



Environmental and Social Review Summary

Concept Stage

(ESRS Concept Stage)

Date Prepared/Updated: 04/19/2019 | Report No: ESRSC00425



BASIC INFORMATION

A. Basic Project Data

Country	Region	Project ID	Parent Project ID (if any)
El Salvador	LATIN AMERICA AND CARIBBEAN	P170089	
Project Name	ES Increasing power generation from geothermal resources in El Salvador		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
«PRACTICEAREA»	Investment Project Financing	10/30/2019	2/28/2020
Borrower(s)	Implementing Agency(ies)		
Government of the Republic of El Salvador	LaGeo		

Proposed Development Objective(s)

The Development Objective is to increase electricity generation from geothermal resources in El Salvador

Financing (in USD Million)	Amount
Total Project Cost	235.00

B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

No

C. Summary Description of Proposed Project [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]

The project will support the development of San Vicente and Chinameca geothermal fields (aggregated capacity of up to 80MW) with the purpose of advancing the diversification of the energy matrix in El Salvador, reduce energy costs for end consumers and increase the security of supply. This project comprises the initial development stage of the relevant geothermal fields and will provide financial resources to LaGeo (publicly owned geothermal developer) to i) finalize the exploratory drilling campaign, carry out the needed assessments and confirm and characterize the geothermal resource available in Chinameca and San Vicente; ii) install two small power generation plants and ancillary facilities (ie substations and power lines) to start producing electricity with the geothermal resource so far available in both geothermal fields; iii) carry out the technical design and detailed engineering of the utility scale



power generation facilities, to fully tap into the total available geothermal resource in both geothermal fields; and iv) carry out initial works to advance the development of the utility scale power generation facilities. Subsequent works to finalize the installation and commissioning of two utility-scale geothermal power generation facilities in the geothermal fields are not within the scope of the Project and will be part of a subsequent financing operation. A key outcome of the Project is to carry out the final design and scope for the subsequent stage, once the relevant information is available.

D. Environmental and Social Overview

D.1. Project location(s) and salient characteristics relevant to the ES assessment [geographic, environmental, social]
Project activities will take place in two locations: the Chinameca Geothermal Field, located in the municipalities of Chinameca and Nueva Guadalupe of the department of San Miguel, and the San Vicente Geothermal Field, located in the municipalities of Tepetitán and San Cayetano Istepeque of the Department of San Vicente. Brief overviews of each area are provided below: Chinameca: This geothermal field is located on the northwestern slope of the Chinameca volcano, also known as El Payacal, which is more broadly within the basin that lies between the San Miguel volcano to the East and the Cerro El Tigre volcano to the West. As of the 2007 census, the municipality of Chinameca had approximately 15,780 inhabitants, while the municipality of Nueva Guadalupe had nearly 9,000 inhabitants. The population is generally dedicated to agricultural activities. The project area is moderately sloped, with a moderate to high degree of susceptibility to landslides. It is also within the northern section of the Tecapa-San Miguel Conservation Area. Based on available secondary source data, there are several vertebrate and bird species as well as one bat species identified in the area of influence with a national classification as threatened (IUCN classification is still pending verification). Land use in the proposed project area, especially in the areas of drilling, is predominated by shade-grown coffee plantations in various states of production and abandonment. Even though there are two aquifers in Chinameca, water scarcity and insecurity are major issues during the dry season. This has been further exacerbated in recent years due to land use change, deforestation and climate change, which have diminished the amount of infiltration and rate of recharge of these aquifers. San Vicente: The total population of the municipality of Tepetitán as of the 2007 census was 3,631 inhabitants, while the municipality of San Cayetano Istepeque was 5,103 inhabitants. The geothermal field is located within the San Vicente Norte Conservation Area. Based on available secondary source data, some vertebrate and bird species identified in the area of influence have been nationally classified as threatened (IUCN classification is still pending). Land use is predominately composed of sugarcane, coffee and cacao plantations, with a high use of fertilizers and pesticides along with environmentally destructive seasonal burning of land and agricultural residues, which together are contributing to environmental degradation, erosion, reduction in aquifer recharge capacity, increased risks of forest fires, and pollution of surface water systems. There are three aquifers supplying water to the municipality. Water scarcity is reportedly not as severe as in Chinameca at present, although similar trends of land use change, degradation of native vegetation, and climate change are putting significant pressures on water sources. The surrounding communities of Chinameca and San Vicente are largely rural with high rates of vulnerability, food insecurity, poverty and unemployment. The majority of residents are dedicated to agriculture, with coffee, cacao, and sugar cane as the three principal cash crops. In Chinameca, coffee production has decreased significantly as the global price of coffee has made it unprofitable and many coffee farmers have abandoned their farms or are transitioning their productive lands to other crops. The local governments have little to no funds and basic infrastructure is lacking throughout each of the municipalities. Local ADESCOs (neighborhood associations) bridge the gap between the local government and the community. ADESCO members are elected by community members and represent their concerns to the local government. The national context around insecurity is

Public Disclosure



also present in both Chinameca and San Vicente. Gangs and delinquent groups extort residents and businesses as well as commit robberies and engage in other forms of violence.

D. 2. Borrower’s Institutional Capacity

LaGeo - a State-owned company - is the sole developer of geothermal resources in El Salvador, and holds long-time technical expertise in the development, operation and maintenance of geothermal power plants. LaGeo (and its predecessor CEL) has been responsible for the development and operation of the existing Ahuachapán and Berlín geothermal fields, with total installed capacity of 204 MWe, currently supplying more than 22% of the electricity consumed in El Salvador. At these existing assets, the company has had a good track record of compliance with national environmental legislation and standards, and has earned the trust and overall broad support of neighboring communities. LaGeo has also conducted the exploratory work of the geothermal fields of Chinameca and San Vicente so far. With respect to environmental capacity, LaGeo has an in-house Environment Team that manages all environmental permitting, EIA, and environmental monitoring and oversight of EMP implementation across the company’s various assets. Beginning with exploratory activities at Chinameca and San Vicente from the late 1990s until the present, the company has gone through various environmental permitting processes with the Ministry of Environment and Natural Resources (MARN for its acronym in Spanish), including an initial conceptual EIA for each site at the time of original granting of the concessions in the late 1990s, and subsequent environmental documentation for follow on permits (at times including full EIAs for specific proposed activities, such as construction of drilling platforms, and at times including more limited environmental data sheets, based on the classification scheme of specific proposed activities). The Environment Team at LaGeo has also been responsible for submitting required follow up monitoring and reporting to MARN in accordance with the requirements of each environmental permit. (Details of compliance monitoring reports submitted to MARN have not been reviewed by the Bank, so it cannot be confirmed whether they have been in full compliance at all times with national permits, although MARN has not disclosed any information to the contrary.) In addition, LaGeo has received extensive technical assistance from Iceland on good international industry practice (GIIP) in technical and safety aspects, and now uses GIIP reference standards for in-house auditing of these aspects at their already-operational facilities. While LaGeo has not previously worked with World Bank standards, the overall professionalism, financial capacity, interest and initiative within the company to learn from international experience and adopt good international industry practices (GIIP) in all areas (environmental, social, and technical) signals an overall strong basis for effective E&S management of the project.

Public Disclosure

II. SCREENING OF POTENTIAL ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC) High

Environmental Risk Rating High

The environmental risk rating for the project is considered high. The underlying impact profile of the project is considered high, in light of potentially significant direct and indirect impacts across a range of settings including ecologically sensitive and water-stressed areas as well as rural productive landscapes. The primary environmental, health and safety impacts and risks are expected to include: (a) significant water consumption requirements during the drilling phase, in settings of already limited (and, in the case of Chinameca, precarious) water availability for local communities during the dry season; (b) deforestation, and resulting habitat fragmentation and land use changes, from earthworks and civil works to build drilling platforms, develop and improve access roads, and install networks of



pipelines to carry hot and cold process waters; (b) varied construction related impacts and risks associated with infrastructure and industrial projects, including noise, dust, road and traffic safety, occupational health and safety, and potential labor influx related issues (including the resulting additional stress on limited water resources) in the neighboring towns; and (c) potential for surface and groundwater contamination in the case of improper disposal of drilling muds. The overall risk is somewhat moderated by the high capacity of the project sponsor, LaGeo, to manage these risks and impacts – notably developed through years of on-the-ground learning-by-doing and gradual improvement of management practices over nearly 20 years of exploratory drilling and development at the two project sites. Nonetheless, at this stage the overall risk is still considered high, particularly as decisions have not yet been taken about the likely size, number, and timeline of works contracts, which could create significant E&S managerial, coordination and oversight complexities for LaGeo.

Social Risk Rating

High

The project is currently considered to be high risk due to the proposed scope of works and the potential impacts this could have on surrounding communities. The principle social impacts for the project will be centered around several issues: 1) land acquisition; 2) management of community perceptions of the project; 3) occupational health and safety; 4) Labor influx management; 5) and security concerns. The project has already purchased/negotiated with around 100 land owners in and around the project site in Chinameca and San Vicente. The project will resettle in total around 6 households in Phase 1 and potentially an unknown about of additional families in Phase 2. Any resettlement in Phase 2 however will be subject to the procedures spelled out in ESS5. The vast majority of transactions are willing buyer willing seller; however, documentation of these transactions shall be provided in order to ensure they conform to ESS5.

The community has extremely high expectations for the project. They have expressed the desire to work on the project, for improvements in basic services and in general for the executing agency to be a good development partner in the community. These expectations will have to be managed well to avoid overpromising and underdelivering. In addition, the project risks confusion between government responsibilities and LaGeo. While LaGeo is a state-owned entity, it was designed and can only execute tasks within its mandate. It is not a government agency in the broader sense of the word and cannot take on or finance local government responsibilities. This distinction should be made clear through their stakeholder engagement process with clear messaging. While LaGeo cannot engage in those activities, LaGeo has a philanthropic foundation called FundaGeo, which is financed by LaGeo. FundaGeo is a separate organization whose mandate is to develop and implement social development programs in surrounding communities. They operate as part of the social licensing infrastructure. The FundaGeo’s role must be clarified so that the social team in LaGeo conducting social mitigation and the social team in FundaGeo executing social development projects are integrated and collaborative but don’t substitute for each other. Each team must understand the overall programming to ensure efficient use of resources and no duplication in services.

The project impacts around labor management and labor influx will also be important. Initial expectations from LaGeo, based on their experience during the exploration phase, are that about half of the required workforce will come from the surrounding communities, while the rest will likely be drawn from other areas in the department and possibly the country. This could create strains on already inadequate basic services if the influx is not well documented and well managed by the executing agency. LaGeo must take steps to ensure that local workers are given preference, even where labor is hired through a subcontractor. Finally, insecurity in the area is quite high for a rural area. Delinquent groups are known to extort companies and take advantage of community members. As such, LaGeo has hired a security company to provide their services. It will be important to analyze the contract to ensure



that they conform with ESS4 as it relates to contracting security services. Security personnel should have training, and clear procedures for engagement.

B. Environment and Social Standards (ESSs) that Apply to the Activities Being Considered

B.1. General Assessment

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Overview of the relevance of the Standard for the Project:

Components 1 and 2 will involve sizeable civil works, spread out across various locations within rural landscapes of the municipalities of Chinameca and San Vicente, related to exploration, capture and development of geothermal energy, and power transmission. In both project areas, significant infrastructure has already been developed by LaGeo, in particular during the last 10-15 years, as exploratory activities were underway. This existing infrastructure consists primarily of exploratory wells and access roads (including construction of some sections of new road, as well as upgrading of existing public rural roads). This infrastructure will be utilized, further developed and expanded upon as the project goes into production stage under Components 1 and 2. From an environmental footprint perspective, in Chinameca there are two principal “new” locations where major earthworks will be undertaken under the project: the site of the substation and one new exploratory drilling platform – both currently shade coffee plantations with relatively intact forest cover. In addition, associated access roads, transmission line towers, and pipes to transport geothermal vapors will also expand the existing footprint of project developments. Other activities will take place within, or expanding slightly upon, existing footprints from the exploratory phase. In San Vicente, there is just one major “new” earthworks location – currently a sugar cane field – for a new drilling platform and the substation. As with Chinameca, the existing footprint will also be expanded with construction of new sections of access roads, transmission line towers, and pipes to transport geothermal vapors. In both locations, the phase 1 power plants will be built at the sites of already existing drilling platforms. Under Component 2, other than the two new exploratory drilling well locations mentioned above (one at each site), the rest of the estimated 10 exploratory drilling wells will utilize directional drilling from existing platforms, with no additional surface level environmental footprint. Component 3 will include all required preparatory studies, including detailed ESIA studies, for full development of phase 2, which would eventually include opening of additional development areas. Component 4 will finance environmental and social mitigation, management, and value added programs. The primary environmental, social, health and safety impacts and risks are described above under environmental and social risk rating sections. To address these risks and impacts, LaGeo will retain independent environmental and social consultants to prepare, consult with stakeholders, and disclose two full ESIA studies (one for Chinameca and one for San Vicente) prior to appraisal, covering: (a) all Component 1 and 2 construction and operation activities in detail; and (b) a higher level characterization of anticipated potential impacts and mitigation measures from a future Phase 2 development, including cumulative impacts for the overall Phase 1+2 programs combined with past, present, and reasonably foreseeable future investments in the area. The ESIA studies will also include full ESMPs, which will detail institutional arrangements and budget requirements for (i) implementation and contractor oversight of all environmental and social mitigation and management measures directly associated with the works to be carried out under Components 1 and 2, (ii) the completion of comprehensive ESIA studies and related E&S plans for phase 2 development under Component 3; and (iii) implementation of all additional social and environmental programs and activities to be financed under Component 4. Completion of all pending environmental permitting processes as per national



legislation for all phase 1 activities, incorporation of contractor ESMP requirements into bid documents, well as completion of full ESIA and related E&S plans for phase 2 development (building on the preliminary analysis in the pre-appraisal ESIA) will be included in the ESCP. Both ESIA will include ancillary works for the proposed project (access road, transmission towers, pipelines, substations, etc.). The project will follow the EHS Guidelines for Geothermal from the IFC.

https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines Full implementation of all detailed E&S management plans for phase 1, and monitoring and reporting on the same, will also be included in the ESCP.

Areas where reliance on the Borrower’s E&S Framework may be considered:

The project does not intend to rely on El Salvador’s E&S Framework for this project, although compliance with the national framework provides a solid foundation for compliance with the ESF, and will continue to also be a requirement of the project. LaGeo has significant experience and capacity with meeting national environmental and other requirements, and in recent years have benefited from Icelandic technical assistance to further develop their own practices in line with various aspects of GIIP. Nonetheless, they have no prior experience with World Bank standards, and some gaps exist between the ESF and existing national requirements as well as LaGeo’s existing practices and systems. LaGeo will therefore be preparing supplementary assessments and plans, and implementing additional measures beyond what is required under national systems, as part of this project. The full spectrum of actions proposed will be captured in the ESF instruments for the project.

ESS10 Stakeholder Engagement and Information Disclosure

La Geo has developed two good first draft Stakeholder Engagement Plans (one for each project site). The environmental and social team has already provided a first round of comments to the drafts that will be incorporated in the coming weeks. The SEPs provide important details about how the project team will work to identify and then engage with the communities around San Vicente and Chinameca. LaGeo has already been operating a series of other investments in nearby areas, and has not only good relationships with the surrounding communities, but commitments to invest in social development programs. These investments will be made only after a social assessment is performed that will define community needs in consultation with the affected communities, in coordination with an analysis to ensure their environmental appropriateness. The SEPs are expected to be revised and consulted with stakeholders in the coming month, so that preparation-phase stakeholder engagement can get underway. Updated versions will be published by both LaGeo and the Bank as part of the overall information disclosure package before appraisal, which is expected to be in August.

B.2. Specific Risks and Impacts

A brief description of the potential environmental and social risks and impacts relevant to the Project.

ESS2 Labor and Working Conditions

The Borrower has prepared a draft Labor Management Procedures plan, which outlines requirements for assessing and managing labor and working conditions and includes good practice guidelines in accordance with this standard. The draft has already received comments from the World Bank team and those comments will be incorporated in a final plan that will be ready before appraisal. During project implementation, the labor management procedures will be updated as needed to incorporate in terms of references and legal obligations for contractors hired to complete



tasks during the project. Labor-related requirements specific to construction activities, including a requirement for contractors to have in place appropriate occupational health and safety (OHS) management systems including emergency prevention and preparedness and response arrangements, will also be incorporated into the site-specific ESMPs and also bid documents for all investments. While the potential impacts of the proposed works are likely to be substantial, the borrower has shown in its other plants that OHS is a high priority. At this stage, it is expected that at least half the required labor will be supplied locally, and the total number of workers for both sites will vary as construction progresses. The borrower will rely on a high number of contractors and their good management will be important for the overall success of the project during construction. Additional information will be provided so that World Bank can assess the potential impacts of workers as they reach their peak. Contractors will be required to ensure appropriate quality of accommodation for all non-local workers to adequately protect and promote their health, safety, and well-being. Labor from outside the community should also be trained on avoiding and managing sexually transmitted diseases and be provided a general code of conduct. The labor management procedures will also include a GRM specifically for workers so that they have an official communication channel for complaints or other issues. There will also be a project wide GRM developed and implemented by the borrower.

ESS3 Resource Efficiency and Pollution Prevention and Management

The project will contribute positively to national and global climate mitigation objectives by providing clean geothermal energy. Beyond exploration and construction related energy consumption requirements, the electricity produced from the geothermal plants is effectively carbon-free (release of small amounts of naturally occurring CO₂ in the geothermal vapors is negligible). Water conservation and efficiency will be a key issue for the project, given significant water stress among local communities during the dry seasons, which is likely to intensify with climate change. The freshwater consumption of the power plants once in operation should be minimal, as geothermal water will not be cooled (it will be reinjected directly after passing through the turbines in a closed-loop system), while condensed geothermal vapor should provide more than sufficient water for plant maintenance requirements. Drilling activities, on the other hand, will consume significant volumes of water, which especially in the initial stages must be sourced from local springs and surface aquifers. This is likely to put further stress on availability for other water users who are also tapping these sources. Land clearing and land use changes resulting from the project (both direct as well as indirect and induced) will also further deteriorate aquifer recharge capabilities. In addition to water conservation programs by the project, reforestation programs along with community-oriented environmental education, water efficiency and planning, and sustainable rural livelihood programs are therefore also critical components to maintaining and enhancing the water balance of the project area. These topics will be fully explored as part of the ESIA studies, including full water balances, identification of water efficiency and management measures that can be adopted by the project, water monitoring requirements, as well as identification and planning of community oriented water efficiency and conservation measures that LaGeo could execute under Component 4 of the project. Once wells reach about 1000-1200 meters in depth, geothermal waters can be used for further drilling; however, this water (which comes from deep below the freshwater aquifers) contains high levels of naturally-occurring arsenic among other elements, and therefore must be re-injected after drilling and production uses. The basic project design already takes this into account and will reinject all such waters; wells will furthermore be lined where they pass through surface aquifers, and aquifer water quality continuously monitored, to ensure no contamination of those aquifers from the geothermal waters. Once the geothermal plants reach operation stage, geothermal vapors used to drive turbines can be re-captured and condensed. This water is expected to be of reasonably pure quality, which might make it suitable to use for irrigation (although not for drinking purposes). Potential suitability and uses of this water



(either by LaGeo for its project activities, or by local communities) will be analyzed through the ESIA process, including the implications on land use if any of it is offered to community members for irrigation. The main potential pollution issue under the project relates to management of drilling muds, which are mixed with geothermal waters and potentially also chemical additives. The project intends to develop isolated and fully lined deposit areas where these muds will be pumped, allowed to dry out, and eventually capped and revegetated once full. Based on LaGeo's experience from their existing operational geothermal plants, there is no anticipated generation of cooling tower sludges or brine scales which would require treatment and disposal solutions; however, this will be thoroughly evaluated in the ESIA studies. Appropriate requirements and specifications for the drilling mud management system, and any other hazardous materials and waste management issues as applicable, will be included in the ESMPs.

ESS4 Community Health and Safety

Key risks and issues related to community health and safety are expected to include: (a) Traffic safety along local roads, particularly during the construction phase: Traffic management plans will be included in all ESMPs, and also required to be further detailed and continuously updated by all contractors. (b) Potential labor influx issues: Preliminary estimates from LaGeo are that about 400-500 workers will be required during the construction phase at each project site. Based on their experience from developing other geothermal fields in the country, LaGeo expects that contractors will be able to source about half the required workforce from local towns. Towns in both project areas should be large enough to absorb the additional few hundred workers and their families who come from elsewhere into the existing housing stock; however, additional strain on local services – particularly water supplies – may still be felt within each community, particularly when factoring in induced influx spurred by the broader economic activity created by project construction. These issues will be thoroughly analyzed in the ESIA studies, and codes of conduct and management plans developed as appropriate. (c) Risks stemming from use of security forces: in both locations, but Chinameca in particular, crime and violence is prevalent in the community, and LaGeo therefore employs armed security forces to protect its assets and workers. As evidenced by other projects they manage, LaGeo will work with FundaGeo to develop measures that address crime and violence, gender based violence as well as to manage labor influx. These measures will necessarily include working directly with local governments to come up with ways to be resource efficient and avoid community/social conflicts. As part of the ESIA studies, a social assessment will be carried out that assesses the prevalence of various forms of violence and provides advice in consultation with communities as how to address these risks. To attract contractors to the project, they will also need similar arrangements. There exist risks related to potential abuse of community members by security forces. Security personnel management plans will be required at each project site, and also included in all bid documents for contractors. (d) Potential health and safety risks to affected communities stemming from diminution of water quantity or quality, and/or exposure to hazardous materials: the ESIA studies will analyze all such risks and propose appropriate mitigation measures.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

Land acquisition and some resettlement has been occurring in the pre-development phases of the project. LaGeo has negotiated with more than 100 property owners for the project. In addition, many land owners have negotiated with the company in willing buyer willing seller transactions. There are 6 cases of caretaker families living on lands acquired for the project, where LaGeo took the decision to resettle these families. More information will be needed in order to understand in detail the process that was used for both land acquisition and for the resettlement of



caretakers or others. The executing agency is in the process of developing a RAP for these 6 households that will require physical resettlement. One household has already been resettled and the team has not seen evidence that additional families will need to be resettled in other areas of impacts of the project at this time. The RAP will include a chapter that includes information for all previously resettled households as well as all land acquisition that has occurred to date. The social team will review the information provided to ensure that it has been completed in accordance to ESS5. If gaps are found, LaGeo will need to rectify any non-compliances. Due diligence will be undertaken to ensure that the land acquisition of 100 property owners undertaken by LaGeo for the proposed project meets the principles of ESS5, and if not, appropriate gap-filling measures will be taken, in particular compensation for loss of assets at replacement cost as per ESS5. Additionally, due diligence for the proposed project will be undertaken to ensure that, in addition to the six caretaker families that LaGeo is resettling, should there be other eligible PAPs in the ancillary facilities including access roads, substations, transmission lines, steam pipelines, ESS5 will be applied. For the one household that has already been resettled, due diligence will be undertaken to ensure compensation for loss of assets at replacement cost was received as per ESS5.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

Both project sites are located within nationally designated Conservation Areas, which are effectively buffer zones to the country's actual and proposed Protected Areas— declared as such to aide the government in ensuring the ecological integrity of the Protected Area system, by establishing biological corridors and protecting broader ecosystem services such as aquifer recharge. Neither Conservation Area counts with a management plan at present, although a committee was legally constituted in July 2018 to initiate planning for the Tecapa-San Miguel Conservation Area, which includes the Chinameca project area, led by the Ministry of Environment (MARN, for its acronym in Spanish). The San Vicente Norte Conservation Area, which includes the San Vicente project area, does not yet have any planning committee constituted. In Chinameca, the project area furthermore lies within an area indicated as “under process” for declaration as a protected area, although based on discussions with MARN, the process is at a very preliminary stage. If initiated in earnest at any point, the boundaries of the proposed protected area would have to be re-drawn to account for land tenure realities on the ground, given that only land owned by the Salvadoran Agrarian Transformation Institute (ISTA for its acronym in Spanish) -- or private land purchased from a willing seller (not through expropriation) -- can be declared as a protected area. This means, in practice, that the project lands at Chinameca would be excluded from the future protected area. . With respect to the congruency of geothermal development with future management plans for either Conservation Area, there is no clear regulation or project precedent within El Salvador for how this would be treated. Nonetheless, based on initial discussions with MARN, the project activities would likely be grandfathered in under any future management plans. Therefore, while the legal designations on paper for both project areas do signify a potentially higher biodiversity value, there are no envisaged protection-related legal restrictions to development of the project in either location. However, this will need to be confirmed definitively by LaGeo prior to appraisal, and clearly documented under the ESIA's for each project. Aside from the questions of legal designation, just as relevant under ESS6 is the determination of the biodiversity value of each project area, and appropriate mitigation and management measures to address all project related impacts, in accordance with the mitigation hierarchy. Between the two project locations, the Chinameca project's area of influence includes more dense forest cover than in San Vicente. In Chinameca, the project area is dominated by shade-grown coffee plantations which have mostly been abandoned in recent years due to the low international price of coffee. In San Vicente, the project area overlaps with a mixture of primarily coffee, cacao and sugarcane fields which are under more active cultivation. While detailed baseline studies have yet to be completed,



available secondary source data as well as discussions with LaGeo, MARN, and local stakeholders suggest that both project areas have biodiversity value, housing numerous species including some nationally threatened species (IUCN classification status still pending confirmation), and providing various ecosystem services such as aquifer recharge and soil conservation. Biodiversity issues will need to be carefully studied as part of the ESIA assessments, in order to more fully characterize the quality and importance of natural habitat to key species, and design appropriate measures that follow the mitigation hierarchy as well as contribute to and are consistent with the management objectives of the Conservation Areas and proposed Protected Area. LaGeo is already obliged to pay an environmental compensation fee to MARN, based on a calculation of trees cut, which goes towards reforestation, habitat restoration and other activities as determined by MARN. The ESIA studies will evaluate MARN’s proposed environmental compensation programs for each site from a biodiversity perspective, as per the objectives and requirements of this ESS (including the types and locations of activities to be undertaken by MARN with the funds), and contextualize them within the mitigation hierarchy. Additional measures which LaGeo can execute, in line with the mitigation hierarchy as well as including measures to enhance the conservation objectives and effective planning and management of the Conservation Areas, will be proposed in the ESIA as appropriate, based on this assessment. If the ESIA determine that project activities may pose significant risks or adverse impacts on biodiversity, LaGeo will prepare Biodiversity Management Plan(s) as per this ESS.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

At this moment it is not anticipated that this ESS will be relevant for the project. Indigenous communities are not present in the areas of direct/indirect influence. The social team has verified this through a site visit and subsequent desk research as to the location of indigenous groups. Indigenous groups are concentrated in few areas of the country that do not coincide with the project location. The project team will verify that no indigenous communities exist in an project sites or ancillary facilities.

ESS8 Cultural Heritage

As part of preparatory studies already initiated by LaGeo for national environmental permitting for phase 1 project development, cultural heritage baseline studies in both Chinameca and San Vicente have already been carried out within the footprint areas of phase 1 civil works, and artifacts were found in both areas. LaGeo’s process to date has followed national law on cultural heritage, which dictates an assessment under direct supervision of the Ministry of Culture and, if the assessment finds a high likelihood of physical cultural artefacts, construction works at these sites must be carried out under the supervision of a cultural heritage expert. These procedures are in addition to chance find procedures that must be part of their overall approach. While these national requirements and procedures appear adequate for “man-made” cultural or archaeological resources, the ESIA for both project sites will also need to include an assessment of any natural features as well as intangible heritage which may hold cultural or religious value to local communities. Given that cultural heritage artefacts have already been discovered, a cultural heritage plan will be developed for the project. In addition, procedures for chance finds will be included in all site-specific ESMPs and works contracts, and project staff will be given basic training in the procedures, to address any issues that may come up during the construction phase.

ESS9 Financial Intermediaries



This ESS is currently not relevant.

B.3 Other Relevant Project Risks

The national context around insecurity is also present in both Chinameca and San Vicente. Gangs and delinquent groups extort residents and businesses as well as commit robberies and engage in other forms of violence. Community members suggest that the security situation has improved with the presence of LaGeo the executing agency. However in rural parts of the community insecurity and predation by these groups remains a threat. The extortion may also be a contributing factor as to why coffee production has become financially not viable. Farmers are reportedly extorted at several moments throughout the production process, putting further pressure on already tight margins.

C. Legal Operational Policies that Apply

OP 7.50 Projects on International Waterways No

No impact to international waterways is expected at this stage. However the team will explore potential links between aquifers affected by the project and international waterways during project preparation.

OP 7.60 Projects in Disputed Areas No

The geothermal fields are not situated in any disputed area.

III. WORLD BANK ENVIRONMENTAL AND SOCIAL DUE DILIGENCE

A. Is a common approach being considered? No

Financing Partners

There are no financing partners.

B. Proposed Measures, Actions and Timing (Borrower’s commitments)

Actions to be completed prior to Bank Board Approval:

Actions to be completed prior to Bank Board Approval:

Prior to appraisal:

- LaGeo will prepare and consult with stakeholders and disclose two full ESIA studies (one for each site). Each ESIA cover:
 - o all Component 1 and 2 construction and operation activities in detail (e.g., the fully identified works as well as operation of the phase 1 plants);
 - o an initial, higher level characterization of anticipated potential impacts from Phase 2 development, including cumulative impacts for the overall Phase 1+2 programs.
 - o ESMPs to address all identified impacts – including, inter alia, biodiversity management plans (if required based on the outcomes of the biodiversity assessment), cultural heritage management plans, and security force management plans.
 - o Institutional arrangements and budgets for ESMP implementation.

Public Disclosure



- LaGeo to develop, consult and disclose two SEP’s (one each for site)
- LaGeo to develop, consult and disclose Labor Management Procedures for the project
- LaGeo will develop, consult and disclose a resettlement action plan (RAP).
- LaGeo in coordination with FundaGeo, the CSR arm of the company will conduct a social assessment of the two impacted communities in order to understand community needs and social projects in which to make appropriate investments.

Possible issues to be addressed in the Borrower Environmental and Social Commitment Plan (ESCP):

- Completion of all pending environmental permitting processes as per national legislation for all phase 1 activities
- Full implementation of all ESMP measures as per the approved appraisal-stage ESIA’s, including monitoring and reporting
- incorporation of appropriate construction phase ESMP measures into all civil works contracts, prior to initiation of corresponding works at any project site
- Ongoing fulfilment of all monitoring and reporting requirements to MARN as per national legislation
- Full implementation, and ongoing updating as needed, of labor management procedures
- Full implementation, and ongoing updating as needed, of Stakeholder Engagement Plans
- Full implementation of the RAP for resettled households
- Full implementation of the cultural heritage plans
- Full implementation of security forces management plans
- Completion of comprehensive ESIA studies for phase 2 development under Component 3
- Detailed design and implementation of all additional social and environmental programs and activities envisaged for Component 4.

Public Disclosure

C. Timing

Tentative target date for preparing the Appraisal Stage ESRS

19-Aug-2019

IV. CONTACT POINTS

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Borrower/Client/Recipient

Borrower: Government of the Republic of El Salvador

Implementing Agency(ies)

Implementing Agency: LaGeo

V. FOR MORE INFORMATION CONTACT

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VI. APPROVAL

Task Team Leader(s):	Mariano Gonzalez Serrano
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Practice Manager	Koffi Ekouevi (PMGR) Concurred on 19-Apr-2019 at 18:45:27

Public Disclosure