

**Japanese Trust Fund for Consultancy Services (JCF)**  
**Project Profile**  
**(28 July 2008)**

**I. Basic project data**

<b>Beneficiary Country / Region</b>	MEXICO
<b>Project name/ Project number:</b>	Residential use of renewable energy and energy efficiency in Baja California / ME-T1023
<b>Project team:</b>	Arnaldo Vieira de Carvalho (INE/ENE), Team Leader; Laura Natalia Rojas and Alberto Levy (INE/ENE); German Cruz (ENE/CES); Miguel Coronado (LEG/SGO) and Pedro Buonomo (COF/CME).
<b>Executing agency:</b>	Inter-American Development Bank - IDB
<b>Beneficiaries:</b>	The State of Baja California (BC) lower income population and the Energy Efficiency Commission (CONAE)
<b>Date of request:</b>	March 16, 2007, March 06, 2006 and February 06, 2006
<b>Financing plan:</b>	IDB (JCF): US\$ 749,000 Local Counterpart: US\$ 190,000 Total: US\$ 939,000
<b>Tentative dates:</b>	Bank Approval August 2008
<b>Execution period:</b>	12 months from the agreement signature
<b>Disbursement period:</b>	14 months from the agreement signature

**II. Background and problem statement**

- 2.1 Within the overall framework of financing investment projects with high social returns, the State of Baja California (BC) is determined to seek alternative energy sources to alleviate the economic burden of its constituents due to high payments for electricity energy consumption. To this effect, BC has decided to implement a project in Mexicali using energy efficiency and photovoltaic panels (PV) in select residential units connected to the existing network. The idea is to learn from pilot projects using energy efficiency and solar energy resources so in the future more options are available to provide sustainable energy services at affordable prices for the population. This would also have a highly positive environmental impact given the fact that most of the energy currently being used today in the State comes from fossil fuels that are proven to produce harmful emissions to the atmosphere.
- 2.2 The Electric Research Institute (IIE) in Mexico has recently conducted a study highlighting the potential benefits of using photovoltaic systems connected to the traditional network. The two most important challenges to carry out this project are securing community support and access financial resources for project replication and how easy and practical can the existing Mexican regulation adapt to using these alternative energy sources.
- 2.3 Resources must be channeled to develop priority studies and partially cover the system installation in order to be financially viable to the users. Equally important is the fact that the Energy Efficiency Commission (CONAE) in Mexico has expressed its interest

in receiving support from the Bank to make the use of renewable energy sources and energy efficiency an affordable solution for all its potential users.

- 2.4 The Bank considers supporting renewable energy and energy efficiency as top priority as stated in its Sustainable Energy and Climate Change Initiative – SECCI launched in November 2006.
- 2.5 This project is in line with the Bank's Country Strategy with Mexico, approved by the Bank's Board of Executive Directors on 27 March 2002, which proposes focusing the Bank's operations on four priority vectors: (i) modernization of the social sector and poverty reduction; (ii) integration; (iii) modernization of the State and subnational decentralization and development; and (iv) improvement of private sector productivity. Strengthening of the capacity of subnational governments is a basic requirement within the strategic vector of modernization of the State, not just for purposes of preserving the macroeconomic and political stability of its spheres of influence and of the country, but also to make significant progress on other important development challenges, such as improvements in the delivery of basic social services.

### **III. Program objective and description**

- 3.1 The program objective is to provide support to a pilot project using renewable energy (photovoltaic solar panels) and energy efficiency for lower income residences connected to the electric grid in order to evaluate applied measures and replicate in other communities, develop activities related to energy efficiency standards and norms, attracting future investments in renewable energy and energy efficiency projects in several Mexican States.
- 3.2 Consulting services will be hired to develop the following program components:
  - a) **Component 1. Feasibility Studies:** Evaluation of solar energy resources available in the candidate sites, solar energy technologies (PV, hybrids, thermal solar, solar water heaters, etc), equipment installation and operational costs, alternative tariff schemes for the energy service provision, and preliminary selection and design of energy efficiency measures for the residences, like efficient lighting and refrigeration, as input for component 3 considering energy use profiles for individual homes to define the optimal combination of level of energy efficiency, energy supply from the grid and from solar energy.
  - b) **Component 2. Selection of beneficiaries:** develop and apply a selection criteria considering family income level, willingness to pay and to share information, energy consumption profile, energy efficiency measures to be adopted and diversity of habits.
  - c) **Component 3. Selection and implementation of energy efficiency (EE) measures and solar energy systems and project replication:** select, design and implement solar energy technologies and EE measures; prepare investment plans including new public and private loans for project replication.
  - d) **Component 4. EE standards and norms:** diagnostics of the applicable standards and norms at international, national and local levels; guidelines for the preparation of EE standards and norms for Baja California conditions; draft of EE standards and norms for Mexicali.

- e) **Component 5. Dissemination activities:** set up a dissemination campaign through media, technical seminars and the educational system to show and discuss project results and draw other potential developers and users considering the use of renewable energy and energy efficiency.
- f) **Component 6. Monitoring and Evaluation:** follow each activity contemplated in this initiative to ensure timely delivery and compliance with the agreed terms of reference. Monitoring mechanisms will include surveys, meetings with stakeholders, and technical evaluation of reports. Prepare a final evaluation of this initiative to be presented to the energy authorities and commissions to present evidence of the benefits and costs of renewable energy and energy efficiency.

#### IV. Cost and financing

Type of Expense	Number of Months	Cost per Month (US\$)	JCF Total (US\$)	Local Counterpart (US\$)	TOTAL (US\$)
<b>Component #1 - Feasibility Studies</b>					
Honorarium.	7.5	8,000	60,000		60,000
Travel:			30,000		30,000
Per diem:			18,000		18,000
<b>Component #2 - Selection of beneficiaries</b>					
Honorarium.	2.0	8,000	16,000		16,000
Travel:			8,400		8,400
Per diem:			4,500		4,500
<b>Component #3 - Selection/implement. of measures and systems and replic.</b>					
Honorarium.	10.0	8,000	80,000		80,000
Travel:			21,000		21,000
Per diem:			10,000		10,000
<b>Component #4 - EE standards/norms</b>					
Honorarium.	12.0	8,000	96,000		96,000
Travel:			21,000		21,000
Per diem:			10,000		10,000
<b>Component #5 - Dissemination activities</b>					
Honorarium.	3.0	6,000	18,000		18,000
Travel:			3,000		3,000
Per diem:			4,500		4,500
<b>Component #6 – Monitoring/Eval.</b>					
Honorarium.	3.0	6,000	18,000		18,000
Travel:			3,000		3,000
Per diem:			4,500		4,500
<b>Overhead:</b>			186,100		186,100
<b>Equipment</b>			112,000		112,000
<b>General support:</b>				190,000	190,000
<b>Contingencies</b>			25,000		25,000
<b>TOTAL</b>			749,000	190,000	939,000

#### V. Executing agency and execution structure

- 5.1 The executing agency will be the IDB, in close coordination with the Government of Baja California (*Secretaría de Planeación y Finanzas*), and the Energy Efficiency

Commission (CONAE) to provide all the necessary guidance and orientation to implement this initiative.

- 5.2 Within the IDB, the Energy Division of the Infrastructure and Environment Sector Department, with support from the COF/CME, will oversee the work to be performed by the consultants contracted in order to ensure that all activities are conducted within the timeframe agreed. IDB will be responsible for processing the payments for the work carried out by the consultants, while BC will be for presenting to the Bank progress reports and/or other information deemed necessary for the successful execution of this operation.
- 5.3 Taking into consideration the project nature of this proposed initiative, it will be important to conduct close monitoring during execution to ensure timely compliance of all the activities. Equally important, BC, CONAE and the Bank will disseminate the work conducted in this TC, through seminars and/or workshops in Mexico.

## **VI. Major issues**

- 6.1 Special issues for analysis should be identified, beyond those that are common to most projects, including: demand, value added, institutional and financial sustainability, capacity to execute the program, ability to monitor and evaluate the program, overall dimension, ownership, if a need for phasing components/activities, and any special execution arrangements (e.g. if there is a need of a new law, decree, multi-agency participation). No major issues are expected for this proposal, except the timely execution of all activities contemplated in this initiative and availability of future investments to expand the initial pilot project. Given the firm commitment of federal, state and even potential users will offset this potential risk.
- 6.2 Community involvement is a key issue for the success of this initiative including its replication attracting new investments. Therefore, specific tasks to carry out surveys and consultations with potential users and NGOs interested in clean energy use will be developed in this operation to mitigate the risks of low acceptance of new technologies such as the ones proposed. Dialogues with potential investors and developers will also be carried out to minimize risks of not attaining project replication.

## **VII. Action Plan**

- 7.1 The proposal should be approved by the Bank in August 2008. One mission might be necessary for the preparation and processing of the proposal with a two-member team. The Bank's office in Mexico (COF/CME) will provide close support and monitoring of all the activities proposed in order to complete them in a timely and efficient manner.

## **VIII. Environmental and Social Strategy**

- 8.1 The TC is not expected to have negative social or environmental impact. The TC has been classified as Category C by the *Safeguard Policy Filter Report* (2008-07283358-2), and the *Safeguard Screening Form* (2008-07283834-2), and it will be revised in the next ESR.

## **IX. APPROVAL**

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Leandro Alves, Division Chief INE/ENE

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