

Environmental and Social Review Summary (ESRS) Delta Sucroenergia - BRAZIL

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

The proposed credit transaction (the "Transaction" or the "Financing") will be used to i) increase Delta's capacity to maintain its ethanol stock for longer periods thus contributing to improve the significant present imbalance between the high supply and low demand for ethanol as a result of the COVID-19 pandemic; and ii) provide medium-term working capital with amortization and grace periods consistent with the uncertainty scenario arising from the pandemic.

Delta Sucroenergia S.A. (Delta) is a company producing sugar and ethanol and engaged in the cogeneration of electric power based in Minas Gerais, Brazil. Delta operates three power stations with a combined sugar milling capacity of 11 million tons. Every year, the Company produces about 545,000 tons of very high polarity (VHP) sugar, 386,000 tons of crystal sugar, 311,000 m³ of ethanol (mainly sold as fuel for light vehicles) and 744 GWh of electric power through cogeneration of bagasse, 70% of which is sold to third parties.

The Environmental and Social Due Diligence (ESDD) process was carried out remotely owing to the travelling and social distancing restrictions imposed by COVID-19. It should be noted that Delta is an existing IDB Invest client¹ and has satisfactorily met the Bank's environmental and social (E&S) requirements as proven during the supervision activities performed over the past few years. Thus, the ESDD process entailed teleconference interviews with the main Company representatives in September and October 2020 and reviewing the relevant environmental, social and health and safety information provided by the Client mainly including: i) consideration of the Environmental and Social Action Plan of the first financing; ii) functionality of the Company's E&S management system; iii) management of occupational health and safety (OHS) programs; iv) management of solid waste and effluents; v) air emissions (from bagasse cogeneration and dust from transportation activities); and vi) potential safety risks for the local communities owing to the traffic of vehicles used to transport sugar cane. In addition, other E&S aspects were addressed under Brazilian regulatory requirements and international best practices.

2. Environmental and Social Categorization and Rationale

Under IDB Invest's Environmental and Social Sustainability Policy, the Project was classified as a Category B transaction as it presents low to medium risks and impacts, which may be mitigated using the measures available and feasible within the context of the proposed transaction. The main risks and impacts identified include:

¹ See <https://www.idbinvest.org/es/projects/delta-sucroenergia>

i) possibility of industrial and agricultural fires (the latter being related to third parties); ii) risk of occupational accidents during the harvest and at the industrial facilities; iii) loss of biodiversity related mainly to the supply chain and compliance with the Brazilian Forestry Code; iv) management of waste, effluents (mainly vinasse) and hazardous products; v) air emissions; and vi) risks of traffic related to sugarcane transportation.

The Performance Standards (PS) applicable to the Project are: PS 1: Assessment and Management of Environmental and Social Risks and Impacts; PS 2: Labor and Working Conditions; PS 3: Resource Efficiency and Pollution Prevention; and PS 4: Community Health, Safety, and Security.

3. Environmental and Social Context

The manufacturing facilities and the sugarcane field are located in the Municipalities of Delta, Uberaba, Água Comprida, Conquista, Conceição das Alagoas and Sacramento, in the State of Minas Gerais, in the Immediate Geographic Region (*Região Geográfica Imediata*) of Uberaba.

Such region is located in South-East Brazil, it includes ten municipalities and belongs to the Intermediate Geographic Region (*Região Geográfica Intermediária*) of the same name. In accordance with the Brazilian Geography and Statistics Institute (*Instituto Brasileiro de Geografia e Estatística* - IBGE), the population of the Immediate Geographic Region of Uberaba amounted to 453,910 in 2019 covering a total area of 14,281,652 km². As to the physical aspects, the region of the Project is located on the Rio Grande basin. According to the Minas Gerais Water Management Institute (*Instituto Mineiro de Gestão das Águas* – “IGAM”) the water quality index (WQI) of Rio Grande is considered average in the region where Delta operates.

The environmental assessments carried out by Delta concluded that the *Triângulo Mineiro* has been an anthropic occupation landscape with urban centers and agriculture since the 1960s. Although vegetation is quite modified, assessments describe the existence of two endangered species in the area: maned wolf (*Chrysocyon brachyurus*) and giant anteater (*Myrmecophaga tridactyla*).

In this context, the main risks for the Project relate to the water and soil pollution, waste generation, alteration of soil properties, and superficial runoff, alteration of air quality and interference with local flora and fauna. With the full mechanization of the harvest, the risks related to wildfire and OHS were significantly reduced.

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

4.1 Assessment and Management of Environmental and Social Risks and Impacts

4.1.a E&S Assessment and Management System

Delta manages the environmental, social and health and safety issues of its operations focusing on meeting Brazilian legal and regulatory requirements. The Delta and Volta Grande power stations have had a quality system based on the ISO 9001 standard in place since 2003.

The Company developed E&S management procedures covering specific issues related to operational, monitoring, and legal compliance aspects. The manuals and procedures related to such issues are managed through the Qualis software.

As observed during the ESDD process, despite having several elements of an Environmental and Social Management System (ESMS), the ESMS implementation process is still underway having Delta hired a specialized company to assist them with the process.

The ESMS is being structured following the IFC's Performance Standards (PS) taking into account the requirements of PS 1: Assessment and Management of Environmental and Social Risks and Impacts. The principles will be adjusted to meet legal regulations and other applicable requirements, adequate management of the environmental aspects and the workers' health and safety hazards and risks, ongoing improvement of results with the emphasis on health, occupational safety and the environment.

Thus, in order to be fully aligned with PS 1, Delta will continue implementing its ESMS following the schedule established in the Environmental and Social Action Plan (ESAP).

4.1.b Policy

As part of the implementation of its ESMS, the Company is reviewing its sustainability policy including mission, vision, and values statements, as well as the internalization of all the guidelines and requirements under PS 1. In addition, the Company should also establish ongoing improvement goals as part of the business planning process and share the policy and procedures with the suppliers on their web sites. Moreover, the Code of Conduct implemented by Delta includes environmental, social, and economic accountability principles.

4.1.c Identification of Risks and Impacts

At present, Delta has in place procedures to identify OHS risks both in industrial as well as agricultural areas and such procedures are being expanded to cover the following E&S risks and aspects: underground and surface water pollution, and soil pollution, air emissions, generation of solid waste, loss of soil quality, erosion control, alteration of the surface run-off, and interference with local fauna.

Thus, upon formalizing its ESMS, Delta will define a procedure, timeline and technical team (using the current technical team) needed to carry out, review and improve risk assessments, including facilities and agricultural areas, and will implement a procedure with the involvement of its personnel in the risk assessment.

4.1.d Management Programs

Delta's management programs are mostly focused on meeting Brazilian legal requirements and the terms of the environmental licenses for the Company's mills and fields with environmental quality parameters management and monitoring practices, as well as legal compliance procedures.

Management programs include management of effluents, monitoring of noise and air quality, monitoring of surface water quality, vinasse application program, traffic safety and control, among others. Delta also implemented environmental programs and procedures to reduce the amount of industrial effluents and waste by turning them into fertilizers for sugarcane plantations. As part of a wider effort in the Brazilian sugarcane sector to transition away from manual agricultural work, Delta was able to mechanize 100% of its harvesting task. Manual harvesting was discontinued, and the Company eliminated the use of broadcast burning following requirements from the State of Minas Gerais.

4.1.e Organizational Capacity and Competency

Delta has an Environmental Coordinator reporting directly to the Administrative and Legal Management, which oversees E&S and OHS issues. The company also has a Coordinator for the Health area and two Occupational Safety engineers.

Delta owns an information management system (BIG DATA) where mills and plantation fields operational data is stored while management systems documents are managed using specific software (*Qualis*).

In addition to having an in-house environmental, health and safety (EHS) team, the Company also hires environmental consulting companies to carry out periodic inspections. The results are consolidated in monthly reports and discussed at periodic meetings on a rotation basis at each operational unit or through in-person discussions between the corporate environmental and sustainability personnel and department managers. In the event of recidivism, the environmental team develops awareness campaigns among the workers. External consultants also support the Company in environmental licensing and compliance with legal requirements processes.

Each unit has a dedicated OHS team made up by occupational safety engineers, occupational safety technicians and a medical team formed by doctors, occupational nurses, nursing technicians and ambulance drivers.

4.1.f Emergency Preparedness and Response

Delta developed Emergency Preparedness and Response Plans (EPRP) for all its sites establishing the guidelines necessary to act in emergencies and situations with potential to cause incidents inside and outside operational units. Possible emergency scenarios include fires, explosions, and product spilling.

In late 2018, the Company adhered to the Mutual Assistance Plan of the Uberaba Fire Brigade.

Drills are performed periodically, and Delta has a fire-fighting team at each plant in compliance with the Fire Brigade standards and firefighting system. The Company undertakes several preventive actions, such as implementation of fire belts, theoretical and practical training, fire protection systems in harvesters, raising awareness among the population (signboards and brochures); it also has control and fighting equipment in the event of potential fires, as a fire-fighting system at the plant and ethanol tanks, tanker trucks, agricultural aircraft, satellite traced fleet and radio channel communications.

The industrial units hold an effective review report (*Auto de Vistoria*) issued by the Minas Gerais' Fire Department and have in place emergency signaling and fire prevention and fighting equipment, such as smoke detectors, alarms, sprinklers, foam chambers and portable fire extinguishers.

4.1.g Monitoring and Review

Delta has been implementing the relevant environmental monitoring programs required under their environmental licenses, which include monitoring air emissions from boiler combustion, monitoring surface and underground water or monitoring the soil, among others. It should be noted that, according to Delta's data, mills do not generate liquid industrial effluents. The effluents resulting from the industrial process (vinasse) are used in cultivation processes as per the Vinasse Application Plan prepared by the Company. Delta also has in place a noise monitoring program to assess noise pressure close to the mills.

As reported above and to meet PS 1 requirements, Delta will follow up on the preparation and implementation of procedures to monitor and measure the effectiveness of the management program as well as the compliance with any of the legal and/or contractual obligations and regulatory requirements. The Company should also appoint a professional responsible for the monitoring activities, an internal audit procedure and a periodic review schedule.

4.1.h Stakeholder Engagement

In 2015, Delta prepared a Stakeholder Engagement Plan in order to establish the relations with the different stakeholder groups and improve and facilitate communication as well as strategic decision making.

In accordance with the information gathered by the company, the following players were considered: i) company owners and leaders; ii) sugarcane suppliers and service providers; iii) lessors; iv) employees (at plantations, industrial and administrative operational areas, men, women, young persons, retirees and persons with special needs); v) management (EHS, Finance, Legal, Commercial and Human Resources Departments); vi) Department of Environment of Uberaba and Environmental Police of Uberaba; vii) City Councils of Delta, Conceição das Alagoas and Conquista; viii) neighbors of Delta, Conquista and Conceição das Alagoas; ix) lending banks; clients; x) trade unions and associations; and xi) firefighters.

The plan prepared by Delta sets forth the following actions: i) incorporating the general views of the Community to the EHS team responsibilities; ii) improving communication strategies and campaigns; iii) developing strategic and mandatory training sessions and lectures; iv) analyzing and performing a comparative assessment of the report filing standards deemed more adequate; v) developing an integrated sustainability report; and vi) engaging in additional consultation.

In addition to the engagement mechanism, public hearings led by the environmental agency were held to obtain the environmental licenses to set up and operate the mills.

4.1.i External Communication and Grievance Mechanisms

Delta developed an external communication program and grievance mechanism called “*Programa Na Escuta*” to collect feedback, grievances and claims of violations of and departures from policies, procedures and the Code of Ethics under current regulations. The program has four communication channels: i) Telephone: 0800-9433582; ii) E-mail: naescuta@deltasucroenergia.com.br; iii) Contact form at the Company’s web site www.deltasucroenergia.com.br; and iv) Boxes (“*Caixas Na Escuta*”): blue boxes located in the industrial, vehicle and agricultural center complex.

The opinions received through these channels are analyzed by Delta’s Ethics Committee safely and anonymously. All of Delta’s stakeholders—including its employees, suppliers, clients, consumers and the society— may use “Na Escuta”. Within the ESMS implementation, Delta is establishing a periodic evaluation procedure of the system by Top Management and the technical team, and of the results obtained.

In addition to the designed and implemented channels, and under the ESAP, the Company will publish on its web page annual public reports on its environmental and social performance.

4.2 Labor and Working Conditions

4.2.a Working Conditions and Management of Worker Relationships

Delta clearly addresses the attraction, training and retention of a highly qualified workforce. The Company’s workforce is made up by about 4,000 payroll employees assigned to the sugar and ethanol mills and working in the fields.

The Company has in place a clear Human Resources (HR) policy in addition to recruiting, training, and performance management procedures, among others. Delta also developed a Code of Ethical Conduct clearly banning any form of forced, child or compulsory labor, discrimination, threat, coercion, abuse, or harassment in the work environment.

Working conditions are defined in the contracts signed by Delta and its employees and they are consistent with Brazilian labor legislation. The Company offers its personnel competitive salaries, all the basic benefits guaranteed under Brazilian legislation as well as additional benefits (such as access to private healthcare, life insurance, transportation, luncheon tickets and scholarships, among others) in order to attract and retain workers and improve their performance.

Delta also has a well-structured and documented approach to hire, onboard, manage, train and promote its workforce. There are also procedures to terminate labor contracts if necessary.

Delta has a formal onboarding process whereby the new hires are received by an HR professional on their first day and presented with the mission, vision and values of the Company, the Code of Ethical Conduct and the compensation and benefits policy.

The employment terms and conditions are clearly defined in the contracts and collective bargaining agreements to which the Company is subject. The rights of workers in Brazil, including the rights of association and creation of trade unions, are safeguarded by the 1988 Constitution and the Consolidation of Labor Laws, which are aligned with International Labor Organization (ILO) guidelines. Under Brazilian labor laws, all workers are entitled to enroll in a trade union and Delta personnel benefit from the existence of collective bargaining agreements in their sector. The Company does not limit the right of association to trade unions, meets terms of collective bargaining agreements and complies with labor rights. Most of the workers are enrolled in four trade unions: i) *“Sindicato dos trabalhadores em empresa de cultivo, beneficiamento e transformação da cana de açúcar de Conquista”*; ii) *“Sindicato dos trabalhadores rurais de Delta”*; iii) *“Sindicato dos trabalhadores na indústria de alimentação de Delta”*; and iv) *“Sindicato dos trabalhadores nas indústrias de alimentação em Uberaba e região”*.

Workers are hired regardless of gender, race, nationality, ethnic, social, or native origin, religion or creed, disability, age or sexual orientation, but based on technical skills and behavior. With respect to gender equality, at present only 11% of employees are women and they are assigned to various tasks, especially in the laboratory that is raising *Cotesia Flavipes* (biological pest control).

In this sense, IDB Invest through its technical advisory division will assist Delta in implementing an in-house program to promote diversity and inclusion among its personnel. Such program will be implemented during the course of 2021 and will be promoted by the Company’s leaders and the HR Department, with major representation from other in-house departments.

4.2.b Protecting the Work Force

The contracts entered into by Delta and its employees are consistent with local labor legislation and they cover, among other issues, working hours, schedule, overtime, paid leave, minimum wage, benefits, statutory allowances and OHS aspects. Such aspects are also assessed when hiring third-party service providers.

Delta’s hiring procedures comply with the minimum working age of 18 years old, except for apprenticeships which are earmarked for young people aged 16 and over. The Company reported that there is no indication of the existence of child or forced labor in its supply chain.

4.2.c Occupational Health and Safety

Brazil has in place a group of detailed and prescriptive OHS standards known as “*Normas Regulamentadoras*” (NR) (Regulatory Standards). The main NRs applicable to the Company’s operations and that should be met permanently are: Specialized Service in Safety Engineering and Occupational Medicine, SESMT (NR 4); Internal Accident Prevention Commission, CIPA (NR 5); Personal Protection Equipment (NR 6); Occupational Health Medical Control Program, PCMSO (NR 7); Environmental Risk Prevention Program, PPRA (NR 9); Material Transportation, Shipping, Storage and Handling (NR-11); Boilers, Pressure Vessels, and Pipes and Metallic Storage Tanks (NR 13), in addition to those related to electrical installations and fire protection, among others.

The Environmental Risk Prevention Program (PPRA) defines the medical tests necessary for hiring employees, regular periodical check-ups and medical tests upon termination -which are established based on the related occupational risk profile (through the Occupational Health Medical Check-Up Program, or PCMSO).

As observed during the ESDD process, Delta is investing to raise awareness and engage teams in OHS. The main tools used by Delta are: Preliminary Risk Analysis (PRA); verification of the OHS legislation applied; environmental assessment and biological monitoring; training and awareness raising; employee communication, engagement and inquiries; supply of work clothes and PPE and collective protection equipment; issuance of the access and work permit form for risky activities; emergency preparedness and response, noncompliance records and investigation of occupational accidents and near misses.

As proven by the documents assessed during the ESDD, the OHS indexes had a positive turn over the past few years. For example, the annual lost time injury frequency rate² until the first quarter of 2020 fell by over 50% as compared to the same period the prior year. The Company started to include the OHS indicator follow-up in the monthly Board Meeting agenda. Any deviations and improvement actions are now being followed by the Company’s Top Management.

4.2.d Workers Engaged by Third Parties

Delta does not hire any outsourced labor force on a permanent basis, but it only executes contracts for services based on maintenance and/or operational sector needs. The companies providing outsourced workers are assessed by the Procurement Department to inquire about compliance with labor and OHS regulations, payment of social security taxes, and history of labor lawsuits, among others. The EHS standard requirements are included in the contracts and Delta makes payments based on the evidence as to whether such requirements are being met. The internal grievance mechanism may also be used by outsourced workers whether through secure e-mail or telephone.

² The lost time injury frequency rate represents the number of occupational accidents with injuries and leave per million of person hours worked p.a.

4.2.e Supply Chain

Delta obtains about one third of the sugarcane processed in its mills from outsourced producers who plant sugarcane on their own land and in plots assigned to them by the Company under multiannual lease agreements. Such producers, on their own account, hire and manage their own labor force and machinery. At present, third-party producers also participated in the mechanization process mentioned above eliminating the need for temporary manual labor force (usually, migrant) for planting and/or harvesting sugarcane.

As part of its hiring process, Delta assesses its supply chain and requires that its suppliers submit valid documentary support for land ownership, and compliance with federal and state environmental regulations, and with Brazilian labor legislation and with OHS. The Company also assists producers in remaining compliant with laws and regulations should they be altered, providing information, and referring them to the adequate professional services. The contracts of producers not meeting the Company's requirements are terminated or not renewed.

4.3 Resource Efficiency and Pollution Prevention

4.3.a Resource Efficiency

Sugarcane cultivation in Delta's operations depends on natural rain and irrigation using wastewater (spray liquid manure) generated by the industrial processes. The water consumed in Delta's productive process is obtained through underground wells and surface points as permitted by the Minas Gerais Water Management Institute (*Instituto Mineiro de Gestão das Águas* - IGAM) and the National Water Agency (*Agência Nacional de Águas* - ANA).

Delta has a permit issued by the ANA that allows it to extract 670 m³/hour of surface water to supply the Delta mill and certificates from the IGAM that allow it to capture underground water at two points in Delta (222 l/s and 350 m³/hour); and two points in *Conceição das Alagoas* (200 l/s and 180 l/s).

Delta has recently implemented water recycling practices at its mills to enhance the industrial process. As proven, the consumption of water per ton of produced sugar cane is consistent with the benchmark values in the WBG EHS Guidelines.

In addition, the Company focused on improving its resource (power, water, inputs) efficiency and incorporating cleaner production principles to the production and manufacturing process. Moreover, energy efficiency is a fundamental aspect of the Company's business strategy. In addition to producing all its energy demand by cogenerating electricity from bagasse, Delta sells its surplus energy to third parties and distributes it through the National Integrated System (SIN).

Bagasse burning causes combustion gas emissions (CO, CO₂ and O₂), nitrogen oxide and particulate matter. Particulate matter results from deficient boiler handling or adverse effects of combustion which may lead it to spark if not fully burnt in the process. The emission of NO_x from boilers results in flames at high temperatures and arises from the reaction between the nitrogen and oxygen in the air. The emission of carbon dioxide is mitigated through the absorption of growing sugarcane.

Greenhouse gas (GHG) emissions may be considered minimal as sugarcane biomass is a source of renewable energy. In addition, considering that it is renewable energy from sugar cane plantations, most of Delta's GHG emissions are recaptured from the air by the sugarcane cultivations and thus, subsequently offset.

4.3.b Pollution Prevention

The main byproducts of the sugar and ethanol agroindustry are sugarcane straw, bagasse, vinasse, filter muds, ashes from boilers and soot. The secondary by products, which a few years ago were considered waste, were already incorporated into the process through technologies enabling their reuse in an environmentally-friendly manner, as raw material or source of energy in their own power generation or by third parties.

Delta has adopted a waste management procedure in accordance with Brazilian Technical Standards (*Normas Técnicas Brasileiras*, NBR). Waste is classified according to technical standards adopted by Brazilian Technical Standards Association (ABNT) NBR 10004:2004, NBR 10006:2004, NBR 10007:2004, National Environment Council (Conama) Resolution 307/02, Conama Resolution 358/05 and Brazilian Health Surveillance Agency Resolution (ANVISA) 306/04. The Company periodically produces a list of waste generated during the production process, mainly bagasse, ferrous metals, batteries, recyclable materials, oils and grease, light bulbs, contaminated packaging, rubber, solvents, and trash. Thus, the Company is responsible for collecting, segregating, temporarily storing and correctly disposing of the above, depending on the type of material.

Bagasse is the solid material obtained from sugarcane after the extraction of the juice, and it consists of about 50% moisture, 45% fiber, 4.5% sucrose, 0.5% invert sugar and 1.5% ash. In practice, estimates indicate that around 270 kg of bagasse is produced per ton of sugarcane. Bagasse is used for electricity cogeneration. Vinasse is used in the fields as fertilizer.

Gas washwaters are important in connection with water consumption given the amount of water used in this system and its replacement due to evaporation losses. It is a closed-loop process and there is no wastewater from the system (only the evaporation loss upon the wash water contact with hot gases).

Under the ESAP of the prior investment project, Delta prepared a Solid Waste Management System which is being implemented by all Company operational areas.

The Company arranges for hazardous waste, especially that containing oil (e.g. sand box sediments, cotton waste and used oils, etc.), to be stored temporarily in drums (covered and waterproofed) at the industrial yard until it is finally disposed of properly –by incineration or co-processing– under a contract with a specialized company accredited with the local environmental authority.

Agrochemicals are stored in pallets in an area accessible only by authorized personnel. Empty containers used for chemical solid waste are sent or returned to suppliers through channels accredited by the Minas Institute of Agriculture (*Instituto Mineiro de Agropecuária – IMA*) after being cleaned, washed three times, and rendered unusable. The final disposal of empty pesticide containers occurs at a central site in the Municipality of Uberaba, State of Minas Gerais.

In compliance with the ESAP of the prior investment, Delta prepared a procedure to appropriately handle and manage hazardous products used as raw material or generated by the Project.

Agricultural pesticides are classified according to the target organism: insecticides, nematicides (control of nematodes), fungicides, rodenticides (control of rodents) and herbicides (control of invasive plants). Herbicides are the most widely used products at the sugarcane fields since invasive plants from the reed bed interfere in sugarcane development by competing for vital elements (water, light, CO₂ and nutrients) and through allelopathy (chemical inhibition). They are usually applied in the soil or directly on the leaves. These pesticides may be transported by volatilization, lixiviation and surface runoff thus polluting surface and underground water as well as the soil.

To minimize these impacts, Delta is using sugarcane varieties that are more resistant to pests and taking precautions, even in the nursery before planting, implementing practices that prevent excessive use of pesticides. Other actions taken include using biological controls to eliminate certain insects. Delta has implemented a biological pest control system as a means of reducing pesticide use and obtaining a more efficient result by producing *Cotesia flavipes*, a kind of wasp, to attack the sugarcane borer (*Diatrea sacchralis*) at the mill's own laboratory. The biological pest control with wasps is performed on fields that Delta owns or leases, not in areas farmed by suppliers.

Pesticide application is always supervised by an agronomist engaged in observing whether conditions are appropriate for that task, handling maintenance and calibration of equipment, and making sure that the solution (product and water) is properly prepared according to manufacturer's instructions.

Delta reported that it uses hazardous products classified under the WHO Recommended Classification of Pesticides by Hazard Class (2009) and by Bonsucro as moderately hazardous (Class II), such as clomazone, 2.4D and MSMA; and as slightly hazardous (Class III), such as glyphosate and diuron. The use of these substances may not only have environmental impacts but could also affect worker and public health. Thus, the Company states that it employs appropriate controls for handling and distributing these products and that access to them is restricted to skilled and properly trained personnel.

Under PS 3 and the ESAP from the prior investment, Delta developed and is presently implementing an integrated pest system aimed at economically significant pests and vectors of human disease.

Despite having reduced pesticide use, Delta also developed an options plan (following Bonsucro guidelines aligned with those of the World Health Organization [WHO]) of chemical pesticides presenting low toxicity levels for humans and the environment. Therefore, under the ESAP, the Company will develop a plan that will include the application systems to i) prevent or minimize damages to the natural enemies of the related pest; ii) prevent and minimize any risks related to the development of resistance by pests and vectors. It should also include safety procedures to manage such products and safety conditions including the products currently in use as well as any future products to be acquired.

In addition to pesticides, in sugarcane cultivation, it is necessary to apply nutrients, such as nitrogen, an essential component for crop growth, potassium, a fundamental component for photosynthesis, and products to correct acidity by liming. The alteration of hydric resources and soil by the application of fertilizers and soil enhancers occurs in the same way as with pesticides: through volatilization, lixiviation and surface runoff.

In order to minimize mineral fertilizer use, Delta recycles nutrients which were extracted from the soil by cultivating sugarcane, that is to say, reapplying, by aspersion, the by-products from the mill: vinasse, sugarcane wash water, boiler water and irrigation water. A Vinasse Application Plan is thus prepared for each picking season, which provides for the elimination of risks of soil, and surface and underground water pollution by a rational and agronomically controlled application based on the hydric and nutritional needs of the sugarcane crop.

4.4 Community Health and Safety

4.4.a Community Health and Safety

The transportation of sugarcane, raw materials, and products may interfere –mainly during the harvest season– with traffic on the main local roads that give access to the operational units.

In terms of heavy vehicle transportation, Delta's logistics procedures follow the highway safety rules issued by the National Transportation Infrastructure Department (*Departamento Nacional de Infraestructura de Transporte – DNIT*). Moreover, the increased traffic caused by Delta's vehicles, may also increase the accidents in the region, especially on the roads to access the Company's mills by collision, running over persons or animals and potential material falling over.

The Company implemented several traffic management enhancements as compared to the last investment, including a contingency plan for hazardous product transportation. Meanwhile, a traffic management program is still pending consolidation; such plan should include evaluating transportation routes and the local situations of units in order to identify any issues and points for improvement as well as the establishment of structural and, if appropriate, management (signaling, traffic procedures, etc.) measures to optimize any points deemed problematic.

Also, in order to prevent gender violence, whether at the Company, the communities where it operates or its supply chain, Delta will develop specific educational content and will launch information campaigns.

4.4.b Security Personnel

Delta does not employ armed personnel. The rules that govern the security team are consistent with the national rules and regulations issued by the Brazilian Federal Police, and the Company trains its personnel in the use of non-lethal weapons and the appropriate use of force. The external grievance mechanism is available for the population in general, who may express its concerns related to potential abuse by security personnel.

4.5 Land Acquisition and Involuntary Resettlement

The Project will not cause any physical or economic resettlement of the population. The plots used by Delta are owned by the Company or leased for sugarcane production. Most of such plots have been given the same use for decades without any major land or crop variations.

4.6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

4.6.a General Requirements

The vegetation that formerly predominated in the region now is seen only as small scattered patches. Land occupation originally involved coffee plantations and other perennial crops at a lesser scale. Now the land is used principally by sugarcane and pastures.

Since the mills are located in areas already engaged in agricultural activities, no vegetation needed to be removed. The alteration of terrestrial fauna conditions caused by the Project under analysis relates to different factors, such as machinery, vehicle and equipment movement which may disturb fauna due to the fact that animals may be run over by trucks or other vehicles.

The environmental assessments carried out by Delta concluded that the *Triângulo Mineiro* has been an anthropic occupation landscape with urban centers and agriculture since the 1960s. Although vegetation is quite modified, assessments describe the existence of two endangered species in the area: maned wolf (*Chrysocyonbrachyurus*) and giant anteater (*Myrmecophaga tridactyla*).

In compliance with the New Forestry Code, Law No. 12,651 of 2012, Delta owns land in a legal reserve in the case of its three mills, according to the Rural Environmental Registry (*Cadastro Ambiental Rural* - CAR). The agricultural areas respect the boundaries of the Permanent Conservation Area.

4.6.b Protection and Conservation of Biodiversity

Although no habitat conversion or significant loss of biodiversity are expected due to the new fields, Delta implements a bioindicator monitoring program considering that some fields are within the Environmental Protection Area of the Uberaba river, located 30 km away from the Delta mill, or within priority flora and avifauna conservation areas. The Company's units are located in areas with low natural vulnerability and few natural resource restrictions.

Under Brazilian legislation, Delta reserves 20% of its land as biodiversity conservation areas and it also protects the banks along the rivers and bodies of water. Also, Delta has a Private Reserve of Natural Heritage (*Reserva Particular do Patrimônio Natural – RPPN*) with an area of about 7,342 hectares in the Municipality of Chapada Gaúcha (north of the State of Minas Gerais) covered by cerrado vegetation. The Company also has in place a program of riparian forest reforestation at its own and leased lands, monitoring of certain fauna indicators and recovery of conservation areas in order to create environmental corridors.

4.6.c Sustainable Management of Living Natural Resources

Permanent Conservation Areas were mapped in order to identify and manage plantation fields and legal reserve areas.

4.6.d Supply Chain

Delta has in place environmental protection clauses in its contracts with suppliers and partners, and it provides technical advisory services for implementations compliant with environmental requirements.

4.7 Indigenous People

The Project will not intercept any indigenous areas or territories, nor will it have any direct impact on any indigenous people.

4.8 Cultural Heritage

The Company's plantation fields are located in consolidated crop production areas. Consequently, PS 8 is not applicable to this Project.

5. Local Access to Project Documentation

Any Project-related documentation can be accessed at IDB Invest's web page (<https://idbinvest.org/es/projects>) and further information may be obtained at <http://www.deltasucroenergia.com.br>.