

Environmental and Labor Issues:

Classification: This is a category B project according to the IIC's Environmental and Social Sustainability Policy because it could produce certain effects that may be avoided or mitigated by following generally recognized performance standards, guidelines, or design criteria. The main environmental and labor considerations related to the project are: labor and working conditions, occupational, health and safety and emergency response, pollution prevention, biodiversity/flora and fauna, and social and community issues.

Project Overview: GSA is a Guatemalan company created in 2012 for the development, construction and operation of a run-of-river hydropower project with an estimated capacity of 10.65 MW, located in the municipality of Ixquisis, Department of Huehuetenango, Guatemala. The project will use the waters of the Primavera, Varsovia, and Palmira rivers, and it is expected it will generate around 44,300 MWh annually, using two Francis Turbines of 5 MW each and a Micro Crossflow Turbine of 0.2 MW. IIC funding will be used for the construction of the project.

The IIC's environmental and social review included an assessment of both San Andres and San Mateo hydroelectric projects, as well as the associated transmission line. San Mateo is an adjacent run-of-the river hydroelectric power project, developed by the same sponsors that will be also financed by the IIC together with other lenders.

In order to conduct energy to the national grid, San Andres' development will involve the construction of a transmission line and substations to deliver energy from the power house substation near the Yalhuitz River to a switching substation on the national grid near the town of San Mateo Ixtatán. Electricity will be transported from the power house to a step-up substation to be constructed between Ixquisis and Nuevo San Mateo by means of an underground line that will largely run parallel to the San Mateo penstock and pipelines over a distance of approximately 6 km. From the step-up substation, electricity will be transported by a 26.140-km aerial 69-kV transmission line to the national grid connection near San Mateo Ixtatán.

Assessment and Management of Environmental and Social Risk and Impacts: IIC's assessment considered the company's management of its environmental, health and safety procedures, compliance with national and local permitting requirements, and the Company's engagement with local communities regarding environmental, health and safety issues.

The environmental impact assessments (EIAs) for the San Andres and San Mateo hydroelectric projects and the 69 kV transmission line were approved by the General Directorate of Environmental and Natural Resources Management (DGGARN), a sub-agency of the Ministry of Environment and Natural Resources (MARN). In addition, upon the IIC's request the client is developing a supplementary EIA that addresses issues in line with IIC's requirements and IFC's Performance Standards. The supplemental EIA, which the project sponsor has agreed to includes a critical habitat assessment (expanding on the biological baseline information), more information on the identification of any priority ecosystem services, information on land use and land cover along the transmission right-of-way, as well as a chance find procedure for archeological artifacts.

Labor and Working Conditions: The Company will ensure that its contractor's comply with good industry practice for occupational health and safety (OHS) standards during construction through regular monitoring of work sites. The Company has indicated its commitment to develop a strategy and plan for transparent and fair local recruitment for the operational phase. The Company will also develop a grievance mechanism accessible to workers and affected parties (including grievances register, procedures for grievance management, follow-up actions and timeline, feedbacks and record keeping).

Occupational Health and Safety and Emergency Response: GSA or its contractors and subcontractors will provide appropriate equipment, machines, and tools, which will be used by authorized qualified personnel solely for the purpose for which they were designed. All project personnel will be informed about the risks of each job and receive training in how to use the available materials and tools and how to provide timely, appropriate aid to anyone injured in an accident. All personnel will be provided with appropriate personal and collective protective equipment, based on the risks to which they are exposed (i.e., uniforms, helmets, gloves, boots, goggles, harnesses, and hearing protection devices). For jobs involving explosives, a specialized company with mining experience will be engaged, implementing the security measures stipulated by law.

The hydropower Protection and Safety Plan includes a contingency plan fires, explosions, hazardous spills, and terrorist acts. It includes communication and first aid procedures and indicates the relevant outside organizations to contact in each case.

Resource Efficiency and Pollution Prevention: The Environmental Management Plan for the project has provisions for the handling and disposal of waste lubricants from construction vehicles and other construction-related solid waste. The main air emissions would occur during the construction phase, originating from vehicles and machinery operated by the contractors. In addition to gas emissions from internal combustion engines, the project would also generate fugitive dust from vehicular traffic. In order to mitigate gas emissions, engine maintenance will be performed regularly in accordance with the manufacturers' technical specifications. There would be no significant air emissions in the operational phase.

Biodiversity/Flora and Fauna: The project will be constructed largely in habitats that have been significantly modified by agricultural and livestock production by local communities. The remaining natural forest habitats are limited in extent and the project will take measures to avoid, minimize or restore impacts to these forests. Due to historic human pressures on fauna in the project's zone of influence, the fauna observed in the area of the hydroelectric components was limited. However, the transmission line runs through areas recognized as the Cuchumatanes Important Bird Area and the Montañas Los Angeles-Soloma-Todos Santos Alliance for Zero Extinction Site. Therefore, the IIC will require the project to comply with the applicable requirements of the International Finance Corporation's Performance Standard 6 (PS6) for projects in areas recognized internationally as key biodiversity areas. The Company is carrying out additional biological baseline surveys (particularly along parts of the transmission right-of-way) that will form part of a Critical Habitat Assessment needed to determine whether the Project is located in a Critical Habitat.

Regarding ecosystem services, from the EIA it does not appear that the local communities make any direct use of the surface or groundwater to be used by the generation projects. However, discussions with local residents during IIC's review revealed that the snails, shrimp, and crabs that inhabit the local rivers are consumed to some extent by members of the local communities, including children. At the request of the IIC, the Company will expand its assessment of priority ecosystem services in order to further determine the extent to which local communities utilize these resources, and whether there is any differential use of these resources by any indigenous and ladino people in the area.

The San Andres project is based on capturing water from three small rivers. Flow captured from the Primavera, Varsovia, and Palmaira rivers is stored in a pond and then conveyed to a powerhouse that discharges to the Yalhuitz River. The maximum flow of the Primavera, Varsovia and Palmira are 3.0m³/s, 1.75 m³/s and 1.45 m³/s respectively. The project's minimum ecologic flows to be maintained for these three rivers is 140 l/s for the Rio Primavera, 100 l/s for the Rio Varsovia and 80 l/s for Palmira. The project will be required to conduct monitoring activities during the operational

phase to ensure that sufficient ecological flow is being maintained and avoid any negative impacts on the aquatic ecology or other related flora or fauna in these river systems.

Indigenous Peoples: The vast majority of the residents of the project area are Ladinos (Spanish-speaking Guatemalans who do not follow an indigenous life style. The project area communities do include some members of the Canjobal and Chuj indigenous language groups and these people are clustered in certain communities; however, there are no communities in the project area of influence that are monolingual or composed exclusively of any ethnic group.

Social Issues: The San Andres project is located in the municipality of San Mateo, Ixtatán, Huehuetenango, less than 2 km from the Franja Transversal de Norte. There are a total of 12 communities directly related to the San Andres and San Mateo hydroelectric projects.

Despite the tension in the project area due to past conflicts (related to historical armed conflicts and most recently due to movements opposing the development of new projects, such as roads, mines and hydroelectric projects), the Company has carried out extensive stakeholder engagement and been successful in building relationships in the area surrounding the project sites in the Municipality of San Mateo over the past 3.5 years. The Company has also sponsored a number of projects designed to benefit the community and build good will among the local population. Among the benefits the Company has brought to local communities are the following: subsidies for local schoolteacher salaries, construction of a clinic, computer classes for local children, and medical care to some communities.

The company has provided the IIC with a number of documents from local village councils, which voted in favor of the San Mateo and San Andres hydroelectric projects. They include numerous signatures from villagers, as well as the signature of the local Municipal Auxiliary mayor.

Given that the local communities are extremely interested in having power, the IIC assessed their expectations in order to determine whether they understand that these projects will not necessarily provide them with power, given that the role of power distribution in Guatemala is separate from power generation and transmission. Distribution is in the hands of a Federal Agency and designated private operators. The IIC team was satisfied that the villagers are fully aware that installation of the generators will not automatically bring power to their homes and villages, suggesting that false expectations have not been raised. At present, there are no specific plans for the electrification of the villages in the area of the proposed project. However, the company has lobbied for the development of a local distribution grid in the area and has included power takeoffs in the project at 34 kV in the area that would facilitate the installation of substations for local distribution.

Land Acquisition: The San Andres and San Mateo projects collectively required the acquisition of approximately 70 parcels of land for the pipelines supplying the generators, substations and the actual powerhouses. These parcels were purchased through direct negotiations with the landowners on a willing selling/willing buyer basis. No land was acquired through eminent domain or other government action and it appears that farmers were able to continue farming without loss of livelihood.

Monitoring and Reporting: The Company will be required to carry out the actions included in the Environmental and Social Action Plan (ESAP) developed for the project to ensure compliance with national regulations and the IIC's Environmental and Social Sustainability Policy. The company will be required to submit regular progress reports to the IIC on the implementation of the ESAP and its compliance with environmental and social requirements of the loan agreement.

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