

## Environmental and Social Review Summary (ESRS) Casablanca Bifacial PV Power Project - BRAZIL

Original language of the document: Portuguese

Issuance Date: November 2020

### 1. General Information of the Project and Overview of Scope of IDB Invest's Review

The double-sided photovoltaic power generation Casablanca Project (the "Project") consists in the design, construction, commissioning and operation of 6 (six) photovoltaic (PV) solar power plants: Casa Blanca I, II, III, IV, V and VI with a combined capacity of 359 MW peak ("MWp") and a 0.3 km transmission line to the existing PIRAPORA II distribution substation, in addition to other interconnection facilities.

Atlas Renewable Energy ("Atlas", the "Company" or the "Client") acts as developer and manager of the Project sponsor, Brasil Solar Fundo de Investimento em Participações Multiestratégia, (the "Sponsor"). The Project will sell power to Anglo American Minério de Ferro Brasil under a power purchase agreement with a term of 15 years. The Project construction phase will take about 12 months and it is expected to begin in January 2021.

The Project is located in the City of Pirapora, State of Minas Gerais and will be implemented in the areas of four agricultural establishments (*fazendas*): i) Maltez, ii) Nova Estância, iii) Nossa Senhora Aparecida, and iv) Casa Blanca.

Within the environmental and social due diligence (ESDD) process, the following relevant environmental, social, health and safety information was reviewed: i) environmental licenses, ii) Summary Environmental Reports (SER), iii) Social Assessment, and iv) Environmental and Social Management System (ESMS) of the Company, among other relevant documents.

Owing to the COVID-19 pandemic, the ESDD entailed virtual meetings held in September and October 2020 with Atlas officials and other stakeholders, including officials from: i) the Finance Department of the City of Pirapora, ii) the SEMAD (environmental agency of the State of Minas Gerais), and iii) the owners of the leased *fazendas* and their employees.

### 2. Environmental and Social Categorization and Rationale

In accordance with IDB Invest's Environmental and Social Sustainability Policy, the Project was classified as a Category B project because it could give rise to the following risks and impacts, among others: i) potential impacts on the local community owing to an increase in vehicle traffic during the construction phase (increase in noise and particulate matter emissions) and the inflow of external workers; ii) risk for the workers' health and safety, especially during the implementation, iii) involuntary resettlement of *fazenda* workers living in the Project area, iv) impact of erosion, and v)

impact regarding the removal of *cerrado* savanna vegetation<sup>1</sup>. It is estimated that these risks and impacts will have a medium-low intensity.

The Performance Standards (PS) triggered by the Project are: i) PS 1: Assessment and Management of Environmental and Social Risks and Impacts; ii) PS 2: Labor and Working Conditions; iii) PS 3: Resource Efficiency and Pollution Prevention; iv) PS 4: Community Health and Safety; v) PS 5: Land Acquisition and Involuntary Resettlement; vi) PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; and vii) PS 8: Cultural Heritage.

### 3. Environmental and Social Context

#### 3.1 Project Site Overview

The Project site is located in a rural area of 3,438,05 hectares in the Municipality of Pirapora. The annual mean temperature in the region is 21°C with low occurrence of rains, which directly favor the impact of solar radiation in the area.

The Project area has vegetation typical of the *cerrado* savanna landscape mainly formed by anthropized areas with agricultural activities. It is located on the north end of the hydrographic region of Alto São Francisco, at the headwaters of the das Velhas River confluence. It should be noted that the Project is located: i) in a Priority Area for Biodiversity Conservation (*Área Prioritária para a Conservação da Biodiversidade [APCB]* - Buritizeiro/Pirapora [Nº 31])<sup>2</sup>; it is close to ii) the *APCB São Francisco River and Grandes Afluentes* (Nº 9) and iii) the Important Bird Area (IBA) called "*Baixo Rio das Velhas*"<sup>3</sup>.

In accordance with the Brazilian Geography and Statistics Institute (Instituto Brasileiro de Geografia e Estatística, IBGE), Pirapora's population is estimated at 56,640 inhabitants in 2020 with an urbanization rate equivalent to 98.16% and demographic density of 97.12 inhabitants per km<sup>2</sup>. Business, service, and industrial activities are the main source of revenue for the Municipality.

### 4. Environmental Risks and Impacts and Proposed Mitigation and Compensation Measures

#### 4.1 Assessment and Management of Environmental and Social Risks and Impacts

##### 4.1.a E&S Assessment and Management System

Atlas developed a corporate Environmental, Health and Safety Management System (EHSMS)<sup>4</sup> and its related manual providing guidelines on how to integrate environmental and social requirements

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<sup>1</sup> The *cerrado* savanna is the second largest biome in South America with an area of 2,036,448 km<sup>2</sup> accounting for 22% of Brazil's territory. It covers the States of Goiás, Tocantins, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Bahia, Maranhão, Piauí, Rondônia, Paraná, São Paulo and Distrito Federal, in addition to the Amapá, Roraima and Amazonas enclosures.

<sup>2</sup> <http://idesisema.meioambiente.mg.gov.br/>

<sup>3</sup> <http://savebrasil.org.br/programa-ibas>

<sup>4</sup> Environmental, Health and Safety Management System (RFQ-2019-02-06) dated February 2019 and Environmental and Social Management System Manual of Atlas dated February 2020.

during the life cycle of all of the Company's projects. In addition, it will implement a specific ESMS for the construction and operation phases of the solar PV project.

#### 4.1.b Policy

The Company has in place a corporate Environmental Policy which was fully shared with its employees, is aligned with PS 1 and includes the Company's commitments regarding: i) observing and monitoring all the applicable environmental standards and legislation; ii) ensuring that all the employees receive the relevant information and training for their activities; iii) optimizing the use of power, materials and natural resources; iv) preventing pollution; v) periodically assessing the ESMS to ensure continuous improvement; and vi) promoting discussions with service providers, suppliers and the community.

#### 4.1.c Identification of Risks and Impacts

The environmental and social risks directly and indirectly resulting from the installation and operation of the Project were identified and assessed in the SERs<sup>5</sup> on the power plants. The studies highlight as major impacts those related to vegetation removal and interference with natural habitats, as well as those associated with neighboring communities, among others. These impacts and risks are to be managed and monitored through management and monitoring plans according to the ESMS.

According to local laws, the Project was approved through a single environmental licensing process allowing both construction and operation of the power plants, called Simplified Environmental Licensing (LAS/CADASTRO). Notwithstanding this, Atlas chose to prepare the SERs and the relevant Environmental Monitoring Plans, a non-mandatory requirement for this type of licensing.

The Project is fully compliant with the Brazilian environmental regulatory framework<sup>6</sup>, and has already obtained approval for its six (6) LAS/CADASTRO<sup>7</sup> for each PV solar power plant. The ESDD further determined that 4 (four) third parties<sup>8</sup> had requested authorization<sup>9</sup> from the National Mining Agency (ANM) to carry out research work for mineral exploration (sand, clay, and quartz) in polygons within the Project area. The Client asked that these requests be blocked by the ANM, at least where the proposed prospecting activities and the Project area overlap. While the ANM is expected to accept the submitted request<sup>10</sup>, it may seek compensation for the preliminary work already executed (research activities). As of the closing date of this report, the ANM had not officially answered the Project request.

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<sup>5</sup> The SER describes the activities or ventures and identifies potential environmental impacts and control measures related to the location, installation, operation, and expansion of the activity.

<sup>6</sup> As per the state environmental authority, the State Department for the Environment and Sustainable Development (SEMAD).

<sup>7</sup> See the documents contained in this website.

<sup>8</sup> Three artificial persons and one natural person.

<sup>9</sup> Process 834.849/2008 – Current "Research Authorization" phase, Process 833.456/2006 – Current "Right to Request Mining Permission" phase, Process 830.853/2009 – Current "Right to Request Mining Permission" phase, and Process 300010/2010 available (there is no petitioner).

<sup>10</sup> Based on the ANM Code and Federal Attorney General's Opinion (Parecer PROGE) 500/2008.

#### 4.1.c.i Gender-related Risks

No specific risk assessment was conducted for the Project; therefore, Atlas will implement and develop—through a IDB Invest technical assistance (TC)— a Manual of Best Practices for preventing and managing gender-related risks in the Project.

#### 4.1.c.ii Exposure to Climate Change

According to the Climate Risk Exposure Screening Report prepared by IDB Invest<sup>11</sup>, at the Project site, there is high chronic exposure to natural hazards such as heat waves (by the end of the century) and moderate exposure to droughts and changes in precipitation patterns (due to climate change). While the direct area of influence also shows moderate to acute exposure to natural risks such as river flooding, the Project infrastructure is not directly affected. In view of these potential exposures to natural risks, the Company is set to apply mitigation measures detailed below in this report<sup>12</sup>, in relation to community health and safety.

#### 4.1.d Management Programs

The Company's environmental and social management programs and plans comprise: i) Environmental Management; ii) Environmental Construction and Reclamation (PRAD); iii) Flora Conservation; iv) Fauna Conservation; v) Social Communication; vi) Environmental Education; vii) Risk Management; Occupational Health and Safety; viii) Emergency Response; ix) Operations Management; and x) Historical, Cultural and Archaeological Heritage Management.

#### 4.1.e Organizational Capacity and Competency

To supervise the environmental, social, health and safety (ESHS) aspects of the Project, Atlas will appoint four specialists in environmental, social and occupational health and safety aspects, who will directly report to Local Management or the ESHS Institutional Manager. Additional human resources will be allocated to those areas, as needed. Training in ESHS aspects will be provided during the Project construction and operation phases, pursuant to the specific ESMS plan (PRO-ESG-202002-019 - Training Procedure). Atlas will report regularly on the training activities implemented.

The Project will include the existing ESHS organizational structure, the engineering, procurement and construction (EPC) contractor's staff, to supplement the final ESHS system of the Project, and the Operation and Maintenance (O&M) contractor's staff, at both the construction and the operation phases.

#### 4.1.f Emergency Preparedness and Response

The Company developed a Risk Management Program and an Emergency Response Plan, within the framework of the Environmental Control Program (ECP), which lays down the guidelines on how to

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<sup>11</sup> Climate Risk Exposure Screening Report: Level I of the IDB Invest Climate Risk Assessment, Casablanca PV Solar Power Project, Brazil (12092-03), November 2020.

<sup>12</sup> Refer to 4.4.a Community Health and Safety.

respond to emergency situations during the construction phase. It is designed to: i) develop well-structured procedures to be implemented in emergency situations including emergency drills; ii) maintain personal, material and environmental emergency response teams; iii) maintain material resources, and iv) regularly conduct emergency drills.

An emergency procedure tailored to the site and Project operation phase will be developed, based on the ESHS management system at the institutional level, taking into account the methodology described in its procedures, including any necessary drills. The emergency plan and the contingency plan for the operation phase will contain the following: i) identification of potential accident situations associated with natural or non-natural events and with harmful consequences for workers and public health overall; ii) emergency plans and procedures; iii) communication protocols; iv) first aid procedures; v) provision of protective equipment, signs, and emergency response training; vi) provision of emergency resources; vii) medical emergency response; viii) provision of information regarding emergency situations to workers, and ix) notification of authorities and the public.

In addition, as required by Brazilian laws, the Company will submit a fire department review report (Auto de Vistoria do Corpo de Bombeiros, AVCB) before commencement of operations. The fire prevention and protection system to be installed will conform to the US National Fire Protection Association (NFPA) standards.

#### **4.1.g Monitoring and Review**

Mandatory environmental monitoring programs were developed and will be implemented according to the environmental license requirements. The progress and efficacy of such programs will be documented by monthly reports. For instance, semi-annual reports will be prepared and submitted to the Environment and Water Resources Institute (Instituto do Meio Ambiente e Recursos Hídricos, INEMA), describing the actions undertaken during the period in relation to the implementation of the Environmental Education Program (PEA) and the Social Communication Program (PCS). A consolidated final report will be prepared upon completion of the construction phase.

Nonetheless, the Company will establish procedures designed to monitor and measure the efficacy of its environmental, social, and health and safety management system during the operation phase, and compliance with legal and contractual obligations and other regulatory requirements. Atlas will further define the key performance indicators to be used to assess system efficacy and take corrective actions, as necessary.

#### **4.1.h Stakeholder Engagement**

The Company has developed two procedures concerning its stakeholders within the Project's area of influence: i) Stakeholder Mapping and ii) External Communication and Grievance Mechanisms. Mapping was applied and detailed in the document entitled Social Assessment. (SA). Forty-four stakeholders related to several institutions and community leaderships were considered in the stakeholder map for the municipalities of Pirapora and Buritizeiro. Assessments were also conducted as to stakeholder positioning and their clout in Project-related processes.

The Company will develop a Stockholder Engagement Plan tailored to the Project, which will include: i) a review of all stakeholders likely to be affected, both directly and indirectly, as well as those identified as vulnerable; ii) a process of public consultation with stakeholders; a stakeholder communication and engagement procedure whereby the Company will establish appropriate communication channels with each particular stockholder group, and lay the groundwork for participatory planning, implementation and monitoring; and iv) a plan for monitoring and assessment of social investment programs.

#### **4.1.i External Communication and Grievance Mechanisms**

The Company established a Communication Plan for disseminating Project information, including: a) quarterly distribution and disclosure of information in local media (newspapers and radio) regarding the progress of works and mitigation measures; b) periodic interviews with and visits to communities and public agencies; and c) a record of communication activities, in addition to photographic and video records.

In addition, Atlas developed an external grievance mechanism at the corporate level which: i) establishes a contact procedure whereby the Company may be reached through anonymous or open communication to submit queries, express concerns or lodge complaints; ii) appoints a person responsible for receiving, recording and processing all grievances; iii) establishes procedures to record, analyze, categorize, investigate and determine solution or repair options; iv) establishes how decisions made and measures taken to resolve grievances are communicated, and v) displays different communication forms and channels to facilitate information disclosure to different publics, such as suggestion boxes, and toll-free (0800) lines. The Company will design a mechanism to receive complaints from vulnerable groups, once these have been identified.

In 2019, Atlas held two briefing sessions in relation to the Project: i) a meeting with town councilors and authorities of the Municipality of Pirapora for formal Project presentation, and ii) a meeting to obtain the Certificate of Land Use and Occupancy, held with the Municipal Environmental Defense Council (CODEMA), attended by authorities and civil society advocates.

In addition, as a result of the COVID-19 pandemic, the COVID-19 Contingency Plan was developed, including: i) dissemination of information, at the Project site, on posters or signs containing orientation about the disease; ii) adaptation of meeting spaces in compliance with social distancing requirements; and iii) assessment and implementation of safe community service modalities.

The Company will hold an on-line Public Consultation (PC) event prior to the commencement of the construction phase, and once the mobility restrictions adopted by the government are lifted, a face-to-face PC event will take place. Atlas will submit a Stakeholder Engagement Report, describing the headway made in this respect.

#### **4.2 Labor and Working Conditions**

Under Brazilian labor law, workers must attend training regarding technical, as well as environmental, social, health and safety aspects as a requirement for employment. In addition, collective bargaining agreements may be reached between employees and the employer to

determine the terms of employment, minimum wage, and benefits at hiring. Workers further have the right to form unions or freely join them.

The Company will establish policies and procedures to manage and monitor its subcontractors' workforce and ensure that international and Brazilian employment and working conditions are met. Consultation mechanisms will also be implemented for those workers.

#### 4.2.a Working Conditions and Management of Worker Relationships

The Company expects to hire 7 (seven) employees for Project operation through the O&M contractor. In addition, the Company will have back office support (remote operations team, operations engineering team, and ESHS team), and vegetation control and solar panel cleaning workers, as needed.

During construction, the Project will require a workforce peak of approximately 1,045 workers with an average of 517 employees over the 20-month works; 70% of the workforce is required to be sourced from local communities to minimize displacement of workers from other locations for the Project.

In this way, the Project will not involve the settlement of temporary camps, and workers will be provided with accommodation in available facilities in the cities of Pirapora and Buritizeiro. Thus, in preparing for the Project construction phase, the Company will contact the Municipal Departments to explore their capacity to supply labor in relation to the Project's needs.

The Company will establish specific procedures relative to Working Conditions and Management of Worker Relationship including, at least: i) general provisions; ii) overall obligations and rights; iii) recruitment and hiring policy; iv) occupational health and safety; v) local hiring policies; vi) internal grievance mechanisms including contracted and subcontracted workers; vii) training activities; and ix) demobilization activities (to be adopted by all contractors and subcontractors in respect of their workers).

##### 4.2.a.i Human Resources Policies and Procedures

The Company will establish a Local Hiring Policy that sets a minimum hiring quota, assures reasonable working conditions, and defines accommodation securing good living conditions for EPC workers. This policy must: i) describe all relevant information necessary to manage the expectations of local communities such as available positions, types of employment, qualifications and skills required, and duration of employment; and) be included in the EPC contract.

Workers will be organized by the union of state workers of Minas Gerais, to be defined following the hiring of the EPC company responsible for the works.

The Company has an Employee Code of Conduct aimed at securing non-discrimination on the basis of gender, color, or religion, among other aspects. Hiring is irrespective of race, color, sex, sexual orientation, cultural difference, language, religion, nationality, marital status, public opinion, age, deficiency or veteran status in any human resources practice, including recruitment, hiring, training,

promotion or disciplining. Any concerns relative to the Code of Conduct are dealt with and investigated by Human Resources, which takes immediate and adequate measures to prevent and, when necessary, discipline behaviors in violation of the Code.

A downsizing plan will be required to be included in the EPC contract, to secure worker demobilization measures, particularly following the expected construction work peak.

The Company will organize information sessions with workers (directly and indirectly employed) and educational workshops where they are to be informed of the grievance mechanism. Complaint boxes will be installed at the site during construction (for both direct and indirect employees), and a complaint form will be available for downloading from the Company's website. In addition, dissemination of Project information will be accomplished through training actions, contemplated in the Worker Environmental Education Program (WETP).

#### 4.2.b Protecting the Work Force

The contracts entered into by the Company, the subcontractors and the employees must conform to local<sup>13</sup> and international labor legislation and cover, among other aspects, hours of work, work schedule, overtime, paid leave, minimum wage, benefits, statutory allowances and minimum occupational safety and health contents. During the ESDD process no evidence of child or forced labor was found.

#### 4.2.c Occupational Health and Safety

According to Brazilian laws and the ILO's requirements<sup>14</sup>, Atlas will develop an environmental risk prevention program and an occupational health check-up program, among other occupational safety and health programs. An occupational safety and health engineering program<sup>15</sup> will further be developed according to the level of exposure to risk and the total number of Project employees. For the operations phase, the Company will develop and implement an occupational safety and health plan tailored to the Project, which will identify and assess the most significant risks and hazards for workers during this phase.

In addition, the Company will develop specific procedures designed to supervise and monitor occupational health and safety during the construction phase, including that of subcontractors' workers. Special measures intended to protect workers from solar radiation and dust exposure will be considered (including using personal protective equipment, staying hydrated during work execution). The EPC contractor will establish an internal committee for accident prevention<sup>16</sup>, to which employees may report exposure to risks or inadequate or unsafe working conditions.

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<sup>13</sup> Brazil has ratified several International Labor Organization (ILO) Conventions and international treaties in relation to workers' rights, including ILO's Forced Labor Convention No. 29, Right to Organize and Collective Bargaining Convention No. 98, Maternity Protection Convention No. 103, Abolition of Forced Labor Convention No. 138, and Worst Forms of Child Labor Convention No. 182.

<sup>14</sup> Regulatory Standard (NR) of the Ministry of Labor, Ministerial Order (Portaria) No. 3214/78.

<sup>15</sup> Specialized Services in Occupational Safety and Health (Serviço Especializado em Segurança e Medicina do Trabalho, SESMT).

<sup>16</sup> As per Regulatory Standard No. 5 (NR5) of the Ministry of Labor and Employment of Brazil.



It is worth noting that the Company developed a specific contingency plan to protect its workers by preventing COVID-19 from spreading, defining risks and the decision-making structure, and responding in a timely, adequate manner.

#### 4.2.d Workers Engaged by Third Parties

The Company's EHSMS Manual establishes the same safety requirements for both its employees and outsourced staff. Thus, during the execution of construction works, Atlas will see to it that the EPC activities meet the ESHMS standards, such as: i) good conditions of maintenance and location of workers' accommodation and housing; ii) educational activities in relation to the prevention of drug abuse and sexually transmitted diseases, and iii) worker demobilization measures.

#### 4.2.e Supply Chain

The Company's ESMS Manual requires continuous monitoring of the primary supply chain<sup>17</sup>, for purposes of detecting significant changes and, should new risks be identified, taking proper mitigation measures.

### 4.3 Resource Efficiency and Pollution Prevention

#### 4.3.a Resource Efficiency

Even though the Project will not be a major greenhouse gas (GHG) emission source, a list will be prepared of direct and indirect emissions (related to goods and products transportation and the elements for constructing panels and spare parts).

The water for Company consumption will be obtained from external sources through a water tank during the construction and operation phases. The Company will provide mineral water for human consumption. The water used during the construction phase will be mainly to spray roads and accesses to prevent dust generation. Thus, the total water consumption volume will stand at about 94,000 m<sup>3</sup> or approximately 4,700m<sup>3</sup> per month For operational activities, consumption is estimated at 2,500 m<sup>3</sup> per year at the plant considering the use of 0.2 l to clean each panel.

The Company will develop measures to improve water management and efficiency in order to use the resource responsibly and to prevent or minimize any adverse impacts on water resources. The Company will engage the stakeholders in connection with the use and conservation of water.

#### 4.3.b Pollution Prevention

Solid waste will be generated during the implementation phase by civil works and common human (domestic waste) activities. Therefore, as part of the ESMS, the Project prepared specific procedures to manage non-hazardous and hazardous waste from the civil and installation works, which are compliant with the Normas Técnicas Brasileiras, NBRs (Brazilian technical standards), and provides guidelines for waste sorting, reduction, recycling and composting.

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<sup>17</sup> The supply chain is made up by PV panel and spare part, metallic structures and concrete product manufacturers, among others.

No effluents will be dumped in any surface water bodies. Septic tanks will be used during the works, as well as during the operation phase of the Project, which will be set up in compliance with NBR 7229. Systems will be periodically emptied by a duly licensed company.

In the case of sewerage effluents, the Project will use chemical toilets which will be maintained by a specialized and duly licensed company.

During the operation phase of the Project, waste will only be generated by domestic activities and the maintenance of the PV power plant, such as: i) non-recyclable waste; ii) metal; iii) cardboard; iv) plastic; v) organic waste; vi) reused grease and oil; vii) polluted waste; and viii) useless PV panels. Also, the Project will review the existing waste management plan for the operation phase considering the life cycle and disposal procedures of PV solar panels.

#### **4.4 Community Health and Safety**

##### **4.4.a Community Health and Safety**

Impacts related to construction activities, such as i) heavy transportation along routes and access roads; ii) reduction in water quality and quantity; iii) possibility of passing transmissible diseases (such as, respiratory diseases and STDs); iv) possible increase in drug and alcohol abuse; and v) gender-related violence resulting from the inflow of external workforce, may give rise to negative consequences for the health of the neighboring communities caused by the Project.

During the installation phase, more trucks, worker transportation buses and cars will be added to the local traffic. It should be noted that the Project is located in the rural area of the municipality and, therefore, it is different from the urban areas and it lacks any road infrastructure. The access roads to communities are not paved and, in rainy seasons, there is an accumulation of mud and potholes with the related car and truck congestion risks. Although this is a preexisting condition, the intense flow of trucks and the weight of the loads may worsen the problem in the region.

More dust derived from increased road traffic, mainly heavy vehicles traveling along unpaved access roads, may cause dirt and dust on the clothes and in the houses, but also worsening of the air quality and causing potential respiratory issues among the population. The traffic may also lead to more accidents due to the condition of the roads and scarce signaling.

In order to mitigate these impacts, the Project will develop a Traffic Signaling and Control Plan covering the following provisions. i) signs on the roads about works in progress or emergency situations; ii) regulation of light and heavy vehicles speed; iii) reorganization of traffic flow close to the construction site to prevent conflicting movements and accidents, as well as to minimize traffic jams; iv) disclosure of correct, clear and standardized information to road users (workers and surrounding communities); and v) vehicle traffic time control so as to mitigate any hassle, especially in the evening.

Atlas will make sure that the contractor in charge of EPC services drafts a specific traffic control plan for the Project, which will identify the most significant potential risks related to traffic increase

during the construction. In addition, the Company will develop procedures to monitor and supervise directly the routes and days when contractor loads are moved.

The Company will identify and assess any potential community health and safety risks and impacts during the life cycle of the Project and will prepare a Community Health, Safety and Protection Plan specific for the Project, which will include: i) changes in the community health profile (including exposure to communicable diseases, such as respiratory infections and STDs as a result of the flow of workers into the region); ii) effects on social vulnerability related to community health (e.g. drugs, alcohol, gender-related violence and other psycho-social effects related to the inflow of workforce during Project construction phases at the neighboring towns); and iii) changes in the safety profile related to traffic accidents, emergency response, unplanned events, crime and conflicts.

Moreover, the Company will: i) submit an erosion assessment of the areas subject to temporary floods located to the west and north-west of the site (under the SERs) and determine the need for waterproofing the soil in the areas where the solar panels will be placed; and ii) assess the impacts from the use and occupation of the land and landscape alteration due to the Project as a whole considering the Master Plan of the Municipality of Pirapora, and any potential impacts at urban expansion areas.

The Company developed a contingency plan to protect its workers preventing and controlling the dissemination of COVID-19 including steps for a speedy risk profile and decision structure responding duly and adequately. This procedure will be specifically detailed for the Project.

The Client prepared a Risk Management Program (RMP) and an Emergency Preparedness and Response Plan (EPRP). The main goal of the RMP is to provide the guidelines necessary to manage chemical products to mitigate or eliminate any potential risks for workers, neighboring communities or project structures. The main objective of the EPRP is establishing coordinated courses of action to be followed by the Project action group in the event of an emergency.

#### 4.4.b Security Personnel

The Company reported that the existing security services do not employ armed personnel for surveillance tasks.

However, the Project will draft and implement a specific security forces management plan using as guidance the IFC "Good Practice Handbook: Use of Security Forces: Assessing and Managing Risks and Impacts"<sup>18</sup>.

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<sup>18</sup> GOOD PRACTICE HANDBOOK: USE OF SECURITY FORCES: ASSESSING AND MANAGING RISKS AND IMPACTS  
[https://www.ifc.org/wps/wcm/connect/topics\\_ext\\_content/ifc\\_external\\_corporate\\_site/sustainability-at-ifc/publications/publications\\_handbook\\_securityforces](https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_securityforces)

## 4.5 Land Acquisition and Involuntary Resettlement

### 4.5.a Overview

The Project area includes four *fazendas*: Fazenda Maltês, Fazenda Nossa Senhora Aparecida, Fazenda Casablanca and Fazenda Nova Estância, totaling an area of 795.58 hectares. The *fazendas* were leased by Atlas to build and operate five units through a thirty-year lease agreement.

Atlas prepared a Social Assessment which determined that two employees of the Maltez and Casa Blanca *fazendas* and their families (one in each *fazenda*) live in houses assigned by the owners and located in the leased areas. They are families of farm managers or farm caretakers, which are employed and formally registered by the *fazenda* owners. The data proving the work relationship of both families were confirmed through documentation submitted by the Company and interviews carried out during the ESDD. In addition, Fazenda Maltez has 8 (eight) employees engaged in gum tree planting tasks.

Atlas prepared an assessment of the people living in the area as part of its Social Assessment and a Procedure for the Obtainment of Building Leases (rights of *superfície*) and Physical and Economic Resettling, presenting the necessary guidelines to acquire rights of *superfície* and manage lands for the Company's activities. The document includes the following elements: i) identification of the affected communities; ii) ways of obtaining rights of *superfície*; iii) notification to the owners; iv) negotiation of land; v) transaction, contract and public deed; vi) forms of involuntary resettlement and physical and economic resettlement (only considering the area owners); vii) engagement mechanism (the same ones used for external communication mechanisms); and viii) grievance mechanism assessment and follow-up process.

Oral negotiations were held between the Company and the area owners to agree on some kind of adequate compensation for the displaced people. As of the date of the ESDD, the formalization of the agreement was in progress.

It was also verified that the resident employees (farm managers) as well as non-resident employees were already advised of the Project by the owners and about the need to resettle. None of the employees were born in Pirapora; consequently, it is impossible to know whether there is any local support network for the families and, in both cases, only the employees are in charge of the household income. Moreover, in an interview held during the ESDD, the resident workers advised that they do not own any plantation fields or rear animals in the occupied areas. Therefore, in this sense, there is no damage to any livelihood activities other than their formal labor activities.

Thus, the Company will develop and implement: i) a Resettlement Action Plan including: a) an appropriate socioeconomic benchmark survey to identify any population displaced by the Project and assess who will have the right to receive compensation and assistance and b) the link and application of the stakeholders engagement procedure and grievance mechanisms, and ii) a Livelihood Recovery Plan for the affected families, if applicable.

## 4.6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

### 4.6.a General Requirements

According to the SERs<sup>19</sup>, the Project area is characterized by the *cerrado* biome with different degrees of anthropization. The *cerrado* savanna presents an open landscape with two well-defined characteristics: an inferior herbaceous layer and a bush layer (ligneous) with crooked trees and bushes, corky stems and which are frequently scattered. There are 13 mammal species, 26 herpetofauna species, and 66 bird species in the Project area with some species classified as vulnerable or threatened by the IUCN Red List of Threatened Species, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and Brazilian lists.

### 4.6.b Protection and Conservation of Biodiversity

The following species of flora are found in the Project area: pequi (*Caryocar brasiliense*), yellow ipe (*Handroanthus spp*), Caribbean trumpet tree (*Tabebuia aurea*), baru (*Dipteryx alata*), kingwood (*Astronium sp*) and aroeira (*Myracrodruon urundeuva*). The pequi and the yellow ipe are protected by State legislation, while the aroeira and kingwood<sup>20</sup> are included in the IBAMA's Regulatory Ordinance. Consequently, none of the flora species found in the area are included in the National Official Flora Threatened Species List<sup>21</sup>.

In order to set up the solar power plants, 695.92 hectares of native vegetation are expected to be removed<sup>22</sup>. In compliance with local environmental legislation, Atlas developed the following procedures: i) compensation measures for the felling of protected trees,<sup>23</sup> planning to compensate 202.88 hectares<sup>24</sup> and ii) Local Flora Conservation and Restoration Plan including: a) rescue of germplasm, b) control of removal activities, c) complying with forest restoration, and d) environmental compensation.

The bird fauna found in the area includes 16 main species with a medium sensitivity to environmental changes, including: i) muscovy duck (*Cairina moschata*); ii) green ibis (*Mesembrinibis cayennensis*); iii) burrowing owl (*Athene cunicularia*); iv) pale-vented pigeon (*Patagioenas cayennensis*); v) picazuro pigeon (*Patagioenas picazuro*); vi) siriema (*Cariama cristata*); vii) yellow-chevroned parakeet (*Brotogeris chiriri*); viii) peach-fronted parakeet (*Eupsittula aurea*); ix) (*Lupsittula maria cayennensis*); x) Caatinga parakeet (*Eupsittula cactorum*); xi) olivaceous woodcreeper (*Sittasomus griseicapillus*), xii) rufous-fronted thornbird (*Phacellodomus rufifrons*, xiii) variable oriole (*Icterus pyrrhopterus*), xiv) pearly-vented tody-tyrant (*Hemitriccus margaritaceiventer*), and xv) flavescent warbler (*Myiothlypis flaveola*).

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<sup>19</sup> Based on location criteria defined by COPAM Regulatory Standard 217/2017 – Priority Conservation Areas, JPG. 2020.

<sup>20</sup> These are considered as protected only in primary forests and not in regeneration or secondary vegetation as in the case of the formations in the Project area.

<sup>21</sup> Ordinance 443/2014.

<sup>22</sup> With 17,409 isolated and grouped individuals (with 9,349 pequis [*Caryocar brasiliense*] and 8,060 yellow ipes [*Handroanthus spp*]).

<sup>23</sup> Prepared following the procedures in Law No. 20,308/201 and structured as per the list in Annex I to COPAM Regulatory Resolution No. 76/2004.

<sup>24</sup> By planting 39,675 units of seed stock of pequi and 35,780 units of seed stock of yellow ipe.

As to the endangered species in the State of Minas Gerais (2010), only the flavescent warbler is listed as a vulnerable species. In the area there are no species included in the Brazilian Threatened Species List. There is only one species included in the IUCN List as near threatened, the blue-winged macaw (*Primolius maracanã*). In the CITES List, two species appear in Appendix I: i) versicolored emerald (*Amazilia versicolor*) and ii) blue-winged macaw (*Primolius maracanã*).

No threatened species of herpetofauna were found which appear in any state, national or international list. On the other hand, the following endemic species of the *cerrado* savanna were found: i) Lagoa Santa treefrog (*Dendropsophus rubicundulus*), ii) Central Dwarf Frog (*Physalaemus centralis*), iii) brown-spotted dwarf frog (*Physalaemus marmoratus*), and iv) Northeastern Brazilian leaf frog (*Pithecopus nordestinus*).

Two species of small mammals were identified: i) Karimi's fat-tailed mouse opossum (*Thylamys karimii*) and ii) (*Calomys cf. tener*), which appears as vulnerable in the IUCN List (2016).<sup>25</sup>

As to bats, two species of the *Phyllostomidae* family were found: i) bat (*Artibeus planirostris*) and ii) Dekeyser's nectar bat (*Desmodus rotundus*). These species are not listed as threatened in any of the lists checked.

Finally, nine species of medium and large mammals were found including the following endangered species: i) maned wolf (*Chrysocyon brachyurus*) and ii) giant anteater (*Myrmecophaga tridactyla*) which appear in international (IUCN, 2016), national (MMA, 2014) and state (MINAS GERAIS, 2010) lists.

To carry out the Project works, the Company developed a local fauna protection and monitoring program to: i) monitor the impact on birds living in native vegetation environments generating data which may contribute to follow up on any environmental changes after the implementation of the Project; ii) rescue, triage and rehabilitate captured animals, as well as the subsequently reintroducing them in areas adequate for them to be freed; iii) organize and treat the results so that they may give rise to subsidies to manage conservation; and iv) send biological material to a duly accredited institution through an acceptance letter.

There are no environmental conservation units or areas under an environmental protection system and no conservation unit buffer zones were identified at the Project site. The planting areas seeking to compensate the removal of the *cerrado savanna* biome observe the limits of Permanent Conservation Areas <sup>26</sup> ("PCAs") along the water courses and Legal Natural Reserve <sup>27</sup> ("LNR").

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<sup>25</sup> However, it is not considered as threatened in Brazil or in the State of Minas Gerais.

<sup>26</sup> Compulsory native vegetation protection areas (generally along the rivers or any water course) which needs to remain protected from human activities.

<sup>27</sup> A portion of the total area of the property that needs to be preserved is covered with native vegetation without any human activity.

The Project area A is overlapping APCB No. 31<sup>28</sup>, called Buritizeiro/Pirapora Region. This APCB is classified<sup>29</sup> as having extreme biological significance, being a priority for conservation and extremely rich in rare bird species.

Based on the information provided, the Project does not expect to introduce any exotic species as it will strictly follow Brazilian regulations by replanting flora species. Thus, the Company will develop a Biodiversity Management Plan for the construction and operation phases, including mitigation measures and monitoring activities, especially for flora or fauna classified as vulnerable, endangered or which may be directly or indirectly impacted by the Project.

#### **4.7 Cultural Heritage**

Atlas applied to the Instituto Nacional de História e Arte, IPHAN (National History and Art Institute)<sup>30</sup> for all the necessary licenses related to cultural heritage management under current Brazilian regulations. In order to identify any potential historical, archeological or chance find sites, as well as any other cultural heritage, the Company prepared the related reports related to the Archeological Heritage Management Program: i) Archeological Heritage Impact Assessment Project, and ii) Archeological Heritage Impact Report.<sup>31</sup> The IPHAN has already approved the Archeological Heritage Impact Assessment Project<sup>32</sup> and the Archeological Heritage Impact Report, while the results of the research were still under analysis as of the date of the ESDD.

Atlas engaged in research in the Project area including the region close to the site and no conflict was identified in connection with the presence of historical sites or protected areas, such as archeological sites. A study was performed to identify the presence of potential archeological finds in the Project area with 4,046 sampling points. The results obtained indicated only two finds of lytic occurrences (fragments) which were catalogued<sup>33</sup> and delivered to a research institution located in the Project region, available for the scientific and local communities in order to recover and appropriate the cultural heritage.

Atlas prepared informative educational material on the work performed and furnished it to the Pirapora Department of Education. During the pandemic, there were no classes at the schools in the region; consequently, this material should be released when classes are resumed.

The Company should submit the IPHAN's final opinion as well as evidence that the material designed for schools and institutions in the region has been distributed.

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<sup>28</sup> <http://www.biodiversitas.org.br/atlas/sintese.pdf>

<sup>29</sup> The definition of priority areas is a planning tool of the State of Minas Gerais. They are defined in the following link: <http://www.biodiversitas.org.br/atlas/sintese.pdf>; since there is no specific legislation on these areas, the criterion is used to define the environmental licensing process. As per COPAM Regulatory Standard 217 of December 6, 2017.

<sup>30</sup> IPHAN – 01514.002342/2019-55

<sup>31</sup> Both reports follow the guidelines defined in Federal Regulation Standard 001/2015.

<sup>32</sup> Technical Opinion No. 138/2019 - IPHAN-MG of April 12, 2019.

<sup>33</sup> Under IPHAN Ordinance 196/2016.

## 5. Local Access to Project Documentation

General information on the Company is available at:

<https://www.Atlasrenewableenergy.com/proyectos/#brasil>