# RISK MANAGEMENT

# RISK MANAGEMENT AND RISK FACTORS

## **RISK MANAGEMENT**

In 2021, the Company continues to face challenges amid the severe economic and social impacts of the COVID-19 pandemic which affects employee health and safety, business continuity throughout the supply chain as well as results in the volatility of product prices. However, with a strong risk management system, the Company is able to deal with the challenges that arise. The Corona Virus Disease 2019 (COVID-19) Prevention and Control Committee, a specially appointed unit, is responsible for monitoring the pandemic situation and setting various preventive measures in accordance with the changing situation. The Company implements responsive measures by increasing the numbers of staff working remotely from 66% to 90-100% as soon as the outbreak returned. The Company also launches campaigns and procures vaccinations for 100% of the Company's personnel to ensure that they have thorough and guick access to the vaccines. In addition, measures that have been in place since the first wave of the outbreak are still strictly implemented in order to maintain business continuity. One of the measures is the "Lock up" policy, which is the prevention and control of the infection among employees involved in the production process. The employees' self-reporting measure through the GC COVID-19 Reporting System application is still also strictly enforced to monitor health condition, travel and vaccination of employees throughout the organization. The Company also conducts a Work from Home Survey to ensure that employees are able to effectively work from their places. In terms of the impact of product price volatility, both from the COVID-19 pandemic and other uncertainties such as oil price war and new petrochemical production capacity, upon which situations the Company has been closely monitoring and assessing the impacts on the operating results. Various mitigations are set to reduce risks and impacts including cost reduction, investment prioritization, adjustment of production and sales plans, using the Commodity Hedging tool to manage price and spread risks as well as reshaping product portfolio to cope with the rapidly changing market. As a result, GC is able to effectively cope with these challenges testifying the standard of the Company's risk management, which is systematically developed and integrated across the organization to reduce probability and impacts that may arise from the uncertainties and/or to acquire business opportunities. This will ultimately increase the competitiveness of the Company and create sustainable value for business.

The Company is committed to Integrating Risk Management into the strategy formulation process to maintain sustainable growth in line with the strategic objectives and the organizational main goals under an acceptable level of risks. This commitment covers risk management in all aspects including quality, security, safety, occupational health of employees, society and community, environment, laws, regulations and standards as well as any requirements of the countries in which the Company have business transaction and/ or investments, to meet the international standards. The Company focuses on the anti-corruption policy and responds fairly to all stakeholders, whereby the Company has appropriate risk and crisis management systems based on the international standard of The Committee of Sponsoring Organizations of the Treadway Commission (COSO) or ERM COSO (2017), the International Organization for Standardization or ISO 31000:2018 and the Thai Corporate Governance Code for Listed Companies – 2017. In terms of anti-corruption quidelines and commitment. GC has been certified as a member of the Thai Private Sector Collective Action Against Corruption (CAC). Implementation results of anti-corruption policies and measures have been reported to the Audit Committee, the Corporate Governance and Sustainability Committee and the Board of Directors to ensure the continuity of adequate and appropriate policy implementation and monitoring processes. In addition, the Company also integrates organizational policies, rules, and operational standards into risk management, internal control and compliance

FINANCIAL REPORTS AND FINANCIAL STATEMENTS

system (known as GRC), to prevent and reduce the impact of risk as well as to alleviate opportunities, enabling it to achieve strategic objectives and business goals.

In 2021, the Company has been rated as the world's number 1 member for sustainability in the Dow Jones Sustainability Indices (DJSI) chemicals sector for the 3<sup>rd</sup> consecutive year and also ranked among the top 10 companies in the DJSI World and Emerging Markets Index for the 9<sup>th</sup> consecutive year. Moreover, in the past year, the Company also received a top 10 score in Risk and Crisis Management, representing GC's internationally accepted risk management standards.

#### **RISK MANAGEMENT STRUCTURE**

GC's risk management structure is organized into three levels: corporate, business units, and operations. At the corporate level, the Board-appointed Risk Management Committee (RMC) is responsible for defining the direction of risk management guided by the risk appetite, risk policy, and five risk management frameworks: corporate, foreign exchange, product price and spread, subsidiaries, and investment. The committee is also tasked with monitoring progress and providing recommendations on GC's risk management. Furthermore, the Enterprise Risk Management Committee (ERMC), which is comprised of executives from each function, is responsible for regularly monitoring risk management progress to ensure its alignment with the policies and frameworks approved by the Risk Management Committee. In addition, all business units are required to conduct an adequacy assessment of the internal control systems through the Control Self-Assessment tool (CSA) as well as to manage the operational risks through the Operational Risk Management tool (ORM) to ensure that the control measures are in line with the policies, objectives, risk appetite, and risk management frameworks approved by the Risk Management Committee.

For specific business risks, GC has prescribed risk management at the business unit and functional level and/or appointed specific committees to enhance flexibility and ensure that the risk management is consistent with the operational environment, as detailed below:

- O Value Chain Management Committee (VCM) is responsible for closely following the market situation on a weekly basis and providing guidelines for managing risks of feedstock, product price and exchange rate volatility to be in accordance with the risk management frameworks approved by the Risk Management Committee.
- GC Group's Sustainable Development Committee (SDC) is responsible for monitoring sustainable development performance to ensure appropriate sustainability risk management for both existing and future operations. In addition, the Sustainability Governance Structure has been set up in 2021, covering the operations of Decarbonization in seven key areas: (1) Asset & Efficiency Improvement, (2) Low Carbon Power & Heat, (3) Portfolio Evolution, (4) Circularity Business (5) New Technology & CVC Implementation, (6) Offsetting, and (7) Decarbonization Center of Excellence, to ensure achievement of the decarbonization goals and pathways in the short, medium and long term in 2050.
- O Investment Committee (IC) is responsible for overseeing and reviewing investment projects to ensure their compatibility to GC's strategies as well as supervising risk assessment and risk management measures for such projects to enable the organization to efficiently manage its investments with maximum benefits.
- O Other Committees include the GC Operational Excellence, the Safety, Health and Environment Governance Committee, the Information Technology Governance Committee, the Corona Virus Infection Prevention and Control Committee, the Water Management Taskforce, and the Personal Data Protection Act Working Team.

#### **RISK MANAGEMENT TOOLS**

GC has studied and adopted various risk management tools to identify, analyze, assess and monitor risks and uncertainties such as determining amount of risk the Company is willing to take in pursuit of objectives (Risk Appetite), assessing and prioritizing risks using a Risk Map, monitoring risk management through the Mitigation Plans and the Key Risk Indicators (KRIs). In addition, the Company also applies the Sensitivity Analysis and the Stress Testing to evaluate the potential impact of risks under possible scenarios in order to prepare and put in to place proactive mitigation plans. The Company keeps track of changes in key external factors, trends, and emerging risk factors through an Early Warning System (EWS), which can be classified into six areas according to the PESTEL Analysis Framework, to ensure effective and proper risk management and mitigation measures.

#### **RISK MANAGEMENT CULTURE**

GC strives to foster an organization-wide culture of risk management and the integrated GRC management (Governance, Risk Management & Internal Control and Compliance) to ensure the Company's stable and sustainable growth through six components: Governance, Leadership, Risk management structure, Risk management techniques, Communication, and Risk management knowledge and understanding building. GC oversees risk management by defining policy, objectives, risk appetite, and risk management frameworks and has a risk management structure that covers every organizational level. The Company has reviewed and defined roles, duties, and guidelines in related to the risk management area for the Board of Directors, Executives, and employees. Furthermore, result and performance of the company's risk management performance is closely monitored and reported to Executives and the Board of Directors on a regular basis. GC also communicates risk issues and fosters an understanding of risk management through various programs regularly.

In 2021, GC introduced the e-Learning covering topics of governance, risk management and internal control, and Governance, Risk management, and Compliance (GRC). Training programs such as Fundamental of Enterprise Risk Management, Integrated GRC, developing BCMS with ISO 22301 were also conducted as well as sessions led by both internal and external experts providing updates on business situations, future trends, and emerging risks for all related parties to develop their ability to identify, assess risks, and define risk management measures. Furthermore, the Company has expanded its Integrated GRC initiatives to subsidiaries to strengthen the good corporate culture according to the GRC principles.

#### **Risk Factors**

GC is aware of risk factors that may have significant impacts on the business operations. The company have thus analyzed both internal and external risk factors in tandem with relevant economic, social, political, technological, industrial, competition trends, and the Company's competitiveness. Effective risk mitigation measures has been determined to minimize the impacts and help the Company to achieve business objectives according to the strategies and directions. The corporate risk factors can be categorized into three groups as follows:

#### **Business as Usual Risk Factors**

#### **Corporate Risk Factor**

#### **Operational and Safety Risk**

Safety and occupational health are one of the most critical areas in the Company's business operations. Improper safety management can result in interruption of the production process and may as well as affect the operation throughout the supply chain. To ensure that all operating areas are safe, working environment is hygienic and standard of the operational management is equivalent to the international leading industries, the Company has applied the Operational Excellence Management System (OEMS) and the Process Safety Management (PSM) to enhance the operational excellence with a target to be ranked in the 1<sup>st</sup> quartile both in terms of safety and operational stability performance and to prevent unplanned downtime.

#### Important Mitigation Measures

GC has continuously carried out the following measures to maintain the operational reliability and safety.

- Collaborate with PTT Group experts to continuously assess Operational Excellence Management System (OEMS) to ensure its efficiency and effectiveness as well as enhance technical standards and machinery maintenance to maintain operational performance within the first-quartile level.
- Cooperate with external consultants to strengthen GC's Process Safety Management, raising it to an international standard within the 2017-2022 timeframe, while focusing on grooming executive at all levels into role models to inspire safety practices and enhance employees' capabilities and awareness.
- Apply digital technologies to enhance the Reliability & Integrity of machines such as an online equipment and machine performance and working condition monitoring, the Non-Destructive Testing (NDT) for equipment and machinery defect, and shifting to advanced technology equipment.
- Assess and monitor the result of suppliers' operational management including the utility system through monthly meeting with suppliers to ensure efficient machinery maintenance as well as operational safety and continuity of supplier, to enhance operational reliability.
- Adopt the Business Continuity Management System (BCMS) and the Incident Management System tool (IMS) to manage emergencies and crises that may result in business interruption, to mitigate the impact of such incidents and/or shorten the recovery period. The business continuity planning (BCP) has also been rehearsed on a regular basis.
- Implement several personal safety projects, including Near Miss Terminator, Management Safety Walk, Supervisor Skill Workshop, and the Hand Injuries Awareness Program, with the strict use of hand injury protective equipment to reduce the risks and accidents that may occur to the workers' hands and fingers.
- Build experts and develop internal personnel, applying the knowledge jointly developed with consultants, and promote knowledge management between departments so as transfer new standards and knowledge to all business units and subsidiaries.
- GC Group has the necessary insurance to lessen impacts resulting from unforeseen incidents.

Corporate Risk Factor	Important Mitigation Measures
Price Volatility Risk The outlook of the global economy is still uncertain from the COVID-19 pandemic situation, its recent mutations of the new strain, contraction in various economic activities. This is coupled with the new petrochemical production capacity pressuring both price and demand for petroleum and petrochemical products. These factors can lead to the business plan deviation.	<ul> <li>The following are the measures that GC has put forth to mitigate its price volatility risks.</li> <li>Closely monitor market situations, feedstock, and product prices and assess the impact on the operating results on the weekly basis to revise production and sales plan throughout the value chain to ensure their compatibility with rapidly changing situations.</li> <li>Manage price and spread risks and carry out inventory hedging through derivative securities and/or futures contract according to the policy and frameworks defined by the Risk Management Committee, under the close supervision and monitoring of the Value Chain Management (VCM) Committee.</li> <li>Study and develop the use of the Artificial Intelligence or AI as a tool to help in data analysis and prediction of the Company's main product prices to increase efficiency and accuracy.</li> <li>In long term, certain strategies have been formulated to adjust the product portfolio by developing more High Value Products (HVPs) in order to mitigate the risk of commodity price volatility.</li> </ul>
COVID-19 Pandemic Risk The spread of the COVID-19 virus around the world has not only triggered a global economic downturn but poses risks to employees and can lead to the suspension of various key activities. Strict and continuous measures to reduce risks from the spread of COVID-19 must be enforced to avoid impacts on the business operations amid the concerning situations of the new virus variants, unequal distribution of COVID-19 vaccine and its effectiveness in suppressing the mutant strains.	<ul> <li>GC carries out the following measures to manage COVID-19 risks.</li> <li>Appoint a working team to implement the Business Continuity Plan (BCP), and establish the Corona Virus Infection Prevention and Control committee to formulate guidelines and preventive measures in consistency with the rapidly changing situations, report progress of the measures implementation to the management team, as well as review the plan to implement various preventive measures in accordance with the situation.</li> <li>Implement digital system in reporting, tracking employees' health conditions, travels and vaccinations to provide prompt screening, precautions and prevention of the spread of COVID-19.</li> <li>Implement Lock Up measures for employees working in the critical production process and increase strict hygiene for the Lock Up employees, as well as prevent infection among staffs in the same shifts and cross-shifts within the same plant.</li> <li>Implement the Work from Home policy to allow as much as 100% of the office employees to work remotely along with other various preventive measures to reduce the risk of COVID-19 transmission among employees and the spread of COVID-19 in the office. The Company has prepared an effective IT system to support working from home, as well as increased defensive measures of cybersecurity.</li> <li>Implement proactive screening and preventive measures to control the spread of COVID-19 among the Company's visitors including customers, contractors, and employees.</li> <li>Collaborate with partners to develop innovative medical plastic equipment to support medical personnel and frontline health volunteers through projects such as the "Millions SupportEnsuring A Safe Space for All", providing four million pieces of PPE to hospitals across the country.</li> </ul>

Corporate Risk Factor	Important Mitigation Measures
Feedstock Supply Risk Changing concession contract of gas production may result in fluctuation in both quantity and quality of gas and condensate from the Gulf of Thailand during the initial stage of operation. This may affect the Company's plan for feedstock used in the production process.	<ul> <li>The Company has accelerated the implementation of various projects to increase feedstock flexibility in order to cope with aforementioned situation to mitigate the impact; the following actions have been taken.</li> <li>Work closely with PTT Group through regular working group meetings to monitor gas situation in both quantity and quality aspects in order to plan and formulate supporting measures and solutions.</li> <li>Implement Feedstock Flexibility strategy to increase flexibility in raw material sourcing and usage together with analyze and evaluate economic cost-benefit of different feedstocks accordance with the changing situation.</li> <li>Monitor the government's policies regarding the clarity of the LNG free market and the proportion of electricity generated from alternative fuel sources to analyze trend in gas consumption from the Gulf of Thailand.</li> </ul>
Cyber Threat These days, there are various forms of cyber-attacks using different advanced technologies. The sophistication of threats also increased from the application of emerging technologies along with the changing in business model and way of work. This presents cyber threats to GC's production system and operational networks connected to the internet. Failure to manage these risks would affect its business continuity, credibility, and reputation.	<ul> <li>The Company is aware of the severity and effect of cyber threats. Several measures are therefore implemented for the risk management as followed:</li> <li>Establish and announce regulations on GC's IT Security Policy to ensure efficient use of IT systems and networks and to provide guidelines for GC and its subsidiaries.</li> <li>Implement an information security management system and asset security practices in accordance with international cyber-related standards.</li> <li>Monitor and prepare for new threats to both GC's offices and plants and perform tests and assessments regularly to put in place a proactive preventive plan before the incident takes place.</li> <li>Study and develop the detection and preventive systems in the form of Deception Technology to handle the cyber attack.</li> <li>Implement the 2-factor authentication for the internet-facing applications.</li> <li>Prepare work systems and increase information technology security measures to support the Work from Home policy.</li> <li>Carry out cybersecurity drills and disaster recovery tests regularly to ensure prompt response and to minimize impacts on GC's information systems and business operations.</li> <li>Introduce cyber security awareness programs such as continuously educating employees at all levels about the best practices, preventive measures, and information technology regulations.</li> </ul>

#### Strategic Risk

Successful execution of established strategies plays a vital role in the achievement of long-term corporate goals. Since the volatility and rapid changes of the business environment may affect the ability to successfully implement its strategies, GC has taken the following steps to manage risk factors related to its strategies execution.

Corporate Risk Factor	Important Mitigation Measures
Investment Risk GC expands investments to enhance its competitiveness and foster long-term growth and sustainability. To this end, it places great importance on the management of investment- related risks in terms of financing, credit rating, and resource allocation. An aspect of sustainability must also be incorporated to secure business sustainable growth and returns in the future.	<ul> <li>GC has introduced the following investment-related risk management measures.</li> <li>Analyze, review and prioritize investment projects to be in consistent with trends and economic conditions as well as integrate an aspect of sustainability as one of the key criteria for investment consideration.</li> <li>Implement a stage-gate process to govern investment decisions from the opportunity-seeking stage to investment approval by the Investment Supervision Committee, according to GC's Corporate Investment Management (CIM) process. For major investment projects with high capital investment and/or having significant impact on the Company's reputation or stakeholders, the Risk Management Committee shall provide recommendations and review the adequacy of risk assessment and mitigation measures to supplement the approval decision.</li> <li>Perform a lookback analysis to evaluate completed projects and use lessons learned to improve GC's investment management and increase the probability of success of future investments.</li> <li>Streamline project funding and financing as well as ensure the Company's liquidity according to the financial policy by considering financing method that is not affect the Credit Rating and the financial discipline.</li> </ul>
Competitiveness Risk In response to the high volatile business environment, the entry of new players, intense market competition, the spread of the COVID-19 virus, changing consumer behaviors and the emergence of New Normal Trends, GC must enhance its strength and resilience to maintain its competitive advantage and ability to operate its businesses sustainably in the face of challenges and uncertainties brought on by external factors.	<ul> <li>GC has implemented the following mitigation measures to enhance competitiveness.</li> <li>Continuously improve operational efficiency and create added value through the MAX Infinity project and the MTP Integration which will create synergies among plants and companies within the PTT Group, suppliers, and customers in order to further enhance competitiveness in five areas, namely (1) Supply Chain Optimization (2) Polymer Marketing and Logistic Optimization (3) Energy and Utility Optimization (4) Value Added Enhancement and (5) Value Maintenance. In addition, the Company has strengthened innovation capabilities and adopted new technologies, especially the digital technology, to "Modernize and Innovate" its plants to increase production and operational efficiency as well as reduce costs and losses.</li> <li>Implement "FiT project" for Lean &amp; Process Improvement to increase efficiency and flexibility, as well as to minimize risks and costs.</li> </ul>

Corporate Risk Factor	Important Mitigation Measures
	<ul> <li>Integrate and diversify business to enhance competitive advantage through various investment projects focusing on feedstock management, improvement of production units and infrastructures to accommodate feedstock flexibility in order to maintain the cost competitiveness in at least the 2<sup>nd</sup> Quartile.</li> <li>Enhance cost competitiveness by reducing redundancies in the business processes, minimizing the maintenance costs yet still maintain plant reliability, improving energy and utility efficiency to reduce losses and pollutions.</li> <li>Build long-term stability in sales and marketing by increasing market shares, strengthening the home base markets and sales, building business alliances in Southeast Asia and Strategic Market countries as a mean to create sales agility and explore new business opportunities.</li> <li>Adjust product portfolio and create added value by implementing market-focused business strategies, placing emphasis on High Value Products (HVP) as well as seeking new business opportunities in accordance with the megatrends to meet the needs of customers and to better reach end users.</li> <li>Invest in High Value Business (HVB) with a focus on high growth products with superior profitability that respond to consumer needs as well as emit low carbon.</li> </ul>
Sustainable Water Management The ability to sustainably manage water, in terms of both quantity and cost, is essential to the Company's business operations. To prevent interruption of the production process, maintain competitiveness and secure future project investment plans, the Company must define proactive measures, drive sustainable water management at the national level, acquire additional alternative water sources and adopt water management technology to reduce water consumption and to ensure adequate amount of water at a reasonable cost for both existing business operation as well as future projects.	<ul> <li>The Company has implemented measures related to water management as follows:</li> <li>Continuously monitor and assess the risk of drought and formulate mitigative and adaptive action plans as well as business continuity management plans for the event of drought.</li> <li>Implement tangible water management initiatives such as increasing the efficiency of water intake for the production process, water reuse and recycle, water-related technology investments, as well as finding alternative water sources e.g. Sea Water Reverse Osmosis project (SWRO) and Wastewater Reverse Osmosis project (WWRO), etc.</li> <li>Conduct a study on the new models for alternative water sources and new water production technologies.</li> <li>Promote sustainable integrated water management guidelines and policies at the national level through collaboration with the government, private, and industrial sectors, such as the Water and Environment Institute for Sustainability, Federation of Thai Industries, and the Eastern Water War Room, etc., along with drive the establishment of a regulatory body to oversee contract and pricing mechanisms for transparency and fair use in the industrial sector with an ultimate goal to uplift the country's competitiveness.</li> </ul>

product standards along with the

market and product development.

Corporate Risk Factor	Important Mitigation Measures
Climate Action Towards Net Zero Risk Many countries have announced their targets to reduce greenhouse gas emissions and formulated more intensive climate change policies, some of which are being used to create trade barriers such as a carbon tax scheme, the Carbon Border Adjustment Mechanism (CBAM). Other climate related initiatives that could directly impact the Company's operating costs and profits include the support of electric vehicle use and the clean energy sources etc. Thus, in response to the trends and government policies, leading petrochemical companies around the world have announced the Net Zero Carbon Emission target to meet sustainable development needs. As a global chemical company, GC Group commits to attain net zero greenhouse gas emissions for scope 1 and 2 by 2050 with a clear roadmap including development and adoption of new low-carbon technologies in the production process and expanding business portfolio into low-carbon businesses to seize opportunities from the growing demand of environmentally friendly products which will ultimately enhance GC's long-standing commitment and leadership on sustainability.	<ul> <li>The Company has continuously implemented measures related to climate actions as follows:</li> <li>Define Sustainability Governance Structure in every level to supervise overall operation of Decarbonization to achieve short, medium and long-term goals by 2050. Apart from the Board of Directors, the Sustainability Development Committee (SDC) has been set up at the management level, with the responsibilities to establish and follow-up strategies, frameworks, guidelines that promote GC's decarbonization pathways as well as monitor movements of global sustainability including government measures. At the operating level, the Company has set up specific working groups to drive decarbonization covering 7 areas; (1) Asset &amp; Efficiency Improvement, (2) Low Carbon Power &amp; Heat (3) Portfolio Evolution (4) Circularity business (5) New Technology &amp; CVC Implementation (6) Offsetting and (7) Decarbonization Center of Excellence.</li> <li>The Company has joined the pilot project of "Thailand Voluntary Emission Trading Scheme (Thailand V-ETS)" in order to prepare for the emission trading scheme.</li> <li>Incorporate internal carbon pricing as a part of the investment consideration and define specific criteria for greenhouse gas emissions reduction project.</li> <li>Promote decarbonization technology cooperation between companies within the PTT Group including Carbon Capture and Storage (CCS) and Renewable Energy technologies.</li> </ul>
Product Liability Risk To enhance long-term competitiveness and sustainable growth, the Company has set the strategy to expand product portfolios to reach more end customers and markets. This creates a need for higher standards and product certifications. Thus, it is crucial for the Company to carefully manage risks related to legal, regulations and	<ul> <li>The Company realizes the importance of product development to respond to the standards, regulations and expectations of the end customers. Various measures are implemented to manage the risks in such matters as follows:</li> <li>Closely monitor the markets and customers associated with GC Label along with establish annual inspection plan for products under GC label together with a standardized Third Party and determine a procedures for GC labeling products liability risk management.</li> <li>Establish clear and effective product development, Quality Assurance (QA), and Quality Control (QC) processes with a great importance</li> </ul>

(QA), and Quality Control (QC) processes with a great importance on quality of the product design as well as variables control in the production process.

Corporate Risk Factor	Important Mitigation Measures
	<ul> <li>Streamline product certification process and set a clear and concise quality control according to the standard requirements.</li> <li>For compound products, there has been a review of related documents on the Product Liability Disclaimer between the Company and the finished goods manufacturers, as well as between the Company and the consumers. Moreover, the Company is now conducting a study on the Product Liability Insurance to transfer risks in the event of damages and claims.</li> </ul>
People and Organization Risk To ensure that the Company can adapt to volatile business conditions and drive growth in all aspects according to the defined strategies, GC places importance on the organization, culture, and its people readiness to accommodate changes in work models, business environments as well as new business opportunities along with driving the Digital Transformation with strong data governance, infrastructure and security system to concretely increase work efficiency, strengthen competitiveness and maintain long-term sustainable growth.	<ul> <li>The Company continuously places importance on the personnel, organization, and culture by implementing measures as follows:</li> <li>Implement lean and process improvement through the FiT Project, which focuses on end-to-end process adjustment together with digitization and people competency development to reduce costs, improve operational efficiency, improve system effectiveness, enhance the employees' capabilities and skills, boost agility, and minimize risks.</li> <li>Network data throughout the organization with an objective to enable accurate and quick decision-making process.</li> <li>Initiate people development scheme for executives at all levels as well as employees with high potential (Top Talent) throughout the organization to ensure the sufficiency of workforces. Moreover, the Company also prepares succession plans that are in time for retiring executives and adequate for GC's growth plan.</li> <li>Design a Learning and Development platform for employees that focuses on self-learning through digital technologies.</li> <li>Promote agile and cross functional way of work to emphasize flexibility and operational efficiency. Besides, Work from Home (WFH) policy has been implemented as a normal working style in order to ensure work flexibility and adaptability to the COVID-19 pandemic while adhering to the demands of new generation employees.</li> <li>Continuously foster an organization culture through GC SPIRIT, expressed through 4 Core Behaviors to build understanding, awareness and actions of employees at all levels.</li> <li>Launch several well-being projects that focused on uplifting health, mindfulness, and wealth of employee such as the Work from Home Survey have been conveyed such as the Work from Home Survey and the Employee Engagement Survey therefore the results, employees' feedback and comments received through the survey have been used to improve GC's working environment and conditions.</li> </ul>

## **Emerging Risk**

Due to rapidly changing business environment, GC is aware of the emerging risk factors which could have significant impacts on the business operations over the next three to five years. The Company therefore identified and analyzed such potential risks including the impact on businesses and operations along with effective mitigation measures. This is to ensure that the Company achieve strategic objectives and business goals.

Corporate Risk Factor	Important Mitigation Measures
Disruptive Changes in Consumer Behaviors from Low Carbon Economy These days, climate change and environmental issues are being emphasized for both public and private sector. Governments around the world have implemented policies and legislations, such as the ban on single-use plastic bags and the promotion of recycled plastics, to tackle environmental problems, particularly the plastic wastes. Consequently, these climate concerns have significantly changed consumer behavior. The trend towards more conscious consumption has accelerated as consumers are becoming more eco-focused. Besides, the environmental issues have also heightened stakeholders' expectation on the Company to play a leading role in the sustainable management and to disclose its plans for sustainability.	<ul> <li>The Company has implemented proactive measures to cope with the changes in consumer behaviors as follows:</li> <li>Reduce business risks by decreasing the production of the plastic resins for single-use plastics and increasing the production for durable or semi-durable products instead.</li> <li>Create clear sales and marketing plans to bring recycled plastic (rPET and rHDPE) from the Company's Plastic Recycling plant into the market as well as seek more opportunities through collaboration with partners to conduct business feasibility on new recycled plastic technology and investments.</li> <li>Promote the use of bioplastics to replace the single-use and hard-to-recycle plastic products. The Company has developed the "GC Compostable" label to certify partner's products made from the Company's biodegradable plastic beads. This is to accentuate GC's commitment on innovative products development and environmental care.</li> <li>Increase efficiency in every process by using the "5R" principles and digital technology to reduce resources and energy consumption while implementing new innovations such as applying solar rooftop systems in factories and warehouses and seeking new low-carbon technology to push beyond the limits of today's technology.</li> <li>Adjust business portfolio to include low-carbon emissions business such as High Value Business (HVB), High Value Product (HVP), bioplastics and recyclable plastic, etc.</li> <li>Create a completed product circularity system by bringing back plastic waste into the recycling process with a goal to be the Circular Economy Prototype for the country through collaboration with all sectors throughout the value chain. Examples of the projects are conducting a waste management model and creating awareness with universities, the "Our Khung BangKachao" Project, "Separate PET Bottle to Help Doctors" Project, "Send Plastic Home" Project and "YouTurn" Project, etc.</li> <li>Raise awareness, inspire ideas, and create new approaches for the most cost-effective use of resour</li></ul>

AND PERFORMANCE	GOVERNANCE AND FINANCIAL STATEMENTS
Corporate Risk Factor	Important Mitigation Measures
Extreme Weather and Climate Events Adaptation Weather-related disasters from climate change are becoming more frequent and severe. The World Meteorological Organization (WMO) revealed that the number of disasters, such as floods and heatwaves, driven by climate change have increased fivefold and causing seven times more damage over the past 50 years. If the Company fails to prepare adequate adaptive mitigations and measures, this escalating natural disaster could affect the Company's assets as well as the continuity of business operations.	<ul> <li>The Company is aware of the needs to prepare for such incidents in a timely manner. Certain measures have been carried out as follows:</li> <li>Conduct crisis management drills and business continuity planning in different hypothetical situations at the corporate level, the business unit level and subsidiary companies in the GC group to allow executives and staffs to review roles and responsibilities as well as to practice responsive action plans. Therefore, the business continuity plan can be continuously improved from the lesson learned before the incident occurs.</li> <li>Develop the Incident Management System (IMS) to manage data collected from the incident of emergencies which may escalate into crises and promulgate the Business Continuity Plan (BCP) to allow executives to monitor the situation, review details of the incident, roles and responsibilities for decision making and appropriate delegation of orders.</li> <li>Provide trainings on Risk and Disaster Management to equip the personnel with knowledge and understanding about the natural disasters in various forms and prepare to deal with natural disasters that may occur.</li> <li>Collaborate with external consultancies to assess the likelihood of the future natural disasters and forecast impacts on assets and the Company's business operations for surveillance and preparation for situation of risk under potential disasters according to the international standards of the Task Force on Climate-related Financial Disclosures framework (TCFD).</li> </ul>
Impacts from Advanced and Deep Technology The rapid development of technology and digital technology has caused major changes on market landscape and business model. Such changes can be considered as both opportunities and challenges to the Company's business operations. As an example, the exponential growth of the Automation Machines, the Artificial Intelligence (AI), and the Robotics technology, which could potentially enhance the efficiency of the business operations, increase resilience, strengthen competitiveness, as well as create differentiation and new business opportunities. On the other hand, advanced technologies also come with challenges the Company need to address, both in the context of technology and digital infrastructure readiness, as well as personnel's capability. In addition, the introduction of the artificial intelligence technology which can access, utilize, learn and analyze Big Data, could also lead to human rights and ethical risks.	<ul> <li>The Company is aware of the rapid changes of advanced technology and has managed the impact on the Company's business as follows:</li> <li>Elevate innovation operations, including the introduction of new technology, especially the digital technology, to modernize and innovate plants to be the Smart Plant.</li> <li>Appoint a unit to supervise the business transformation so that the Company can maintain sustainable competitiveness in the future by focusing on digital transformation in three main areas: <ul> <li>(1) Business – Apply digital technology to increase competitiveness and respond to the stakeholders' needs, as well as assess the impact and formulate supporting measures for the potential risks.</li> <li>(2) Technology – Develop IT/ Data Architecture and enhance cyber security management.</li> <li>(3) Personnel – Foster knowledge and understanding of personnel to be in line with the advancement of new technology and digital technology transformation.</li> </ul> </li> <li>Establish a clear digital transformation action plan in three phases: <ul> <li>(1) Digitization focuses on efficiency and productivity enhancement</li> <li>(2) Digital Transformation of Function (DTF) focuses on changing processes and working methods and adopting advanced analytics</li> <li>(3) Digital Transformation of Business (DTB) focuses on creating opportunities to expand into new businesses or change the format of existing business.</li> </ul> </li> </ul>

GC strongly believes that these responsive mitigation measures can help the Company to minimize risks, increase opportunities for sustainable growth, and achieve business goals according to its established direction and strategic plans.