

TOGETHER. HARNESSING POTENTIAL.

PETRONAS CHEMICALS GROUP BERHAD | SUSTAINABILITY REPORT 2024



PETRONAS



TOGETHER. HARNESSING POTENTIAL.

The theme "Together. Harnessing Potential." encapsulates the spirit of collaboration at the heart of our success. The cover celebrates the seamless integration of science, people and purpose, highlighting the collective strength that drives meaningful change. It showcases how innovation and cooperation unlock pathways to sustainability and progress, bridging the gap between challenges and opportunities. By harnessing the unique potential of our partnerships and expertise, we pave the way for impactful solutions that benefit industries, communities and the environment, demonstrating that together, we achieve more.

i This interactive PDF allows you to access information easily, search for a specific item or navigate between pages, sections and links.

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Scan the QR code to read more about the GRI Content Index.



Scan the QR code to read more about the International Financial Reporting Standards (IFRS) S1 and S2 Content Index and supplementary information.

NAVIGATION ICONS

Key Stakeholder Groups

- Employees
- Customers
- Suppliers & Vendors
- Business Partners
- Shareholders & Investment Community
- Government & Regulators
- Communities
- Media

Material Matters

- Climate Change
- Nature & Environment
- Innovation & Product Stewardship
- Business Strategy & Financial Resilience
- Circular Economy
- Supply Chain Management
- Cybersecurity & Digitalisation
- Safety & Health
- Talent Management & Well-Being
- Human Rights
- Community Engagement
- Corporate Governance

Dear Stakeholders,

At PETRONAS Chemicals Group Berhad, we create value for stakeholders through our Sustainability Agenda, which integrates Environmental, Economic and Social pillars, with Governance as a cornerstone. Transparency, accountability and responsibility remain essential in building trust and driving sustainable progress.



BASIS OF THIS REPORT

INTEGRATED REPORTING APPROACH

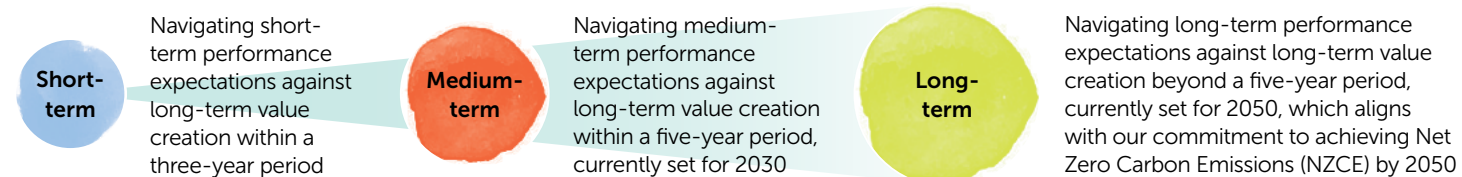
PETRONAS Chemicals Group Berhad (PCG or the Group) ranks among the largest companies listed on Bursa Malaysia Main Market. In line with our commitment to good governance and transparent communication, we focus on delivering comprehensive and balanced performance reports for our stakeholders, partners and communities we engage with. This commitment is encapsulated in PCG's Sustainability Report 2024, which not only covers financial results but also integrates discussions on sustainability and future prospects, providing stakeholders with a clear vision of our direction in the short, medium and long-term.

OUR REPORTING BOUNDARIES

This Integrated Report (IR) covers the reporting period of 1 January 2024 to 31 December 2024, unless otherwise stated. Information presented relates to the risks, opportunities and outcomes of activities in the Group, comprising our subsidiaries, joint operation, associates and joint ventures.

<p>Financial Reporting Boundary Covers our operating subsidiaries, joint operation, associates and joint ventures.</p>	<p>Strategy, including key strategic trade-offs R Read more on pages 50 to 65 in the Integrated Report.</p> <p>Business model, including value created for stakeholders R Read more on pages 50 to 53 in the Integrated Report.</p> <p>External environment, including sustainability-driven initiatives R Read more on pages 42 to 44 in the Integrated Report.</p> <p>Stakeholder interests, including our responses R Read more on pages 45 to 48 in the Integrated Report.</p>
<p>Non-Financial Reporting Boundary Covers our operating subsidiaries, joint operation, associates and joint ventures where we have management responsibility. We have excluded the plant utilisation statistics from our Specialty Chemicals Division given the non-commoditised nature of its business.</p>	

Time horizons



INTEGRATED REPORTING PROCESS



INDEPENDENT COMBINED ASSURANCE STATEMENT

Assurance for this report is provided by our Board of Directors and supported by independent assurance by KPMG PLT for both financial and non-financial information.

An independent limited assurance was performed by KPMG PLT on selected sustainability indicators for the financial year ended 31 December 2024 as listed below:

- | | |
|---|---|
| 1. Total Scope 1 GHG Emissions | 7. Air Emissions, Nitrogen Oxides (NOx) Emissions |
| 2. Total Scope 2 GHG Emissions (location-based) | 8. Air Emissions, Sulphur Oxides (SOx) Emissions |
| 3. Total Scope 2 GHG Emissions (market-based) | 9. Tier 1 Process Safety Event (T-1 PSE) |
| 4. Total Energy Consumption | 10. Fatalities |
| 5. Wastewater Discharge, Chemical Oxygen Demand (COD) | 11. Lost Time Injury Frequency |
| 6. Freshwater Withdrawal | |

The boundary of the limited assurance for indicators 1-9 cover PCG's manufacturing subsidiaries in Malaysia whilst indicators 10 and 11 cover all of PCG's subsidiaries in Malaysia (boundary for Indicator 11 includes BRB International B.V., BRB Lube Oil Additives & Chemicals B.V. and CSL Silicones Inc.).

KPMG Sweden has been engaged to perform a limited assurance engagement on the selected sustainability indicators listed above for Perstorp Group (Perstorp), excluding air emissions.

R Read more on pages 103 to 106 for the Independent Auditors' Report in the Financial Report.

R Read more on pages 88 to 89 for the Independent Limited Assurance Report in the Sustainability Report.

OUR REPORTING SUITE

At PCG, we recognise that transparency and clarity are essential to maintaining the trust of our stakeholders. As a global integrated chemicals enterprise, we are committed to providing comprehensive insights into our business direction, strategic priorities and performance. Equally, we acknowledge the importance of addressing the material risks that affect our operations and growth. Through consistent and thoughtful reporting practices, we aim to build upon the confidence our stakeholders place in us and demonstrate our commitment to accountability, resilience and sustainable value creation.

Integrated Report 2024 (IR)

The objective of PCG's IR is to provide our stakeholders with a thorough and balanced assessment of both financial and non-financial performance. By reading this report, stakeholders will gain a better understanding of our business operations, sustainability initiatives, performance metrics, governance, risk management and future prospects. This report demonstrates our commitment to transparency and aims to bolster the trust and confidence of our stakeholders. Within the governance section, we provide comprehensive coverage of our Corporate Governance activities via the Corporate Governance Overview Statement, Nomination and Remuneration Committee Report, Board Audit Committee Report, Board Sustainability and Risk Committee Report and the Statement on Risk Management and Internal Control.

Guided by:

- International Integrated Reporting Framework (IIRF) as issued by Value Reporting Foundation (VRF)
- Malaysian Code on Corporate Governance (MCCG)
- Main Market Listing Requirements (MMLR) as issued by Bursa Malaysia
- Companies Act 2016 (CA 2016)
- MFRS Accounting Standards as issued by the Malaysian Accounting Standards Board
- IFRS Accounting Standards as issued by the International Accounting Standards Board
- Corporate Governance Guide – 4th Edition as issued by Bursa Malaysia



Financial Report 2024 (FR)

Our FR includes the Directors' Report, Audited Financial Statements and Independent Auditors' Report. The report offers comprehensive financial information to our shareholders, investors, analysts and other relevant parties.

Guided by:

- MMLR as issued by Bursa Malaysia
- CA 2016
- MFRS Accounting Standards as issued by the Malaysian Accounting Standards Board
- IFRS Accounting Standards as issued by the International Accounting Standards Board



Sustainability Report 2024 (SR)

PCG's SR details our performance in Environmental, Economic, Social and Governance (EESG) contexts. The report describes our initiatives and their outcomes that are aimed at creating positive and sustainable impacts for all our stakeholders.

Guided by:

- MMLR as issued by Bursa Malaysia
- Global Reporting Initiative (GRI) Universal Standards 2021
- FTSE4Good Bursa Malaysia Index's Environmental, Social and Governance (ESG) Indicators
- IIPECA Sustainability Reporting Guidance for the Oil and Gas Industry – 4th Edition, 2020
- Dow Jones Best-in-Class Indices
- The United Nations Sustainable Development Goals (UN SDGs)
- IFRS Sustainability Disclosure Standards, IFRS S1 (General Requirements for Disclosure of Sustainability-related Financial Information) and IFRS S2 (Climate-related Disclosures)



BASIS OF THIS REPORT

OUR APPROACH TO DELIVERING IMPACT IS GUIDED BY SUSTAINABLE DEVELOPMENT GOALS

13 Selected UN SDGs: 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).

We have prioritised 13 of the 17 SDGs where we believe we have the greatest ability to deliver meaningful impact through our core business.

For more information on PCG's:

R Sustainability Agenda, refer to Sustainability Approach on page 41 of the Integrated Report and page 10 of the Sustainability Report.

R Contribution to the 13 selected UN SDGs, refer to SDG Targets Alignment on <https://www.petronas.com/pcg/sustainability/sustainability-pcg>.

MATERIALITY

The information in the report focuses on issues that are most material to our business operations and stakeholders. Our approach to identifying, prioritising and confirming these material matters involves a comprehensive four-step materiality assessment process.

FEEDBACK

PCG is committed to constantly enhancing the quality of our reports and we greatly value input from our stakeholders. If you have any questions or suggestions, please contact:

Name : Zaida Alia Shaari
Position : Head of Investor Relations
Email : petronaschemicals_ir@petronas.com

FORWARD-LOOKING STATEMENTS

This report includes several forward-looking statements relating to future performance. These projections and forecasts are grounded in present assumptions and conditions, which are subject to change and therefore carry some uncertainties. Numerous factors might lead to actual outcomes that may vary from those expressed or implied in these forward-looking statements.

BOARD RESPONSIBILITY STATEMENT

The Board acknowledges its responsibility in upholding the integrity of this Sustainability Report. The Board believes that this report addresses all the issues that are material to the Group's ability to create value and fairly reflects PCG's integrated performance. This report has been prepared with reference to the Global Reporting Initiatives Universal Standards 2021 and received the Board's approval on 21 February 2025.

DATUK SAZALI HAMZAH Chairman
MAZUIN ISMAIL Managing Director/ Chief Executive Officer

MESSAGE FROM LEADERSHIP

Dear Valued Stakeholders,

As we navigate an increasingly complex global landscape, we are more aware than ever of the pressing challenges climate change presents. The effects of global warming, driven by anthropogenic greenhouse gas (GHG) emissions, have disrupted livelihoods and economies worldwide. According to the World Meteorological Organization (WMO) and Copernicus Climate Change Service (C3S), 2024 was the hottest year on record, with global temperatures surpassing 1.5°C above pre-industrial levels.

DATUK SAZALI HAMZAH
Chairman

MAZUIN ISMAIL
Managing Director/Chief Executive Officer



DRIVING SUSTAINABILITY, CREATING POSITIVE IMPACT

The consequences of rising temperatures have intensified the challenges businesses and communities face, amplifying the geopolitical and economic headwinds we are all contending with. Yet, it is precisely in such challenging times that we are reminded of the importance of accelerating our transition to a low-carbon economy, addressing the far-reaching effects of climate change with urgency and care.

At PCG, we are driving forward our Sustainability Agenda to balance the need to create sustainable value with Environmental, Economic, Social and Governance (EESG) imperatives. This is reflected in the appointment of Gretchen Govoni as our Chief Sustainability Officer, who has led our sustainability progress since her appointment in June 2024. With over 26 years of experience in sustainability roles at global pharmaceutical and chemical companies, Gretchen's leadership will further strengthen our sustainability commitment.

PCG Sustainable Portfolio:

- Low-carbon solutions and carbon dioxide utilisation
- Circular economy and solutions
- Bio-based chemicals

“ To advance our Sustainability Agenda, we have set clear goals and ambitions to achieve **Net Zero Carbon Emissions (NZCE) by 2050**, enhanced our social policies, and implemented **robust strategies to mitigate climate and sustainability-related risks**. We will continue to drive change and uphold our commitment to a sustainable future. ”

MESSAGE FROM LEADERSHIP

PROTECTING OUR ENVIRONMENT

Recognising the urgency of climate action, we have taken decisive steps by implementing climate strategies and building climate resilience. We are focused on reducing the impact of our operations on the environment, with initiatives aimed at cutting Scope 1 and Scope 2 GHG emissions, in line with the NZCE 2050 Roadmap. Our efforts include optimising energy usage, assessing on-site solar power generation, subscribing to renewable energy credits and minimising waste and emissions.

To further deliver on our commitment to achieving net zero, we have established a dedicated NZCE Taskforce to support the implementation of our NZCE Roadmap and ensure we meet our 2030 emissions targets. Within our operations, we are actively embedding sustainable practices to minimise negative environmental impact. One of our major milestones was the successful inauguration of our ISCC PLUS certified plant in Bharuch, India. Using renewably sourced raw materials and hybrid electricity, the new plant reflects our determination to reduce our environmental footprint.

Our dedication to environmental stewardship is demonstrated through our ongoing mangrove tree planting initiative, with over 250,000 mangrove trees planted across Malaysia, Indonesia and India. By fostering more collaborations and partnerships, we are poised to significantly scale our mangrove plantation initiative, creating lasting benefits for local communities and ecosystems.



CREATING SUSTAINABLE VALUE

To meet the evolving needs of our stakeholders, we remain dedicated to developing innovative and sustainable solutions that minimise negative impacts on the environment. This includes making strategic investments and developing sustainable products that help guide our customers on their own sustainability journeys. We have established a PCG Sustainable Portfolio focused on low-carbon practices, circular economy initiatives and bio-based innovations. Our Technology & Innovation Fund is pivotal in driving innovations that meet the growing demand for sustainable products.

Our commitment to this journey is reflected in the launch of various sustainable products, notably our Pevalen™ Pro 100, an International Sustainability & Carbon Certification (ISCC PLUS) certified plasticiser made from renewable carbon, and Emfinity® personal care ingredients line which includes a bio-based emollient. We have also maintained vital certifications such as Protect & Sustain (P&S) and the ISCC PLUS Trader Scheme.

Guided by our strategic thrusts, we remain committed to transparent reporting and are proud of the progress we have made. We are pleased to report that PCG has achieved scores of B- and C respectively for Water Security and Climate categories under CDP (formerly known as Carbon Disclosure Project), reflecting our commitment to transparency in environmental disclosures. These achievements highlight our strong foundation in sustainability reporting, positioning us well for further progress. Our strong EcoVadis achievements, with Silver for PCG and BRB Group (BRB), and Platinum for Perstorp Group (Perstorp), reflect our continued efforts in embedding sustainability across our operations. Additionally, our 11th consecutive year in the FTSE4Good Bursa Malaysia Index and fourth year in the Dow Jones Best-in-Class Indices (formally known as Dow Jones Sustainability Indices) reinforce our alignment with local and global sustainability benchmarks.

Looking ahead, we are exploring opportunities to scale up our investments in sustainability initiatives further, focusing on decarbonisation, renewables and low-carbon portfolio from 2025-2029 through our newly established Sustainability Fund. This is to spur the activities of NZCE projects for PCG's target of 20% GHG emissions reduction by 2030 and net zero by 2050.

Furthermore, we continue to pursue innovation in waste and water management. This is evident in Perstorp's wastewater recycling plant in Stenungsund, Sweden, which recycles wastewater for cooling purposes, and the recycling of lead-acid batteries by our PETRONAS Chemicals Olefins, PETRONAS Chemicals Glycols and PETRONAS Chemicals Derivatives (PC Olefins, PC Glycols and PC Derivatives) plant in Kertih, Malaysia, transforming them into new automotive batteries. These actions showcase our ongoing commitment to improve resource efficiencies within our operations and provide tangible benefits for both the environment and the communities we serve.

DELIVERING POSITIVE SOCIAL IMPACT

Central to our mission is the drive to generate positive social impact, which is essential to achieving a just transition. We recognise that the path towards a sustainable future requires not only the advancement of environmental goals but also the active engagement of our stakeholders as we progress together.

To reinforce our commitment, we took several concrete measures to enhance PCG's sustainability capabilities. These included the introduction of the Sustainability Training Matrix and Sustainable Project Management, ensuring our people are equipped with the skills to lead in sustainability. Our ongoing commitment to training and development is further supported by our employees' participation in key sustainability campaigns and courses such as our Learn It and Live It (LiLi) initiative, contributing to the widespread adoption of sustainability practices within our operations.



MESSAGE FROM LEADERSHIP

We reinforce our human rights efforts by raising employee awareness of Diversity & Inclusion principles and strengthening leadership accountability in fostering inclusivity. Additionally, we adopted the PETRONAS Human Rights Policy to align our practices of labour rights and socio-economic well-being with the PETRONAS Group, ensuring the ethical treatment of all individuals in our operations.

Our community engagement efforts were equally focused on creating lasting positive impacts. Through our flagship programme, PCG Be Green, we promoted sustainable practices and raised awareness about waste management, encouraging the adoption of a more sustainable lifestyle. Our collaborations with TerraCycle Thai Foundation in Thailand and a marketplace partner in Indonesia have enabled us to create a positive impact on the environment through initiatives such as the Strategic Plastic Incentive Programme in Indonesia, beach cleanups, mangrove plantations and removal of ocean-bound plastics. In Malaysia, we partnered with Universiti Teknologi MARA (UiTM) to promote PCG Be Green among primary and secondary students, engaging with over 18,000 students across 33 schools nationwide. In 2024, our community investment, totalling more than RM5 million, benefitted nearly 230,000 community members.



I am delighted by the opportunity to help steer PCG's evolving sustainability journey, positioning the business for success across the sustainability transition. Embedding sustainability into our business strategy will help us optimise resource use and position our business for long-term success.

Our forward direction on climate change is clear and we are committed to our NZCE 2050 ambition. Our strategic roadmap focuses first on energy efficiency and operational optimisation, shifting towards renewable energy and exploring additional decarbonisation opportunities.

We are driving long-term business value by positioning ourselves to thrive in a more sustainable economy through the delivery of innovative solutions aligned with customer needs. Sustainability product direction will include shifting towards renewable feedstocks and both circular and low-carbon solutions.

Our programme is designed to build economic value, protect the environment and deliver social impacts while executing with strong governance, external transparency and risk reduction.

My mission includes building a sustainability mindset across our business that will empower all our people to make better decisions, strengthening PCG's resilience and long-term growth. I look forward to driving PCG's progress as we work together to achieve our sustainability goals and create lasting value for our stakeholders and the environment.

GRETCHEN GOVONI
Chief Sustainability Officer

More than
250,000
mangrove trees planted in Malaysia, Indonesia and India

99.7%
employees completed the Human Rights Management e-learning module through myLearningX

Partnered with
Universiti Teknologi MARA (UiTM)
to promote PCG Be Green among primary and secondary students, engaging over

18,000
students

MESSAGE FROM LEADERSHIP

UPHOLDING GOOD GOVERNANCE, ETHICS AND INTEGRITY

Our sustainability governance is grounded on a robust framework built on transparency, integrity and accountability. Our governance structure, which includes the Board, Management and working-level committees, ensures the effective execution of our Sustainability Agenda with clear roles and responsibilities. The Board continues to lead the way in setting sustainability priorities and overseeing progress through strategic discussions.

We also strengthened our sustainability governance by elevating the Sustainable Development Working Committee to the Sustainable Development Steering Committee and forming three taskforces: NZCE, Reporting and Disclosure, and Circular Economy. This allows us to align our efforts across the organisation, ensuring that every decision is made with sustainability in mind.

We uphold high standards of integrity, as evidenced by the successful attainment of the ISO 37001:2016 Anti-Bribery Management System (ABMS) by PCG's Corporate Office and PETRONAS Chemicals Marketing (Labuan) Ltd. (PCML). Furthermore, we have established an enhanced Integrity Management Oversight and Reporting Structure to ensure consistent implementation and compliance across all our operations. By appointing PETRONAS' Chief Integrity Officer to lead this structure, we affirm our resolve to drive a culture of transparency, accountability and ethical leadership.

We will remain dedicated to improving our sustainability practices and disclosures, aligning them with global standards and regulations. Through close collaboration with stakeholders, partners and communities, we aim to deliver lasting value for all.

GOING FORWARD

As we look to the future, we recognise that the journey towards a sustainable world requires collaboration, resilience and determination. Our sustainability efforts will continue to focus on reducing emissions, advancing energy efficiency and contributing to a just transition to a low-carbon economy.

ACKNOWLEDGEMENTS

The progress we have made in advancing sustainability is a direct reflection of the collective efforts and unwavering support of our stakeholders. We recognise and value the significant role played by every stakeholder group in driving our shared vision, enabling us to create meaningful impact across the environmental, economic, social and governance dimensions.

Our sincere appreciation goes to the Board members for their visionary leadership and strategic direction, which have been instrumental in guiding sustainability at PCG. We acknowledge the Management team members for their decisive execution of sustainability strategies, translating vision into tangible action. We also extend our deepest gratitude to our employees, whose dedication, passion and resilience have been vital in delivering sustainable value. Finally, we thank our external stakeholders for their steadfast collaboration and unwavering support.

Together, we are driving our Sustainability Agenda forward with purpose and determination, and we look ahead to the future with confidence in the power of these partnerships.

DATUK SAZALI HAMZAH
Chairman

MAZUIN ISMAIL
Managing Director/Chief Executive Officer



OVERVIEW OF PCG

PETRONAS Chemicals Group Berhad (PCG) stands as the chemical arm of PETRONAS and as Malaysia's premier integrated chemical manufacturer. Our operations span the production, marketing and distribution of a wide variety of chemical products. PCG marked a significant milestone by going public on 26 November 2010. Through our commitment to Operational Excellence and Commercial Excellence, we are now a prominent integrated chemical producer in Southeast Asia. Our global presence extends across 21 manufacturing sites located in Malaysia, the Netherlands, Sweden, Singapore, Germany, Italy, China, India, the USA and Canada. The Group's dedication to Growth Delivery Excellence has been pivotal in our expansion into specialty chemicals sector, ensuring our business is future-ready.

In line with our aspiration to become 'The Preferred Chemical Company Providing Innovative Customer Solutions', we strive to generate positive outcomes across economic, environmental and social spheres. Central to our strategy is sustainability, guiding us towards our ambition to achieve Net Zero Carbon Emissions (NZCE) by 2050.

OUR PURPOSE

A progressive energy and solutions partner enriching lives for a sustainable future

OUR VISION

To be the preferred chemical company providing innovative customer solutions

At PCG, we define our purpose beyond the traditional business boundaries, aligning our efforts with environmental stewardship, social responsibility and economic growth. We strive to meet current business demands while ensuring long-term sustainability through advanced technologies and sustainable practices. Our vision to be the preferred chemical company is underpinned by our commitment to providing innovative solutions that are designed with resilience and adaptability in mind, preparing us and our stakeholders for the challenges and opportunities in an evolving world.

Our approach integrates innovation into our core, aiming to deliver solutions that not only meet current demands but also anticipate future needs, ensuring our adaptability and resilience. This dedication extends to our workforce and societal engagement, where we foster a culture of growth and achievement, driving positive change beyond our industry. As we look to the future, PCG will continue to be guided by sustainability in its efforts to create long-term value, seeking to minimise its impact on nature while promoting social responsibility. We aim to strike a balance between Environmental, Economic, Social and Governance (EESG) imperatives and value creation as well as operational resilience.

OUR SHARED VALUES

Our shared values are deeply embedded in our culture to ensure we operate with integrity at all times while contributing to the well-being of people in every nation where we have presence.



DRIVEN BY OUR STRATEGY

FIRST-PRONG

Sustain strength in basic petrochemicals through Operational Excellence & Commercial Excellence in Maximising Cash Generation from existing business



TWO-PRONGED STRATEGY

SECOND-PRONG

Selectively diversify into derivatives, specialty chemicals and solutions through Growth Delivery Excellence via Expanding Core & Stepping-out opportunities

OUR EXPERTISE

With 21 world-class chemical manufacturing sites worldwide, we produce a diverse range of commodities and specialty chemicals that serve industries from agriculture and automotive to packaging and personal care. Our integrated chemical solutions - including specialty products and chemical derivatives - empower customers to create products that enhance everyday life. Through innovation and expertise, we deliver best-in-class commercial value to customers globally.



KEY FACTS

Market Capitalisation:
As at 31 December 2024
RM41.4 billion

Production Capacity:
16.8 million TPA

Total Assets Base:
RM60.0 billion

One of the largest integrated chemicals producers in Southeast Asia

Constituent of FTSE4Good Bursa Malaysia Index for 11 consecutive years

Listed as Top 10% Companies for four consecutive years in the Dow Jones Best-in-Class Indices (formerly known as Dow Jones Sustainability Indices) for World and Emerging Markets (Chemicals Industry)

OVERVIEW OF PCG

OUR KEY DIFFERENTIATORS

Environmental

Commitment to Net Zero

- PCG is committed to achieving NZCE by 2050 through sustainable investments, climate risk management, and strategic initiatives
- Ongoing initiatives include driving emissions reduction across operational assets and prioritising decarbonisation projects that are value accretive

Green Product Innovations

- The commissioning of an International Sustainability and Carbon Certification (ISCC) PLUS certified plant in India underscores PCG's commitment to offering sustainable products aligned with global environmental standards

Economic

Global Reach and Market Leadership

- Strong customer relationships and a diversified global product portfolio to meet current and future needs
- Reputable industry leader with a robust network of strategic alliances built on long-standing partnerships

Financial Strength and Growth Potential

- Strong financial performance, with RM30.7 billion in revenue and an EBITDA of RM3.5 billion in 2024
- Focused on asset growth and portfolio expansion into derivatives and specialty chemicals, with a commitment to sustainable investments, delivering strong returns, and maintaining the capacity to fund future growth
- Attractive dividend policy that consistently delivers substantial returns to shareholders

Operational Excellence

- World-class Health, Safety and Environment (HSE) standards ensure safe and reliable operations across manufacturing sites
- High plant utilisation rate in Malaysian operations reflects operational efficiency and robust production capacity

Social

Investing in People

- A diverse and inclusive workforce with strong support for women's representation and consistent investments in training and professional development

Creating Positive Impact

- PCG contributes to community development through social impact initiatives
- Effective customer engagement ensures alignment with stakeholder expectations

Focus on Talent and Innovation

- Seven global Research & Development (R&D) laboratories drive innovation and position PCG as a leader in delivering customer-focused chemical solutions

Governance

Ethics and Transparency

- Adherence to high standards of corporate governance and business ethics ensures PCG's reputation as a trusted and reliable partner
- Transparency in disclosures enables informed decision-making for investors and stakeholders

Industry Recognition

- Sustained inclusion in the Dow Jones Best-in-Class Indices for World and Emerging Markets (Chemicals Industry) and FTSE4Good Bursa Malaysia Index demonstrates leadership in sustainability practices
- Multiple awards in 2024, including Australasian Reporting Awards (Gold) and The Edge Malaysia ESG Awards (Silver), reinforce PCG's commitment to governance excellence

Strategic Alliances and Partnerships

- Long-standing partnerships and a strong network of alliances bolster PCG's capacity to navigate industry challenges and deliver value

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.



PETRONAS' Refreshed Sustainability Approach



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

PCG SUSTAINABILITY AGENDA

SUSTAINABILITY AT THE CORE

ENVIRONMENTAL	ECONOMIC	SOCIAL
Environmental Stewardship & Resources Efficiency	Business Sustainance & 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



SUSTAINABILITY SCORECARD

Economic

Production Volume
11.2 million tonnes
2023: 10.4 million tonnes

Sales Volume
10.4² million tonnes
2023: 9.6² 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 270,000¹ MWH
2023: 134,401¹ MWH

Energy Consumed
104.55¹ million GJ
2023: 100.38¹ million GJ

WATER

Freshwater Withdrawal Intensity
5.42 m³/tonne
2023: 5.46 m³/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 tCO₂e
2023: 7.81 million tCO₂e

GHG Emissions Intensity (Market Based)
0.71 tonne CO₂e/tonne
2023: 0.76 tonne CO₂e/tonne

GHG Emissions Reduction from Projects and Renewable Energy Certificate (REC)
329,000¹ tonne CO₂e
2023: 146,100¹ tonne CO₂e

WASTE

Hazardous Waste 3R
93%¹
2023: 76%¹

Social

World-Class Safety Performance
0.16³
Lost Time Injury Frequency (LTIF)
2023: 0.09³

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.

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.

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.

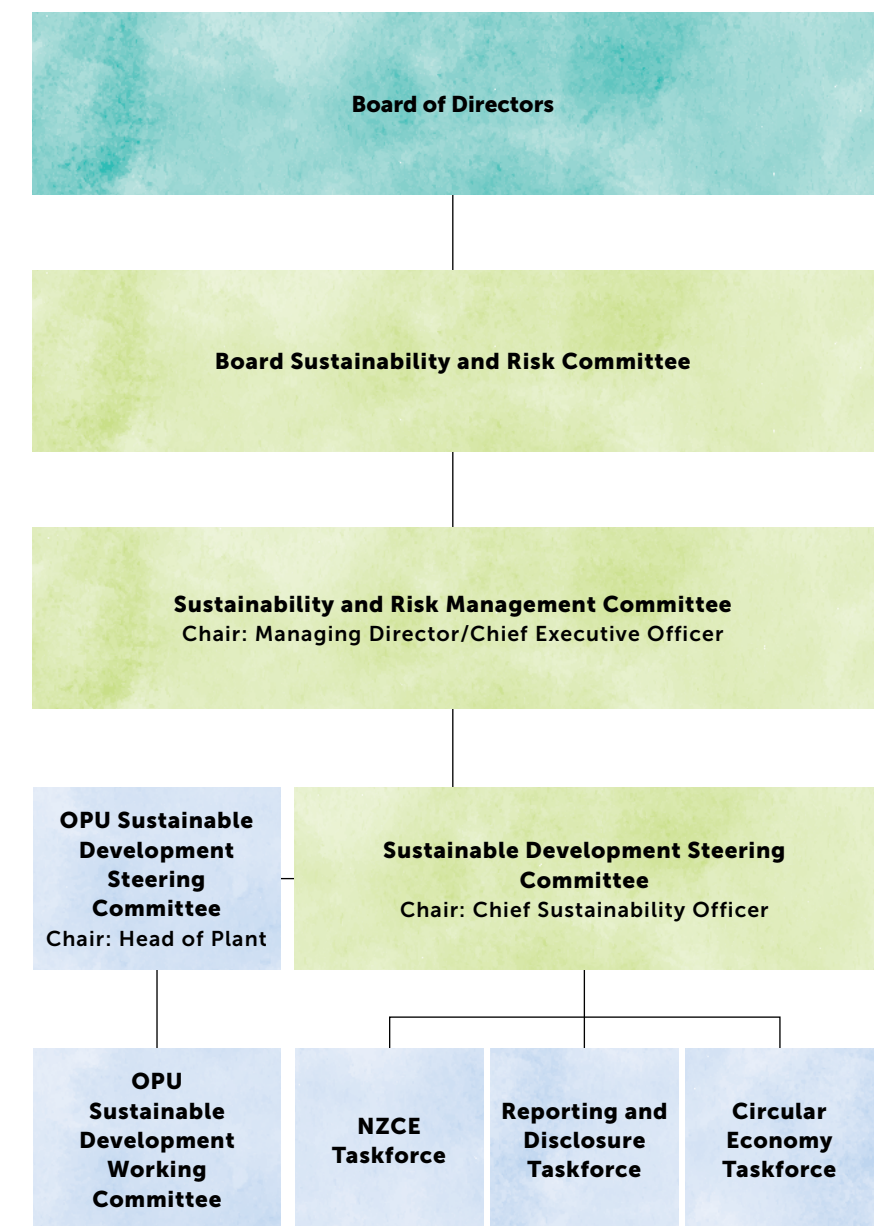
The SDSC convenes every three months to deliberate the following agenda:

- ▶ 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

SUSTAINABILITY FRAMEWORK



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>.



Read more about the PCG Board Charter on our website.

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.



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.



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.



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
- ▶ Increased operational costs due to decarbonisation and climate mitigation measures
- ▶ Compromised health, safety and well-being due to climate change and operational disruptions
- ▶ Financial instability due to higher operational costs, market shifts and stranded assets
- ▶ Regulatory non-compliance impacting the Company's license to operate
- ▶ 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.

Short-term

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.

Medium-term

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.

Long-term

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.

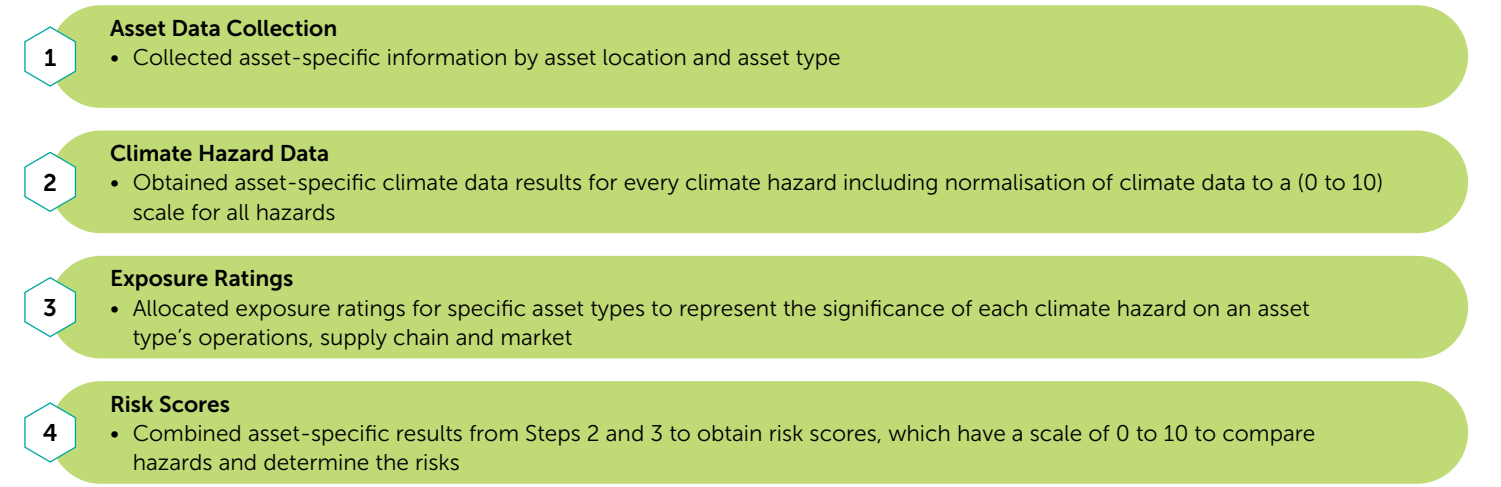
SUSTAINABILITY FRAMEWORK

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



The assessment covered all PCG's manufacturing sites:

10 Countries	2 Scenarios	3 Timeframes	9 Climate Hazards
<ul style="list-style-type: none"> Asia: Malaysia, Singapore, China, India Europe: Germany, the Netherlands, Sweden, Italy North America: Canada, the USA 	<ul style="list-style-type: none"> SSP1-2.6 – Low emissions SSP5-8.5 – High emissions 	<ul style="list-style-type: none"> Short-term (baseline) Medium-term (2030) Long-term (2050) 	<ul style="list-style-type: none"> 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 OPU's 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 OPU's, 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 OPU's 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.

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



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

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	<i>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.</i>		
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	Potential Financial Impact	
• PCG operations	CAPEX	↑
• Suppliers	OPEX	↕
• Customers	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	Potential Financial Impact	
• PCG operations	CAPEX	↑
• Suppliers	OPEX	↕
• Customers	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	Potential Financial Impact	
• Customers	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	Potential Financial Impact	
• PCG operations	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.

ENERGY EFFICIENCY AND ELECTRIFICATION

Category : Technology
Type : Opportunity

Impacted Areas	Potential Financial Impact	
• PCG operations	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	Potential Financial Impact	
• PCG operations	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	Potential Financial Impact	
• PCG operations	OPEX	↑
• Customers	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	Impacted Areas	Potential Financial Impact
Category : Economic & Environment Type : Risk	<ul style="list-style-type: none"> PCG operations Reputation Customer 	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	Impacted Areas	Potential Financial Impact
Category : Social Type : Risk	<ul style="list-style-type: none"> PCG operations Reputation Customer 	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.

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

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

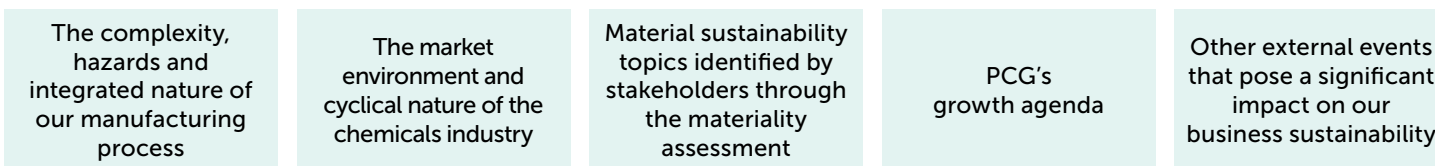
RISK MANAGEMENT

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.

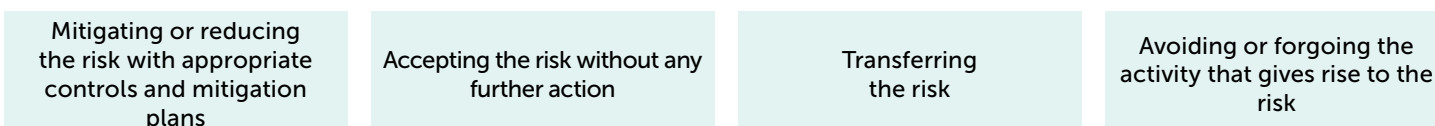
SUSTAINABILITY RISK MANAGEMENT

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:



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:



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.

SUSTAINABILITY FRAMEWORK

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.

- 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

2 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>.

MATERIAL TOPICS SUMMARY

MATERIAL TOPICS SUMMARY

We strive to enable our stakeholders to make informed decisions by ensuring our disclosures are clearly communicated. The table below provides an overview of how our material matters impact our business and stakeholders. It includes the opportunities for each material matter and how we responded to them. Going forward, we will continue to review our material matters to increase opportunities and mitigate risks, ensuring that we remain agile and relevant to current industry needs.

Key Stakeholder Groups	Employees	Suppliers & Vendors	Shareholders & Investment Community	Communities	Customers	Business Partners	Government & Regulators	Media
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ENVIRONMENTAL

	Impact to PCG	Impact to Stakeholders	Stakeholder Groups	Opportunities	PCG's Response to the Matter	UN SDGs
<h3>Climate Change</h3>	Reducing PCG's carbon footprint and enhancing climate resilience will reduce climate-related risks that could affect our business and financial stability.	Shifting towards low-carbon solutions and managing our carbon footprint will deliver long-term benefits to stakeholders, uncover growth opportunities for low-emission products and services, and protect our environment.		<ul style="list-style-type: none"> Transitioning towards a solutions market to meet future demands Enhancing energy efficiency to boost performance and improve cost savings Building capabilities to deliver products and solutions that have lower impacts on the environment 	<ul style="list-style-type: none"> Implementing climate-related initiatives including, but not limited to, steering greenhouse gas (GHG) emissions reduction in PCG assets by implementing PCG's Net Zero Carbon Emissions (NZCE) Roadmap to ensure climate-related risks and opportunities are well-managed 	
<h3>Nature & Environment</h3>	Minimising PCG's impact on nature and the environment will mitigate financial loss, regulatory fines and disruptions to operations, besides protecting our reputation.	Ensuring that natural resources are sustained and striving to conserve the environment for the communities and future generations.		<ul style="list-style-type: none"> Avoiding and minimising negative effects of our operations on the environment Restoring and conserving ecological systems Minimising waste and optimising resources to lower operational costs and reliance on resources shared with the community Implementing environmental initiatives to attract investors and expand avenues for capital growth 	<ul style="list-style-type: none"> Ensuring responsible water consumption and hazardous waste management by using a circular approach within our operations Conducting a Biodiversity & Ecosystem Service Risk Assessment (BESRA) process to determine and mitigate biodiversity and ecosystem services risks 	

ECONOMIC

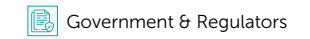
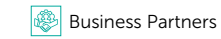
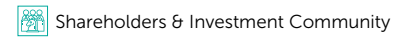
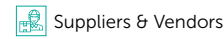
	Impact to PCG	Impact to Stakeholders	Stakeholder Groups	Opportunities	PCG's Response to the Matter	UN SDGs
<h3>Innovation & Product Stewardship</h3>	Enabling PCG to maintain competitive advantages and retain customer loyalty through delivering innovative customer-centric solutions, innovation in production and technologically advanced products that add commercial value, sustainable, improve quality of life and fulfil regulatory requirements.	Addressing customer pain points and meeting their needs through offering innovative, safe and more sustainable products that facilitate customers to grow their businesses sustainably.		<ul style="list-style-type: none"> Growing our sustainable product line to allow PCG and its customers to enter new markets, enhance innovation and strengthen business growth Building common-goal alliances with key stakeholders such as customers and vendors Building innovation capacity with a new technology and innovation centre, scheduled for completion in 2025. Together with other innovation labs, this will form a strong network for localised and advanced solutions across key markets 	<ul style="list-style-type: none"> Driving research and development to create innovative and sustainable products Building a global network of innovation labs to collaborate with and customise solutions for customers Embracing extended producer responsibility from product readiness until delivery to customers Incorporating a life-cycle view in development and risk management 	



MATERIAL TOPICS SUMMARY

MATERIAL TOPICS SUMMARY

Key Stakeholder Groups



ECONOMIC



Business Strategy & Financial Resilience

Impact to PCG

Maintaining the strength of our core business through operational excellence, enabling sustainable growth and reinforcing business strategies to achieve financial stability, create sustainable value and future-proof our business.

Impact to Stakeholders

PCG's Two-Pronged Strategy, backed by Environmental, Economic, Social and Governance (EESG) pillars, ensures long-term benefits and enhances stakeholder confidence through strengthening operational excellence, expanding PCG's specialty chemicals portfolio and improving sustainable investment opportunities to mitigate rising risks and costs.

Stakeholder Groups



Opportunities

- Attaining operational improvements through digitalisation, forming robust partnerships with feedstock, utilities and chemical suppliers and addressing challenges to improve plant reliability
- Enhancing our strategies and finances to build greater trust among stakeholders
- Attracting investment and securing funding through strong business fundamentals

PCG's Response to the Matter

- Executing the Two-Pronged Strategy via three strategic thrusts and embedding EESG components into our growth initiatives
- Focusing on projects that deliver both strategic advantages and positive impact while identifying the best available technologies to expand our portfolio of sustainable products
- Enhancing PCG's Sustainable Portfolio to prioritise value accretive and sustainable growth opportunities
- Maintaining a healthy cash balance and low financial gearing while pursuing sustainability strategies and initiatives through internal or external funding
- Establishing a dedicated annual allocation for Technology and Innovation (T&I) and Sustainability funds to drive innovation and ensure continuous pursuit of NZCE and sustainability-focused areas

UN SDGs



Circular Economy

Positioning PCG as a key player in advancing circular economy in Malaysia, enabling cost-effective use of natural resources while reducing waste generation and environmental impacts.

Enabling customers to benefit from enhanced product quality, satisfaction and access to sustainable options. Additionally, by facilitating regulatory compliance, PCG supports stakeholders in achieving their environmental goals. The circular economy generates job opportunities and aligns economic activities with environmental and social objectives.



- Turning waste into more sustainable feedstock to enhance resources and generate business opportunities
- Using alternative feedstock such as circular and bio-based feedstock
- Placing PCG at the forefront of Malaysia's circular economy

- Advancing chemically recycled plastic waste to produce circular feedstock for our processes
- Enhancing functionality and circularity or recycled Polyethylene Terephthalate (rPET) for the food packaging industry
- Continue partnerships with waste concessionaires and technology providers to transform Malaysia's plastic recycling ecosystem
- Expanding our circular economy portfolio to other recycled raw materials such as silicone oil and renewable carbon



Supply Chain Management

Thriving business opportunities and enhancing relationships to build trust and confidence, enabling PCG to elevate supply reliability, boost capabilities and minimise risks.

Embedding EESG principles into procurement, allowing PCG to support stakeholders in managing environmental and social risks, fostering transparency and collaboration, thereby enabling the development of a resilient network that meets stakeholder demands for quality, reliability and sustainability.



- Developing strong partnerships with suppliers and vendors will further improve downstream supply chain and boost productivity
- Enabling suppliers and vendors to enhance their EESG capabilities, thereby contributing to PCG's sustainability, including elevating Health, Safety and Environment (HSE) performance

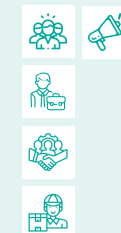
- Embedding EESG requirements into supplier screening and selection process
- Engaging with and assessing suppliers on EESG risks, and compliance
- Facilitating supplier capability growth and industry partnerships towards building a sustainable supply chain
- Adopting the PETRONAS Human Rights Policy to reduce risk



Cybersecurity & Digitalisation

Enhancing business growth and investor confidence while building stakeholder trust, enabling PCG to safeguard its reputation and mitigate cyber risks to avoid legal and financial consequences.

Strengthening stakeholder confidence through PCG's focus on robust integrated digitalisation, resilient cybersecurity and investment in digital and data infrastructure to minimise cyber risks and safeguard PCG's reputation.



- Ensuring cybersecurity to create a secure and sustainable business environment that fosters stakeholders' trust
- Enhancing control and management through digitalisation, leading to improved service security, quality and deliverables

- Utilising a Secure by Design approach for all digital projects to mitigate implementation risks
- Ensuring compliance with the Enterprise Cyber Security Governance Framework by raising awareness and conducting audits/tests (Human Firewall) regularly
- Allowing full utilisation and system-wide assurance by determining the appropriate digital tools via Cybersecurity Business Impact Assessment (BIA) and Legal & Regulatory Assessment (CSBIA-LRA), Third Party Assurance, Cybersecurity Business Risk Assessment (CSBRA) and decommissioning of legacy systems



MATERIAL TOPICS SUMMARY

MATERIAL TOPICS SUMMARY

- Key Stakeholder Groups: Employees Suppliers & Vendors Shareholders & Investment Community Communities Customers Business Partners Government & Regulators Media

SOCIAL

	Impact to PCG	Impact to Stakeholders	Stakeholder Groups	Opportunities	PCG's Response to the Matter	UN SDGs
<h3>Safety & Health</h3>	<p>Keeping our people and contractors' workers safe will mitigate regulatory, legal and reputational risks, besides boosting employee morale and productivity, and lowering operational costs due to accidents and injuries at the workplace.</p>	<p>Enhancing investor confidence and maintaining stakeholders' trust by providing a safe and healthy work environment across all operational sites for employees, workers and the local communities surrounding our operations.</p>	 	<ul style="list-style-type: none"> Focusing on safety and health attracts and retains the best talent Demonstrating a profile that reflects high integrity, performance and value Creating a supportive and caring work environment by reducing workplace incidents, ensuring the well-being of our people and fostering a culture of care and respect 	<ul style="list-style-type: none"> Fostering a culture of HSE excellence by implementing a resilient HSE framework Achieving HSE goals with programmes like FELT Leadership, Focused Learning (Learning from Incidents) and Balance of Consequence Enhancing HSE practices through the Mandatory Control Framework 	
<h3>Talent Management & Well-Being</h3>	<p>Uplifting employee morale and productivity while delivering proper staffing levels, robust succession planning and personalised development capabilities.</p>	<p>Developing high-performance operations to deliver long-term value to investors and stakeholders while creating a positive workplace culture for employees.</p>		<ul style="list-style-type: none"> Building a future-ready workforce with innovative capabilities and adaptable mindsets 	<ul style="list-style-type: none"> Implementing robust succession planning and accelerating recruitment of talent with niche competencies to strengthen PCG's operations and drive growth Investing in capability development through integrated technical and soft skills training to deliver business results Engaging employees through comprehensive benefits and regular touchpoints to enhance motivation and connection 	
<h3>Human Rights</h3>	<p>Strengthening PCG's reputation, employees' morale and productivity while managing regulatory, legal and reputational risks.</p>	<p>Upholding human rights to enhance working conditions and livelihoods of people and communities interacting with and dependent on PCG's operations and value chain.</p>	 	<ul style="list-style-type: none"> Implementing strong human rights standards to demonstrate leadership in corporate citizenship Building an inclusive and positive workplace to create a more agile and creative work environment that drives superior outcomes 	<ul style="list-style-type: none"> Integrating the PETRONAS Human Rights Policy throughout our business operations and supply chain, aligned with the UN Guiding Principles on Business and Human Rights Strengthening human rights competencies and awareness across our employee and contractor networks Advancing our Diversity & Inclusion framework with measurable targets to foster workplace and societal equity 	
<h3>Community Engagement</h3>	<p>Engaging with the local community to strengthen our knowledge base and insights, thus enabling informed decision-making that benefits all stakeholders while reinforcing PCG's reputation as a reasonable and caring organisation.</p>	<p>Enabling PCG to address diverse community needs as a corporate duty to contribute to society, nurturing trust and advancing community well-being.</p>	 	<ul style="list-style-type: none"> Building strong relationships with local communities, fostering goodwill and trust to increase brand loyalty Creating positive social impact within communities where we operate 	<ul style="list-style-type: none"> Implementing PCG's Social Impact Strategy that supports communities through environment, education as well as community well-being and development 	

GOVERNANCE

	Impact to PCG	Impact to Stakeholders	Stakeholder Groups	Opportunities	PCG's Response to the Matter	UN SDGs
<h3>Corporate Governance</h3>	<p>Embedding robust corporate governance in operations to build credibility and trust while managing risks to protect stakeholder interests and deliver long-term value creation.</p>	<p>Increased credibility among stakeholders, which will help foster trust with our stakeholders and drive sustained value creation and resilience over the long term.</p>	 	<ul style="list-style-type: none"> Maintaining business transparency to execute plans and strategies efficiently Adopting good governance and disclosure frameworks to build trust, accountability and stakeholder confidence 	<ul style="list-style-type: none"> Maintaining operational alignment with the Malaysian Code on Corporate Governance (MCCG) and relevant market regulations where we operate Strengthening the Board's composition through enhanced diversity and Independent Director representation Upholding the PETRONAS Code of Conduct and Business Ethics (CoBE) through compliance measures and regular trainings 	



CLIMATE CHANGE

CLIMATE CHANGE



WHY IT MATTERS

Sustainability practices and stricter regulations to reduce greenhouse gas (GHG) emissions are increasing worldwide, amid global warming temporarily exceeding 1.5°C in 2024.

Evolving carbon regulations, such as the European Union's Carbon Border Adjustment Mechanism (CBAM) tariff on emissions-intensive goods and Malaysia's proposed carbon tax under its Budget 2025, exemplify the transitional risks posed by climate change. Transitional risks, along with physical risks, may impact our operations and supply chain while raising operational costs. These could affect PCG's viability and economic returns, which in turn could lead to diminished interest from investors and financiers.

Addressing our impact on climate change is a critical component of PCG's business and growth strategy, as it drives us to deliver sustainable products and solutions. Capturing opportunities arising from climate change such as diversifying our product lines to meet demand for more eco-friendly products and tapping into new markets allows us to improve our environmental performance and create long-term value.

OUR ACHIEVEMENTS

Reduced emissions in commodity business by more than

329 kilotonnes CO₂e

via implementation of the following Net Zero Carbon Emissions (NZCE) projects:

Efficiency improvement

122 kilotonnes CO₂e

Flare and vent reduction

29 kilotonnes CO₂e

Renewable energy credits

178 kilotonnes CO₂e

Undertook and completed a comprehensive review and update of emissions inventory boundary and measurements to improve overall accuracy of emission reporting

Performed site validation on physical risks identified for selected key sites to assess adequacy of existing measures and mitigations

IMPACT STORY:

Equipment Upgrade Slashes Carbon Emissions and Saves Costs

PETRONAS Chemicals Methanol (PC Methanol) achieved substantial savings in fuel gas costs and lowered CO₂ emissions in its Plant 1 by replacing steam reformer tubes with thinner models made with an upgraded material.

Implemented during its Plant 1 Turnaround (P1TA18), the replacement of steam reformer tubes has enabled the plant to reduce the fuel gas required for firing. This was mainly due to the improved steam reformer tube design, which enhances heat transfer efficiency between the external hot flue gas side and the internal process gas containing the catalyst. The new tubes are projected to reduce emissions by 28,085 tCO₂e per annum.

Fuel Gas Operation Optimisation

We utilised 100% nitrogen wash off-gas as fuel for the reformer at PETRONAS Chemicals Ammonia (PC Ammonia) instead of flaring it by operating at higher fuel gas header pressure. This, in turn, translates to lower natural gas fuel intake to maintain firing at the reformer. This initiative resulted in a reduction of 15,235 tCO₂e in 2024.

OUR APPROACH

We continue to align our approach to tackling climate change with our NZCE 2050 Roadmap, where we aspire to achieve net zero emissions by 2050 for Scope 1 and Scope 2 GHG emissions across our operating assets. In the mid-term, we aim to achieve our 2030 target of reducing GHG emissions by 20% against our 2019 baseline via the identified decarbonisation levers, as shown in figure on PCG's NZCE Decarbonisation Levers.

This target reflects our commitment to addressing climate change and was developed with careful consideration of our operational context, existing capabilities and alignment with PCG's broader sustainability agenda, rather than through a sectoral decarbonisation approach.

Our short-term priority is to reduce flaring and venting, while increasing energy efficiency across our operating assets. Focus is given to emissions reduction projects and initiatives that are value accretive, such as reducing our energy costs. We are increasing the use of renewable energy by investing in on-site solar power generation and continuing our subscription to bundled renewable energy credits. Our medium to long-term initiatives entail exploring and investing in electrification, low-carbon process technology and other decarbonisation solutions.

Our operational growth plans include the expansion of our Specialty Chemicals Division and line up of low-carbon products to support the transition towards a low-carbon economy.

We continue to enhance our GHG accounting and reporting, by improving our internal GHG management capabilities through a review of internal practices and standards, in addition to addressing gaps in accounting and reporting of carbon emissions. We continue to be guided by the PETRONAS Technical Standards (PTS) on GHG Emissions Management in our reporting and accounting, in accordance with the GHG Protocol Corporate Accounting and Reporting Standard, and related global standards.

We also employ tools such as the Environment & Social Performance Integrated and Centralised System (EPICS), PETRONAS integrated and centralised Monitoring and Reporting System and the American Petroleum Institute's Sangea software.

We continue to progressively improve our GHG accounting and have enhanced our disclosures to include Scope 3 categories, namely Category 1 (Purchased Goods and Services), Category 6 (Business Travel), Category 7 (Employee Commuting) and Category 11 (Use of Sold Products).

PCG believes that enhanced disclosures are critical to formulating effective, data-driven solutions to climate change. To meet stricter requirements following the adoption of new reporting frameworks such as the National Sustainability Reporting Framework (NSRF) and its baseline standard IFRS S2, we have conducted a gap analysis of our reporting to facilitate compliance.

As part of climate risk management, we undertake rigorous assessments to identify transitional risks and opportunities that could affect our businesses, as well as physical risks that could threaten our assets and operations. Following our evaluations, we identify and assess opportunities to build our climate resilience against physical and transitional risks.



CLIMATE CHANGE

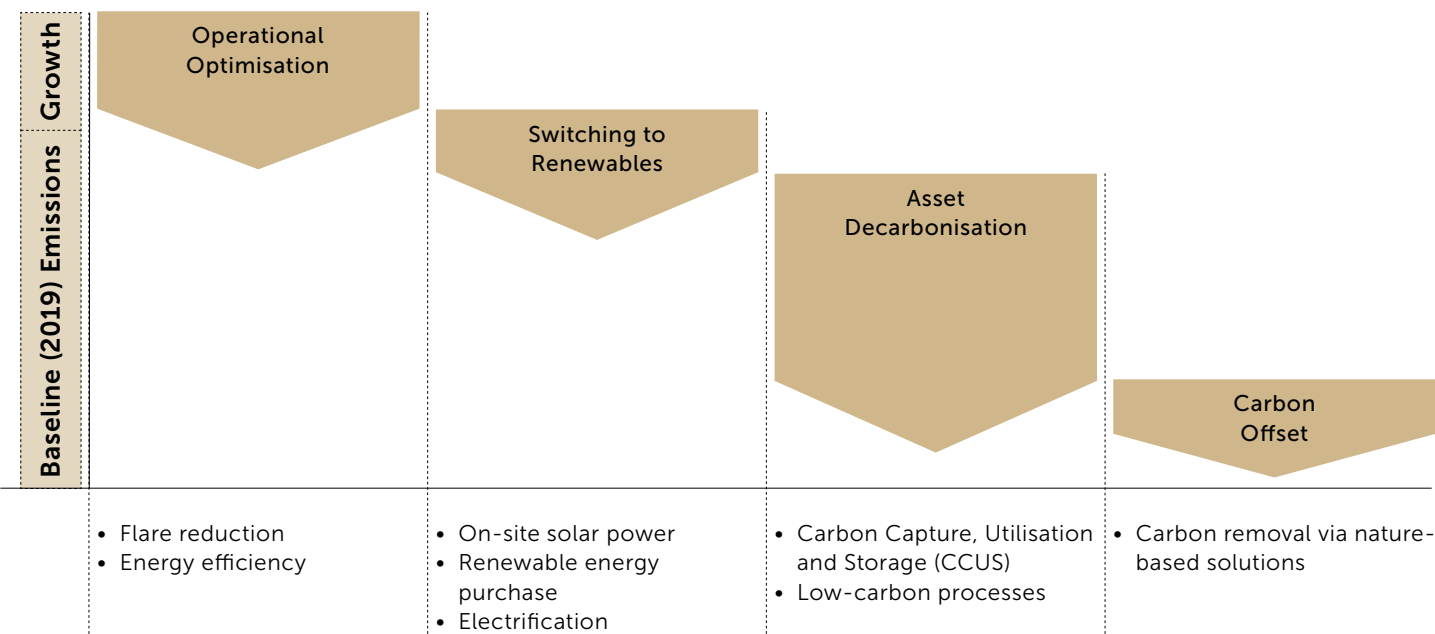
CLIMATE CHANGE

OUR APPROACH

During the most recent assessment of transitional climate risks, we identified 10 drivers of climate risk considerations within our business and operations, as well as growth and investment strategies that were divided into three categories. Additionally, the physical risk assessment scope included nine natural hazards associated with climate change. Following the assessment, we will progressively undertake detailed site validation of the findings and assess the adequacy of existing measures and mitigations in place.

R For more information on our climate change risk assessment, please refer to *Climate-related Risks, Opportunities and Impacts to PCG in Sustainability Framework* on pages 17 to 24.

PCG's NZCE Roadmap Decarbonisation Levers



PROGRESS AND IMPACT

NZCE ROADMAP IMPLEMENTATION

- Continued to implement emissions reduction initiatives and projects throughout 2024, in line with identified decarbonisation levers within PCG's NZCE Roadmap
- Established a NZCE Taskforce to drive company-wide implementation and execution of the roadmap to achieve 2030 emissions reduction targets and beyond, by prioritising and strategically deploying emissions reduction efforts across PCG
- Implemented emissions reduction initiatives in 2024 with a focus on operational optimisation. To achieve flare reduction, we have undertaken the following projects:
 - Successfully executed the flare gas recovery project at PETRONAS Chemicals Fertiliser Kedah (PC Fertiliser Kedah), significantly reducing the flaring of gases
 - Improved operational efficiency via a fuel gas optimisation initiative by PETRONAS Chemicals LDPE and PETRONAS Chemicals Ammonia (PC LDPE and PC Ammonia) reducing the need for flaring and enhancing fuel utilisation
- Undertook various projects to optimise energy usage and reduce emissions in pursuit of energy efficiency, such as:
 - Implemented several upgrades to the primary reformer, at PC Fertiliser Kedah and PC Methanol, resulting in enhanced operational efficiency and reduced energy consumption
 - Successfully reduced steam wastage and improved energy efficiency in processes at PC Fertiliser Kedah and PETRONAS Chemicals MTBE (PC MTBE) through our high pressure steam optimisation project
 - Implemented the steam trap upgrade and rejuvenation project at PC LDPE and PC Ammonia, and PC Fertiliser Kedah to minimise energy loss and enhance system efficiency
 - Replaced steam superheater coils to maintain plant reliability and improve heat transfer efficiency, successfully optimising the extraction of steam and improving the header temperature and pressure
 - Upgraded the primary boiler reformer at PC Fertiliser Kedah, further contributing to our energy efficiency goals and emissions reduction efforts
 - Implemented an innovative energy project that features a real-time energy monitoring dashboard, allowing us to track and optimise energy usage more efficiently. By providing real-time data and insights, the project has led to significant energy savings
- Continued increasing renewables in PCG's energy mix
 - Purchased over 250 GWh of renewable energy at our sites connected to the national grid via subscription to Tenaga Nasional Berhad's Green Energy Tariff scheme, resulting in a market-based Scope 2 emissions reduction of 170 kilotonnes CO₂e
 - Purchased Renewable Energy Credits (REC) for power purchased from Sarawak Energy Berhad for our ASEAN Bintulu Fertilizer (ABF) site, reducing Scope 2 emissions by 8,000 tonnes CO₂e

PROGRESS AND IMPACT

CARBON EMISSIONS MANAGEMENT

- Successfully completed a comprehensive review of carbon emissions within the commodity business. This included reviewing and updating emissions boundaries and inventories, updating and correcting emissions factors, and enhancing measurement accuracies through improved accounting standards and methodologies
- As a result, the overall emissions for PCG increased by more than 400 kilotonnes CO₂e. As this exceeds the five percent materiality threshold set internally, historical emissions have been recalculated and adjusted to reflect these changes, as reflected in table below:

Scope 1 and Scope 2, GHG emissions ^{1,2,5,6,7,8}	2022	2023	2024
Scope 1 GHG emissions (mil tonne CO₂e)	6.47	6.40	6.69
Malaysia (Commodity)	6.22	6.18	6.43
International (Specialty)	0.25	0.22	0.26
Scope 2 GHG emissions, location-based (mil tonne CO₂e)	1.55	1.50	1.43
Malaysia (Commodity)	1.42	1.36	1.30
International (Specialty)	0.13	0.14	0.13
Scope 2 GHG emissions, market-based (mil tonne CO₂e)	1.55	1.41	1.25
Malaysia (Commodity)	1.42	1.27	1.12
International (Specialty)	0.13	0.14	0.12
Total GHG emissions, location-based (mil tonne CO₂e)	8.02	7.90	8.12
Malaysia (Commodity)	7.64	7.54	7.73
International (Specialty)	0.38	0.36	0.39
Total GHG emissions, market-based (mil tonne CO₂e)	8.02	7.80	7.93
Malaysia (Commodity)	7.64	7.44	7.55
International (Specialty)	0.38	0.36	0.38
GHG intensity, market-based (tonne CO₂e/tonne)	0.74	0.76	0.71
Malaysia (Commodity)	0.77	0.79	0.74
International (Specialty)	0.43	0.45	0.42
Scope 3 – Indirect GHG emissions^{3,7}	2022	2023	2024
Total Scope 3 GHG emissions (mil tonne CO₂e)	15.65	15.66	17.63
Category 1 (Purchased goods and services)	5.53	5.37	5.75
Category 6 (Business travel)	-	-	<0.01
Category 7 (Employee commuting)	-	-	0.01
Category 11 (Use of sold products)	10.12	10.29	11.87
Energy^{4,9}	2022	2023	2024
Energy consumed (mil GJ)	104.90	100.38	104.55

¹ Scope 1 - Direct emissions from our manufacturing sites that we have operational control. These include combustion, flaring, venting and fugitive emissions. For the calculations of Scope 1 GHG emissions, the emission factors are referenced in the PETRONAS Technical Standards on Greenhouse Gas (GHG) Management (PTS 18.72.05), and the Compendium of Greenhouse Gas Emissions Methodologies for the Natural Gas and Oil Industry issued by the American Petroleum Institute (API) in 2009 while the global warming potential values applied are based on the Fourth Assessment Report published by the Intergovernmental Panel on Climate Change

² Scope 2 - Sources of Scope 2 GHG emissions include electricity purchased from the grid or third-party energy service company, steam purchased from a third-party and electricity or steam purchased from PETRONAS operated facilities. The Scope 2 GHG emissions approach is calculated with emission factors for national grid based on the 2017 CDM Electricity Baseline by Malaysian Green Technology and Climate Change Corporation (MGTC). For electricity and steam sourced via direct line, the emissions factors provided by the supplier are used

³ Scope 3 - Sources of Scope 3 GHG emissions include Category 1 – Purchased Goods and Services, Category 6 – Business Travel, Category 7 – Employee Commuting and Category 11 – Use of Sold Products. The references used are from the U.S. Environmental Protection Agency (USEPA) 2021 for spend data and UK's Department for Environment, Food and Rural Affairs (DEFRA) 2022 for distance-based data. Category 1 : 80% of total spending in this category using average data method, the remaining using spend based method, Category 6 is calculated data in PETRONAS business travel platform (TravEx), Category 7 is based on an employee survey, and Category 11 is based on average data method

⁴ Total energy consumption includes purchased fuel, electricity and steam and excludes feedstock

⁵ PCG did not engage in the purchase or subscription of any carbon credits in 2024

⁶ Scope 1 and Scope 2 GHG Emissions for Malaysia (Commodity) has been restated for 2022 and 2023

⁷ Detailed breakdown may not add up to the total due to rounding

⁸ Following a comprehensive review, the revised emissions for the 2019 base year is 8.24 million tCO₂e

⁹ Data covers commodity manufacturing sites with operational control

CLIMATE RISK MANAGEMENT

- Assessed physical climate risks across 31 operating units in 21 manufacturing sites worldwide, with findings indicating extreme heat as the most prevalent risk by 2050, while some sites face high risks of water stress, drought, and flooding. Extreme cold and landslides remain low to moderate risks
- Validated these findings at two locations, through detailed site assessments, led by a multidisciplinary team, to confirm results from the previous year's desktop assessment and identify additional mitigation needs

- Strengthening climate risk management by addressing gaps identified in the IFRS S2 assessment, ensuring alignment with climate-related disclosure requirements under the NSRF. These actions include:

Increased transparency on GHG emissions reporting (Scope 3)	Increased disclosure of sites vulnerable to physical risks
Financial impact quantification	Disclosure of funding strategy for climate

NATURE & ENVIRONMENT



NATURE & ENVIRONMENT

IMPACT STORY:

Stenungsund Wastewater Facility

Perstorp inaugurated a facility in Stenungsund, Sweden, that further purifies wastewater from the municipal water treatment plant to be reused for cooling at the Perstorp Oxo production plant. The facility is a key enabler in combining business growth and sustainable development, allowing Perstorp to secure an alternate source of water supply for the plant.

The recycled water can also potentially be used to produce renewable hydrogen and support other future strategic investments.

The facility is expected to save 1.1 billion litres of freshwater every year, bringing Perstorp closer to its 2030 sustainability target of reducing freshwater usage by 30% while aligning with its long-term ambition of achieving Finite Material Neutrality.



PETRONAS Chemicals Olefins, PETRONAS Chemicals Glycols and PETRONAS Chemicals Derivatives (PC Olefins, PC Glycols and PC Derivatives) Unlock Value in Hazardous Waste

PC Olefins, PC Glycols and PC Derivatives enhanced their resource efficiency practices and unlocked the value of hazardous waste through their recycling of Used Lead-Acid Batteries (ULAB) to produce new automotive batteries.

Besides recovering precious metals from ULAB for recycling, the initiative has also resulted in total value creation of more than RM100,000, after generating about RM74,000 in profit and avoiding about RM32,000 in disposal cost. As ULAB is deemed as a hazardous waste due to its lead content, it must be disposed off at a special facility using the cementation method, which involves mixing the batteries with cement and other additives to immobilise contaminants, in accordance with the Environmental Quality (Scheduled Wastes) Regulations 2005. Cemented waste poses long-term waste management challenges as it remains in the environment indefinitely and carries a risk of leaching over time if not stored properly.

The ULAB were retrieved from PC Olefins, PC Glycols and PC Derivatives sites and stored at the premises of a licensed recycling facility, where they were subsequently crushed. After the components of the ULAB were separated, those containing precious metals were smelted into metallic lead, which was then refined into either pure lead ingots or lead bullion. The ingots and bullion were then shipped to a leading battery manufacturer in Asia to manufacture new automotive batteries.



WHY IT MATTERS

Concerns about the environmental footprint of industrial activities have led to increased public scrutiny and stricter regulations on business operations. National policies that aim to mitigate industrial impacts are prompting industries and manufacturers to review their current operations and adopt more innovative approaches, catalysing green growth practices across the manufacturing value chain. The adoption of the Kunming-Montreal Global Biodiversity Framework, which calls for urgent action to restore biodiversity, while promoting responsible and equitable resource use, is expected to influence regulatory frameworks going forward.

At PCG, nature and the environment are fundamental to our operations and long-term business growth. They provide essential resources, such as water and feedstock, which are critical for both our business as a leading chemicals producer and the communities we serve. Besides preserving finite natural resources, reducing pollution is also important to safeguard the health, living conditions and livelihoods of the local communities near our operations. In addition, we support community development by ensuring fair access to clean air, water, soil and other essential environmental resources.

Minimising our environmental impact helps mitigate risks such as financial loss, regulatory fines and disruptions to operations while protecting our reputation. Managing our natural resources also enhances operational resilience, ensuring long-term business continuity and resource security while reducing our vulnerability to supply chain disruptions. Reinforcing our commitment to sustainability through initiatives such as biodiversity conservation and waste management is key to building trust with our investors, customers and partners. Pursuing the development of a circular economy through improved waste and wastewater management enhances resource efficiency, unlocking opportunities for innovative circular solutions and contributing to continuous business growth.

OUR ACHIEVEMENTS

250,242

mangrove trees planted

93%

hazardous waste recycled

from PETRONAS Chemicals MTBE (PC MTBE) turnaround activities, enabled by careful planning and collaboration with recycling facilities



NATURE & ENVIRONMENT

OUR APPROACH

PCG continues to comply with the relevant laws of the various jurisdictions where it operates. We remain guided by our Health, Safety and Environment (HSE) Policy, which outlines our aspiration to reduce our environmental footprint by minimising waste and pollution throughout our operations and supply chain, besides encouraging responsible use of natural resources.

The HSE Policy was revised in 2024 to enhance its support for our overall sustainability goals. The implementation of the policy is supported by the PETRONAS HSE Mandatory Control Framework, which is designed to strengthen our governance of responsible environmental management.

At PCG, 85% of our operations are certified with ISO 14001:2015 Environmental Management Systems, enhancing our credibility, high standards and commitment to environmental management. We also minimise paper consumption and waste generation by digitalising elements of our operations.

To ensure responsible water consumption and hazardous waste management, we employ a circular approach within our operations, where we convert waste generated from our facilities, including air emissions, discharges and waste, into resources, or repurposed waste, wherever feasible. This approach helps to improve operational efficiency, prevents pollution and reduces our dependence on natural resources, mitigating broader environmental impacts, including climate change and water scarcity.

Moving forward, we aim to further improve resource efficiency and biodiversity. Additionally, we aspire to enhance our environmental disclosures to address gaps and build trust with our stakeholders.

Water and Wastewater Management

We aim to manage water consumption and wastewater efficiently throughout our facilities.

PCG's water stewardship initiatives are governed by the PETRONAS Technical Standards (PTS), local regulatory standards, and other relevant frameworks that provide guidance on conserving water resources.

We closely monitor water availability in water-stressed regions. Water stress has been identified as a critical physical climate risk at sever of our sites, potentially impacting our operations and the surrounding community.

Waste Management

We are committed to using resources efficiently and promoting circularity across our value chain.

Our waste management practices are guided by the PTS on waste management, which promote the minimisation of waste generation and disposal.

As a chemical company, we convert raw materials and natural resources into products and solutions that help to enhance the quality of life and support the transition to a low-carbon economy.

Our use of non-renewable raw materials, including precious metals and chemicals as a catalyst for certain processes, has the potential to increase waste generation and depletion of finite resources. However, this is mitigated via enhancing recycling practices within our operations.

Biodiversity

We seek to minimise our operations' negative impact on biodiversity.

Our efforts are guided by the PETRONAS Position on Nature and Biodiversity and the PETRONAS Technical Guideline on Biodiversity and Ecosystem Services (BES) Management, which specifies identification and mitigation measures. These guidelines help us to centre our activities on conserving and rehabilitating ecosystems and habitats.

Our ecocare programme has been in operation since 2005. The initiative involves replanting mangrove trees in the ecologically sensitive mangrove habitat along Sungai Kertih, Malaysia.

In addition, we have also set up the Environmental Education Centre (EEC), a resource centre to promote environmental awareness and understanding among teachers, students and the community.

NATURE & ENVIRONMENT

PROGRESS AND IMPACT

WATER AND WASTEWATER MANAGEMENT

Freshwater withdrawal ¹	2022	2023	2024
Freshwater withdrawal (mil m³)	62.7	56.5	60.4
Malaysia (Commodity)	39.0	37.7	38.8
Water stress	10.6	10.5	10.4
Non-water stress	28.5	27.2	28.4
International (Specialty)	23.6	18.8	21.6
Freshwater withdrawal intensity (m³/tonne)	5.8	5.5	5.4
Malaysia (Commodity)	3.9	4.0	3.8
International (Specialty)	26.8	23.4	23.9
Wastewater discharge ^{1,2}	2022	2023	2024
Chemical oxygen demand (COD) (tonne)	215.0	227.8	180.9
Malaysia (Commodity)	204.2	219.4	168.0
International (Specialty)	10.8	8.5	12.9
COD intensity (tonne/kilotonne)	0.02	0.02	0.02

¹ Detailed breakdown may not add up to the total due to rounding
² Data covers commodity manufacturing sites with operational control and Perstorp Group

- Initiated process condensate recovery at PETRONAS Chemicals Methanol (PC Methanol) Plant 1, expanding on past successful effort at Plant 2. This initiative could potentially reduce 26% of freshwater withdrawal by 2025. Though condensate recovery and enhanced boiler feed water valve initiatives, PETRONAS Chemicals Fertiliser Sabah (PC Fertiliser Sabah) achieved a reduction of 30m³/hr in freshwater withdrawal
- Conducted ongoing assessments of alternative water sources such as reclaimed sewage and thermal desalination using seawater to improve access to water supply for our plants in water-stressed areas
- Implemented best water management practices and optimisation continuously across all OPU, while developing a detailed study on technology utilisation to reduce freshwater use and wastewater discharge to improve environmental protection at our manufacturing sites
- Adopted CLARITY, an end-to-end digital platform to ensure and sustain reliability, efficiency and governance of water systems at PETRONAS Chemicals Fertiliser Kedah (PC Fertiliser Kedah), PC Olefins, PC Glycols and PC Derivatives, PC MTBE and PC Methanol. CLARITY is an enterprise solution tool introduced by PETRONAS, comprising five modules that support water management practitioners in making decisions and taking proactive action to mitigate incidences and improve efficiency



NATURE & ENVIRONMENT

PROGRESS AND IMPACT

WASTE MANAGEMENT

Hazardous waste ¹	2022	2023	2024
Hazardous waste generation (kilotonne)	88.8	80.6	108.3
Malaysia (Commodity)	29.2	30.4	43.7
International (Specialty)	59.6	50.2	64.7
Hazardous waste that underwent 3R (kilotonne)	23.4	24.2	41.6
Malaysia (Commodity)	22.3	23.1	40.4
International (Specialty)	1.0	1.1	1.2
Hazardous waste final disposal (kilotonne)	64.9	54.7	66.3
Malaysia (Commodity)	6.6	5.6	2.9
International (Specialty)	58.4	49.1	63.5
Hazardous waste 3R rate (%)²	77	76	93

¹ Detailed breakdown may not add up to the total due to rounding
² Data covers commodity manufacturing sites with operational control

- Continued to enhance recycling practices at Malaysian assets through our waste minimisation blueprint, which aims to increase recycling rates by stipulating specific types of waste to be recycled, such as waste catalyst, spent lube oil, used packaging and waste solvent, among others
- Continued to explore opportunities for circularity, which include utilising waste generated as fuel to produce other materials
- At PC MTBE, almost all hazardous wastes identified as recyclable have been collected and diverted from the landfill. The plant achieved a 93% recycling rate for identified hazardous waste while the Propane Dehydrogenation (PDH) plant has achieved 87% recycling rate involving close to 2,500 metric tonnes of hazardous waste. Example of the repurposed wastes include:

Types of waste	How they are recycled, repurposed and reused
Spent catalyst Electrical waste	Recovered precious metal
Solvent waste Oil-water mixture	Reprocessed into higher grade oil
Spent lube oil	Reused as lube oil for heavy machinery
Spent activated carbon and spent adsorbent	Reprocessed as raw materials for the cement industry
Contaminated containers	Cleaned and reused

NATURE & ENVIRONMENT

PROGRESS AND IMPACT

AIR EMISSIONS

Air emissions ^{1,2}	2022	2023	2024
Nitrogen Oxides (NOx) (kilotonne)	18.7	22.0	24.8
Malaysia (Commodity)	18.5	21.8	24.7
International (Specialty)	0.15	0.12	0.13
Sulphur Oxides (SOx) (kilotonne)	0.19	0.17	0.17
Malaysia (Commodity)	0.19	0.16	0.17
International (Specialty)	<0.01	<0.01	<0.01
Air emissions intensity (tonne/kilotonne)	1.74	2.14	2.24
Malaysia (Commodity)	1.88	2.31	2.43
International (Specialty)	0.18	0.16	0.14

¹ Data covers commodity manufacturing sites with operational control and Perstorp
² Calculation methodology: Fuel consumption x NOx or SOx emission factor x (1 - Control efficiency for the equipment)

- Implemented an air emissions monitoring programme, where we monitor the emissions levels surrounding our facilities and in nearby communities, as we strive to minimise air pollution levels in line with the Malaysian Ambient Air Quality Standard
- Implemented measures to improve air emissions discharge quality from our operations. A project to install a catalytic converter in one of our assets to reduce carbon monoxide emissions is currently undergoing design review
- Overall NOx emissions increased due to higher plant load, but targeted controls helped mitigate the impact. At PC Fertiliser Kedah, the successful installation of a denitrification (de-NOx) burner reduced nitrogen dioxide emissions by 87%

BIODIVERSITY

Outlined the respective roles and responsibilities between PC Methanol and PETRONAS Dagangan Berhad (PDB) in oil spill responses involving both facilities in Labuan, Malaysia as part of the drafted Biodiversity Action Plan.



INNOVATION & PRODUCT STEWARDSHIP



WHY IT MATTERS

Chemical products play an essential role in modern life, with wide-ranging applications from consumer goods to energy. PCG recognises their potential to drive progress in sustainability. To unlock this potential, we develop forward-thinking solutions that benefit the Group, our stakeholders, and society as a whole.

Innovation sharpens PCG's competitive edge, ensuring adaptability and resilience. Through deep expertise in product chemistry and application technology, we develop innovative, safe, and more sustainable products that support our customers in growing their businesses and achieving their sustainability goals. Our specialty chemicals are tailored to address specific customer challenges, helping them overcome pain points and transition towards sustainability goals such as climate neutrality, greater resource efficiency, and increased use of renewable energy.

For commodity business, we enhance customer satisfaction and loyalty by personalising experiences through collaboration. This includes co-creating innovative products, offering technical support, and gathering feedback on customer needs and challenges via our digital Customer Relationship Management (CRM) tool.

Our customer-centric approach fosters trust and aligns with our vision of becoming "The Preferred Chemical Company Providing Innovative Customer Solutions".

Innovation must go hand in hand with product stewardship as we advance towards a sustainable future. To ensure regulatory compliance, we adopt Extended Producer Responsibility (EPR) and a life-cycle approach to product development and risk management, enabling us to focus on creating safer, more sustainable products. Additionally, our product stewardship programme provides guidance to customers on the safe handling of our products, further minimising environmental impact.

OUR ACHIEVEMENTS

Innovation and Product Stewardship	2022	2023	2024
Number of new/enhanced products	15	20	18
Number of co-created application solutions	12	22	6
Number of technical solutions ¹	283	249	288
Number of product stewardship and technical seminars ¹	13	14	14

Customer Feedback ¹	2022	2023	2024
Customer satisfaction survey (score)	3.5	3.5	3.5
Customer feedback (Number of complaints)	9	25	14
Customer Health, Safety and Environment (HSE) stewardship (Number of requests) ²	-	-	250
Customer HSE questionnaire (Number of requests) ³	-	-	57

Product Delivery to Customers ¹	2022	2023	2024
Order Fulfilment Reliability (OFR) (%)	95	95	95
Total Vehicle Accident Rate (TVAR)	0.08	0.08	0.00

¹ Data covers commodity business
² Addresses customers' HSE questions' related to products (i.e. Material Safety Data Sheet (MSDS), application, inclusion of heavy metals, restricted substances)
³ Addresses customers' queries on quality, HSE, sustainability, product stewardship and processes

INNOVATION & PRODUCT STEWARDSHIP

IMPACT STORY:

Perstorp Launches Pevalen™ Pro 100, Marking a New Era in PVC Plasticising Technology

Perstorp made significant progress towards non-phthalate plasticisers with Pevalen™ Pro 100, an International Sustainability & Carbon Certification (ISCC) PLUS certified product, made from 100% renewable carbon. The new product reflects Perstorp's commitment to driving sustainable solutions and its proactive approach to environmental stewardship.

Pevalen™ Pro 100 is formulated to meet increasing demand for sustainable materials that offer a low-carbon footprint, better eco-toxicity profile and safer handling. It is based on mass balance content that applies chemical and physical traceability, reducing the carbon footprint throughout the value chain and supporting sustainable sourcing of renewable and recycled raw materials.

The product's ISCC PLUS certification provides companies, brand owners and consumers with the assurance that all renewable and recycled raw materials used across the value chain, up to the point of origin are certified.

By factoring in the biogenic carbon dioxide uptake from its renewable raw materials, Pevalen™ Pro 100's carbon footprint is reduced by about 80% compared to its fossil-based equivalent from cradle to gate, thus minimising greenhouse gas (GHG) emissions along the value chain.

OUR APPROACH

PCG's Research & Technology (R&T) team offers guidance on the selection and execution of R&T projects through a stage-gate process. Their efforts are streamlined by the Product Sustainable Design Guideline that recommends the incorporation of sustainable product criteria into the design and development of innovative product selection.

We ensure all Product Stewardship deliverables comply and exclude the usage of prohibited and restricted substances at all stages of product development, complete all product notifications, as well as necessary toxicology and ecotoxicology studies. In addition, we formulate mitigation measures for the environmental impact of our products as part of our product stewardship measures.

Our two-pronged strategy, which supports our goal of building a portfolio that comprises derivatives and specialty chemicals while maintaining our strength in basic petrochemicals, drives our efforts to develop market-focused solutions that can adapt to evolving trends. This is supported by our enhanced R&T approach that enables us to create application technology and valuable product applications that mitigate our environmental impact.

Our newly completed pilot plant, which utilises PCG's proprietary intellectual property (IP) to produce 100% natural, eco-friendly bio-based emollients, enables us to enter the personal care sector under BRB's Emfinity® brand. As we leverage innovation to achieve our specialty chemicals business and sustainability goals, we strive to lead the market through a comprehensive approach that encompasses technology scouting to discover new solutions. This enables us to address customer needs through our application team and protects our IP. Our new Technology and Innovation Centre in Bangi, scheduled for completion in 2025, will leverage cutting-edge technology and innovative practices to drive growth and create value for customers. The new centre, in collaboration with other innovation labs, forms a powerful global innovation network for the development of localised and advanced solutions in key markets.

Investing in these innovation and technology ecosystems is pivotal to our efforts in advancing our growth in specialty chemicals, improving our competitiveness and fostering customer loyalty through pioneering solutions that are customised to their needs.

To expand our flexibility and market reach, we continue to drive strategic growth and partnerships by working with PETRONAS Corporate Ventures to evaluate startup technologies while managing costs by exploring feedstock options outside of Malaysia. In the long term, we aim to eliminate the use of finite resources via Perstorp's initiatives to achieve Finite Material Neutrality. This will involve a comprehensive transition from virgin fossil raw materials and energy to renewable, recycled, or reclaimed alternatives at all Perstorp's production sites.

We remain a signatory of the Responsible Care® global charter for our commodity business, affirming our commitment to developing and producing chemicals that can be manufactured, transported, used and disposed of safely. This includes conducting systematic reviews of existing and upcoming products to maximise benefits for our customers and stakeholders while mitigating their impacts on health and the environment. We screen raw materials for potentially hazardous substances, emphasise design criteria and seek to improve product safety and sustainability across the product value chain, while ensuring that regulatory requirements are fulfilled.

PCG is governed by clear work processes that foster continuous improvement in our products and solutions, keeping us adaptable, competitive and resilient. The processes also cover legal compliance, where we monitor any changes in national and regional statutory chemical-related regulations to ensure that our operations meet and exceed regulatory compliance in the markets where we operate. We continue to work closely with regulators, securing our license to operate and business continuity for our business entities and customers.



INNOVATION & PRODUCT STEWARDSHIP

PROGRESS AND IMPACT

INNOVATION

SUSTAINABLE PRODUCT DEVELOPMENT

- Developed 18 new products for evolving customer demand and market needs, namely:
 - For commodity, HL701: A high renewable carbon index surfactant that accelerates solubility of Sodium Laureth Sulfate (SLES) and Sodium 2-(N-Morpholino) ethanesulfonic acid (MES), reducing production time and costs
 - Isononanol (INA): A key feedstock for high molecular weight plasticisers with good permanency, low volatility and excellent performance
 - Iso-Dodecene: An alkene isomer mixture used as a chemical intermediate
 - Oxo Oil 9N: An additive for adhesives, paints, rubber, paper, leather, textiles, oil production and mining
 - Synmerse™ DC: A per- and polyfluoroalkyl substances (PFAS)-free immersion cooling solution for data centres, enhancing safety and efficiency
 - Pevalen™ Pro 100: A non-phthalate plasticiser based on renewable/recycled content, reducing GHG emissions
 - BRB Siloen® SMA 287: A slip agent for wood coatings, improving slip and mar resistance
 - BRB Siloen® SMA 288: An anti-blocking agent for wood coatings, enhancing gloss and mar resistance
 - BRB Siloen® SR 619: A masonry water repellent offering long-lasting water repellence
 - Petrolad® 750, 133LS, 9430: Additive packages for transmission fluids, gear oils, and engine oils, improving performance and environmental sustainability
 - Viscotech® 6073LR, 6540LR/6640LR, 6012LR: Viscosity modifiers with re-refined base oil, supporting a circular economy
 - BRB 1864: A silicone-rich formula for shine and conditioning
 - BRB 2844: A water-dispersible silicone wax for deep moisturisation
 - BRB SG 250: A silicone elastomer for a velvety, powdery feel and lasting comfort

- Elevated the standards of our solutions through R&T and recognition:
 - Embarked on the establishment of advanced innovation hubs for specialty chemicals in Malaysia, China and Europe, with completion scheduled in 2025
 - Pursued certification in ISCC PLUS Trader at Perstorp Toledo. Recognised as a trader with storage by ISCC PLUS, Perstorp demonstrates its commitment to sustainability and traceability in the trading and storage of sustainable materials
 - PETRONAS Chemicals Fertiliser Kedah (PC Fertiliser Kedah) obtained the Protect & Sustain (P&S) certification for urea, which is now reflected in their packaging. The certification is an industry-driven initiative led by the International Fertilizer Association that allows producers, distributors, traders, and transporters to demonstrate their commitment to achieving commendable levels of safety, security and sustainability
 - PETRONAS Chemicals Glycols (PC Glycols) is the first PCG plant to earn the Bureau of Indian Standards (BIS) certification, a mark of quality, safety and excellence for PCG's glycol products and manufacturing process. The BIS certification is the result of rigorous testing and evaluation of PCG's production methods, ensuring compliance with the highest levels of safety, efficiency, and environmental responsibility
- Carried out comprehensive Life Cycle Assessment (LCA) studies to determine the carbon footprint of our products through the cradle-to-gate method, allowing us to mitigate their GHG emissions for our commodity business
- Observed safer chemical principles throughout the product lifecycle by performing detailed reviews to reduce or eliminate the use of Chemicals of Concern (CoC), to make our products less harmful to human health and the environment for our commodity business

CUSTOMER RELATIONSHIP MANAGEMENT

- Continued ensuring effective Customer Relationship Management (CRM) to offer positive customer experiences, which include:
 - Improved responsiveness to customer requests as well as product and application knowledge to address findings from the previous Customer Satisfaction Survey (CSS) in business and sales support for our commodity business
 - Rolled out the our customer portal for customers to gain visibility on order and delivery status, log feedback instantly, download product regulatory sheets and indicate their interest in other products within PETRONAS Downstream business
 - Conducted regular technical exchanges with associates and customers to enhance their knowledge of our products and maximise customer benefits
 - Provided 288 technical solutions for customers in both Olefins & Derivatives (O&D) and Fertilisers & Methanol (F&M) segments

INNOVATION & PRODUCT STEWARDSHIP

PROGRESS AND IMPACT

PRODUCT STEWARDSHIP

- We continue to uphold our shared responsibility in ensuring that chemical materials are safely handled throughout our value chain

Commodities

- Regularly engaged with stakeholders on product concerns to improve their knowledge on product safety risks and risk management
- Maintained close working relationships with relevant industries, communities, government, special interest groups and chemical industry trade associations
- Updated the CHEMical TRansportation Emergency Center (CHEMTREC) global emergency response number and China's National Registration Centre for Chemicals (NRCC) emergency response telephone service to reflect our latest list of products, enabling relevant support in local languages to continue ensuring wide coverage across core markets
- Actively engaged with national organisations such as the Chemical Industry Council of Malaysia (CICM) and the Malaysian Plastics Manufacturers Association (MPMA) to understand new rules, emerging developments and trends, as well as with international organisations via our local nominee, the National Authority for Chemical Weapons Convention (NACWC), to ensure we comply with the Chemical Weapons Convention International Treaty
- Enhanced adherence to China's new requirements on hazardous labelling and pictograms for our products. Continued using the Globally Harmonised System (GHS) hazard classification to ensure legal compliance across all the countries that adopt this system
- Enabled customers and the public to access product safety information and risk mitigation by publishing our Safety Data Sheets (SDS) at <https://sds.petronas.com.my>

Specialty Chemicals

- Perstorp continued to collect and share information on the safe use of its products across the supply chain, ensuring the information is shared with stakeholders who are potentially exposed to its products
- Perstorp maintained its compliance with the EU Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH) regulation while all its relevant substances are registered at the European Chemical Association (ECHA)
- All products are accompanied with appropriate SDS that provide detailed information about the product and how to use it safely throughout the value chain. Further communication is provided for products with hazard classifications
- Implemented processes to assess and document risks related to customer health and safety throughout its operations, proactively interacting with customers regarding the potential health and safety risks from product use

REGULATORY COMPLIANCE

- Through PCG's Product Stewardship Regulatory Compliance team:
 - Mitigated and managed product risks through close collaboration with businesses, providing solutions, facilitating product registrations, notifications and recommending best trade practices without compromising on data management
 - Ensured adherence to regulatory compliance requirements such as EU REACH, Korea REACH, the Restriction of Hazardous Substances (ROHS) and the California Proposition 65 to ensure PCG operates ethically and responsibly
 - Collaborated with the HSE team to new and existing third party contractors, warehouses and re-packaging sites to ensure complete adherence to PETRONAS Safety Guidelines. The audits serve to identify compliance baselines, gaps and areas of improvement
 - Conducted Dangerous Goods assessments at various PCG operations to ensure all dangerous goods, activities and processes are in compliance with local and international laws
 - Developed a Product Portfolio and Regulatory Compliance Matrix which enables various functions to understand product compliance by country requirements before undertaking commercial decisions

BUSINESS STRATEGY & FINANCIAL RESILIENCE

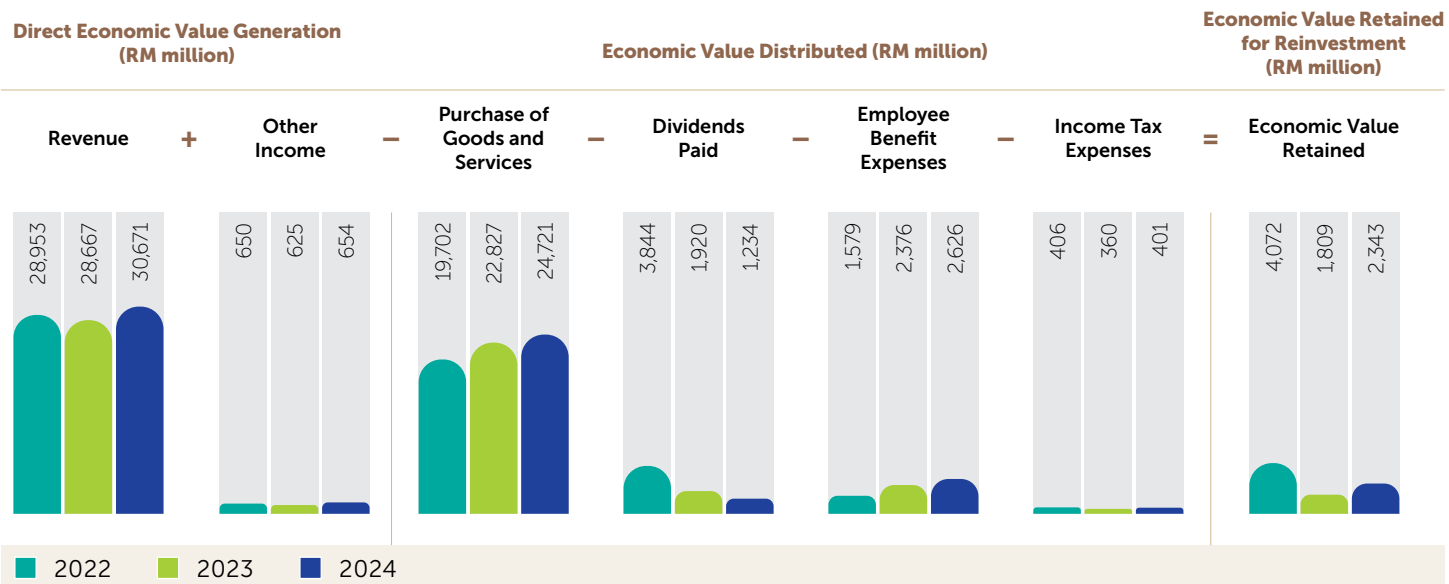


WHY IT MATTERS

A solid business strategy that drives and maintains financial resilience is essential for future-proofing PCG. This strategy reinforces our business fundamentals, enabling us to build for the future while navigating external challenges, such as cyclical economic changes, geopolitical uncertainties, global warming and heightened sustainability requirements. With a robust strategy that shapes our business operations and growth, we can continue providing sustainable solutions and creating value for our stakeholders.

Additionally, aligning with international sustainability reporting standards, such as the International Sustainability Standards Board's (ISSB) inaugural standards, IFRS S1 and S2, enables us to develop data-driven solutions to sustainability challenges. By accurately assessing our environmental footprint and monitoring the progress of our climate change mitigation measures, we ensure the effectiveness of our initiatives. Adopting best practices in enhancing our disclosure transparency also fosters accountability and builds stakeholder trust, positioning the organisation to navigate the evolving global energy and sustainability landscape effectively.

OUR ACHIEVEMENTS



BUSINESS STRATEGY & FINANCIAL RESILIENCE

IMPACT STORY:

Perstorp Acquires OQ Chemicals Nederland B.V., Further Strengthening Specialty Chemicals Portfolio

In December 2024, Perstorp Holding AB, a wholly owned subsidiary of PCG, acquired 100% equity in OQ Chemicals Nederland B.V. from OQ Chemicals GmbH. This allows Perstorp to assume full ownership of the company's production assets, related technology and employees. The acquisition aligns with Perstorp's long-term strategy of strengthening and expanding its presence in high-value markets to deliver sustainable solutions under the Engineered Fluids segment.

The deal will also enable Perstorp to leverage advanced technologies, boost production capacity and enhance its leadership in sustainable chemical solutions, thereby improving operational efficiency and better supporting customers worldwide.

OQ Chemicals Nederland B.V. is now renamed as Perstorp Amsterdam B.V..



OUR APPROACH

Our two-pronged strategy continues to steer us forward through three key strategic thrusts: Operational Excellence, Commercial Excellence and Growth Delivery Excellence. These efforts are bolstered by PCG's comprehensive Sustainability Agenda, which encompasses Environmental, Economic and Social pillars, all grounded in robust Governance practices.

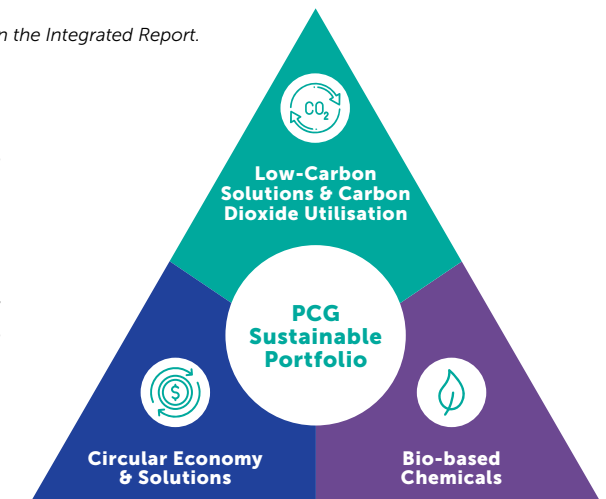
Operational Excellence initiatives are aimed at achieving sustainable world-class plant performance through HSE excellence, plant reliability and efficiency, plant turnaround excellence, optimising our value chain, as well as digital transformations and solutions.

Commercial Excellence initiatives are aimed at enhancing value by adopting a customer-centric approach. This strategy focuses on sustaining and expanding market reach, achieving optimal netbacks and introducing innovative product solutions.

Through Growth Delivery Excellence, we also assess and explore sustainability-related growth that aligns with our enhanced sustainable portfolio, which includes Low-carbon solutions and carbon dioxide utilisation, Circular economy and solutions, as well as Bio-based chemicals.

R For further information on our Growth Delivery Excellence, refer to pages 62 to 65 in the Integrated Report.

To address climate risks and minimise their effects on our business operations and value creation, we are intensifying our climate action efforts to adapt to climate change. This involves a comprehensive strategy that encompasses various elements, including evaluating and reducing our operations' impact on climate change and integrating carbon pricing and abatement plans into our growth initiatives. In 2024, we conducted a thorough assessment and identified gaps to align with IFRS S1 and S2 requirements. By addressing these gaps, we better position our business to navigate the sustainability landscape effectively and ensure compliance with evolving standards.



PCG Sustainable Portfolio

BUSINESS STRATEGY & FINANCIAL RESILIENCE

OUR APPROACH

PCG is committed to sustaining and pursuing innovation and technological advancements and driving the implementation of Net Zero Carbon Emissions (NZCE) initiatives through dedicated Technology & Innovation (T&I) and Sustainability funds, the details of which are as illustrated below.

Objective	Scope	Governance Procedure
T&I Fund Strengthen and sustain PCG's commitment to innovation and technological advancements	<ul style="list-style-type: none"> Support eligible T&I programmes that align with PCG's six innovation verticals: Coating Solutions, Performance Chemicals, Materials, Care Solutions, Agriculture Solutions and Sustainable Solutions Chemicals Restricted to Operating Expenditures (OPEX) for feasibility studies; excludes Capital Expenditures (CAPEX) for project execution 	<ul style="list-style-type: none"> Initiatives require endorsement through an opportunity screening platform Fund administration and utilisation are governed by specific terms of reference
Sustainability Fund Intensify NZCE activities	<ul style="list-style-type: none"> Funds eligible NZCE initiatives aligned with PCG's decarbonisation aspirations Can be utilised for both CAPEX and OPEX related to NZCE initiatives 	

PROGRESS AND IMPACT

ENHANCE OPERATIONAL EFFECTIVENESS

- BRB's plant in Canada partnered with Bullfrog Power on green electricity and natural gas supply, in addition to adopting the Return on Society and Environment (ROSE) Framework to monitor progress towards its sustainability goals. The ROSE Framework is an Environmental, Social and Governance (ESG) management software that assists organisations in complying with the Corporate Sustainability Reporting Directive (CSRD) and disclosure requirements, performing double materiality assessments, undertaking data collection with a built-in audit trail, and defining targets and action plans for establishing sustainability governance
- Achieved net zero Scope 1 and Scope 2 emissions at Perstorp's Waspik site in the Netherlands. This milestone was reached by replacing natural gas with biogas, fully transitioning to 100% renewable energy and implementing additional sustainability measures such as substituting diesel trucks with electric vehicles
- Continued carbon reduction initiatives supported by operational optimisation, such as enhancing energy efficiency, employing flare reduction measures and subscribing to Tenaga Nasional Berhad's Green Electricity Tariff and Sarawak Energy Berhad's Renewable Energy Certificate, resulting in a reduction of greenhouse gas (GHG) emissions of 329,000 tCO₂e at our Malaysian manufacturing assets

SUSTAINABLE GROWTH

CORE BUSINESS/COMMODITY

- Achieved successful commercial operations for the Specialty Ethoxylates and Polyether Polyols plant in Kertih, Malaysia, Pengerang Petrochemical Complex and Nitrile Butadiene Latex plant in Pengerang, Malaysia and 2-Ethylhexanoic Acid plant in Gebeng, Malaysia, growing our product offering to meet market demand
- The Isononanol plant in Pengerang, Malaysia is in its commissioning stage and will gradually ramp up to full commercial operation in 2025. This product will be used in the automotive and building industries
- Progressed with the construction of the Melamine plant in Gurun and Maleic Anhydride (MA_n) plant in Gebeng, Malaysia
- Continued evaluating our advanced chemical recycling project in Pengerang, Malaysia, exploring market pathways to tackle challenges and achieve the most advantageous outcomes

BUSINESS STRATEGY & FINANCIAL RESILIENCE

PROGRESS AND IMPACT

NEW BUSINESS/SPECIALTY CHEMICALS

- Commissioned a state-of-the-art, ISCC PLUS certified plant in Bharuch, India, in February 2024 to produce pentaerythritol and calcium formate
- Assumed full ownership of Perstorp's polyol facility in Zibo, China, in March 2024, ensuring that Perstorp can continue developing the site and make substantial site upgrades to safeguard its competitiveness



Expanding our diversification strategy efforts in specialty chemicals through Perstorp's ownership of polyol facility in Zibo, China.

- Began offering C8-C10 Oxo Alcohols, leveraging synergies from PCG's Isononanol plant in Pengerang, Malaysia, to enrich our portfolio and strengthen our market position
- Launched BRB's Emfinity®, a sustainable, diverse solution for skincare and cosmetics, addressing the demand for eco-friendly personal care products
- Acquired OQ Chemicals Nederland B.V., enabling Perstorp to leverage advanced technologies, increase production capacity, and strengthen its leadership in sustainable chemical solutions. This acquisition improved operational efficiency and provided better support to customers worldwide

FINANCIAL RESILIENCE

- Strategically allocated resources and capital to support identified sustainability initiatives, to achieve PCG's sustainability goals. PCG has allocated 4% of planned annual CAPEX to support sustainability initiatives and is exploring the possibility of investing an additional 34% of annual CAPEX, subject to economic assessment. The funds will be used to scale up decarbonisation efforts, renewable energy use and its low-carbon portfolio from 2025 to 2029. While maintaining a healthy cash balance and low financial leverage, PCG is able to continue pursuing its sustainability strategies and initiatives through either internal or external funding
- Reinforced PCG's internal monitoring and tracking mechanism for investments and expenditures related to ESG initiatives
- Factored internal carbon pricing as an integral element of project Final Investment Decision (FID) strategies to ensure sustainable growth, in anticipation of future carbon tax regulations, considering their impact on short, medium and long-term
- Integrated a carbon abatement plan into project FID packages. This include identifying carbon reduction opportunities through process optimisation and internal electricity generation for our growth projects

CIRCULAR ECONOMY



CIRCULAR ECONOMY

OUR APPROACH

We remain committed to minimising our environmental impact while strengthening business resilience and capturing opportunities arising from the circular economy.

We have further enhanced PCG's Sustainable Portfolio, paving the way towards a circular economy, enabling a low-carbon future, promoting natural resource conservation and enabling alignment with our sustainability agenda. Our sustainable portfolio comprises:

- Low-carbon solutions and carbon dioxide utilisation
- Circular economy and solutions
- Bio-based chemicals

CIRCULAR ECONOMY

We continue to pursue innovative and collaborative solutions via our New Plastic Economy (NPE) agenda, focusing on four workstreams – infrastructure, innovation, education and clean-up. These are executed via strategic partnerships and collaborations with various stakeholders, including waste management concessionaires, recyclers, technology providers and the communities where we operate. Through these initiatives, we strive to improve the recyclability of plastic materials and regenerate end-of-life plastic into valuable materials.

INFRASTRUCTURE

PCG collaborated with waste management companies to unlock the value of Malaysia's plastic waste ecosystem. We partnered with feedstock suppliers and pre-treatment tollers to fast-track the development of innovative waste recovery and segregation technologies. These initiatives not only support capital projects, but also play a crucial role in tackling plastic pollution.

INNOVATION

We have partnered with technology providers to transform low-quality, end-of-life plastic waste into certified circular polymers of virgin resin quality. This initiative aims to enhance efficiency and minimise environmental impact by utilising plastic waste from dedicated feedstock suppliers.

We will continue reviewing our advanced chemical recycling plant in Pengerang, Malaysia, while exploring market opportunities to address challenges, focusing on achieving optimal outcomes.

EDUCATION

We continue to share our Plastic, Sustainability & You Education (PSYE) module with selected schools and local communities near our operational sites. This is usually conducted before launching the PCG Be Green programme, which aims to raise awareness on sustainable lifestyles by imparting knowledge on sustainable plastic usage and responsible waste management. We collaborated with Universiti Teknologi MARA (UiTM) through the Service Learning Malaysia – University for Society (SULAM) Programme, an initiative by the Ministry of Higher Education which promotes engaging and interactive lessons to educate school students on effective plastic and waste management practices. This initiative not only enhances students' understanding of sustainability, but also fosters a sense of responsibility towards the environment.



WHY IT MATTERS

Rising concerns over plastic pollution are driving global momentum towards a circular economy, alongside stricter regulations on plastics and packaging. As an integrated chemical producer, PCG is dedicated to driving the transition from a linear to a circular model, prioritising sustainability at every step.

In Malaysia, the movement to phase out problematic Single-Use Plastics (SUPs) is gaining momentum, reflecting a broader commitment to sustainability. PCG's initiatives in this area are essential for alignment with global and national policies and promoting environmental responsibility. In addition, we are actively exploring other opportunities for lower-carbon solution and carbon dioxide utilisation, as well as bio-based chemicals as an alternative to fossil-based products, guided by our enhanced sustainable portfolio.

OUR ACHIEVEMENTS

Launched Emfinity® CGSA 200B, a **bio-based emollient** designed to support environmentally friendly product development

22,218 kg of ocean bound plastics were successfully intercepted, preventing them from entering the oceans

IMPACT STORY:

CSL Silicones Advances Sustainable Practices

CSL Silicones, a subsidiary of BRB, made significant progress in sustainability in 2024 through strategic partnerships and innovative solutions. One of the achievements is its partnership with Bullfrog Power to transition the electricity and natural gas supply for its silicone manufacturing plant in Guelph, Canada, to renewable sources.

In further advancing sustainable practices, CSL Silicones also achieved a notable milestone in research and development by incorporating recycled silicone oil into certain formulations, as part of its commitment to delivering both quality and performance.

In addition, CSL Silicones is collaborating with a new label supplier to replace wax paper with recyclable Polyethylene Terephthalate (rPET) back lining, enabling the company to reduce its carbon footprint. At BRB's headquarters in the Netherlands, the organisation works closely with a local vendor to clean the Intermediate Bulk Containers (IBC) or drums, so that they can be reused for product packaging.



Fostering a sense of responsibility towards the environment through collaboration with UiTM students in creating awareness of responsible waste management among students.

CIRCULAR ECONOMY

CIRCULAR ECONOMY

OUR APPROACH

CLEAN-UP

Our PCG Be Green programme, which involves clean-up initiatives, aims to educate local communities about the importance of environmental preservation through proper waste and plastic management, fostering responsible waste management behaviour. In 2024, we reached out to more students by doubling the number of schools engaged from 50 in 2023 to 100.

Additionally, PCG organised river and beach clean-up initiatives in Thailand and Indonesia respectively to promote collaborative sustainability efforts between neighbouring countries. We strengthened our outreach by partnering with organisations to collect, transport and process plastic waste responsibly. Through a Strategic Plastic Incentive Programme in collaboration with a marketplace partner, we were able to provide funding to support plastic clean-up efforts for five local community members at the Ambon Plastic Recovery Centre.



Volunteers weighing the plastic waste collected during canal cleaning activity in Thailand.

Besides collaborating with stakeholders across its value chain, PCG also engages with the government and policymakers as a member of the Plastics Sustainability Working Group, which seeks to drive collective action to address Malaysia's plastics waste issue. We will continue to support external actions towards the development of a closed loop system, such as increasing incentives and plastics collection points in Malaysia. In addition, we remain vigilant about changes in plastic-related regulations and the market landscape as we explore opportunities to enhance product recyclability.

LOW-CARBON SOLUTIONS AND CO₂ UTILISATION

In February 2024, we signed a Memorandum of Understanding with Sarawak Petchem to jointly conduct a feasibility study for the development of a low-carbon ammonia and urea plant in Bintulu, Malaysia, to capitalise on opportunities within the global energy transition market.

Perstorp's Project Air, which utilises captured carbon dioxide to produce low-carbon methanol, will enter an analysis phase to verify that the scope is aligned with current business priorities and the solution efficiently supports Perstorp's transition towards chemical products with reduced climate impact.

We continue to explore emerging technologies in relation to carbon dioxide utilisation by conducting pilot tests at commercial plants.

BIO-BASED CHEMICALS

Our first entry into the bio-based personal care space was through BRB's Emfinity® product, which was introduced in April 2024 at the in-cosmetics Global exhibition in Paris. Emfinity® is a sustainable, diverse solution for skincare and cosmetics that addresses the demand for eco-friendly personal care products.

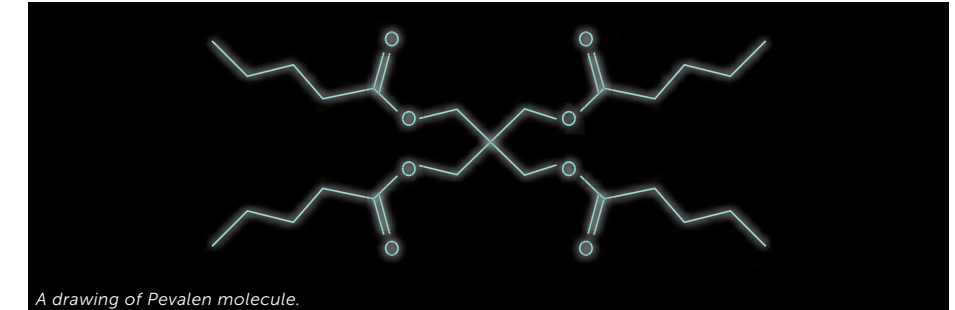
PROGRESS AND IMPACT

ADVANCING PLASTICS CIRCULARITY

- Assessing our advanced chemical recycling project in Pengerang, Malaysia, while seeking market avenues to maximise the project's value and achieve optimal outcomes
- Continued to actively assess other recycling projects to further support our circularity transition and secure sustainable feedstock sources

CIRCULAR SOLUTIONS

- Launched Pevalen™ Pro 100, an ISCC PLUS certified, non-phthalate plasticiser made from 100% renewable carbon, setting a new industry benchmark by delivering a fully renewable, high-performance solution for flexible Polyvinyl Chloride (PVC) without compromising on performance or safety



- Perstorp commissioned its ISCC PLUS certified plant in Bharuch, India, which was officially inaugurated on 20 February 2024. This facility is set to produce 40,000 metric tonnes of pentaerythritol and 26,000 metric tonnes of calcium formate annually. This includes the renewable-based, ISCC PLUS certified Voxtar™, all manufactured using renewable raw materials and hybrid electricity sources
- Introduced Emfinity®, a new brand for personal care ingredients which includes a bio-based emollient
- CSL Silicone's sustainable practices, which include incorporating recycled silicone oil in its formulation and replacing wax paper with rPET back lining for labels

CIRCULAR OPERATIONS

- Initiated internal and external collaborations to improve the recovery of recyclable materials through our internal Reduce, Reuse and Recycle (3R) programme involving PCG Operating Units (OPUs)
- Continued current efforts to reduce plastic waste during manufacturing through participation in the global plastics industry's Operation Clean Sweep initiative

R For more information on our waste reduction initiatives, please refer to Nature & Environment on pages 38 to 41.

SUPPLY CHAIN MANAGEMENT



SUPPLY CHAIN MANAGEMENT

IMPACT STORY:

EcoVadis Achievements

In 2024, PCG was awarded a Silver Medal by EcoVadis, placing it among the top 15% of companies assessed globally. This recognition by EcoVadis reaffirms our continuous commitment towards achieving greater sustainability excellence across Environmental, Economic, Social and Governance (EESG) areas, led by our Sustainability Agenda. Notably, we achieved this milestone on our first attempt undergoing the assessment process. This success expands our EcoVadis Certification roadmap, to help us better understand its assessment requirements, enabling us to achieve higher ratings in the future.

PCG's achievement complements Perstorp's Platinum Medal from EcoVadis, which ranks it among the top 1% of companies assessed for sustainability. Perstorp's achievement is an impressive leap, from Silver to Platinum in only two years. Meanwhile, BRB retained its Silver Medal, demonstrating its ongoing commitment to the sustainability of its supply chain and driving the adoption of EESG practices among its business partners.



WHY IT MATTERS

Implementing sustainable practices in supply chain management drives positive impacts on the economy, environment and communities. It fosters an interconnected ecosystem where suppliers, vendors, investors and customers collaborate to achieve long-term sustainability improvements.

Integrating social value creation while pursuing environmental practices in supply chain management enables PCG to secure reliable feedstock while minimising environmental impacts across its operations. This also reduces exposure to operational, financial and reputational risks, reinforcing PCG's commitment to sustainable value. To this end, we are committed to local vendor capability development and social responsibility standards to prevent human rights violations, strengthening supply network resilience and driving operational efficiency, while enhancing profitability and market competitiveness.

OUR ACHIEVEMENTS

Supply Chain	2022 ¹	2023 ¹	2024
Total number of vendors	1,738	1,967	5,210 ²
Local vendors (%)	80	82	84 ²
Total number of Malaysia-based vendors under PETRONAS Vendor Development Programme (VDP)	12	12	6
Total local procurement spending (%)	70	87	67 ²

¹ Data covers commodity business
² Data covers commodity business and Perstorp

OUR APPROACH

At PCG, we ensure strict compliance throughout our procurement processes, which involve licensing, bidding, contracting and execution. Our procurement processes are mainly guided by the PETRONAS Procurement Standard and established procedures. This includes enforcing the PETRONAS Anti-Bribery and Corruption Policy & Guidelines (ABC Manual) and PETRONAS Code of Conduct and Business Ethics (CoBE) to ensure high standards of integrity and good governance within the supply chain. PETRONAS vendors are also required to adhere to the PETRONAS Human Rights Policy and PETRONAS Contractors' Code of Conduct on Human Rights (CoCHR), which underscores PETRONAS commitment to human rights and responsible practices across the value chain.

R For more information, refer to the Human Rights section on pages 76 to 79.

As part of our due diligence exercise, we have implemented the PETRONAS Third Party Risk Management (TPRM) programme to detect possible red flags from our vendors and provide subsequent mitigation measures, which include the Know Your Counterparty (KYC) self-declaration questionnaire, KYC 6 online screening as well as incorporation of PETRONAS Compliance Clauses, which encompass ethics and anti-bribery, anti-money laundering, competition laws, personal data protection, sanctions and human rights. These clauses serve to mitigate legal, financial and reputational risks to PETRONAS.

Furthermore, we are committed to engaging capable vendors based on their technical capabilities and EESG practices, such as Health, Safety and Environment (HSE) standards, cybersecurity policies and regulatory compliance. Vendors may face consequential actions such as termination, enforcement of performance guarantees, consequence management and claims for losses or damages incurred due to non-compliance with established social and environmental requirements, as stipulated in contractual terms.

We maintain close working relationships with all the stakeholders in our supply chain, including industry and trade associations, to advance sustainability in the industry. Among our efforts include supporting vendor capability development, conducting assessments and engagements, incorporating sustainability criteria in contracts, and adopting the EcoVadis framework.



SUPPLY CHAIN MANAGEMENT

PROGRESS AND IMPACT

CORPORATE LIABILITY

- Conducted TPRM using tools, which include KYC questionnaires and compliance with PETRONAS Compliance Clauses, ensuring that all suppliers, vendors and joint venture partners adhere to PETRONAS integrity standards

HUMAN RIGHTS

- Introduced an enhanced CoCHR to vendors, ensuring alignment with our commitment to human rights across our operations and supply chain
- Ensured the completion of CoCHR Self-Assessment and attestation of full compliance with PETRONAS CoCHR for potential vendors. Further vendors' assessment (desk-based or on-site) are conducted for relevant vendors using standards and methodologies by industry or multistakeholders initiatives
- Existing vendors, including those holding PETRONAS licences and/or registration, are required to undergo continuous monitoring and must comply with CoCHR requirements as part of the Licensing & Registration (L&R) process
- Tackled non-compliance in CoCHR assessments with time-bound action plans to address human rights risks. This approach, aligned with PETRONAS CoCHR, strengthens safeguards in our supply chain and ensures proper governance for high-risk contractors and subcontractors, promoting resolution and access to remedies

R For more information on the CoCHR, refer to Human Rights on pages 76 to 79.



Engagement with land transportation vendors during FELT Leadership Programme.

SUPPLY CHAIN MANAGEMENT

PROGRESS AND IMPACT

SUSTAINABLE SUPPLY CHAIN

- PETRONAS launched the PETRONAS Supplier Support Programme (PSSP), which aims to elevate sustainability adoption within the Oil & Gas Services and Equipment (OGSE) ecosystem. This programme has benefitted PCG, and among the initiatives were:
 - Customised end-to-end sustainability trainings to L&R vendors with varied-levels of sustainability maturity/awareness
 - Launched the digital Centralised Sustainability Intelligence (CSI) platform to support our vendors' sustainability journeys. The platform is customised by Bursa Malaysia for PETRONAS vendors, available in English and Bahasa Malaysia to offer a step-by-step guide on sustainability disclosures, easing them into sustainability data reporting
 - Facilitated access for our vendors to available sustainable financing facilities options under Bank Negara Malaysia (BNM)'s fund for Small and Medium Enterprises (SMEs), including the High Tech and Green Facility (HTG) and Low-Carbon Transition Facility (LCTF)
 - UOB Malaysia has pledged RM1 billion to finance vendors in PSSP to facilitate their decarbonisation and energy transition efforts. Bank Islam has also introduced a sustainability-linked and transition financing programme for PSSP registered vendors - Ihsan Financing for Business Resilience, Sustainability and Green Transition (IFIRST) - to support the implementation of sustainability practices. Other partner financial institutions, such as Alliance Bank, have committed to better financing rates for programme participants
- PETRONAS provided comprehensive training to internal stakeholders and Group Procurement staff on their roles in advancing supplier EESG programmes. This reflects our commitment to equipping key personnel with the knowledge and tools necessary to drive sustainability within our supply chain
- Sought recertification of International Sustainability & Carbon Certification (ISCC) PLUS Trader scope, enabling PCG to trade any sustainable products, including bio-based, circular and renewable feedstocks
- Continued sourcing Roundtable on Sustainable Palm Oil (RSPO) certified palm oil feedstock, supporting the growth of sales for RSPO certified Fatty Alcohol Ethoxylates (FAE) product range certifications
- Launched the Empower Project to coach Term Transporters on the integration of the Road Transport Operation Guideline (RTOG) into their systems and ensuring compliance with Malaysian laws. PETRONAS Chemicals Marketing (Labuan) Ltd. (PCML) plays a role in overseeing and conducting assurance programmes, while service providers developed their respective guidelines and managed their operations independently

SUPPORTING MALAYSIA-BASED VENDORS

- Strengthened local involvement through the PETRONAS VDP, a structured initiative that grooms Malaysia-based vendors to be world-class and highly skilled with technical capabilities
- Facilitated a series of engagements with vendors, in partnership with SME Corporation Malaysia, to boost their ESG capabilities



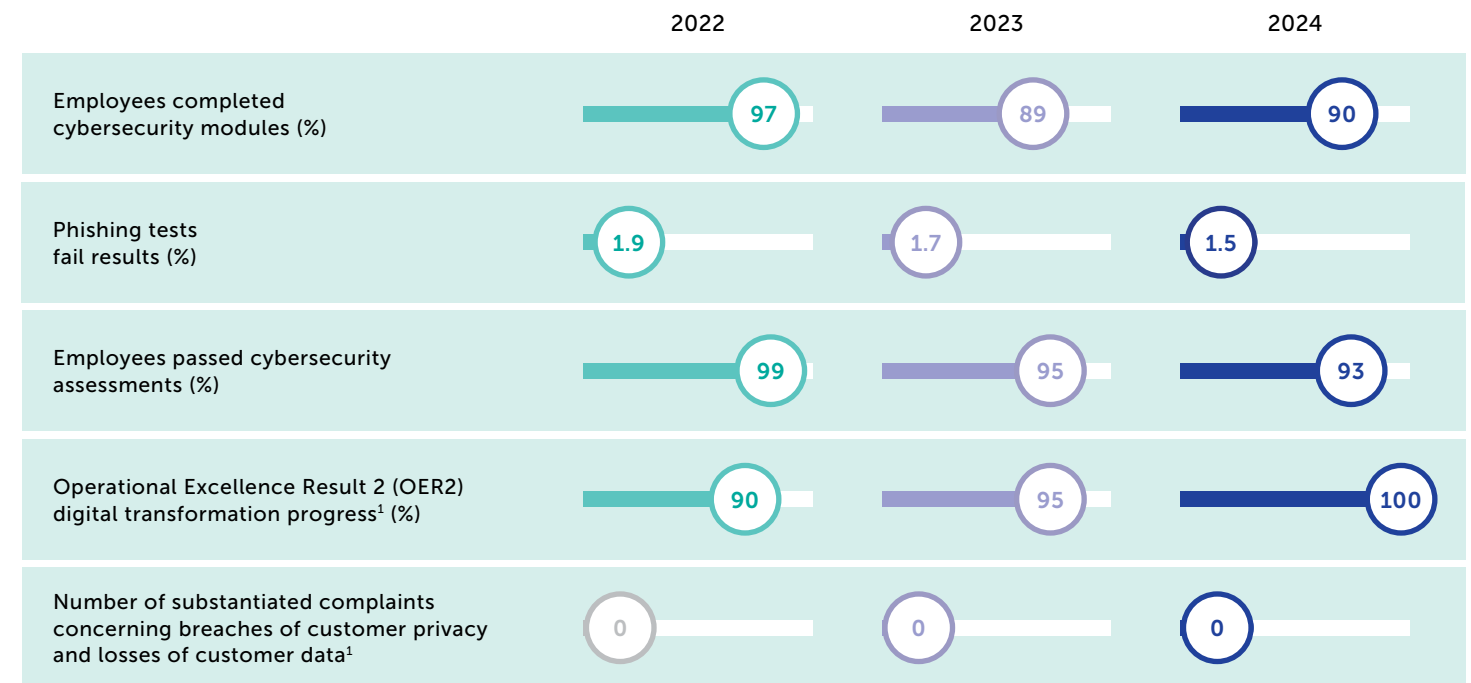
Bringing together land transportation vendors towards self-regulated haulers via collaboration with PETRONAS OPUs for the PETRONAS Global Haulers Forum 2024.

CYBERSECURITY & DIGITALISATION

CYBERSECURITY & DIGITALISATION

OUR ACHIEVEMENTS

CYBERSECURITY AND DIGITALISATION PROGRESS



¹ Data covers commodity business

IMPACT STORY:

Enhancing Digital and Data Capabilities in PCG

PETRONAS introduced Digital and Data Management under the Operational Excellence Management System Element Control Manual (OEMS ECM) Section 13 to support cybersecurity, digital projects, digital products and data governance within PCG and the downstream fraternity. This ensures streamlined cybersecurity resilience across all levels, aligning digital projects with industry standards and delivering realistic value creation. It also strengthens data protection, controls and human firewall behaviour.

We also utilised Microsoft Copilot to enhance AI capabilities and technology adoption within our business environment and employees' daily work. This integration improves predictions, risk and impact analyses, asset life and utilisation, as well as the overall digital experience as part of the digitalisation initiative.

OUR APPROACH

In response to evolving cyber threats and digital transformation needs, PCG is advancing its technological capabilities through strategic adoption of analytics, AI, Internet of Things (IoT) and robotics. This digital framework drives workflow automation, operational efficiency and data-driven decision-making while strengthening cyber resilience across our operations.

To safeguard these digital capabilities, PCG adheres to the PETRONAS Enterprise Cyber Security Governance Framework (ECSGF). Ensuring well-rounded protection across our IT and Operational Technology (OT) domains, the ECSGF is aligned with global standards, including:

- Malaysia's Cyber Security Act 2024
- ISO 27001:2022 Information Security Management Systems
- International Electrotechnical Commission (IEC62443)
- National Institute of Standards and Technology (NIST)

To maintain vigilance against scams and threats, we promote behavioural change through educational initiatives, including a mandatory Cybersecurity Assessment and an e-learning module on social engineering scams and cybersecurity assaults, achieving a 93% pass rate among employees. Employees receive regular updates on their performance and status in cybersecurity training and phishing tests to strengthen their human firewall behaviour, while the management team receives monthly updates.

Furthermore, we strengthened PCG's digital infrastructure to enhance operational resilience through the Downstream Digital Framework. The framework accelerates the implementation of the Downstream OER2 across our manufacturing plants. We have augmented this with the digital Enterprise Optimiser for enhanced data-driven decision-making processes, supported by the PETRONAS Integrated Vision for Operational Excellence Transformation (PIVOT) to optimise value for molecules.

Going forward, PCG remains committed to strengthening our digitalisation and cybersecurity measures through continuous governance, maintenance and enforcement of the initiatives mentioned on the next page.



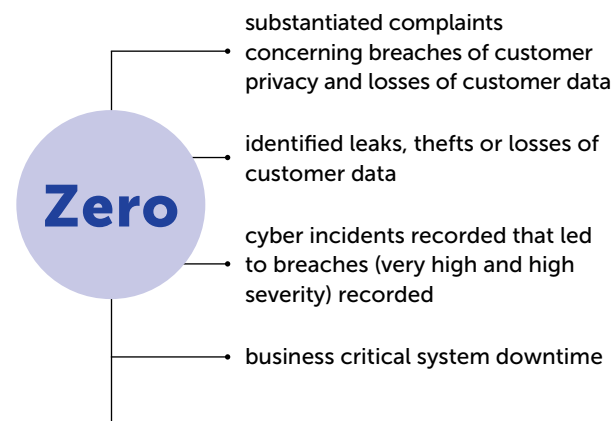
WHY IT MATTERS

At PCG, we are committed to enhancing cybersecurity, Information Technology (IT) infrastructure and digitalisation efforts across our business operations to drive secure innovation and strengthen risk management capabilities, without compromising stakeholder value across our digital ecosystem.

In today's rapidly evolving digital landscape, cyberattacks are becoming increasingly sophisticated through ransomware, Artificial Intelligence (AI) and social engineering, creating significant challenges in security breach prevention. Global cybercrime costs are projected to reach USD13.82 trillion by 2028. The growing complexity of threats targeting operational data, proprietary technologies and supply chain transactions could disrupt operations and undermine stakeholder trust, leading to legal, financial and data privacy repercussions.

We are committed to strengthening our cybersecurity framework by investing in advanced technologies and robust defence systems. This will ensure we can keep expanding our digital capabilities without compromising the safety of data privacy, information and assets. Our enhanced cyber maturity and adherence to the Personal Data Protection Act and General Data Protection Regulation safeguard our position as a trusted chemical solutions provider while protecting our digitally integrated systems from cyberattacks, information leakage and security breaches.

OUR ACHIEVEMENTS



90%
of employees completed 12 cybersecurity modules

93%
of employees passed cybersecurity assessments

CYBERSECURITY & DIGITALISATION

PROGRESS AND IMPACT

CYBERSECURITY INITIATIVES

- Enhanced IT and OT cyber resilience by adopting the PETRONAS ECSGF
 - Conducted periodic Cybersecurity Business Impact Assessment (CSBIA) and Cybersecurity Business Risk Assessment (CSBRA) for all new systems and projects
 - Subscribed to cyber insurance coverage
- Enhanced and sustained cybersecurity performance standards by:
 - Established a company-wide cybersecurity Key Performance Indicator (KPI) performance dashboard and reporting mechanisms for focused cybersecurity training and awareness programmes, which include one-on-one focus sessions, phishing tests and an annual cybersecurity assessment
- Conducted company-wide governance and effective assurance processes
- Conducted a company-wide review of Corporate Risk Profile (CRP) and Corporate Risk Appetite (CRA) frameworks

DIGITALISATION INITIATIVES

- Integrated digital Job Hazard Analysis into the Permit to Work system for enhanced safety protocols
- Deployed biometric facial recognition for secure plant turnaround management
- Established private 5G technology for manufacturing optimisation
- Developed real-time analytics for competitive market pricing
- Introduced Microsoft Copilot for workflow efficiency, achieving 88% positive user impact
- Advanced cloud infrastructure via Microsoft Azure and Amazon Web Services (AWS) platforms, in support of net-zero goals

PETRONAS360 CUSTOMER PORTAL (P360)

P360, our customer self-service portal, delivers enhanced digital engagement capabilities to our customers. Launched in November 2023, this integrated platform enables seamless access to transaction records, account statements and real-time delivery status through our Customer Delivery Excellence system. P360 also provides customers with direct access to spot volume offers, product specifications and regulatory documentation while facilitating efficient communication channels for enquiries and feedback.

In 2024, PETRONAS Chemicals Marketing (Labuan) Ltd. (PCML) rolled out P360 to 232 active customers in phases, meeting its target. The initiative received positive feedback from customers during webinars and physical sessions, with favourable reviews for the platform's features, including self-downloadable documents, easy access to catalogues and direct communication with sales personnel. Actual utilisation and change management efforts are ongoing, with plans to continue in 2025. Value creation will be tracked once P360 achieves full stabilisation and 100% utilisation among all PCML customers.

ASSET PERFORMANCE MANAGEMENT (APM)

Adopted the APM strategy for enhanced equipment reliability and efficiency by monitoring, maintaining and optimising physical assets. APM has enhanced asset reliability and overall performance through:

CONDITION MONITORING

Establishes real-time condition monitoring systems by collecting real-time data for early detection and proactive maintenance capabilities.

MAINTENANCE OPTIMISATION

Optimises asset maintenance strategy between the risk of failure and cost of maintenance to ensure optimum risk exposure.

RELIABILITY ANALYSIS

Offers operational visibility through a comprehensive set of analytical tools to help reduce asset failures, control costs, and increase production availability.

DATA-DRIVEN DECISION-MAKING

Applies data analytics for informed decision-making on maintenance scheduling and performance enhancement.

ROOT CAUSE ANALYSIS

Enables systematic root cause analysis to prevent recurring equipment issues.

SUCCESS STORY

At PETRONAS Chemicals LDPE and PETRONAS Chemicals Ammonia (PC LDPE and PC Ammonia), APM emerges as a transformative force, reshaping asset management practices. Moving beyond traditional methods that relied on experience to determine repair timing, frontline workers can now translate collected data into quantitative risk assessments, enabling data-driven decisions at critical moments. This shift in approach enhances asset reliability, empowers teams and improves process efficiency.

CYBERSECURITY & DIGITALISATION

PROGRESS AND IMPACT

PLANT OPERATIONS INTEGRATED TOOLS (POINT)

Digital Operations Enhancement: Implemented POINT, a comprehensive web-based application for streamlining daily plant operations within the Operate Facility Work Process (OFWP) under our OER2 journey. POINT consists of five modules, which improves work processes and tasks execution:

- eMANNING enables efficient management of personnel through digital shift planning, workgroup scheduling and staff assignments
- eTASK facilitates systematic workflow management through integrated task planning and execution monitoring for routine tasks
- eGTASK facilitates systematic workflow management through integrated task planning and execution monitoring for governance-related tasks
- eLOG provides centralised digital documentation of daily operational activities for enhanced record keeping
- eIDEA drives operational excellence through structured workflow management of improvement initiatives
- Automated search capabilities to improve log accessibility and information retrieval

PLANT FACING ANALYTICS (PFA)

A powerful tool designed to enhance equipment reliability and overall operational efficiency in manufacturing plants. It leverages advanced algorithms and statistical models to forecast potential issues, enabling proactive and timely maintenance interventions through:

CONDITION-BASED MAINTENANCE

Performs maintenance based on the actual condition of the equipment, reducing unnecessary downtime and extending the equipment's lifespan.

EARLY FAULT DETECTION

Analyses historical and real-time data from equipment sensors to detect subtle patterns or anomalies that may indicate early stages of equipment degradation or impending failure.

DATA-DRIVEN DECISION MAKING

Analyses vast amounts of data generated by equipment sensors to make informed decisions that contribute to improved reliability and process optimisation.

REDUCED UNPLANNED DOWNTIME

Predicts and prevents equipment failures to minimise disruptions, increase productivity and improve overall reliability.

SUCCESS STORY

The PIVOT Charged Gas Compressor (CGC) cost-saving initiative has been a significant success in optimising chemical injection to the CGC system at PETRONAS Chemicals Ethylene (PC Ethylene). This initiative leverages previous equipment condition data to provide the optimum level of Wash Oil and Antifoulant injection. By following these recommendations, the team has managed to achieve substantial chemical savings consistently.

SAFETY & HEALTH

SAFETY & HEALTH



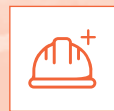
IMPACT STORY:

Zero Lost Time Injury (LTI) During Turnaround (TA) at PETRONAS Chemicals Fertiliser Kedah (PC Fertiliser Kedah) and PETRONAS Chemicals Methanol (PC Methanol)

In 2024, PCG implemented the TA Standardisation initiative at all facilities undergoing TA, with the aim to enhance safety awareness and practices throughout the period.

From the TA planning and preparation phase through to execution, this initiative focuses on reinforcing safety standards by aligning best practices across PCG facilities, ensuring a unified approach, especially in high-risk environments.

As a direct result of these concerted efforts, zero LTI were recorded during the TA period at PC Fertiliser Kedah and PC Methanol. This achievement highlights the effectiveness of the safety-focused approach, underscoring the importance of standardisation in preventing incidents and maintaining a safe working environment.



WHY IT MATTERS

Fostering a strong Safety and Health culture is essential for supporting a safe and healthy workplace environment, which directly contributes to the efficiency and effectiveness of our operations.

Prioritising Health, Safety and Environment (HSE) helps mitigate risks, reduces costs related to workplace incidents and strengthens our market reputation. These elements are integral to ensuring the continued success and growth of the company, with a focus on the well-being of our employees and workers so they can return home safely.

PCG is committed to achieving high standards of HSE performance, striving towards the goals of zero fatalities, zero major Loss of Primary Containment (LOPC) and zero major fires. Our target remains to be in the top quartile for world-class HSE performance.

By ensuring regulatory compliance, we minimise operational impact and promote positive social and environmental outcomes. Through this, we continue to safeguard our people, the environment and the communities in which we operate, while driving business sustainability and long-term success.

OUR ACHIEVEMENTS

54%

of our OPU's are certified with ISO 45001:2018 Occupational Health & Safety Management Systems

Zero

Major Fire
HSE incidents affecting communities

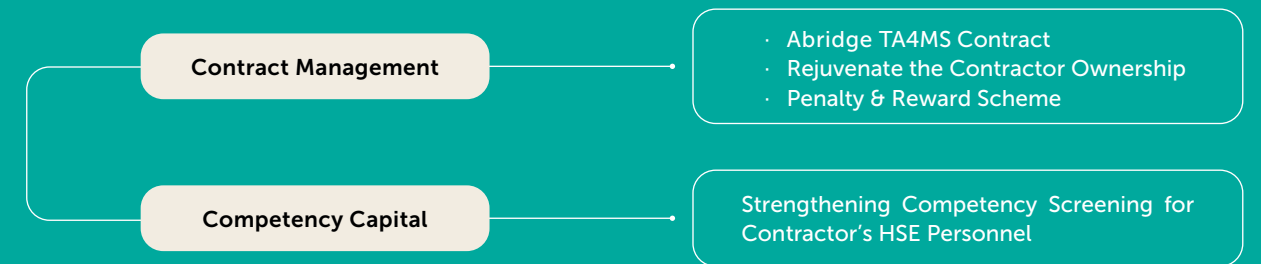
Safety & Health ¹	2022	2023	2024
Fatalities (Number of cases)	0	0	1
Tier- 1 process safety event ²	1	1	2
Lost time injury frequency ³ (Number of LTIs per million man-hours)	0.17	0.09	0.16
Lost time injury (Number of cases)	4	2	4
Total recordable case frequency (Number of TRCs per million man-hours)	0.50	0.24	0.60
Total recordable case (Number of cases)	12	6	15
Total recordable occupational illness frequency (Number of occupational illnesses per million man-hours worked by employees)	0.00	0.00	1.03

¹ Data covers PCG manufacturing sites with operational control (Lost time injury frequency covers all company subsidiaries in Malaysia, BRB International B.V., BRB Lube Oil Additives & Chemicals B.V. and CSL Silicones Inc. while Fatalities covers all company subsidiaries in Malaysia only)

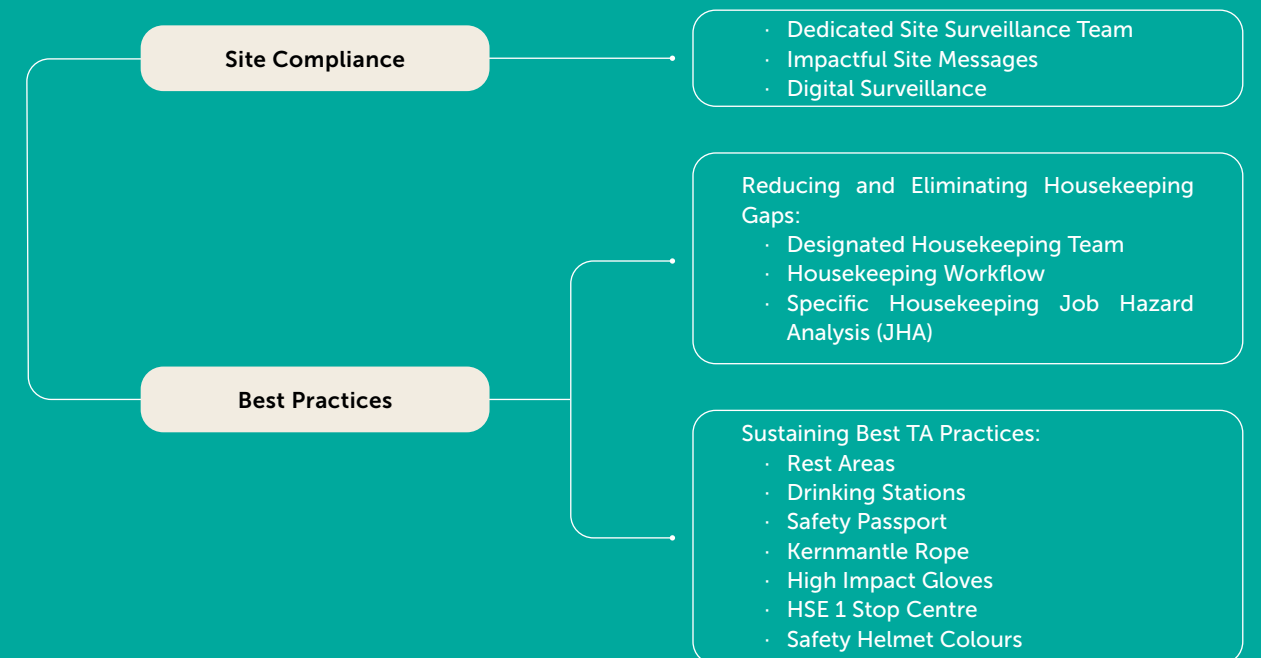
² Definition referred to the 3rd Edition of API RP 754

³ Calculation is based on the rate of 1,000,000 instead of 200,000

1st PHASE - Planning & Preparation



2nd PHASE - Execution



SAFETY & HEALTH

OUR APPROACH

We uphold safety and health excellence as our fundamental value and the driver of our operational success. Through our "Strive for ZERO, ZERO is Possible" vision, we aim to achieve exceptional safety and health performance while embedding a Generative HSE Culture throughout our organisation. The generative culture encourages employees to take ownership of safety and health issues, empowering them to identify and report potential hazards and risks. It is a culture of continuous improvement, where everyone is responsible for promoting and maintaining a safe and healthy work environment.

We comply with all legal requirements in our operational areas, aligned with the PCG HSE Policy. In our international operations, we adhere to local regulatory frameworks, ensuring compliance with all relevant laws and standards of each respective country. In 2024, PCG revised its HSE Policy to align with several important requirements. The policy was updated to include the current MD/CEO as signatory, ensuring compliance with the legal requirements of OSHA 1994, specifically Section 16, which mandates the formulation of a safety and health policy.

Additionally, the revision addressed the requirements of ISO 45001:2018 OHSMS, which calls for a clear statement on the engagement, consultation and involvement of employees and contractors in the safety management system. The update also took into account feedback and identified gaps from benchmarking indices, such as FTSE4Good, Dow Jones Best-in-Class Indices and EcoVadis, ensuring that the policy reflects best practices and aligns with industry standards.

Our operating units (OPUs) are required to identify their compliance obligations and document them in PCG's HSE Legal Register. This register serves as a centralised repository, consolidating all HSE legal requirements applicable to each PCG OPU. The legal requirements included in the register cover various regulations, standards and guidelines relevant to HSE practices.

Within Perstorp, HSE excellence is achieved through four focus areas, namely incident prevention, incident management, process safety and HSE regulatory compliance, as described below.

Incident Prevention

We improved our global standard for standard operating procedures, including quality review for Safe Work Permit. We also strengthened the control and handling on chemical substances and reinforced awareness on risk management.

Incident Management

We ensure efficient incident management by classifying incidents, including 'fitness to work'. We also provide incident investigation global training and train the trainer sessions. Other initiatives include conducting gap analysis and taking appropriate actions to harmonise Perstorp's incident escalation procedure.

Process Safety

We improved our Asset Integrity Management, which included Equipment Criticality Analysis and Equipment Reliability Strategy (ERS), among others. We also developed a Risk Register to improve oversight of HSE risk management. The enhancement of global standard for standard operating procedures also forms part of our process safety.

HSE Regulatory Compliance

We document all self-assessments of site adherence to global minimum requirements on HSE legal monitoring, communication and compliance.

HSE GOVERNANCE

Our Management Committee has oversight of HSE matters, with discussions held at several platforms, including the PCG Board of Directors, Sustainability and Risk Management Committee, Manufacturing Leadership Team and the PCG HSE network.

For our Malaysian operations, we have established a HSE committee at every operational site, comprises an equal number of management and employee representatives, as per regulatory requirements. Our OPUs conducts quarterly HSE Committee Meetings to ensure compliance with the OSHA (Safety and Health Committee) Regulations 1996. During the meetings, management's representatives and employees deliberate on matters related to workplace safety, health, environmental concerns and associated risks. The meetings serve as a forum to ensure appropriate measures are taken to mitigate any potential hazards.

Among the roles and responsibilities of the HSE Committee include:

- ▶ Assisting in the development of safety and health rules and a safe system of work
- ▶ Conducting studies and providing recommendations on trends pertaining to accidents, near-miss incidents, dangerous occurrences and occupational poisoning or occupational diseases, which occur at the place of work
- ▶ Reporting any unsafe or unhealthy conditions or practices at the workplace to the employer and working together to develop recommendations for corrective actions
- ▶ Reviewing workplace safety and health policies, and recommending necessary revisions

HSE MANAGEMENT SYSTEM (HSE MS)

Managing and minimising HSE risks remains PCG's core focus at all sites. To minimise disruptions and improve operational efficiency, we have embedded HSE MS into every aspect of our operations and at every level. This is supported by comprehensive hazard identification and control measures. The HSE MS, which functions as our OSH MS, ensures the implementation of process safety management to effectively mitigate and minimise potential major hazards, particularly those associated with highly hazardous chemicals in our operations. Our HSE MS, which is aligned with ISO 45001:2018, covers all of PCG's operations, products and within our control that can impact employees and workers and the environment. Our HSE MS applies to all of our employees and contractors' workers.

The HSE MS is reviewed and enhanced annually, based on the evaluations of our risk management, management of change, investigations and the Hazard and Effect Management Process (HEMP). These elements are part of PCG's broader Operational Excellence Management System (OEMS) to which integrates key processes for safety, reliability and operational efficiency.

To ensure standardised technical practices across the Group, we align our practices with the PETRONAS Technical Standards (PTS), which govern the implementation of our HSE MS and its integrated requirements.

OUR APPROACH

INCIDENT MANAGEMENT

Following the set of guidelines stipulated in the PTS Incident Management, PCG implements a comprehensive HSE incident management process to prevent future recurrences and to learn valuable lessons from each incident.

FOUR STAGES OF THE HSE INCIDENT MANAGEMENT PROCESS



During the incident investigation and analysis stage, the investigation team is required to investigate and document the causes of the incident according to the PETRONAS Categorisation of Incident Causes (CIC). The PETRONAS CIC in HSE Incident Management System is linked to the relevant Human Behavioural Categorisation as defined by the standardised HSE Accountability and Behaviour Reinforcement (ABR) guideline.

All investigation findings are analysed to identify the immediate causes, pre-conditions and underlying causes of the incident. The investigation also provides recommendations aimed at addressing the root causes of the incident and preventing its recurrence. These include suggestions to reduce the risk to an acceptable level or enhance protective measures. The recommendations are based on Incident Rating Descriptors and include specific time frames for action closure.

In 2024, PCG experienced a tragic incident that resulted in a fatality. The incident, which occurred in August in Labuan, Malaysia, prompted immediate corrective actions, including a company-wide safety stand-down, gap assessments and the reinforcement of critical safety protocols. PCG's response strengthened the safety culture across all facilities, with enhanced training and safety ownership initiatives that aim to prevent future incidents and further embed a proactive approach to safety.

HAZARD IDENTIFICATION

Hazard identification is an integral process of our health and safety culture. Across our operations, we conduct various risk assessments to identify and mitigate hazards at our operational sites. The HEMP serves as an overarching guide in the process of hazard identification, enabling us to identify and evaluate HSE hazards that may arise throughout the lifecycle of a project or facility. By applying HEMP, we strive to reduce risk to As Low as Reasonably Practicable (ALARP).

Health, Safety, Security and Environment Integrated Risk Assessment (HIRA)

A one-stop centre for all risk assessment tools, including Hazard Identification, which is a tool that identifies hazards associated with an activity or facility, to ensure optimisation and standardisation of risk assessments.

Unsafe Act Unsafe Condition (UAUC)

PETRONAS Group HSE's UAUC online system enables workers to intercept and correct both unsafe acts and conditions, while providing predictive analysis to mitigate and prevent potential recurring HSE incidents. The UAUC, available via mobile application, enables real-time reporting and the ability to issue a 'Stop Work' order in case of immediate safety or environmental threats. Employees or contractors reporting UAUC incidents are protected against reprisal under the PTS-Stop Work Authority.

Stop Work Authority (SWA)

A protocol that empowers workers to stop activities if they identify unsafe conditions or behaviour that may cause an unwanted event. The process involves notifying, stopping, investigating, correcting, resuming and following up approach to resolve perceived unsafe work action or conditions. The SWA aims to prevent and eliminate the risk of injuries, occupational illness and poisoning, and damage to properties and/or the environment. It supports our safety culture that encourages employees and contractors to speak up and raise concerns, with additional reporting channels during HSE Committee Meetings, Routine Management walkabouts, mass/daily Toolbox Talks, structured rounds and HSE Empowered Team sessions.

Additionally, we conduct other risk assessments, which include, but not limited to:

- Hazard Identification (HAZID)
- Process Hazard Analysis (PHA)
- Food and Water Safety Assessment
- Hazard and Operability Study (HAZOP)
- Health Risk Assessment (HRA)
- Job Hazard Analysis (JHA)

SAFETY & HEALTH

Health, Safety, Security and Environment Integrated Risk Assessment (HIRA)

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- Job Hazard Analysis (JHA)

HSE EMPLOYEE AND CONTRACTOR PARTICIPATION

PCG fosters active workers' participation in HSE-related matters through various platforms, such as HSE meetings, assurance and incident investigations, and the Occupational Safety and Health (OSH) Programme.

As part of our ongoing engagement with both employees and contractors, they are given the opportunity to provide feedback on OSH matters and engage in the contractors' HSE management programme. This includes cascading expectations from management, addressing HSE issues and seeking feedback for continuous improvement within the organisation. This active involvement ensures all parties work collaboratively towards a safer and more sustainable workplace.

To reinforce contractor HSE management, we focus on accountability by improving contractor compliance. This is done through our annual PCG HSE Partnership Pledge, which started in 2023, reinforcing HSE commitment from our contractors.

SAFETY & HEALTH

SAFETY & HEALTH

OUR APPROACH

PCG HSE STRATEGY

Our HSE strategy has been redefined as Culture, Compliance and Capability. The move from “competency” to “capability” broadens the scope to encompass awareness, knowledge and skill, whereas “competency” is primarily focused on skill. The framework continues to shape our 2024 HSE initiatives, sustaining best-in-class HSE performance across all PCG operations.



SUSTAINING BEST-IN-CLASS HSE PERFORMANCE

CULTURE

Reinforce **Leadership Roles** and instil **Personal Accountability** at all levels in amplifying Generative Culture

COMPLIANCE

Intensify efforts to strengthen **Compliance** against established HSE systems and procedures

CAPABILITY

Intensify human, assets and systems **Capability** in driving HSE excellence

OWNERSHIP

Leaders are role models and everyone has strong ownership of HSE, as we believe HSE creates value and is good for business

COURAGEOUS

We feel safe to intervene when we see unsafe conditions and behaviours, and welcome such intervention from our co-workers

MINDFUL

We are conscious about HSE in what we do because it is the right thing to do, not because somebody is watching

INTERDEPENDENT

We look out for each other because potential risks and errors are always at the top of our minds, and because nobody has all the answers

PROGRESS AND IMPACT

CULTURE

We continue to nurture a health and safety culture at the workplace by driving our Generative HSE Culture through the following programmes to achieve HSE Excellence and prevent incident recurrence:

- Streamlining the FELT Leadership Engagement Programme by Top Leaders
 - Prioritised engagement with frontliners at the OPU, aimed at boosting the motivation of the site leadership team
 - Raised awareness through various platforms, including Leaders Reach Out, FELT Leadership Engagement, Open Mic and Share4Care
- Instilling Generative HSE Culture among contractors
 - Conducted the PCG HSE Partnership Pledge 2024 programme for the second consecutive year, which aimed to:

Build efforts towards HSE Excellence through strong partnerships among PCG, contractors and authorities

Revitalise leadership commitment within PCG and contractor management

Provide a platform for PCG stakeholders to promote a Generative HSE Culture

Foster a psychologically safe environment by offering contractors the opportunity to provide open feedback

- Enhancing the effectiveness of Process Safety Observations (PSOs)
 - The PSOs were utilised by all OPU in the UAUC platform in 2024. The monitoring dashboard was developed to gather inputs from the UAUC platform and to store quarterly analysis of PSOs conducted by the OPU
- Strengthening Compliance with the 8 Golden Rules of Process Safety (8GRPS)
 - Developed three communication materials to address the 8GRPS and Process Safety incidents for PCG, which have been communicated to all the OPU via email and PCG intranet

The three communication materials are:

 - Preventing LOPC and Fire Incidents at PCG
 - PSO
 - Bolted Flange Joint Integrity (BFJI)
- Providing access to non-occupational medical and healthcare services, including:
 - Medical benefits throughout employment, preventive health screening, health awareness, General Practitioner coverage for employees and family members, holistic wellness support from Naluri, Fatigue Remedy & Sleep Hygiene (FReSH) 2.0 (sleep hygiene), MESTI4fitHealth initiatives for physical health and the MIND-A-CARE ambassador programme for mental health

R For more information on employee well-being initiatives, refer to Talent Management & Well-Being on pages 70 to 75.

PROGRESS AND IMPACT

COMPLIANCE

We worked to integrate safety measures more effectively and reinforce HSE compliance throughout our operations:

- Sustaining the implementation of standardised HSE Best Practices across PCG
 - Implemented standardised HSE Best Practices at multiple locations, including PETRONAS Chemicals Fertiliser Kedah (PC Fertiliser Kedah), PETRONAS Chemicals Methanol (PC Methanol) and PETRONAS Chemicals Ethylene and PETRONAS Chemicals Polyethylene (PC Ethylene and PC Polyethylene) during turnarounds
 - Identified the outcomes of implementation effectiveness and areas for improvement through a review workshop
 - Planned measures for tracking and monitoring the overall effectiveness of these initiatives
- Driving continuous improvement in contractors' HSE management for enhanced accountability
 - Monitored contractors' progress in completing the four leading KPIs, ensuring each contractor carried out the following initiatives:
 - Organisation of 'Strive For ZERO, ZERO Is Possible' programme at the partner's site
 - Facilitation of FELT Leadership by Top Leaders
 - Establishment of the Grievance Management System
 - Participation in the bi-annual Contractor HSE Community of Practice (CoP)
 - Established the Contractor HSE CoP Terms of Reference
 - Completed two bi-annual sessions for both Peninsular and Borneo regions
- Advancing operational safety and efficiency via the Enterprise Permit to Work Digital Solution (ePTW+2.0) implementation at all manufacturing sites
 - The benefit of ePTW+2.0 includes improved process compliance with permissive features that enhances site compliance. It has achieved a 40% time-saving and improved document retention at sites compared to the manual permit-to-work process
 - In 2024, the ePTW+2.0 system was implemented across multiple operational areas
 - Non-process areas – Five OPU went live
 - Process areas – Three OPU went live
- Strengthening regulatory compliance and other requirements through effective First Line Assurance (FLA) implementation
 - Engaged and upskilled the HSE Performance and Assurance fraternity to develop robust analyses and deliver recommendations addressing common critical findings at appropriate management platforms
 - Communicated with PCG OPU' focal for the adoption of the Operational Legal Areas Functional Checklist (FC) in conducting the Evaluation of Compliance (EOC) via myASSURANCE, a one-stop centre for all assurance activities in PETRONAS
 - Conducted the OSHA 2022 Gap Assessment by PCG OPU to ensure full compliance with regulatory requirements
 - Conducted compliance audit for relevant PTS

- Performed Hazard Risk Assessment across PCG OPU to identify hazards and mitigate risks. Among other risk assessments conducted are Noise Risk Assessment, Chemical Health Risk Assessment, and Ergonomic Risk Assessment

- Identified and managed specific concerns to the organisation, covering food and water safety, substance misuse, fitness to work, fatigue management and medical emergency response. These are all covered by specific internal guidance/requirements as outlined in the PTS

CAPABILITY

We continued to strengthen our HSE capability by implementing mandatory programmes for employees, vendors and drivers:

- Carried out PETRONAS Group HSE Training Matrix, ensuring that HSE competency training is conducted for each target group by position across PCG's operations, covering HSE Driven Function and Regulatory Driven Function, in compliance with requirements by regulators and PETRONAS
- Required all employees to complete the HSE e-learning modules on myLearningX, PETRONAS e-learning portal, to ensure they are updated with the latest HSE knowledge and competency
- Implemented Competency Assurance, ensuring that employees are equipped with the required levels of skills and knowledge to perform their roles adequately and safely
- Continually carried out assurance processes on competency and analysis including close monitoring through performance indicators and audit activities

HEALTH

We focused on integrating health measures more effectively and reinforcing health compliance across our operations:

- Collaborated with approved medical examiners and other external providers or stakeholders familiar with PETRONAS requirements
- Monitored performance via the Monthly MARS report, which includes data on occupational illness, fatigue management non-compliance and medical surveillance
- Provided regular engagements and notifications regarding health-related activities by various PCG departments
- Provided a dedicated Occupational Health Doctor (OHD) and Principal Industrial Hygiene to offer support and expertise on occupational health services

TALENT MANAGEMENT & WELL-BEING



TALENT MANAGEMENT & WELL-BEING

OUR ACHIEVEMENTS

Capability Development ¹	2022	2023	2024
Average amount spent per Full Time Equivalent (FTE) on training and development (RM thousand)	5.6	9.7	9.2
Total investment in employee training and development (RM million)	24.4	43.4	41.5
Average training per employee (man-days)	10.2	11.1	34.2

¹ Data covers commodity business

IMPACT STORY:

Empowering Future Talent: PETRONAS Chemicals MTBE's (PC MTBE) Commitment To Workforce Development

At PCG, we recognise that investing in future talent is essential for sustaining a skilled workforce and supporting Malaysia's energy industry. As part of this commitment, PC MTBE actively nurtures young talent through the Technical Energy Enrichment Programme (TEP) — a structured initiative designed to equip students with industry-relevant technical skills.

On 31 July 2024, PC MTBE's management reaffirmed this dedication by attending the TEP closing ceremony at Institut Teknologi Petroleum PETRONAS (INSTEP) Batu Rakit, celebrating the graduation of 16 Operations TEP students sponsored by PC MTBE. Beyond marking this important milestone PC MTBE also engaged with 30 TEP students specialising in Operations, Mechanical, Instrument and Electrical trades. This interactive session aimed to motivate and inspire them as they prepare for their careers in the energy sector.

To bring real-world perspectives, we invited two INSTEP alumni, now serving as a Technical Executive and a Technical Trade Specialist at PC MTBE, to share their career journeys. Their success stories illustrated the career pathways available within PETRONAS, demonstrating how TEP graduates can grow and contribute to the industry.

Through initiatives like TEP, PCG continues to develop a pipeline of skilled technical professionals, strengthening workforce sustainability and industry resilience.



WHY IT MATTERS

PCG remains dedicated to creating an inclusive environment where employees' voices at all levels are heard, valued and respected.

We recognise the profound influence of a positive workplace culture and supportive employee well-being on work performance. Our focus on efficient talent management and organisational agility drives our competitiveness in the chemicals industry and strengthens our position within local workforces.

We continued to advance our employee well-being initiatives, recognising their pivotal role in retaining talent, boosting morale and cultivating a supportive and inclusive workplace. By valuing diversity and encouraging open communication, teamwork and innovation, we strive to empower individuals across all roles.

At the same time, we prioritise employee learning and development programmes as part of our organisation's capability building efforts. Through structured development programmes, we aim to elevate employee performance by building a highly skilled and productive workforce. This strategy will not only strengthen our competitive edge, but also drives growth, improves operational productivity throughout our operations and position our company for long-term success.

OUR ACHIEVEMENTS

Recognised as the **Champion** in the Chemical Category for 5 Consecutive Years (2020-2024) at the Talentbank Graduates' Choice Award (GCA)

Transitioned **23%** of total employees to new portfolios and roles

Sponsored **16** graduates via TEP in collaboration with INSTEP

Allocated **RM41.5 million** for employee training and development

Identified and approved **42** critical positions for succession planning

Recruited **519** new hires across PCG

Completed **100%** of performance reviews

Recorded **34** average training man-days per employee

Number of Employees	2022	2023	2024
Total number of employees	6,288	6,465	6,728

Employee Turnover ¹	2022	2023	2024
Employee turnover rate (%)	3.0	1.3	1.7

¹ Data covers commodity business

OUR APPROACH

Our people are the driving force behind our growth at PCG. Developing a robust talent pipeline is one of our top priorities to meet business needs and strengthen succession planning, ensuring seamless business continuity. This focus is especially critical given the ongoing growth within our specialty chemicals portfolio. Our sustainable talent strategies are designed to secure a steady supply of skilled professionals while fostering a resilient, engaged and high-performing workforce.

We are dedicated to shaping a workforce equipped to navigate today's fast-paced macroenvironment, guided by the PETRONAS Employee Value Proposition: Trust, Grow and Reward, the PETRONAS Learning and Development Framework and the PETRONAS Diversity and Inclusion (D&I) Statement.

We focus on cultivating a cohesive workplace culture that values and celebrates diverse talents. To promote inclusivity, we uphold a zero-tolerance policy towards discrimination of any form, whether based on age, ethnicity, gender, nationality, religion or culture.

We have progressively introduced measures to support our workforce, encompassing flexible work arrangements, comprehensive leave policies and a broad spectrum of employee benefits. These efforts underscore our dedication to cultivating a supportive and inclusive workplace that addresses the diverse needs of our people.

TALENT MANAGEMENT & WELL-BEING

OUR APPROACH

We take a holistic approach to employee well-being by providing a wide range of support systems that safeguard both of our people's physical and mental health. We encourage our employees to access mental health resources as needed, helping to mitigate the risks associated with developing mental health concerns.

We aim to unlock the full potential of our employees through targeted training programmes, personalised development plans and innovative learning platforms. Our comprehensive approach includes physical and virtual training, digital self-learning tools, coaching and mentoring opportunities and hands-on job experience to equip our employees with the agility and competencies they need to succeed.

DIVERSITY AND INCLUSION

At PCG, we are deeply committed to fostering a workplace where we value diversity and inclusion. In 2024, we continued to advance our efforts by adopting the PETRONAS D&I Statement, which guides our approach with four key focus areas: Gender, Multinational, Age and Culture. These focus areas are tracked with measurable targets to ensure our initiatives create meaningful and sustainable impact.

To embed D&I into every facet of our organisation and strengthen our D&I culture, we are guided by four foundational building blocks of change:

- 1 Role-Modelling**
Leadership involvement is pivotal in driving impactful diversity and inclusion initiatives. At PCG, we are promoting leadership commitment to set the tone from the top and inspire organisational-wide alignment in embracing D&I.
- 2 Fostering Understanding and Conviction**
We strive to inspire every employee to recognise the importance and value of diversity and inclusion. This involves nurturing an organisational mindset that respects varied perspectives and backgrounds.
- 3 Developing Talent and Skills**
Building the competencies of our workforce is essential for embedding D&I into the core of how we work. We equip employees with the knowledge, skills and mindset required to actively foster inclusion.
- 4 Reinforcing with Formal Mechanisms**
To ensure sustainability in our D&I efforts, we are strengthening formal structures and processes that support and drive impactful initiatives.

By embedding these building blocks and focus areas, we aim to create an environment where everyone feels valued, respected and empowered to contribute. At PCG, leaders champion diverse perspectives, ensuring a workplace that reflects the principles of equity and belonging.

Through these efforts, PCG not only aligns with PETRONAS broader goals, but also sets a robust foundation for cultivating a workforce that is equipped to meet the evolving challenges of our industry while fostering a culture of inclusion.

Focus Area	Long-Term Aspiration	2023 (%)	2024 (%)	Target 2026 (%)
Gender	Women in senior leadership • Providing opportunities for women representatives in senior leadership positions to ensure diversity of perspectives and ideas in decision making	31	24	30
Multinational	Representation of diverse nationalities in senior leadership • Building and having qualified local nationals to fill the majority of the decision-making positions in every country we operate in and having readily available local talent to take up leadership roles globally	18	13	20
Age	Enable space for idea generation from young talents • Creates an innovation-led organisation where young talents feel empowered, involved, connected and inspired to contribute new ideas and constantly explore new ways of doing things	21	21	30
Culture	Differences in perspectives are respected and valued • Creates an environment where people feel safe and confident to speak up and put different views across to foster creativity and innovation	3rd Quartile PETRONAS Organisational Culture Survey (POCS) Results (D&I Module)	3rd Quartile POCS Results (D&I Module)	4th Quartile POCS Results (D&I Module)

TALENT MANAGEMENT & WELL-BEING

OUR APPROACH

BRB D&I Activities

- **Advancing Inclusion through GROW Initiatives**
Two key initiatives were launched under the GROW (Young Potential Team Programme) to foster a culture of inclusion:
 - **Awareness Campaigns:** Promoting understanding and the importance of inclusion across the organisation
 - **Leadership Pilot Programme:** Introducing targeted interventions to empower leaders in championing and enhancing inclusivity
- **Fostering Psychological Safety:** Developed and implemented a Grievance Policy to support a psychologically safe environment where employees feel heard and supported
- **Driving Community Engagement**
 - **Volunteer Leave Policy:** Introducing a new policy, effective 2025, allowing employees to dedicate one workday annually to volunteer projects, contributing to meaningful community initiatives
 - **Refugee Hiring Programme:** Creating opportunities for refugees to join the workforce, supporting their integration and fostering diversity

Perstorp D&I Initiatives

- **Empowering Future Leaders**
 - Launched the Global Young Talent Programme in 2024, aimed at nurturing and developing the next generation of diverse leaders across the organisation
- **Fostering Inclusive Learning**
 - Rolled out a new digital learning programme, "Introduction to Sustainability at Perstorp" for all employees
 - To ensure accessibility and inclusivity, the programme was translated into nine languages in 2024 using Artificial Intelligence (AI) technology. This approach broadened reach while enabling cost-effective and rapid implementation



Employees participating in well-being activities during World Mental Health Day.

PROGRESS AND IMPACT

EMPLOYEE WELL-BEING

To support the well-being of our employees, we offer the following benefits:

FLEXIBLE WORKING SOLUTIONS

- Continued implementation of flexible working arrangements to promote work-life balance, including Flexible Working Hours (FWH), Compressed Work Week (CWW), connectivity assistance and flexible attire

SPECIAL LEAVES

- Allocated special leaves to support employees' needs, including maternity and paternity leave, Leave Without Pay (LWP) and compassionate leave

WORKPLACE SUPPORT FACILITIES

- Ensured employees have access to facilities to enhance their well-being and productivity, such as the PETRONITA Crèche (childcare centre), nursing rooms and recreational areas

FINANCIAL SUPPORT FOR EMPLOYEES WITH SPECIAL NEEDS CHILDREN

- Offered financial assistance to employees with special needs children for treatment expenses
- 190 employees benefitted from this assistance

EMPLOYEE RECOGNITION

- Held events to celebrate and recognise employees' achievements:
 - PCG Long Service Award (LSA): An annual event honouring employees and retirees for their dedicated service. In 2024, we awarded 365 employees and retirees for their long-standing contributions
 - Festive Celebrations: A series of events celebrating the diverse cultures of our employees, including Hari Raya, Chinese New Year, Christmas and the Gawai Dayak festival

TRANSITION ASSISTANCE PROGRAMMES

- Supported affected employees through the Career Transition Option (CTO), a compensation package aimed at assisting with re-employment, early retirement or entrepreneurship
 - Career Transition Services: Offers practical support from an appointed external consultant to help employees make career decisions aligned with their values and background, while ensuring strict confidentiality throughout the process. Three employees benefitted in 2024

EMPLOYEES INVOLVEMENT

- We actively encourage employees to pursue common interests and foster a sense of community through various clubs and associations, including Kelab Sukan dan Rekreasi PETRONAS (KSRP), PETRONITA, Badan Kebajikan Islam PETRONAS (BAKIP), and Koperasi Kakitangan PETRONAS Berhad
- Similarly, Perstorp has established Perstorp AB Idrottsförening (Perstorp AB IF) in Sweden, an officially registered sports club that provides employees with structured avenues for sports and recreation
- These platforms provide diverse opportunities for engagement, well-being and professional networking, reinforcing a collaborative and inclusive workplace culture

R Read more on our employees benefits and well-being programmes on <https://www.petronas.com/sites/pcg/files/2022-06/3.5-PUBLIC-Employee-Health-and-Well-Being-Program.pdf>.

TALENT MANAGEMENT & WELL-BEING

PROGRESS AND IMPACT

EMPLOYEE WELLNESS

We promote employee wellness through the programmes outlined below:

PCG EMPLOYEE WELLNESS PROGRAMME

A five-year Employee Wellness Roadmap focusing on social, physical and mental health to protect the overall health and well-being of our employees through the ongoing initiatives below:

Social Health

D&I Awareness Programme.

Mental Health

"MIND-A-CARE" awareness through programmes like MIND-A-CARE C.A.R.E for Managers and Leaders Reach Out, targeting both employees and leaders.

Physical Health

MOVE Right initiatives, which include the ongoing PCG Walking Challenge and Preventive Health Screening.

Preventive Health Screening

A medical screening entitlement for employees aged 30 years and above, encouraging proactive health management among employees.

Employee Assistance Programme (EAP)

Consultation and digital coaching via the myFriend platform to support employees in managing issues that may affect their health, work performance and well-being.

EMPLOYEE ENGAGEMENT

Our engagement with employees takes place across multiple channels:

PCG TOWNHALL

- Held on an annual basis and led by PCG MD/CEO
- Keeps employees informed about business updates, reviews of the previous year's performance and future directions
- Serves as a platform for employees to engage with management through a Q&A session
- In 2024, 1,041 employees participated both in person and virtually, with survey respondents rating the event experience at 90% satisfaction rating

OPEN MIC SESSIONS

- To foster the sharing of insights on building a learning culture between internal and external leaders through a knowledge-sharing platform
- Five sessions were held, focusing on diverse topics, including business insights, health and career development, life experiences, work-life balance and HSE safety culture

PETRONAS INTRANET (myPETRONAS)

A channel accessible via browser, intended to drive communication, foster engagement, as well as enable quicker and easier access to news, updates and content within the organisation.

HR & YOU

A platform for employees to connect with personnel from agencies related to remuneration, services and benefits.

LEARN IT AND LIVE IT (LiLi)

- A sustainability lifestyle campaign by PCG to promote environmental conservation through activities such as waste management, digital tools adoption and documentation housekeeping
- Aims to educate and inspire employees to embrace sustainable practices at work and at home, broadening participation and sharing best practices
- The campaign supports the PETRONAS Net Zero Carbon Emissions by 2050 Pathway by educating employees and fostering their commitment to environmental conservation
- A total of five sessions were held in 2024

DIVERSITY AND INCLUSION

We collaborated with the PETRONAS Leadership Centre in developing tailored D&I programmes to cultivate a caring culture among our employees through the following initiatives:

CONVERSATION AND ENGAGEMENT

- Conducted via leadership sharing, forums, and open mic sessions
- In 2024, PCG strengthened its D&I culture through targeted programmes and initiatives designed to engage employees at all levels. Our leaders' sharing sessions, forums and open mic sessions covered key topics such as Human Rights Management for HR practitioners, Conscious Inclusion and Human Rights Training for managers and above, as well as Enterprise Compliance - Human Rights Management in PETRONAS along with The Foundation of Diversity, Inclusion and Belonging for all employees. These sessions provided valuable insights and fostered open discussions to embed inclusive practices across our operations. They enhanced employee awareness of human rights and D&I principles and strengthened leadership accountability in promoting inclusivity. These initiatives reflect PCG's unwavering commitment to creating a diverse, equitable and resilient workforce as part of its broader sustainability agenda

COMMUNICATION AND PROMOTION

Showcased a consistent flow of information relating to a healthy and dynamic work culture through intranet postings and email blasts.

TRAINING AND UPSKILLING

Equipped a targeted group of leaders with skills and tools to create an inclusive environment within teams and the supply chain.

TALENT MANAGEMENT & WELL-BEING

PROGRESS AND IMPACT

EMPLOYEE DEVELOPMENT

We provide a range of development programmes for our people, as shown below:

NATION BUILDING DEVELOPMENT

PETRONAS Internship Opportunity Programme

- A platform designed to offer internship opportunities to undergraduates that satisfy PETRONAS' internship criteria
- Offers first-hand experience in the oil and gas environment and provides learning opportunities before entering the workforce
- **No. of participants: 345**

Graduate Employability Enhancement Scheme (GEES)

- An initiative that supports the Professional Training and Education for Growing Entrepreneurs (PROTÉGÉ)-Ready To Work
- Aims to enhance the employability of new graduates through a one-year experiential training programme, enabling them to obtain long-term employment or set up their own businesses
- **No. of participants: 148**

TECHNICAL DEVELOPMENT AND TRAINING

Technical Energy Enrichment Programme (TEP)

- A collaborative effort with INSTEP to provide a 10-month pre-employment programme, comprising Competency Based Assessment (CBA) modules based on PETRONAS standards
- Supports the growth requirements and succession planning for technicians and operators

PETRONAS Competency-Based Assessment System (PECAS)

- An assessment process to measure the competency of technicians' and operators' knowledge, skills and attitude against the required PETRONAS standards
- Conducted through e-PECAS, a computerised platform that ensures objective and consistent evaluation
- To support a future-proofed workforce, the current PECAS will be further enhanced into PECAS+, strengthening the value, skills and competencies of technicians and operators

Superior Managed Assessment (SMA)

- A structured competency conversation for talents, managed and conducted by their respective superiors in developing a competent workforce
- Empowers superiors to manage their talents' competency levels by reviewing, tracking and analysing their development via an 'Anywhere, Anytime, Anyway' approach

Institut Teknologi Petroleum PETRONAS (INSTEP)

- Focuses on technical and operational training, offering specialised programmes to enhance the technical capabilities of PETRONAS employees
- Plays a vital role in ensuring employees are equipped with the essential skills to perform their roles effectively
- During 2024, 15 sessions on "Sustainability Explained: PETRONAS Pathway to NZCE 2050" were held

LEADERSHIP AND MANAGERIAL DEVELOPMENT

PETRONAS Leadership Centre (PLC)

- Offers a variety of programmes through its Leadership Academy, designed to develop leadership skills at all levels
- Among the programmes are Transformational Leadership, High-Impact Leadership and Dynamic Leadership
- **No. of participants: 34**

OTHER PROGRAMMES

Employee Performance Management (EPM)

- Evaluates and differentiates overall employee performance based on performance and demonstration of PETRONAS Cultural Belief (PCB) behaviours
- Takes place between employees and their managers via performance conversations, where regular feedback is provided throughout the cycle based on agreed-upon goals

Sustainability Fulfilment Programmes

- In alignment with the PCG Sustainability Agenda, employees are encouraged to participate in short sustainability programmes, professional certification courses at internationally recognised institutions, as well as sustainability forums and workshops
- Examples of certifications and programmes include:
 - University of Cambridge Business Sustainability Management
 - MIT Management Business Sustainability Strategy: Technology & Management
 - IMD Winning Sustainability Strategies
 - Yale Corporate Sustainability Management: Risk, Profit and Purpose
 - Sustainable Project Management
 - Bursa Malaysia - Introduction to Sustainability

myLearningX

- An online learning platform that supports various learning activities, including classroom training, virtual learning and self-directed learning, while also offering e-learning modules for internal capability development and sustainability awareness at all levels
- Introduced "Downstream Sustainability 101" as a sustainability-focused training assigned by HR Downstream to all Downstream HR practitioners in 2024

HUMAN RIGHTS

HUMAN RIGHTS



IMPACT STORY:

Fostering Well-Being Through the PETRONAS Chemicals Ethylene and PETRONAS Chemicals Polyethylene (PC Ethylene and PC Polyethylene) Humanising Turnaround (TA) 2024 Programme

The PC Ethylene and PC Polyethylene Humanising TA 2024 programme was implemented to enhance the workforce's physical, mental and spiritual well-being. This initiative demonstrated good management practices by fostering a conducive and psychologically safe workplace, enabling employees and contractors to perform at their best during the TA period.

A key feature of the programme was the Grievance Mechanism Gateway QR, which provided the workforce with easy access to a grievance platform. This facilitated timely issues resolution, transparency and improved overall well-being among the workforce.

PC Ethylene and PC Polyethylene also organised wellness and appreciation programmes for both employees and contractors, fostering a positive work environment and promoting well-being across the workforce.

OUR APPROACH

Guided by the PETRONAS Human Rights Policy, we are committed to respecting internationally recognised human rights standards and complying with all applicable laws in the countries where we operate. This commitment is guided by the United Nations Guiding Principles on Business and Human Rights (UNGP BHR) and the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises on Responsible Business Conduct.

Our dedication to upholding human rights is further emphasised in the PETRONAS Code of Conduct and Business Ethics (CoBE), which applies to all employees and third parties performing work or services on PETRONAS' premises. The CoBE, available in multiple languages, is communicated to all employees and accessible on the PETRONAS intranet platform. PCG has conducted CoBE refresher sessions as part of the PCG Centralised Industrial Relations Training, which include elements that addresses bullying and harassment, and are applicable to all employees.

Similarly, the PETRONAS Contractors Code of Conduct on Human Rights (CoCHR) requires contractors and suppliers to adhere to internationally recognised human rights standards, ensuring compliance with CoBE and other relevant legal obligations.

The principles outlined in the CoCHR, which all contractors and suppliers are required to adhere to, include:

Forced labour, by not engaging or employing people, under any circumstances, against their own free will or engaging in bonded labour/debt slavery.

Non-discrimination, by not engaging in any form of unlawful discrimination based on race, ethnicity, colour, age, gender, gender identity or expression, sexual orientation, political beliefs, citizenship, national origin, religion, disability and parental status.

Child labour, by not employing children below the legal minimum working age requirement of any country.

Freedom of association, by respecting the legal rights of employees, workers and contract personnel to become members of a labour union or otherwise.

Humane treatment, by respecting the rights of employees, workers and contract personnel, and ensuring no harsh and inhumane treatment, including any form of mental or physical coercion, or verbal abuse of employees, workers and contract personnel.

Labour rights, by upholding the rights and welfare of their employees, workers and contract personnel (both local and foreign) through compliance with all applicable laws and agreements related to compensation and working conditions. This includes adherence to minimum wage, overtime pay, legally mandated benefits and the maximum number of working hours. Contractors must also respect local laws or collective agreements that govern overtime work and holiday work, ensuring that their operations do not exploit employees, workers and contract personnel, and provide them with fair compensation for their labour.



WHY IT MATTERS

At PCG, human rights are fundamental to how we operate and engage with others. Upholding dignity, fairness, respect and equality for every individual regardless of gender, religion or race is essential.

By respecting human rights, we build trust with our employees, consumers, suppliers and communities, strengthening our foundation for success and ensuring our continued licence to operate. This commitment to human rights drives sustainable growth, enhances our reputation and fosters positive relationships with all stakeholders.

OUR ACHIEVEMENTS

Zero

discrimination cases reported during the year under review

Resolved

100%

grievances received in 2024

Held

Seven

engagement sessions with our unions to address and discuss union matters

100%

of PCG security personnel received training on human rights policy and procedures

Adoption of the

PETRONAS Human Rights Policy

Union Members ¹	2022	2023	2024
Percentage of union members out of total support staff (%)	89	85	99.7
Percentage of total employees covered by collective bargaining agreements (%)	48	55	54

Human Rights Complaints ¹	2022	2023	2024
Number of substantiated complaints concerning human rights violations	-	0	2

¹ Data covers commodity business



HUMAN RIGHTS

HUMAN RIGHTS

OUR APPROACH

We conduct due diligence to minimise and mitigate social risks by assessing four main elements:

Labour and Working Conditions

We believe in the right of workers and employees to raise concerns without fear of discrimination, harassment or retaliation. Our established grievance mechanisms allow both internal and external stakeholders to raise complaints and seek fair and transparent resolutions.

Employees are encouraged to voice grievances through their trade union representatives, line managers or human resource representatives. In addition, we require our suppliers to implement their own grievance mechanisms to ensure that their employees have a similar avenue for raising concerns. All grievances will be thoroughly investigated, and where necessary, appropriate and timely remedies will be provided. This approach ensures that all parties can address concerns in a constructive and fair manner.

Additionally, we support the participation of our non-executive employees in trade unions to safeguard their economic and social rights. This collective bargaining process is facilitated by the PETRONAS Group Industrial Relations department working alongside unions and management. In Malaysia, we provide employees and their representatives with a notice period prior to implementing any significant operational changes that may substantially affect them.

Responsible Security

Should any changes be made to the terms of this agreement, we will jointly submit the updated terms to the Industrial Court for its cognisance within one month from the date of the agreement. Our collective agreement outlines the provisions for consultation and negotiation regarding notice periods and operational changes.

For our international operations, BRB in the Netherlands, the works council (ondernemingsraad) serves as employee representation in Dutch enterprises. It meets, both independently and with the employer, to discuss various enterprise matters.

The works council has extensive rights to information and consultation on strategic decisions such as business transfers, takeovers and divestment, major changes in operations, investments, and new technology. Employers must seek the council's advice and obtain consent on various human resource (HR) decisions, including pension schemes, working hours, pay systems, and training.

Beyond our operations, we are committed to fostering a culture of care, inclusion and safety for the local communities and stakeholders in the areas where we operate. During the year under review, no cases of discrimination were reported.

Community Well-Being

Supply Chain Management

PROGRESS AND IMPACT

During 2024, we have implemented various initiatives to continue promoting human rights in the following areas across our operations:

ADOPTING THE HUMAN RIGHTS POLICY

- Adopted the more detailed and comprehensive PETRONAS Human Rights Policy, with the aim to further strengthen our human rights management. An evolution of the previous PETRONAS Human Rights Commitment, this policy serves as an aspirational framework that guides our efforts to manage human rights risks

- The policy is based on five key principles:

- Respect and acknowledgement of internationally recognised human rights
- Adoption of a risk-based approach to human rights due diligence
- Access to effective grievance mechanisms and remedies
- Appropriate governance for human rights policy and its processes group-wide
- Commitment to maintaining disclosure and reporting group-wide

- We endeavour to align our practices with the principles outlined by the policy and aim to meet full compliance progressively

IMPLEMENTING HUMAN RIGHTS DUE DILIGENCE

- Conducted Social Risk Assessment (SRA), an internal tool used to assess actual and potential social risks arising from our business activities
- It involves several steps such as desktop assessment, risk analysis, developing mitigation strategies, and monitoring and reporting. We assessed four main elements, namely labour and working conditions, responsible security, community well-being and supply chain management
- The findings of the SRAs conducted in all our commodity business manufacturing sites reflected the need for us to continue enhancing our human rights risks management in our supply chain

PROVIDING A GRIEVANCE MECHANISM

- We have also established a mechanism to address grievances by internal and external stakeholders, enabling them to raise complaints freely and obtain effective and transparent resolutions
- Workers and employees have the right to raise complaints freely without fear of retaliation, discrimination, harassment or abuse. Additionally, employees can raise grievances through their trade union representatives, line managers and/or their human resource representatives
- Contractors are required to establish their own grievance mechanisms for their workforce, as stated in the PETRONAS CoCHR
- All grievances will be recorded and investigated. Timely and fair remedies are provided if necessary

PROGRESS AND IMPACT

- Awareness sessions were conducted for stakeholders (i.e. employees, the community contractors) to ensure that they are aware of all three grievance mechanisms available:

▶ Whistleblowing

Covers misconduct and criminal offences. Available to all stakeholders

▶ HSE Grievance mechanism

Covers Health, Safety and Environment (HSE) and social impacts related to our operational activities. Available to all stakeholders, such as employees, contractors and local communities where we operate

▶ HR Grievance mechanism

Covers on employment-related matters. Available to unions and all employees

In 2024, we received a total of 20 grievance cases. Nine cases were related to Employee Performance Management, while the rest involved labour and working conditions, supply chain, and community well-being. All of these cases have been investigated and resolved accordingly.

CONDUCTING HUMAN RIGHTS TRAINING

- Conducted various training related to human rights for employees:

▶ Completion of Human Rights Management e-learning module
99.7%

▶ Human Rights training for HR practitioners
21.7%

▶ Human Rights training for Managers
74.8%

IMPROVING LABOUR AND WORKING CONDITIONS

- Continued the implementation of the HSE Management System (HSE MS) to further ensure the safety and well-being of employees and contractors

R For more details, please refer to Safety & Health on pages 64 to 69.

UPHOLDING FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING

- Held seven engagement sessions between our unions, Kesatuan Kakitangan Petroliaam Nasional Berhad (KAPENAS) and Kesatuan Pekerja-Pekerja OPTIMAL Chemicals (M) Sdn. Bhd. (KEPKO) and the Management to address various matters related to the rights of union members, including:

- Collective agreement provisions and their implementation, and
- Terms and conditions for non-executives not covered by collective agreement

- 99.7% (2,421) of our total non-executive employees (2,429) were covered by collective bargaining agreements

- The Collective Agreement 2025–2027 negotiations concluded on 31 October 2024, with key revisions and agreements aimed at enhancing employee welfare and aligning with the company's business goals

- The negotiation process involved PETRONAS Group HR, including the Industrial Relations Human Capital Expertise (IR HCE), the Remuneration team, a select members of the Legal team, Union Presidents and Executive Committees, as well as selected HR Heads and OPU Leaders

FOSTERING DIVERSITY AND INCLUSION (D&I)

- Conducted three series of Leaders Sharing and Messaging

- Hosted nine activities, including workshops and trainings in fostering an inclusive culture

R For more details, please refer to Talent Management & Well-Being on pages 70 to 75.

STRENGTHENING HUMAN RIGHTS AWARENESS IN SECURITY

- The PETRONAS Auxiliary Police are responsible for managing security personnel at our OPUs in Malaysia

- Conducted training sessions on Human Rights and Responsible Security, which covered internationally recognised human rights standards, relevant Malaysian laws and the PETRONAS Human Rights Policy. Facilitated by PETRONAS Group Security, the training featured real-life examples to explain responsible security and the importance of maintaining good reputation relating to human rights for business sustainability

- Upskilled 100% of PETRONAS Auxiliary Police with human rights training

ADVANCING HUMAN RIGHTS IN THE SUPPLY CHAIN

- Ensured the integration of the PETRONAS CoCHR requirements into contract documents, with compliance gauged through self-assessment questionnaires and audits

- The CoCHR was enhanced by PETRONAS Group Procurement in 2024 to include the following new requirements for contractors:

1 Signing attestation confirming compliance with CoCHR

2 Identifying, mitigating and addressing human rights risks in our suppliers' operations

3 Systematically closing actual or potential adverse human rights impact through corrective action plans

4 Providing access to remedy and cooperating in the resolution process

5 Taking reasonable steps to embed safeguards for human rights in supply chain processes

R For more details, please refer to Supply Chain Management on pages 56 to 59.

COMMUNITY ENGAGEMENT

COMMUNITY ENGAGEMENT



IMPACT STORY:

PCG Be Green Outreach Programme

In 2024, we collaborated with Universiti Teknologi MARA (UiTM) to carry out the PCG Be Green Outreach Programme. The collaboration, which was through the Ministry of Higher Education's Service Learning Malaysia – University for Society (SULAM) initiative, integrated academic learning with community service to facilitate knowledge transfer through meaningful interactions and innovative learning experiences.

The programme, which adopted a STEM-based approach and outdoor teaching methods, involved practical activities and exploration. It highlighted the significance of environmental stewardship and sustainability practices, in line with the shared commitment of UiTM and PCG to promote effective plastic and waste management among school children. Held from 26 November to 31 December 2024, the collaboration with seven UiTM branch campuses nationwide successfully engaged and benefitted more than 18,000 primary and secondary school students from 33 selected schools.

Bharuch Mangrove Conservation and Rehabilitation

In Bharuch, India, mangrove replanting activities envisaged a plantation of 225,000 plants, covering 90 hectare of area at 2,500 plants per hectare density. This project created a "Green Wall" on the Ambheta Village Coast area. Furthermore, the programme provided job opportunities to 35 families from the local community, who were employed to execute the entire project.



WHY IT MATTERS

We remain dedicated to creating long-term value for the local communities where we operate through PCG's Community Engagement and Social Impact programmes.

Addressing diverse community needs forms the cornerstone of our efforts towards social development and sustainable community support. This involves building trust and confidence among investors, customers, employees and the wider public through meaningful initiatives.

By aligning our community engagement efforts with stakeholder expectations, we enhance the effectiveness of our programmes and meet the needs of communities. Implementing initiatives with long-lasting positive impacts allows us to enhance the well-being of communities and empower them to thrive, affirming our role to building relationships and trust with the local communities.

OUR ACHIEVEMENTS

Contributed over

RM5.1 million

benefitting

228,877 community members

Over

189.5 tonnes of recyclable waste collected from our PCG Be Green programme

3,111 hours dedicated by PCG employees to various Social Impact programmes

250,242 mangrove trees planted, inclusive of the contribution from Bharuch, India, since the project's inception in 2022

OUR APPROACH

We aim to positively impact the local communities where we operate, guided by the PETRONAS Social Impact Management Framework. Under this framework, our social impact programmes focus on three key pillars – Environment, Education, and Community Well-Being and Development – to ensure our initiatives create meaningful impacts and remain aligned with PCG's broader sustainability goals.

Additionally, the PETRONAS Reputation Management Framework provides the processes for effectively managing stakeholder relationships, involving stakeholder mapping, engagement planning and third-party risk management that ensures all interactions with external stakeholders are conducted responsibly and aligned with corporate policies and human rights commitments.

We take a hands-on approach to our social impact programmes, actively engaging in initiatives that create tangible change through employee volunteerism and collaborations with NGOs and local government agencies. During the year under review, we received one grievance case related to a health concern from PETRONAS Chemicals Fertiliser Kedah (PC Fertiliser Kedah), which was resolved through a stakeholder engagement session. For further details on our approach to grievance management, please refer to the Human Rights section at page 76.

We will continue to maintain positive reputation while encouraging stakeholder advocacy in supporting PCG's business agenda. Our strategy includes continuous stakeholder engagement sessions and effective communication through platforms such as websites, printed materials, digital media and activation programmes. This will involve clear communication, strong relationships, restoring trust when needed and safeguarding our reputation during challenging times.

We will also maintain our focus on impactful social impact activations by promoting sustainable livelihoods and conserving the environment, in alignment with the PETRONAS and PCG Sustainability Agenda. We aim to drive initiatives that enhance capabilities, skills, self-sufficiency and overall livelihoods, to create lasting, positive change.

PROGRESS AND IMPACT

PCG BE GREEN

Our annual flagship programme, PCG Be Green, aligns with the New Plastics Economy's (NPE) vision of fostering a sustainable circular economy that focuses on repurposing plastic materials, preventing them from becoming waste.

This includes a variety of activities such as recyclable waste collection competitions, and beach and canal clean-ups that engages a wide range of participants, including students, local communities, government organisations and universities.

Community Engagement	2022	2023	2024
Total amount invested (RM million)	-	>2.7 ¹	>5.1 ¹
Total number of beneficiaries	75,442	171,715 ²	228,877

¹ Inclusive of the ecocare restoration costs, which amounted to RM6.1 million over both years

² Calculation methodology for the number of community reach that benefitted from our programmes has been revised in 2023 per alignment with Yayasan PETRONAS

COMMUNITY ENGAGEMENT

PROGRESS AND IMPACT

PCG BE GREEN ACTIVITIES

MALAYSIA

PCG Be Green waste management competitions were held across several states, including Kuala Lumpur, Putrajaya, Selangor, Negeri Sembilan, Labuan, Pahang, Kedah, Terengganu, Sarawak and Sabah. These efforts were carried out in collaboration with the Ministry of Education, local authorities and waste collection partners. Throughout the programme, we engaged 111,364 participants with 116,428 kgs of recyclable waste collected. The competition was further enhanced to include upskilling elements, focusing on turning waste into creative and innovative products.



INDONESIA

In partnership with a marketplace partner, we participated in the Strategic Plastic Incentive Programme that is in line with PCG's NPE agenda and Indonesia's Policy Development Roadmap for waste reduction (2020–2029). This initiative included a programme that provides funding to support plastic clean-up efforts for five local community members at the Ambon Plastic Recovery Centre, along with beach clean-ups and mangrove plantations at Desa Muara Teluk Naga. Through this programme, more than 20,000 kgs of waste was diverted from entering the oceans.

THAILAND

Our partnership with local NGO, TerraCycle Thai Foundation in cleaning a section of the Lat Phrao Canal continued from 2023 to 2024. During the year under review, approximately 2,218 kgs of ocean-bound plastics were removed from the canal through various cleaning sessions, with active participation from PCG employees. Additionally, about 84 students from Wat Ladphrao School and Wat Nimmanoradee School participated in an upcycling competition by turning recyclable wastes into usable products.



SAFE HANDLING OF CHEMICALS FOR SCHOOL (SHOC4School)

We continued the SHOC4School programme, which focuses on promoting chemical safety awareness, educating students on basic first aid and vital laboratory safety procedures within our area of operations.

COMMUNITY ENGAGEMENT

PROGRESS AND IMPACT

CARING FOR TREE/MANGROVE CONSERVATION AND BIODIVERSITY

We remain committed to rehabilitating and preserving natural ecosystems to ensure biodiversity and environmental sustainability. Our restoration efforts post COVID-19 have focused on upgrading the degraded facilities at the ecocare Environmental Education Centre (EEC), enhancing safety and accessibility for both visitors and researchers.

In October 2024, the centre was fully reopened to the public, providing a space for individuals to explore, learn and cultivate a deeper appreciation for mangroves and their vital role in environmental restoration. Moreover, ecocare has undergone a brand refresh, unveiling a modern and refined look that reflects our commitment to sustainable excellence.

Bharuch, India

We have begun planting 2,000 trees over a one-hectare area in the neighbouring village of Kothiya, located 1 km from the Sayakha project, as part of our corporate environment responsibility.

Terengganu, Malaysia

We planted 2,000 mangroves to strengthen coastal protection and ecosystems in Taman Negeri Setiu Wetlands. In addition, we collaborated with the Majlis Pengurusan Taman Negeri Terengganu to organise the Setiu Wetlands Young Rangers Programme, involving 140 students from four schools in Kertih, Malaysia.

COMMUNITY UPLIFTING PROGRAMMES

In the year under review, PCG introduced a new community upskilling programme, as part of its Social Impact initiative. The programme seeks to provide communities with essential resources and opportunities for skill development and personal growth, enabling individuals to maximise their potential and improve their quality of life.

As part of the initiative, PETRONAS Chemicals MTBE (PC MTBE) partnered with local NGO, Persatuan Wanita Inspirasi Kuantan (WINK), to empower underprivileged women through an 'Entrepreneurship Support' programme for WINK's registered entrepreneurs. This collaboration included a one-time financial contribution for the purchase of printing equipment (heat-press machine) for the community centre.

To further the cause, PC Fertiliser Kedah collaborated with Lebai Saman Community Centre and contributed a chanting board, chanting press, cooking stoves and plastic chairs to the community centre. PC Fertiliser Kedah also sponsored a Public Address system to further enhance the centre's ability to host events, support community activities and create a better environment for learning, worship and social engagement.

SPECIALTY CHEMICALS SOCIAL IMPACT ACTIVATIONS

PERSTORP TECHNICAL HIGH SCHOOL

During the year under review, Perstorp continued to support the Perstorp Technical High School in Sweden. Established in 1996, the high school focuses on science and technology, with 90 students in technical disciplines, including industrial technology, electrical and energy fields.

Approximately 30% of the high school graduates have joined Perstorp's internship programme and workforce. The school is also part of Teknikcollege, a collaborative initiative within the Swedish industrial sector aimed at enhancing industrial competence.

LOCAL SCIENCE CENTRE

The science centre in Stenungsund, Sweden, remains an ongoing collaboration between Perstorp, other chemical companies and the local community, hosting more than 60,000 visitors in 2024. The centre is dedicated to nurturing an interest in chemistry among children and students.

FIRE BRIGADE VOLUNTEERING PROGRAMME

Perstorp actively supports local emergency services. In Bruchhausen, Germany, we empowered eight employees to volunteer with the fire brigade, which supports Technisches Hilfswerk, Germany's agency for technical relief. As part of this initiative, they educate children in local kindergartens about fire prevention.



Read more on community engagement initiatives.

CORPORATE GOVERNANCE

CORPORATE GOVERNANCE



OUR ACHIEVEMENTS

PETRONAS CoBE training through myLearningX

301 participants

Managing Industrial Relations at workplace

187 participants

Industrial Relations for Leaders Programme (IR4Leaders)

183 participants

Communication and training on anti-corruption ¹	2022	2023	2024
Board of Directors informed on anti-corruption policies and procedures (%)	100	100	100
Employees informed on anti-corruption policies and procedures (%)			
Management	100	100	100
Non-management	100	100	100
Board of Directors trained on anti-corruption (%)	100	100	100
Employees trained on anti-corruption (%)			
Management	100	99	100
Non-management	99	95	100

Governance incidents and risk assessment ¹	2022	2023	2024
Operations assessed for risks related to corruption (%)	-	100	100
Total number and nature of confirmed incidents of corruption	-	0	0
Total number of confirmed incidents in which employees were dismissed or disciplined for corruption	-	0	0
Total number of confirmed incidents when contracts with business partners were terminated or not renewed due to violations related to corruption	-	0	0
Number of legal actions pending or completed during the reporting period regarding anti-competitive behaviour and violations of anti-trust and monopoly legislation in which PCG has been identified as a participant	0	0	0
Total monetary value of financial and in-kind political contributions made directly and indirectly by PCG	0	0	0

¹ Data covers commodity business

OUR APPROACH

PCG complies with Bursa Malaysia's Main Market Listing Requirements (MMLR) and the Malaysian Code of Corporate Governance on sustainability disclosure requirements. We are guided by the PETRONAS Integrity Compliance Framework and Code of Conduct and Business Ethics (CoBE), alongside jurisdictional guidelines across our operations.

Beyond regulatory compliance, our commitment to upholding strong corporate governance is reinforced by systematic risk management, comprehensive internal controls and outcome-driven leadership. This is demonstrated through comprehensive policies and guidelines, including the Board Charter, Board Committees' Terms of Reference, Whistleblowing Policy and PETRONAS Anti-Bribery & Corruption Policy and Guidelines (ABC Manual).

The Board is committed to high standards of corporate governance and strives to ensure that it is practised across the Group. It is a fundamental part of their responsibilities to protect and enhance shareholders' value and elevate the performance of the Group. The Board delegates its risk management, integrity and sustainability functions to the BSRC, which has oversight of sustainability-related matters in PCG.



WHY IT MATTERS

Strong corporate governance drives organisational resilience by safeguarding stakeholder interests and long-term business sustainability.

At PCG, we achieve this via structured implementation of integrity measures, compliance standards, transparent disclosures and accountability frameworks.

Market pressures and economic competition have elevated corporate governance as a fundamental strategic driver for sustainable business growth. To this end, PCG is committed to upholding good governance practices that strengthen stakeholder trust and risk management capabilities while delivering measurable business value to our stakeholders. Furthermore, such standards ensure timely, transparent disclosures across operations, prioritising long-term value creation and building enduring stakeholder relationships that benefit PCG and our partners.



IMPACT STORY:

ABMS Certification

PCG's Corporate Office attained the MS ISO 37001:2016 International Anti-Bribery Management System (ABMS) Standard certification from SIRIM in February 2024, elevating the implementation of Adequate Procedures in the T.R.U.S.T. principles. The same ABMS certification was also obtained by PETRONAS Chemicals Marketing (Labuan) Ltd. (PCML) in December 2024. The certification reflects PCG's stringent implementation, maintenance and continuous improvement of its anti-bribery compliance programme.

PCML ISO 37001:2016 ABMS certification journey:

- Conducted the internal assessor training and certification for 27 employees in August 2024
- Completed the ABMS internal assessment in October 2024
- The SIRIM stage 1 and stage 2 audits were completed in November 2024 with zero Non-Conformity Report (NCR) and seven Opportunity for Improvement (OFI)

CORPORATE GOVERNANCE

OUR APPROACH

We maintain a zero-tolerance approach towards bribery and corruption in all our operations. We adopt the Prime Minister's Office's Guidelines on Adequate Procedures, which are based on the following five T.R.U.S.T. principles to address PCG's exposure to corporate liability under Section 17A of the Malaysian Anti-Corruption Commission Act (2009):



We ensure effective communications of the ABC Manual to our stakeholders via various platforms and channels. Our Board of Directors is made aware of the anti-corruption measures through email communications, the corporate website and mandatory Enterprise Compliance Modules, which cover Critical Legal Areas and Cybersecurity. Email blasts, the intranet and the corporate website are also used to communicate the ABC Manual, e-learning module on integrity and critical legal areas of the anti-corruption measures to our employees. Additionally, we raise employees' awareness by conducting quarterly Integrity Programme engagement sessions that reinforce anti-corruption standards and compliance requirements. Our suppliers and vendors are required to comply with the ABC Manual, which is embedded in the PETRONAS Procurement Standard and established procedures.

PROGRESS AND IMPACT

CORPORATE GOVERNANCE FRAMEWORK

The BSRC TOR was reviewed and approved by the Board in November 2024 to enhance governance in risk management, sustainability and the inclusion of the integrity oversight function to be carried out by BSRC. The details of the key updates can be found in the BSRC Report on pages 118 to 120 in the Integrated Report.

In 2024, PCG adopted the PETRONAS Integrity Management System (PIMS), a significant step towards in standardising integrity practices across the organisation. PIMS was approved by PCG MD/CEO on 23 October 2024 and PIMS is structured in accordance with ISO. This system provides comprehensive guidance to PCG, enabling the prevention, detection and response to incidents of corruption while ensuring compliance with anti-corruption laws. Additionally, a dedicated Integrity Focal Person (IFP) has been appointed to drive and implement Integrity Management programmes as per the requirements of PIMS and ABMS:

PIMS was approved for adoption by PCG MD/CEO on 23 October 2024

PIMS is structured in accordance with ISO 37001:2016 ABMS to standardise integrity practices across PETRONAS and PCG

PIMS provides guidance to PCG to prevent, detect and respond to incidents of corruption and comply with anti-corruption laws

CAPABILITY AND COMPETENCY

The Board acknowledges the importance of continuous professional development. Consequently, they have actively participated in conferences, training programmes, and seminars to stay abreast of industry developments, regulatory changes, and statutory requirements related to corporate governance. In this regard, the Company Secretaries have organised the following in-house development programmes:

- Refresher on Related Party Transactions and Critical Legal Area Training
- Strategic Management and Leadership in a VUCA World & Revisiting Corporate Governance Overview and Discussion

R For more information on the Board of Directors' training and capability development, please refer to the Corporate Governance Report 2024 at <https://www.petronas.com/pcg/media/reports>

CORPORATE GOVERNANCE

PROGRESS AND IMPACT

COMMITMENT TO INTEGRITY

- Secured the continuous commitment of the PCG Board of Directors and Boards of PCG's Operating Units (OPUs) to integrity by having them with their signing of the "Corruption Free Pledge"
- Ensured PCG's employees submit their mandatory asset declarations
- Conducted quarterly reviews of misconduct cases through BSRC
- Performed Integrity Management Reviews through BSRC
- Performed on-going annual corruption risk assessment, which will be extended to Perstorp and BRB from 2025 onwards

INTEGRITY CAMPAIGN AND UPSKILLING

Various initiatives were held to instil a culture of integrity and deepen employees' knowledge about integrity-related laws and practices across the operations. This included a knowledge-sharing initiative which enabled employees to share learning experiences and lessons learned, and improve their understanding of the PETRONAS Integrity Compliance Framework and CoBE. The initiative also enabled employees to better contribute to a culture of compliance and integrity at the workplace, ensuring a work environment that is free from all forms of conflict of integrity. Other integrity-related initiatives in 2024 included:

- Developed and rolled out the PCG Integrity Management training module via myLearningX. This module will serve as the primary group-wide reference for integrity management training
- Developed and rolled out the PCG critical legal area module via myLearningX



The Board of Directors on a productive working visit to PETRONAS Chemicals Isononanol, gaining valuable insights into its operations.

INDEPENDENT LIMITED ASSURANCE REPORT

THE BOARD OF DIRECTORS OF PETRONAS CHEMICALS GROUP BERHAD
REGISTRATION NO: 199801003704 (459830-K)
(INCORPORATED IN MALAYSIA)

Independent Practitioners' Limited Assurance Report on PETRONAS Chemicals Group Berhad's (the "Company") Selected Sustainability Indicators for the financial year ended 31 December 2024 presented in its Sustainability Report 2024

Conclusion

We have performed a limited assurance engagement on whether the Company's selected sustainability indicators for the financial year ended 31 December 2024 listed below ("Selected Sustainability Indicators") have been prepared in accordance with the Company's definition and calculation methodologies as set out in the Company's Sustainability Report 2024 ("Applicable Criteria"):

No.	Selected Sustainability Indicators	Boundary
1	Total Scope 1 Greenhouse Gas ("GHG") Emissions (million tonne CO ₂ e)	The Company's manufacturing subsidiaries in Malaysia (namely PETRONAS Chemicals Ammonia Sdn. Bhd., PETRONAS Chemicals Aromatics Sdn. Bhd., PETRONAS Chemicals Derivatives Sdn. Bhd., PETRONAS Chemicals Fertiliser Kedah Sdn. Bhd., PETRONAS Chemicals Glycols Sdn. Bhd., PETRONAS Chemicals LDPE Sdn. Bhd., PETRONAS Chemicals Methanol Sdn. Bhd., PETRONAS Chemicals MTBE Sdn. Bhd., PETRONAS Chemicals Olefins Sdn. Bhd., PETRONAS Chemicals Polyethylene Sdn. Bhd., PETRONAS Chemicals Ethylene Sdn. Bhd., PETRONAS Chemicals Fertiliser Sabah Sdn. Bhd. and ASEAN Bintulu Fertilizer Sdn. Bhd.).
2	Total Scope 2 GHG Emissions (location-based) (million tonne CO ₂ e)	
3	Total Scope 2 GHG Emissions (market-based) (million tonne CO ₂ e)	
4	Total Energy Consumption (within the organisation) (million GJ)	
5	Wastewater Discharge, Chemical Oxygen Demand (COD) (tonne)	
6	Freshwater Withdrawal (million m ³)	
7	Air Emissions, Nitrogen Oxides (NOx) Emissions (kilotonne)	
8	Air Emissions, Sulphur Oxides (SOx) Emissions (kilotonne)	
9	Tier 1 Process Safety Event(s) Occurred (Number)	The Company's subsidiaries in Malaysia, BRB International B.V., BRB Lube Oil Additives & Chemicals B.V. and CSL Silicones Inc.
10	Lost Time Injury Frequency (LTIF) (Number of lost time injuries per million man-hours)	
11	Fatalities (Number of cases)	
		The Company's subsidiaries in Malaysia

Based on the procedures performed and evidence obtained, nothing has come to our attention to cause us to believe that the Selected Sustainability Indicators for the financial year ended 31 December 2024 presented in the Company's Sustainability Report 2024 are not prepared, in all material respects, in accordance with the Applicable Criteria.

Basis for conclusion

We conducted our engagement in accordance with Malaysian Approved Standard on Assurance Engagements ("ISAE") 3000 (Revised), *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information*. Our responsibilities under this standard are further described in the Our responsibilities section of our report. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Our Quality Management and Independence

Our firm applies Malaysian Approved Standard on Quality Management, ISQM 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements*, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the *By-Laws (on Professional Ethics, Conduct and Practice)* of the Malaysian Institute of Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

INDEPENDENT LIMITED ASSURANCE REPORT

Restriction on distribution and use of our report

Our report has been prepared for the Directors of the Company solely in accordance with the terms of our Engagement Letter.

Our report should not therefore be regarded as suitable to be used or relied on by any party wishing to acquire rights against us other than the Company for any purpose or in any context. Any party other than the Company who obtains access to our report or a copy and chooses to rely on our report (or any part of it) will do so at its own risk. To the fullest extent permitted by law, we will accept no responsibility or liability in respect of our report to any other party, other than the Company, for our work, for the assurance report we will issue, and for the conclusion we reach.

Without affecting, adding to or extending our duties and responsibilities to the Company or giving rise to any duty or responsibility being accepted or assumed by or imposed on us by any other party, we consent to the inclusion of this report in the Company's Integrated Report 2024 and Sustainability Report 2024, to assist the Directors of the Company in responding to their governance responsibilities by obtaining an independent limited assurance report on the Selected Sustainability Indicators.

Our conclusion is not modified in respect of this matter.

Responsibilities for the Selected Sustainability Indicators

The Management of the Company is responsible for:

- Designing, implementing and maintaining internal control relevant to the preparation of the Selected Sustainability Indicators such that they are free from material misstatement, whether due to fraud or error;
- Selecting or developing suitable criteria for preparing the Selected Sustainability Indicators and appropriately referring to or describing the criteria used, including who developed them, when not readily apparent from the engagement circumstances;
- Preparing and properly calculating the Selected Sustainability Indicators in accordance with the Applicable Criteria;
- Preventing and detecting fraud; and
- Selecting the content of the Selected Sustainability Indicators, including identifying and engaging with intended users to understand their information needs.

Inherent limitations

Due to the inherent limitations of any internal control structure, it is possible that errors or irregularities in the information presented in the Company's Sustainability Report 2024 may occur and not be detected. Our engagement is not designed to detect all weaknesses in the internal controls over the preparation and presentation of the Sustainability Report 2024, as the engagement has not been performed continuously throughout the period and the procedures performed were undertaken on a test basis.

Our responsibilities

We are responsible for:

- Planning and performing the engagement to obtain limited assurance about whether the Selected Sustainability Indicators are free from material misstatement, whether due to fraud or error;
- Forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- Reporting our conclusion to the Directors.

Summary of the work we performed as the basis for our conclusion

We exercised professional judgement and maintained professional skepticism throughout the engagement. We designed and performed our procedures to obtain evidence about the Selected Sustainability Indicators that is sufficient and appropriate to provide a basis for our conclusion. Our procedures selected depended on our understanding of the Selected Sustainability Indicators and other engagement circumstances, and our consideration of areas where material misstatements are likely to arise.

In carrying out our engagement, we have performed the following procedures, amongst others:

- Enquired Management to gain an understanding of the processes established from which the Selected Sustainability Indicators are derived;
- Interviewed relevant staff responsible for preparing and presenting the Selected Sustainability Indicators in the Company's Sustainability Report 2024;
- Compared the Selected Sustainability Indicators presented in the Company's Sustainability Report 2024 to underlying sources on a sample basis; and
- Read the Selected Sustainability Indicators presented in the Company's Sustainability Report 2024 to determine whether they are in line with our overall knowledge of, and experience with, the sustainability performance of the Company.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Other matter

Our assurance conclusion was with respect to the Company's Selected Sustainability Indicators for the financial year ended 31 December 2024 and we have not performed any procedures with respect to earlier periods or any other elements included in the Company's Sustainability Report 2024 and therefore, we do not express any conclusion thereon.

KPMG PLT
(LLP0010081-LCA & AF 0758)
Chartered Accountants

Petaling Jaya

Date: 21 February 2025

PERFORMANCE DATA

Indicator	Measurement Unit	2022	2023	2024
Bursa (Emissions management)				
Bursa C11(a) Scope 1 emissions in tonnes of CO ₂ e	Metric tonnes	6,486,196.00	6,396,681.00 *	6,687,772.00
Bursa C11(b) Scope 2 emissions in tonnes of CO ₂ e	Metric tonnes	1,482,709.00	1,375,353.00	1,246,299.00
Bursa C11(c) Scope 3 emissions in tonnes of CO ₂ e (at least for the categories of business travel and employee commuting)	Metric tonnes	-	-	17,628,823.00
Bursa (Energy management)				
Bursa C4(a) Total energy consumption	Megawatt	29,138,889.00	27,883,333.00	29,041,667.00
Bursa (Water)				
Bursa C9(a) Total volume of water used	Megalitres	62,660.000000	56,460.000000	60,449.000000
Bursa (Waste management)				
Bursa C10(a) Total waste generated	Metric tonnes	-	-	108,300.00
Bursa C10(a)(i) Total waste diverted from disposal	Metric tonnes	-	-	41,600.00
Bursa C10(a)(ii) Total waste directed to disposal	Metric tonnes	-	-	66,300.00
Bursa (Supply chain management)				
Bursa C7(a) Proportion of spending on local suppliers	Percentage	70.00	87.00	67.00
Bursa (Data privacy and security)				
Bursa C8(a) Number of substantiated complaints concerning breaches of customer privacy and losses of customer data	Number	-	0	0
Bursa (Health and safety)				
Bursa C5(a) Number of work-related fatalities	Number	0	0	1
Bursa C5(b) Lost time incident rate ("LTIR")	Rate	0.17	0.09	0.16
Bursa C5(c) Number of employees trained on health and safety standards	Number	-	4,287	4,323
Bursa (Labour practices and standards)				
Bursa C6(a) Total hours of training by employee category				
Management	Hours	26,228	41,485	50,095
Non-Management	Hours	238,436	305,759	335,638
Bursa C6(b) Percentage of employees that are contractors or temporary staff	Percentage	-	8.00	9.00
Bursa C6(c) Total number of employee turnover by employee category				
Management	Number	11	11	9
Non-Management	Number	57	44	36
Bursa C6(d) Number of substantiated complaints concerning human rights violations	Number	-	0	2
Internal assurance	External assurance	No assurance	(*)Restated	

PERFORMANCE DATA

Indicator	Measurement Unit	2022	2023	2024
Bursa (Diversity)				
Bursa C3(a) Percentage of employees by gender and age group, for each employee category				
Age Group by Employee Category				
Management Under 30	Percentage	0.00	0.00	0.00
Management Between 30-50	Percentage	13.00	13.00	13.00
Management Above 50	Percentage	3.00	3.00	3.00
Non-Management Under 30	Percentage	10.00	11.00	12.00
Non-Management Between 30-50	Percentage	67.00	65.00	64.00
Non-Management Above 50	Percentage	7.00	8.00	8.00
Gender Group by Employee Category				
Management Male	Percentage	12.00	9.00	11.00
Management Female	Percentage	4.00	4.00	5.00
Non-Management Male	Percentage	71.00	70.00	71.00
Non-Management Female	Percentage	13.00	17.00	13.00
Bursa C3(b) Percentage of directors by gender and age group				
Male	Percentage	67.00	62.00	62.00
Female	Percentage	33.00	38.00	38.00
Under 30	Percentage	0.00	0.00	0.00
Between 30-50	Percentage	0.00	0.00	0.00
Above 50	Percentage	100.00	100.00	100.00
Bursa (Community/Society)				
Bursa C2(a) Total amount invested in the community where the target beneficiaries are external to the listed issuer	MYR	-	2,727,125.69	5,104,784.00
Bursa C2(b) Total number of beneficiaries of the investment in communities	Number	75,442	171,715	228,877
Bursa (Anti-corruption)				
Bursa C1(a) Percentage of employees who have received training on anti-corruption by employee category				
Management	Percentage	100.00	99.00	100.00
Non-Management	Percentage	99.00	95.00	100.00
Bursa C1(b) Percentage of operations assessed for corruption-related risks	Percentage	100.00	100.00	100.00
Bursa C1(c) Confirmed incidents of corruption and action taken	Number	-	0	0
Internal assurance	External assurance	No assurance	(*)Restated	

Note:

- The performance data table above is generated from the standard template of Bursa's ESG reporting platform
- Indicators labeled "-" signifies that the information is not available due to first time reporting, in accordance with Bursa MMLR
- As part of PCG's commitment to inclusive disclosure, the default data boundary includes figures for the commodity business, Perstorp Group, and BRB Group, unless specified otherwise. Exceptions to this consolidated boundary are detailed below:
 - Data covers commodity business and Perstorp Group: Indicator C7(a)
 - Data covers commodity business and BRB Group: Indicators C3(a), C5(a), C5(b)
 - Data covers commodity business: C1(a), C1(b), C1(c), C4(a), C5(c), C6(a), C6(c), C6(d), C8(a)
- For indicator C3(a), data is inclusive of Perstorp for gender group starting 2023
- For indicator C11(b), data is for market based emissions

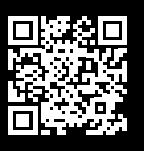
GLOSSARY OF TERMS, ABBREVIATIONS AND ACRONYMS

ABBREVIATION	FULL-TERM/DEFINITION	ABBREVIATION	FULL-TERM/DEFINITION
3R	Reduce, Reuse and Recycle	EU	European Union
8GRPS	8 Golden Rules of Process Safety	EVP	Employee Value Proposition
ABC Manual	Anti-Bribery and Corruption Policy & Guidelines	F&M	Fertilisers and Methanol
ABF	ASEAN Bintulu Fertilizer	FAE	Fatty Alcohol Ethoxylates
ABMS	Anti-Bribery Management Systems	FC	Functional Checklist
ABR	Accountability and Behaviour Reinforcement	FID	Final Investment Decision
AI	Artificial Intelligence	FLA	First Line Assurance
ALARP	As Low as Reasonably Practicable	FR	Financial Report
API	American Petroleum Institute	FReSH	Fatigue Remedy & Sleep Hygiene
APM	Asset Performance Management	FTE	Full Time Equivalent
APS	Announced Pledges Scenario	FWH	Flexible Working Hours
AWS	Amazon Web Services	GEES	Graduate Employability Enhancement Scheme
BAKIP	Badan Kebajikan Islam PETRONAS	GHG	Greenhouse Gas
BES	Biodiversity and Ecosystem Services	GHS	Globally Harmonised System
BESRA	Biodiversity & Ecosystem Service Risk Assessment	GJ	Gigajoules
BFJI	Bolted Flange Joint Integrity	GRI	Global Reporting Initiative
BIA	Business Impact Assessment	HAZID	Hazard Identification
BIS	Bureau of Indian Standards	HAZOP	Hazard and Operability Study
BNM	Bank Negara Malaysia	HEMP	Hazard and Effect Management Plan
BRB	BRB Group	HIRA	Health, Safety, Security and Environment Integrated Risk Assessment
BSRC	Board Sustainability and Risk Committee	HRA	Health Risk Assessment
C3S	Copernicus Climate Change Service	HSE	Health, Safety and Environment
CA 2016	Companies Act 2016	HSE MS	HSE Management System
CAPEX	Capital Expenditures	HTG	High Tech and Green Facility
CBA	Competency Based Assessment	HVAC	Heating, Ventilation and Air Conditioning
CBAM	Carbon Border Adjustment Mechanism	IBC	Intermediate Bulk Containers
CCUS	Carbon Capture, Utilisation and Storage	IEA	International Energy Agency
CGC	Charged Gas Compressor	IFIRST	Ihsan Financing for Business Resilience, Sustainability and Green Transition
CHEMTREC	CHEMical TRansportation Emergency Center	IFP	Integrity Focal Person
CIC	Categorisation of Incident Causes	IFRS	International Financial Reporting Standards
CICM	Chemical Industry Council of Malaysia	IIRF	International Integrated Reporting Framework
CoBE	Code of Conduct and Business Ethics	INA	Isononanol
CoC	Chemicals of Concern	INSTEP	Institut Teknologi Petroleum PETRONAS
CoCHR	Contractors' Code of Conduct on Human Rights	IP	Intellectual Property
COD	Chemical Oxygen Demand	IPCC	Intergovernmental Panel on Climate Change
CoP	Community of Practice	IPIECA	International Petroleum Industry Environmental Conservation Associations'
CRA	Corporate Risk Appetite	IR	Integrated Report
CRM	Customer Relationship Management	IR4Leaders	Industrial Relations for Leaders Programme
CRP	Corporate Risk Profile	IR HCE	Industrial Relations Human Capital Expertise
CSBIA-LRA	Cybersecurity Business Impact Assessment and Legal & Regulatory Assessment	ISCC	International Sustainability and Carbon Certification
CSBRA	Cybersecurity Business Risk Assessment	ISSB	International Sustainability Standards Board
CSI	Centralised Sustainability Intelligence	IT	Information Technology
CSRD	Corporate Sustainability Reporting Directive	JHA	Job Hazard Analysis
CSS	Customer Satisfaction Survey	JV	Joint Venture
CTO	Career Transition Option	KAPENAS	Kesatuan Kakitangan Petroliaam Nasional Berhad
CWW	Compressed Work Week	KEPKO	Kesatuan Pekerja-Pekerja OPTIMAL Chemicals (M) Sdn. Bhd.
D&I	Diversity & Inclusion	KPI	Key Performance Indicator
EAP	Employee Assistance Programme	KSRP	Kelab Sukan dan Rekreasi PETRONAS
ECHA	European Chemical Association	KYC	Know Your Counterparty
ECSGF	Enterprise Cyber Security Governance Framework	L&R	Licensing & Registration
EEC	Environmental Education Centre	LCA	Life Cycle Assessment
EESG	Environmental, Economic, Social and Governance	LCTF	Low-Carbon Transition Facility
EOC	Evaluation of Compliance	LiLi	Learn It and Live It
EPICS	Environment & Social Performance Integrated and Centralised System	LOPC	Loss of Primary Containment
EPM	Employee Performance Management	LSA	Long Service Award
EPR	Extended Producer Responsibility	LTI	Lost Time Injury
ePTW	Enterprise Permit to Work	LTIF	Lost Time Injury Frequency
ERS	Equipment Reliability Strategy	LWP	Leave Without Pay
ESG	Environmental, Social and Governance	MAN	Maleic Anhydride
ESRS	European Sustainability Reporting Standards		
ETS	Emissions Trading Scheme		

GLOSSARY OF TERMS, ABBREVIATIONS AND ACRONYMS

ABBREVIATION	FULL-TERM/DEFINITION	ABBREVIATION	FULL-TERM/DEFINITION
MARS	Monitoring and Reporting System	PLC	PETRONAS Leadership Centre
MCCG	Malaysian Code on Corporate Governance	POCS	PETRONAS Organisational Culture Survey
MD/CEO	Managing Director/Chief Executive Officer	POINT	Plant Operations Integrated Tools
MES	Sodium 2-(N-Morpholino) ethanesulfonic acid	PSO	Process Safety Observations
MFRS	Malaysian Financial Reporting Standards	PSSP	PETRONAS Supplier Support Programme
MMLR	Main Market Listing Requirements	PSYE	Plastic, Sustainability & You Education
MPMA	Malaysian Plastics Manufacturers Association	PTS	PETRONAS Technical Standards
MSDS	Material Safety Data Sheet	PU	Plant Utilisation
NACWC	National Authority for Chemical Weapons Convention	PVC	Polyvinyl Chloride
NCR	Non-Conformity Report	R&D	Research & Development
NDCs	Nationally Determined Contributions	R&T	Research and Technology
NIST	National Institute of Standards and Technology	REACH	Registration, Evaluation, Authorisation, and Restriction of Chemicals
NOx	Nitrogen Oxides	REC	Renewable Energy Certificate
NPE	New Plastic Economy	REC	Renewable Energy Credits
NRC	Nomination and Remuneration Committee	ROHS	Restriction of Hazardous Substances
NRCC	National Registration Centre for Chemicals	ROSE	Return on Society and Environment
NSRF	National Sustainability Reporting Framework	rPET	Recycled Polyethylene Terephthalate
NZCE	Net Zero Carbon Emissions	RSPO	Roundtable on Sustainable Palm Oil
NZE	Net Zero Emissions	RTOG	Road Transport Operation Guideline
O&D	Olefins and Derivatives	SASB	Sustainability Accounting Standards Board
OECD	Organisation for Economic Co-operation and Development	SDB	Safety Data Sheets
OEMS	Operational Excellence Management System	SDSC	Sustainable Development Steering Committee
OEMS ECM	OEMS Element Control Manual	SDWC	Sustainable Development Working Committee
OER2	Operational Excellence Result 2	SHOC4School	Safe Handling of Chemicals for School
OFI	Opportunity for Improvement	SLES	Sodium Laureth Sulfate
OFR	Order Fulfilment Reliability	SME	Small and Medium Enterprise
OFWP	Operate Facility Work Process	SORMIC	Statement on Risk Management and Internal Control
OGSE	Oil & Gas Services and Equipments	SOx	Sulphur Oxides
OHD	Occupational Health Doctor	SR	Sustainability Report
OPEX	Operating Expenditures	SRA	Social Risk Assessment
OPUs	Operating Units	SRI	Sustainable and Responsible Investment
OSH	Occupational Safety and Health	SRI Taxonomy	Principles-Based Sustainable and Responsible Investment Taxonomy for the Malaysian Capital Market
OT	Operational Technology	SRMC	Sustainability and Risk Management Committee
P&S	Protect & Sustain	SSPs	Shared Socioeconomic Pathways
PBT	Profit Before Tax	STEPS	Stated Policies Scenario
PC Ammonia	PETRONAS Chemicals Ammonia	SULAM	Service Learning Malaysia – University for Society
PCB	PETRONAS Cultural Belief	SUPs	Single-Use Plastics
PC Derivatives	PETRONAS Chemicals Derivatives	SWA	Stop Work Authority
PC Ethylene	PETRONAS Chemicals Ethylene	T-1 PSE	Tier 1 Process Safety Event
PC Fertiliser	PETRONAS Chemicals Fertiliser Kedah	T&I	Technology & Innovation
PC Fertiliser	PETRONAS Chemicals Fertiliser Sabah	TA	Turnaround
PC Fertiliser	PETRONAS Chemicals Fertiliser Sabah	TCFD	Taskforce on Climate-Related Financial Disclosure
PC Glycols	PETRONAS Chemicals Glycols	TEP	Technical Energy Enrichment Programme
PC LDPE	PETRONAS Chemicals LDPE	TOR	Terms of Reference
PC Methanol	PETRONAS Chemicals Methanol	TPRM	Third Party Risk Management
PC MTBE	PETRONAS Chemicals MTBE	TVAR	Total Vehicle Accident Rate
PC Olefins	PETRONAS Chemicals Olefins	UAUC	Unsafe Act Unsafe Condition
PC Polyethylene	PETRONAS Chemicals Polyethylene	UITM	Universiti Teknologi MARA
PDB	PETRONAS Dagangan Berhad	ULAB	Used Lead-Acid Batteries
PCG	PETRONAS Chemicals Group Berhad	UNGP BHR	United Nations Guiding Principles on Business and Human Rights
PCML	PETRONAS Chemicals Marketing (Labuan) Ltd.	UN SDGs	United Nations Sustainable Development Goals
PDH	Propane Dehydrogenation	VDP	Vendor Development Programme
PECAS	PETRONAS Competency-based Assessment System	VRF	Value Reporting Foundation
Perstorp	Perstorp Group	WEO	World Energy Outlook
PFA	Plant Facing Analytics	WINK	Persatuan Wanita Inspirasi Kuantan
PFAS	Per- and polyfluoroalkyl substances	WMO	World Meteorological Organization
PHA	Process Hazard Analysis		
PIC	Pengerang Integrated Complex		
PIMS	PETRONAS Integrity Management System		
PIVOT	PETRONAS Integrated Vision for Operational Excellence Transformation		

PCG's Sustainability Report 2024 has been produced in line with our theme: **TOGETHER. HARNESSING POTENTIAL.** We considered the environmental impact of each decision made in the publication of this report. Everything is intentional, from the materials used and acquired to the design concept and production.



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- The production and printing of all reports followed the FSC® certified chain of custody
- The Governance section is in the Integrated Report to reduce the usage of four-colour print for the Financial Report
- The cover is printed on FSC® certified Monalisa White 280 gsm paper, while the inside pages are printed on FSC® certified Vincent Extra White 160 gsm paper
- A soy-based ink was used for a more sustainable approach

MINIMALIST PRESENTATION

- The entirety of the report is presented in a straightforward and structured package with simple design elements

SIMPLICITY IN DESIGN

- Consciously minimising sizes of photographic images and other graphic representation (such as graphs, charts, and diagrams) where possible

PRINTED SUSTAINABLY

- The full report was produced using carbon-neutral press machines and eco-friendly materials certified with an ISO 14001 environmental management system in line with minimising environmental impact

CONCISE LANGUAGE

- The concepts are encapsulated in a concise and articulate manner, focusing on the presentation of the content beyond just words



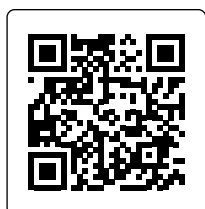


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