INTER-AMERICAN DEVELOPMENT BANK

CHILE

LOS LOROS SOLAR PHOTOVOLTAIC POWER PROJECT (CH-L1092)

Category B Project

Environmental and Social Management Report (ESMR)

SEPTEMBER 2013

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I. INTRODUCTION

A. Summary Table

1.1

Country:	Chile
Sector:	Renewable Energy
Name:	Los Loros Solar Photovoltaic Power Project
Borrower:	Solairedirect Generation V SpA.
Sponsors:	Solairedirect
Project Cost:	Approximately US$XXX million IDB A-Loan: Up to US$XX.X million
Environmental Category:	B
Project Team:	Elizabeth Robberechts, Project Team Leader (INF/CCH); Rafael Matas Trillo (SCF/INF); Jan Weiss (SCF/SYN); Ichiro Toda (SCF/SCF); Andre Averbug (SCF/SCF); Vanesa Ruperez (SCF/SCF); Augusto Repetto (LEG/NSG); José Luis de la Bastida (VPS/ESG) and Christiaan Gischler (INE/ENE); with the support of Griselda Gonzalez Sheehan, Project Assistant; under the supervision of Jean-Marc Aboussouan, Division Chief (SCF/INF).

II. PROJECT DESCRIPTION

A. Project Components

2.1 The Project consists of the construction, operation and maintenance of a 53 megawatt (MW) photovoltaic (PV) power plant and its associated facilities which include the construction of a 6.78 kilometer (km), 110 kV, transmission line that will connect to Los Loros Substation. The Project will supply electricity to meet growing demand in the Sistema Interconectado Central (SIC). The PV plant is located approximately 6km southwest of Los Loros village; and the transmission line (Los Loros Substation) is located approximately 3km north of Los Loros. Los Loros is located in the Comuna (Commune) Tierra Amarilla, Province of Copiapó, Región de Atacama, Chile –See Figure1–. The Project will occupy permanently a total area of 113.6 hectares (ha), which includes 100 ha for the solar facilities and 13.6 ha for the transmission line right of way (20 m wide)–See Figure2–. The estimated operational life of both the PV plant and transmission line is 25 years.

2.2 The Project encompasses the installation and construction of the following components: i) erection of approximately 178,200 solar photovoltaic panels with a combined capacity of 53MW; ii) construction of a new substation in the PV plant site iii) several smaller underground electrical cables within the Project area; iv) improvement and maintenance of approximately 2.28km access road exiting the road Ruta C-431 and within the solar facilities; v) construction of a two meter high perimeter fence; vi) construction of support buildings, including offices and a temporary worker camp; and vii) construction of a 6.78km, 110 kV, transmission line with approximately 38 electrical towers, to connect the solar facilities to the transmission line of the local operator company - Transnet.

2.3 The PV plant is estimated to have a 9 month construction period, including the 4 month period for the transmission line; and an operational life of both the PV plant and transmission line of 25 years. The Project will employ a maximum of 128 workers during construction and no workers during operations since the operation of the PV facilities will be managed remotely from France and Chile

Figure 1 - General Project Location

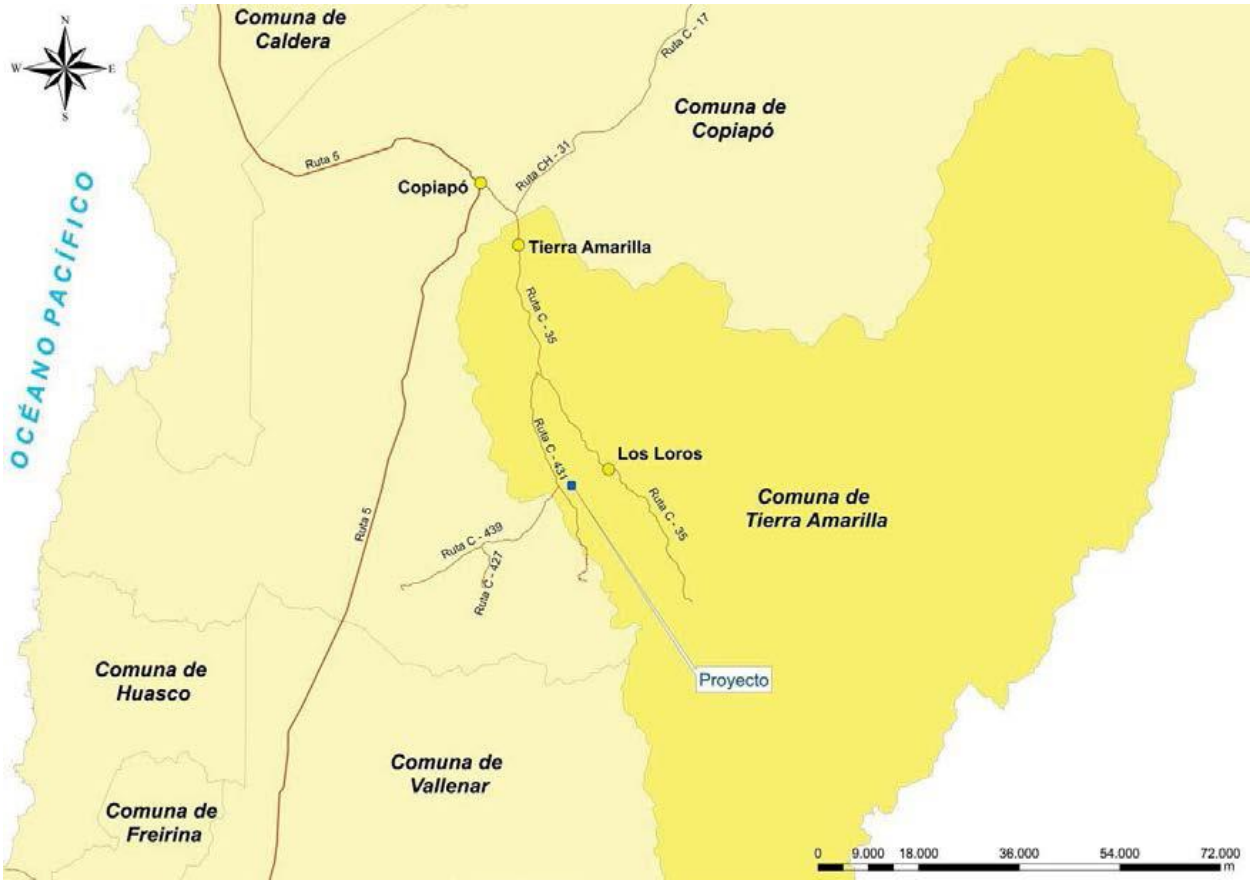

Figure 2 - Project Area Map

Table 1: Project Component Information

Project Aspects -PV Plant (PVP) and Transmission Line (TL) -	
Capacity	53 MW (Approx.178,200 panels)
Energy Generation (annual)	Approx. 116 GWh
Total Area (Disturbed Area)	PVP 100 ha (to cofirm) and 13.6 ha (to confirm)
110 kV Transmission Line	Construction of a 6.78 km transmission line to connect Los Loros substation
Access Roads	Needs some overhaul of 2.28 km access road from exiting the road Ruta C-431 and within the solar facilities
Hazardous waste storage	Containers
Water Consumption	Construction: Maximum 384 m^3/month – potable water Average 192 m^3/month – potable water Water for humidifying activities 200 m^3/month
	Operation:

Project Aspects -PV Plant (PVP) and Transmission Line (TL) -	
	Maximum 15 m^3/month – potable water Average 0 m^3/month – potable water No water will be used for cleaning the panels.
Solid Waste PVP and TL	
Domestic wastes	Construction – 1.92 ton/month
	Operation – 1.0 ton/month
Non-hazardous wastes	Construction – 25.66 ton/month
	Operation – 0.15 ton/month
Hazardous wastes	Construction – 0.76 ton/month
	Operation – 0.18 ton/month
Wastewater PVP and TL	
Domestic wastewater	Construction – 204.8 m^3/month
	Operation – 0 m^3/month
Industrial wastewater	Construction – 0 m^3/month
	Operation – 0 m^3/month
Air Emissions (CO_2 reduction) – Estimated	30,000 ton CO_2/year [to confirm]
Number of Workers for the PVP and TL	Construction – 128 people/month (peak)
	Operations – 0 (only occasionally 5 people)

B. Environmental and Social Setting

2.4 The Project area, which encompasses 113.6 ha, including 13.6 ha to be occupied by the transmission line, lies approximately 3 km east of the Los Loros town – Community of Tierra Amarilla, Copiapó Province, Atacama –. The site of the solar plant is approximately 1,520 m above mean sea level (AMSL) and is located approximately 2.28km far from the road Ruta C-431. There is an access road from Ruta C-431 to the Project site (2.28 km); this road will need some overhaul to permit constant traffic, mainly during the operation phase. The site is located in an irregular area including hills (highest point, approximately 1,540 m AMSL) and depressions (lowest point, approximately 1,500 m AMSL) in the Atacama Desert Region. The Project site will not need considerable earth-movements since solar panels will follow the topography of the site. The route of the transmission line, approximately 6.78 km, will occupy 20 m of right of way. The terrain elevation of the transmission line starts approximately at 1,510 m AMSL in the area of PV plant and ends at 890 m AMSL at the connection point in the Los Loros substation. The highest point of the transmission line is on an altitude of approximately 1,700 m AMSL. In order to connect the Los Loros substation, transmission line will cross above the Bosque de Preservación (Preservation Forest) that borders the Copiapó River. The transmission line will not cause any impact on this forest since any tower will not be raised on this protected area.

2.5 The Project area can be described as a natural desert habitat. Nonetheless, the site has already been impacted by previous human activities related to construction of access roads for the mining industry, primarily. 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. Also due to the lack of rainfall and vegetation, no animal species surviving in the Project site have been identified. The site visit conducted during the Environmental and Social Due Diligence confirmed the lack of vegetation and wildlife on the site Project's and the surrounding area.

2.6 No protected areas or priority zones for conservation were identified within the Project area, except the small segment, approximately 100 m wide, on the Copiapó River, which will not be impacted. During the site visit was confirmed that the Project will not cause any impact on this protected area. The available ecological baseline information indicates that the Project area (PV plant and transmission line) is neither permanent natural habitat nor a critical habitat, and it is only a transit area (footprints were identified) for the following species, which all of them have an IUCN Red List Status (Least Concern): Lama guanicoe –Guanaco- (Endanger to Chile), Puma concolor –Puma- (Near Threatened to Chile), Abrocoma bennettii –Ratón chinchilla- (Insufficiently Known to Chile), Liolaemus atacamensis –Lagartija de Atacama- (Rare to Chile); Pseudalopex culpaeus –Zorro culpeo- (Minor Concern to Chile); and Pseudalopex griseus –Zorro chilla- (Minor Concern to Chile).

2.7 During the site visit, it was confirmed that part of the PV plant site has been previously – no exact date registered– disturbed due to the development of crop fields (cactus fruit), which have been abandoned. Nonetheless, during the archeological studies, three finds were identified: evidence of two historic (after the Pre-Hispanic period) mining camp areas (10 m diameter each one) – medium patrimonial value; and the evidence of one Pre-Hispanic lithic workshop area (10 m diameter) – medium patrimonial value. Specifically, the *Consejo de Monumentos Nacionales* (CMN) has required isolating and protecting these sites (restricted area) with a 1.2m fence to prevent any damage on the structure, and no construction works will be performed on them.

2.8 In the case of the transmission line route, three archeological finds were identified: one historic (after the Pre-Hispanic period) mining camp area (10 m diameter); one historic (after the Pre-Hispanic period) rock structure (10 m diameter); and one no dated pile of rocks (*apacheta*) (10 m diameter). In order to prevent any damage or disturbance on these finds, the CMN has required isolating and protecting these sites (restricted area) with a 1.2m fence to prevent any damage on the structure, and no construction works will be performed on them. The Project will implement for both the PV plan and transmission line sites a Management and Contingency Plan of Archeological Monuments, which will be managed by an archeologist during the construction phase. The company will have to send a final report to the CMN about the supervision and preservation of these archeological elements and sites during the construction phase.

2.9 Based on the current information and due diligence, both the PV plant and transmission line archeological finds do not constitute critical sites under Directive B.9 – Natural Habitats and Cultural Sites.

Social Setting

2.8 The PV plant and the transmission line are located near Los Loros town (1,600 people approximately in 2012), which is a rural village part of the Commune Tierra Amarilla (13,948 in 2012). The main economic activities in this area are those related to the agriculture, tourism and mining activities. Both the PV plant and the transmission line are located approximately 6 km and 3 km (closest point-substation) northwest respectively of Los Loros. According to the information provided by the Corporación Nacional de Desarrollo Indígena (CONADI) and site visit during the due diligence, no indigenous communities live, use or depend upon the land that will be occupied by the Project. The land for the PV plan is private ownership, which will be leased to the Borrower for the next 25 years. Solairedirect has already signed an usufruct and servitude promise contract (*contrato de promesa de usufructo y servidumbre* in Spanish) – on 19 December 2012. The transmission line will cross through three properties of private ownership and one public ownership. Solairedirect expects to obtain the final Transmission Line Concession by December 2014. The request of the concession was posted on a local newspaper on October 10-11 2013. Currently, the private ownerships have signed the transmission line servitude agreement; in the case of the public ownership, it is expected this agreement will be ready on December 2014.

C. Project Schedule and Workforce

2.9 Based on information provided in the Declaración de Impacto Ambiental (DIA) and during the due diligence mission, construction on the Project is scheduled to begin by the end of 2014 with an anticipated nine-month construction period, including the four-month period for the transmission line; and an operational life of both the PV plant and transmission line of 25 years. The Project will employ a maximum of 128 workers during construction and no workers during operations since the operation of the PV facilities will be managed remotely from France and Chile

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. Solairedirect 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 Solairedirect 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 region, which they evaluated against factors such as environmental quality of the land, ownership of the land, proximity to an existing substation, accessibility, distance from human settlements, and alternative uses of land.

2.11 The site selected appears to be ideal as it is: i) No people living on the land or otherwise utilizing the land; ii) no protected areas are overlapped by the Project site, the transmission line will cross approximately 100m above a protected forest bordering the Copiapó River without causing any impact; 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 obtain a Declaración de Impacto Ambiental (DIA). The DIA for the Planta Solar Fotovoltaica Los Loros that includes the construction of a 6.78 km transmission line was submitted to the República de Chile - Comisión de Evaluación (CoE) – III Región Atacama on 26 July 2013; the project was approved and the Resolución de Calificación Ambiental (RCA) was issued by the CoE on 27 March 2014.

3.2 In conjunction with the DIA, the Project was also subject to conducting archeological survey within the Project area. The archeological surveys reveal three finds on the PV plant site and three finds on the transmission line rout, which were mentioned previously on this document. Thus, the Project will be required to implement a Management and Contingency Plan of Archeological Monuments and contract an archeologist to be present during initial earthworks to ensure the implementation of adequate measures to manage the archeological aspect.

3.3 The Project has already signed the usufruct and servitude promise contract for the PV plant on 19 December 2012. In the case of the transmission line, Solairedirect expects to obtain the final Transmission Line Concession by December 2014.

3.4 **Public Consultations.** The Project started with an ongoing informative consultation process on October, 2013. The main objective of this consultation process has been to disseminate information about the Project to obtain feedback from the community and address any community's environmental and social concern related to the implementation of the Project. The consultation process included surveys, eleven interviews and meetings with authorities of the local government, and community leaders and representatives from both the Comuna de Tierra Amarilla and Los Loros town. During the consultation process the main concerns of the interviewed people were water scarcity, environmental pollution because of the presence of mining companies in the area and agricultural processes, lack of basic community services such as health facilities, sewage system and housing. No specific concerns about environmental aspects of the Project were raised by the community during this consultation process, on the contrary the community sees the Project as an opportunity to mitigate environmental problems in the area such as air and land pollution. One of the main recommendations of the community, during the consultation process, was that the Project should generate at least temporary job opportunities.

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 is not triggered 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 is triggered - with a Low Risk classification - as the Project occurs in an active earthquake area. OP-765 Indigenous Peoples Policy is not triggered as the Project does not affect indigenous communities.

3.5 Table 1, below, summarizes the Project's compliance status with applicable IDB's policies.

Table 1: Compliance with IDB Policies and Directives

Policy / Directive	Applicable Aspect	Compliance Rationale
B.1 Bank Policies	Compliance with applicable IDB policies	The Project is currently in compliance with all applicable IDB policies and directives. The implementation of the ESMP will ensure the Project remains in compliance once construction commences.
B.2 Country Laws and Regulations	Compliance with country laws and regulations	The Project is in compliance with all applicable Chilean laws and regulations. Land purchase agreements and other permits are in the final process of completion.
B.3 Screening and Classification	Application of appropriate classification	The Project has been screened using the Bank's toolkit and has been classified as a 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, an Environmental Assessment – *Declaratoria de Impacto Ambiental* (DIA) – was prepared for the Project. The ESMP, in form and substance acceptable to the IDB, will be available prior to first disbursement.
B.6 Consultations	Application of adequate consultation processes	The Project started with an ongoing informative consultation process on October, 2013. The main objective of this consultation process has been disseminate the Project in the community to obtain feedback from the community and address

Policy / Directive	Applicable Aspect	Compliance Rationale
		any community's environmental and social concern related to the implementation of the Project
B.7 Supervision and Compliance	Monitoring of borrower's compliance with all Bank's environmental and social safeguard requirements	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, and archeological sites	The Project site, in the desert of Chile, is considered natural habitat. This habitat type is abundant in the area and the site is not located on any protected areas. The Project site is not a natural habitat of sensitive species of flora or fauna under IUCN Red List of Threatened Species. The project does not present a significant conversion of natural habitat. Six archeological monuments and evidences, three on the PV solar site and three on the transmission line site, have been found. However, these finds do not constitute critical sites.
B.10 Hazardous Materials	N/A	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 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 and	Pollution control and CO2 emissions	The project's ESMP provides a strict waste management program including a robust

Policy / Directive	Applicable Aspect	Compliance Rationale
Abatement		recycling program. A certified contractor will be hired to remove wastes from the project site on a regular basis. The project will avoid the country's CO_2 emissions by approximately 30,000 tonnes of CO_2-eq/year (estimated).
B.12 Project Under Construction	N/A	N/A
B.13 Noninvestment and Flexible Lending Instruments	N/A	N/A
B.14 Multiple Phase and Repeat Loans	N/A	N/A
B.15 Co-financing Operations	N/A	To be confirmed
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 adversely affected by the Project.
OP-704 Disaster Risk Management	Low Risk	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 the Project. The Project is currently attempting to identify social programs to benefit women.
OP-102 Access to Information	Project information disclosure	IDB will make all relevant Project documentation available on its website.

C. Project Requirements and Standards

3.6 Solairedirect has a Corporate Environmental Management System (EMS) based on international standards such as ISO 14001 for Environmental Management and OHSAS 18001 for Occupational Health and Safety Management. Additionally, this system has a specific Health, Safety and Environmental Policy for International Projects; thus, Solairedirect has a strong understanding of environmental and social requirements and international standards for high performance that will be required by the Bank. Nevertheless, Solairedirect has to prepare documentation for the Bank illustrating how the Project will implement the Environmental Management System for the Project, 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 Solairedirect´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 natural hazards and detail measures required (if any) to mitigate any potential issue. The final ESMP will be available in form and substance acceptable to the IDB.

3.8 Solairedirect 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 identifying projects that would be part of the Social Support Program. The Community Relations Plan will contain a Grievance Mechanism.

3.9 Currently the Project complies or is expected to comply 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 on June 2014 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 114 ha of natural desert habitat would be impacted. As over one million ha of this habitat exist in the area, 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. The closest protected area, is a preservation forest) that borders the Copiapó River,

which will be crossed by the transmission line to connect the Los Loros substation. The transmission line will not cause any impact on this forest since any tower will not be raised on this protected area.

4.3 In order to reduce the impact on water resources, Solairedirect will try not to use water for cleaning the solar array. Instead of use of water for the cleaning activities, Solairedirect will rather use when possible modern technologies based on dry cleaning, which are still under review to select the best option.

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; and (iii) and no economic activity occurs on the land –PV plant and transmission line.

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 and private 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.

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.

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 of the PV plant and the transmission line, will provide direct employment to approximately 128 workers. A preference for workers from local communities will be provided.

4.9 Additionally, the Project will also contribute to the achievement of one of the objectives of the IDB Country Strategy for Chile for the period 2011-2014, which includes the goal of increasing generation capacity from low carbon sources by 500 MW by 2014.

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 the case of women.

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, Solairedirect experience in other similar solar energy projects worldwide, are in the line with the Bank's policies. The ESMP will include regular monitoring of the facilities and quarterly 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 quarterly 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 by Solairedirect to develop a good relationship with the local communities include:

a) Public Consultations. In addition to the ongoing informative consultation process that started on October 2013, the Project will conduct additional public consultation meetings with community members and local authorities before the construction activities to identify potential social programs.

b) Grievance Mechanism. The Project is implementing a Grievance Mechanism to allow stakeholders an opportunity to voice their opinions, concerns, complains, or comments outside of the public consultation meetings. 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.

c) 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.

d) Potential Social Programs. Solairedirect has started consulting with local authorities and community groups to identify potential social programs. One of the potential projects is that focused on creating a business model for women based on their needs in Los Loros town. This program could include training on tourism to promote Los Loros town; and training of food industry to provide food service for the mining, agribusiness and energy companies located near the Project site.

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 Solairedirect 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 provide detailed information including calculated reduction of CO_2 emissions. Based on current energy production in Chile, the Los Loros Project is expected to avoid emissions of approximate 30,000 tons CO_2-eq/year.

5.5 In the case of the social support programs, potential projects or programs will 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 Construction

6.3 The Project will develop and implement a specific ESMP including the design of the proposed environmental measures to avoid, minimize, mitigate or compensate the key direct and indirect impacts and risks associated with construction of the project; and a monitoring and supervision framework. 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. Solairedirect shall present to the Bank an updated organizational chart illustrating roles and responsibilities throughout the project cycle.

6.5 The Project will continue to 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, children and other vulnerable groups.

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 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.

ANNEX

PHOTO LOG – SDGX05 Los Loros Photovoltaic Solar Plant

Figure 1: Project area- view to north

Figure 2: Project area- view to south

Figure 3: Project area- view to west

Figure 4: Project area- view to east

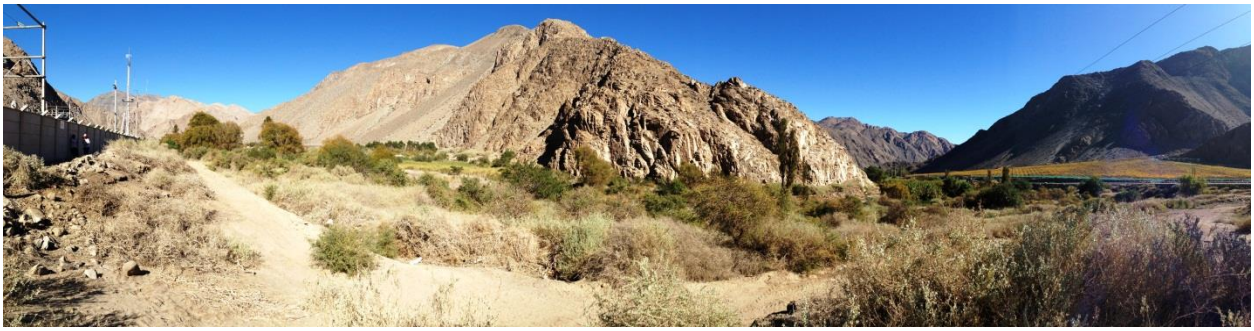

Figure 05 - Copiapó River area – Substation Los Loros

Figure 06 – Los Loros Town

SAFEGUARD SCREENING FORM

PROJECT DETAILS	
IDB Sector	[Not Set]
Type of Operation	Other Lending or Financing Instrument
Additional Operation Details	
Country	
Project Status	
Investment Checklist	Generic Checklist
Team Leader	[Not Set]
Project Title	Toolkit: Los Loros Solar PV Project
Project Number	[Temporary Project]
Safeguard Screening Assessor(s)	De la Bastida, Jose Luis (JOSEDB@iadb.org)
Assessment Date	2014-03-21

PROJECT CLASSIFICATION SUMMARY		
Project Category: B	**Override Rating:**	**Override Justification:**
		Comments:
Conditions/ Recommendations	• Category "B" operations require an environmental analysis (see Environment Policy Guideline: Directive B.5 for Environmental Analysis requirements). • The Project Team must send to ESR the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports. • These operations will normally require an environmental and/or social impact analysis, according to, and focusing on, the specific issues identified in the screening process, and an environmental and social management plan (ESMP). However, these operations should also establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.) where necessary.	

SUMMARY OF IMPACTS/RISKS AND POTENTIAL SOLUTIONS	
Identified Impacts/Risks	**Potential Solutions**
Minor or moderate conversion or degradation impacts to natural habitats (such as forests, wetlands or grasslands).	**Ensure Proper Management and Monitoring of the Impacts of Natural Habitat Loss:** A Biodiversity Management Plan (BMP) should be prepared that defines how impacts will be mitigated (roles and responsibilities, monitoring, budget, etc.) and could be incorporated in the ESMP. Depending on the financial product, the BMP should be referenced in appropriate legal documentation (covenants, conditions of disbursement, etc.). Confirmation should be obtained from competent experts that they are

	confident that the plan can mitigate impacts and also that the relevant authorities have approved the BMP.
The project is likely to negatively change the use of the land but the related negative impacts will be minor to moderate in nature.	**Land use:** A Plan should be prepared that defines how land use change will be mitigated (roles and responsibilities, monitoring, budget, etc.) and could be incorporated in the ESMP. Proper consultation should be foreseen. Confirmation should be obtained from experts that the plan can mitigate impacts and also that relevant authorities have approved the Plan. Examples of mitigation include reforestation, GHG offsetting, nutrient fixation in soils, conservation of biodiversity.
Generation of solid waste is moderate in volume, does not include hazardous materials and follows standards recognized by multilateral development banks.	**Solid Waste Management:** The borrower should monitor and report on waste reduction, management and disposal and may also need to develop a Waste Management Plan (which could be included in the ESMP). Effort should be placed on reducing and re-cycling solid wastes. Specifically (if applicable) in the case that national legislations have no provisions for the disposal and destruction of hazardous materials, the applicable procedures established within the Rotterdam Convention, the Stockholm Convention, the Basel Convention, the WHO List on Banned Pesticides, and the Pollution Prevention and Abatement Handbook (PPAH), should be taken into consideration.
Project construction activities are likely to lead to localized and temporary impacts (such as dust, noise, traffic etc) that will affect local communities and workers but these are minor to moderate in nature.	**Construction:** The borrower should demonstrate how the construction impacts will be mitigated. Appropriate management plans and procedures should be incorporated into the ESMP. Review of implementation as well as reporting on the plan should be part of the legal documentation (covenants, conditions of disbursement, etc).
The project has or will have moderate to minor negative effect on cultural site(s) and it is justified to be unavoidable. Affected stakeholders have indicated approval through a documented process of good faith negotiation.	**Protection of Cultural Sites:**Where impacts to cultural site are anticipated, the borrower should generally seek the advice of professional experts and a mitigation plan should be developed which includes the following basic elements: (a) demonstration that mitigation will comply with relevant legislation; (b) evidence that the borrower has the capacity/commitment to protect cultural site; (c) implementation of chance finds procedures; (d) establishment of consultation processes with affected communities and appropriate experts; and (e) appropriate controls on the removal of cultural site. Additional special requirements will come into play if cultural site is likely to be affected by the investment. Depending on the financial product, this information should be referenced in appropriate legal documentation (covenants, conditions of disbursement, project completion tests, etc.). The borrower should develop an action plan that describes how cultural sites will be protected.

DISASTER RISK SUMMARY

Disaster Risk Category: Moderate

Disaster/ Recommendations	• The reports of the safeguards policy filter (SPF) and the safeguard classification, i.e. the safeguard screening form (SSF) constitute the Disaster Risk Profile to be included in the Environmental and Social Strategy (ESS). Project Team must send to the ESR the PP (or equivalent) containing the ESS.

	• Moderate disaster risk operations do not require a full Disaster Risk Assessment (DRA) (see Directive A-2 of the DRM Policy OP-704). On the basis of pertinent information, a Disaster Risk Management Summary is prepared by the borrower, concentrating comprehensive information on the specific moderate disaster risks associated with the project and the risk management measures proposed by the Borrower. The Project Team arranges for addressing risk reduction proposals in the engineering and insurance review (if applicable) during project analysis or due diligence by the sector expert or the independent engineer. The potentially exacerbated risks for the environment and population and the risk preparedness measures are included in the Environmental and Social Management Report (ESMR), and reviewed by the ESG expert or the environmental consultant. The results of these analyses are reflected in the general risk analysis for the project. Regarding project implementation, monitoring and evaluation, the project team identifies and supervises the approaches which the project executing agency applies to DRM. • The disaster risk management specialists in INE/RNE may be consulted in the process, in particular for country and other disaster risk related information and standards. Climate change adaptation specialists in INE/CCS may be consulted for influence of climate change on existing and new natural hazard risks. If the project needs to be modified to increase resilience to climate change, consider the (i) possibility of classification as adaptation project and (ii) additional financing options. Please consult the INE/CCS adaptation group for guidance.

SUMMARY OF DISASTER IMPACTS/RISKS AND POTENTIAL SOLUTIONS

Identified Impacts/Risks	**Potential Solutions**
Earthquakes from various sources are prevalent and the likely severity of impacts is moderate.	When moderate seismic disaster risks for the project during execution and operation, and potential exacerbated risks for people and the environment are confirmed in the DR assessment, the appropriate measures to reduce the risks (predominantly engineering), to prepare for impact (predominantly environmental and social safeguards) and to include financial protection are examined, proposed and reviewed.
Heat waves as extended periods of extremely high temperatures and moisture are recurrent and the likely severity of impacts is moderate.	When heat wave risks for the project during execution and operation, and potential exacerbated risks for people and the environment are confirmed in the (limited) DR assessment taking into account the modifying influence of climate change, the appropriate measures to reduce the risks, (predominantly engineering), to prepare for impact (predominantly environmental and social safeguards) and to include financial protection are examined, proposed and reviewed.

ASSESSOR DETAILS

Name of person who completed screening:	De la Bastida, Jose Luis (JOSEDB@iadb.org)

Title:	
Date:	2014-03-21

SAFEGUARD POLICY FILTER REPORT

PROJECT DETAILS	
IDB Sector	[Not Set]
Type of Operation	Other Lending or Financing Instrument
Additional Operation Details	
Investment Checklist	Generic Checklist
Team Leader	[Not Set]
Project Title	Toolkit: Los Loros Solar PV Project
Project Number	[Temporary Project]
Safeguard Screening Assessor(s)	De la Bastida, Jose Luis (JOSEDB@iadb.org)
Assessment Date	2014-03-21

SAFEGUARD POLICY FILTER RESULTS		
Type of Operation	[Not Set]	
Safeguard Policy Items Identified (Yes)	Activities to be financed by the project are in a geographical area and sector exposed to natural hazards* (Type 1 Disaster Risk Scenario).	(B.01) Disaster Risk Management Policy– OP-704
	The Bank will make available to the public the relevant Project documents.	(B.01) Access to Information Policy– OP-102
	The operation is in compliance with environmental, specific women's rights, gender, and indigenous laws and regulations of the country where the operation is being implemented (including national obligations established under ratified Multilateral Environmental Agreements).	(B.02)
	The operation (including associated facilities) is screened and classified according to their potential environmental impacts.	(B.03)
	The Borrower/Executing Agency exhibits weak institutional capacity for managing environmental and social issues.	(B.04)

	An Environmental Assessment is required.	(B.05)
	Consultations with affected parties will be performed equitably and inclusively with the views of all stakeholders taken into account, including in particular: (a) equal participation of women and men, (b) socio-culturally appropriate participation of indigenous peoples and (c) mechanisms for equitable participation by vulnerable groups.	(B.06)
	The Bank will monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.	(B.07)
	Conversion of Natural Habitats in project area of influence (please refer to the Decision Support System for more information).	(B.09)
	The operation has the potential to impact the environment and human health and safety from the production, procurement, use, and disposal of hazardous material, including organic and inorganic toxic substances, pesticides and Persistent Organic Pollutants (POPs).	(B.10)
	The operation has the potential to pollute the environment (e.g. air, soil, water, greenhouse gases...).	(B.11)
	Any part of the investment or component(s) is being co-financed.	(B.15)
Potential Safeguard Policy Items(?)	No potential issues identified	
Recommended Action:	Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR. The project triggered the Disaster Risk Management policy (OP-704). A Disaster Risk Assessment (DRA) may be required (see Directive A-2 of the DRM Policy OP-704) in case of high risk, a limited DRA in case of moderate risk. Next, please complete a Disaster Risk Classification along with Impact Classification.	

Additional Comments:	

ASSESSOR DETAILS	
Name of person who completed screening:	De la Bastida, Jose Luis (JOSEDB@iadb.org)
Title:	
Date:	2014-03-21