

**Biocircular Project – CHILE**  
**Environmental and Social Action Plan (ESAP)**

No.	Aspect	Action	Deliverable	Delivery Date
<b>PS 1: Environmental and Social Risk and Impact Assessment and Management</b>				
1.1	Environmental and Social Assessment and Management System	1. Develop a corporate Environmental and Social Management System (ESMS) for the Project construction to include: (i) a policy; (ii) mechanisms to identify environmental and social risks and impacts; (iii) management programs; (iv) a description of the required organizational capacities and competencies; (v) emergency preparedness and response plans; (vi) plans for the participation of social actors; and (vii) monitoring and evaluation procedures.	1. Corporate ESMS Manual.	1. Prior to initial 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. Based on the corporate ESMS, develop an ESMS for each project's construction phase.	3. ESMS Manual for each project's construction phase.	3. Prior to the notice to proceed for each project.
		4. Implement the ESMS for each project's construction phase.	4. Evidence of implementation.	4. As part of the ESCR.
		5. Based on the corporate ESMS, develop an ESMS for each project's operational phase.	5. ESMS Manual for the construction phase of each project.	5. 2 months prior to start of operations of each project.
		6. Implement the ESMS for each project's operational phase.	6. Evidence of implementation.	6. As part of the ESCR.
1.2	Organizational Capacities and Competencies	1. For each project, complete its environmental and social (E&S) organizational structure to define roles, responsibilities, and level of authority for the construction phase.	1. Organizational chart with descriptions of job roles for the construction phase.	1. Prior to initial disbursement.
		2. Implement the organizational structure for the construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. For each project, complete its environmental and social (E&S) organizational structure to define roles, responsibilities, and level of authority for the operational phase.	3. E&S organizational chart with descriptions of job roles for the operational phase.	3. 2 months prior to start of operations.
		4. Implement the organizational structure for the operational phase.	4. Evidence of implementation.	4. As part of the ESCR.
		5. Develop a goods and services procurement mechanism to ensure that all goods and services required for each project are produced or extracted consistently with a rational environmental management.	5. Goods and services procurement process.	5. Prior to initial disbursement.
		6. Implement the goods and services procurement mechanism.	6. Evidence of implementation.	6. As part of the ESCR.
		7. Include in the Engineering, Procurement, and Construction (EPC) contract for each plant provisions obligating the contractor to comply with Chilean E&S regulations, Genera4's E&S policies and principles, and any other E&S condition required by the institutions financing the Project.	7. Copy of the relevant sections of construction contracts.	7. Prior to signing the construction contract.
		8. Include in the operation and maintenance (O&M) contract for each plant provisions obligating the contractor to comply with Chilean E&S regulations, Genera4's E&S policies and principles, and any other E&S condition required by the institutions financing the Project.	8. Copy of the relevant sections of O&M contracts.	8. Prior to signing the O&M contract.
		9. Develop a training program to enable workers to conduct their activities consistently with the principles established in the ESMS.	9. Training program.	9. Within 60 days after initial disbursement.
		10. Implement the E&S and OHSS training program.	10. Evidence of implementation.	10. As part of the ESCR.
1.3	Identification of risks, impacts, and opportunities	1. Prepare, for each project, a risk matrix for the construction phase to record identified risks, impacts, management measures, process and success indicators, as well as any other relevant information to manage these risks and impacts.	1. Risk, impact, and opportunity matrix for the construction phase.	1. Within 60 days after initial disbursement.

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		2. Implement the risk matrix for the construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. Prepare, for each project, a risk matrix for the operational phase to record identified risks, impacts, management measures, process and success indicators, as well as any other relevant information to manage these risks and impacts.	3. Risk, impact, and opportunity matrix for the operational phase.	3. Within 60 days after initial disbursement.
		4. Implement the risk matrix for the operational phase	4. Evidence of implementation.	4. As part of the ESCR.
		5. Prepare, for each project, Internal Order, Hygiene, and Safety Regulations ("RIOHS," in Spanish) applicable to all personnel, both direct-hire and contractors and subcontractors, to: (i) ensure that all workers enjoy and exercise their rights and freedoms as recognized under the Political Constitution of the Republic, the laws of, and international treaties ratified by Chile; (ii) explicitly establish equality of opportunities, labor inclusion for workers with disabilities, and the need to adapt the workspace for the full development of activities and prevention of harassing conducts; (iii) provide sanctions against all acts of discrimination; (iv) establish a procedure for requests, complaints, queries, or suggestions regarding equal pay between men and women, or sexual or workplace harassment; and (v) include a procedure to investigate complaints of sexual or workplace harassment, safeguarding the whistleblower (by arranging for physical space separation, paid leave, shift change, among other measures) and protecting them against any act of retaliation	5. Draft RIOHS	5. Within 90 days after initial disbursement.
		6. Implement the RIOHS	6. Evidence of implementation.	6. As part of the ESCR.
		7. Develop a gender issue management program, for each project, to include: (i) an assessment of occupational health, safety, and security (OHSS) risks for pregnant workers; (ii) a mapping of locations within the projects' areas of direct influence with greater likelihood of situations of risk for women and girls related to the Project; (iii) an analysis of possible gender impacts that the presence of the Project's workers may create; and (iv) a set of measures to manage identified impacts.	7. Gender issue management program	7. Within 60 days after initial disbursement.
		8. Implement the gender issue management program	8. Evidence of implementation.	8. As part of the ESCR.
		1.4	Management programs	1. Update the environmental and social risk and impact management programs for each project's construction phase, including details of who, when, where, how, and which must be the proposed actions' expected results.
		2. Implement the environmental and social impact management programs for each project's construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. Update the environmental and social risk and impact management programs for each project's operational phase, including details of who, when, where, how, and which must be the proposed actions' expected results.	3. Updated environmental and social impact management programs for the operational phase	3. 2 months prior to start of operations.
		4. Implement the environmental and social impact management programs for each project's operational phase.	4. Evidence of implementation.	4. As part of the ESCR.
1.5	Participation of social actors	1. For each project, update the stakeholder mapping, including the identification, classification, and communication strategy for each actor.	1. Updated mapping of actors.	1. Within 60 days after initial disbursement.
		2. For each project, develop a stakeholder communication program, including details of participation means and mechanisms to be used for each actor.	2. Stakeholder communication program.	2. Within 60 days after initial disbursement.

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		3. Implement the stakeholder communication program	3. Evidence of implementation.	3. As part of the ESCR.
1.6	External communications and complaint mechanism	1. For each project, update the complaint mechanism for the community to: i) detail the procedure for receiving and managing complaints; ii) distinguish between complaints or grievances, suggestions, requests, and information queries; iii) classify each complaint according to its type so it may be evaluated based on magnitude or seriousness; iv) establish deadlines to respond to complaints; v) include a procedure to inform complainants about how their request has been handled; vi) allow complainants to appeal the process; vii) accept anonymous complaints; viii) enable the capture of complaints from vulnerable groups; and ix) not prevent complainants from using any other grievance mechanism provided under the law.	1. Updated external complaint mechanism.	1. Within 60 days after initial disbursement.
		2. Implement the external complaint mechanism.	2. Evidence of implementation.	2. As part of the ESCR.
		3. For each project, create a formal mechanism to communicate with neighboring communities.	3. Formal mechanism to communicate with neighboring communities	3.
		4. Implement the formal mechanism to communicate with neighboring communities.	4. Evidence of implementation.	4. As part of the ESCR.
1.7	Emergency Preparedness and Response	1. Update, for each project, the Contingency and Emergency Plans ("CEP") to make them subject to mandatory compliance by contractors and subcontractors, and include the following aspects, among others: (i) processes to identify potential risks; (ii) detailed actions to be implemented in each emergency situation; (iii) responsibilities for the execution of the CEP; (iv) internal communication protocols for before, during, and after an emergency; (v) external communication protocols for the communities neighboring the plants, local authorities, and external support entities; (vi) protocols for the formation of emergency brigades; and (vii) requirements and frequency of drills and simulations.	1. Contingency and Emergency Plans	1. Prior to the notice to proceed for each project.
		2. Implement the CEP	2. Evidence of implementation.	2. As part of the ESCR.
1.8	Monitoring and Evaluation	1. Develop an internal or external audit procedure to evaluate the performance of the ESMS for each project during the construction phase, to include: (i) a list of the persons responsible for implementing it; (ii) a description of the methodology to be used; (iii) a schedule of execution; (iv) action plans; and (v) protocols to evaluate organizational performance based on key performance indicators (KPIs).	1. Audit procedure to evaluate the performance of the ESMS for each Project during the construction phase.	1. Within 90 days after initial disbursement.
		2. Implement the internal or external audit procedure to evaluate the ESMS in each project's construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. Develop an internal or external audit procedure to evaluate the performance of the ESMS for each Project during the operational phase, to include: (i) a list of the persons responsible for implementing it; (ii) a description of the methodology to be used; (iii) a schedule of execution; (iv) action plans; and (v) protocols to evaluate organizational performance based on key performance indicators (KPIs).	3. Audit procedure to evaluate the performance of the ESMS for each Project during the operational phase.	3. Within 90 days after the start of operations for each project.
		4. Implement the internal or external audit procedure to evaluate the ESMS during each project's operational phase.	4. Evidence of implementation.	4. As part of the ESCR.
		5. Prepare, for each project, a contractor management plan to enable control and monitoring of their environmental and social performance	5. Contractor management plan	5. Prior to the notice to proceed
		6. Implement the contractor management plan	6. Evidence of implementation.	6. As part of the ESCR.

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1.9	Grievance mechanism for affected communities	1. Update the mechanisms to capture and address external questions, grievances, complaints, and requests (QGCR) for each project, to include: (i) a more detailed description of the procedures to log, evaluate, resolve, close, and communicate the handling of QGCRs; (ii) a detailed flowchart of the process; (iii) a description of the roles and responsibilities of each employee involved in the handling – and resolution – of the QGCR; (iv) an accessible channel to receive anonymous complaints; (v) detailed response times for QGCRs; (vi) detailed mechanisms to disseminate the mechanism; (vii) the Company's explicit commitment to protect confidentiality and prevent any reprisal against the mechanism's users; (viii) a specific protocol to manage grievances related to harassment or gender violence; and (ix) a procedure to capture and address QGCRs from vulnerable groups.	1. Update external QGCR mechanisms	1. Prior to the notice to proceed
		2. Implement the external QGCR mechanism	2. Evidence of implementation.	2. As part of the ESCR.
1.10	Procedure for accidental discoveries	1. Develop a procedure for accidental discoveries	1. Procedure for accidental discoveries	1. Prior to the first project's notice to proceed
		2. Implement the procedure for accidental discoveries	2. Evidence of implementation.	2. As part of the ESCR.
<b>PS 2: Labor and Working Conditions</b>				
2.1	Human resources policies and management	1. Develop, for each project, a human resources policy that is applicable to all Genera4's employees, as well as all outsourced workers or subcontractors, and addresses the following issues: (i) labor management; (ii) identification of labor risks and impacts; (iii) working conditions; (iv) complaint mechanisms to enable workers to express their concerns and grievances regarding the work environment; (v) training and awareness-raising; (vi) monitoring and evaluation; (vii) compliance with applicable legislation; (viii) forming or joining worker organizations; (ix) nondiscrimination; (x) equal opportunities in the workplace; and (xi) prohibition of child or forced labor.	1. Human resources policy.	1. Within 90 days after initial disbursement.
		2. Implement the human resources policy.	2. Evidence of implementation.	2. As part of the ESCR.
2.2	Mechanism to address worker grievances	1. For each project, update the complaint mechanism for workers to: i) detail the procedure for receiving and managing complaints; ii) distinguish between complaints or grievances, suggestions, requests, and information queries; iii) classify each complaint according to its type so it may be evaluated based on magnitude or seriousness; iv) establish deadlines to respond to complaints; v) include a procedure to inform complainants about how their request has been handled; vi) allow complainants to appeal the process; vii) accept anonymous complaints; viii) enable the capture of complaints from vulnerable groups; and ix) not prevent complainants from using any other grievance mechanism provided under the law.	1. Internal complaint mechanism.	1. 60 days after initial disbursement.
		2. Implement the internal grievance mechanism.	2. Evidence of implementation.	2. As part of the ESCR.
2.3	Occupational Health, Safety, and Security	1. Submit an Occupational Health, Safety, and Security Plan for each project's construction phase allowing Genera4 to: (i) identify and evaluate the Project's OHSS risks; (ii) establish control and prevention measures for the identified risks; (iii) conduct evaluations of any workplace hygiene, medical surveillance, and training and coaching activities; (iv) measure OHSS performance at their plants through periodic on-site inspections, periodic meetings with employees and the review of OHSS compliance reports; (v) monitor OHSS conditions at each work front and in the administrative facilities; and (vi) generate and update the hazard identification and risk	1. Occupational Health, Safety, and Security Plan for the construction phase.	1. Prior to start of construction.

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		assessment (HIRA) matrices whenever there is a significant change, a new activity, or a workplace accident.		
		2. Implement the Occupational Health, Safety, and Security Plan for the construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. Submit an Occupational Health, Safety, and Security Plan for each project's operational phase allowing Genera4 to: (i) identify and assess the Project's OHSS risks; (ii) establish control and prevention measures for the identified risks; (iii) conduct evaluations of any occupational hygiene, medical surveillance, training and coaching activities; (iv) measure OHSS performance at their plants through periodic on-site inspections, periodic meetings with employees and the review of OHSS compliance reports; (v) monitor OHSS conditions at each work front and in the administrative facilities; and (vi) generate and update the hazard identification and risk assessment ("HIRA") matrices whenever there is a significant change, a new activity, or a workplace accident.	3. Occupational Health, Safety, and Security Plan for the operational phase.	3. 60 days prior to start of operations.
		4. Implement the Occupational Health, Safety, and Security Plan for the operational phase.	4. Evidence of implementation.	4. As part of the ESCR.
		5. For each project, submit a personnel demobilization plan, including guidelines and procedures for: (i) employment termination notification; (ii) publication of a list of other construction projects in the area; (iii) provision of employment letters for work done and its duration; and (vi) orientation on how to prepare résumés.	5. Personnel demobilization plan	5. 90 days prior to completion of the construction phase.
		6. Implement the personnel demobilization plan	6. Evidence of implementation.	6. As part of the ESCR.
2.4	Supply Chain	1. Develop a Code of Conduct for Vendors and Contractors establishing minimum standards required from their vendors and contractors with respect to: (i) environment (developing and creating responsible solutions and services that prevent and reduce emissions, waste generation in their commercial operations, and the degradation of natural areas or critical habitats); (ii) human rights (fair and equitable treatment, nondiscrimination, prohibition of forced and child labor, freedom of association); and (iii) safety and wellbeing (safe work environment, OHSS risk controls).	1. Code of Conduct for Vendors and Contractors	1. Within 90 days after initial disbursement
		2. Implement the Code of Conduct for Vendors and Contractors	2. Evidence of implementation.	2. As part of the ESCR.
<b>PS 3: Resource Efficiency and Pollution Prevention</b>				
3.1	Energy Efficiency	1. Develop an Energy Efficiency Plan for each project's construction phase to include measures toward energy efficiency	1. Energy Efficiency Plan for each project's construction phase.	1. Prior to start of construction.
		2. Implement the Energy Efficiency Plan for the construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
3.2	Water Consumption	1. Submit a Water Management Plan for each project's construction phase to include measures to reduce consumption and avoid or minimize the quality alteration of water from sources near the implementation sites.	1. Water Management Plan for the construction phase.	1. Prior to start of construction.
		2. Implement the Water Management Plan for the construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. Submit a Water Management Plan for each project's operational phase to include measures to reduce consumption and avoid or minimize the quality alteration of water from sources near the implementation sites.	3. Water Management Plan for the operational phase.	3. 60 days prior to start of operations.
		4. Implement the Water Management Plan for the operational phase.	4. Evidence of implementation.	4. As part of the ESCR.
3.3	Waste	1. Submit a Waste Management Plan (WMP) for each project's construction phase to: i) cover all waste flows; ii) include management measures for	1. WMP for the construction phase.	1. Prior to start of construction.

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		each type of waste; and iii) require contractors and subcontractors to apply it.		
		2. Implement the WMP for the construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. Submitting a Waste Management Plan (WMP) for each project's operational phase to: i) cover all waste flows; ii) include management measures for each type of waste; and iii) require contractors and subcontractors to apply it.	3. WMP for the operational phase.	3. 60 days prior to start of operations.
		4. Implement the WMP for the operational phase.	4. Evidence of implementation.	4. As part of the ESCR.
3.4	Hazardous materials	1. Submit a Hazardous Materials Management Plan (HMMP) for the construction phase to: i) cover all waste flows; ii) include management measures for each type of waste; and iii) require contractors and subcontractors to apply it.	1. HMMP for the construction phase.	1. Prior to start of construction.
		2. Implement the HMMP for the construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. Submitting a Hazardous Materials Management Plan (HMMP) for the operational phase to: i) cover all waste flows; ii) include management measures for each type of waste; and iii) require contractors and subcontractors to apply it.	3. HMMP for the operational phase.	3. 60 days prior to start of operations.
		4. Implement the HMMP for the operational phase.	4. Evidence of implementation.	4. As part of the ESCR.
<b>PS 4: Community Health, Safety, and Security</b>				
4.1	Infrastructure and team safety	1. Submit a Traffic Plan for each project's construction phase.	1. Traffic Plan for the construction phase.	1. Prior to start of construction.
		2. Implement the Traffic Plan for the construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. Submit a Traffic Plan for each project's operational phase.	3. Traffic Plan for the operational phase.	3. 60 days prior to start of operations.
		4. Implement the Traffic Plan for the operational phase.	4. Evidence of implementation.	4. As part of the ESCR.
		5. Submit, for each project, a quantitative risk assessment (QRA) report.	5. QRA report.	5. Prior to start of operations.
		6. Submit, for each project, a Hazard and Operability Study (HAZOP).	6. HAZOP report.	6. Prior to start of operations.
		7. Submit, for each project, a Hazard Identification Study (HAZID).	7. HAZID report.	7. Prior to start of operations.
		8. Submit, for each project, a safety integrity analysis (NIS).	8. NIS report.	8. Prior to start of operations.
		9. Submit, for each project, a report showing how the QRA, HAZOP, HAZID, and NIS recommendations are being implemented.	9. Implementation report.	9. As part of the ESCR.
4.2	Community Exposure to Illnesses	1. Prepare, for each project, an epidemiological surveillance plan to prevent the spread of illnesses that the projects may generate in neighboring communities.	1. Epidemiological surveillance plan.	1. Prior to start of construction.
		2. Implement the epidemiological surveillance plan.	2. Evidence of implementation.	2. As part of the ESCR.
4.3	Emergency Preparedness and Response	1. Update each project's Emergency Preparedness and Response Plan ("EPRP") for the construction phase, in order to include: (i) an analysis of possible emergency scenarios considering natural, contextual, and anthropogenic threats (including those associated with climate change); (ii) preventive measures; (iii) protocols to be activated in case of a contingency; (iv) requirements to organize emergency response teams; (v) a list of emergency contacts and communication systems and protocols; (vi) procedures to interact with local and regional authorities to address health matters and respond to emergencies; (vii) a description of emergency response facilities and teams (first aid stations, hoses, extinguishers, detection systems and alarms, etc.); (viii) protocols for emergency team operations; and (ix) a description of required training exercises (drills and simulations) for each project's personnel.	1. EPRP for the construction phase.	1. Prior to start of construction.

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		2. Implement the EPRP for each project's construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. Update the EPRP for each project's operational phase with characteristics similar to those of the EPRP for the construction phase.	3. EPRP for the operational phase.	3. 60 days prior to start of operations.
		4. Implement the EPRP for the operational phase	4. Evidence of implementation.	4. As part of the ESCR.
4.4	Security Personnel	1. Submit an External Security Management Plan for each project's construction phase.	1. External Security Management Plan for the construction phase.	1. Prior to start of construction.
		2. Implement the External Security Management Plan for the construction phase.	2. Evidence of implementation.	2. As part of the ESCR.
		3. Submit an External Security Management Plan for each project's operational phase.	3. External Security Management Plan for the operational phase.	3. 60 days prior to start of operations.
		4. Implement the External Security Management Plan for the operational phase.	4. Evidence of implementation.	4. As part of the ESCR.
		1. Implement the PCB.	1. Evidence of implementation.	1. As part of the ESCR.