

- 8.2 The Committee on Environment and Social Impact (CESI) reviewed and approved the project abstract without comments at CESI meeting 06-06 of 10 February 2006.

**PROMOTION OF CLEAN ENERGY MARKET OPPORTUNITIES (CH-M1009)**  
**LOGICAL FRAMEWORK**

Narrative summary	Indicators	Means of verification	Assumptions
<b>Goal</b>			
To contribute to increasing market opportunities and enhancing the competitiveness of SMEs in Chile.	Two years after the project is completed:  The energy service company (ESCO) market is functioning in a self-sustaining manner.  At least five of the demonstration projects are operational and functioning.	Comparison of data and information at that time with the initial information, the periodic evaluations, and the final program evaluation.	Macroeconomic and business conditions for Chilean enterprises remain stable.
<b>Purpose</b>			
To promote the use of renewable energy and energy efficiency by facilitating access to financial incentives that support the use of low-carbon-emitting technologies.	By the end of the project:  Around 25% of the SMEs selected as the project's target market have improved their energy efficiency indicators.  Three independent ESCOs have been strengthened and are carrying out their normal activities in the market.  The existing market-based incentives and financial mechanisms for energy efficiency and renewable energy have been improved and strengthened.  An investment and financing fund for ESCOs and energy efficiency projects is operating effectively.  At least 10 additional renewable energy and energy efficiency projects are being implemented following consultation with the project execution unit.	Midterm and final project evaluation reports.  Comparison between the initial position of the project's target market (baseline) and the final evaluation report.  Progress and final reports by Fundación Chile.  Project completion report (PCR).	The difficult situation of the energy sector and the actions implemented by the government generate greater awareness and demand with regard to energy and environmental issues.  The priorities established by the Government of Chile for the energy sector remain unchanged.

Narrative summary	Indicators	Means of verification	Assumptions
<b>Components</b>			
Component I: Development of local clean energy capacity and demonstration cases	<p>By the end of the first year of execution:</p> <p>The 30 firms that will be the basis for selecting the 10 case studies for the project have been identified.</p> <p>At least five case studies have been completed.</p> <p>By the end of the second year:</p> <p>At least 10 case studies have been completed.</p> <p>By the end of the project:</p> <p>At least three renewable energy demonstration cases have been implemented.</p>	<p>Report prepared and available.</p> <p>Midterm and final evaluation reports.</p> <p>Midterm and final progress reports by Fundación Chile.</p>	<p>Successful pilot projects can be executed with the selected SME segment.</p>
Component II: Development of an ESCO market	<p>By the end of the first year of execution:</p> <p>At least 14 energy audits have been conducted.</p> <p>By the end of the second year:</p> <p>At least three ESCOs with medium-term business plans are established and functioning.</p> <p>By the end of the project:</p> <p>At least seven ESCO/energy efficiency demonstration cases projects have been implemented.</p>	<p>Energy audit reports and blueprints for the demonstration cases.</p> <p>Project execution and operation reports.</p> <p>Business plans of the beneficiary ESCOs.</p> <p>Midterm and final evaluation reports.</p>	<p>The enterprises selected for the pilot projects are prepared to implement them.</p> <p>A strong interest in the supply of energy efficiency services and use of renewable energy is seen among local consultants.</p>
Component III: Strengthening of financial instruments and incentives	<p>By the end of the first year of execution:</p> <p>At least two regulatory and/or legislative reform proposals have been submitted to the authorities, one on clean energy and the other on the energy efficiency/ESCO market.</p> <p>By the end of the second year:</p> <p>A proposal on improving and strengthening existing financial instruments for renewable energy and energy efficiency projects has been developed.</p>	<p>Report prepared and available.</p> <p>Midterm and final evaluation reports.</p> <p>Progress and final reports by Fundación Chile.</p>	<p>There is a positive response from enterprises owing to the quality of the project activities and support from the agencies connected to the project.</p>

Narrative summary	Indicators	Means of verification	Assumptions
	<p>A fund for investment in or financing of ESCO and clean energy projects has been established.</p> <p>By the end of the project:</p> <p>Five projects with financial incentives have been developed.</p>		
Component IV: Promotion of clean energy and dissemination of results	<p>By the end of the first year of execution:</p> <p>At least 250 relevant people are aware of the opportunities associated with the project.</p> <p>At least 20 proposals have been received from firms interested in participating in the project.</p> <p>By the end of the project:</p> <p>At least 500 relevant people are aware of the project results.</p> <p>At least 10 case studies have been published.</p>	<p>List of participants in each event.</p> <p>Instructional material for courses and basic documentation for the seminars.</p> <p>Midterm and final evaluation reports.</p> <p>Progress and final reports by Fundación Chile.</p>	<p>A strong interest is seen among the identified target audience.</p> <p>Demonstration cases and the critical mass that can motivate the market to adopt energy efficiency measures and renewable energy use exist.</p>
<b>Activities</b>			
1.1 Identify the potential market and project approach.	<p>A survey of opportunities for energy efficiency, increased use of clean energy, and use of market-based financial incentives for SMEs will be conducted during the first four months of the project.</p> <p>During the same period, the project's target market will be identified, meetings will be held with the beneficiary firms, and the 30 firms and six renewable energy projects that will be the basis for selecting the 10 case studies will be identified.</p>	Report published and available.	
1.2 Develop a methodology for identifying and evaluating projects.	By the end of the first four months, a methodology has been developed, including the preparation and publication of a methodology handbook.	Methodology handbook published and available.	

Narrative summary	Indicators	Means of verification	Assumptions
<p>1.3 Provide training in the application of the methodology to:</p> <ul style="list-style-type: none"> <li>- Beneficiary firms</li> <li>- Financial entities</li> <li>- Development agencies</li> <li>- ESCOs.</li> </ul>	<p>Two courses will be given by the end of the first six months of the project.</p>	<p>Records of the events (registration and presentations).</p>	
<p>1.4 Conduct studies of clean energy projects.</p>	<p>At least six analyses of clean energy projects have been prepared.</p>		
<p>1.5 Execute clean energy demonstration cases.</p>	<p>By the end of the project, at least three renewable energy demonstration cases with established baselines have been implemented in different areas.</p>	<p>Reports on studies of clean energy generation projects available.</p>	
<p>1.6 Provide technical support to the project.</p>	<p>A technical coordinator has been hired by the project to provide support to parties interested in carrying out clean energy and energy efficiency initiatives.</p>	<p>Midterm and final project evaluations.</p>	
<p>2.1 Conduct energy audits for ESCOs.</p>	<p>An initial analysis of 30 companies and on-site audits of 14 selected companies will be carried out.</p>	<p>Energy audit reports available.</p>	
<p>2.2 Provide training to potential ESCOs.</p>	<p>By the end of the first four months of the project, a course on energy audits, measurement, and control has been held and attended by at least eight companies (30 persons).</p> <p>By the end of the first six months of the project, a second course on business, economic, legal, regulatory, tax, and financial aspects of operating an ESCO has been held with the same participants.</p>	<p>Records of the events (registration and presentations).</p>	
<p>2.3 Provide technical assistance to selected ESCOs in preparing their business plans.</p>	<p>At least three ESCOs have prepared business plans.</p>	<p>Business plans available.</p>	

Narrative summary	Indicators	Means of verification	Assumptions
2.4 Execute ESCO demonstration cases.	By the end of the project, at least seven energy efficiency demonstration cases with established baselines have been implemented in different areas.	Project documentation.	
3.1 Draw up proposals for sector instruments and models needed for clean energy and energy efficiency.	By the end of the first year, a comprehensive proposal for strengthening the clean energy market has been developed and submitted to the authorities.  By the end of the first year, a proposal for strengthening the sector business model for energy efficiency/ESCOs has been prepared and submitted to the authorities.	Proposals published and submitted to the appropriate authorities.	
3.2 Design financial instruments for energy efficiency and renewable energy.	Within 18 months from the start of the project, a comprehensive proposal on strengthening financial instruments for preinvestment studies and renewable energy and energy efficiency projects has been developed.  By the end of the second year of the project, a fund has been established to finance ESCOs and energy efficiency projects.	Proposal published and submitted to the appropriate authorities.  Signed documents establishing the fund.	
3.3 Provide technical assistance in the preparation of carbon-financing projects.	Execution of five carbon trading certification procedures.	Project documentation.	
4.1 Carry out a campaign to promote the project.	Publish promotional materials, including posters, brochures, standing displays, briefing kits, and a project Web page.  Within six months from the start of the project, an initial project launching seminar, with presentations of domestic and international experiences, has been held and attended by at least 150 people from the business sector, government agencies, international cooperation agencies, and service companies.  At least three regional promotional events have been held during the first year of the project with at least 50 participants at each one.	Materials available on the project Web page.  Records of the events (registration and presentations).	



Narrative summary	Indicators	Means of verification	Assumptions
4.2 Participate in national clean energy and technology exhibitions.	Participation in the 2007 Feria Expo Agua & Ambiente [Water and Environment Exhibition]. Participation in the 2008 Elecgas exhibition.	Registrations for the events. Reports of matchmaker events. Records of seminars.	
4.3 Document the case studies.	At least 10 case studies have been published by the end of the project.	Cases published and available on the project Web page.	
4.4 Conduct regional dissemination seminars.	At least three regional dissemination seminars have been held by the end of the project.	Records of the events (registration and presentations).	
4.5 Close the project by holding an international congress on clean energy and energy efficiency.	An international congress on clean energy and energy efficiency, with an exhibition and matchmaker opportunities attended by at least 250 participants, has been held at the end of the project.	Records of the event (registration and presentations).	

**PROMOTION OF CLEAN ENERGY MARKET OPPORTUNITIES (CH-M1009)**  
**BUDGET SUMMARY**

	MIF	Local contribution		Subtotal
		In cash	In kind	
<b>Component 1: Development of local clean energy capacity and demonstration cases</b>	<b>213,400</b>	<b>69,600</b>	<b>38,000</b>	<b>321,000</b>
Activity 1.1: Identify the potential market and project approach	28,200	0	7,500	35,700
Activity 1.2: Develop a methodology for identifying and evaluating projects	34,000	0	7,500	41,500
Activity 1.3: Provide training in the application of the methodology (two courses)	4,000	0	500	4,500
Activity 1.4: Conduct specific studies of clean energy projects	32,000	48,600	15,000	95,600
Activity 1.5: Execute clean energy demonstration cases	0	21,000	7,500	28,500
Activity 1.6: Provide technical support to the project	115,200	0	0	115,200
<b>Component 2: Development of an ESCO market and demonstration cases</b>	<b>256,000</b>	<b>205,200</b>	<b>22,500</b>	<b>483,700</b>
Activity 2.1: Conduct energy audits	172,000	152,600	15,000	339,600
Activity 2.2: Provide training to potential ESCOs	56,000	3,600	0	59,600
Activity 2.3: Provide technical assistance to selected ESCOs in preparing their business plan	28,000	0	0	28,000
Activity 2.4: Conduct ESCO demonstration cases	0	49,000	7,500	56,500
<b>Component 3: Strengthening of financial instruments and incentives</b>	<b>90,000</b>	<b>227,000</b>	<b>130,000</b>	<b>447,000</b>
Activity 3.1: Draw up proposals for sector instruments and models needed for clean energy and energy efficiency	52,000	0	20,000	72,000
Activity 3.2: Design financial instruments for energy efficiency and renewable energy	38,000	12,000	105,000	155,000
Activity 3.3: Provide technical assistance in the preparation of carbon-financing projects	0	215,000	5,000	220,000
<b>Component 4: Promotion of clean energy and dissemination of results</b>	<b>100,700</b>	<b>39,000</b>	<b>17,500</b>	<b>157,200</b>
Activity 4.1: Carry out a campaign to promote the project	25,100	0	0	25,100
Activity 4.2: Participate in national clean energy and technology exhibitions	23,000	11,000	0	34,000
Activity 4.3: Document the case studies	2,000	20,000	10,000	32,000
Activity 4.4: Conduct regional dissemination seminars	9,600	3,000	0	12,600
Activity 4.5: Close the project by holding an international congress on clean energy and energy efficiency	41,000	5,000	7,500	53,500
Project administration unit	195,000	45,000	162,000	402,000
Monitoring and evaluation	40,500	10,500	0	51,000
Audits	20,000	0	0	20,000
Contingencies	59,400	8,700	0	68,100
<b>Total</b>	<b>975,000</b>	<b>605,000</b>	<b>370,000</b>	<b>1,950,000</b>

**CHILE: PROMOTION OF CLEAN ENERGY MARKET OPPORTUNITIES (CH-M1009)  
RELATED PROJECTS**

**A. MIF projects in the country related to the same sector/or field**

N/A

**B. Bank projects in the country related to the same sector/or field**

<b>Project number/ approval date</b>	<b>Project title, executing agency, and amount</b>	<b>Date of signature and original disbursement period in months</b>	<b>Percentage disbursed</b>	<b>Comments: Satisfactory execution or problems with execution, including delays, extensions, reformulation, change in executing agency, etc.</b>
CH-0174 September 17, 2003	<b>Rural electrification program</b>	April 26, 2004 48 months	38.77%	Project is classified as satisfactory in general and is being executed in accordance with the assumptions of OD, which remain valid.

**C. Cleaner production cluster projects**

<b>Project number/ approval date</b>	<b>Project title, executing agency, and amount</b>	<b>Date of signature and original disbursement period in months</b>	<b>Percentage disbursed</b>	<b>Comments: Satisfactory execution or problems with execution, including delays, extensions, reformulation, change in executing agency, etc.</b>
ATN/MH-7007-ES June 14, 2000	<b>Promotion of cleaner production processes</b>  Asociación Salvadoreña de Industriales (ASI)  MIF: US\$749,000	June 22, 2004 24 months	34%	Project classified as S/P. The Agricultural and Agroindustrial Chamber of El Salvador (CAMAGRO), as the new executing agency, fulfilled the conditions precedent to the first disbursement in July 2004.
ATN/MT-7257-PN December 6, 2000	<b>Environmental management instruments and industry participation in clean production</b>  Consejo Nacional de la Empresa Privada (CONEP) and Autoridad Nacional del Ambiente (ANAM)  MIF: US\$1,213,000	May 22, 2001 48 months (extended by 4 months)	59%	Project classified as S/P. The key performance indicators are being complied with as scheduled. However, there have been delays in the technical assistance to industry component, so CONEP will need an extension of the execution period.

<b>Project number/ approval date</b>	<b>Project title, executing agency, and amount</b>	<b>Date of signature and original disbursement period in months</b>	<b>Percentage disbursed</b>	<b>Comments: Satisfactory execution or problems with execution, including delays, extensions, reformulation, change in executing agency, etc.</b>
ATN/MH-7269-CO December 13, 2000	<b>Environmental management and implementation of cleaner technologies for Colombian enterprises</b>  Corporación para la Investigación Socio-económica y Tecnológica de Colombia (CINSET)  MIF: US\$1,423,000	January 25, 2001  42 months (extended by 12 months)	98%	Project classified as S/P. Coordination between the ACOPi and CINSET has proceeded as planned. The cleaner production targets for SMEs will be exceeded.
ATN/ME-7833-EC April 3, 2002	<b>Promotion of cleaner production processes</b>  Centro Ecuatoriano de Producción más Limpia (CEPL)  MIF: US\$737,900	June 3, 2002  42 months	70%	Project classified as S/P. Significant progress has been made on each component, with 40% of the targets met, on average.
ATN/ME-8378-ME July 30, 2003	<b>Expansion of cleaner production centers</b>  Instituto Politécnico Nacional (IPN) - Centro Mexicano Producción más Limpia  MIF: US\$1,000,000	December 15, 2003  30 months	16%	Project classified as S/P. To date, three projects have been executed—10 in Tabasco and 3 in Chihuahua— with firms that are putting cleaner production principles into practice.
ATN/ME-8424-ME September 9, 2003	<b>Promotion of cleaner production opportunities in the Bajío region</b>  Bajío Chapter of the Mexico-United States Chamber of Commerce  MIF: US\$465,000	March 5, 2004  30 months	10%	Yellow flag. Project classified as U/P. Owing to the original delay in the first disbursement for reasons attributable to the executing agency, the activities are behind schedule relative to the original timetable.
ATN/ME-8427-NI September 10, 2003	<b>Adopting cleaner production methods to enhance competitiveness</b>  Universidad Nacional de Ingeniería (UNI) Centro de Producción Más Limpia  MIF: US\$700,000	September 23, 2003  42 months	23%	Project classified as S/P. The CPML maintains a roster of consultants providing services to companies interested in cleaner production and has provided training to them. No difficulties in the execution of the operation are anticipated for now.

<b>Project number/ approval date</b>	<b>Project title, executing agency, and amount</b>	<b>Date of signature and original disbursement period in months</b>	<b>Percentage disbursed</b>	<b>Comments: Satisfactory execution or problems with execution, including delays, extensions, reformulation, change in executing agency, etc.</b>
ATN/MT-8429-CR September 10, 2003	<b>Cleaner production in the entrepreneurial sector</b> Cámara de Industrias de Costa Rica (CICR) MIF: US\$705,000	October 28, 2003 42 months	9%	Yellow flag. Project classified as U/P. Execution is classified as unsatisfactory because the substantive project activities have not commenced, although the assumptions remain valid.
ATN/ME-8648-BR January 5, 2004	<b>Strengthening the Cleaner Production Center in Bahia</b> Servicio Nacional de Aprendizaje Industrial, Bahia MIF: US\$68,000	April 29, 2004 30 months	34%	Project classified as S/P. Despite initial delays, no difficulties in the execution of the operation are anticipated.
ATN/ME-8605-GU January 15, 2004	<b>Promotion of cleaner production and environmental management systems</b> Cámara de Industria de Guatemala (CIG) MIF: US\$433,000	April 1, 2004 42 months	10%	Project classified as S/P. To date, the executing agency has managed to surpass the established attendance targets (20 participants per session) and has demonstrated great commitment to the project.
ATN/ME-8613-PE January 21, 2004	<b>Expansion of cleaner production support to the Southern Region</b> Centro de Servicios Empresariales (CESEM) MIF: US\$740,000	March 3, 2004 42 months	19%	Project classified as S/HP.
ATN/ME-8723-UR May 19, 2004	<b>Promoting ecoefficient production in SMEs</b> Asociación Instituto de Estudios Empresariales de Montevideo (AIEEM) MIF: US\$530,000	July 16, 2004 42 months	10%	Not all conditions precedent have been met. An invitation to tender has been issued and selection of the Project Director is under way.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK  
MULTILATERAL INVESTMENT FUND

PROPOSED RESOLUTION

Chile. Nonreimbursable Technical Cooperation ATN/----CH for the Promotion of Clean Energy  
Market Opportunities

The Donors Committee of the Multilateral Investment Fund

RESOLVES:

1. That the President of the Inter-American Development Bank or such representative as he shall designate is authorized, in the name and on behalf of the Bank, as Administrator of the Multilateral Investment Fund, to enter into such agreements as may be necessary with the Fundación Chile, and to take such additional measures as may be pertinent for the execution of the project proposal contained in document MIF/AT- with respect to a technical cooperation for the promotion of clean energy market opportunities.
2. That up to the amount of US\$975,000, or its equivalent in other convertible currencies, shall be authorized for the purpose of this resolution, chargeable to the resources of the Small Enterprise Development Facility of the Multilateral Investment Fund.
3. That the above-mentioned sum is to be provided on a nonreimbursable basis.