

1. Scope of Environmental and Social Assessment

Delta Sucrenergia (Delta) is the largest sugar and ethanol corporate group in the state of Minas Gerais. In addition to its planted areas, the Company has three sugar and ethanol mills with a milling capacity of 11 million tons/year, 61% of which is accomplished using its own raw material and 39% with cane obtained from suppliers. Average annual production is 968,000 tons of sugar and 392,000 m³ of ethanol. And, it operates a 700 GWh-electricity cogeneration power plant which powers its own operations while selling the remainder to the national public grid.

The Volta Grande unit was the Group's first industrial plant in the Minas Triangle. Installed in 1996, it is situated in the municipality of Conceição de Alagoas. In 2000, the Group acquired the former Delta Açúcar e Álcool mill in the municipality of Delta. In 2011, the Company leased the industrial infrastructure of a mill in the region and made it part of Delta as its Conquista de Minas Unit. Facilities also include a 138-kV electric power substation, and a 15.5 Km-long 138 kV feeder branch transmission line that connects to the Delta transmission line in Industrial District III of the city of Uberaba.

Business activity encompasses the harvest and the off-season. Because sugarcane harvesting is totally mechanized, the harvest period lasts about 240 days, from April to November.

The off-season runs from December to March. That is when machinery and equipment are maintained, as is the fleet of vehicles. It is also when cane is planted. Cogeneration of electricity continues. According to data furnished by the Company for 2017, 61% of the 160,000 hectares that comprise its farm area is land that it owns or leases, while the remainder (39%) belongs to suppliers scattered throughout the region around the mills. Suppliers work separately or grouped in condominiums or associations of producers.

For purposes of the environmental and social (E&S) assessment of the Project, environmental and social due diligence was performed on 25-27 September 2018 by the IDB Invest E&S Officer and an Independent E&S Consultant (IESC) supporting IDB Invest E&S officer. Interviews were held with those responsible for the areas of environment, occupational health and safety and human resources, as well as management of financial, administrative, legal, and corporate industrial areas. The Delta and Volta Grande plants were visited, as were three small, medium-sized, and large suppliers of sugarcane identified by the Company. Legal and managerial documents related to these areas supplied by Delta were examined.

2. Environmental and Social Categorization and Rationale

According to IDB Invest's Environmental and Social Sustainability Policy, the Project was categorized as Category B since its potential environmental and social risks are related to: (i) possibility of industrial fires and agricultural fires (the latter related to third parties); (ii) risk of occupational accidents at industrial facilities; (iv) risk of traffic incidents; and (v) possible loss of vegetation cover (related with the suppliers' crops expansion). All the impacts prone to be generated by the Project are deemed to be of medium magnitude and considered to be either reversible or easily manageable through standard mitigation measures.

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

Performance Standard 5 - Land Acquisition, Involuntary Resettlement and Economic Displacement does not apply to this project since no land acquisition is anticipated; only agricultural partnerships

for purposes of planting are involved. Performance Standard 7 does not apply either, since no indigenous people or traditional communities are near the mills and plantations. Performance Standard 8 – Cultural Heritage, does not apply since there are no cultural heritage sites in the Project area.

3. Environmental and Social Context

The Uberaba microregion is in the southeastern part of Brazil. It includes seven municipalities and is part of the Minas Triangle/Alto Paranaíba mesoregion.

In terms of physical aspects, the Project region lies in the Rio Grande basin. According to the Minas Gerais Water Management Institute, the water quality index – IQA of this river is rated as good. According to environmental studies conducted by Delta, the distribution of forest formations in the Minas Triangle since the end of the 1960s has been that of a landscape occupied by humans, characterized primarily by urban centers, agriculture, and livestock raising.

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

4.1 Assessment and Management of Environmental and Social Risks and Impacts

a. E&S Assessment and Management System

Delta has adopted procedures for environmental and social management, although they have not been integrated into the quality systems, and health and safety procedures that cover subjects specific to operational issues of monitoring and conformity with the law. The pertinent manuals and procedures are generated using Qualis software. Although the Company is certified in the ISO 9001:2015 (quality management system), the basic principles of the Environmental and Social Management System (ESMS) are not fully aligned to the PS-1. The ESMS needs to be extended to all aspects of the internal operations and the entire supply chain.

b. Policy

Delta has an environmental policy with a Mission and Vision statements and values focusing on E&S issues. During interviews with personnel, it became evident that E&S matters are embedded in the Company's culture. The Code of Conduct implemented by Delta includes principles related to environmental, social, and economic responsibility. However, no targets for annual E&S improvement as part of its business plan was evidenced nor the disclosure of the E&S policy requirements and procedures among its suppliers and relevant stakeholders.

c. Identification of Risks and Impacts

Currently, Delta has adopted procedures to identify risks to occupational health and safety in both industrial and agricultural areas. But does not cover all environmental risks, namely: air emissions, solid waste production, and traffic incidents and accidents with communities.

d. Management Programs

Management programs are focused on Action Plans and procedures to avoid, minimize, or compensate for the risks and impacts that are identified in the DD. The Company is certified on: i) ISO 9001:2015 for the production and marketing of sugar, ethanol, and electricity at the Delta unit, and for quality control at the Volta Grande unit; ii) EPA certification for export of ethanol to the United States; iii) Kosher certification; and iv) the Seal of National Commitment to Improve Working Conditions in Sugarcane.

The Company performed an auto assessment of its ESMS and, as result, programs are found to be either partially developed or have been prepared at the conceptual level and, therefore, need to be enhanced to comply with the minimum required standards outlined in PS-1.

e. Organizational Capacity and Competency

Delta has an Environment Coordinator who reports directly to administrative and legal management. The E&S Coordinator is charged with handling environmental and social issues as well as occupational health and safety. The E&S team also includes an occupational health coordinator and three job safety engineers.

f. Emergency Preparedness and Response

Delta has developed Emergency Response Plans related to the mills that establish the needed guidelines for actions to be taken in emergency situations that have the potential to cause external impacts both within the facilities and outside their boundaries.

The ethanol storage tanks were constructed in accordance with Brazilian technical standards with respect to safety and security aspects. To that end, their design features favor the detachment of the roof in the event of an explosion, thereby preventing rupture of the sides of the tank. Containment basins are provided to protect the outside area and contain a potential leak.

At each plant, Delta has assigned a team of trained employees (firefighting first response team) to take initial action while the local Fire Department is called. Fire drills are performed periodically, and theoretical and practical training courses are given.

In the field, the Company takes preventive actions such as baling the straw and clearing parts of the land to prevent grass fires. A fire prevention system applies to the harvesters. The neighboring community is made aware of hazards via signs and distribution of pamphlets. Corrective actions are taken, such as setting up a firefighting system at the ethanol tanks and the factory and providing water tanker trucks and agricultural aircraft. A satellite is used to track the movements of the fleet, and communication can be transmitted via radio channel.

It should also be pointed out that minor fires break out and other fires occur with significant frequency because of the weather in the Brazilian *cerrado*. Criminal actions have also been a factor. Although fires are no longer employed as part of the harvesting process, Delta reports that criminal fires occur. However, Delta is ready to prevent and control them, including using tanker trucks.

Although proper measures have been taken to prevent and fight fires and simulations are conducted, it should be emphasized that the Conquista and Volta Grande units have a record of having been formally inspected by the Fire Department. The facilities at the Delta Unit will be brought into compliance as soon as possible.

g. Monitoring and Review

ESMS procedures have been developed and are being introduced for permanent and mandatory environmental monitoring, according to the requirements of the environmental licenses. The Company monitors and reports the E&S performance of operations to senior management using Key Performance Indicators (KPIs). These include: monitoring of atmospheric emissions from boiler combustion, monitoring of surface and underground water, and soil monitoring. It is important to point out that, according to documentary evidence reviewed by IDB Invest, the mills do not generate liquid industrial effluents, and sanitary effluents are sent to a pit. The effluents resulting from the process (vinasse) are applied to the cane fields. Delta also conducts a program to monitor noise in

the vicinity of the mills.

h. Stakeholder Engagement

In 2015, Delta developed a Plan for Stakeholder Engagement to establish relations with different groups of interested parties and improve and facilitate their involvement. The Plan establishes: i) Incorporation of the community's general view into the responsibilities attributed to the Environmental Health and Safety team; ii) Improvement of communication strategies and campaigns; iii) Development of strategic and required training courses and lectures; iv) Analyze and conduct a comparative assessment of best practice reporting standards; v) Development of an Integrated Sustainability Report and vi) Additional consultations.

In addition to these engagement mechanisms, public hearings were held by the environmental agency related to Delta's environmental licenses of the mills.

i. External Communications and Grievance Mechanisms

Delta has developed an external communication and grievance mechanism program - known as "Na Escuta". All Delta stakeholders: employees, suppliers, customers and community can use it. It is a forum for communication on feedback, complaints, as well as claims of violation or deviation from policies, procedures, the code of ethics, and the law.

The program is composed of four channels: Telephone service: 800-943-3582 - From 7:00 a.m. until 4:48 p.m. Email: naescuta@deltasucroenergia.com.br. A contact form on the Company's website: www.deltasucroenergia.com.br. Feedback Boxes: Blue boxes on the industrial and automotive areas of the campus and at a farmers' social center.

The opinions received on those channels are reviewed by the Delta Ethics Committee and kept confidential and anonymous. Weekly, in the Company's management review, management discusses and takes required actions to attend the grievances. Communication on the Company's response to the different stakeholders shall be established as part of the ESMS.

4.2 Labor and Working Conditions

Delta has about 4,000 employees, assigned to the sugar and ethanol mills and working in the fields. It has adopted a human resources policy and specific procedures for hiring staff. There is a procedure for hiring young people for job training, known as the New Energies Program.

Delta submitted proof of its compliance with the Brazilian Labor Law (Consolidated Labor Laws) and the requirements of Ministry of Labor regulations. Job classification, minimum wage, and the basis of contracting applied to employees are determined by law and collective bargaining agreements. Employees are organized under the following Worker's 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".

Delta has adopted a Code of Conduct for its workers that prohibits discrimination. Hiring takes place independent of gender, race, nationality, ethnic, social, or native origin, religion or creed, deficiency, age or sexual orientation. People are hired based only on technical capabilities. With respect to gender equality, at present only 11% of employees are women. They are assigned to various tasks, especially in the laboratory that is raising *Cotesia flavipes* wasps. Also, the Executive vice president of the group is a woman.

Delta has an operational procedure that provides channels for complaints. Workers are encouraged to make their complaints to the managers of each area. This procedure allows to accept grievances (including anonymously). Each week, in the Company's management review, management discusses and takes required action to attend the grievances.

Regarding worker health and safety, Delta has an Internal Accident Prevention Committee (IAPC), a forum in which employees can discuss conditions that pose risks and/or working conditions that are inappropriate or unsafe. The IPAC is a committee composed of representatives of both employer and employees. Its mission is the protection of the health and physical integrity of workers and everyone else who interacts with the Company.

Delta reported that there are no children working at its facilities or for its suppliers and that there are no indications that such is the practice. Delta's hiring procedures prescribe that a candidate must be at least 18 years old, except for those covered by apprenticeship aimed at young people from age 16.

Delta reported that it does not impose forced labor conditions on personnel at its facilities or those of suppliers and that there are no indications that such is the practice. The Company has adopted programs defined by the Brazilian law, especially by the Ministry of Labor regulations that were implemented by Federal Decree N. 3214/78. In compliance with the Ministry of Labor regulations NR-7 and NR-9, approved by Ordinance 3214/78, Delta has developed and reviews annually an Environmental Risks Prevention Program (PPRA) and a Medical and Occupational Health Control Program (PCMSO). Both the PCMSO and the PPRA have been implemented for all company units and will need to be reviewed annually, by law requirement.

In accordance with the Ministry of Labor regulation NR-4, which oversees the proper dimensions of the Specialized Services in Safety Engineering and Occupational Medicine – SESMT, Delta has personnel on its technical team who are responsible for occupational health and safety. The dimensions of the SESMT are tied to the classification of the risks involved in the principal activity and the total number of company employees.

All production units have a staff member responsible for workplace safety and is member of the Internal Commission for Accidents Prevention (CIPA). To improve its occupational health and safety management procedures, Delta will implement the guidelines of the Dupont Integrated Approach (DnA) for Safety. Delta does not currently have any subcontracted workers assigned on a permanent basis.

Delta stresses the use of good practices by its suppliers and subcontractors. Therefore, all agricultural partnership and sugarcane purchase and sale contracts include clauses on environmental compliance and Occupational Health and Safety (OHS). Documentation attesting to conformity with the law is requested of said parties, including prohibition against child labor and forced labor, or services analogous to slavery.

4.3 Resource Efficiency and Pollution Prevention

Delta does not have a specific ESMS procedure for achieving efficient use of natural resources. However, it has adopted specific principles and procedures for preventing pollution. The Company's production process involves re-use of byproducts such as raw material in some other process—sugarcane bagasse is used as biomass for cogeneration and vinasse is used as fertilizer for the crop.

During the production process, greenhouse gases are reduced via cogeneration of electricity fueled

by bagasse. The Company has not developed an ESMS procedure for inventory of air emissions. The Company will implement an Inventory of Greenhouse Gases. The GHG emissions baseline will be year 2018.

The water needed for the production process at Delta is captured from underground wells and points on the surface, as permitted by the Minas Gerais Water Management Institute and the National Water Agency (ANA). Delta has a permit issued by the ANA that allows it to capture 670 m³/hour of surface water to supply the Delta Mill; and certificates from the Minas Gerais Water Management Institute that permit it to capture ground 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). It should also be pointed out that Delta has implemented water recycling at its mills.

According to company data, internal consumption of electric power at the Delta Unit during the harvest period is approximately 22 MWh/h. It exports approximately 48 MWh/h to the market. Internal consumption of power at the Volta Grande Unit is approximately 19 MW/h, and approximately 26 MW/h is exported to the market.

Technologies have been developed that enable the Company to utilize all byproducts in an environmentally appropriate manner, serving as raw material or as a source of energy. Bagasse is the solid material obtained from sugarcane after extraction of juice. It consists of about 50% moisture, 45% fiber, 4.5% sucrose, 0.5% of invert sugar and 1.5% ash. In practice, estimates indicate that about 270 kg. of bagasse is produced per ton of sugarcane. Bagasse is used for electricity cogeneration. Vinasse is used in the fields as fertilizer.

Delta has adopted a waste management procedure in accordance with Brazilian Technical Standards (NBR). Wastes are classified according to technical standards adopted by the Brazilian Technical Standards Association, National Environment Council (Conama) Resolution 307/02, Conama Resolution 358/05 and Brazilian Health Surveillance Agency Resolution 306/04. The Company periodically produces an inventory of wastes generated during the production process. These wastes consist primarily of ferrous metals, batteries, recyclable materials, oils and greases light bulbs, contaminated packaging, rubber, solvents, and trash. The Company is responsible for collecting, segregating, temporarily storing and correctly disposing of these, depending on the type of material and send them to final disposal to a specialized waste treatment and disposal company.

With respect to liquid effluents, the mills' operation requires about 1000 liters of water per ton of cane, and there are no discards from this system; instead, there are losses by evaporation. Thus, no liquid industrial effluents are generated.

With regard to hazardous wastes, especially those that contain oil as part of their composition such as: sand box sediments, cotton waste and gloves contaminated with oil, used oils themselves, the Company arranges for them to be stored temporarily in drums (covered and waterproofed) on the industrial patio until finally disposed of properly—by incineration or co-processing—under a contract with a specialized company accredited with the local environmental authority.

Chemical pesticides are stored in pallets in an area accessible only by authorized personnel. Empty containers used for chemical solid waste are sent or returned to the suppliers through channels accredited by the Minas Institute of Agriculture after being cleaned, washed three times, and rendered unusable. Final discard of empty containers occurs at a central site in Uberaba, the Triangle Foundation.

Pesticides and Fertilizer

Agricultural pesticides are classified according to the target organism. They include insecticides, nematicides, fungicides, rodenticides, and herbicides. Herbicides are the pesticide most used in sugarcane.

To minimize these impacts, Delta is using cane 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 obtain a more efficient result. The mills have their own laboratory to produce *Cotesia flavipes*, a kind of wasp, to attack the sugarcane borer (*Diatrea sacchralis*). The biological pest control with wasps is performed on fields that Delta owns or leases, not in areas farmed by suppliers. IPM must be implemented in neighboring supplier parcels.

Pesticide application is always supervised by an agronomist whose job it is to remain alert to weather conditions appropriate for that work, handle maintenance and calibration of equipment, and see 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 edition) 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. Use of these substances may have not only environmental impacts but could also affect worker health and public health. Therefore, the Company states that it employs appropriate controls (adequate Personnel Protective Equipment [PPE] based upon Material Safety Data Sheet [MSDS] for the Class II materials is used) for the handling and distribution of these products and that access to them is restricted to skilled and properly trained personnel.

Chemical Fertilizers

In order to minimize mineral fertilizers, the Company recycles nutrients by applying vinasse and other water emanating during the milling operation. In other words, the Company is reapplying, by aspersion, certain by-products from the mill: vinasse, sugarcane wash water, boiler water, and irrigation water. In order to maintain proper soil conditions, Delta rotates the sugarcane crop with soybeans. To minimize the use of fertilizers, Delta has a Vinasse Application Plan.

4.4 Community Health, Safety and Security

In terms of heavy vehicle transportation, Delta follows highway safety rules issued by the National Transportation Infrastructure Department.

The transportation of sugarcane, raw materials, and products interferes with traffic on the local roads that give access to the Delta units. This interference is observed on both local roads and the regional highways that are used to distribute the Company's output.

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. The Company will develop and implement ESMS procedures and training to ensure its transport needs minimize any community health and safety risk, providing accident prevention measures, such as appropriate speed limits and safe driving practices, and documentation of this procedure in transport contractual arrangements.

Delta does not employ armed personnel. The rules that govern the security team are consistent with national rules and regulations issued by the Brazilian Federal Police. The Company trains its personnel in the use of non-lethal weapons and appropriate use of force.

4.5 Biodiversity Conservation and Natural Habitats

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.

According to the EIA carried out by Delta, the distribution of forest formations in the Minas Triangle since the end of the 1960s has been that of a landscape occupied by humans, characterized primarily by urban centers, agriculture, and livestock raising. Although the vegetative ground cover reflects human occupation, baseline studies report the presence of two endangered species: the maned wolf and the giant anteater. However, there is no evidence of a critical habitat for these species. Delta does not have updated biotical baseline studies neither a monitoring program.

In compliance with the New Forestry Code - Law 12.651 of 2012, Delta owns land in the legal preserve of its three mills, according to the Rural Environmental Registry (CAR). The agricultural areas respect the boundaries of the Permanent Conservation Area.

Delta includes environmental protection clauses in its contracts with suppliers and partners and makes technical personnel available for consultation on the implementation of measures to satisfy environmental requirements, such the CAR.

CONTACT INFORMATION:

Information about Delta may be obtained via the website <http://www.deltasucrenergia.com.br>

For project inquiries, including environmental and social questions related to an IDB Invest transaction please contact the client (see Investment Summary tab), or IDB Invest using the email requestinformation@idbinvest.org. As a last resort, affected communities have access to the IDB Invest Independent Consultation and Investigation Mechanism by writing to mecanismo@iadb.org or MICI@iadb.org, or calling +1(202) 623-3952.