SUSTAINABILITY APPROACH

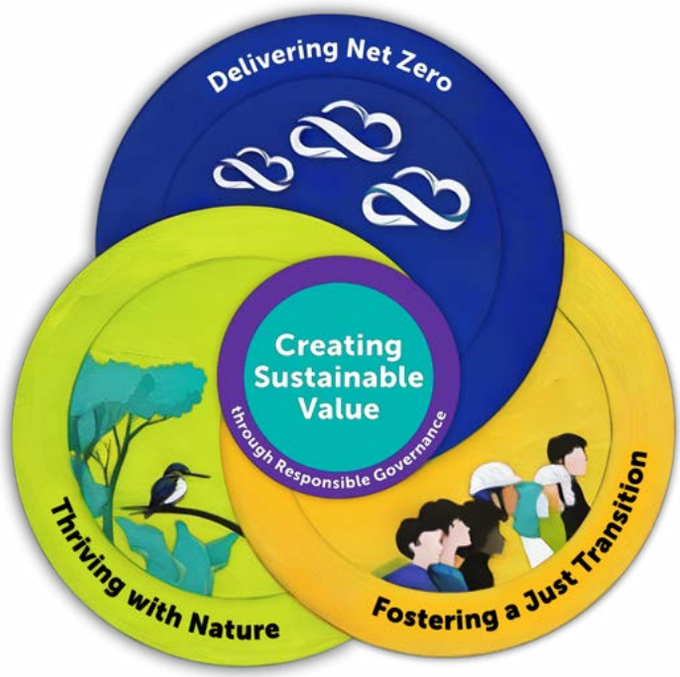
We are committed to integrating sustainability into the core of our business. PCG is guided by PETRONAS' refreshed Sustainability Approach and drives sustainability efforts focused on creating sustainable value through responsible governance, achieving net zero, protecting nature and ensuring a just transition to sustainability.

Our Sustainability Agenda is anchored in the key pillars of EESG and aligned with 13 of the 17 UN SDGs, where we believe we can make the most significant impact. We continuously pursue alignment with internationally recognised best practices and standards, as evidenced by our inclusion in the Dow Jones Best-in-Class Indices and improvement in our FTSE4Good score.

Following our alignment study of the IFRS S1 and S2 requirements, we are working to enhance our management and disclosure of sustainability as well as climate-related risks and opportunities.

Fundamental to who we are, we believe that sustainable business practices are essential for the long-term success of our company, stakeholders and the planet. We remain committed to facilitating the transition to a low-carbon economy through our Net Zero Carbon Emissions (NZCE) 2050 Approach and Circular Economy focus.

Scan the QR code for more details about PETRONAS' refreshed Sustainability Approach.



PETRONAS' Refreshed Sustainability Approach

PCG SUSTAINABILITY AGENDA

SUSTAINABILITY AT THE CORE

ENVIRONMENTAL	ECONOMIC	SOCIAL
Environmental Stewardship & Resources Efficiency	Business Sustenance & Green Initiatives	Social Responsibility
Net Zero Carbon Emissions	Operational Excellence	Human Rights
Environmental Stewardship	Commercial Excellence	Talent Management & Well-Being
Biodiversity Conservation	Growth Delivery Excellence	Social Impact

GOVERNANCE

2 ZERO HUNGER · 3 GOOD HEALTH AND WELL-BEING · 4 QUALITY EDUCATION · 6 CLEAN WATER AND SANITATION · 7 AFFORDABLE AND CLEAN ENERGY · 8 DECENT WORK AND ECONOMIC GROWTH · 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE · 11 SUSTAINABLE CITIES AND COMMUNITIES · 12 RESPONSIBLE CONSUMPTION AND PRODUCTION · 13 CLIMATE ACTION · 14 LIFE BELOW WATER · 15 LIFE ON LAND · 16 PEACE, JUSTICE AND STRONG INSTITUTIONS

IFRS Sustainability · FTSE4Good · GRI · S&P Dow Jones Indices A Division of S&P Global · CDP

SUSTAINABILITY SCORECARD

Economic

Production Volume
11.2 million tonnes
2023: 10.4 million tonnes

Sales Volume
10.4[2] million tonnes
2023: 9.6[2] million tonnes

Plant Utilisation (PU)
91%[1]
2023: 85%[1]

Order Fulfilment Reliability (OFR)
95%[2]
2023: 95%[2]

Number of New Products
18 products
2023: 20 products

Number of Co-created Solutions
6 solutions
2023: 22 solutions

Environmental

ENERGY

Renewable Energy
More than
270,000[1] MWH
2023: 134,401[1] MWH

Energy Consumed
104.55[1] million GJ
2023: 100.38[1] million GJ

WATER

Freshwater Withdrawal Intensity
5.42 m^3/tonne
2023: 5.46 m^3/tonne

CONSERVATION

Mangrove Trees Planted
More than
250,000 trees
2023: 5,700 trees

Contribution from Bharuch, India, since 2022 are reflected in the 2024 data, following new disclosures this year.

EMISSIONS

GHG Emissions (Market Based)
7.93 million tCO_2e
2023: 7.81 million tCO_2e

GHG Emissions Intensity (Market Based)
0.71 tonne CO_2e/tonne
2023: 0.76 tonne CO_2e/tonne

GHG Emissions Reduction from Projects and Renewable Energy Certificate (REC)
329,000[1] tonne CO_2e
2023: 146,100[1] tonne CO_2e

WASTE

Hazardous Waste 3R
93%[1]
2023: 76%[1]

Social

World-Class Safety Performance
0.16[3]
Lost Time Injury Frequency (LTIF)
2023: 0.09[3]

Diverse Nationalities Representation in Senior Leadership
13%
2023: 18%

Women in Senior Leadership
24%
2023: 31%

Social Impact Initiatives
Reached more than
220,000 people
2023: 170,000 people

1 *Data covers commodity manufacturing sites with operational control*
2 *Data includes volume from Pengerang Integrated Complex (PIC)*
3 *Data covers commodity manufacturing sites with operational control and BRB*

SUSTAINABILITY FRAMEWORK

PCG aims to integrate sustainability best practices into its business strategy and operations by consistently elevating its reporting and disclosures to align with international and reporting standards.

In 2023, we conducted an in-depth analysis of the IFRS S1 and S2, identifying key gaps and establishing a roadmap to address them. Building on this foundation, we enhanced our sustainability reporting in 2024, including our climate-related disclosures, by implementing measures to align with IFRS requirements. These efforts also support gradual compliance with the National Sustainability Reporting Framework (NSRF), introduced in 2024, which mandates IFRS adoption for listed companies.

IFRS S1:
General Requirements for Disclosure of Sustainability-related Financial Information

The main objective of this standard is to disclose all information about sustainability-related risks and opportunities that could reasonably be expected to affect a company's prospects.

IFRS S2:
Climate-related Disclosures

This standard focuses on specific climate-related information to be disclosed.

GOVERNANCE

SUSTAINABILITY & CLIMATE GOVERNANCE

PCG's sustainability governance is centred on transparency, integrity and accountability in executing and enhancing its Sustainability Agenda and Climate Change Strategy. Our dedication to our values underpins our determination to address the urgent challenges posed by climate change and other significant sustainability issues. Every decision and action taken by our leadership is a testament to our commitment to mitigating climate risks and adapting to climate change, as we advance sustainable development.

Our governance structure consists of the Board, Management and working-level committees, ensuring a comprehensive and effective execution of our Sustainability Agenda. The clear delegation of roles and responsibilities allows us to maintain the highest standards of integrity and efficiency in both the development and implementation of our Sustainability Agenda.

Our Board of Directors is the highest authority in the governance structure, providing leadership from the top in establishing the core values that guide our approach to embedding sustainability and climate considerations into business priorities and decision-making. The Board reviews and steers PCG's sustainability targets, priorities and strategy through the Board Strategic Conversations on sustainability.

The Board has the ultimate responsibility for approving sustainability targets and strategy. It oversees the implementation of PCG's Sustainability Agenda and allocates resources as part of the annual business plans and budget.

The Board is supported by the Board Sustainability and Risk Committee (BSRC), which plays a key role in incorporating sustainability and climate-related risks into decision-making. The BSRC is responsible for providing oversight in mitigating risks and capturing opportunities in decision-making, including target setting, monitoring and controls, key growth projects and risk management processes.

Read more about the PCG Board Charter on our website.

This includes overseeing and allocating resources to drive the implementation of PCG's Net Zero Carbon Emissions (NZCE) Roadmap and managing progress against Greenhouse Gas (GHG) emissions targets. The Board's oversight on sustainability-related matters is delegated to the BSRC and reflected in the BSRC Terms of Reference (TOR), which is available on PCG's corporate website.

The BSRC reviews quarterly sustainability performance and progress against targets, besides endorsing annual sustainability reports and independent assurance of selected non-financial indicators. In 2024, it reviewed and approved the PCG Corporate Risk Profile (CRP) to improve clarity and alignment with PCG's material matters, particularly sustainability-related topics that were not covered by the CRP such as climate change, circular economy, human rights, and nature and environment. The enhanced CRP includes increased focus and granularity of risk management, including but not limited to mitigations, in response to growing expectations and demanding requirements related to sustainability and climate-related risks. In addition, the updated CRP complements disclosure requirements mandated by sustainability reporting frameworks, such as the IFRS S1 and S2.

The Nomination and Remuneration Committee (NRC) reviews and approves the MD/CEO Scorecard, which includes sustainability-related key performance indicators (KPIs) and targets.

At the management level, the MD/CEO drives and approves sustainability-related decisions. The MD/CEO is supported by the Sustainability and Risk Management Committee (SRMC), comprising PCG's Management Committee members who head PCG's various divisions and departments. The SRMC serves as an avenue to ensure that sustainability-related risks and opportunities are considered and deliberated at both the enterprise and business portfolio levels. Moreover, the SRMC endorses the setting of company sustainability targets, reviews sustainability performance against targets quarterly and provides advice and intervention as and when necessary.

SUSTAINABILITY FRAMEWORK

The Management's roles and responsibilities in relation to climate change are clearly set out. They include overseeing and directing the implementation of NZCE decarbonisation levers. The Management is also responsible for cascading enterprise targets on GHG emissions to the operating unit level, addressing IFRS recommendations in managing climate risks and opportunities. This includes considering carbon footprint assessments and carbon pricing for investment decision-based cases.

As part of our efforts to enhance Sustainability Governance, the Sustainable Development Working Committee (SDWC) was elevated to the Sustainable Development Steering Committee (SDSC), shifting its members from working level to a decision-making role. The SDSC provides strategic direction and oversight of PCG's sustainability programme, including the formulation of sustainability strategies, objectives and action plans. The SDSC also defines key material topics, reviews sustainability performance and drives sustainability transformation across the business.

The SDSC convenes every three months to deliberate the following agenda:

- Review and endorse sustainability performance
- Steer and provide strategic direction for PCG's sustainability programme
- Drive sustainability capability and transformation across the business
- Define PCG's material topics and key focus areas
- Establish task forces and implement special initiatives
- Formulate sustainability strategies, objectives and action plans

The SDSC is supported by the:

- **NZCE Taskforce:**
  Responsible for driving the execution of NZCE initiatives towards the 2030 targets, expanding the NZCE pipeline, implementing renewable strategy and managing growth emissions, including those from mergers and acquisitions
- **Reporting and Disclosure Taskforce:**
  Responsible for driving PCG's sustainability reporting and disclosures, as well as management reporting
- **Circular Economy Taskforce:**
  Responsible for driving PCG's Circular Economy approach and its implementation to drive the shift towards circular solutions and operations

The Board needs to be equipped with the necessary skills and knowledge to execute its role of overseeing PCG's sustainability strategies and direction. Staying abreast of the latest sustainability development and climate landscape ensures that the Board can steer the Group to respond strategically to sustainability-related risks and opportunities. The Board is committed to making informed decisions and remains proactive in keeping up-to-date with the latest sustainability knowledge by attending at least one sustainability-related training session per year.

To ensure the effective delivery of PCG's Sustainability Agenda, the MD/CEO and Senior Management have sustainability KPIs and targets, including those related to climate change, which are linked to their remuneration. The sustainability Key Performance Metrics and targets are aligned with key objectives and goals to be delivered for the year, and communicated across the organisation, including via shared KPIs, also referred to as team KPIs.

R *For more information on the various internal and external sustainability-related training, workshops and events, please refer to the Corporate Governance Report 2024 at https://www.petronas.com/pcg/media/reports.*

SUSTAINABILITY FRAMEWORK

STRATEGY

At PCG, our sustainability strategy is built on a deep understanding of industry trends, operating challenges and stakeholder expectations, which are all crucial for creating long-term value. We have identified sustainability-related risks and opportunities that could reasonably impact our business model, value chain, strategy and decision-making processes.

As a key component of our sustainability strategy, we assess our materiality, sustainability and climate risk to identify risks and opportunities that may influence our business while evaluating the impact of our operations on nature. We periodically review material matters, risks and opportunities to ensure our sustainability strategy remains relevant. This allows us to effectively manage risks and seize opportunities, such as greater availability of renewable energy and increasing market shifts towards more sustainable products, to drive long-term business growth.

We have evaluated the qualitative and quantitative financial impact of climate-related risks and opportunities identified through scenario analysis, with guidance from third-party experts. Based on these insights, we have implemented PETRONAS' policies such as the NZCE Roadmap to address the identified sustainability-related risks and opportunities. Looking ahead, we aim to assess the strength of our business model and strategy against these risks and evolving regulations, including the European Union's Carbon Border Adjustment Mechanism (CBAM) and Corporate Sustainability Reporting Directive (CSRD).

MATERIALITY ASSESSMENT

We undertake materiality assessments to identify material topics based on sustainability trends and stakeholder priorities. This enables us to align our strategy and enhance efforts along topics that are significant to our business and stakeholders.

In 2024, we performed an internal materiality assessment that included a comprehensive stakeholder perspective, leveraging data-driven insights to address trends, developments and priorities within the specialty chemicals business landscape, as well as the expanded scope and geography of PCG's business and operations, following the acquisition of Perstorp in 2022.

MATERIALITY REVIEW IN 2024

IDENTIFICATION
We studied sustainability trends, reports and disclosures, as well as development in policies and reporting frameworks to identify sustainability material topics.

STAKEHOLDER ENGAGEMENT
We obtained feedback from various stakeholders to assess the impact of material topics on our business.

PRIORITISATION
We prioritised and ranked material topics based on stakeholder perspectives and commitments and discussions at the Management and Board levels.

VALIDATION
We submitted the materiality assessment outcome to the SRMC and the Board for deliberation, validation and approval.

We ensured comprehensive coverage and relevance for all our material matters by considering pertinent factors, such as reporting and expectations for the chemicals industry, particularly from key stakeholders including suppliers, customers, investors and policymakers. Key reporting frameworks such as the Sustainability Accounting Standards Board (SASB) and the European Sustainability Reporting Standards (ESRS) were considered. SASB was particularly valuable as it aligns with the new International Sustainability Standards Board (ISSB).

The findings of the identification exercises revealed that our material topics remain relevant, with only one material topic renamed for better context and alignment.

OLD

Environmental Stewardship

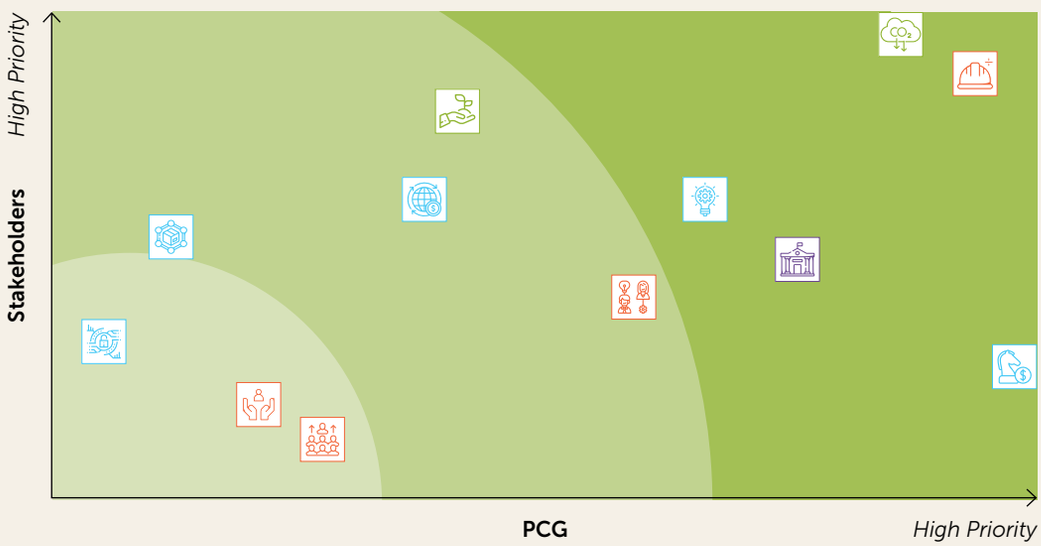
NEW

Nature & Environment
(addresses natural resource efficiency, environmental management and biodiversity conservation)

SUSTAINABILITY FRAMEWORK

PCG'S MATERIAL MATTERS 2024

The materiality assessment revealed shifts in the importance of certain material topics in the materiality matrix, largely driven by a more comprehensive stakeholder perspective. Notably, Safety & Health saw a significant rise in importance, Talent Management & Well-Being experienced a moderate increase while Community Engagement decreased in priority. The relative ranking of other material topics was similar to previous results, due to the commonalities shared by the commodity and specialty chemicals business.



Environmental

- Climate Change
- Nature & Environment

Economic

- Innovation & Product Stewardship
- Business Strategy & Financial Resilience
- Circular Economy
- Supply Chain Management
- Cybersecurity & Digitalisation

Social

- Safety & Health
- Talent Management & Well-Being
- Human Rights
- Community Engagement

Governance

- Corporate Governance

R *For more information on how PCG manages the material topics, please refer to Material Management on pages 28 to 33.*

SUSTAINABILITY RISKS & OPPORTUNITIES

PCG classifies its risks into principal and emerging risks. Sustainability risk remains a principal risk, as we recognise the importance of proactively managing and mitigating sustainability risk to ensure the resilience and longevity of our business. We define sustainability risk as heightened expectations on material sustainability matters which, if not managed optimally, may impact our business and operations. We have identified various impacts of this risk, including:

- Operational disruptions due to climate risk, resource availability and environmental or regulatory incidents
- Compromised health, safety and well-being due to climate change and operational disruptions
- Regulatory non-compliance impacting the Company's license to operate
- Increased operational costs due to decarbonisation and climate mitigation measures
- Financial instability due to higher operational costs, market shifts and stranded assets
- Reputational damage due to litigation, threats to social license to operate and contribution to biodiversity loss

R *For more information on PCG's risk profiling process and, our principal and emerging risks, please refer to the SORMIC on pages 121 to 131 and Risk Overview on pages 66 to 73 in the Integrated Report.*

SUSTAINABILITY FRAMEWORK

Decarbonisation is identified as an emerging risk and to be monitored by the Management and the Board. This risk covers disorderly transition to a low-carbon and circular economy system due to inadequacies in the Malaysian decarbonisation ecosystem, concerns over economic viability, rise in carbon prices and lack of talent. We foresee that the impacts on PCG include:

- High cost in doing business, which will affect PCG's profitability and viability of new investments
- Failure to keep abreast with industry decarbonisation trends, which might result in loss of market share to competitors
- Loss of trust from stakeholders, which could lead to potential litigation due to greenwashing

OPPORTUNITIES

Climate impacts and circular economy are increasingly shaping stakeholder expectations. We seek to create positive impacts on our business performance, reputation, and long-term growth by harnessing these opportunities early. Lower carbon as well as circular technologies and products are expected to have a positive effect on our business model and value chain, promoting better resource stewardship and unlocking business value. Key opportunities include:

- **Accelerate the transition towards a sustainable and climate-resilient organisation by fortifying sustainability governance, strategies and implementation**
- **Embrace innovative solutions to minimise environmental impact and optimise resource efficiency**
- **Align and enhance sustainability reporting to effectively demonstrate progress and accountability**
- **Explore new markets and diversify product applications**
- **Explore cutting-edge technologies and drive innovation**
- **Foster a dynamic and inclusive work environment through Diversity & Inclusion (D&I), talent upskilling and reskilling**

R *For more information on circular economy initiatives, please refer to Circular Economy on pages 52 to 55.*

CLIMATE STRATEGY

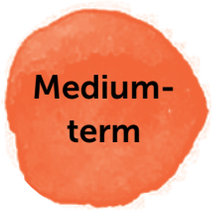
We consistently review and update our climate-related risks and opportunities to remain relevant and align with the latest climate change information, frameworks and guidelines. Our most recent assessment, completed in 2023, included scenario analysis and incorporated the latest climate, energy and economic data from the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA). The findings of this climate change risk assessment continue to inform our understanding of climate-related risks and opportunities as well as guide our response measures. This chapter presents the key findings of the 2023 climate scenario analysis.

APPROACH TO CLIMATE CHANGE RISK ASSESSMENT

TIME HORIZONS AND SCENARIOS

Our scenario analysis began by defining appropriate time horizons and scenarios. These time horizons - short, medium, and long term - are aligned with PCG's strategic planning cycle. Short-term goals ensure immediate responsiveness, medium-term objectives guide alignment with industry trends and global targets, and long-term aspirations shape our transformative journey towards sustainability.

To be achieved by 2026
This horizon is crucial for addressing immediate concerns and responding to rapidly evolving factors such as the implementation of the CBAM, which may have significant implications to our exports to Europe.



To be achieved by 2030
This coincides with the medium-term target periods under the Nationally Determined Contributions (NDCs). This timeframe allows PCG to respond to the anticipated peak in global demand for primary fossil fuels. Our strategic planning for this period is aligned with industry trends and NDC goals.

To be achieved by 2050
This aligns with our commitment to achieving NZCE by 2050 and allows us to envision and implement comprehensive sustainability and climate risk mitigation measures. It also allows us to transition to a low-carbon and sustainable future. Our long-term planning is integral to achieving these ambitious carbon reduction targets and positioning PCG as a leader in sustainable business practices.

Our climate risk assessment is aligned with leading international frameworks. For physical risks, we utilised the latest Shared Socioeconomic Pathways (SSPs) published by IPCC. For transition risks, we adopted the IEA's Announced Pledges Scenario (APS) and the Stated Policies Scenario (STEPS) from the World Energy Outlook (WEO) 2023. To further understand our exposure under more ambitious climate action, both assessments incorporate a below 2°C Paris Agreement scenario.

SUSTAINABILITY FRAMEWORK

ASSESSMENT APPROACH

We reviewed our 2023 assessments of climate-related risks and opportunities and confirmed their continued validity. These assessments build on prior analyses, incorporating insights from research papers, industry publications and climate-related disclosures by our peers to reflect the evolving climate landscape. We utilised scenario indicators, which are quantitative metrics extracted from external scenario databases, to assess the potential impact of various drivers on PCG. This analysis, combined with PCG's internal assessment of our exposure to each risk and opportunity, enabled us to evaluate and prioritise their significance to our business by generating categorical risk scores.

After identifying material risks and opportunities, we analysed their implications across PCG's value chain, including potential financial impacts. For flooding, we disclosed the financial impact using reasonable and supportable information, outlining materiality and key assumptions for quantification. We then assessed existing and planned response measures against the updated risks and opportunities to identify potential gaps and areas for improvement.

PHYSICAL RISK ASSESSMENT PROCESS UTILISING THE CLIMATE IMPACT PLATFORM

1. **Asset Data Collection**
   - Collected asset-specific information by asset location and asset type
2. **Climate Hazard Data**
   - Obtained asset-specific climate data results for every climate hazard including normalisation of climate data to a (0 to 10) scale for all hazards
3. **Exposure Ratings**
   - Allocated exposure ratings for specific asset types to represent the significance of each climate hazard on an asset type's operations, supply chain and market
4. **Risk Scores**
   - Combined asset-specific results from Steps 2 and 3 to obtain risk scores, which have a scale of 0 to 10 to compare hazards and determine the risks

The assessment covered all PCG's manufacturing sites:

10 Countries

- Asia: Malaysia, Singapore, China, India
- Europe: Germany, the Netherlands, Sweden, Italy
- North America: Canada, the USA

2 Scenarios

- SSP1-2.6 – Low emissions
- SSP5-8.5 – High emissions

3 Timeframes

- Short-term (baseline)
- Medium-term (2030)
- Long-term (2050)

9 Climate Hazards

- Extreme Cold, Extreme Heat, Extreme Rainfall Flooding, River Flooding, Coastal Flooding, Rainfall-induced Landslides, Water Stress and Drought, Extreme Winds and Storms, Wildfires

Read more on the list of companies included in the assessment and proportion of high or very high risk sites by time horizon and scenario for physical risks.

CLIMATE-RELATED RISKS, OPPORTUNITIES AND IMPACTS TO PCG

This section summarises the key findings from our climate change risk assessment, outlining the associated impacts on PCG. The summary is structured into two subsections covering physical risks and transition risks as well as opportunities, respectively.

PHYSICAL RISKS

Our assessment of physical risks, which evaluated both acute extreme weather events and chronic shifts in the climate system at our 31 Operating Units (OPUs) across 21 manufacturing sites globally, forms the basis for our current understanding. This assessment considered nine natural hazards: extreme heat, extreme cold, river flooding, extreme rainfall flooding, coastal flooding, extreme winds and storms, water stress and drought, rainfall-induced landslides, and wildfires.

The findings indicated that extreme heat may become the most widespread risk across most sites by 2050. Water stress, drought and flooding were also identified as presenting high risks to certain sites. Under a high-emission scenario, the average risk of extreme heat across all OPUs is projected to increase significantly by 2050, with water stress and drought to rise slightly. While other hazards were assessed as minimal risk to PCG at that time, we continue to monitor and validate these risks. A summary of the potential impacts associated with each physical risk, as determined in the assessment, are summarised in the next page.

SUSTAINABILITY FRAMEWORK

Summary of the Average Physical Risk Categories to PCG Across 31 OPUs under Climate Scenarios

Hazard	Baseline	2030		2050	
		SSP1-2.6	SSP5-8.5	SSP1-2.6	SSP5-8.5
Extreme Cold	●	●	●	●	●
Extreme Heat	●	●	●	●	●
Extreme Rainfall Flooding	●	●	●	●	●
River Flooding	●	●	●	●	●
Coastal Flooding	●	●	●	●	●
Rainfall-induced Landslides	●	●	●	●	●
Water Stress & Drought	●	●	●	●	●
Extreme Winds & Storms	●	●	●	●	●
Wildfires	●	●	●	●	●

Legend

Risk score (raw value)	*4-10*	*3-3.99*	*2-2.99*	*1-1.99*	*0-0.99*
Risk category	● *Very High*	● *High*	● *Moderate*	● *Low*	● *Limited*

Summary of the Physical Risks and Associated Impacts

Physical Risks

EXTREME HEAT

Category : Acute or chronic
Type : Risk

Impacted Areas
- PCG operations
- Physical damage
- Health and safety

Potential Financial Impact
CAPEX ↑
OPEX ↑
Revenue ↓

Impact Description

Increasing maximum temperatures resulting in more days of 'above average' temperature may lead to heatwaves, which could severely impact PCG's operations. The risk of extreme heat is expected to increase over time at most of our OPUs, given the nature of climate change that is driven by global warming. By 2050, all our 31 assets will be exposed to increased risk of extreme heat, with 22 assets exposed to high and very high risk by 2050, particularly the assets in Malaysia. Other assets exposed to the same category of heat risk are in Singapore, India and the USA.

The impact of extreme heat may include the following:

- **Impact on PCG operations:**
  Energy demand increases, potentially reduced efficiency of heat sensitive equipment
- **Impact on physical damage:**
  A higher chance of causing inadequate Heating, Ventilation and Air Conditioning (HVAC), potentially leading to critical control system failure and fire/explosions
- **Impact on health and safety:**
  Heat strokes and dehydration may occur more frequently, particularly during plant turnaround

FLOODING

Category : Acute
Type : Risk

Impacted Areas
- PCG operations
- Physical damage
- Supply chain
- Health and safety

Potential Financial Impact
CAPEX ↑
Revenue ↓

Impact Description

Flooding, caused by different factors (including rise in sea levels and high tides, extreme rainfall and river overflow), presents a high and increasing risk to selected OPUs over time under both scenarios. Four assets are potentially exposed to a high or very high risk of extreme rainfall, river or coastal flooding even at the baseline time horizon, and will remain at similar levels by 2050 under at least one climate scenario. Two of these assets are in Malaysia while the other two are in Germany and the Netherlands. The asset in the Netherlands, however, is projected to face moderate risk at the baseline, which is expected to increase to very high by 2050 under both scenarios.

Read more on quantitative information about how flooding may impact the financial statements.

The impact of flooding may include the following:

- **Impact on PCG operations:**
  There could be disruption to plant manning or production planning during flood events or supply chain disruptions
- **Impact on physical damage:**
  Flooding may affect structural integrity of buildings, road access, electric equipment and utilities
- **Impact on supply chain:**
  Road access to the affected assets may be cut off by floods
- **Impact on health and safety:**
  If chemical leakage happens during flood events, it may lead to environmental contamination and human contact with hazardous chemicals

SUSTAINABILITY FRAMEWORK

WATER STRESS & DROUGHT

Category : Acute or chronic
Type : Risk

Impacted Areas
- PCG operations
- Health and safety

Potential Financial Impact
OPEX ↑
Revenue ↓

Impact Description

Climate change may increase water stress by reducing water availability due to altered rainfall patterns. By 2050, the risk of water stress and drought is projected to remain at similar levels as the baseline across all 31 assets. Six of the assessed chemical manufacturing plants are potentially exposed to a high or very high risk at the baseline time horizon and will remain at similar levels by 2050 under at least one climate scenario. The six assets are in Malaysia, the Netherlands, India and China. The assets in the Netherlands, India and China face high or very high risk.

The impact of water stress and drought may include the following:

- **Impact on PCG operations:**
  There could be production delays and downtime as the water available for use reduces. Water cost and competition for water resources may increase
- **Impact on health and safety:**
  Sanitation and hygienic conditions may deteriorate due to water shortage

EXTREME WINDS & STORMS

Category : Acute
Type : Risk

Impacted Areas
- PCG operations
- Physical damage
- Supply chain
- Health and safety

Potential Financial Impact
CAPEX ↑
OPEX ↑
Revenue ↓

Impact Description

Extreme winds and storms are relevant to most of our Malaysian sites. However, the risk is expected to remain generally low across all time horizons and both scenarios for most of our assets, with 10 assets facing a slight increase in the risk. Only one of the assessed chemical manufacturing plants, located in India, is potentially exposed to a very high risk by 2050 under both climate scenarios due to its location in a cyclone-prone area. The plants already have a high baseline risk to extreme winds and storms, which may intensify in the future.

The impact of extreme winds and storms may include the following:

- **Impact on PCG operations:**
  There could be forced shutdowns and downtime during storm events or supply chain disruptions
- **Impact on physical damage:**
  High-rise structures could be affected due to extreme wind conditions
- **Impact on supply chain:**
  Debris and flooding due to extreme winds and storms may block key access routes
- **Impact on health and safety:**
  Extreme winds and storms can pose safety concerns. Evacuations may be required

WILDFIRES

Category : Acute
Type : Risk

Impacted Areas
- PCG operations
- Physical damage
- Supply chain
- Health and safety

Potential Financial Impact
CAPEX ↑
OPEX ↑
Revenue ↓

Impact Description

Wildfires present a limited risk at baseline but are likely to intensify over time at several overseas sites under both scenarios. By 2050, the risk of wildfires is projected to increase at four assets under the SSP1-2.6 scenario while eight assets are projected to face an increase in wildfire risk under the SSP5-8.5 scenario. Three of the assets are exposed to high or very high risk by 2050 under both climate scenarios, with two of the assets in the USA and one asset in India. Another asset in China, is projected to face high risk by 2050 only under the SSP5-8.5 scenario while four other assets only face slight increase in wildfire risk under the same scenario.

The impact of wildfires may include the following:

- **Impact on PCG operations:**
  There could be forced shutdowns and downtime if outdoor activities are affected by dust and smoke. If wildfires directly cause damage to physical structures at the sites, temporary closure for repairs and maintenance may be required
- **Impact on physical damage:**
  Direct heat, flames and ignition of flammable chemicals due to wildfires can cause destruction of buildings, equipment and utilities
- **Impact on supply chain:**
  Key access routes for site personnel and logistics may be blocked by wildfires or debris
- **Impact on health and safety:**
  Heat, potential explosions, flame, smoke and dust particles can pose a threat to health and safety

SUSTAINABILITY FRAMEWORK

TRANSITION RISKS AND OPPORTUNITIES

Our review and reassessment of drivers in a low-carbon economy forms the basis of understanding potential risks and opportunities for each PCG business segment. This assessment identified 10 key drivers of which, using Taskforce on Climate-Related Financial Disclosure (TCFD) terminology, fall into categories of emerging policy and legal frameworks, market, technology and reputation. It analysed climate-related transition risks and opportunities that could arise from a transition to low-carbon economy at a faster pace than anticipated by evaluating information from the IEA, PCG's own information and industry peers. The information included data from the WEO 2023, with Southeast Asia data used for PCG's Olefins and Derivatives (O&D) and Fertilisers and Methanol (F&M) businesses, and European Union (EU) data applied to PCG's specialty chemicals business due to Perstorp and BRB's EU-based operations.

The qualitative assessment was conducted using an as-is basis, which considered the current business and practices of PCG. Future resilience measures were excluded as the residual risks will depend on the pace and intensity of the implementation. The assessment considered two factors: the intensification of climate drivers in an APS scenario compared to the STEPS scenario, and the exposure ratings of each climate driver based on its likelihood and potential impact on PCG's business.

The results of our assessment suggest that the majority of transition drivers are expected to present limited risks or opportunities for PCG by 2030. However, mandatory carbon pricing is projected to become a more significant risk from 2030 to 2050, reflecting the expected increase in carbon prices across the countries where PCG operates. The near zero emission technologies for chemical production may also become a high-risk driver for PCG by 2050 as we will need to deploy significant funding towards technologies such as Carbon Capture, Utilisation and Storage (CCUS) and electrolytic hydrogen.

Conversely, the assessment also identified strong opportunities arising from our role as a chemical enabler of low-carbon technologies, such as electric vehicles, solar photovoltaics and wind turbines. Increased demand for bio-based and more efficient products was also recognised as a moderate opportunity, driven by market demand for lower-carbon alternatives.

SUMMARY OF THE AVERAGE TRANSITION RISK/OPPORTUNITY CATEGORIES TO PCG ACROSS THREE BUSINESS SEGMENTS

Transition Driver	Type	If the world transitions from STEPS to APS		
		2026	2030	2050
Mandatory carbon pricing	Risk	●	●	●
CBAM and climate-related trade barriers	Risk	●	●	●
Tightening of hydrocarbon supply and rising competition for alternative feedstocks	Risk	●	●	●
Promotion of circular chemicals production	Opportunity	●	●	●
Increase in demand for bio-based and more efficient products	Opportunity	●	●	●
Chemicals as enablers for low-carbon energy technologies	Opportunity	●	●	●
Near zero carbon emission technologies for chemicals production	Risk	●	●	●
Energy efficiency and electrification	Opportunity	●	●	●
Tightened access to capital for carbon intensive activities	Risk	●	●	●
Increasing stakeholder scrutiny over climate disclosures	Risk	*This driver was not assessed by an external scenario indicator due to the lack of available data from the IEA. However, PCG considers this driver important to our reputation and thus closely monitors the potential risk associated with stakeholder scrutiny.*		
Average risk level for PCG Group				●

Legend

Risk/Opportunity score (raw value)	Larger or smaller than ± 0.25	Between ± 0.15 and ± 0.25	Between ± 0.05 and ± 0.15	Between + 0.05 and - 0.05
Risk score (raw value)	● *High*	● *Moderate*	● *Low*	● *Limited*
Opportunity score (raw value)	● *High*	● *Moderate*	● *Low*	● *Limited*

As summarised above, our assessment combined PCG's internal insights with external scenario data from reputable organisations such as the IEA. This approach provided an objective and scientifically grounded view of broader global and regional market trends. These findings then informed our review of the potential implications and financial impacts of identified risks and opportunities on our business, enabling us to refine our strategy for risk management and capitalise on emerging opportunities. A summary of the transition risks and opportunities and associated impacts is provided.

SUSTAINABILITY FRAMEWORK

SUMMARY OF THE TRANSITION RISKS AND OPPORTUNITIES AND ASSOCIATED IMPACTS

Transition Risks and Opportunities

MANDATORY CARBON PRICING

FOR OUR OVERSEAS ASSETS
Category : Current regulation/Legal
Type : Risk

FOR OUR DOMESTIC ASSETS
Category : Emerging regulation/Legal
Type : Risk

Impacted Areas
- PCG operations
- Suppliers
- Customers

Potential Financial Impact
OPEX ↑

Impacted Areas
- PCG operations
- Suppliers
- Customers

Potential Financial Impact
OPEX ↑

Impact Description

Among the countries we operate in, India and Malaysia are considering mandatory carbon pricing to expedite decarbonisation. Malaysia is expected to implement a higher and faster carbon price to meet its NDC targets, leading to intensified impacts on PCG by 2030. The F&M business faces a higher impact due to the prioritisation of fertiliser for carbon pricing. India's plan to launch a national carbon market by 2025, coupled with China's expansion of its Emissions Trading Scheme (ETS) to include the chemical sector, will affect Perstorp's operations in both countries. Additionally, the EU will phase out the allowances under the EU ETS by 2030.

We have applied the IEA WEO 2024 Scenarios, including STEPS, APS, and the IEA Net Zero Emissions by 2050 Scenario (NZE) to evaluate the potential financial impacts of mandatory carbon pricing. Our analysis indicates that the implementation of a carbon tax may have increasingly significant impact on PCG's profitability from 2030 to 2050, arising from higher OPEX of its high-carbon emission assets, in line with the expected escalation of carbon price as the countries strengthen financial incentive to achieve NDC goals.

CARBON BORDER ADJUSTMENT MECHANISM (CBAM) AND CLIMATE-RELATED REGULATIONS

Category : Emerging regulation/Legal
Type : Risk

Impacted Areas
- Customers

Potential Financial Impact
OPEX ↑

Impact Description

The CBAM, initiated by the EU, will price in embedded emissions of imports not covered by a carbon tax or ETS in the country of origin. Our F&M business will be the first to be affected as fertiliser is among the initial sectors covered by the CBAM. However, given the minimal significance of our fertiliser products in the EU, the risk is considered limited until 2030 but may rise gradually by 2050. PCG's other segments may also be affected later if the scope of the CBAM is expanded, though the risk is anticipated to remain low until 2050, as only a portion of our Specialty Chemicals Division is located outside the EU, in China and India.

TIGHTENING OF HYDROCARBON SUPPLY & RISING COMPETITION FOR ALTERNATIVE FEEDSTOCKS

Category : Market
Type : Risk

Impacted Areas
- Suppliers

Potential Financial Impact
OPEX ↑

Impact Description

The IEA WEO 2023 estimates that all fossil fuel emissions will peak before 2030. Despite rising demand for petrochemicals and fertiliser production, tightening hydrocarbon supplies will challenge feedstock and energy sourcing. Decreased hydrocarbon supply will initially impact the energy sector before affecting the chemical sector. To address this, PCG will explore bio-based alternatives, though competition for these resources is anticipated to grow by 2050.

SUSTAINABILITY FRAMEWORK

PROMOTION OF CIRCULAR CHEMICALS PRODUCTION

Category : Market
Type : Opportunity

Impacted Areas
- PCG operations
- Suppliers
- Customers

Potential Financial Impact
CAPEX ↑
OPEX ↕
Revenue ↑

Impact Description

Customer preferences are shifting towards recycled products as the circular economy becomes a prevalent sustainability practice. In response to this demand, PCG has enhanced its sustainable portfolio with circular economy solutions, low-carbon solutions and carbon dioxide utilisation, and bio-based chemicals, driving the circular transition. We continue to partner with technology providers to assess the viability of producing more sustainable products while also reviewing our advanced chemical recycling plant in Pengerang to address challenges and achieve optimal outcomes.

INCREASE IN DEMAND FOR BIO-BASED & MORE EFFICIENT PRODUCTS

Category : Market
Type : Opportunity

Impacted Areas
- PCG operations
- Suppliers
- Customers

Potential Financial Impact
CAPEX ↑
OPEX ↕
Revenue ↑

Impact Description

The IEA's Net Zero Roadmap (2023 update) emphasises the role of more efficient fertilisers in mitigating emissions while the Bio-based Chemicals Report (2020 update) predicts a significant growth for bio-polymer markets and specialty chemicals applications. In 2024, PCG introduced various bio-based and efficient products, including Synmerse™ DC, a high-performance synthetic thermal management fluid that enhances operational safety, cooling efficiency and reduces maintenance for immersion cooling data centres. Under the Emfinity® brand marketed by BRB, we added Emfinity® CGSA 200B, a bio-based emollient that enables a range of personal care applications.

CHEMICALS AS ENABLERS FOR LOW-CARBON ENERGY TECHNOLOGIES

Category : Market
Type : Opportunity

Impacted Areas
- Customers

Potential Financial Impact
Revenue ↑

Impact Description

While plastics remain vital to the expansion of electric vehicles and renewable energy, methanol and ammonia are emerging as alternatives to hydrogen for energy storage and marine fuel. Additionally, specialty chemicals support the production of solar panels and wind turbines. The growing demand for low-carbon energy technologies is boosting the need for various chemicals, creating new revenue opportunities for PCG. The opportunity from this driver is projected to increase by 2050.

NEAR ZERO CARBON EMISSION TECHNOLOGIES FOR CHEMICALS PRODUCTION

Category : Technology
Type : Risk

Impacted Areas
- PCG operations

Potential Financial Impact
CAPEX ↑
OPEX ↕

Impact Description

According to the IEA, the primary decarbonisation pathways for the chemical sector are CCUS and electrolytic hydrogen. Both technologies however, are yet to be commercially viable particularly in Southeast Asia, where policy, legal frameworks and infrastructure are still underdeveloped. As PCG plans to implement these technologies for its net zero journey, the associated time and cost implications could be substantial, increasing the risk as we approach 2050.

SUSTAINABILITY FRAMEWORK

ENERGY EFFICIENCY AND ELECTRIFICATION

Category : Technology
Type : Opportunity

Impacted Areas
- PCG operations

Potential Financial Impact
CAPEX ↑
OPEX ↓

Impact Description

Energy efficiency improvements and electrification are more cost-effective and mature mitigation measures compared to CCUS and electrolytic hydrogen. This opportunity is higher for specialty chemicals, as Perstorp and BRB are based in EU countries, where energy efficiency and electrification are expected to develop faster. PCG will prioritise the adoption of renewable energy technologies ahead of CCUS and electrolytic hydrogen, given their relative maturity and cost considerations. Driving energy efficiency actions and hydrocarbon losses will provide some gain from energy and material savings during the early stage of the transition. Renewable energy pricing impact to OPEX may fluctuate with availability and technology developments through 2050, while equipment electrification is expected to increase CAPEX on a transitional basis for existing sites.

TIGHTENED ACCESS TO CAPITAL FOR CARBON INTENSIVE ACTIVITIES

Category : Reputation
Type : Risk

Impacted Areas
- PCG operations

Potential Financial Impact
Cost of capital ↑

Impact Description

The Securities Commission Malaysia's Principles-based Sustainable and Responsible Investment (SRI) Taxonomy for the Malaysian Capital Market and the EU Taxonomy are expected to redirect funding from carbon intensive activities. This may lead to tightened access to capital for PCG's hydrocarbon-based production. However, this risk will remain low to PCG until 2050 due to our efforts in transitioning to lower-carbon activities. The risk is slightly higher for the specialty chemicals business, due to Perstorp and BRB's location in EU countries, which have more mature taxonomy and green finance markets.

INCREASING STAKEHOLDER SCRUTINY OVER CLIMATE DISCLOSURES

Category : Reputation
Type : Risk

Impacted Areas
- PCG operations
- Customers

Potential Financial Impact
OPEX ↑
Valuation ↓

Impact Description

Businesses are expected to strengthen their governance and reporting practices in response to stricter regulatory requirements and increasing stakeholder scrutiny over climate disclosures, including concerns about greenwashing. Enhanced compliance efforts will raise OPEX, as failure to comply could negatively impact PCG's valuation.

SUSTAINABILITY FRAMEWORK

RESPONSE MEASURES AGAINST CLIMATE-RELATED RISKS AND OPPORTUNITIES

Having gained further clarity on our risks and opportunities relating to climate change and the transition to a low-carbon economy, we reviewed and enhanced the implementation of response measures to improve our resilience against those risks while preparing ourselves for the opportunities.

PHYSICAL RISKS

We continuously assess the effectiveness of our climate-related safeguards and mitigation measures within our Hazard and Effect Management Plan (HEMP), emergency response strategies and business continuity plan. As part of our HEMP, we conduct risk assessments that address extreme weather events, including heatwaves, lightning and rising sea levels.

Managing water stress through environmental stewardship

Water is crucial to PCG's operations. To further understand the potential impact of the changes in freshwater availability, PCG conducted a detailed water availability projection exercise to assess future freshwater availability against projected demand up to 2050. We continue to drive water use efficiency, implement freshwater withdrawal reduction initiatives and seek alternate sources of water within regions we operate that are water stressed.

R *For more information on our efforts, please refer to Nature & Environment on pages 38 to 43.*

Enhancing flood resilience through collaboration and preparedness

We continue to enhance flood resilience by collaborating with the Malaysian Meteorological Department to stay informed of weather conditions and forecasts in areas where we operate. Our Flood Operation Committee ensures business continuity and assists employees affected by the floods. In addition, we are part of the Natural Disaster Operation Committee of the East Coast region, which handles crises in the East Coast caused by natural disasters, including floods. Our efforts include flood preparedness and monitoring and working closely with our logistics service provider to deliver products to customers via alternative routes. Furthermore, we ensure the safety of our people by conducting regular fatigue management and vehicle fitness assessments.

Implementing Safe Work Practices to reduce health and safety impacts from heat stress

Global warming is expected to cause more frequent and intense temperature rise events. In line with the PETRONAS Group approach, we manage the risk of heat stress for employees exposed to rising temperatures during outdoor activities. To ensure employee safety and operational continuity, we have implemented Guidelines on Safe Work Practices for working in the heat. These practices include task rotation, optimised work schedules and regular rest and water breaks, particularly during heavy work.

TRANSITION RISKS AND OPPORTUNITIES

Developing business strategy and financial resilience to carbon pricing risk

Since the development of PCG's NZCE 2050 Roadmap in 2021, we have been actively implementing emission reduction initiatives, including flare reduction, energy efficiency improvement and renewable energy purchase. As part of our efforts, we have analysed the carbon footprint of our products to identify hotspots, enabling us to better prepare for the assessment and mitigation of the carbon pricing impact on our product portfolio. We have also scrutinised the carbon emissions of our growth plans and identified opportunities and pathways to reduce GHG emissions. Currently, we are focusing on continuous improvements in operational efficiency to directly reduce our exposure to carbon pricing, while preparing to incorporate carbon pricing into our financial planning to align our operations with emerging regulatory frameworks.

R *For more information on our approach and efforts, please refer to Climate Change on pages 34 to 37.*

Growing our business with circular economy and bio-economy

We continue to pursue opportunities presented by circular economy to contribute to decarbonisation efforts. This includes developing a bio-based portfolio, such as the emollient esterification capability via a pilot plant-simulator reactor, which can expand PCG's offering in the bio-based personal care space. In 2024, our subsidiary, BRB, launched Emfinity® CGSA 200B, a bio-based emollient that enables a range of personal care applications. In addition, we are currently reassessing the viability of our advanced recycling plant in Pengerang, Malaysia.

R *For more information on our approach and efforts, please refer to Circular Economy on pages 52 to 55 and Business Strategy & Financial Resilience on pages 48 to 51.*

Meeting the market demand through innovation and product stewardship

Finally, recognising the market demand for chemicals that facilitate the low-carbon transition, we are expanding our sustainable product offerings through product R&D and co-creation with customers. Our Specialty Chemicals Division adopts a Finite Material Neutral approach in developing ISCC PLUS certified products that support customer demands for sustainable products. We will continue to assess and invest in various opportunities, including venture capital, to diversify feedstock for a sustainable portfolio. Additionally, our Research and Technology (R&T) efforts explore innovations such as converting biomass into differentiated value-added chemicals, creating growth opportunities for the future.

R *For more information, please refer to Innovation & Product Stewardship on pages 44 to 47.*

SUSTAINABILITY FRAMEWORK

OTHER SUSTAINABILITY-RELATED RISKS

In 2024, we expanded our risk assessment to cover additional sustainability-related risks. PCG is currently assessing exposures across the three key identified risk elements.

SUMMARY OF THE SUSTAINABILITY-RELATED RISK CATEGORIES TO PCG

Element	Type	2027	2030	2050
Circular Economy	*Risk*			
Human Rights	*Risk*		*Currently Assessing*	
Nature & Environment	*Risk*			

SUMMARY OF THE SUSTAINABILITY-RELATED RISKS AND ASSOCIATED IMPACTS

CIRCULAR ECONOMY
Category : Economic & Environment
Type : Risk

Impacted Areas
- PCG operations
- Reputation
- Customer

Potential Financial Impact
OPEX ↑
Revenue ↓

Impact Description

Challenges to scale up advanced chemical recycling efforts, due to constraints on external waste segregation infrastructure for sourcing on-spec feedstock, as well as lack of incentives and financing to support the circular transition, resulting in unfavourable economics. The impact of this may include the following:

- **Impact on PCG operations:**
  There could be disruption to business and plant operations due to feedstock readiness to commercialise PCG's advanced chemical recycling plant and other recycling projects identified

- **Impact on reputation:**
  Exposure to plastic-related litigation

HUMAN RIGHTS
Category : Social
Type : Risk

Impacted Areas
- PCG operations
- Reputation
- Customer

Potential Financial Impact
OPEX ↑
Revenue ↓

Impact Description

Human rights risks, caused by various factors, including inadequate or missing controls to manage human rights risks in the supply chain, ineffective grievance management, right to fair remuneration and non-discrimination in economic, social and cultural activities, presents a high and increasing risk over time. Additionally, increasing scrutiny from international organisations and external stakeholders on human rights management will further heighten the risk. The impact of inadequate human rights may include the following:

- **Impact on PCG operations:**
  There could be forced shutdowns and downtime, as non-compliance to human rights may affect PCG's license to operate. End-to-end due diligence and remediation process may be required

- **Impact on reputation:**
  Exposure to litigation and loss of social license to operate, which may affect PCG's Employee Value Proposition (EVP) to attract and retain talent

SUSTAINABILITY FRAMEWORK

NATURE & ENVIRONMENT

Category : Environment
Type : Risk

Impacted Areas
- PCG operations
- Reputation
- Health & safety

Potential Financial Impact
CAPEX ↑
OPEX ↑
Revenue ↓

Impact Description

Several key factors impact nature and the environment. Water availability is increasingly strained due to infrastructure limitations, climate change, and rising demand. Waste recovery and recycling remain low due to high costs and inadequate infrastructure.

A lack of scientific understanding of biodiversity impacts from effluents and emissions, such as per- and polyfluoroalkyl substances (PFAS) and asbestos, adds to the challenge. Inadequate environmental controls, operational constraints, ageing assets, and limited awareness of high-risk areas and potential spills further increase environmental risks.

Additionally, biodiversity impacts from business activities may sometimes be underestimated, highlighting the need for stronger environmental stewardship.

The impact of risks on nature and environment may include the following:

- **Impact on PCG operations:**
  There could be disruption to business and plant operations due to water supply interruptions or damage from spills or releases and stop work orders
- **Impact on health and safety:**
  Effect on personnel and community health, safety and well-being
- **Impact on reputation:**
  Exposure to litigation and loss of social license to operate as well as reduced ecosystem services

PCG does not anticipate material adjustments relating to sustainability-related risks and opportunities in the financial statements for the next reporting period.

RISK MANAGEMENT

We have embedded risk management processes across our business and throughout the value chain by including risks and opportunities related to sustainability encompassing Climate Change, Circular Economy, Nature & Environment and Human Rights, as these are fundamental to business resilience and stakeholder trust. We identify, assess, prioritise and monitor all risks that could impact our business, including inherent risks. This process remains the same as the process used in our previous reporting period.

R *For more information on our risk management framework, please refer to the Statement on Risk Management and Internal Control (SORMIC) on pages 121 to 131 in the Integrated Report.*

SUSTAINABILITY RISK MANAGEMENT

Sustainability risks are integrated into our comprehensive risk management process, encompassing identification, analysis, evaluation and treatment, as well as monitoring and reporting. This approach enables us to identify and prioritise key risks based on the following considerations:

The complexity, hazards and integrated nature of our manufacturing process	The market environment and cyclical nature of the chemicals industry	Material sustainability topics identified by stakeholders through the materiality assessment	PCG's growth agenda	Other external events that pose a significant impact on our business sustainability

We assess whether a risk poses a substantive financial or strategic impact on PCG's business operations by evaluating the likelihood and impact of each risk. The impact of a risk is measured against qualitative and quantitative measurements, whereby a risk is considered substantive when there is a reduction of more than 8% in Profit Before Tax (PBT) and requires intervention from the MD/CEO and/or Board of Directors. The assessment helps us to determine the level of each risk, whether it is low, medium, high or very high. The identified risks, including sustainability risk, are mapped onto PCG's Corporate Risk Profile (CRP), which is presented to the SRMC, BSRC and Board, on a quarterly basis.

The risk assessment is supported by our risk appetite and determines our risk response. This includes risk management controls and procedures such as:

Mitigating or reducing the risk with appropriate controls and mitigation plans	Accepting the risk without any further action	Transferring the risk	Avoiding or forgoing the activity that gives rise to the risk

R *For more information on the principal risks and risk movement matrix, please refer to pages 66 to 73 in the Integrated Report.*

R *For more information on the risk management process in the SORMIC, please refer to page 123 in the Integrated Report.*

CLIMATE RISK MANAGEMENT

As climate change is universal, we have adopted a holistic approach to manage climate-related risks and their interrelations with our strategy. Physical and transition risks are proactively and regularly assessed using the scenario analysis as stated below:

1. The range of climate scenarios is defined and the climate-related risk and opportunity drivers that are relevant to the business are identified.

2.
- In line with PCG's Enterprise Risk Management framework, an internal evaluation of likelihood and impact from all risk and opportunity drivers is conducted based on risk appetite. This is then mapped onto the CRP
- A qualitative scenario analysis is further conducted by integrating the external scenario data from organisations such as the IPCC and IEA. These organisations have developed the most advanced and established climate and energy models that explore the plausible future of our changing climate and economy
- A scenario indicator (or proxy) is identified from the external datasets for each risk and opportunity driver. It indicates the changing pressure from these climate-related risks and opportunities in the future. This technique strengthens the robustness and objectiveness of our risk assessment. Based on the qualitative findings, a more detailed quantitative impact analysis using the financial modeling technique is then conducted for selected drivers which are identified as potentially material to PCG's business
- A risk will be considered substantive if the expected impact exceeds a reduction of more than 8% in PBT. This requires intervention from the MD/CEO and/or Board of Directors, enabling us to prioritise climate-related risks and opportunities based on their potential significance to our business sustainability

3. Strategic response measures are identified and developed to enhance our resilience to the material risks and amplify our capabilities to seize opportunities.

4. The climate-related risk management steps outlined above are reviewed on an annual basis to include the latest information and monitoring mechanisms.

METRICS AND TARGETS

We apply specific metrics to measure and monitor the impact of our sustainability and climate-related material matters. These metrics inform our climate mitigation and management strategies, in addition to guiding decision-making across PCG.

The basis of selection for the metrics used is in line with Bursa Malaysia's Sustainability Reporting Guide (3rd Edition) and the relevant GRI Topic Standards. We utilised definitions from PETRONAS Technical Standards (PTS), internal procedures and internationally recognised standards when no GRI standards were applicable for specific material matters.

In the year under review, we restated our base year emissions, in line with the GHG Protocol, to reflect improvements in data accuracy following a year-long study involving our manufacturing subsidiaries. This recalibration provides a more accurate assessment of our GHG emissions data across time to external stakeholders, while enabling us to track our progress towards our ambition of achieving a 20% reduction in GHG emissions by 2030, compared to the base year.

R *For more information on Metrics and Targets, refer to Basis of this Report on pages 2 to 3, Performance Data on pages 90 to 91, and GRI Content Index on www.petronas.com/pcg/media/reports.*

R *For more information on the calculation methodology and standards used, refer to Sustainability Policies, Standards and Guidelines on https://www.petronas.com/pcg/sustainability/policies-standards-guidelines.*