

INTER-AMERICAN DEVELOPMENT BANK

CHILE

**CRUCERO SOLAR PHOTOVOLTAIC POWER PROJECT
(CH-L1076)**

Category B Project

**Environmental and Social Management Report
(ESMR)**

FEBRUARY 2014

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I. INTRODUCTION

A. Summary Table

1.1

Country:	Chile
Sector:	Renewable Energy
Name:	Crucero Solar Photovoltaic Power Project
Borrower:	A Chilean special purpose company
Sponsors:	SunEdison, LLC and SunEdison, Inc.
Project Cost:	Approximately US\$202.4 million
	IDB A-Loan: Up to US\$50 million
	CTF Loan: Up to US\$16 million

Environmental

Category:	B
Project Team:	Elizabeth Robberechts, Project Team Leader (SCF/INF); Rafael Matas (SCF/INF); Jan Weiss (SCF/SYN); and José Luis de la Bastida (VPS/ESG); Supervisor: Jean-Marc Aboussouan (Chief, SCF/INF)

B. Background

- 1.2 The project consists of the design, construction, operation and maintenance of an approximately 71.2 MWp photovoltaic (PV) power project, as well as its associated facilities. The facilities (the “Project”) are located approximately 15.4 km northeast of the city of Maria Elena and approximately 2.5 km west of the Loa River in Antofagasta, Chile, Atacama Desert, in the Antofagasta Region. The Project will be connected to the national grid – Sistema Inteconectado del Norte Grande (SING) – from a new substation using a nearby existing 220 kV transmission line owned by Transelec.
- 1.3 The Borrower will be a special purpose company created under Chilean Law for the construction and operation of the Project. The Project’s sponsors (Sponsors) are SunEdison, Inc. and SunEdison, LLC. SunEdison, Inc. is the former MEMC Electronic Materials, Inc., which changed its name in May 2013 and is a global leader in products manufacturing for the semiconductor and solar industries. SunEdison, Inc. was formed in 1959 and it has more than 5,600 employees in 25 countries. Its subsidiary, SunEdison, LLC concentrates in the development, engineering, construction, financing, operation and maintenance of solar PV plants of all sizes (i.e. utility, commercial and residential scale). SunEdison has interconnected more than 700 solar power plants worldwide representing

over 1.05 GW of capacity. Its current pipeline includes projects totaling 2.9 GW. SunEdison, LLC is has a multi-region engagement and partnership with IFC to finance projects in Asia, Africa and Latin America, including two solar PV projects in Chile, totaling 150 MWp: Llano de Llampos (100 MWp) and San Andrés (50 MWp).

- 1.4 SunEdison Chile Construction Ltda. (the "EPC Contractor" and the "O&M Contractor") has been selected as the EPC contractor as well as the O&M contractor and will also provide all engineering, procurement and construction services, as well as the operation, maintenance and asset management services for the Project.

II. PROJECT DESCRIPTION

A. Project Components

- 2.1 The project consists of the design, construction, operation and maintenance of an approximately 71.2 MWp photovoltaic (PV) power project, as well as its associated facilities. The facilities (the "Project") are located approximately 15.4 km northeast of the city of Maria Elena and approximately 2.5 km west of the Loa River in Antofagasta, Chile, Atacama Desert, in the Antofagasta Region (See Figure 1). The Project will occupy a total area of approximately 212 hectares (see Figure 2). The Project will be connected to the national grid from a new substation using a nearby existing 220 kV transmission line. The Project has a minimum anticipated life span of 25 years, and after this period, Project's life could be extended between 10 and 15 years.
- 2.2 The Project encompasses the installation or construction of the following components: i) erection of approximately 226,152 solar photovoltaic panels with a combined capacity of approximately 71.2 MWp; ii) construction of a new substation located in the northern section of the Project area; iii) tie in to an existing 220 kV transmission line to connect the solar facilities to the national grid (Sistema Interconectado del Norte Grande); iv) several smaller underground electrical cables within the Project area; v) construction and maintenance of approximately 6.8 km of access road exiting the highway (*Ruta 24*) and within the solar facilities; vi) construction of a two meter high security perimeter fence; and vii) construction of support buildings, including offices and control room.

Figure 1. General Project Location

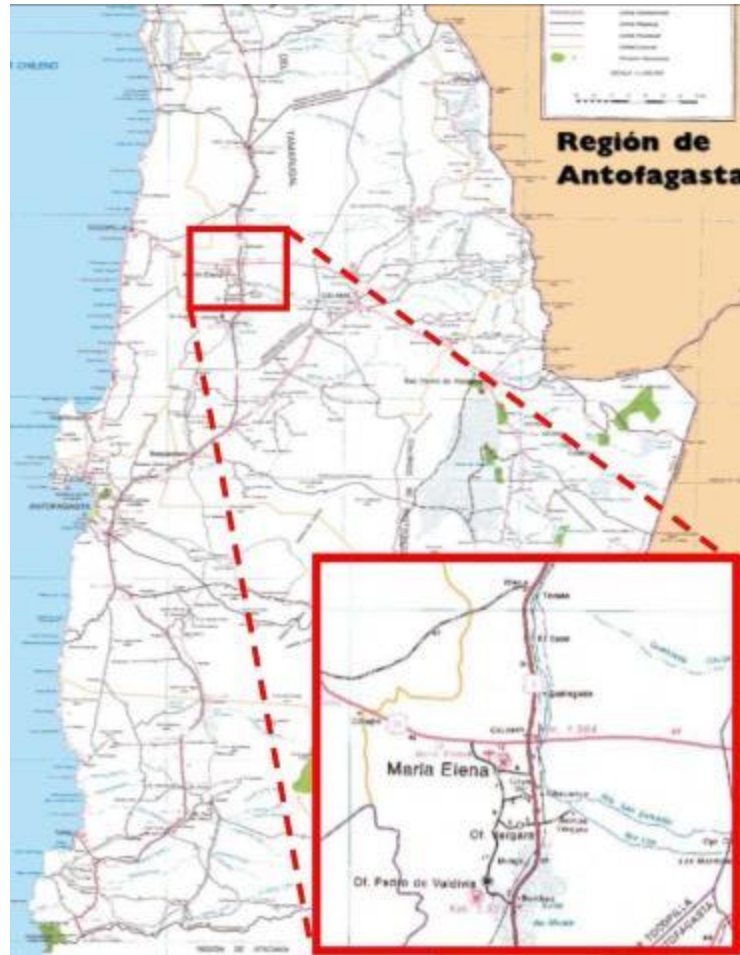
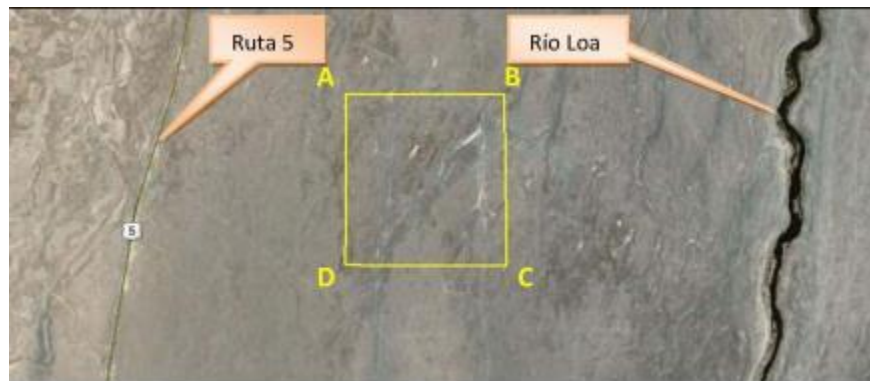


Figure 2. Project Area Map



2.3 Several small buildings and other infrastructure will also be constructed in order to support activities during the construction process and throughout operations. These facilities include prefabricated or modular units to house the invertors, parking areas, showers and lockers for workers, on-site offices, equipment storage area, waste storage

area, and hazardous waste storage areas. A large area will be dedicated to materials storage, such as solar panels, electrical cabling, and excavated soils. More precise information regarding various project components for the Project are detailed in Table 1 below, along with other project specific information.

Table 1: Project Component Information

Project Aspect	Crucero
Capacity	Approximately 71.21 MWp (up to 226,152 panels)
Energy Generation (annual)	201.41 GWh
Total Area (Disturbed Area)	212 ha (189.14 ha)
220 kV Transmission Line	Only internal connection required
Access Road	Needs some overhaul for heavy trucks of the 6.8 km access road from <i>Ruta 24</i> to the Project site.
Hazardous waste storage	Containers
Water Consumption (construction)	Maximum 81 m ³ /day – to wet roads Maximum 45 m ³ /day – domestic activities
Water Consumption (operations)	Maximum 0.6 m ³ /day – potable water Maximum 884 m ³ /year
Wastes (domestic)	Construction – 150 Kg/day Operation – 1.6 Kg/day
Wastes (non-hazardous)	Construction – 150 Kg/day Operation – < 1.5 Kg/day
Wastes (hazardous)	Construction – 57.75 Kg/day Operation – 0.55 Kg/day
Air Emissions (CO² reduction) – Estimated	148,878 ton CO ₂ /year
Number of Workers	Construction – 200 average, 300 maximum Operations – 8 average, 20 maximum

B. Environmental and Social Setting

2.4 The Project area, 212 ha, lies approximately 15.4 km northeast of the city of Maria Elena – Community of Maria Elena, Tocopilla Province, Antofagasta Region-. The Project site is 1,163 meters mean sea level (MSL) and is located approximately 6.8 km far from highway *Ruta 24*. There is an access road from *Ruta 24* to the Project site; this road is in good condition but will need some overhaul to permit constant traffic of heavy trucks, mainly during the operation phase. The site is divided by the transmission line as well as by a former railway, which will remain but is not in use anymore. The site is located in a very flat area in the Atacama Desert, Antofagasta Region, which will need minor soil movements to install the facilities; additionally, the terrain consists of loose coarse sand with a few small stones which should not cause much problem for the implementation of

the Project. SunEdison has already done a geotechnical study, and currently is developing field tests in order to define the type of foundation.

- 2.5 The project site can be described as a natural desert habitat. The site has already been impacted by previous human activities related to construction of a high number of transmission lines. No protected areas or priority zones for conservation were identified in the Project area. Due to very little annual precipitation, the Project area does not support much life plant. No sensitive or protected plant species were identified in the Project area. The nearest important area containing vegetation are those areas around the Loa River, which is located 2 km east of the Project site. This area is known as the gulch of the Loa River (“*quebrada del río Loa*”).
- 2.6 Also due to the lack of rainfall and vegetation, no animal species surviving in the Project site have been identified. The DIA for the Project do not identify any sensitive or protected animals potentially occurring within the Project site. The site visit conducted during the Environmental and Social Due Diligence confirmed the lack of vegetation and wildlife on the site projects and the surrounding area, with the exception of the Loa River area 2 km east of the Project site where riparian vegetation was observed.

Social Setting

- 2.7 The city of Maria Elena is a saltpeter community of approximately 7,530 individuals (4,298 men and 3,232 women) based on the 2002 census. The community survives on the only private saltpeter company, Sociedad Química y Minera (SQM). However, the city is experiencing losses in population because of migration to bigger cities, which can offer better job and academic opportunities. According to the Instituto Nacional de Estadísticas (INE), it is projected that the population of Maria Elena will dwindle to 3,410 people in 2012 and 1,860 in 2020. Most of the people, at Maria Elena, are not the owners of their houses since these houses belong to SQM – 77.85% of the houses –; the rest of the properties are rented (12.84%), owned (4.44%), and free (4.87%).
- 2.8 Access to services in the areas is generally good with the majority of homes containing sewer, water and electricity. The city is very small to have a public transportation system; however, it is part of the interprovincial transportation system to connect its population with other cities. The area has some kindergartens, one public elementary school and one technical college. Residents also have access to health care through a small rural health facility and a private hospital managed by SQM.

C. Project Schedule and Workforce

- 2.9 Based on information provided in the DIA and during the due diligence mission, construction on the project is scheduled to begin by March of 2014 with an anticipated eleven months to one year construction period. Operations are scheduled to commence no

later than first quarter of 2015. The Project is expected to have approximately 200 to 300 workers during the peak of the construction. It is currently anticipated that approximately 8 to 20 employees will be required during operations. These individuals will be present primarily to fulfill any maintenance operations required on equipment. Security guards will be in place 24 hours a day.

D. Alternatives Analysis

- 2.10 The project did not include a formal report detailing the analysis of alternatives as part of the DIA, nor does the Government of Chile require one. SunEdison did conduct its own internal procedure to identify several alternatives site locations and a selection process ensued to identify the optimal location. The criteria employed by SunEdison for the definition of the sites was to first locate the geographical area of the country which presented optimal conditions for the generation of solar energy (high solar radiation). The company identified possible sites within the Atacama Desert, , which they evaluated against factors such as environmental quality of the land, ownership of the land, proximity to existing infrastructure (substations and transmission lines), accessibility, distance from human settlements, and alternative uses.
- 2.11 The site selected appear to be ideal as it is: i) Government-owned land with no people living on the land or otherwise utilizing the land; the closest settlement is 15.4 km away avoiding disruption of the lives of community ii) there is a transmission lines owned by Transelec; both transmission lines are in conditions to transmit the energy generated by the Project; iii) existing roads and bypasses allow easy access without disrupting the lives of community; and iv) the land is not well suited to sustain other uses.

III. COMPLIANCE STATUS AND PROJECT STANDARDS

A. Appraisal Process and Local Requirements

- 3.1 Law No. 19.300 Ministerio Secretaria General de la Presidencia sobre Bases Generales del Medio Ambiente (9 March 1994), Articles 5-11 (excerpt 7) allow projects determined to have minimal environmental and social impacts to be exempt from preparing an Environmental Impact Assessment (EIA) for the project. These projects must prepare and present a Declaración de Impacto Ambiental (DIA). A DIA for the Project was presented to the República de Chile Comisión de Evaluación on 16 August 2012. The Project was approved and the Resolución de Calificación Ambiental (RCA) was issued on 14 June 2013 by the Comisión de Evaluación de la Región de Antofagasta.
- 3.2 In conjunction with the DIA, the Project was also subject to conducting archeological survey within the Project area. The archeological surveys did not reveal the presence of any archeological artifact or monument. However, the project will be required to implement a Chance Find Procedure and contract an archeologist to be present during

initial earthworks to ensure implementation of adequate measures in case of any archeological find.

- 3.3 SunEdison has obtained from the National Assets Ministry (“*Ministerio de Bienes Nacionales*”) the “Adjudicatory Decrees” (“*Decretos de Adjudicación*”) for the use of the land. The corresponding 30-year “Concession Agreements” (“*Contratos de Concesión Onerosa*”) will be executed between January and February 2014.

B. IDB Safeguard Policies

- 3.4 The Project triggers the following directives of IDB’s OP-703 Environmental and Safeguards Policy: B.1 Bank Policies; B.2, Country Laws and Regulations; B.3, Screening and Classification; B.5, Environmental Assessment; B.6, Consultation; B.7, Supervision and Compliance; B.9, Natural Habitats and Cultural Sites; B.10, Hazardous Materials; B.11, Pollution Prevention; and B.15, Co-Financing Operations. The OP-102, Disclosure of Information Policy also applies for this Project as well as the Gender Equality in Development Policy, OP-761. Based on available documentation and observations during the due diligence mission, the OP-710 on Involuntary Resettlement will not be trigger for this Project as no resettlement or economic displacement will occur as a result of the Project. The OP-704 Natural and Unexpected Disasters Policy will also be triggered as the Project occurs in an active earthquake area.
- 3.5 Table 1, below, illustrates the Project’s capacity to comply with IDB’s various policies and directives.

Table 1: Compliance with IDB Policies and Directives

Policy / Directive	Applicable Aspect	Compliance Rationale
OP-703 Environmental and Safeguards Compliance		
B.1 Bank Policies	Compliance with applicable IDB policies	The Project is currently in full compliance with all IDB policies and directives. The implementation of the ESMP will ensure the Project remains in compliance once construction commences.
B.2 Country Laws	Compliance with country laws and regulations	The Project is in full compliance with all Chilean laws and regulations.
B.3 Screening and Classification	Application of appropriate	The Project has been screened using the Bank’s toolkit and has been classified as a

Policy / Directive	Applicable Aspect	Compliance Rationale
	classification	Category B operation.
B.4 Other Risk Factors	N/A	N/A
B.5 Environmental Assessment Requirements	Application of adequate assessment process	In accordance with both Chilean regulations and Bank policies for Category B projects, Environmental Impact Assessments were prepared for the Project.
B.6 Public Consultations	Project has undergone appropriate public consultation	The Project plans to conduct at least one public informative meeting before starting construction activities.
B.7 Supervision and Compliance	Internal supervision and reporting and Bank supervision	The Project's ESMP will contain provisions for self-monitoring and supervision, as well as supervision of contractors, in order to maintain a high level of compliance. Additionally, Government entities, as well as the IDB Environmental Safeguards Unit, may conduct their own supervision of the Project. The Project will submit semi-annual compliance reports during construction and annual compliance reports during operation.
B.8 Transboundary Impacts	N/A	The Project does not impact neighboring countries.
B.9 Natural Habitats and Cultural Sites	Conversion of natural habitat, impact on IUCN protected species	The project site, in the desert of northern Chile, is considered natural habitat. This habitat type is abundant in the area and the site does not contain any protected areas and no sensitive species of flora or fauna were documented in the DIA or observed on the site. The project does not present a significant conversion of natural habitat.
B.10 Hazardous Materials	Waste management	The project's ESMP will provide a strict waste management program. Due to the nature of the operation, few hazardous materials are stored on-site during construction (minimal amounts of fuel, oil, and lubricants) and no hazardous materials

Policy / Directive	Applicable Aspect	Compliance Rationale
		will be stored at the facility during operations. A licensed contractor will be contracted to handle the waste management, both general waste and hazardous wastes.
B.11 Pollution Prevention	Pollution control and CO2 emissions	The project's ESMP will provide a strict waste management program including a robust recycling program. A certified contractor will be hired to remove wastes from the project site on a regular basis. The project will reduce the country's CO2 emissions by approximately 148,878 tons CO2/year (estimated) by providing a source of green energy.
B.12 Projects Under Construction	N/A	N/A
B.13 Non-Investment and Flexible Lending Instruments	N/A	N/A
B.14 Multiple Phase Loans	N/A	N/A
B.15 Co-Financing Operations	Potential presence of other lenders	Other potential lenders, including the Overseas Private Investment Corporation (OPIC) are also conducting separate due diligence exercises. The Project's ESMP will comply with other lender's policies and assist the Project to maintain a high level of compliance.
B.16 In-Country Systems	N/A	N/A
B.17 Procurement	N/A	N/A
OP-710 Involuntary Resettlement	N/A	No involuntary resettlement or economic displacement will occur as a result of the Project.
OP-765 Indigenous Peoples	N/A	No indigenous communities or peoples will be negatively affected by the Project.

Policy / Directive	Applicable Aspect	Compliance Rationale
OP-704 Disaster Risk Management Policy	Earthquake zone	The Project is located in an active earthquake zone; however, the site is located on a desert plain well away from rock fall from the mountains. Minimal, small-scale infrastructure will not be susceptible to significant damage or destruction. The Project ESMP will also contain Emergency and Evacuation Plans.
OP-761 Gender Equality in Development	Avoiding gender discrimination within the Project or as a result of the Project. Providing opportunities for women.	Women will be incorporated into the labor force when feasible; no gender discrimination will occur due to the Project. The Project is currently attempting to identify social programs to benefit women.
OP-102 Access to Information Policy	Project information disclosure	IDB has made all relevant Project documentation available on its website.

C. Project Requirements and Standards

- 3.6 SunEdison, the EPC and O&M Contractor, does not have an accredited corporate Environmental Management System such as ISO 14001:2004 standards for Environmental Management, or OHSAS 18001:2007 Occupational Health and Safety Management standards; however, SunEdison has significant experience in the construction and operation of solar facilities in Chile since this company has already two projects operating in the Atacama Desert. These projects have been financed by the International Financial Corporation (IFC) and by the Overseas Private Investment Corporation (OPIC); thus, based on this experience, SunEdison has strong understanding of environmental and social requirements and expectations for high performance that will be required by the Bank. Nevertheless, SunEdison must prepare documentation for the Bank illustrating how the Project will implement the Environmental Management System, including staff to be allocated to the Project and their specific responsibilities.
- 3.7 The Project is in the process of preparing a project-specific Environmental and Social Management Plan (ESMP). The ESMP will outline SunEdison's environmental and social responsibilities including waste management, traffic management, health, safety and labor, monitoring and auditing. The ESMP will also address specific project location related issues such as potential earthquakes, flooding and inundation areas and detail measures required (if any) to mitigate any potential issues.

- 3.8 SunEdison will develop a Corporate Social Responsibility Program which will contain their Social Support Program and a Community Relations Plan. The company is currently working on identify projects which would benefit from the Social Support Program. One potential project would be that one focused on develop tourist programs in the area of Maria Elena and integrate the solar facilities as a part of the tourist circuit in the area. The Community Relations Plan will contain a Grievance Mechanism.
- 3.9 Currently the Project complies with the Bank's safeguard policies as verified during the due diligence mission and documentation review. Supervision missions conducted during the construction and operations phases will ensure continued compliance with Bank policies.

IV. KEY ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS

A. Summary of Key Impacts and Risks

- 4.1 The due diligence mission conducted in October 2013 identified the main impacts and risks as: conversion of natural habitat, air emissions related to dust and particulate matter, waste management, potential influx of foreign workers due to the lack of available local workforce, and traffic issues due to a large increase in vehicular traffic during construction.

B. Environmental Impacts and Risks

- 4.2 The primary impact of concern identified in the environmental documentation was the conversion of natural habitat and dust emission during construction activities. The site visit and ESG's Decision Support System (DSS) revealed that approximately 212 of natural desert habitat would be impacted. As over six million ha of this habitat exist in the area, this does not constitute a significant degradation to the overall habitat. The Project area does not constitute a significant degradation to the overall habitat. The Project area does not contain any sensitive or protected areas or flora or fauna.
- 4.3 In order to reduce the impact to water resources, SunEdison will limit the number of cleaning events for the solar array and will use modern technologies to clean the panels. Considering the weather conditions in the area, the panels will be clean a maximum of six times per year, independently of the type of technology to be implemented. Among the cleaning alternatives are: water efficient high-pressure system, washers, and scrubbers. No chemicals or components will be used with the water. It is estimated to use 884m³/year to clean the panels six times per year.

C. Social Impacts and Risks

- 4.4 The due diligence mission to the Project site did not identify any significant social impacts to the nearby population. This is mainly the result of factors such as (i) the low-

impact nature of technology associated with solar plants (ii) the fact that the sites are distant from major human settlements, the closest population – Maria Elena- is located approximately 15.4 km from the Project site; and (iii) the entire Project site is owned by the Government of Chile and no economic activity occurs on the land.

- 4.5 Land acquisition for the Project was another topic that ended up being an issue of no concern. The solar plant will be constructed on government land that is unclaimed and unused by the local population of any other third parties.

D. Cumulative Impacts

- 4.6 A formal cumulative impacts analysis was not conducted for the Project, nor is any such analysis required by the Government of Chile. The Projects will be constructed in a rural environment, isolated from any settlements or other infrastructure. No other projects are currently known to be coming to the area in the immediate future; however, the surrounding environment could support more solar facilities. The surrounding areas are well known for mining activities and additional mining operations could be permitted in the future.

- 4.7 The success of the Project could attract more growth in the area particularly in the solar energy sector. This potential growth would possibly result in net positive social impacts on the surrounding communities by providing employment to local workers and contracting local services as well as providing beneficial social programs to local schools and community based programs and other social programs such as donation of recyclable goods to the community.

E. Positive Impacts

- 4.8 The Projects will likely result in net positive benefits for the nearby communities as well as the country, in general. The Project, during construction phase, will provide direct employment to approximately 200 average and 300 maximum workers. A preference for workers from local communities will be provided; however, due to the extremely low unemployment rate of the area due to numerous employment opportunities in the saltpeter and mining sector, the Project may have to look to larger cities outside of the Project area to fulfill its labor requirements.

- 4.9 The Project will supply electricity and will reduce the reliance on fossil fuels in the SING, on which currently over 99% of the installed capacity comes from coal, fuel-oil, diesel and natural gas, resulting in a greenhouse gas (GHG) emissions factor of 0.806 tCO₂e/MWh, the highest of any of the major Latin American electricity grids.

- 4.10 The Project will work with the community and local officials to identify potential social programs on which the Project can support. Preference will be given to social programs

which benefit vulnerable groups in the area such as women and children groups. School field trips, as well as site visitations for other visitors are envisioned for the future when the plant is in full operation to teach school children and the community about solar energy.

V. MANAGEMENT AND MONITORING OF ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY AND LABOR IMPACTS AND RISKS

A. Description of Management Systems and Plans

- 5.1 The solar plant will operate under an ESMP, which will be developed according to the requirements established by the Chilean legislation, SunEdison experience in other similar solar energy projects in Chile, and in the line with the Bank's policies. The ESMP will include regular monitoring of the facilities and semi-annual reports will be prepared during construction concerning noise, air emissions, traffic issues, waste management, health safety and labor performance, as well as other issues. Detailed logs will be maintained to document worker trainings, worker health certificates, work site incidents and accidents, waste registers, and vehicle maintenance. A semi-annual report will be provided to the Bank during construction and annual reports will be provided during operations.
- 5.2 The most relevant social activities that have been implemented and will have to be implemented SunEdison to develop a good relationship with the local communities include:
- i. **Public Consultations.** The Project will conduct one public informative meeting with community members and local authorities before the construction activities. The public informative meeting will have to include women participation and other vulnerable groups in the community.
 - ii. **Grievance Mechanism.** The Project will implement a Grievance Mechanism to allow stakeholders an opportunity to voice their opinions, concerns, complaints, or comments outside of the public informative meeting. These comments will be recorded in a database, as well as the Project's responses to these comments in order to monitor the resolution of any grievances. Issues will be tracked to determine how the Project respond to complaints and works with the complainant to resolve outstanding issues.
 - iii. **Community Relations Plan.** The goal of this Plan will be to establish community participation mechanisms and build positive relationships with interested groups to avoid or minimize potential social conflict situations during project execution. This plan will provide both a general framework and specific procedural guidance for a continuous dialogue between the local population and representatives of the company.

- iv. Potential Social Programs. SunEdison will consult with local authorities and community groups to identify potential social programs, which will include programs to develop tourism in the area.

B. Monitoring and Supervision

- 5.3 This project includes different levels of supervision. The most relevant ones include (i) Internal project supervision, within the corporate structure of SunEdison and defined within the ESMP; (ii) Bank supervision, carried out regularly by the project team with the support of specialized consultants as needed; and (iii) inspections from the Superintendent for the Environment, and entity of the Chilean Government responsible for enforcement of compliance with environmental laws and regulations. The Bank will conduct a supervision mission following construction activity or near the end of the construction phase unless monitoring reports indicate a need to conduct an earlier supervision mission.

C. Indicators

- 5.4 In the case of environmental indicators, the project will be assessed in terms of compliance with the IDB Safeguard Policies and compliance with local regulations. The annual report provided by the Borrower will detail vital information including calculated reduction of CO₂ emissions. Based on current energy production in Chile, the Crucero Project is expected to create a reduction of over 148,878 ton CO₂/year.
- 5.5 In the case of the social support programs, potential projects or programs must be identified through continued consultation with local authorities and community groups. Following project identification, a chronogram of activities will be developed which will include a list of components, specific activities for each component, and expected results. Results of the social programs will be reported in the semi-annual environmental and social monitoring reports.

VI. REQUIREMENTS TO BE INCLUDED IN THE LEGAL AGREEMENTS

- 6.1 Based on the ESDD conclusions, the conditions described below are required to be fulfilled for the Project prior to loan approval/financial close and throughout the life of the loan, in form and substance satisfactory to IDB:

Throughout the Life of the Loan

- 6.2 The IDB will require within its Loan Agreement that the Project and each Project party (Sponsor/Borrower/Company) and other Project/Environmental parties, including construction companies and operators, and any contractors and sub-contractors will, at all times during the life of the Loan Agreement, comply with the following requirements:

1. All applicable environmental, social, health and safety, and labor regulatory requirements of Chile.
2. All requirements associated with any environmental, social, health and safety, and labor related permits, authorizations, or licenses that apply to the Project, the Borrower or any party responsible for executing the Project or its mitigation measures.
3. All environmental, social, health and safety, and labor requirements of the Project contracts and any subsequent modifications.
4. All aspects and components of all of the Project's environmental, health and safety, social and labor documents.
5. All relevant IDB policies such as the Environment and Safeguards Compliance Policy (OP-703), the Disaster Risk Management Policy (OP-704) and the Disclosure of Information Policy (OP-102), the Involuntary Resettlement policy (OP-710), the Operational Policy on Indigenous Peoples (OP-765) and the Gender and Equity in Development Policy (OP-270) and their respective guidelines.
6. Comply with all the requirements indicated in the Environmental and Social Action Plan (ESAP).

Prior to First Disbursement

- 6.3 The Project will develop and implement a specific ESMP to assess and mitigate the negative impacts associated with the Project. The ESMP will include a defined monitoring and supervision regime. All project contractors will also be required to comply with the actions described in the ESMP.
- 6.4 The Project will appoint an Environmental and Social Specialist (new hire or designate existing employee) for the duration of the construction period to prevent and manage potential impacts and supervise and monitor mitigation measures. SunEdison shall present to the Bank an updated organizational chart illustrating roles and responsibilities throughout the project cycle.
- 6.5 The Project will conduct community engagement activities with local authorities and community groups to identify and implement potential social programs. The Project will look specifically to support social programs directed at benefitting women and children.
- 6.6 The Project will develop and submit to the Bank an Emergency Action Plan.
- 6.7 The Project shall demonstrate to the Bank that all pending land use permits have been obtained. Copies of relevant permits, contracts, and agreements shall be submitted to the Bank.

Prior to Each Disbursement

- 6.8 The Sponsor/Borrower/Company shall certify compliance with all environmental social, health and safety and labor requirements in the loan agreement, including any Corrective Action Plans if applicable.

Prior to Construction

- 6.9 SunEdison shall develop and implement a grievance mechanism that corresponds to best industry practices (IFC Good Practice Note, Addressing Grievances From Project-affected Communities, dated September 2009) for the public.
- 6.10 SunEdison will conduct at least one public informative meeting before starting construction activities; and the company will send to the Bank adequate documentation as evidence of the informative meeting.
- 6.11 SunEdison shall incorporate into all contractors' contracts clear regulations and penalties for non-compliance with policies, plans and programs (including mitigation measures) adopted by the company. This will include clear procedures and timing for reporting environmental, health and safety related incidents/accidents and a specific monitoring program to assess causes of incidents/accidents and track performance of the corrective measures. The Company shall provide evidence of supervision and oversight of the contractors.
- 6.12 The Project shall present the establishment of a Chance Find Procedure for cultural sites and archeological artifacts to be implemented throughout the construction period.

Prior to Operations

- 6.13 The Project will develop and implement a project specific ESMP for Operations to assess, mitigate the negative impacts associated with the Project during the operations phase. The ESMP will include a defined monitoring and supervision regime. All project contractors will also be required to comply with the actions described in the ESMP.
- 6.14 The IDB or an E&S consultant appointed by the IDB shall certify compliance with all E&S requirements of the loan agreement including any Corrective Action Plans if applicable.

PHOTO LOG – Crucero Photovoltaic Solar Plant



Figure 1: Project area- view to north and access road



Figure 2: Project area- view to south



Figure 3: Project area- view to east



Figure 4: Project area- view to west