

Material Disclosure

Management of Key Material Aspects in 2022

Based on stakeholders' views, impacts from the Groups' operations concerned 7 areas. These 7 material issues are considered manageable and controllable risks. Preventive actions are in place to prevent the reoccurrence of actual impacts.

1. Occupational health and safety of employees and suppliers

Rationale	 Some activities, particularly at power plants, pose safety risks to employees. The operation and maintenance of the Group's power plants is executed by major suppliers and a number of jobs, particularly concerning maintenance, are handled by their sub-contractors. Some jobs may pose safety risks to their workers. Under-construction projects involve a number of operators, belonging to the Group, major suppliers and sub-contractors.
Risk and impact	 Accidents that put workers and their property in danger, leading to consequences on the company's operations, compliance, reputation and finance.
Strategy and management approaches	 Supervise and monitor compliance with legislation, regulations and measures relating to safety, occupational health and labor as well as safety and occupational health measures specified in the EIA and/or the company's framework and guidelines to protect employees and all suppliers. Assess job risks to identify possible dangers and severity, particularly high-risk jobs; define risk control measures prior to the start of work; and regularly monitor the execution. Ensure operational safety through the Stop Work Authority, empowering job operators to stop unsafe work; refuse to perform the task when physical fitness or work environment or machine/equipment are not in good conditions; and apply international-standard occupational and safety standards to enhance risk management efficiency, and prevent dangers, work related injuries, illness and loss of life. Prepare the emergency response plan and conduct annual drills. Prepare Business Continuity Plan and Crisis Management Plan to better contain the impacts and ensure business continuity.

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Target/year	Zero accident
	 Raise safety awareness among job operators, for proper knowledge and understanding in the risks and dangers of each job, proper operational methods for each job, the utilization of personal protection equipment, and the safety of work environment.
	 Promote the health of the company's and suppliers' job operators with annual medical examination and special examination according to job descriptions or job risks.

2. Changes in ecosystems

Rationale	 Power plants demand large land areas and that changes the natural conditions, biodiversity and the ecosystems in the areas. Power plants' construction and operational activities affects wild life habitats, their source of food, the ecosystem and aquatic organisms.
Risk and impact	 Loss of biodiversity at the sites may affect some local plants and animals and may lead to extinction.
Strategy and management approaches	 Define comprehensive assessment criteria for the risks and impacts on ecosystems. Set the policy not to locate projects in the areas that may pose high risks and impacts on historical or world heritage sites or areas that may affect rare and near-extinction living beings, based on the IUCN's Red Lists. Comply with relevant legislation and regulations as well as the corrective and preventive measures in the EIA and report the compliance results. Adopt Mitigation Hierarchy or guidelines to achieve no net loss of biodiversity in preventing risks and restoring biodiversity at all projects through risk assessment, impact mitigation, restoration and development of replacement areas to replenish the loss; and integrate them into the investment decision-making process.
Target/year	 Positive impacts on the projects' ecosystems. An increase in/abundance of restored and rehabilitated forest areas (carbon sequestration capacity)



3. Air quality management

Rationale	 Fuel combustion at fossil fuel power plants releases pollutants to the atmosphere. Power plants are required by law to conduct an analysis on air quality impacts and to define mitigating and preventive measures so that emissions are within permissible limits.
Risk and impact	• Deficiency in power plants' pollutant elimination and control systems may end up with the release of pollutants beyond permissible limits, which will affect community and the environment as well as the company's reputation and finance following legal non-compliance
Strategy and management approaches	 Completely comply with environmental laws and all EIA measures and maintain the air quality within legal requirements. Design and apply efficient technology in eliminating/reducing pollutants in the production process for each type of power plant and its choice of fuel. Devise the system to prevent and deal with near-limit pollutants, with alert system and response guidelines when the level of pollutants is likely to exceed permissible limits. Install the stack monitoring system to monitor the air quality and efficiency of the air pollutant prevention and elimination system and meet legal requirements; and report the results online to the control room and regulators. Monitor the air quality in sensitive or community areas around the clock or according to schedules.
Target/year	 No complaint concerning environmental issues. No penalties as a result of non-compliance with environment laws/requirements.

4. Greenhouse gas management

Rationale	 The electricity generation business, the company's main business, is the large source of greenhouse gas emission and greenhouse gases cause global warming and climate change. RATCH's investment involves fossil fuel power plants which use natural gas and coal as fuels and they raise the volume of the company's emissions. Global efforts to reduce greenhouse gas emissions in the energy industry, particularly fossil fuel electricity generation, to limit the rise in global temperatures.
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Risk and impact	 Enforcement of laws to limit/control emissions like carbon tax, which will affect the company's business strategy, financial targets, business growth and sustainability.
Strategy and management approaches	 Devise the Climate Change Strategy and study greenhouse gas management and reduction approaches, to set reduction target and pave way for carbon neutrality in 2050. Set the target to raise renewable energy capacity to at least 25% of total capacity in 2025 and set sight on the development of hydrogen fuel for the energy transition. Diversify into energy technology and innovations that support the carbon neutrality/net zero targets. Promote tree growing and conserve forests for carbon sinks.
Target/year	Reduce GHG emission intensity and carbon footprint of electricity unit.

5. Causing of impacts on and concerns to community and society

Rationale	 Power plants' operations may cause negative impacts on the environment, farming activities, public health and community's safety.
Risk and impact	 Community concerns may tarnish confidence in the power plants and the company's operations and may lead to conflicts.
Strategy and management approaches	 Communicate with community with accurate information for their understanding and confidence. Build up community engagement, involving community in power plant inspection and in community development activities. Promote the quality of life in terms of education, local economy, public health, religion, culture, environmental preservation and community supports. Establish a channel to receive complaints and disseminate data.
Target/year	No complaint from any community.Community satisfaction.



6. Work conditions for employees/suppliers/sub-contractors

Rationale	 Power plant construction and maintenance activities take place in danger areas and are handled by main suppliers and sub-contractors.
Risk and impact	 High-risk jobs such as jobs in confined space and on high ground are likely to cause harm to job operators, without prudent safety measures, and that will harm the company's operations, reputation and finance following legal non-compliance.
Strategy and management approaches	 Assess the associated risks of all high-risk jobs like work in confined space, hot work that causes heat and sparks, work on high ground or work with chemicals; devise safety measures before the start of work; and monitor the work at all time. Inspect work areas, designate a responsible person; and set inspection frequency according to the risk level. High-risk jobs require inspection at all time. Assess/check work environment prior to the start of work, during the work process and after completion. If the work environment is unsafe or below standard, job operators can stop work or refuse to perform the task. In case of accident, set the investigation process as well as corrective and preventive measures to prevent reoccurrences. The measures may involve the correction of unsafe conditions of work areas, the installation of additional safety equipment, the inspection of tools and equipment, safety training, etc.
Target/year	Zero accident.

7. Product/service delivery control

Rationale	• Electric power is the company's key revenue generator. The generation and delivery must meet the specifications in the power purchase agreements, in quantity and quality terms.
Risk and impact	 Inability to satisfy customers' specifications on production and delivery can harm the national energy security and that will affect the company's reputation and finance following non- compliance with PPAs.



Strategy and management approaches	 Fulfil the PPAs with complete delivery of products and services. Maintain power plants' Equivalent Availability Factor (EAF) and Heat Rate as specified in PPAs. Maintain power plant's production efficiency to achieve the customers' specified Availability. Keep the environmental quality within the limits allowed by laws and EIA and acceptable for community. Communicate and ensure engagement through meetings and regular exchanges of opinions.
Target/year	Evaluation of customer satisfaction.No compliant relating to environmental issues.