



ATOME Green Fertilizer Plant – Paraguay Environmental and Social Action Plan (ESAP)

No.	Aspect	Action	Deliverable	Delivery date
PS 1: Assessment and Management of Environmental and Social Risks and Impacts				
1.1	Environmental and Social Assessment and Management System	1. Finalize an environmental and social management system (ESMS) manual for the construction phase containing: (i) a policy; (ii) the identification of risks and impacts; (iii) management programs; (iv) a description of the required organizational capacity and competency; (v) emergency preparedness and response plans; (vi) stakeholder engagement plans; and (vii) monitoring and review procedures.	1. ESMS manual for construction phase.	1. Before first disbursement.
		2. Implement the ESMS for the construction phase.	2. Evidence of implementation	2. As part of the Environmental and Social Compliance Report (ESCR)
		3. Develop an ESMS for the operation phase that contains: (i) a policy; (ii) the identification of risks and impacts; (iii) management programs; (iv) a description of the required organizational capacity and competency; (v) emergency preparedness and response plans; (vi) stakeholder engagement plans; and (vii) monitoring and review procedures	3. ESMS manual for operation phase	3. Two months before the start of operations.
		4. Implement the ESMS for the operation phase.	4. Evidence of implementation	4. As part of the ESCR
1.2	Organizational Capacity and Competency	1. Finalize the E&S structured organization for the construction phase with defined roles, responsibilities and authorities that is commensurate to the nature and size of the project.	1. Organigram with description of job functions.	1. Before first disbursement.
		2. Implement the structured organization for the construction phase	2. Evidence of implementation	2. As part of the ESCR
		3. Develop an E&S structured organization for the operation phase with defined roles, responsibilities and authorities that is commensurate to the nature and size of the project.	3. E&S Organigram with description of job functions	3. Two months before start of operations.
		4. Implement the structured organization for the operation phase.	4. Evidence of implementation	4. As part of the ESCR
		5. Develop a Sustainable Procurement Process aligned with the principles established in the ESMS manual, that ensures that all goods and services have been produced or extracted in ways compatible with a rational management of the environment.	5. Sustainable Procurement Process	5. Before first disbursement.
		5. Implement the Sustainable Procurement Process for the construction and operation phase	6. Evidence of implementation	6. As part of the ESCR
		6. Expand on the contractual obligations in the EPC contractor contract that obliges it to comply with the Paraguayan E&S legislation, ATOME's E&S policies and principles, and any other E&S condition required by the institutions financing the Project.	7. Copy of the contractual obligations.	7. Before the subscription of the construction contract.
		7. Include contractual obligations in the Operation and Maintenance (O&M) contractor contract that obliges it to comply with the Paraguayan E&S legislation, ATOME's E&S policies and principles, and any other E&S condition required by the institutions financing the Project.	8. Copy of the contractual obligations.	8. Before the subscription of the O&M contract.
8. Develop a training program to enable workers to conduct their activities aligned with the principles established in the ESMS.	9. Training program	9. Within 60 days after first disbursement.		

No.	Aspect	Action	Deliverable	Delivery date
		9. Implement the E&S and OHS training program.	10. Evidence of implementation	10. As part of the ESCR
1.3	Identification of Risks, Impacts and Opportunities	1. Formalize the procedure for the identification and assessment of risks, impacts and opportunities for the construction phase, including those related to the San Rafael farm, the Ypeka'e fishermen community, and the influx of workers during construction.	1. Procedure for the identification and assessment of risks, impacts and opportunities for the construction phase	1. Within 60 days after first disbursement.
		2. Finalize the current risk matrix for the construction phase to record identified risks, impacts, management measures, indicators of process and success, and other relevant information to manage such risks and impacts.	2. Risks, impacts and opportunities matrix for the construction phase.	2. Within 60 days after first disbursement.
		3. Formalize the procedure for the identification and assessment of risks, impacts and opportunities for the operational phase	3. Procedure for the identification and assessment of risks, impacts and opportunities for the operational phase	3. Two months before the start of operations
		4. Develop, for the operation phase, a matrix to record identified risks, impacts, management measures, indicators of process and success, and other relevant information to manage such risks and impacts.	4. Risks, impacts and opportunities matrix for the operation phase	4. Two months before the start of operations
		5. Develop, during the construction phase, the baseline for the aquatic biodiversity near the location of where the ATOME pumping station and effluent diffusers will be located.	5. Risk and impact assessment report with proposed mitigation measures	5. During construction.
1.4	Management Programs	1. Expand, the programs to manage all environmental and social risks and impacts for the construction phase to include details on who, when, where, how, and what the expected results of the proposed actions should be.	1. Set of environmental and management programs for the construction phase.	1. Within 60 days after first disbursement.
		2. Implement the set of programs	2. Evidence of implementation	2. As part of the ESCR
		3. Include into Emergency Preparedness and Response Plan and Operation Phase Management Programs specific details from HAZID, HAZOP, QRA and Fire Hazard studies.	3. Set of environmental and management programs for the operation phase	3. Two months before the start of operations.
		4. Develop, for the operation phase, a set of programs to manage all environmental and social risks and impacts that detail who, when, where, how, and what the expected results of the proposed actions should be.	4. Set of environmental and management programs for the operation phase.	4. Two months before the start of operations.
		5. Implement the set of programs	5. Evidence of implementation	5. As part of the ESCR
1.5	Stakeholder Engagement	1. Update the stakeholder engagement plan by incorporating: i) the identification, classification and communication strategy with each of the groups, including the Ypeka'e population; and ii) information related to land acquisition.	1. Updates stakeholder engagement plan	1. Within 60 days after first disbursement.
		2. Define, as part of the communication subprogram, the means to be used with each stakeholder to disseminate the activities and the participation mechanism.	2. Definition of the means to communicate with the different stakeholders.	2. Within 60 days after first disbursement.
1.6	External Communications and Grievance Mechanisms	1. Produce, for the existing mechanism, an independent Grievance Mechanism for the community that: i) details the procedure for receiving and managing complaints; ii) differentiates complaints or claims, suggestions, petitions and information requests; iii) classifies each complaint according to its type so that it can be evaluated according to its magnitude or seriousness; iv) provides time frameworks for dealing with the claim; v) includes a procedure to communicate to the claimants how the claim was dealt with; vi) allows the claimants to appeal process; vii) allows	1. External Grievance Mechanism	1. Within 60 days after first disbursement.

No.	Aspect	Action	Deliverable	Delivery date
		anonymous claims; viii) can capture claims from vulnerable groups; and ix) does not hinder the claimants to use any other grievance mechanism provided by law.		
		2. Implement the external grievance mechanism.	2. Evidence of implementation	2. As part of the ESCR
PS 2: Labor and Working Conditions				
2.1	Human Resources Policies and Management	1. Update the current human resources policy applicable to all ATOME's as well as to all contracted or subcontracted workers to specifically declare: i) the Project's commitment to comply with all Paraguayan laws; ii) the freedom of workers to constitute or adhere to workers' organizations and to collective bargaining; iii) non-discrimination and equal opportunity in the workplace; and iv) the prohibition to use child or forced labor in the Project.	1. Human resources policy	1. Within 90 days after first disbursement.
		2. Implement the human resources policy.	2. Evidence of implementation	2. As part of the ESCR
2.2	Grievance Mechanism for Workers	1. Develop an independent internal Grievance Mechanism applicable to own and contracted and subcontracted workers that: i) details the procedure for receiving and managing complaints; ii) differentiates complaints or claims, suggestions, petitions and information requests; iii) classifies each complaint according to its type so that it can be evaluated according to its magnitude or seriousness; iv) provides time frameworks for dealing with the claim; v) includes a procedure to communicate to the claimants how the claim was dealt with; vi) allows the claimants to appeal process; vii) allows anonymous claims; and viii) does not hinder the claimants to use any other grievance mechanism provided by law.	1. Internal Grievance Mechanism	1. 60 days after first disbursement.
		2. Implement the internal grievance mechanism.	2. Evidence of implementation	2. As part of the ESCR
2.3	Occupational Health and Safety	1. Present an Occupational Health and Safety Plan for the construction phase that includes: i) the identification of potential hazards to workers; ii) a set of preventive and protective measures; iii) a training program for workers; iv) procedures to documenta and report of occupational accidents, diseases, and incidents; and v) emergency prevention, preparedness, and response arrangements.	1. Occupational Health and Safety Plan for the construction phase	1. Before the start of construction.
		2. Implement the Occupational Health and Safety Plan for the construction phase.	2. Evidence of implementation	2. As part of the ESCR
		3. Present an Occupational Health and Safety Plan for the operation phase that includes: i) the identification of potential hazards to workers; ii) a set of preventive and protective measures; iii) a training program for workers; iv) procedures to documenta and report of occupational accidents, diseases, and incidents; and v) emergency prevention, preparedness, and response arrangements.	3. Occupational Health and Safety Plan for the operation phase.	3. 60 days before start of operations
		4. Implement the Occupational Health and Safety Plan for the operation phase.	4. Evidence of implementation	4. As part of the ESCR
PS 3: Resource Efficiency and Pollution Prevention				
3.1	Energy Efficiency	1. Develop an Energy Efficiency Plan for the construction phase that includes measures oriented to energy efficiency.	1. Energy Efficiency Plan for the construction phase	1. Before the start of construction.
		2. Implement the Energy Efficiency Plan for the construction phase	2. Evidence of implementation	2. As part of the ESCR

No.	Aspect	Action	Deliverable	Delivery date
3.2	Water Consumption	1. Present a Water Management Plan for the construction phase that includes measures to reduce consumption and to avoid or minimize the alteration of water quality with the effluent discharges.	1. Water Management Plan for the construction phase	1. Before start of construction.
		2. Implement the Water Management Plan for the construction phase	2. Evidence of implementation	2. As part of the ESCR
		3. Present a Water Management Plan for the operation phase that includes measures to reduce consumption and to avoid or minimize the alteration of water quality with the effluent discharges.	3. Water Management Plan for the operation phase	3. 60 days before the start of operations
		4. Implement the Water Management Plan for the operation phase	4. Evidence of implementation	4. As part of the ESCR
3.3	Wastes	1. Present a Waste Management Plan (WMP) for the construction phase that: i) covers all wastes streams; ii) contains management measures for each type of wastes; and iii) requires contractors and subcontractors to either adhere to it or develop their own WMP in line with ATOME's WMP	1. WMP for the construction phase	1. Before the start of construction.
		2. Implement the WMP for the construction phase.	2. Evidence of implementation	2. As part of the ESCR
		3. Present a Waste Management Plan (WMP) for the operation phase that: i) covers all wastes streams; ii) contains management measures for each type of wastes; and iii) requires contractors and subcontractors to either adhere to it or develop their own WMP in line with ATOME's WMP	3. WMP for the operation phase	3. 60 days before the start of operations
		4. Implement the WMP for the operation phase.	4. Evidence of implementation	4. As part of the ESCR
3.4	Air Pollution	1. Develop an Air Quality Monitoring and Management Plan for the construction phase that covers regulated air pollutants, as well those specific to construction sites.	1. Air Quality Monitoring Plan	1. Before the start of construction
		2. Implement Air Quality Monitoring and Management Plan for the construction phase	2. Evidence of implementation	2. As part of the ESCR
		3. Develop the Air Quality Monitoring and Management Plan for the operational phase.	3. Air Quality Monitoring Plan	3. Before the start of operations
		4. Implement the Air Quality Monitoring and Management Plan	4. Evidence of implementation	4. As part of the ESCR for the operations
3.5	Hazardous Materials	1. Present a Hazardous Materials Management Plan (HMMP) for the construction phase that includes: i) product acquisition specifications; ii) access to the site protocols; iii) the description of the unloading processes; iv) storage requirements; v) requirements for external transport; vi) protocols for transformation into waste; vii) product return or transference instructions; and viii) requirements for contractors and subcontractors to either adhere to it or develop their own HMMP in line with ATOME's HMMP.	1. HMMP for the construction phase	1. Before the start of construction
		2. Implement the HMMP for the construction phase.	2. Evidence of implementation	2. As part of the ESCR
		3. Present a Hazardous Materials Management Plan (HMMP) for the operation phase that includes: i) product acquisition; ii) access to the site protocols; iii) the description of the unloading processes; iv) storage requirements; v) requirements for external transport; vi) protocols for transformation into waste; vii) product return or transference instructions; and viii) requirements for contractors and subcontractors to either adhere to it or develop their own HMMP in line with ATOME's HMMP.	3. HMMP for the operation phase	3. 60 days before the start of operations
		4. Implement the HMMP for the operation phase.	4. Evidence of implementation	4. As part of the ESCR

No.	Aspect	Action	Deliverable	Delivery date
PS 4: Community Health, Safety, and Security				
4.1	Infrastructure and Equipment Safety	1. Present a Traffic Plan for the construction phase.	1. Traffic Plan for the construction phase	1. Before the start of construction.
		2. Implement the Traffic Plan for the construction phase.	2. Evidence of implementation	2. As part of the ESCR
		3. Present a Traffic Plan for the operation phase.	3. Traffic Plan for the operation phase	3. 60 days before the start of operations
		4. Implement the Traffic Plan for the operation phase.	4. Evidence of implementation	4. As part of the ESCR
		5. Present a report that shows how the recommendations from HAZID, ENVID, HAZOP, LOPA, and SIL have been included in the design of the Project.	5. Report on how the recommendations from HAZID, ENVID, HAZOP, LOPA, and SIL have been included in the Project's design.	5. Before the start of operations.
		6. Present a report that shows how the recommendations from HAZID, ENVID, HAZOP, LOPA, and SIL are being implemented.	6. Report that shows how the recommendations from HAZID, ENVID, HAZOP, LOPA, and SIL are being implemented.	6. As part of the ESCR
4.2	Exposure to Disease	1. Present a set of measures to avoid the spreading of diseases among workers and with the surrounding communities.	1. Set of measures	1. Before the start of construction
		2. Implement the measures to avoid the spreading of diseases among workers and with the surrounding communities	2. Evidence of implementation	2. As part of the ESCR
4.3	Emergency Preparedness and Response	1. Present an Emergency Preparedness Response Plan ("EPRP") for the construction phase that includes: i) the analysis of potential emergency scenarios considering natural, contextual, and anthropogenic hazards (including those from climate change); ii) preventive measures; iii) procedures to be triggered in an event of a contingency; iv) requirements for the organization of the emergency response teams; v) a list of emergency contacts and communication systems and protocols; vi) procedures for interaction with local and regional authorities in health and emergency resolution; vii) the description of the emergency facilities and equipment for emergency response (first aid stations, hoses, fire extinguishers, detection and alarm systems, etc.); viii) protocols for fire trucks, ambulances and other emergency services and vehicles; and ix) the description of the necessary training exercises, (drills and simulations) for ATOME's personnel (including contractors and subcontractors), other stakeholders and potential affected parties.	1. EPRP for the construction phase	1. Before the start of construction.
		2. Implement the EPRP for the construction phase.	2. Evidence of implementation	2. As part of the ESCR
		3. Present an EPRP for the operation phase with similar characteristics to that of the construction phase EPRP.	3. EPRP for the operation phase	3. 60 days before the start of operations
		4. Implement the EPRP for the operation phase	4. Evidence of implementation	4. As part of the ESCR
		5. Develop an EPRP protocol considering the San Rafael Ranch, outlining processes for: i) linking scenarios relevant to the residents of the ranch, ii) prevention measures tailored to the residents of the ranch, iii) response contacts and action teams and iv) a Consequence analysis for informing the Action Plans.	5. Evidence of implementation	5. 60 days after construction starts.
		6. Implement the community-based EPRP protocol	6. Evidence of implementation	6. As part of the ESCR

No.	Aspect	Action	Deliverable	Delivery date
4.4	Security Personnel	1. Present a Security Forces Management Plan for the construction phase	1. Security Forces Management Plan for the construction phase	1. Before the start of construction
		2. Implement the Security Forces Management Plan for the construction phase	2. Evidence of implementation	2. As part of the ESCR
		3. Present a Security Forces Management Plan for the operation phase	3. Security Forces Management Plan for the operation phase	3. 60 days before the start of operations.
		4. Implement the Security Forces Management Plan for the operation phase	4. Evidence of implementation	4. As part of the ESCR
PS 5: Land Acquisition and Involuntary Resettlement				
<p>PS 5 is not triggered for the Villeta project. Physical and economic displacements were prevented through detailed alternative analyses. Only one property will be affected by an easement for the transmission line and two properties will be affected by easements for the water line/effluent line. ATOME was able to negotiate easements with all property owners. Impacts on rice crops within the transmission line right-of-way (temporary impact) and at the two towers (long-term impact) will be compensated as part of the easement negotiations with the property owner.</p>				
PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources				
<p>Studies have shown that there is no critical habitat in the project area, meaning that a Biodiversity Action Plan (BAP) is not mandated according to the requirements set out in the International Finance Corporation's Performance Standard 6 (IFC PS6). Nonetheless, ATOME is choosing to develop a BAP as a proactive measure of good environmental practice. The process of developing, implementing, and verifying the results of the BAP can span several years. To comply with the IFC PS6 requirements relevant to the project, ATOME will ensure that vegetation clearing is conducted following Good International Industry Practice (GIIP). This includes the rescue and relocation of important species, as well as implementing offset measures and striving for No Net Loss in biodiversity, wherever feasible, in the affected Natural Habitat (NH). Negotiations are underway with municipal and central government agencies to establish compensation and offset strategies. These strategies will be designed to meet both the environmental standards of Paraguay and those outlined in IFC PS6. During the operation of the Project, 243 m³/h of water will be extracted from the Paraguay River and 77 m³/h will be returned to the River in the form of treated effluent. Therefore, the Project net water consumption will be 166 m³/h, which equates to 0.007% of the average flow rate of the Paraguay River. The Project will have a wastewater treatment plant that will be designed to meet Paraguayan standards and WBG/IFC effluent quality guidance values. ATOME understands that the Ypekae fishing community, located 15 km south of the Project site has concerns about potential impacts that the Project could have on the river. ATOME will continue to engage with this community to share information about the Project and to explain that during operations, they will continue to have access to their 30-km fishing area on the Paraguay River, even during the construction of the pumping station which has a small size compared to the river. ATOME will conduct aquatic biodiversity campaigns to document baseline conditions and also to document fishing activities in the area. Intake water velocity will follow GIIP and there will be screens and controls for the reduction of impingement and and entrainment of fish.</p>				
6.1	Protection and Conservation of Biodiversity	1. Develop a Biodiversity Compensation Plan (BCP) that presents all needed measures to ensure no net biodiversity loss will be produced by the Project.	1. BCP	1. Within 90 days after the first disbursement.
		2. Implement the BCP	2. Evidence of implementation	2. As part of the ESCR
PS 7: Indigenous Peoples				
<p>PS 7 is not applicable, as the nearest indigenous community is located over 30 kilometres away from the project site. Extensive studies and analysis conducted during the preparation of the ESIA have demonstrated that indigenous communities and peoples do not fall within the project's direct or indirect impact zones. ATOME's construction and operation activities are planned to the south this location, with primary transportation routes avoiding the vicinity of this community entirely.</p>				
PS 8: Cultural Heritage				
<p>PS 8 is not applicable to the Villeta project, as no archaeological sites have been identified within the project area, according to baseline studies conducted by archaeologists. As a precautionary measure and in alignment with international best practices, ATOME will implement a chance finds procedure during construction activities.</p>				