

INTER-AMERICAN DEVELOPMENT BANK



MEXICO

**Bright Distributed Generation Solar Projects
(ME-L1185)**

ENVIRONMENTAL AND SOCIAL MANAGEMENT REPORT (ESMR)

November 2015

This document was prepared by the Project Team consisting of: Patrick Doyle (SCF/SMU); Ignacio Fernandez Stearns (SCF/SMU); Matthew McClymont (SCF/SMU); Vanessa Matos (SCF/SMU); Kristin Waechtler (SCF/SMU); and Jose Luis de la Bastida (VPS/ESG); under the supervision of: Kelle Bevine, Chief (SCF/SMU).

I. INTRODUCTION

Country:	Mexico
Sector:	Renewable Energy
Name:	Bright Distributed Generation Solar Projects
Borrower:	Bright Exchange S.A.P.I de C.V.
Proposed A Loan:	Up to US\$10 million
Environ. Class.:	Category C

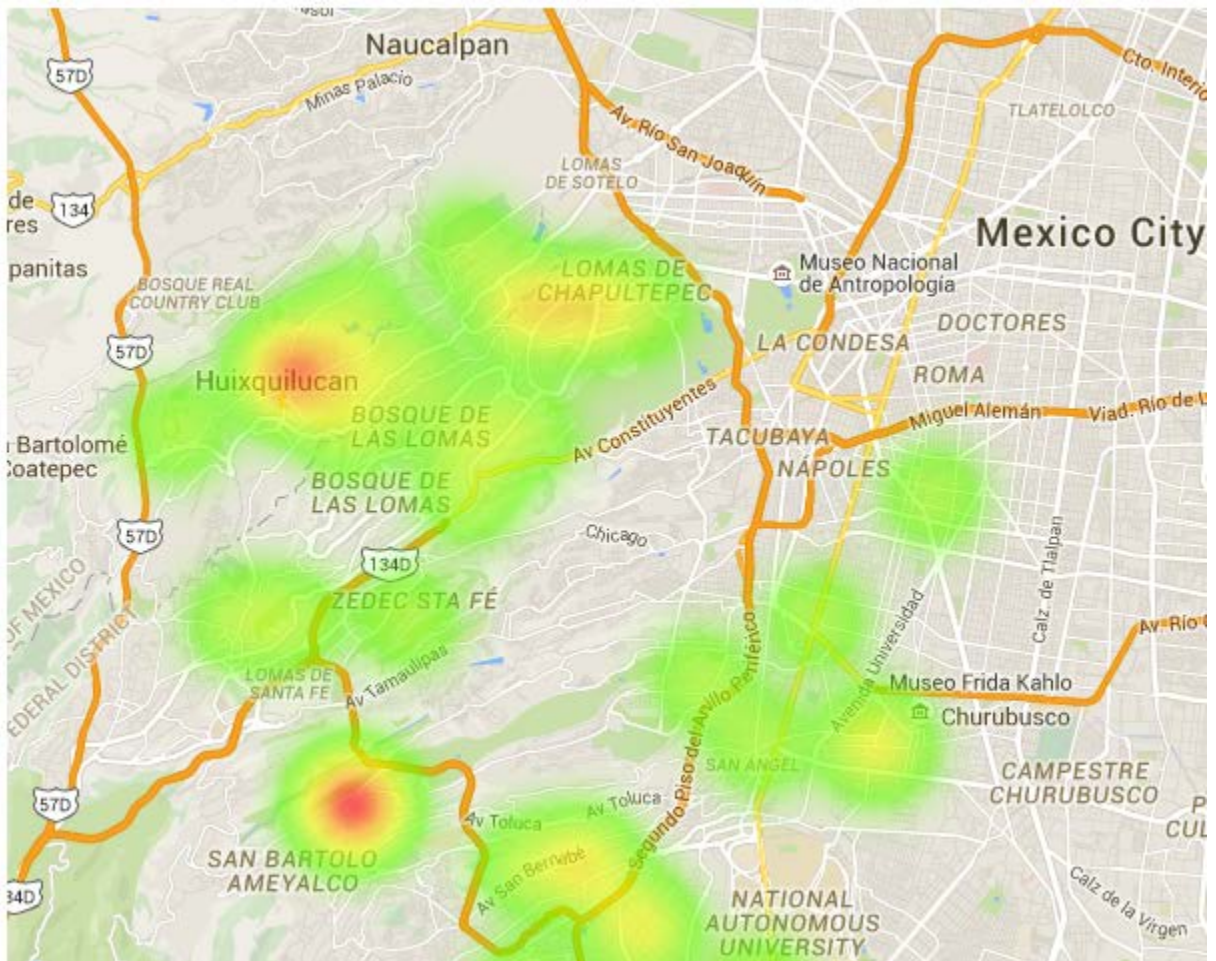
II. PROJECT DESCRIPTION

- 2.1 The Project consists of financing a portfolio of aggregated solar photovoltaic (PV) projects throughout Mexico. The overall project objective is to install renewable energy systems in the Mexican residential sector under an innovative financial structure that is scalable, helping end users to mitigate climate change while reducing electricity costs.
- 2.2 The Project will be developed and implemented by Bright Exchange S.A.P.I. de C.V., a Mexican solar developer that has been expanding its operations in Mexico. The company develops “inside the fence” solar energy projects that generate electricity for self-consumption by installing photovoltaic panels on the rooftops of its clients’ residences. The Project will finance a portfolio of rooftop solar PV sub-projects which will generate zero-emission power for Bright’s customers under a lease agreement. Bright is one of the first residential solar developers in Mexico and aims to increase the adoption of solar energy in the residential segment throughout the country. The company has already successfully implemented over 100 residential projects and plans to scale up to 2,000 over the next 18 months through financing from the IDB.

Environmental and Social Settings

- 2.3 The Project will be implemented on rooftops of approximately 2,000 residential building structures using the third-party finance/lease agreement model in Distrito Federal, State of Mexico, Jalisco, Bajío Area, Baja California, and Nuevo León.

Figure 1: State of Mexico, Mexico.



Project Schedule and Workforce

- 2.4 The Project is expected to have approximately 5 workers per site during the installation phase of the solar panels that is estimated to take 1-2 weeks per site and overall 12-18 months for the portfolio. It is currently anticipated that 500 employees will be required. Table 1 below illustrates the expected workforce and schedule.
- 2.5 Pending the IDB Loan's closing date, the sub-projects are expected to begin operations throughout the installation period of January 2016 and June 2017 and start operating within 60-90 days after installation and interconnection with CFE.

Table 1: State of Mexico, Mexico.

Month	Installations/Month	Installer Crew	Bright Crew	Total
1	50	58	25	83
2	60	70	28	97
3	72	84	30	114
4	86	100	33	134
5	104	121	37	157
6	124	145	40	185
7	149	174	44	218
8	179	208	49	257
9	215	250	54	304
10	258	300	59	359
11	310	360	65	425
12	372	432	71	503

III. COMPLIANCE STATUS AND PROJECT STANDARDS

Appraisal Process and Local Requirements

- 3.1 The Project According to Bank's Environmental Safeguards Policy, specifically Directive B.03, the Project has been classified as Category "C" as the potential negative environmental and social impacts and risks are likely to cause minimal or no negative environmental and associate social impacts and risks. This operation does not involve physical modification of the environment or generation of solid waste, effluents or gas emissions. The Project is clearly designed to produce positive environmental outcomes. 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.7, Supervision and Compliance; and B.11, Pollution Prevention and Abatement. The OP-704 Natural and Unexpected Disasters Policy will also be triggered as the Project occurs in an earthquake and hurricane area.
- 3.2 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
B.1 Bank Policies	Compliance with applicable IDB policies	The Project is currently in full compliance with all IDB policies and directives.
B.2 Country Laws and Regulations	Compliance with country laws and regulations	The Project is in compliance with all Mexican laws and regulations.

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 <u>Category C</u> operation.
B.4 Other Risk Factors	N/A	N/A
B.5 Environmental Assessment Requirements	Due to the nature of the Project, Category C, it is not required to develop an environmental assessment.	In accordance with the Mexican regulations, an environmental assessment is not required for this scale of self-generation renewable energy projects ¹ .
B.6 Consultations	N/A	N/A
B.7 Supervision and Compliance	Monitoring of borrower's compliance with all Bank's environmental and social safeguard	The Project will submit at least one compliance report during the installation and annual compliance reports during the operation phases.
B.8 Transboundary Impacts	N/A	N/A
B.9 Natural Habitats and Cultural Sites	N/A	N/A
B.10 Hazardous Materials	N/A	N/A
B.11 Pollution Prevention and Abatement	Pollution control and CO2 emissions	The project will reduce the country's CO2 emissions by providing a source of green energy. The Project will implement the adequate waste management program during the installation of solar panels phase.
B.12 Project Under Construction	N/A	N/A

Policy / Directive	Applicable Aspect	Compliance Rationale
B.13 Noninvestment and Flexible Lending Instruments	N/A	N/A
B.14 Multiple Phase and Repeat Loans	N/A	N/A

¹ <http://www.cre.gob.mx/documento/2195.pdf>

B.15 Co-financing Operations	N/A	N/A
B.16 In-country Systems	N/A	N/A
B.17 Procurement	N/A	N/A
OP-710 involuntary Resettlement	N/A	N/A
OP-765 Indigenous Peoples	N/A	N/A
OP-704 Disaster Risk Management	Earthquake and hurricane zone	The Project could be affected by earthquake and hurricane events. However, there risk disaster is low for the Project.
OP-761 Gender Equality in Development	N/A	N/A
OP-102 Access to Information	Project information disclosure	IDB will make all relevant Project documentation available on its website.

Project Requirements and Standards

- 3.3 In 2008, the Mexican government enacted “*Ley para el Aprovechamiento de Energías Renovables y el Financiamiento de la Transición Energética*”². This law enables and regulates the use of renewable energy technologies generating electricity outside of the CFE³ grid, such as self-supply solar rooftop projects.
- 3.4 Bright requires all its installers to adhere to NOM, ANES, and ANCE regulations as specified in the norm established by the *Comision Reguladora de Energia*⁴.

IV. KEY ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS

Environmental and Social Impacts and Risks

- 4.5 The potential negative environmental and social impacts and risk identified for the Project are minimal due to the nature of the activities that will be carried out during the installation and operational phases. During the installation of the solar panels, the main impacts and risks will be those related to the health and safety of the workers since they will be working on the roof of the plant; generation of solid waste, mainly, due to the replacement of some roof structures; and temporary increment of traffic due to the

² <http://www.diputados.gob.mx/LeyesBiblio/pdf/LAERFTE.pdf>

³ <http://www.cfe.gob.mx/paginas/home.aspx>

⁴ <http://www.cre.gob.mx/documento/2195.pdf>

transportation of the panels. In the case of the operational phase, no risks and impacts are predicted other than those related to health and safety issues during maintenance activities on the roof and generation of solid waste because of decommissioning of the Project. Since the Project is located in an area with plentiful rainfall year round, it is not expected to use water from resources other than those from natural rain to clean the solar panels.

Positive Impacts

- 4.6 The project will reduce greenhouse gas emissions by replacing grid electricity with electricity generated from emission-free solar power. Through reductions in electricity consumption the project is expected to generate approximately 170,000 tons of CO₂ emission reduction over 25 years. The Project will have a substantial demonstration effect and is expected to contribute to the development of local expertise in the construction, operation, maintenance and management of this type of solar projects.

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

- 5.1 The Project will adhere to a model Environmental, Social, Health and Safety Plan (ESHSP), specifically prepared for the IDB, which establishes procedures in the following areas: solar panel installation; waste management; accident investigation and safety inspections; employee training; emergency response; hygiene and order; equipment tagging and lockout; working at heights and fall protection; environmental, social and health and safety compliance reporting.

Monitoring and Supervision

- 5.2 Implementation of the environmental and social safeguards for the Project will be monitored and supervised through an Environmental, Social and Health and Safety Compliance Report (ESHSCR). It is expected that at least one ESHSCR will be delivered to the Bank during the installation phase and one ESHSCR annually for the operation phase.

VI. REQUIREMENTS TO BE INCLUDED IN THE LEGAL AGREEMENTS

- 6.1 The conditions described below are required to be fulfilled for the Project throughout the life of the loan, in form and substance satisfactory to IDB. 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:
 - a. All applicable environmental, social, health and safety, and labor regulatory requirements of Mexico.
 - b. 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

- c. All environmental, social, health and safety, and labor requirements of the Project contracts and any subsequent modifications
- d. All aspects and components of all of the Project's environmental, health and safety, social and labor documents
- e. 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.

SAFEGUARD POLICY FILTER REPORT

PROJECT DETAILS	
IDB Sector	ENERGY-ENERGY EFFICIENCY AND RENEWABLE ENERGY IN END USE
Type of Operation	Project Finance
Additional Operation Details	
Investment Checklist	Generic Checklist
Team Leader	McClymont, Matthew (matthewm@IADB.ORG)
Project Title	Bright Distributed Generation Solar Projects
Project Number	ME-L1185
Safeguard Screening Assessor(s)	Matos Tudela, Vanessa Mase (vanessam@IADB.ORG)
Assessment Date	2015-12-01

SAFEGUARD POLICY FILTER RESULTS		
Type of Operation	Loan Operation	
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)
	There are Associated Facilities (see Policy definition) relating to the investments being financed by the Bank.	(B.04)
	The Bank will monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or	(B.07)

	credit regulations.	
	The operation has the potential to pollute the environment (e.g. air, soil, water, greenhouse gases...).	(B.11)
Potential Safeguard Policy Items(?)	No potential issues identified	
Recommended Action:	<p>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.</p> <p>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.</p>	
Additional Comments:		

ASSESSOR DETAILS	
Name of person who completed screening:	Matos Tudela, Vanessa Mase (vanessam@IADB.ORG)
Title:	
Date:	2015-12-01

COMMENTS
No Comments

SAFEGUARD SCREENING FORM

PROJECT DETAILS	
IDB Sector	ENERGY-ENERGY EFFICIENCY AND RENEWABLE ENERGY IN END USE
Type of Operation	Project Finance
Additional Operation Details	
Country	MEXICO
Project Status	
Investment Checklist	Generic Checklist
Team Leader	McClymont, Matthew (matthewm@IADB.ORG)
Project Title	Bright Distributed Generation Solar Projects
Project Number	ME-L1185
Safeguard Screening Assessor(s)	Matos Tudela, Vanessa Mase (vanessam@IADB.ORG)
Assessment Date	2015-12-01

PROJECT CLASSIFICATION SUMMARY		
Project Category: C	Override Rating:	Override Justification:
		Comments:
Conditions/ Recommendations	<input type="checkbox"/> No environmental assessment studies or consultations are required for Category "C" operations. <input type="checkbox"/> Some Category "C" operations may require specific safeguard or monitoring requirements (Policy Directive B.3). Where relevant, these operations will establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.). <input type="checkbox"/> The Project Team must send 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.	

SUMMARY OF IMPACTS/RISKS AND POTENTIAL SOLUTIONS	
Identified Impacts/Risks	Potential Solutions

DISASTER RISK SUMMARY
Disaster Risk Category: Low

Disaster/ Recommendations	<ul style="list-style-type: none">• No specific disaster risk management measures are required.
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ASSESSOR DETAILS	
Name of person who completed screening:	Matos Tudela, Vanessa Mase (vanessam@IADB.ORG)
Title:	
Date:	2015-12-01

COMMENTS
No Comments