

Environmental and Labor Issues: This is a category III project according to the IIC's environmental and labor review procedure because it could produce certain effects that may be avoided or mitigated by following generally recognized performance standards, guidelines, or design criteria. The main environmental and labor considerations related to the project are: assessing and managing environmental and social risks and impacts; pollution prevention; resource conservation and energy efficiency; industrial safety and occupational health; as well as labor practices and social issues.

Operating since July 2005, the existing bagasse-fired cogeneration plant has 35 MW of capacity and is located on the premises of the Ingenio San Carlos sugar mill in the canton of Coronel Marcelino Maridueña, Guayas Province. In 2006, the cogeneration plant was registered for carbon credits under the Kyoto Protocol's Clean Development Mechanism. To date, carbon offset credits have been issued for reducing greenhouse gas emissions (GGEs) by 61,246 tons of carbon dioxide (CO₂) equivalent—an amount verified by two verification and certification audits carried out in 2007 and 2010, respectively. A third verification audit is currently under way with a view to requesting additional carbon credits in the coming months for further reducing GGEs by an estimated 68,421 tons of CO₂ equivalent.

In keeping with the decision of Ecuador's Ministry of Environment requiring all existing businesses as well as new projects to obtain an environmental license, SAISC secured the pertinent license for its agribusiness activities in December 2010. The company has an integrated management system in place to manage the quality, environmental, and occupational safety and health-related aspects of its operations. This system is certified under international standards ISO 9001, ISO 14001, and OHSAS 18001. In September 2011, the company received recognition from Ecuador's Ministry of Electricity and Renewable Energy for its contributions and commitment to energy efficiency, renewable energy, and compliance with international environmental protection standards. In 2010, the Ministry of Environment also recognized SAISC for its cleaner energy production (Producción Más Limpia) program in connection with the company's biomass (sugarcane bagasse) electric power cogeneration plant. Thanks to this program, Ingenio San Carlos is able to sell its surplus energy to the country's electrical grid, which would otherwise be supplied by thermal electric plants fired by fossil fuels.

Assessment and Management of Environmental and Social Risks and Impacts: With regard to the project for boosting cogeneration capacity from 35 MW to 50 MW, the additional impacts in terms of SAISC's existing operations are considered to be relatively minor, and would primarily consist of additional air emissions generated by bagasse combustion boilers. The company, in association with a consulting firm, is currently drafting a final environmental impact assessment of the expansion project. In addition, SAISC is in the process of obtaining the pertinent environmental license for the expansion project. Because the project would be carried out at the company's current facilities, it would neither affect protected areas nor require the purchase of additional land. The company has obtained approval from Ecuador's electric power regulatory authority (CONELEC), which is responsible for overseeing the environmental impact of the country's energy and power sector.

Pollution Prevention, Resource Conservation, and Energy Efficiency: As part of the previous operation with the IIC, SAISC was required to develop and carry out an environmental improvement program and to submit periodic reports to the IIC that include the monitoring of air emissions at its electric power cogeneration plant, as well as the handling and final disposal of liquid effluents, solid waste, and hazardous waste generated by its agroindustrial operations. According to the company's environmental monitoring report received by the IIC in November 2011, the environmental improvements carried out by SAISC include: installing of an automated closed system that minimizes water use by equipment (gas scrubbers) to control air emissions, thereby reducing the water

consumption of this equipment by 95%; setting up separate waste collection sites within company facilities for organic and inorganic waste, which are stored in plastic bins; finalizing—in 2012—the construction of a warehouse to temporarily house its hazardous waste and registering with the Ministry of Environment as a hazardous waste generator in compliance with Ecuadorian regulations, and; at the IIC's request, discontinuing the use of a small incinerator for burning waste and instead turning that waste over to licensed operators for treatment and final disposal, which is the same procedure it follows for its hazardous waste.

Management of Air Emissions and Liquid Effluents: Air emissions resulting from bagasse combustion boilers used to generate energy and steam are controlled by a system of gas scrubbers. With a view to monitoring such emissions, the levels of particulate matter (ash), nitrous oxides (NO_x), sulfur dioxide (SO₂), and carbon monoxide in combustion gases are periodically measured. The results of boiler air emissions tests conducted in August 2012 indicate that the emissions control system is operating properly and that air emissions are in compliance with domestic regulations. In the case of bagasse-fired boilers, however, Ecuadorian environmental regulations only place controls on particulate matter. SAISC will develop a monitoring program for IIC approval—as well as prepare an implementation schedule and designate responsible personnel to this end—to ensure that air emissions generated by the cogeneration plant and the project to boost cogeneration capacity also meet World Bank and International Finance Corporation guidelines on permissible emission limits of NO_x, SO₂, and particulate matter.

The company's facilities are equipped with separate drainage systems for domestic and industrial wastewater, as well as rainwater runoff. The company's domestic wastewater is discharged into the municipal sewage collection system and septic tanks for treatment. Industrial wastewater is not discharged into natural bodies of water, but instead used to irrigate sugarcane fields, thereby significantly reducing the use of chemical fertilizers. The company's environmental management plan calls for periodic measurement of quality parameters for water used to irrigate sugarcane so as to ensure it meets Ecuadorian regulations governing this use at all times.

Solid and Hazardous Waste Management: Paper, cardboard, and scrap metal are collected and stored temporarily before being sold to third parties for recycling. Any unusable organic waste is taken to the final point of disposal operated by the municipality of Marcelino Maridueña. In collaboration with municipal authorities, SAISC is currently working on a program to improve the disposal of waste at the final point of disposal operated by the municipality. Hazardous waste (e.g., used plastic agrochemical containers, oil, and solvents) are collected, transported, and disposed of by a licensed service provider.

Energy Efficiency: The project to expand cogeneration capacity will require the installation of electric motors that will use a portion of the surplus energy generated to improve the operation of certain electrical equipment (grinding machines) by replacing less efficient steam turbines these grinding machines currently use to operate.

Occupational Safety and Health: The company's facilities are equipped with fire detection systems, alarms, and fire suppression equipment. The company provides its employees with personal protective equipment. Employees and their families receive medical care at the Hospital San Carlos, which is sponsored by the company.

Labor Practices and Social Issues: SAISC complies with Ecuadorian labor laws and its employees receive social security and other contractual benefits. All employees are free to join the existing labor unions that represent Ingenio San Carlos' workers, most notably the worker's council. SAISC has a strong commitment to corporate social responsibility. Accordingly, in addition to Hospital San Carlos, it sponsors three primary schools and a sports association for its employees and their

families.

Monitoring and Reporting: SAISC will continue to carry out its environmental management plan addressing the environmental and occupational safety and health aspects covered in this summary and ensure compliance with Ecuadorian law and IIC environmental regulations. In addition, SAISC will submit annual environmental and social monitoring reports.