

**BSI-ASR II, Belize  
Environmental and Social Action Plan (ESAP)**

Item No.	Reference	Action Item	Product / Deliverable	Anticipated Completion Date
<b>PS 1: Assessment and Management of Environmental Social Risks and Impacts</b>				
1.1	Assessment and Management of Environmental and Social Risks	1. PS1 compliant Environmental and Social Management System ("ESMS").	1. ESMS documentation.	1. Four months after contract signature.
		2. Provide accommodation for lactating women at BSI's facility that are private and accessible to female staff.	2. Evidence of designation of lactating room at BSI.	2. Submitted with the annual Environmental and Social Compliance Report ("ESCR").
<b>PS 3: Resource Efficiency and Pollution Prevention</b>				
3.1	Greenhouse Gas	1. Report using the greenhouse gas ("GHG") 2012 as baseline, and show GHG footprint annually.	1. GHG Report.	1. Submitted with the annual ESCR.
3.2	Pollution Prevention – Air Quality	1. Install air emissions control equipment to prevent/control particulate matter by 2023.	1. Photographs.	1. First Boiler upgrade: March 1, 2022. 2. Second Boiler upgrade: March 1, 2023.
		2. Once these controls are in place, provide boilers' stack emission testing results (in mg/Nm <sup>3</sup> ) for PM, SO <sub>2</sub> and NO <sub>x</sub> from an authorized and registered entity, and compare to WBG General EHS Guidelines (Air Emissions and Ambient Air Quality) - Small Combustion Facilities Emissions Guidelines (Boilers using solid fuels) limits.	2. Stack emissions test report.	2. Submit report within 30 days after receiving the formal stack Testing Report.
		3. If measurements exceed guideline limits, BSI will conduct dispersion modeling scenarios of stack emissions of particulate (PM10) considering varying stack emissions scenarios (including the levels (mg/Nm <sup>3</sup> ) achieved with the new air emissions controls in place). Reports and associated results to be presented to IDB Invest shall illustrate in tables and drawings the concentration of PM10, in ambient air in µg/m <sup>3</sup> at sensitive receptors downwind of the boiler stack. If the dispersion analysis shows significant impacts to the sensitive receptors, BSI will agree with IDB Invest on a plan to apply corrective measures to further reduce the stack emissions.	3. Dispersion model report (if necessary) Air emission action plan (if necessary).	3. Submit report (and action plan, if necessary) within 60 days of completion of the testing required for the applicable regulatory agency (before end of 2024), in the event that PM emissions are still above WBG General EHS Guidelines for point source emissions and ambient limits, and are deemed necessary for validation of control device efficiency.
		4. Provide boilers' stack emission testing results (in mg/Nm <sup>3</sup> ) for PM, SO <sub>2</sub> and NO <sub>x</sub> from an authorized and registered entity, and compare to WBG General EHS Guidelines (Air Emissions and Ambient Air Quality) - Small Combustion Facilities Emissions Guidelines (Boilers using solid fuels) limits. Testing to follow Monitoring of Small Combustion Plants Emissions (Boilers with capacities between =20 MWth and < 50 MWth).	4. Air quality monitoring results.	4. Annually in the ESCR.
3.3	Pollution Prevention – Effluent Treatment	1. Conduct a comparative water quality assessment from an authorized and registered entity, using WBG EHS Guidelines (Sugar Manufacturing) - Effluent Levels for Sugar Manufacturing, of the BELCOGEN plant's influent and effluent point sources in the New River. To include total fecal coliform bacteria results (MPN/100ml).	1. Water quality assessment report.	1. Prior to first disbursement.
		2. Prepare and submit a corrective action plan (including schedule) for the BELCOGEN plant to meet WBG EHS Guidelines (Sugar Manufacturing) - Effluent Levels for Sugar Manufacturing limits. Schedule of plan not to exceed February 2023.	2. Effluent quality action plan.	2. Two months after first disbursement.

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		3. Provide effluent testing results from an authorized and registered entity for pH, BOD (mg/l), COD (mg/l), Total nitrogen (mg/l), Total phosphorus (mg/l), Oil and grease (mg/l), Total suspended solids (mg/l), Temperature (°C), and Total coliform bacteria (MPN/100ml), and compare to WBG EHS Guidelines (Sugar Manufacturing) - Effluent Levels for Sugar Manufacturing limits.	3. Effluent quality monitoring results.	3. Annually in the ESCR.
3.4	Pesticide Use Management	1. Update the Aerial Application SOP, to include procedures to demarcate the boundaries of target areas and all possible nearby communities, livestock, and rivers in the flight plan in order to avoid contamination to sensitive receptors.	1. Updated Aerial Application SOP as part of the ESMS.	1. Four months after contract signature
<b>PS 4: Community Health, Safety, and Security</b>				
4.1	Community Health and Safety	1. Include traffic and driving safety procedures into transport contractual arrangements.	1. Contracts with clauses for traffic and driving safety.	1. Four months after contract signature.
4.2	Community Exposure to Disease	1. Provide status of development and implementation of the Integrated Programme for Prevention of Chronic Kidney Disease ("CKD") and submit project completion report.	1. Project completion report.	1. Submitted with the annual ESCR.
4.3	Security	1. Prepare guidelines on the hiring of security personnel that align with the principles of proportionality and good international practice in relation to hiring, rules of conduct, training, equipping, monitoring of such workers, and applicable law.	1. Security hiring guidelines as part of the ESMS.	1. Four months after contract signature.