

Moving Forward with **Conscience**

Creating Sustainable Value

Our progress
to date on the
sustainability front.

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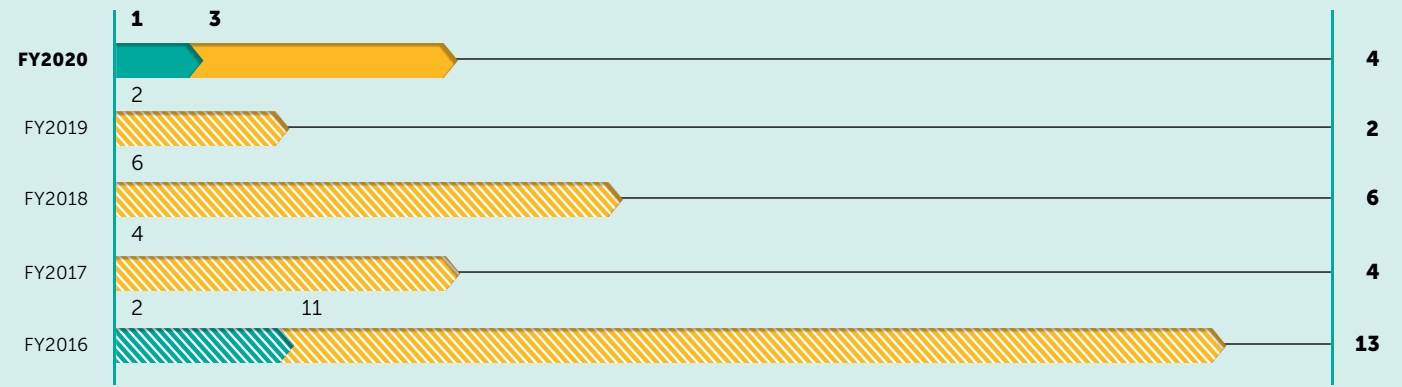


Five-Year Sustainability Key Performance Data

Safety

Number of Fatalities

● Employees ● Contractors



Note:
The non-financial data in this section does not include data from equity interest fields/projects, such as joint ventures, where we do not have operational control.

Key Performance Indicators	2016	2017	2018	2019	2020
Fatal Accident Rate (FAR) Reportable fatalities per 100 million man-hours	3.53	0.93	1.29	0.56	1.47
Lost Time Injury Frequency (LTIF) Number of cases per 1 million man-hours	0.26	0.17	0.09	0.11	0.10
Total Reportable Case Frequency (TRCF) Number of cases per 1 million man-hours	0.57	0.53	0.38	0.35	0.30
Number of Tier 1 Process Safety Events Number of cases	12	12	9	7	7
Total Recordable Occupational Illness Frequency (TROIF) Illness per million working hours - employees	0.32	0.08	0.22	0.08	0.16

Note:
The updated Number of Tier 1 Process Safety Events for 2018 is due to internal assurance and data verification.

Environment

Total Greenhouse Gas (GHG) Emissions

(millions tCO₂e)

● Malaysia Operations ● International Operations



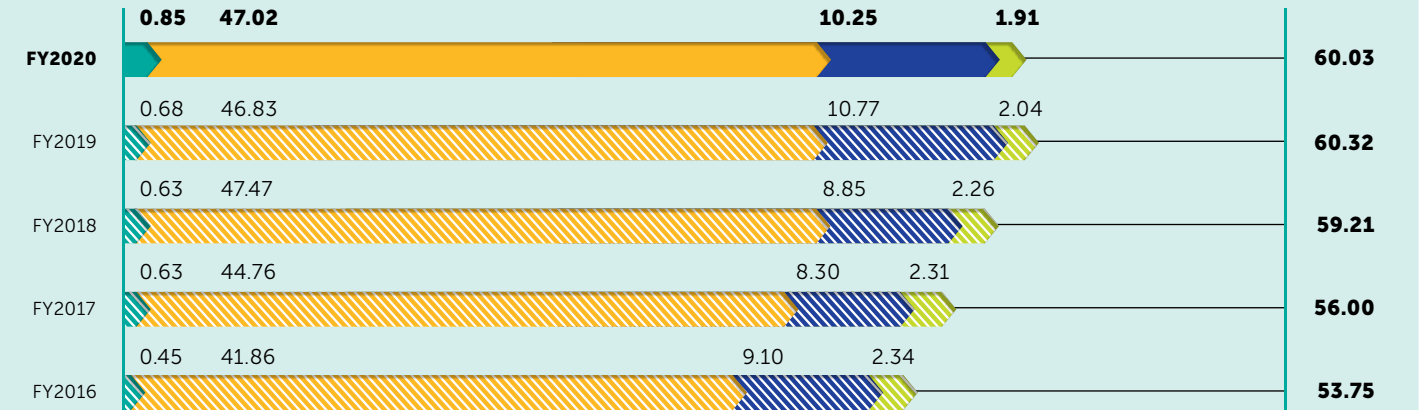
Notes:
1. Updated 2016-2019 data as a result of internal and external verification.
2. For international operations, data for Vietnam is only available for 2016.
* PETRONAS Refinery and Petrochemical Corporation (PRPC) Utilities and Facilities (UF) was operationalised in 2017. The GHG accounting system that has been established was internally verified in 2020 which amounted to 2.59 million tCO₂e for the year 2020. GHG emissions from PRPC UF will be included in subsequent disclosures.

Five-Year Sustainability Key Performance Data

Total Freshwater Withdrawal

(million cubic metres per year)

● Upstream ● Downstream ● G+NE* ● MISC and others**



Notes:
* This newly established business unit (then) was fully operationalised in 2019.
** Selected non-oil and gas related operations i.e. PETRONAS Leadership Centre (PLC), KLCC Holdings.

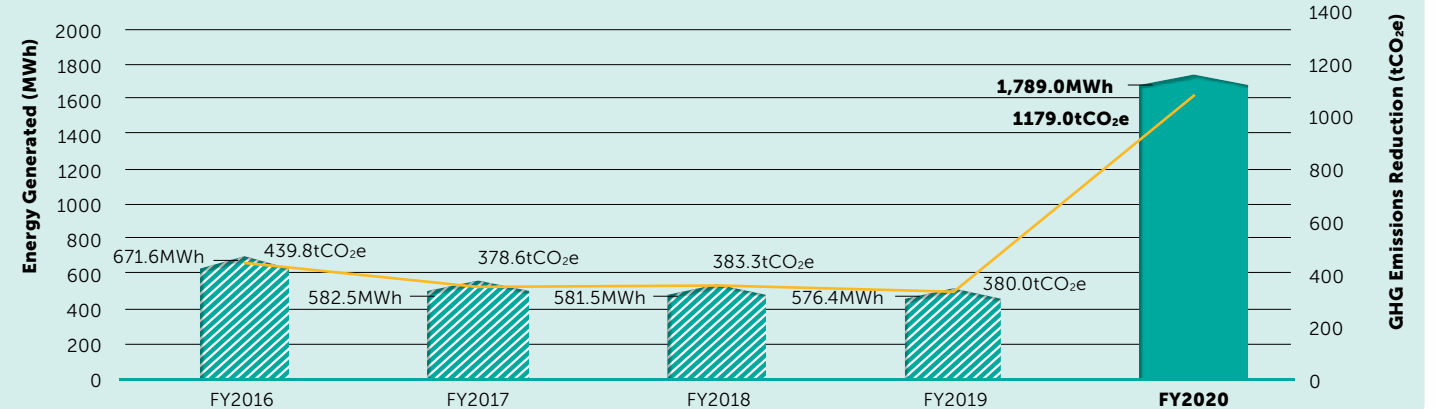
Key Performance Indicators	2016	2017	2018	2019	2020
Discharges to Water (metric tonnes of hydrocarbon)	534	591	715	648	532
Number of Hydrocarbons Spills into the Environment over One Barrel* Number of cases	27	18	7	7	5
Total Sulphur Oxides Emissions (metric tonnes)	72,134	87,917	113,256	110,214	84,225
Total Nitrogen Oxides Emissions (metric tonnes)	168,954	159,498	151,519	148,446	116,427
Total Hazardous Waste Disposed (metric tonnes)	32,355	19,755	34,688	42,121	31,338

Note:
The updated Total Freshwater Withdrawal, Discharges to Water, Total Sulphur Oxides Emissions, Total Nitrogen Oxides Emissions and Total Hazardous Waste Disposed for 2019 are due to internal data validation.
* One barrel is equivalent to 159 litres.

Solar PV Generation Reducing Scope 2 GHG Emissions

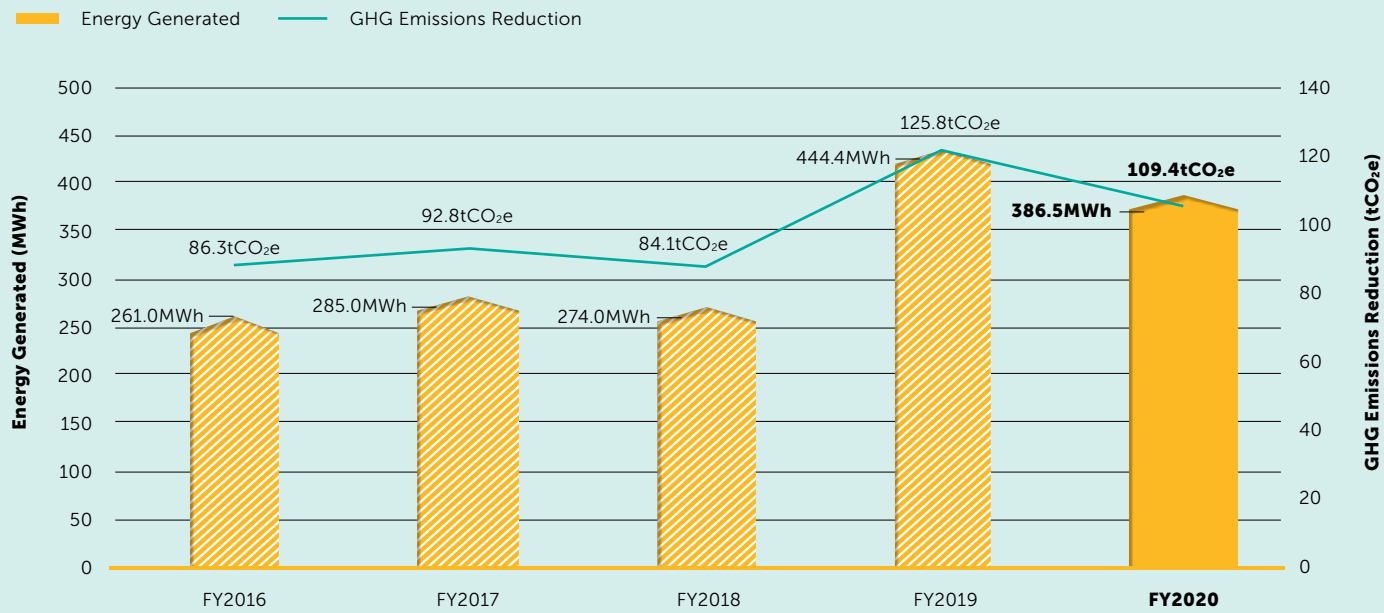
(Malaysia)

■ Energy Generated ■ GHG Emissions Reduction



Five-Year Sustainability Key Performance Data

Solar PV Generation Reducing Scope 2 GHG Emissions
(International)



GHG Intensity

Key Performance Indicators	2016	2017	2018	2019	2020
GHG Intensity for Upstream (tCO ₂ e/kboe)	63.0	69.0	55.6	51.5	51.0
GHG Intensity for Refineries (tCO ₂ e/bbl)	0.018	0.017	0.018	0.018	0.019
GHG Intensity for Petrochemicals (tCO ₂ e/tonnes)	0.78	0.88	0.87	0.83	0.80

Notes:

- 2016-2020 data may be subject to changes as a result of ongoing internal and external verification.
- For international operations, data for Vietnam is only available for 2016.

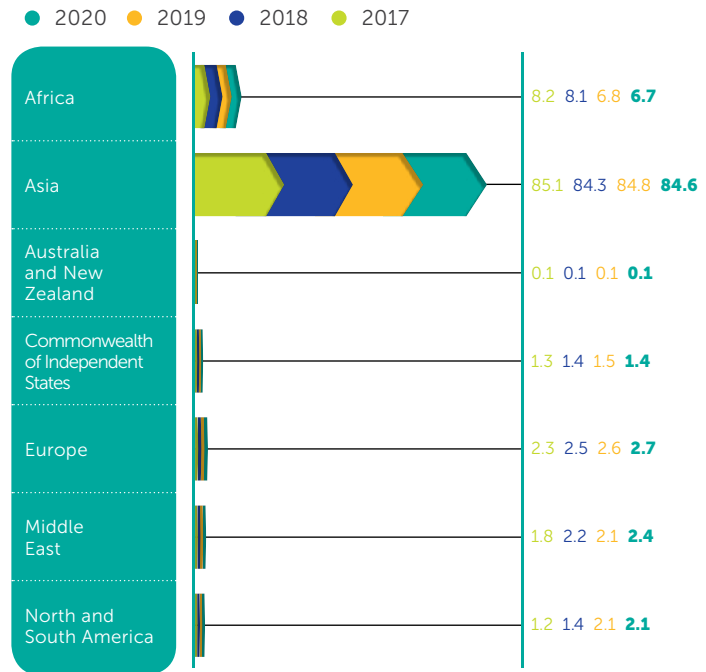
Workforce

Total Number of Employees

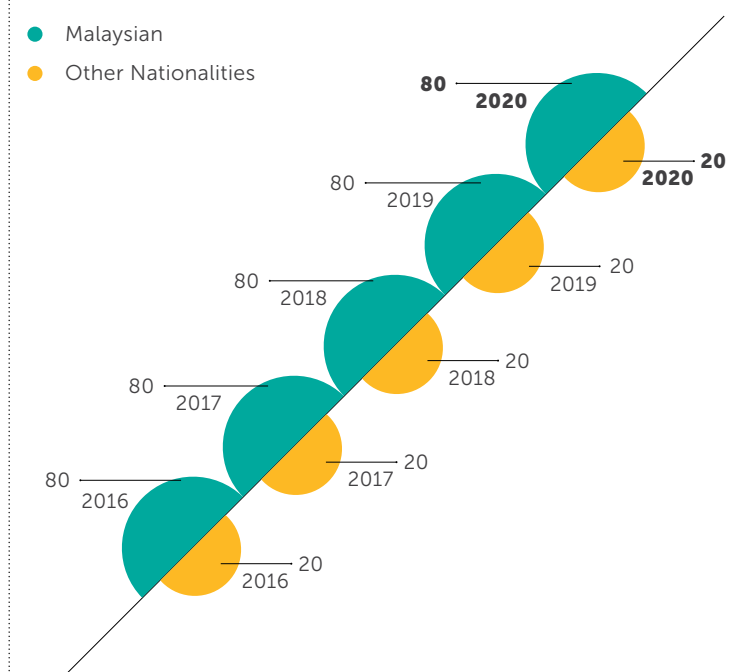


Five-Year Sustainability Key Performance Data

Breakdown of Employees by Region (%)



Breakdown of Employees by Nationality (%)



	2016	2017	2018	2019	2020
Employment Type (%)					
Permanent	83	85	85	88	86
Contract	15	15	15	12	14
Gender Distribution (%)					
Male	72	72	73	73	72
Female	28	28	27	27	28
Number of Groupwide Technical Expertise					
Technical Authorities (TA)	325	499	577	340	501
Technical Professionals (TP)	815	860	941	1,028	1,173
Technical Trade Specialists (TTS)	198	206	225	240	259
Employees above and below the age of 35 (%)					
Above 35	46	46	49	52	53
Below 35	54	54	51	48	47
Total Number of New Hires (Core Businesses in Malaysia)					
Malaysian	2,932	2,409	2,512	3,498	2,160
Other Nationals	265	427	414	509	157
Women in Technical Positions (%)	12	14	13	14	14
Attrition Rate (%)					
Male	7.3	5.8	6.5	5.5	4.9
Female	7.1	5.4	6.2	3.7	3.6
Female	8.0	6.8	7.3	1.8	1.3
Number of Unionised Employees	8,616	8,796	9,949	8,420	8,476
Number of PETRONAS Scholars Recruited					
Recruited by PETRONAS (%)	365	337	262	206	219
Recruited by Others (%)	50	48	63	67	61
Recruited by Others (%)	50	52	37	33	39
Number of Scholarships Awarded to Malaysians					
International Universities (%)	375	387	329	399	370
Malaysian Universities (%)	38	45	49	46	25
Malaysian Universities (%)	62	55	51	54	75
Number of Sponsored Non-Malaysians					
Universiti Teknologi PETRONAS (UTP), Malaysia	147	118	88	78	42

Safeguard the Environment



Lens 2
Safeguard the Environment



PETRONAS strives to collaboratively reduce environmental impact by transitioning to lower carbon energy solutions and deploying innovative operations and technologies.



We are committed to upholding PETRONAS' Sustainability Agenda by balancing out our economic ambitions with social and environmental considerations. On the environmental front, we endeavour to safeguard the environment in a sustainable manner by being mindful of our actions and recognising the impact of our operations at every stage of the value creation cycle. Our focus is on mitigating the negative impact that our operations may have on society and the environment. At times, this may mean going beyond compliance with existing environmental legislation.

Our efforts include continuous emissions monitoring for selected equipment, spill prevention, greenhouse gas (GHG) emissions reduction, Best Practicable Environmental Option (BPEO) for decommissioning, and sustainable waste management. While these efforts are implemented in compliance with existing standards and regulations, the Group also undertakes self-regulation

that goes beyond compliance with environmental laws. We achieve this by setting in place and adhering to internal standards, fortified by continuous assurance activities to manage our emissions, wastewater, hazardous waste and use of natural resources.

Apart from that, we also leverage advanced technology to harness precise data to continually improve operational efficiency. While we work to fortify our core operations in a responsible manner, we continue to explore opportunities in the renewable energy space and tap new technologies that will help us move closer towards a lower-carbon energy future. We have also announced our long-term aspiration of achieving net zero carbon emissions by 2050 (NZCE 2050), which aims to accelerate our progress as we move towards a low carbon economy.

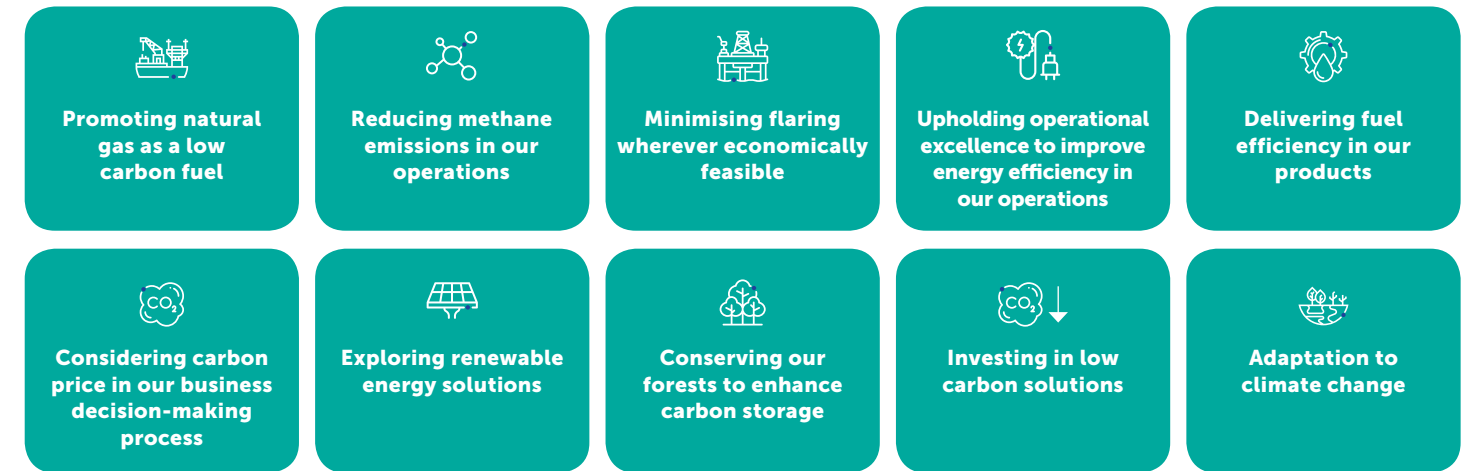
For more details of PETRONAS' NZCE 2050 aspiration, go to the Sustainability Agenda section on pages 11 to 13 of this Report.

Note: This photo was taken before the pandemic.

Safeguard the Environment

PETRONAS Climate Change Position

As a conscientious player in the global energy sector, PETRONAS recognises its responsibility to balance out the threat of climate change with the mandate to produce affordable and reliable energy in a sustainable manner. As such, PETRONAS facilitates the management of climate change through various interventions, especially the reduction of GHG emissions across all sectors. Over the past few years, the PETRONAS Group has been steadfastly exploring and implementing the following climate change actions:

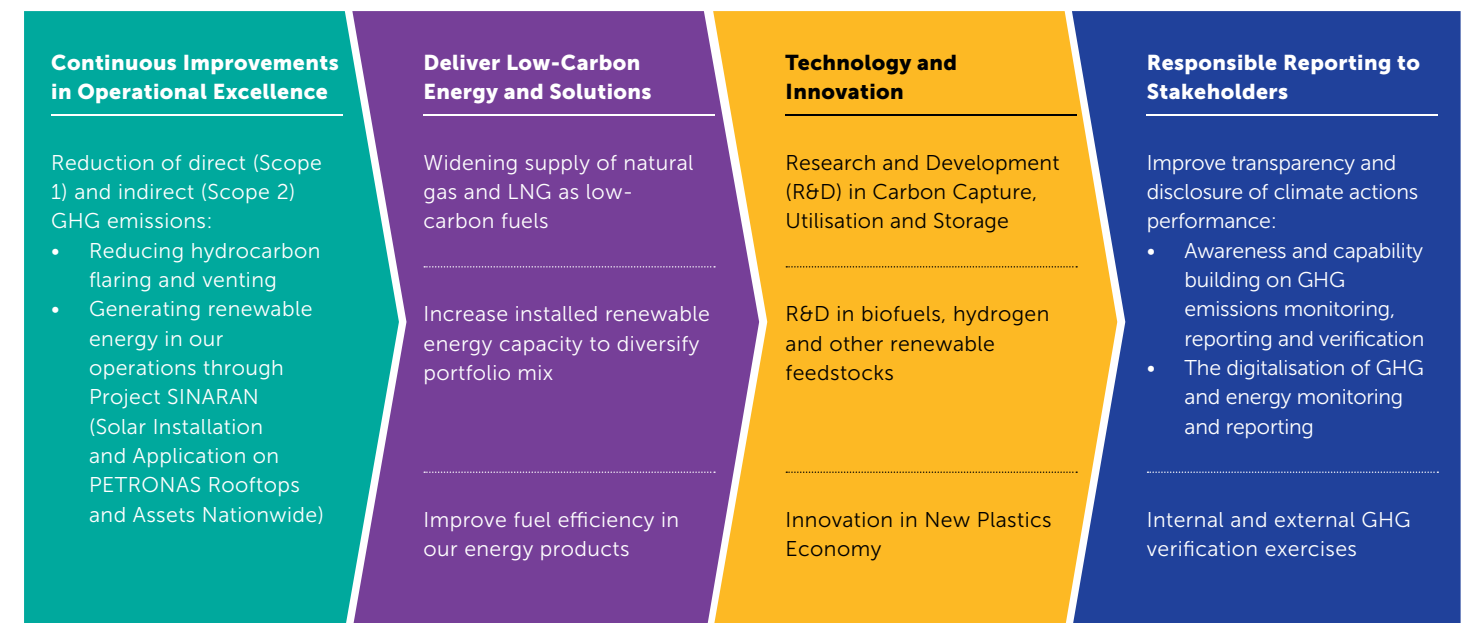


The target value to be generated from our NZCE 2050 efforts will be subjected to progressive changes in PETRONAS' portfolio mix by way of scalable renewables and use of low carbon energy such as natural gas and hydrogen.

Addressing Climate Change

Over the years, the call for transformational climate actions has grown even more urgent and the pressure for the energy industry to respond accordingly has increased. In response to this, PETRONAS has committed to operating in a responsible manner that helps reduce the impact of climate change. We continue to make good progress by generating low-carbon solutions and renewable energy as means to reduce GHG emissions and to improve operational excellence.

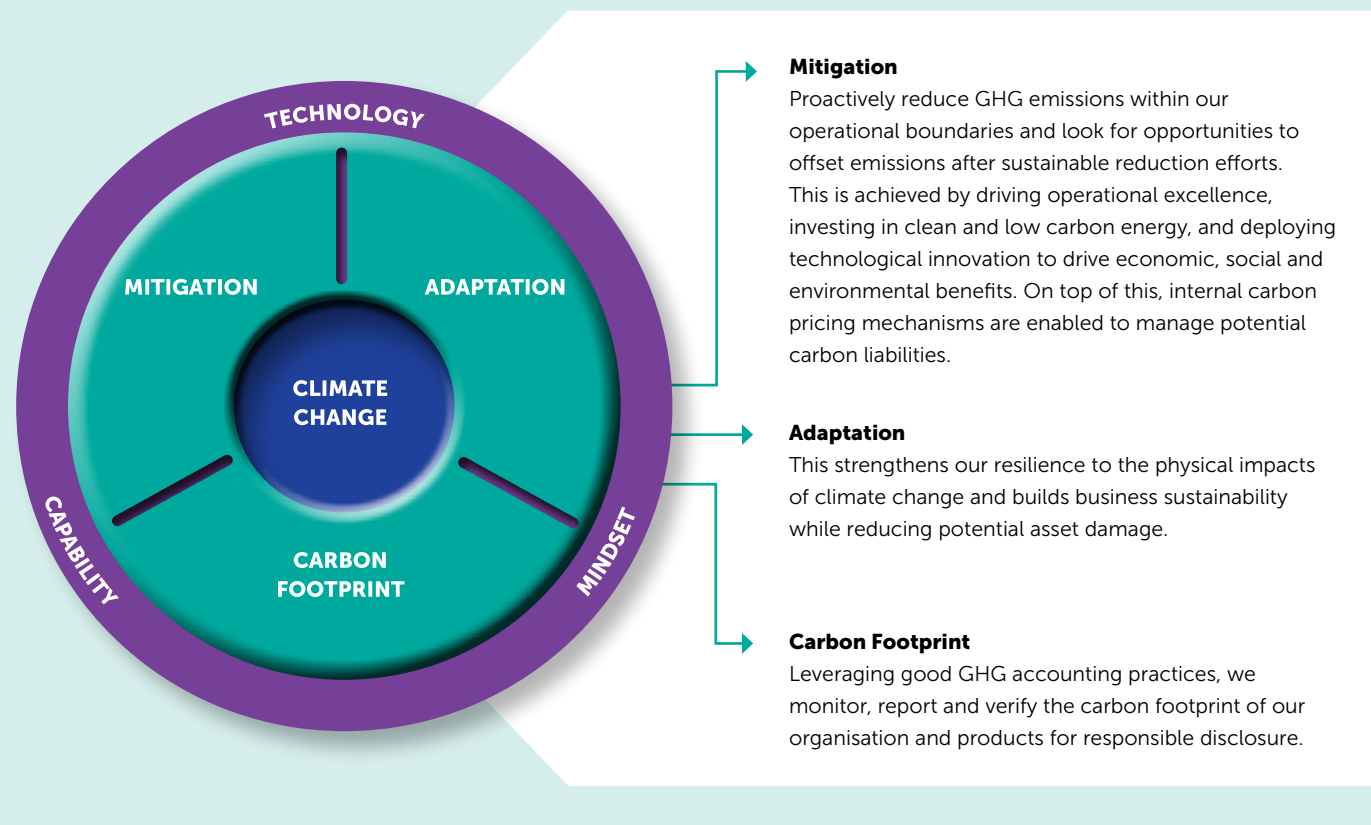
We also aim to ensure that all our efforts are reported in a clear and concise manner that is aligned with our commitment to our stakeholders. A summary of our initiatives to date is outlined below:



These actions meet the requirements of the PETRONAS Climate Change Framework and PETRONAS Carbon Commitments which were established to urgently address the need to stabilise GHG concentrations in the atmosphere as per the objectives of the United Nations Framework Convention on Climate Change (UNFCCC).

Overarching Framework

The PETRONAS Climate Change Framework identifies the various aspects of the Group's carbon footprint and outlines a mitigation and adaptation strategy that is enabled through the deployment of technological innovation, capability development and mindset change.



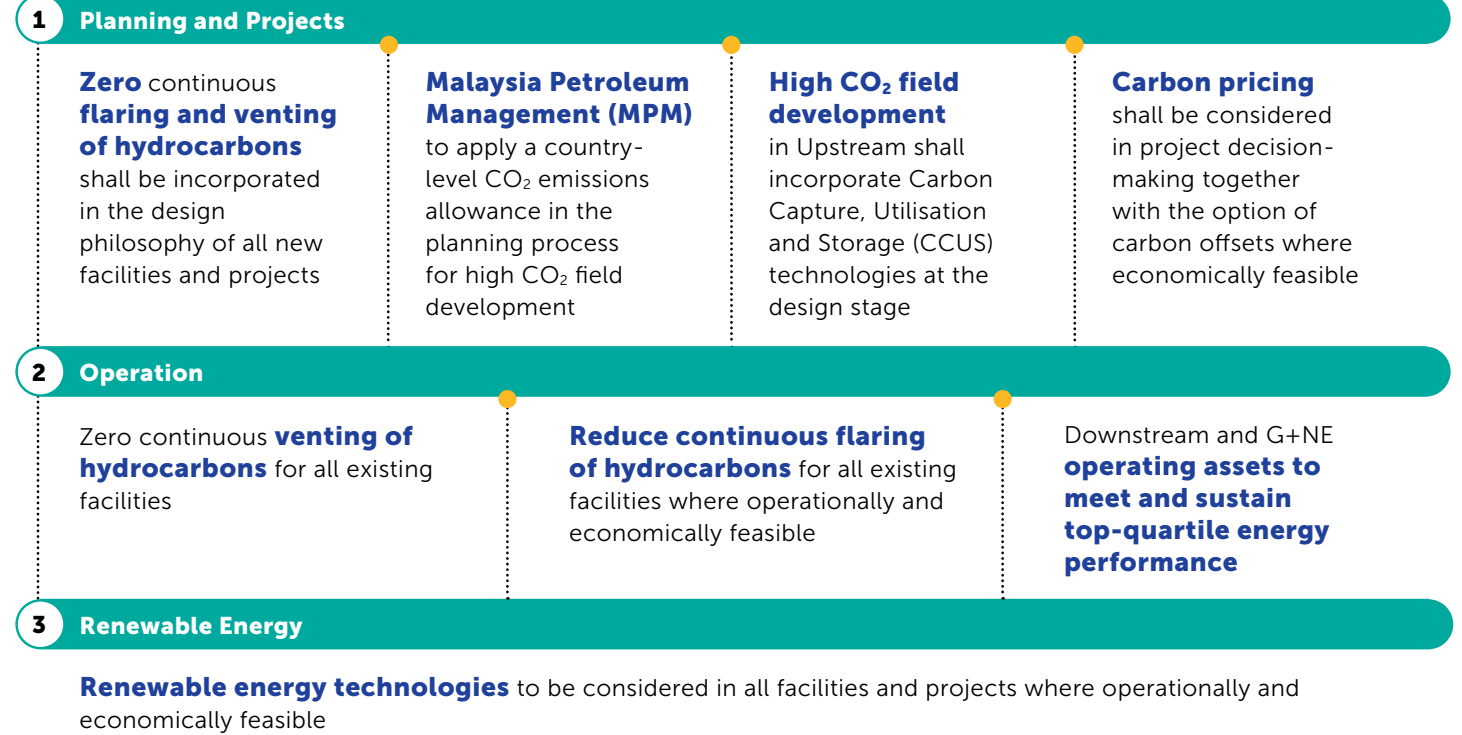
The Climate Change Position Framework and PETRONAS Carbon Commitments support Malaysia's Nationally Determined Contribution (NDC) to the Paris Agreement by reducing GHG emissions and adapting to the physical impacts of climate change. Our global commitment also supports the respective NDCs of the countries where we operate.

All of these initiatives collectively support PETRONAS' target to achieve its NZCE 2050 aspiration as well as the Group's aim of creating new and inclusive opportunities that contribute towards equitable socio-economic development.

PETRONAS Carbon Commitments

The Group's management of GHG emissions are guided by the PETRONAS Carbon Commitments (PCC). Developed in 2012, the PCC was first founded to drive the Group's reduction of hydrocarbon flaring and venting as well as energy efficiency improvements. Since then, the PCC's management scope has evolved to include CO₂ gas fields management, carbon pricing, carbon offsets and renewable energy. The incorporation of PCC requirements in the Group's systems and operations is overseen by our Group Health, Safety, Security and Environment (GHSSE) as well as the Upstream, Gas + New Energy (G+NE) and Downstream businesses together with Project Delivery and Technology (PD&T). In addition, the Petroleum Arrangement Contractors (PACs) are also guided by the PCC requirements in the effective implementation of the PCC.

PETRONAS Carbon Commitments



The reduction of GHG emissions is not only essential for us to meet our environmental commitments, it is also an integral component of our value creation and business strengthening efforts. As such, we carefully assess all potential risks from carbon liability including emerging legislation related to climate change. This enables the Group to develop suitable technologies in a timely manner. Our identification and response activities are supervised by the PETRONAS Enterprise Risk Management profile that is employed groupwide and across our operations.

Climate Actions

PETRONAS' commitment to delivering clean and low-carbon energy to our customers is reflected in the climate actions that the Group carries out. These initiatives help us to ensure that we mitigate the impact of our operations even as we seek to increase the value of our products.

Promoting Natural Gas as a Low-Carbon Fuel

PETRONAS remains steadfast in its goal to deliver clean and low-carbon energy by replacing high-carbon fossil fuels with natural gas and liquified natural gas (LNG). Exercising responsible practices, the Group leverages advanced technologies to sustainably extract and process natural gas and LNG.

For the past four years, the number of LNG cargoes that have been shipped from PETRONAS' Floating LNG (FLNG) facilities are as follows:



Minimising Flaring

We remain committed to minimising flaring in our projects through measures such as embedding zero-continuous flaring features within our project designs, and reducing flaring either by improving operational efficiencies or by finding innovative ways of monetising the hydrocarbon gas. We are also continuously making improvements to plant processes to reduce low-pressure flare gas.

In 2020, our businesses achieved the following:

- ➔ Upstream successfully reduced **340,000 tCO₂e GHG emissions** through a hydrocarbon venting reduction initiative. This reduction was realised through operational excellence where separator tuning and recommissioning of an additional pipeline for gas delivery was completed.
- ➔ In Downstream, the Propane Dehydrogenation (PDH) plant of PETRONAS Chemicals Methyl Tertiary Butyl Ether (MTBE) Sdn Bhd collaborated with PETRONAS Gas Berhad's (PGB) Utilities Gebeng (UG) plant in Kuantan, Pahang **to reduce GHG emissions through the rejuvenation of a Hydrogen-Rich Gas (H₂-RG), supply to UG**. In turn, UG was able to reduce the cost of fuel used for steam generation by mixing fuel gas with H₂-RG, which reduced GHG emissions by **46,000 tCO₂e**.
- ➔ At Malaysian Refining Company Sdn Bhd (MRCBSB), the **installation of a flare recovery unit enabled flared gas to be recovered back into the fuel gas system as refinery fuel gas**. The installation resulted in a decrease in natural gas consumption which led to reduced GHG emissions. **MRCBSB saw cost savings of RM14.9 million and a total annual reduction of 21,747 tCO₂e**.
- ➔ MRCBSB also implemented another flaring reduction project where recovered excess hydrogen led to a decline in the emission of flaring and waste gasses. MRCBSB garnered a **total of RM2.2 million (2.987 tCO₂e) in realised savings**.

Improving Energy Efficiency in Our Operations

In 2020, our Gas Processing Santong (GPS) facility implemented furnace efficiency improvement activities such as situational assessments and air to fuel ratio system improvements. Through these efforts, GPS was able to reduce 100 gigajoules (GJ) of energy consumed per day which amounted to a reduction of 2,004 tCO₂e per year.

In October 2020, Institut Teknologi Petroleum PETRONAS (INSTEP) and TNB Energy Services Sdn Bhd (TNBES) concluded their collaborative effort on the Smart Energy Efficiency (SEE) project which supports the National Agenda's overall emissions reduction target as well as PETRONAS' Sustainability Agenda.

Following INSTEP's Detailed Energy Efficiency Audit, the institute has incorporated TNBES' solutions to increase energy efficiency through retrofitting light-emitting diode (LED) lighting and high mast lighting in non-process areas. The collaboration has enabled INSTEP to save approximately 407,880 kWh per year in energy consumption, thereby reducing carbon dioxide emissions by 283 tCO₂e.

A Journey of Methane Emissions Management



PETRONAS continues to promote natural gas and LNG as a low carbon fuel by the effective management of methane emissions in the natural gas and LNG value chain. By managing hydrocarbon venting, we are able to reduce methane emissions. The year saw the following initiatives being brought into play:

In March 2020, PETRONAS officially became a Signatory Member of the Methane Guiding Principles (MGP) partnership, joining other industry and non-industry organisations in improving and accelerating the performance of methane emissions management throughout the gas value chain. **As a partner, PETRONAS will have access to strategic collaborations, upskilling programmes, and access to technical studies as well as best practices.**

Signatory Members in MGP are required to **fulfil the five MGP principles that focus on priority areas** for action along the natural gas supply chain, from production to the final consumer. To this end, PETRONAS will continue to achieve the following undertakings:

- 1 **Reduce methane emissions**
- 2 **Advance strong performance across gas value chains**
- 3 **Improve the accuracy of methane emissions data**
- 4 **Advocate sound policies and regulations on methane emissions**
- 5 **Increase transparency**

PETRONAS has initiated a **methane emissions quantification baseline study in 2020** (for LNG and gas processing facilities) and will continue with Upstream facilities in 2021.

As the national oil company, PETRONAS continues to **advocate methane emissions management among upstream companies operating** in Malaysia through the establishment of a plan-of-action for both MGP members and non-MGP members.

Methane emissions management has been incorporated as one of the key components to **achieve NZCE 2050**.

Renewable Energy Solutions

Renewable energy solutions reduce GHG emissions by displacing fossil fuel based grid emissions. There are **two possible ways that renewable energy solutions can contribute to our NZCE 2050 aspiration:**

1 Investments in renewable energy as a business will **reduce GHG emissions and can potentially be converted into carbon or renewable energy credits**

2 Renewable energy installations that displace the need to import electricity into our operations will help **reduce Scope 2 GHG emissions**

Investments in Renewable Energy

PETRONAS has been increasing its momentum in stepping out to renewable energy. PETRONAS installed a 10 MW large-scale solar power plant in Gebeng back in 2014. Following the acquisition of Amplus in 2019, PETRONAS' installed renewable energy capacity grew to 645 MW by the end of 2020. In the same year, PETRONAS' New Energy business generated a combined total of 708 GWh of power from three projects located locally and internationally, thus reducing 0.51 million tCO₂e. Moving forward, PETRONAS has set a target of achieving an installed renewable energy capacity of 3,000 MW by 2024.

PETRONAS' Cumulative Renewable Energy Installed Capacity and GHG Emissions Reduction

Key Performance Indicators	Unit	2016	2017	2018	2019	2020
Malaysia						
Installed Capacity	MW	10	10	10	10	19
GHG Reduction	tCO ₂ e	8,851	8,294	8,682	8,538	9,169
International						
Installed Capacity	MW	0	0	0	0	625
GHG Reduction	tCO ₂ e	0	0	0	0	500,832
Total Installed Capacity	MW	10	10	10	10	644
Total GHG Reduction	tCO₂e	8,851	8,294	8,682	8,538	510,001

Scope 2 GHG Emissions Reduction from Renewables

On top of this, PETRONAS produces renewable energy via four key solar photovoltaic (PV) initiatives which reduce Scope 2 GHG emissions and contribute to our NZCE 2050 aspiration as follows:

Rooftop Solar PV
at KLCC Suria Mall (Kuala Lumpur) by KLCC Holdings (685 kWp, 2012)

Rooftop Solar PV
at PETRONAS Solaris Putra and Serdang (Selangor) twin petrol stations by PDB (180 kWp, 2014)

Rooftop Solar PV
at Arexons (Italy), PETRONAS Lubricants International (440 kWp, 2016)

Rooftop Solar PV
at Pengerang Integrated Complex (Johor) by Downstream business (207 kWp, 2018)

For more details of PETRONAS' investments in renewable energy, please refer to the New Energy section at <https://www.petronas.com/our-business/gas-and-new-energy>.

Project SINARAN (Solar Installation and Application on PETRONAS Rooftops and Assets Nationwide) is another PETRONAS initiative that has been in place since 2018. It involves the installation of solar PVs on PETRONAS' assets nationwide. In 2019, solar PV technology was installed at PETRONAS Research Bangi (625 kWp) and five retail stations (136 kWp). In 2020, the SINARAN journey continued with the installation of solar PV technology at an additional three locations (607 kWp). To date, we have installed 1,368 kWp of solar PV systems at nine sites, bringing Project SINARAN's Scope 2 GHG reductions in 2020 to 1,317 tCO₂e.

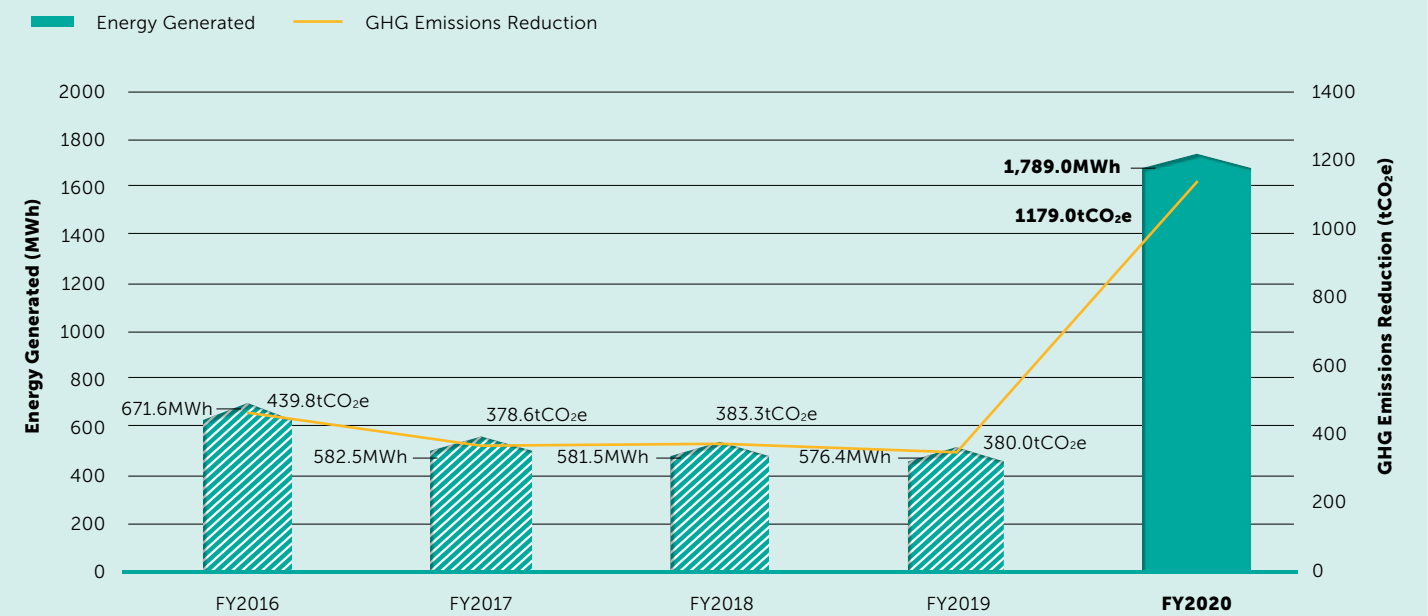
Rooftop Solar PV
at PETRONAS Gas in Seremban (143 kWp, 2020)

Rooftop Solar PV
at PETRONAS Penapisan Terengganu Sdn Bhd (380 kWp, 2020)

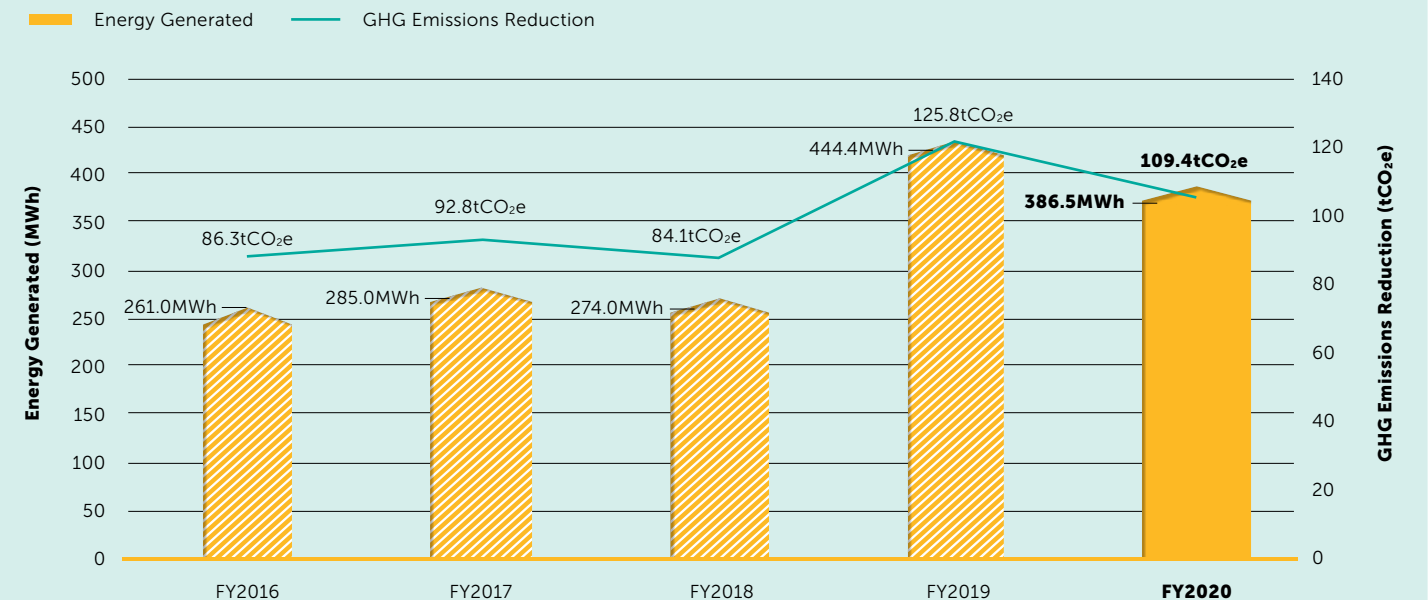
Rooftop Solar PV
at PETRONAS Jalan Kolam Air Lama retail station (84kWp, 2020)

We are continually identifying more viable sites for grid connected solar PV systems to further reduce our Scope 2 emissions.

Solar PV Generation Reducing Scope 2 GHG Emissions (Malaysia)



Solar PV Generation Reducing Scope 2 GHG Emissions (International)



Innovation Actions

PETRONAS Energy Canada Limited (PETRONAS Canada) has significantly reduced the carbon footprint at its well pads through utilising solar panels to offset its power needs. This achievement is significant as the use of solar panels previously had reportedly less efficiency in isolated and remote locations.

Working with a Canadian technology company, PETRONAS Canada has installed and tested a 20 kWp power generation and air compression system at its remote well sites. The company has successfully reduced its emissions to short durations during winter when the generator is needed to supplement power at the site.

With testing complete, PETRONAS Canada will be incorporating this new power system into all its new well pad designs. The use of this system is set to eliminate 1,600 tCO₂e per pad per year from entering the atmosphere. That number is 99 per cent of all GHG emissions from the traditional well pad which is roughly equal to the emissions produced by 350 gasoline-powered cars.

PETRONAS is intentional in sharing knowledge of its breakthroughs with other producers at forums such as the Natural Gas Innovation Fund.

Food Composting -
Towards the Goal of Zero
Food Waste

In an innovative approach to reducing GHG emissions, the INSTEP team collaborated with Mentari Alam EKO (M) Sdn Bhd (MAEKO), our food waste specialist partner, to launch the first Composter House. Implementing food composting technology, the Composter House comprises a composter machine that has the capacity to convert **100 kg food waste into 20 kg bio compost within 24 hours**. This compost can later be used for planting and greening the campus. This initiative also helps us to move towards our goal of zero food waste.

INSTEP can compost around 36.5 tonnes of food waste annually. This serves to eliminate **10,262 kg of CO₂ emissions** which is equivalent to the amount that 466 trees can absorb annually.



Note: This photo was taken before the pandemic.



Delivering Fuel Efficiency in Our Products



We are committed to undertaking continuous improvement of our products in our endeavours to be more fuel efficient. In 2020, we introduced the new PETRONAS Primax 97 fuel with Pro-Race. Formulated with the world's first Advanced Dual Friction Modifier, the fuel boasts 25 per cent less friction than our previous offering, resulting in more responsiveness. The new formula also facilitates better fuel and oil interaction, thus increasing fuel efficiency in terms of mileage and lowering carbon emissions.

In support of the Malaysian government's plan to increase the biodiesel blend rate from 10 per cent to 20 per cent, biodiesel B20 was introduced and made available at PETRONAS petrol stations in Sarawak during the year under review. PETRONAS Dagangan Berhad (PDB) is working closely with the relevant agencies to expand B20 implementation across the country as well as potentially increase the biodiesel blend rate in the future. The adoption of biodiesel by PDB hauliers has cut down PDB's Scope 1 emissions by up to 3,722 tCO₂e since 2017. As a result of our collective efforts, this has helped reduce as much as 278,850 tCO₂e from the transportation sector's GHG emissions in 2020 (equivalent to approximately 52 million mangrove trees sequestered per year), thereby positively contributing to the Malaysian government's commitment to the Paris Agreement.

For more details on PETRONAS Primax 97 fuel, go to the Downstream section on page 94.

Conserving Our Forests for Carbon Storage

PETRONAS has been working with the Malaysian government on forest carbon offsets as part of efforts to meet NZCE 2050. In 2020, PETRONAS conducted a study with the Forest Research Institute Malaysia (FRIM) to investigate the baseline of carbon sinks within the country. The FRIM study, which was completed in 2020, has helped us develop a position on forest-based carbon offsets.

For more details of our efforts pertaining to research on carbon sinks, go to the Sentuhan Alam – Environment section on page 189.

Enhancing GHG Monitoring, Reporting and Verification

Effective monitoring of our GHG emissions helps us to uphold stakeholder confidence while providing us with essential information that is vital to our mandate of reducing our carbon footprint to 49.5 million tCO₂e by 2024. To ensure the integrity of our GHG data, we continue to enhance our GHG monitoring, reporting and authentication processes via various verification procedures.

Our GHG emissions data for each of the years 2017, 2018 and 2019 has been externally verified, to a limited level of assurance, by ERM CVS, an independent third-party assurance provider. The verification, carried out under ISO 14064-3, covered the Scope 1 and Scope 2 GHG emissions from our Upstream, G+NE and Downstream operations in Malaysia which represent on average approximately 96 per cent of the PETRONAS Group's Scope 1 and Scope 2 GHG emissions for these three reporting years.

Full details of the scope, activities, limitations and conclusions of ERM CVS' verification of our GHG emissions data for 2017-2019 are included in their Assurance Statements at this link: <https://www.petronas.com/sites/default/files/sustainability/Independent%20Assurance%20Statement%20-%20GHG%20Emissions.pdf>

Leveraging on Digital Solutions

PETRONAS has initiated efforts to improve the credibility and transparency of GHG emissions data by embarking on a digital transformation journey that aims to enhance productivity and analytics while reducing human error. We have been using our own software called iCON (that incorporates API formulas and ISO 14064 standards to digitise GHG information from metering), to generate online reports and analytics. A pilot project was successfully conducted within G+NE in 2020. This has created value by replacing the tedious GHG data roll-up and reporting process with online data gathering, calculations and reporting. The insights generated through analytics provides opportunities for further reductions in GHG emissions.



Note: This photo was taken before the pandemic.

Climate Vulnerability and Adaptation Assessments

PETRONAS completed desktop climate vulnerability and adaptation assessments for Kerteh and Labuan during the year in review. This initiative is part of our efforts to be more proactive in ensuring our operations are resilient to the physical impacts of climate change. More climate vulnerability and adaptation assessments will be conducted in 2021 to help us assess the extent of any climate vulnerabilities in the areas where we operate.

GHG Emissions Performance

PETRONAS' extensive management of our GHG emissions comprise a combination of benchmark best practices and innovation. We continue to explore new ways in which we can improve our management processes. Our management practices have resulted in a continued downtrend of our GHG emissions since 2013. In 2020, we recorded a reduction of 0.6 million tCO₂e. Combined with our records since 2013, PETRONAS has achieved a total reduction of 13.4 million tCO₂e. This bodes well for us as we journey towards capping our overall emissions at 49.5 million tCO₂e by 2024.

Total Greenhouse Gas Emissions
(millions tCO₂e)



Notes:
1. Updated 2016-2019 data as a result of internal and external verification.
2. For international operations, data for Vietnam is only available for 2016.
* PETRONAS Refinery and Petrochemical Corporation (PRPC) Utilities & Facilities (UF) started its operation in 2017. The GHG accounting system that has been established was internally verified in 2020 which amounted to 2.59 million tCO₂e for the year 2020. The GHG emissions from PRPC UF will be included in subsequent disclosures.

GHG Intensity

Key Performance Indicators	2016	2017	2018	2019	2020
GHG Intensity for Upstream (tCO ₂ e/kboe)	63.0	69.0	55.6	51.5	51.0
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GHG Intensity for Petrochemicals (tCO ₂ e/tonne)	0.78	0.88	0.87	0.83	0.80

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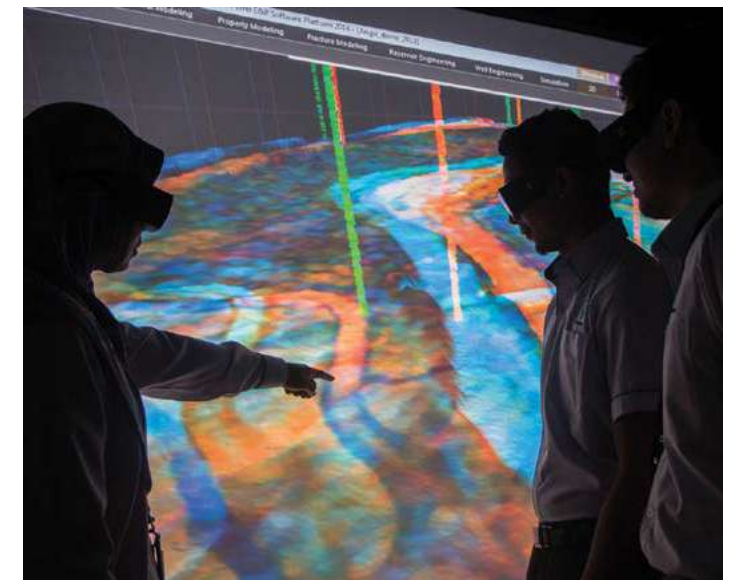
Environmental Management

The incorporation of environmentally friendly and sustainable practices into the Group's business is vital as this helps us uphold our commitment to safeguard the environment and respond to stakeholders' expectations. Our efforts to reduce our environmental footprint are underscored by our environmental management initiatives. These initiatives address every aspect of our business, from the design of our facilities to the management of our operations and execution of internal processes.

In ensuring ethical practices are observed throughout the Group, we have established internal environmental standards and guidelines that PETRONAS' entities under the operational control of the Group are expected to uphold. These requirements are benchmarked against global best practices such as the requirements found in the World Bank guidelines and the International Finance Corporation (IFC) Performance Standards on Environment and Social Sustainability. Vigorous capability development programmes are provided while environmental practitioners are also assessed against pre-determined structured environmental competency programmes.

Digital Transformation

Environmental and social performance data are highly important elements for analysis, reporting and disclosure in line with our Sustainability Agenda. To better manage groupwide Environment and Social Performance data, a solution called the Environment and Social Performance Integrated and Centralised System (or EPICS) was established at Group level under myHSSE in 2020. The tool acts as a centralised system for data collection, verification, automated analysis and reporting for environmental and social performance. It simplifies the process of data gathering, analysis and reporting while reducing human error as we move towards digitalisation. The system has been progressively developed and encompasses built-in performance modules such as the Air Emissions module that includes GHG emissions; the Hazardous Waste and Freshwater module; as well as the Grievance Management module. All these are expected to elevate the effectiveness of our data management endeavours.



Note: This photo was taken before the pandemic.

Waste Management

In 2020, PETRONAS generated approximately 92,040 metric tonnes of hazardous waste, marking a reduction of 20,183 metric tonnes from 112,223 metric tonnes in 2019. The high amount of waste generated in 2019 was contributed by tank cleaning maintenance activities. The slowdown in operational activities at the height of the COVID-19 pandemic also contributed to the lower numbers in 2020. The total amount of waste recycled or recovered during the year in review was 65,173 metric tonnes, which was equivalent to 71 per cent of the total waste generated by the Group.

The New Plastics Economy



The mismanagement of plastic waste continues to be a global issue with plastic litter remaining a threat to ecosystems the world over. To mitigate this, the Malaysian government has developed Malaysia's Roadmap Towards Zero Single-Use Plastics 2018-2030. This roadmap centres on eliminating the improper disposal of plastics and the manufacturing of single-use plastics in the country.

In support of the Malaysian government's plan, PETRONAS Chemicals Group Berhad (PCG) continues to spearhead the New Plastics Economy (NPE) in the country. The NPE creates a circular economy founded on sustainable solutions in which plastic does not end up as waste or pollution. The four key pillars of the NPE are:

- Education**
To impart knowledge on how we can continue to benefit from the versatility of plastic without damaging the environment by adopting proper waste management practices.
- Infrastructure**
To develop effective and sustainable waste recovery systems.
- Innovation**
To apply advanced recycling technologies to convert plastic waste that cannot be recycled using conventional methods.
- Clean-Up**
To turn education into action through hands-on clean-up activities within communities.



Education

Initiative

Content development for the "Plastic, Sustainability and You" module

Key Highlights/Achievements in 2020

Developed and distributed the "Plastic, Sustainability and You" education module to all schools in Malaysia. This was achieved in collaboration with the Ministry of Education (MOE), Solid Waste Management and Public Cleansing Corporation (SWCORP) and the Malaysian Plastic Manufacturers Association (MPMA) via an initiative that has been ongoing since 2019.

- The module was translated into **four languages** for the Primary School Curriculum and **two languages** for the Secondary School Curriculum.
- **Number of schools** impacted: **7,773 (Primary)** and **2,329 (Secondary)**.
- **Number of school children** involved: **2,730,057 (Primary)** and **1,993,905 (Secondary)**.

Initiative

"Plastic, Sustainability and You" Education Programme

Key Highlights/Achievements in 2020

Conducted six sessions of our "Plastic, Sustainability and You" webinar, reaching out to over **1,300 teachers** nationwide. Over **95 per cent of participants** expressed their satisfaction with the content and smooth running of the six-day programme.



Infrastructure

Initiative

Collaboration on the recovery of plastic waste

Key Highlights/Achievements in 2020

PCG initiated various collaboration initiatives internally and externally to improve the recovery of recyclable materials through an internal 3R (Reduce, Reuse, Recycle) programme. These collaborations included PCG's Operating Units as well as PETRONAS Business Units including PGB.

- A **total of 46,283.75 kg of recyclable waste** was collected under the PCG and East Coast Recycling Programme.



Innovation

Initiative

Project PACE: Plastic Waste to Crude Naphtha

Key Highlights/Achievements in 2020

- **Completed Feasibility Study.**
- **Final Investment Decision (FID)** is expected to be concluded in the second quarter of 2021.



Clean-Up

Initiative

"PCG Be Green" Programme

Key Highlights/Achievements in 2020

Implemented the "PCG Be Green" programme at four locations to build community awareness on proper waste and plastic management through cleaning up activities. Leveraging on digital platforms, the campaign reached **2,880 community members** while **approximately 2,000 kg of recyclable waste** was recovered.



Water Management

Water at PETRONAS is primarily used for cooling and steam generation within our operations. To ensure the smooth and continuous flow of operations, we have developed robust internal standards and policies, as well as initiatives, to optimise our freshwater consumption.

- Continuing our water balance development and verification work from 2019, we established best-achieved freshwater use intensity for the **top 13 freshwater users** in 2020. Doing so ensures continuous monitoring and optimisation of freshwater use.
- With respect to our Downstream and G+NE businesses, we have identified four domestic and two international locations of focus with full consideration to future water stress. Our research and decision-making process were guided by the **World Resources Institute (WRI) Aqueduct Water Risk Atlas**.
- We conducted a thorough water management assessment in 2020 for our Engen Refinery in Durban, South Africa. The assessment resulted in the development of a strategic water reduction roadmap to optimise freshwater use and to explore options to reduce dependency. Moving forward, we **aim to continue the work for other locations identified as future water stress areas**.



Delivering Water for Life to Iraq's Communities

PETRONAS Dagangan Berhad (PDB) first initiated the Water for Life programme in Malaysia in 2013 as part of its efforts to ensure that communities, especially those living in the interior areas, could receive a consistent supply of clean water. In 2015, the Water for Life programme was expanded to Iraq. Today, PETRONAS subsidiary, PETRONAS Carigali Iraq Holding B.V. (PCIHBV), is collaborating with the Host Authority Thi Qar Oil Company (TOC) and partner, JAPEX, to roll out the programme to tens of thousands of inhabitants within the Garraf Contract Area (GCA). The following initiatives have been implemented to date:

- Built Reverse Osmosis (RO) water stations facilities
- Provided toilets and water tanks to schools
- Installed water filters in schools
- Undertook clean water distribution
- Undertook planning for upcoming projects for RO water stations

As an International Oil Company (IOC) operating in Iraq, there are expectations for PCIHBV as a conscientious corporate citizen to undertake sustainable development for the nation in a meaningful manner. Even as the Water for Life programme successfully met the basic needs of people, provided equal access to all, and helped to improve the quality of life for communities in the GCA, PCIHBV was able to fulfil its obligations to the people of Iraq as well as strengthen its reputation. The success of the programme has strengthened PCIHBV's reputation as a trustworthy entity to communities which is essential for the sustainability of this IOC's operations in Iraq.

This initiative, which has garnered accolades and the full support of the Iraqi government and local communities, bears testament to PETRONAS' Statement of Purpose as a progressive energy and solutions partner enriching lives for a sustainable future.



Providing Precious Water for Life in Republic of South Sudan

Water is a scarce resource in the landlocked Republic of South Sudan, the world's youngest country. With limited income to spare for water purchases and the nearest river far from homes, many citizens rely heavily on hand-dug wells or surface water for their daily supply. Water sourced this way is easily contaminated and unsafe.

When the COVID-19 pandemic hit, the need for safe water became even more vital than ever. Responding to this, PETRONAS South Sudan completed Phase 4 of its Water for Life initiatives at Nyakuron West, Juba on World Water Day on 23 March 2021. This phase, which involved the completion of two water wells located at a community centre and at homes near the community, is today benefitting up to 12,000 people in the community.

PETRONAS South Sudan in collaboration with Republic of South Sudan's Ministry of Petroleum and Nile Hope, a local NGO, have built a total of 15 water wells in various locations in Juba since 2018. All 15 water wells are

constructed with solar-powered submersible pumps that can produce 405,000 litres of quality and safe water per day. This system requires minimal maintenance and capitalises on renewable energy which makes it a highly sustainable system, especially for rural areas.

As a result of PETRONAS' Water for Life programme in Juba, over 87,000 South Sudanese today have access to clean water. Now members of the community, mainly women, girls and children, no longer need to walk up to 3 km to fetch water for their daily consumption. They can now easily fetch up to 600 litres of clean water a day nearer to their homes, thus saving time and effort. School children also no longer have to walk for miles to fetch water for preparing school meals. PETRONAS' Water for Life programme has not only improved health, sanitation and hygiene, it has kept South Sudanese women and children safe as well as elevated the quality of life for Republic of South Sudan's communities.

Freshwater Withdrawal

In 2020, our total freshwater withdrawal was 60.0 million cubic metres as compared to 60.3 million cubic metres recorded in 2019. The figures represent the total freshwater withdrawn by both our local and international operations.

Wastewater Discharge

PETRONAS ensures that all wastewater from our onshore and offshore operations are treated prior to being released into the environment. In 2020, the oil in water content decreased to 532 metric tonnes from 648 metric tonnes in 2019 due to reduced operational activities.

The term “produced water” describes water that is produced as a by-product during the extraction of any hydrocarbons. PETRONAS was part of the International Association of Oil & Gas Producers (IOGP) task force that developed the Risk Based Assessment of Offshore Produced Water Discharges guidance document. In this regard, within Malaysia, we continued the produced water risk-based assessments for PETRONAS Carigali Sdn Bhd’s onshore terminals and two offshore platforms. Supplier environmental assessments were initiated in order to enhance the level of disclosure of the identity of oilfield chemicals and their respective environmental performance. This initiative is part of the Raw Material Information Request (RAWMIR) process, which intends to improve prioritisation of production chemicals based on their impact on the marine environment and to ultimately refine produced water ecological risk-based assessments.

For more details of PETRONAS’ Raw Material Management practices, go to the Product Stewardship section on page 176.



PETRONAS Canada Produced Water Initiative

PETRONAS Energy Canada Limited (PETRONAS Canada) has undertaken an initiative to reduce dependency on freshwater for oil and gas activities in both the North Montney Joint Venture (NMJV) and PETRONAS-Sasol Montney Partnership (PSMP) ventures through collaboration with peer producers on produced water sharing. During the hydraulic fracturing process, the water that we inject into the well flows back to the surface with the natural gas. In the first quarter of 2020, PETRONAS Canada shared produced water with Tourmaline Oil Corp. out of the PSMP. Similarly, PETRONAS Canada received produced water from Saguaro Resources Corp. in the Beg East area, supporting

the Bubbles b-24-B well pad completion and allowing this pad to be completed with 100 per cent produced water. (Well completion is the process of making a drilled well ready for production).

In 2020, PETRONAS Canada recycled 82.3 per cent of all water used for completion activities. We have made it a priority to reuse produced water from one hydraulic fracturing operation to the next and only draw on freshwater sources if there is a shortfall in available produced water. The reduced dependency on freshwater ultimately frees up the precious resource for use by the ecosystem.



Air Emissions

Air emissions from our facilities are actively monitored and all risks are evaluated and addressed accordingly as part of our integrated air emissions management approach. In enhancing data visibility, we developed an online monitoring platform that allows us to accelerate our response rate.

In 2020, the Group’s sulphur oxides emissions stood at 84,225 metric tonnes compared with 110,214 metric tonnes in 2019. The decrease in emissions value was attributable to the usage of cleaner fuel (low-sulphur compliant fuel) in our fleets and lower operational activities.

Total nitrogen oxides emissions for 2020 decreased to 116,427 metric tonnes from 148,446 metric tonnes in 2019, mainly due to operational improvements and a reduction in operational activities due to the COVID-19 pandemic.

Environmental Health

Protecting Community Health through Risk-based Assessments

Recognising that sustainability goes hand in hand with healthy communities, PETRONAS has embarked on a voluntary evidence-based management of environmental health which stretches beyond regulatory compliance, focusing on chemical exposures in air emissions and groundwater.

- ➔ Since 2018, we have been **conducting baseline Human Health Risk Assessments (HHRA)** at selected domestic operations to evaluate community exposure to ambient air chemicals.
- ➔ In 2020, the effort was extended **to include assessments in domestic and international operations.**
- ➔ In 2020, we **developed a strategic environmental health roadmap** which is guided by a priority plan for HHRA execution for the next five years.

Oil Spills and Response Preparedness

PETRONAS successfully completed and handed over the National Oiled Wildlife Response Plan (NORWP) to the Department of Environment (DOE) in November 2020. The NORWP is a supplementary document to the Malaysian National Oil Spill Contingency Plan (NOSCP).

According to the Global Oiled Wildlife Response System, the NORWP is the first oiled wildlife response plan in Southeast Asia. Through this initiative, we aim to create awareness on Oiled Wildlife Response preparedness across the industry and government agencies.

The NORWP was first utilised during a major oil spill incident in Tanjung Tuan, Port Dickson in Negeri Sembilan where PETRONAS assisted the DOE and Marine Department during the clean-up. The extensive beach clean-up saw PETRONAS providing technical advice and the Shoreline Clean-up and Assessment Technique to 16 supporting government agencies, including the Malaysian Armed Forces and Malaysian Maritime Enforcement Agency (MMEA). During the year in review, we accomplished the following:

- ➔ **Enhanced our Global Oil Spill Response (OSR) preparedness** via various capability development sessions **including upskilling webinars** and a certified Masterclass programme.
- ➔ Successfully **trained 75 personnel via the Masterclass sessions** to become OSR Subject Matter Experts (SMEs) across our local and international operations.
- ➔ Over **900 participants attended the webinar sessions.**
- ➔ We continue to work **towards safeguarding our facilities against spills via our preventive maintenance and routine monitoring measures.** In 2020, five hydrocarbon spills were recorded with a total estimated volume of 16.0 cubic metres (2019: 24.9 cubic metres).

Decommissioning

PETRONAS is committed to ensuring that the abandonment and/or disposal of all our Petroleum Facilities places a firm emphasis on the safety and protection of people, environment, assets and reputation in the course of Petroleum Operations. In performing these functions, we utilise PETRONAS' established processes and guidelines as per the structured Decommissioning Option Assessments (DOA) to determine the best decommissioning and abandonment approach. In enabling decommissioning and abandonment activities to be carried out transparently, we leverage processes and guidelines that are on par with international and industry best practices and standards.

In safely executing a sustainable decommissioning and abandonment agenda with minimal impact on the environment, we continuously build excellent synergies with relevant stakeholders and industries to explore sound solutions. The year in review saw PETRONAS continuing to work closely with the Department of Fisheries (DOF) Malaysia to evaluate the feasibility of converting retired oil and gas structures into artificial reefs so as to maximise the value of these decommissioned structures. In tandem with this, we also actively pursued collaboration with research and academic institutions in the form of joint studies, community practices, and sharing sessions, with the aim of refining and enhancing the techno-commercial viability of reefing in Malaysia. Some examples of focused research included undertaking offshore site-specific evaluations, reefing engineering, socio-economic impact analysis and post-decommissioning monitoring. To date, our Rigs-to-Reefs initiative has demonstrated proven improvements to the marine ecology and fish aggregation, while offering protection from illegal trawling activities.

In 2020, PETRONAS achieved the following on the decommissioning front:

PETRONAS completed **five decommissioning projects**, including 15 wells being plugged and abandoned (consisting of both 'dry trees' and 'subsea wells').

PETRONAS successfully **secured a preliminary agreement for a 10-year Sarawak Master Reefing Plan** with the DOF, Sarawak.

PETRONAS organised a series of monthly engagements in bridging academia with industry players through the **"Industry Meets Academia" programme**. The engagements sought to enhance collaboration in addressing decommissioning pain points through the pursuit of innovative decommissioning solutions and technologies.

PETRONAS successfully conducted **13 Lessons Learnt workshops with decommissioning service providers and Production Arrangement Contractors (PACs)**. From these workshops, 116 recommendations were captured to further improve the future execution of decommissioning projects.

PETRONAS continued to be active in the **International Association of Oil & Gas Producers (IOGP) Decommissioning Committee** and was heavily involved in finalising two briefs, namely "Offshore Oil and Gas Pipeline Decommissioning" and "Ecology of Steel Piled Jackets and Subsea Infrastructure".

Biodiversity and Ecosystem Services

Biodiversity is defined as the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part. This includes diversity within species, between species and of ecosystems (Convention on Biological Diversity (CBD) 1992). Ecosystems services are the essential services that support human needs such as food, water, shelter, clothing, medicines and fuel (International Finance Corporation (IFC) 2012).

There is now a greater demand for the business community to play a bigger role in Biodiversity and Ecosystem Services (BES) management and conservation. Within the oil and gas industry, this has been translated into a more transparent impact assessment and reporting of the industry's contribution to biodiversity and ecosystems conservation based on standards set by bodies such as the Global Reporting Initiative (GRI) and World Economic Forum (WEF).

In response to this, PETRONAS has subscribed to the Integrated Biodiversity Assessment Tool (IBAT), a one-stop global repository providing datasets on biodiversity. Towards this end, we are protecting the biodiversity and ecosystems surrounding our projects and operations by identifying BES risks using tools such as Environmental Impact Assessments (EIAs) and BES risk assessment (BESRA). PETRONAS completed BES Risk Profiling for all our onshore and offshore facilities in Malaysia in 2020. A total of 28 onshore and 74 offshore facilities were assessed using the IBAT and categorised according to their risk level. The risks identified were then managed by applying a mitigation hierarchy and minimising risk impact by putting physical, operational or abatement controls in place. Restoration and rehabilitation activities were also implemented, with offset being the last option to manage residual impact.

PETRONAS will also continue to conduct programmes for biodiversity protection and conservation to maintain ecosystems essential for present and future generations. In stepping up our efforts, we collaborated with other industries in Malaysia through the Interim Working Group (IWG) for the establishment of the Malaysian Platform for Business and Biodiversity (MPBB). These collaborations saw PETRONAS sharing knowledge on BES management at a forum and hosting the inaugural IWG meeting at the PETRONAS Twin Towers on 19 February 2020. The IWG will also provide PETRONAS with an opportunity to engage with the Ministry of Water, Land and Natural Resources for the purpose of collaborating on BES management in Malaysia. In addition to that, PETRONAS will continue to engage with the various stakeholders in the government, non-government as well as communities to collaborate on halting biodiversity loss.



Our Efforts to Protect and Preserve Mexico's Endangered Turtles

PETRONAS' international subsidiary, PC Carigali Mexico Operations (PCCMO), is pioneering the Group's turtle conservation efforts in Mexico. Aligned with Yayasan PETRONAS' focus areas and guiding principles, this initiative underscores PCCMO's support for efforts to conserve Mexico's wildlife, especially in the areas where it operates. This initiative is also aligned with the Federal Attorney for Environmental Protection's (PROFEPA) strategy to protect sea turtles.

The Hawksbill Sea Turtle Conservation Project at the Punta Xen Centre in Champoton, Campeche is important for Mexico as sea turtles are considered keystone species – meaning they are an important part of the environment and influence other species around them. Furthermore, Mexico is home to six of the seven endangered sea turtle species.

PCCMO's efforts comprise mainly of their funding of Grupo Ecologista Quelonios (GEQ), a non-profit organisation dedicated to the protection and preservation of endangered Hawksbill sea turtles. In 2020, PCCMO upgraded the centre's facilities in time for the turtles' arrival. The improvement

of facilities allowed the staff to be more efficient in their work, which was reflected in the increase of the turtle population. As of September 2020, a total of 167,288 turtle hatchlings had been released – a 16 per cent increase over 2019's numbers. Additionally, the rehabilitated centre is now a more visitor-friendly environment for researchers, students and tourists. The larger turtle population is set to benefit the entire ecosystem within the area. This effort has also positively impacted the community of Campeche with more employment opportunities being made available.

PCCMO intends to contribute towards helping the centre to become self-sustainable, thus ensuring that the Hawksbill sea turtles are looked after for the long term. In the second phase of the project, PCCMO plans to collaborate with a local university to undertake a scientific study of the local ecosystem development and to track the positive impacts on both the sea turtle community and the environment. Through its efforts, PCCMO aims to set a precedent for other turtle conservation centres as well as PETRONAS' international and local CSR activities.

Positive Social Impact



Lens 3
Positive Social Impact



In support of SDGs:

To enrich lives for a sustainable future, PETRONAS is endeavouring to build enduring and positive relationships with our employees, partners and the communities in which we operate by keeping each and everyone safe and adding value to their well-being through a variety of effective, tangible measures.



Ensuring an Effective and Sustainable HSE Framework

In line with our efforts to effectively **steward People, Planet and Profits**, one of our topmost priorities is to take responsibility for the well-being of the employees and contractors under our care. To ensure our people are at their best level of health and are working under the safest possible conditions, we uncompromisingly enforce stringent **Health, Safety, Security and Environmental (HSSE)** policies across our highly complex business.

The PETRONAS' Health, Safety and Environment (HSE) Policy is testament of our Management's commitment to strengthen PETRONAS' position as a reliable, responsible and caring employer. As we endeavour to build safe working environments and quality work processes,

we also expect all employees and representatives of PETRONAS to conduct themselves in a safe and responsible manner in accordance with our HSE Policy.

In tandem with this, a HSE Management System is in place to govern all HSE aspects of our business. The HSE Management System in turn has been established within the context of the **Plan-Do-Check-Act (PDCA)** continual improvement loop and aligned to the **International Organization for Standardization's (ISO) 14001:2015/ ISO 45001:2018** criteria. All these measures align with PETRONAS' commitment to upholding seven of the 17 United Nations Sustainable Development Goals (UNSDGs) and the four Sustainability Lenses.

Note: All photos were taken before the pandemic.

Positive Social Impact



Shaping a Generative HSSE Culture

The concept of caring for the safety and well-being of people is deeply rooted within PETRONAS' HSSE strategy and management activities and is underscored by the Group's Generative HSSE Culture which aims to reproduce transparency and mindfulness. This Generative HSSE Culture sees us prioritising and implementing very high safety standards, as well as making an effort to exceed them by going beyond compliance. In setting the bar high by way of process safety for our organisation and people, we are rallying our people to embrace HSSE as individuals as much as it is a collective responsibility. By ensuring our workforce and Management are as informed and transparent as possible, everyone knows what is really going on and this prepares us for the unexpected in our business. In the event something does go amiss despite all the precautions undertaken, we use this occurrence as a lesson to improve and prevent it from recurring in the future. Every 'error' is used as a key learning and issues are addressed in a manner in which we cultivate an ecosystem that promotes sustainable progress.

In inculcating PETRONAS' Generative HSSE Culture, these behaviours have become the mantra for all within the PETRONAS Group:

While our leaders are to serve as role models, **everyone at PETRONAS is to take ownership of HSSE matters** to create true value for the Group.

All of us are to be **mindful about what we do** and **how our actions can impact others**.

We are all to **look out for one another and keep potential risks and errors** at the top of our minds.

We are all to **create a safe space** to intervene when any of us sees unsafe conditions or behaviours.

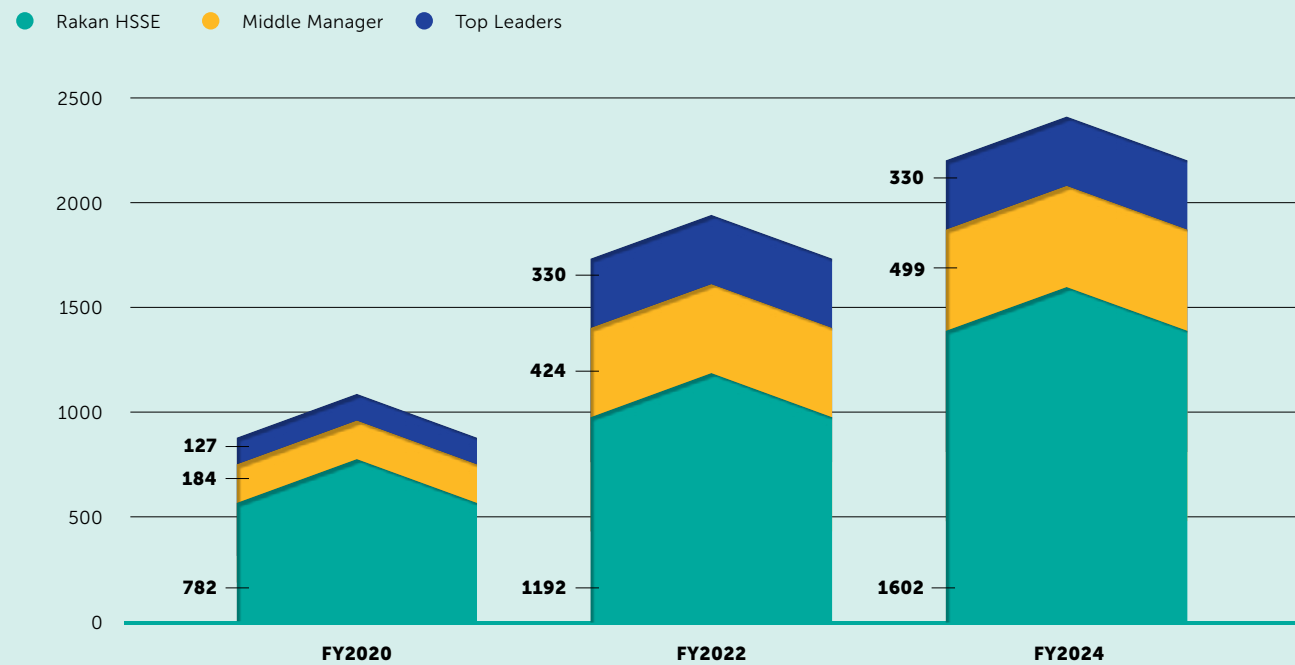


Note: All photos were taken before the pandemic.

Leading the Way to Shape the Generative HSSE Culture

Our leaders have immense potential to accelerate the formation of the desired Generative HSSE culture across PETRONAS' businesses and operations. To support our leaders' readiness to drive a prevailing HSSE culture, we have brought the HSSE Leadership Programme into play. Our aim is to enrol a total of 2,431 leaders covering HSSE practitioners, middle managers and top leaders into the programme by 2024. In 2020, we made good strides forward with some 55 per cent of PETRONAS' leaders enrolled and upskilled. With more than half of our leaders equipped and immersed in the programme, we are on track to have the desired HSSE ecosystem prevail throughout our operations by the target date.

Targets for Upskilling HSSE Leadership Programme



Reporting Unsafe Acts for Greater Mindfulness

Trust is a crucial element for us if we are to effectively shape the Generative HSSE Culture at PETRONAS. We inculcate trust among team members by asserting the fact that bringing up concerns and issues regarding unsafe acts and conditions is a form of care towards one another. Everyone is to look after each another to ensure everyone is safe. The Unsafe Act and Unsafe Condition (UAUC) initiative is one of our key safety behaviour programmes whereby employees are encouraged to proactively identify safety risks and hazards, then report these so that intervention can be carried out. Unsafe conditions are rectified immediately to ensure a safe work environment is maintained. The UAUC reports made are seen as an opportunity for learning and are valued by everyone. Due recognition by leaders affirms this positive behaviour.

The digitalisation of UAUC reports since 2018 has made it convenient for employees across PETRONAS to submit their reports through web-based and mobile applications. This led to a 77 per cent increase in the quality of UAUC reported in 2020 in comparison to just 8 per cent reported in 2019. Real-time data analytics is also contributing towards the development of various forms of predictive analysis models to prevent potential incidents, potential Zero Tolerance (ZeTo) Rules violations and near repeats in the future.

For the year in review, amidst the restricted movement challenges brought on by the COVID-19 pandemic, we remained agile and adapted to the new norm by migrating our Generative HSSE Culture Leadership Programmes from conventional face-to-face training platforms to Virtual Instructor-Led Training (VILT).

Moving forward, we will continue to shape a Generative HSSE Culture and develop our leaders at all levels so that they deliver the desired experiences and ensure forward accountability across our organisation. We will also continue to accelerate this by leveraging on digital applications such as myHSSE.

Digital HSSE at PETRONAS

The myHSSE digital platform serves as our one-stop platform for all PETRONAS' HSSE digital solutions and their related system training resources. By adopting a single information platform that houses all 16 of our HSSE digital solutions—each of which addresses different business pain points—we are according users easier access and fit for purpose usage. Moreover, we are also enabling users to harness the power of HSSE data to derive insights on HSSE performance, trends, emerging risks and other important elements so that we can make proactive interventions. As we move towards our goal of realising predictive and even prescriptive HSSE analytics, we aspire for the Group's HSSE endeavours to rise several notches higher.

<p>SHIELD Stewardship, Health, Information and Environment Linked Database A unified platform to manage the PETRONAS HSE database. It contains modules on Occupational Health (OH), Industrial Hygiene (IH) and Product Safety (PS).</p>	<p>IPSS Integrated Process Safety Solution An integrated solution to optimise Process Safety work processes, provide governance oversight to minimise human error and ensure compliant driving, while providing valuable insights into risk management.</p>	<p>EPICS Environment and Social Performance Integrated and Centralised System An integrated system that provides holistic environmental and social performance data management for compliance and sustainability reporting.</p>
<p>LegalEasy LegalEasy A solution to create a specific entity's legal register and to conduct compliance audits against the legal register or selected legislation, based on a set of audit questions.</p>	<p>SDS PETRONAS Safety Data Sheet A search portal that provides valuable information on PETRONAS' products in terms of product composition, labelling for containers and transport, safe handling and storage, incident management and compliance with regulations.</p>	<p>MARS Monitoring and Reporting System An integrated and centralised system to report, record and monitor the HSSE performance indicators for PETRONAS groupwide.</p>
<p>FMS Fatigue Management System A centralised system to track and monitor the Hours of Service Limit (HSL) for PETRONAS' employees and contractors.</p>	<p>E-Learning HSSE E-Learning A centralised HSSE learning modules on a single digital platform.</p>	<p>myHealth myHealth One stop center for Approved Medical Examiner (AME) and medical practitioners to manage medical records submission.</p>
<p>ICMS Integrated Contractor Management System A system to screen contractors and prevent any blacklisted personnel from entering PETRONAS' premises.</p>	<p>UAUC Unsafe Act, Unsafe Condition A centralised platform to report, track and provide analytics of Unsafe Act, Unsafe Condition and Safe Observation for PETRONAS groupwide.</p>	<p>AM Action Management A centralised platform to record and track HSSE-related action items for PETRONAS groupwide.</p>
<p>E-RGO Ergonomics Management System An ergonomic risk management tool to minimise the risk of musculoskeletal disorders.</p>	<p>IM Incident Management A system to report, record and track actions on HSSE incidents and grievances for PETRONAS groupwide.</p>	<p>You will find specific instances of how some of PETRONAS' HSSE digital solutions are being utilised throughout this Integrated Report. Just look for the myHSSE icon.</p>
<p>HIRA HSSE Integrated Risk Assessment An integrated system to manage and perform HSSE-related risk assessments.</p>	<p>CMIS Crisis Management Information System A solution to minimise human actions by providing an assisted approach in managing a crisis through the use of technology and the system.</p>	

We Intervene Because We Value Lives

One of the signature programmes within the fold of PETRONAS' Generative HSSE Culture is the "Jom Patuh dan Tegur" or "Let's Comply and Intervene" initiative. It centres on creating a safe space for one's peers to intervene whenever they identify an unsafe act or behaviour. Here at PETRONAS, we endeavour to live a culture of care not only for ourselves but for everyone around us. This culture sees colleagues reminding one another to be safe at all times and constantly being on the lookout for one another's well-being simply because we value lives.

Jom Patuh dan Tegur

(Let's Comply and Intervene)



Display your security pass prominently.

Be sure to have your security pass visible at all times when at PETRONAS premises.



Don't use your smartphone while walking.

Need to use your smartphone? Stop and step aside please.



Wear your face mask.

Face masks are required to enter PETRONAS facilities and must be kept on when interacting with others within a 1 metre distance.



Maintain physical distance.

Maintain a physical distance of at least 1 metre from others at all times, and keep your mask on.



Sanitise your hands frequently.

Frequent hand sanitising is one of the best ways to keep COVID-19 at bay.

In 2020, we established a live dashboard that gave our employees based at the Twin Towers a real-time glance on how well employees were complying with the COVID-19 SOPs in place. The dashboard which leverages self-checks, Artificial Intelligence (AI) and video analytics with deep learning continues to be put to effective use today.

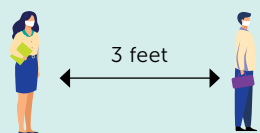
LIVE

Data from CCTV at lobby area of Tower 1 and Tower 2



Physical Distancing

Keep a 3-foot or 1-metre distance between you and other people.



84%

Physical Distancing Compliance

16%

Physical Distancing Non-Compliance

Data shown here is updated real-time based on video analytics Deep Learning Model



97%

Compliance on the use of mobile devices while walking



3%

Non-compliance on the use of mobile devices while walking

We Stand Down in Solidarity Because We Value Lives

Our people operate in a high-risk environment and are constantly exposed to potential occupational hazards. As such, we are extra vigilant while on duty particularly at high-risk areas. Nevertheless, mishaps do happen at times and this is indeed something very difficult for all of us to accept. Despite our best efforts, news of casualties is something we can never truly prepare for.

In the event of a fatality, we hold the Safety Stand Down. This is a sombre time set aside for all of us in diverse locations across PETRONAS to come together to show our grief, pay our last respects and honour those who have lost their lives in the line of duty. We also dedicate this time to reflect on the incident and the root causes from a shared space of concern and regret, as well as pledge to do better to ensure such an event does not recur.

On 31 August 2020, one life was lost while another person was injured at the PETRONAS LNG Complex in Sarawak. Upon the incident occurring at the Acid Gas Removal Unit drain containment which was then under maintenance, both contractors were immediately sent to the hospital. However, sadly one of them succumbed to his injury. We are also deeply saddened to report another two fatalities that took place on 27 October 2020 in an incident involving a vessel, MV Dayang Topaz, which made contact with the platform structures at the Baram field, 14 nautical miles off Miri. There were 187 personnel on board at the time of the incident. The impact caused 125 personnel to jump overboard. The affected personnel were eventually rescued by the emergency responders and evacuated to Miri. However, two fatalities were reported. Sadly, MISC Berhad too recorded a fatal accident on 2 November 2020 as a result of an unfortunate mooring accident.

Safety Stand Downs are also held for our joint venture entities. On 15 March 2020, there was an explosion at the Diesel Hydro Treater Unit at the Pengerang Refinery and Petrochemicals Complex which resulted in six fatalities. The refinery complex is operated by Pengerang Refining Company Sdn Bhd, which is a joint venture entity with 50 per cent effective share of PETRONAS Holding Company. As a PETRONAS associated company, the lessons learned were also shared amongst other PETRONAS operations.

The entire PETRONAS family is deeply saddened by these incidents. We have extended our heartfelt condolences and the necessary support to the bereaved families to help them cope with their great loss. In all these incidents, thorough investigations to identify the root causes were carried out with the relevant authorities and reported to the management. All recommendations made have since been instituted to ensure such incidents will not be repeated.

One life lost is one too many and we will continue to work hard in upholding the safety and well-being of our people.

One of the ways for us to learn our lesson from any major incident is by having a safety stand down. This is a moment for all components of the Group to come together to reflect on the incident and take responsibility for preventing any future recurrence.

Pandemic Preparedness Across PETRONAS

When the COVID-19 pandemic and the ensuing movement restrictions hit us in early 2020, PETRONAS responded swiftly by making the health and safety of our people our topmost priority. The PETRONAS Pandemic Preparedness and Response Team (PPRT) was set up with its roots going deep into our daily operations around the world. Working across the Group, they coordinated activities as well as rolled out and ensured adherence to stringent SOPs. The timely and proactive measures that the PPRT implemented to manage and curb the transmission of the virus across all our operations, went a long way in keeping our people safe and operations running.

Nowadays trust is a concern. But that's not the case with the **COVID-19 One-Stop Centre.** Trusted and reliable.

The PPRT issues timely directives through one source of truth for our employees. In the 12th week into the Movement Control Order (MCO) in Malaysia, the internal portal received over **110,000 visits** from over **24,700 unique visitors.**

The PPRT also supported the Group's operational and business continuity efforts via technical advice to the Corporate Command Centre (C3). Established in March 2020, the C3 provides unified commands and generates strategic and tactical decisions across the businesses within the Group.

We also went on to set up cross-functional COVID-19 response teams that dealt with and tracked cases across the entire Group and attended to them immediately. We reviewed our global operations and mobilised our staff and families back to home countries when that was the better option.

The Group also deployed digital tools to monitor our essential services and operations requirements, imposed minimal manning on site, and moved towards working from home. Despite the limitations, we were able to maintain our operational efficiency. As traditional ways of doing business were disrupted, we adapted quickly to the new norm via virtual meetings with key customers, stakeholders and government officials.

The PETRONAS PPRT is tasked with managing and curbing transmission of the virus across all of the Group's operations. The following were some of their key achievements in 2020. Other practices are ongoing.

Carry out Weekly Country Risk Assessments with ISOS and Country Chairs

- Current trending of cases
- Border lockdown status
- Medical accessibility
- Travel security

Remobilised staff and dependents to 13 host countries.

Evacuated 1,039 staff, dependents and sponsored students from 33 countries.

Transfer affected staff from our offshore facilities to designated hospitals or quarantine centres.

Set-up Government Quarantine Centres at PETRONAS facilities

- PETRONAS Learning Centre, Bangi
- PETRONAS in Kota Kinabalu, Sabah for offshore crew

Collaboration with the Ministry of Health (MOH), government agencies and embassies to develop

- SOPs for Malaysia's oil and gas industry
- A contact tracing guidebook

COVID-19 Health and Safety Measures			
Proactive testing	Contact tracing and quarantine measures	Signpost and controls for redeployment and repatriation	Risk-assessments for events and international travels
Projection modelling to predict future COVID-19 situations	SOPs for the management of foreign workers and internal clusters	COVID-19 One-Stop Portal clusters	Mental health support

COVID-19 Responses within Our Operations

- ➔ Among the key SOPs that the Upstream business fully implemented domestically was an **occupancy limit** at any one time **at our offices, plants and offshore facilities**; while the other part of the workforce worked from home to ensure business continuity.
- ➔ Some Upstream operation crews (specifically offshore personnel and those at selected terminals) had to undergo stringent COVID-19 testing as well as adhere to a minimum of **seven to 10-day quarantine** until their test results were released.
- ➔ As a precautionary measure to ensure the health, safety, and well-being of our employees, PETRONAS **safely brought home employees and their family members from our operations abroad**. The respective PETRONAS' operations continued, while implementing the appropriate working arrangements and optimum manning levels, including working from home to ensure the continuation of operations while minimising close contact among employees.
- ➔ **COVID-19 infections** at a few of our offshore locations required us to change the teams at our rigs as part of the efforts in managing and containing the spread of the virus.
- ➔ Some crew members were **quarantined for 14 days, remained offshore for 28 days and had another 14 days of quarantine** again upon returning. In total, some spent a **total of 60 days** away from their families. Many of them also went out of their way to ensure that the needs and welfare of others were taken care of before their own. Although the lockdown produced isolation which could lead to potential mental health issues, our people went above and beyond the call of duty by playing their parts.
- ➔ We **introduced relief, rental waivers and deferrals for our retail operations** so that Small and Medium Enterprises (SMEs) were able to remain in business. By looking out for our partners across the value chain, this went a long way in helping to keep them afloat. It also ensured PETRONAS was in a strong position to move forward quickly when the market picked up.
- ➔ To **mitigate the risk of personnel** dealing with LNG shipping operations contracting the virus, the novel **Contactless LNG Offloading methodology was introduced**.
- ➔ As an **essential activity** even during the lockdowns and movement restrictions, **Project Delivery and Technology (PD&T) pivoted to source for alternative supplies** from non-affected countries and optimised the Group's inventories to keep the overall value chain running without interruptions.

Among the digital tools that we leveraged in 2020 were the following:

The Secure Personnel Online Tracking (SPOT) system.

a personnel localisation and tracking system which enables contact tracing to be done at sites and on ships.

The Artificial Intelligence Security Camera (AISC)

which is an autonomous monitoring and tracking tool that can be used for HSSE non-compliance surveillance at PETRONAS projects.

MyBOT

to manage staff whereabouts and well-being while integrating HSSE and Human Resource processes onto one single platform.



For more details of how we safeguarded the well-being our people amidst the pandemic, go to the Corporate Social Responsibility section on pages 179 to 181 of this report.



Upholding Effective Occupational Health Practices

Ensuring Optimal Health and Well-Being

Given that employee well-being is one of PETRONAS' key priorities, we have adopted a holistic approach to occupational health that encompasses everything from inculcating healthy lifestyle programmes to upholding stringent regulatory health requirements inclusive of effective health management and emergency response plans.



To ensure our employees lead healthy lifestyles, we brought the groupwide MESTIfit4health programme into play. Targeting five focus areas, the programme encourages employees to achieve optimum health by adopting healthy habits.

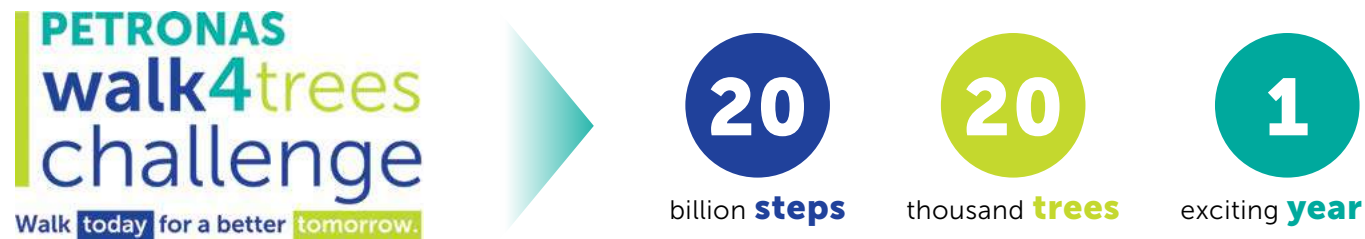
M	MOVE RIGHT! Addresses physical inactivity
E	EAT RIGHT! Promotes healthy eating and a balanced diet
S	SLEEP RIGHT! Addresses issues of fatigue by promoting good sleep habits
T	THINK RIGHT! Promotes good mental health and resilience
I	INDIVIDUAL RIGHT! Promotes responsible behaviour from the perspective of managing individual health risk towards oneself and others



Note: All photos were taken before the pandemic.



Note: This photo was taken before the pandemic.



The walk4trees challenge – A Good Reason to Keep on Walking

The walk4trees challenge is a collaboration between PETRONAS Group Health, Safety, Security and Environment (GHSSE); Yayasan PETRONAS; Global Environment Centre (GEC) and BookDoc that aims to promote healthy lifestyles among PETRONAS staff, while they in turn pledge to do their bit to care for the environment. The programme entails planting one tree sapling for every 1 million steps that participants achieve. The initial challenge was to collectively record 20 billion steps by June 2021 and plant 20,000 tree saplings to match this achievement. Some 20,000 PETRONAS employees registered to take part upon the programme's launch in early 2020 and the target seemed achievable – until the pandemic hit. Due to the lockdowns

and Movement Control Order (MCO), the average number of daily steps by the 20,000 participants quickly dwindled and only 11 billion steps or 55 per cent of the target was logged in as of December 2020. To supplement the number of steps, the challenge has been opened to the public through the walk4trees virtual run and the virtual Orchid Run under the patronage of PETRONITA, the Association of Wives of PETRONAS' Employees and Women Employees.

In support of the programme, GEC will train selected local communities and accord them the opportunity, education and support to set up nurseries that will help improve their livelihood. The programme will also help strengthen carbon storage activities, mitigate coastal erosion and increase the yield of fisheries in mangroves.

For more details of Yayasan PETRONAS' involvement in the walk4trees initiative refer, go to the Corporate Social Responsibility section on page 189 of this report.

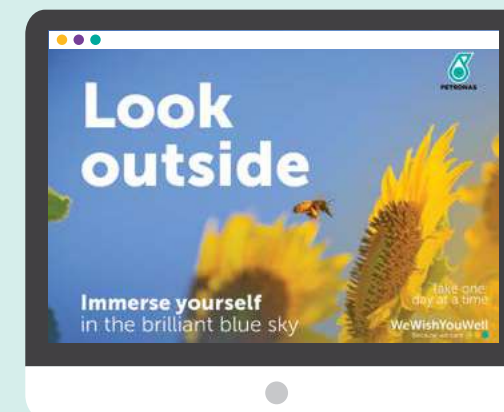
Upholding Mental Health and Well-Being at a Critical Time

Recognising that the pandemic had altered lifestyles and could lead to shock, isolation and the inability to cope with life's pressures – all of which could take a toll on one's mental health, PETRONAS quickly got down to implementing a support system to help employees deal with what they were going through. In 2020, we rolled out diverse, flexible mechanisms to ensure the mental health and well-being of our people were well looked after. These included:

- ➔ **24/7 virtual counselling** support to employees, their family members and sponsored students.
- ➔ The issuance of the **Mental First Aid Tool-kit (Mind-a-Care)**, as part of efforts to de-stigmatise mental health issues.
- ➔ The rollout of the **Eating Right e-Module** which advocates the benefits of maintaining a healthy and balanced diet as an important factor for attaining a quality life. We also developed an e-Module called **"A Guide to Healthy Eating"** to increase employees' awareness of the benefits of a healthy diet.
- ➔ The **"Sembang Petang" or "Evening Chat"** virtual platform serves as a safe space for employees to voice their concerns about their mental health and well-being as well as provide feedback on what they are going through.

Over the course of the pandemic, we also issued a series of communications on PETRONAS' internal platforms and social media channels to motivate employees and ensure they were always engaged. Comprising words of comfort, well-wishes and little nuggets of advice on a daily basis, these did much to put across the human connection as well as remind our families that they were not alone and that they needed to stay fit physically, mentally and emotionally during the trying times.

The **#WeWishYouWell** campaign involves PETRONAS' stakeholders from within the organisation sending out well wishes to external stakeholders wherever they may be to allay their fears amidst the pandemic. It is also helping garner support and loyalty for the PETRONAS brand.

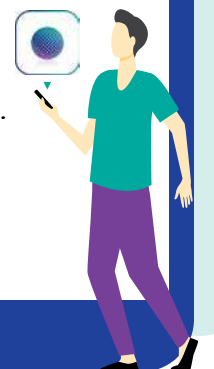


The campaign garnered over 207 million online impressions in 12 weeks

The **PETRONAS Dot App**, a social platform for employees, saw the number of daily active users doubling between March and April 2020 at the height of the pandemic when the MCO was implemented in Malaysia. These numbers prove that employees found it an effective outlet to stay connected with each other during this unprecedented time.

Total number of users on Dot
31,462

Total number of active users on Dot
29,492



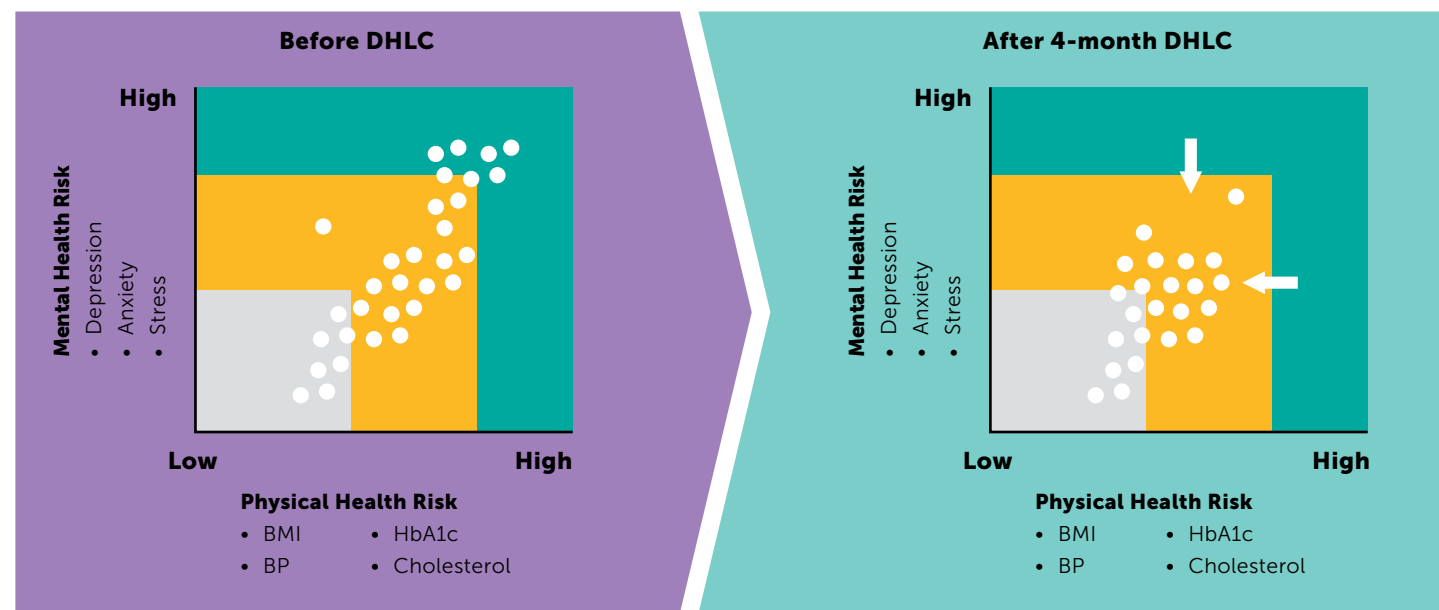
Enabling Employees to Take Ownership of their Personal Well-being

PETRONAS desires that its employees take ownership of their own physical and mental well-being and we are providing them the necessary tools to do this.

Overall Improvements to Physical and Mental Health Risk After the Fourth Month of the DHLC

The Digital Healthy Lifestyle Coaching (DHLC) platform is a digital integrated wellness coaching solution that aims to address the root causes of physical and mental health risks. Following the maiden launch of the DHLC platform in 2018, we rolled out the second phase in September 2019. A total of 483 participants took part in the assessments during the intensive and maintenance periods of the programme. They successfully completed their assessments in February and October 2020 respectively, four months and a year from the time the assessments began. As per the diagram below, this initiative showed significant improvements in the physical and mental health outcomes of the participants.

Overall Improvements to Physical and Mental Health Risk After the Fourth Month of the DHLC



Enabling Quicker, More Efficient Health Assessments

In July 2020, PETRONAS' myHealth portal went live, enabling employees to self-manage their end-to-end health assessment process. The portal is helping drive a culture of health ownership among the Group's employees by providing descriptive and predictive insights that enable the prescription of appropriate health and wellness programmes to employees based on their health risks and needs. myHealth also accords employees a personalised health risk dashboard while an auto-notification function reminds employees of the due dates for their health assessments. All in all, the myHealth portal has led to an 85 per cent improvement in efficiency and reduced the average health assessment processing time from three weeks to three days.

Our Wellness and Mental Health Strategy Moving Forward

This year, the Group's Wellness and Mental Well-being Strategy and Programme will be delivered to employees through two main streams, namely:

1 The Coaching and Counselling stream

This will take the form of a 24/7 holistic digital counselling app that will address an employee's personal stressors holistically as well as provide him or her access to multi-disciplinary coaches who will cover topics as diverse as spiritual, mental, physical, financial, social and occupational wellness.

2 The Wellness Learning Solutions stream

Mitigating the Risk of Food Poisoning

PETRONAS continues to work on reducing the number of annual cases of avoidable occupational illnesses such as food poisoning. Since 2018, our GHSSE division has collaborated with the Ministry of Health (MOH) and its resources to obtain the BeSS (*Bersih, Selamat dan Sihat* or Clean, Safe, and Healthy) food hygiene certification for the Group's 64 in-house caterers. The BeSS certification verifies that an operator of a food premise has provided food in a safe and healthy manner, in compliance with the health authorities' standards of hygiene. In 2020, we reached our target of obtaining MOH Approved Hygiene Standards (54 BeSS and 10 Grade A) for all our internal caterers. Since 2018, there have not been any food poisoning incidents related to our in-house caterers. However, in February 2020, there were two separate food poisoning incidents at two of our Operating Units. These incidents, which affected 42 employees, were traced back to external caterers. By the end of 2020, we had achieved the following milestones:

43%

of 174 external caterers had been verified in collaboration with our Operating Units.

21%

of external caterers had been inspected in collaboration with the MOH.

4

regional food safety workshops involving 198 caterers and relevant stakeholders had been carried out.

Strengthening Fatigue Management Efforts

Individuals who experience fatigue often see a decline in their performance and productivity and are at a higher risk of being exposed to occupational incidents. To mitigate fatigue-related occupational incidents, the Group has established a compliance system called the Fatigue Management System (FMS) that has been in place since 2018. Following user feedback and site observations at 53 of our assets, the reliability and effectiveness of the system has been strengthened. To date, FMS has effectively delivered the following results:



Note: This photo was taken before the pandemic.

Monitors **working hours, days and rest periods** based on work groups.

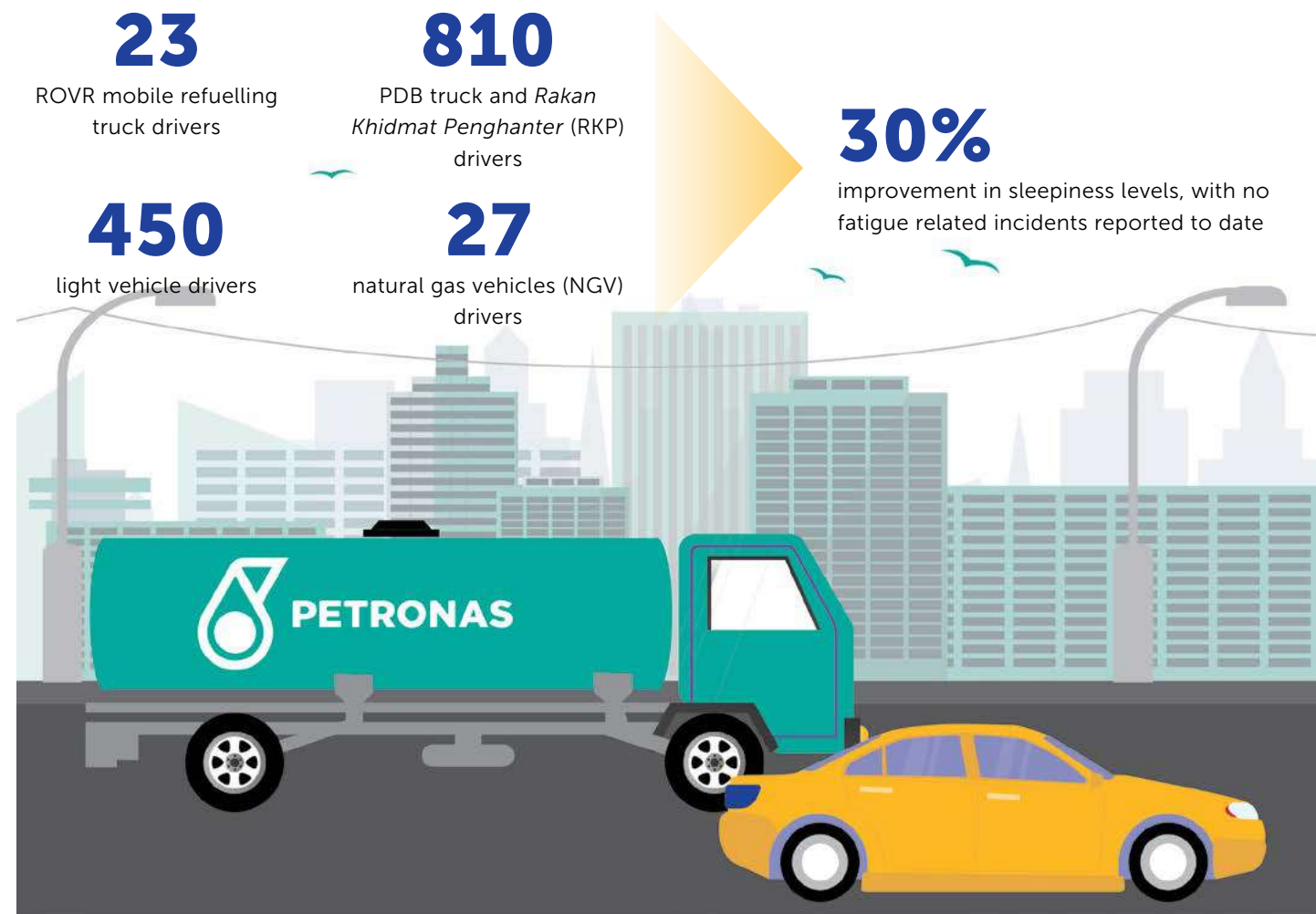
Provided coverage for **59 of 70 identified assets** with no fatigue-related incidents reported.

Prevented **22,000 potential fatigue-related incidents** through non-compliance monitoring on fatigue management.

The Group's fatigue management efforts are also championed by MESTIfit4Health's Fatigue Remedy and Sleep Hygiene (FReSH) Programme under its Sleep Right module. The intervention programme was developed to complement fatigue management by managing sleep quality.

Fatigue Remedy and Sleep Hygiene (FReSH) Programme

The FReSH Programme develops awareness of sleep biology and provides several solutions and interventions to address sleep-related issues. This includes eight weekly toolbox talks covering several modules. To date, several groups within PETRONAS have benefitted from FReSH:



FReSH Programme Survey Conducted Among Rakan Khidmat Penghantar (RKP) Drivers

- Over **20% improvement** in the RKP drivers' **quality of sleep**.
- Over **16% improvement** in **time management for sleep**.
- Over **20% increase** in the **amount of RKP drivers getting > 7 hours of sleep** every day.
- Over **20% improvement** in the **quality of power naps taken by RKP drivers**.

The FReSH programme today forms part of the compulsory training and serves as a reference for the Road Transport Operating Guidelines for RKP, NGV, ROVR and light vehicle drivers. This year, the FReSH programme will be targeting Sabah-Sarawak Gas Pipeline (SSGP) drivers and Downstream plant operators.

Prioritising Industrial Hygiene

One of our topmost priorities is to ensure the health of our employees and contractors within and beyond the workplace. We go beyond regulatory compliance and implement global best practices to deliver sustainable value and ensure a dedicated, productive and high-performing workforce. These include continuous efforts to address all workplace health hazards and respective risks such as chemical hazards, physical hazards (i.e., noise, radiation, thermal and vibrations), as well as biological, ergonomic and psycho-social hazards.

Industrial Hygiene Interventions

For 2020, we made good progress in the following areas:



Noise Improvement Control and Engineering (NICE)

We implemented control measures to reduce over-exposure to noise at source or Occupational Noise Induced Hearing Loss (ONIHL) cases once these had been identified. Noise reduction measures (via engineering control) are ongoing at Sabah Assets (SBA) and PETRONAS Chemicals Fertiliser Kedah (PCFK) Sdn Bhd. We anticipate to achieve noise reduction readings of approximately 2.7–28.7 dBA from our SBA study and 1.2–31.2 dBA from our PCFK study.



Buy-Quiet Programme

Situational assessments were conducted on six projects to assess the implementation of Hearing Conservation Buy Quiet standards within the various phases of each project. This is to ensure emphasis is placed on the purchase and installation of quieter equipment or machinery as a preventative measure to reduce workers' long-term exposure to noise at site.

Ergo Management Programme

Due to the shift in working arrangements from office to home during the pandemic, a Work-From-Home (WFH) self-assessment checklist was released that included work area set-up improvements and home hacks. Based on early feedback, educational infographics were developed and webinars conducted to further enhance employees' knowledge of WFH ergonomics.



Eyes Guard Application

The Eyes Guard application, a computer ergo stretch break reminder app, was released. The app was piloted at identified departments/facilities to instil a habit of taking micro-breaks when reminders popped-up. With the increase of computer/laptop usage, this app reminds users to take stretch breaks every 20 minutes and a brief walk/movement break every hour.

Nano-material Risk Assessment (NaRA)

We established an inventory of nano-engineered materials and conducted the first risk assessment at Universiti Teknologi PETRONAS. The assessment method uses nanomaterial physical characteristics such as water solubility and friability, among others, to determine risks to health.



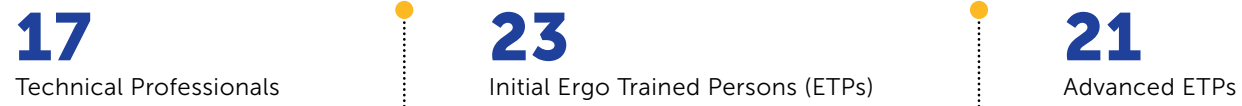
e-Chemicals System

A digital system to track all supplies of hazardous chemicals at site using a QR Code was implemented. This system helps alleviate recurring pain points related to the periodic review and updating of chemical registers, as well as non-compliant safety data sheets and labelling. An upscaled system will be integrated with the chemical purchasing process whereby it will screen banned chemicals and chemicals of very high concern (CVHC) in tandem with assessing their risk as part of the Management of Change process.

Note: All photos were taken before the pandemic.

Bolstering Our Industrial Hygiene Capability

On top of the 17 existing Industrial Hygiene Technical Professionals and in anticipation of the Department of Occupational Safety and Health Malaysia's (DOSH) Ergo Risk Assessment Guidelines becoming an Industry Code of Practice (ICOP), the following personnel within the Group have been internally trained as competent persons, qualifying them to conduct ergo risk assessments within PETRONAS.



In 2020, we also recorded the following results in comparison to the previous year:

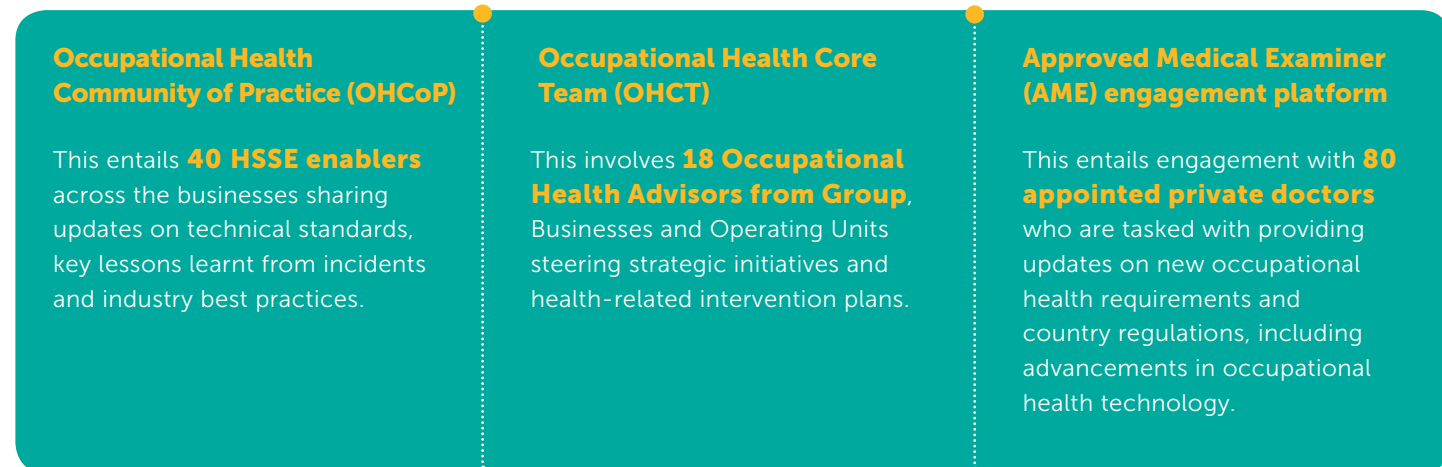


The overall Health Performance Indicator for Total Recordable Occupational Illness Frequency (TROIF) for the past five years is outlined below:

Key Performance Indicators	2016	2017	2018	2019	2020
Total Recordable Occupational Illness Frequency (TROIF)	0.32	0.08	0.22	0.08	0.16
Illness per million working hours – employees					

Ensuring Sustainable Occupational Health Capability Building Platforms

To enhance the effectiveness of the Group's occupational health and wellness programme delivery, three permanent capability building platforms were established in 2020.



In 2020, these platforms focused primarily on strengthening the management of COVID-19 pandemic and mental health interventions, as well as the prevention of occupational illnesses.

Going Beyond Compliance in Process Safety

Ensuring a Robust Process Safety Framework

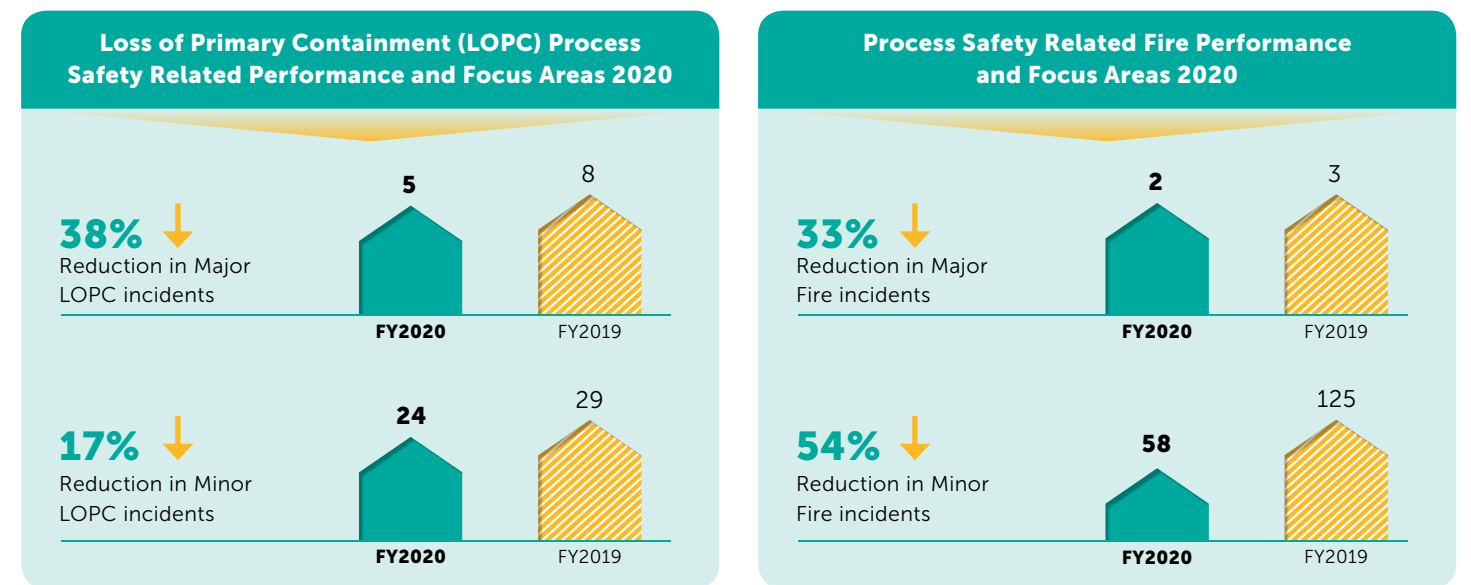
As we focus our efforts on shaping PETRONAS' Generative HSSE Culture, we are working hard to link fundamental human behaviour with compliance so that every individual within the Group embraces HSSE, particularly process safety, as a mandate and a responsibility.

Being a member company of the Centre for Chemical Process Safety, PETRONAS incorporates industry best practices in our implementation of process safety initiatives. The Group has achieved significant progress in its process safety performance since the establishment of the programmes and frameworks which enable the early prevention and mitigation of our process safety events including Loss of Primary Containment (LOPC) and fire incidents.

The Process Safety Loss of Primary Containment Reduction (PSLR) Framework and the Fire Prevention and Mitigation Framework (FPMF) were established in 2017 and 2018 respectively. Since then, we have seen the number of Tier 1 Process Safety Events (PSEs) decrease from 12 to seven cases, or a 42 per cent reduction, over the 2016-2020 period.

Our proactive efforts in Process Safety fundamentally revolve around risk management. To ensure the Group maintains a structured approach when managing hazards and risks, PETRONAS subscribes to the Hazard Effect Management Process (HEMP) and the As Low As is Reasonably Practicable (ALARP) principle. The HEMP is a risk management process which ensures that hazards and risks to the workforce, equipment, properties, and environment are properly controlled. In instances where controls fail, the HEMP helps to manage the impacts of these incidents. Meanwhile, the ALARP sets the level at which risk should be controlled. Digital technology serves as a key enabler to facilitate the implementation of this risk management process and to improve its effectiveness. In this regard, PETRONAS has embarked on the Integrated Process Safety Solution (IPSS) with the successful launch of the Hazard Identification and Risk Assessment (HIRA) and EMOC (Engineering Management of Change) digital modules for both our international and domestic businesses in 2020. This is part of our efforts to further improve our Process Safety performance in line with our zero Process Safety Event aspiration.

In 2020, we achieved the following process safety milestones:



Key Performance Indicators	2016	2017	2018	2019	2020
Number of Tier 1 Process Safety Events	12	12	9	7	7
Number of cases					

Note:
The updated Number of Tier 1 Process Safety Events for 2018 is due to internal assurance and data verification.

A Solid Crisis and Incident Management System

As a global operative in the oil and gas industry, PETRONAS is well aware of the various hazards and incidents that our line of business has to contend with. In mitigating the disruptive nature of these events, the Group has established a strong management system that addresses crisis and incident risk at every level.

The Crisis and Incident Management System (CIMS) forms part of the Group's HSE Management System (HSE MS) and Mandatory Control Framework (MCF). While it is founded on solid governing procedures, this framework is also designed to evolve and improve with every incident that occurs. As part of our upscaling measures, the Group runs thorough incident investigations and uses the findings from these investigations to enhance the framework. These findings enable us to identify the best interventions and prepare the appropriate contingency plans that will help us to minimise the negative impact of any untoward incident.

When it comes to response procedures, we have developed a groupwide three-tiered response system that outlines the various roles and responsibilities relating to emergency site management, operating unit management, as well as management of the corporate office and the authorities. In ensuring that crisis-preparedness is kept at an optimal level, our facilities and assets are required to conduct emergency drills and response exercises on a scheduled basis. On a management level, we assess our emergency-readiness through regular reviews. Furthermore, we utilise digital tools and systems to help us track and maintain our contingency efforts.

CEFS – Single-source Managed Solutions for Emergency and Fire Response Services

Centralised Emergency and Fire Services (CEFS)

- Full turnout of skilled manpower (fire-fighters)
- Full turnout with response equipment and vehicle
- Single contact point with local authorities
- Emergency Response (ER) Training Services
- Fire safety/ER equipment services
- Coordination of fire drills and exercises

CEFS is an entity that has been set up to provide single-source managed solutions for emergency and fire response services. The **first two CEFS** establishments, namely CEFS Response Kerteh and CEFS Pengerang Integrated Complex (PIC) Pengerang, are located at the Kerteh Integrated Complex in Kerteh, Terengganu and the PIC in Pengerang, Johor respectively.

CEFS Bintulu, the **third CEFS** establishment, is located in Bintulu, Sarawak. It offers similar services to its members in the **Tanjung Kidurong Industrial Area (TKIA)**. CEFS Bintulu is now in its final phase of operation readiness before it kick-starts full operations in the fourth quarter of 2021.

The establishment of CEFS Bintulu will provide a **systematic and integrated emergency response capability to all members when managing major potential incidents** such as tank fires and other types of fire, chemical spills, explosions as well as their cross-boundary impact.

CEFS Bintulu will continue to provide **basic services together with value-added services** such as manpower outsourcing, equipment rental and emergency training services at cost.

Note: This photo was taken before the pandemic.

Complementing Safety Efforts via Virtual Emergency Response Drills

To help PETRONAS' Emergency Teams make timely decisions, nine emergency response drills called Hybrid Emergency Response Exercises for domestic and international operations were implemented virtually in 2020. These drills complemented the PETRONAS Contingency Planning Standard guidelines for conducting drills and exercises. They entailed:

- ➔ **Live and simultaneous data capture.**
- ➔ **Integration with the Crisis and Incident Management System (CIMS)** which offers more crisis management tools such as Spill Impact Mitigation Assessment (SIMA), Shoreline Clean-up Assessment Technique (SCAT) and a Foam Calculator.
- ➔ For incident management, GHSSE has also developed and introduced an **HSSE Incident Management (HSSE IM) system** that serves as a centralised system to record, report and track actions on HSE and Security incidents for PETRONAS groupwide. The system went live on 1 January 2019 and is currently on track for full groupwide implementation by 2022. This HSSE IM system is also integrated with a **Monitoring and Reporting System (MARS)** capability which allows users to monitor HSSE incidents from centralised dashboards and reports.

Bolstering Our Emergency and Crisis Management Capabilities

In 2020, PETRONAS collaborated with the PETRONAS Leadership Centre (PLC) to enhance the capability of our Country Chair and Leaders across the Group via the PETRONAS Country Ambassador Professional Training and International Networking (CAPTAIN) series. The CAPTAIN series is designed to encourage the exchange of knowledge and sharing of best practices among peers, experts and leaders of the Group. Using a real evacuation as a case study, the series strengthens participants' skills and accords them a deeper understanding of crisis and media management.

The Group also accelerated personnel competency by facilitating various upskilling programmes for our Emergency and Crisis Leadership Teams, as well as Country Contingency Teams. The following are some of the year's initiatives:

- ➔ **Train the Trainer (TTT) programme**
76 personnel from the businesses were appointed as in-house PETRONAS **Emergency and Crisis Management (ECM) Trainers**, thereby increasing the pool of Emergency and Crisis Management Trainers.
- ➔ **Gen-R Series (Respond, React and Reliable) programme**
8 Gen-R sessions were conducted, increasing Emergency and Crisis management awareness for **1,000 Non-Emergency Response practitioners**.
- ➔ **Confined Space Rescue Certification Programme**
Strengthened the **Emergency Response Team's capability** to perform rescues in confined spaces via drills at the Institut Teknologi Petroleum PETRONAS (INSTEP) facility. Received site certification by **BOMBA for fulfilling Department of Occupational Safety and Health Malaysia (DOSH)'s Industrial Code of Practice (ICOP)** for Safe Working in a Confined Space, 2010. This programme has now become a new course offered by INSTEP.

Throughout 2020, some 5,000 participants benefited from various Emergency and Crisis management training sessions which included specialised fire safety and oil spill response training.



Note: This photo was taken before the pandemic.

Natural Disaster Contingency Management

The Flood Operation Coordination Committee (FOCC) is tasked with securing the collaboration and commitment of the Group's various business entities in the East Coast to ensure that our operations are well prepared for the monsoon season. In 2020, the FOCC conducted "Ex Tengkujuh III", an annual emergency response exercise (ERE) and training session as well as organised briefing and engagement sessions with relevant stakeholders including government authorities.



As part of the Group's disaster preparedness efforts, we have published the "Natural Disaster Contingency Plan" that provides guidance on managing natural disasters such as floods, tsunamis, earthquakes and tropical storms.

PETRONAS' flood management initiative continued in 2020 under the leadership of GHSSE and our East Coast Regional Office. During the year in review, ERE and training sessions were conducted in order to ensure our readiness in managing floods. This involved the FOCC, led by the PETRONAS Regional Office and 23 Flood Operation Committees (FOC) established at the respective Operating Units. To support the FOCC, the Group appointed 40 employees as FOC members.

Security

The Group is constantly enhancing its security measures to ensure the safety and well-being of our people, operations, information and property. Our efforts are supported by the relevant laws and regulations pertaining to security matters as well as PETRONAS' Security Policy and Security Management System (SeMS).

Be it through continuous assessments or innovative improvements, our aim is to uphold resilient and effective security controls to safeguard the sustainability of our businesses. In 2020, we focused our efforts on strengthening our processes and predictive capabilities through a series of assessments and follow-up measures.

Security Governance and Assurance

The year under review saw our Security Division under GHSSE completing the assessment and implementation of the enhanced SeMS 2.0, whereby the team thoroughly reviewed and tightened sections such as assurance as well as security research and analysis. Other improvements included clarifying the role of the businesses in implementing the provisions within the SeMS.

As a follow-up to this exercise, the workings of the revised SeMS were communicated to all businesses. The Security Division also conducted targeted engagements on topics such as personnel and workplace security management. These sessions, conducted virtually, resulted in the enhanced integration of security elements as part of the larger business decision-making process.

On the Malaysian front, the Security Division was able to fully complete the first and second-line assurance for identified assets in the country. We aim to replicate this success across the Group with ongoing improvements to streamline areas such as security incidents reporting and security management practices. Furthermore, the identified assets, both locally and internationally, have been further evaluated to ensure full compliance with PETRONAS' Mandatory Minimum Security Standards (M2S2). Although the onset of the COVID-19 pandemic and corresponding movement restrictions impacted our ability to undertake physical gap closure assessments, we pursued alternative solutions via close collaboration with our internal stakeholders resulting in successful gap closures.

Proactive Security Risk Management

PETRONAS adopts a proactive approach to risk management to ensure that all potential threats and risks are adequately mitigated. In 2020, our Security Division worked on the following:

Strengthened our capabilities

in the areas of predictive security analysis. This included identifying, monitoring and evaluating PETRONAS' vulnerability against external security threats to ensure foreseeable business risks were addressed in a timely manner and that the necessary controls were in place.

Provided instantaneous consultation and assistance on various security-related matters. The team leveraged internal subject matter experts, including forecasting analysts, to facilitate effective proactive risk management. It also coordinated periodic engagements with internal stakeholders to facilitate the sharing of actionable insights to ensure optimum security preparedness.



Note: This photo was taken before the pandemic.

As our teams went about their duties, particularly during the various phases of the Movement Control Order (MCO) in Malaysia, they were accorded 24/7 security support via the Security Operations Control Centre (SOCC).

PETRONAS is currently working towards converging physical and digital security solutions to leverage digital analytics for enhanced security management. This is to enable real-time evaluation of security vulnerabilities that can affect PETRONAS' global interests.

Ongoing Security Digitalisation Efforts

→ **Integrated Contractor Management System (ICMS)**

Overview

A system to screen contractors and prevent any blacklisted personnel from entering PETRONAS' premises.

Value Add

Single source of updated information for all PETRONAS businesses in Malaysia.

Highlights in 2020

Initiated Offshore/Onshore Safety Integrated System (OSIS) to expand ICMS module to offshore operations.

→ **Intelligent Security Operation Centre (ISOC)**

Overview

A security system that utilises Intelligent Data Collection, Management and Analysis to provide strong security protection and intervention.

Value Add

- Centralises security information management.
- Improves integration across existing security systems.
- A platform that provides 24/7 end-to-end security support.

Highlights in 2020

- Developed prototype for an integrated digital security management platform.
- Provided 24/7 security support during the various COVID-19 movement restriction phases.

Security Compliance Culture

When it comes to security, PETRONAS subscribes to the concept that "security is everyone's responsibility". We continue to inculcate the values of accountability and responsible practices in our security awareness campaign to encourage individuals to collectively play their part in observing security mindfulness across the Group.

In the year under review, our Security Division actively accelerated awareness and education on various security topics using various platforms to elevate staff's understanding of security behaviour. These platforms encompassed posters, articles, videos and staff awareness sessions throughout the year focusing on topics such as Security amidst COVID-19, Festive Security and SeMS. The team also organised special briefing sessions for PETRONAS scholars travelling abroad to pursue tertiary education.

We carried out the "What Security Means to Me" campaign which emphasised the importance of security in upholding a safe and conducive workplace. This groupwide campaign featured top management personnel reinforcing the importance of proactive security measures from the individual and business perspectives. Part of the campaign included the implementation of the Security Community of Practice where topics such as the importance of managing security risks proactively amidst evolving externalities; real experiences on how and why security matters on the ground; and the realities of security threats and risks, were discussed.



GHSSE also organised a pilot Security Walkabout session to reinforce the right security behaviours and to ensure provisions within the Minimum Mandatory Security Standard (M2S2) were being observed at the workplace. Findings from the walkabout were shared with the management for corrective purposes. Going forward, we plan to conduct the Security Walkabout at the PETRONAS Twin Towers in Kuala Lumpur and at other identified operational assets within Malaysia.

Security Stakeholder Engagement

Stakeholder engagement plays a vital role in business sustainability as it offers us valuable perspectives and insights as to how we can continue to strengthen our business. Furthermore, it provides us with collaborative opportunities which serve to enhance the scope of our operations.



Working Together to Keep Our People, Facilities and Seas Safe

In 2020, PETRONAS continued to engage with various local and international security stakeholders. In Malaysia, this entailed working alongside various external enforcement and government agencies. These collaborative efforts have done much to elevate the safety and security of PETRONAS' facilities, particularly our offshore oil and gas facilities in Malaysian waters.

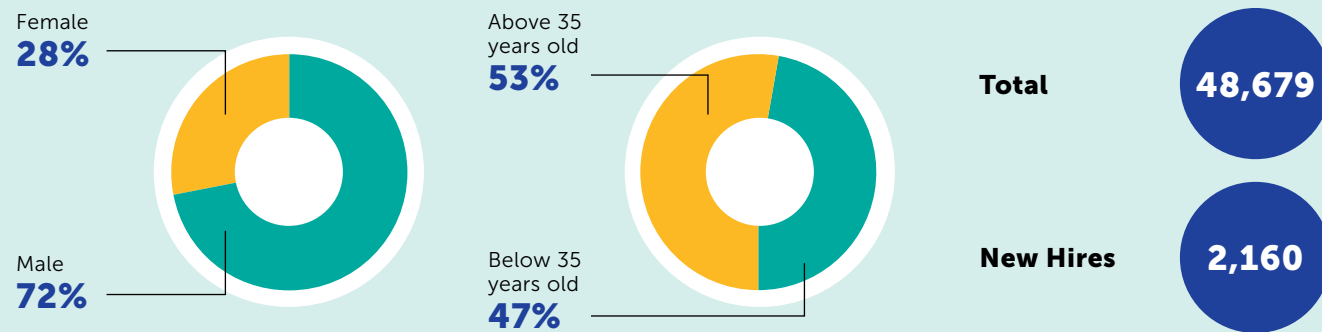
Among the Security Division's key accomplishments in 2020 was the safe and successful Sail Away of the PFLNG DUA from South Korea to Malaysia. It involved a 14-day journey traversing diverse waters between five littoral states, undertaking thorough internal risk assessments, as well as striking up strategic alliances and engaging with relevant government agencies. Under the watchful eye of a dedicated security escort in the form of the KD Lekiu, the PFLNG DUA arrived safely at the Rotan Field - Sabah Waters in March 2020.

The year also saw us undertaking periodic engagements on security matters on an as-needed basis with relevant agencies abroad. Similarly, we carried out consultations with internal stakeholders across our businesses to ensure security controls were adequately in place as per the SeMS and M2S2. During identified periods of elevated security, we also sought timely advice to ensure additional measures were instituted to correspond with the identified risks.

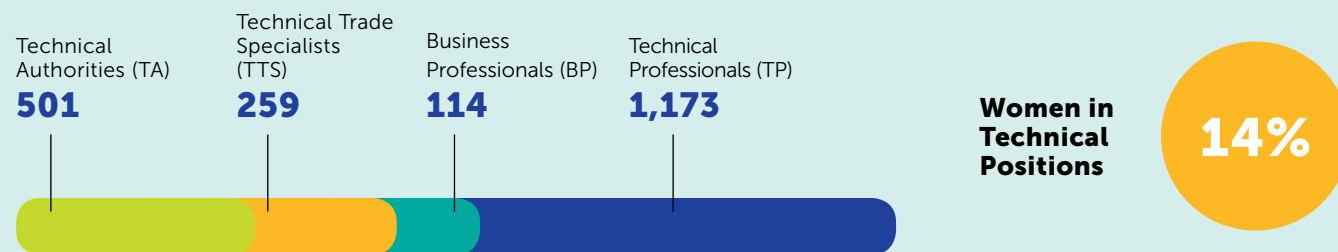
Talent and Education

PETRONAS' greatest assets are its people. They are the reason for our growth and progress. We have made it our purpose to ensure that our people have an enriching experience with us, while contributing to the sustainable growth of our organisation and the communities we operate in.

Total Employees



Total Technical Expertise



Note: This photo was taken before the pandemic.

To attract and retain the best talents, we place great emphasis on the well-being of everyone on our workforce, competitive remuneration, a diverse and inclusive work environment where everyone is given equal opportunity to contribute and be recognised, the nurturing of individual potential and reward-based performance. These, among other factors, contribute towards PETRONAS' position as an employer of choice.

As of 31 December 2020, our total manpower stood at 48,679 employees with 85 per cent employed across our Asia operations.

HR Awards and Accolades

PETRONAS continues to receive recognition on the Malaysian and international fronts, for its commitment to upholding excellence in human capital development. The following awards underscore our commitment in this area:

- No 1** for **Leading Graduate Employer** in the **Energy/Oil and Gas/Utilities sector** for the third consecutive year since 2018 in the Malaysia's 100 Survey
- 1st Runner-Up** for **Graduate Employer of the Year Award** at the Malaysia's 100 (M100) Leading Graduate Employers Awards event
- Top 10** Voted as being **among the Top 10 Best Graduate Employers in Malaysia** in the Graduates' Choice Award polls
- Top 5** Voted as being **Number 1 among the Top 5 Best Oil and Gas Graduate Employers in Malaysia**, in the Graduates' Choice Award poll
- Most Attractive Employer** Ranked as the **Most Attractive Employer in Malaysia** by Ranstad, one of the world's largest staffing firms

PETRONAS' signature leadership development programmes for middle management, Tactical Excellence and Managerial Excellence, won the following awards from the Brandon Hall Group:

- Gold** for **Best Advance in Instructor-led Training (ILT) Management and Delivery (Managerial Excellence)**
- Gold** for **Best Advance in Measuring the Impact of Leadership Development (Tactical Excellence)**
- Silver** for **Best Advance in Gaming or Simulation Technology (Managerial Excellence)**
- Silver** for **Best Advance in Social Learning Technology (Managerial Excellence)**
- Silver** for **Excellence in Learning Impact in PETRONAS**

Managing Employee Well-being and Sustaining Productivity

The year 2020 was truly an unprecedented year for the world impacting all aspects of life. As the world went into lockdown, PETRONAS responded swiftly by establishing the Corporate Command Centre (C3) committee and PETRONAS Pandemic Preparedness and Response Team (PPRT). Both committees steered the PETRONAS Group and provided direction in managing working arrangements.

While the safety and well-being of our employees was our utmost priority at all times, we also put in every effort to maintain employee motivation and productivity while minimising the disruptions to business operations. Among the immediate actions we took included:

Implementation of special working arrangements effective 18 March 2020 with split teams:

- **Onsite work for key operational activities that required manning**
- **Work-from-Home/alternate work location arrangements for the rest of the organisation**

For more details on PETRONAS' COVID-19 responses, go to the Pandemic Preparedness Across PETRONAS section on page 142.

→ During the Movement Control Order (MCO) period in Malaysia, approximately **83% of employees worked remotely**. This was carried out seamlessly with employees receiving regular updates on guidelines and advice to help them adjust to the new working arrangements.

→ Concurrently, a team under the Digital Group also ensured the availability of digital collaboration tools such as Microsoft Teams and our **virtual private network (VPN), as well as provided support in the form of an online technical helpdesk**, while ensuring that our digital platforms were secured from cyber threats.

→ **Two employee surveys were carried out to gauge the implementation of remote work arrangements** and the results indicated that employees found these working arrangements 'satisfactory'. The remote work arrangements did not have any adverse impact on PETRONAS' operations and the organisation is considering making the working arrangements a permanent post-pandemic option.

Retooling the Human Capital Equation – Preparing Our Workforce for the Future

The world as we know it, is evolving at a tremendous pace and the possibilities are infinite. To prepare us for the future, we have taken deliberate steps to **Reshape Our Portfolio** into one that is of high value and upholds a superior performance. To prepare our people for this future with a reshaped portfolio, efforts are underway to **Retool and Create a more Agile Ecosystem** with employees being a key component of the ecosystem to steer long-term growth and sustainability.

Today, PETRONAS is **Retooling the Human Capital Equation** through **three key pillars**:

<p>1 Talent Engine</p> <p>Talent is managed with an end-to-end approach which is, from hire-to-retain. This involves talent planning and acquisition, talent mobilisation, the realisation and nurturing of a high-performing culture, measuring performance, and rewarding the talents for their contributions.</p>	<p>2 Innovation Engine</p> <p>This entails building a sustainable culture of innovation across PETRONAS, where every employee is empowered with the right tools, support and structure; they need to think big, experiment with breakthrough ideas, and push this into production; while keeping the customer top-of-mind.</p>	<p>3 Agile Leadership</p> <p>This centres on creating leaders who embody and role-model Agile principles and practices by empowering teams to plan and deliver work, setting up the right cross-functional teams for the right priorities, and guiding teams to the desired outcomes.</p>
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Note: This photo was taken before the pandemic.

In setting up the right culture to spearhead the organisation’s growth strategies, PETRONAS has reviewed its Cultural Beliefs and launched a new refreshed set of Cultural Beliefs, which mandate our employees to uphold the following maxims:

<p>Customer Focused I deliver solutions from the customer lens</p>	<p>Innovate Now I challenge norms and push boundaries</p>	<p>Be Enterprising I seek opportunities and make them happen</p>	<p>Speak Up I express my views openly</p>	<p>Courage to Act I take action to progress with pace</p>
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The new PETRONAS Cultural Beliefs were launched by PETRONAS’ President and Group Chief Executive Officer, in tandem with the new internal Moving Forward Together aspiration. This was followed by eight cascading sessions to ensure alignment across the Group.



Learning and Development

At PETRONAS, we take a holistic approach when it comes to enabling and empowering our talents to develop and nurture their full potential. We recognise that a strong pipeline of capable leaders and competent workforce will ensure and reinforce the sustainable growth of the Group. As such, we are actively involved in building the capabilities of our talent pool to become a highly skilled, innovative and agile workforce by enabling them to self-drive their own career growth in the organisation while delivering on business objectives. In 2020, more than RM170 million was invested in learning and development.

In building our leaders, we design and implement transitional leadership development solutions to equip our leaders with the critical leadership competencies. One of our signature initiatives is the Top Leaders Dialogue (TLD), a platform that aims to enhance the enterprise perspective of PETRONAS’ top 150 leaders through engagement, alignment, and collaboration on business direction. In TLD, our leaders are also given the opportunity to engage and learn from well-known leadership thought leaders.

To ensure the Group’s human capital development is managed more efficiently, we had started to leverage on digital technologies and tools. The pandemic accelerated many of these efforts to ensure that talent development could continue.

In 2020, we successfully launched and deployed the Superior Managed Assessment (SMA) across the Group. The SMA forms part of RESCISCO, an enhanced Technical Capability Development Framework and Programme that enables employees and their superiors to conduct competency conversations virtually anytime, anywhere.

Employees can track, review and analyse their gaps using the competency dashboard and analytics. With this information, employees can prepare their Personal Development Plans and self-drive their development. More than half of PETRONAS’ technical workforce have carried out their assessments using SMA.

Meanwhile, on the learning front, both of PETRONAS’ technical training and leadership centres have added digital learning solutions as part of their offerings to ensure an uninterrupted learning experience for our employees.

At PETRONAS Leadership Centre (PLC) a total of 20 training programmes comprising in-role, competency-based and leadership programmes were converted to digital or blended learning experience. Employees were able to leverage the Group’s well-established e-learning platform that comes complete with an extensive library of e-learning modules covering a wide range of topics.

During the pandemic, we created new catalogues under our digital learning platform aptly named “Learning During Crisis Edition” and “Managing Transition”, which featured more than 100 topics on crisis-related contents.

Meanwhile at our technical training arm, Institut Teknologi Petroleum PETRONAS (INSTEP), we rolled out our first Virtual Instructor-Led Training (VILT) within a month after the Movement Control Order (MCO) was announced in Malaysia. By the end of the year, a total of 201 VILT modules had been developed and 571 VILT sessions conducted.

In 2020, we achieved the following results by switching to digital learning platforms:



We recorded the highest number of active users on our e-learning platform totalling 6,950 in March 2020. Employees leveraged the organisation’s e-learning facilities to equip themselves with the necessary skills to help them adapt to the new working norms.

As PETRONAS’ business portfolio evolves, a meaningful part of our business will come from activities beyond our traditional strengths in oil and gas, this mean that we will need to build new types of capabilities, adopt new ways of working and establish the right environment for our talent to create value and innovate.

Our talent development efforts moving forward will focus on introducing new skills and tools to shape the organisation’s capabilities to deliver breakthrough ideas that meet customer’s needs. We will continue to enhance our digital learning platform to incorporate Artificial Intelligence (AI) technology that will help employees identify areas for development and match this with suitable learning plans. We are also developing a platform that will match employees’ competencies and aspirations with business needs and career opportunities. This will enable our workforce to manage their personal development and drive their careers in a more effective and efficient manner.

Generating Value and Innovation from a Diverse and Inclusive Workforce

For PETRONAS to successfully progress, generate value and innovate, we are committed to providing a Diverse and Inclusive (D&I) workplace environment that encourages and celebrates diverse perspectives and thinking. By embracing D&I, we are unlocking the potential and leveraging on the strengths of our talent. The Group's D&I Statement encapsulates the aspiration behind this.

PETRONAS Diversity & Inclusion Statement

D&I is about all of us progressing in this world together. We know through experience that diverse ideas, views and backgrounds create a more progressive and creative work environment that deliver better outcomes; hence PETRONAS believes in unity through diversity, whereby we respect and value each other for our differences, yet come together as one.

PETRONAS' D&I Focus Areas of Culture, Multinationals, Gender and Age

Differences in perspectives are respected and valued



Creating an environment where people feel safe and confident to speak up and put differing views across, to foster creativity and innovation.

Representation by diverse nationalities in leadership roles



Building and having qualified local nationals to fill the majority of decision-making positions in every country we operate in and having readily available local talents to take up leadership roles globally.

Women in senior leadership roles



Providing opportunities for representation by women in senior leadership positions. PETRONAS aims to establish a pervasive culture where women can thrive and progress with the Group, as we build a strong talent pool of qualified women.

Space for idea generation from young talent is enabled



Creating an innovative organisation where young talents feel involved, respected and connected, as well as inspired to contribute new ideas while encouraged to constantly explore new ways of doing things.

To help us deliver PETRONAS' D&I agenda, we implemented the following in 2020:

1 Established the PETRONAS D&I Council

Chaired by the EVP and CEO for Upstream and D&I Champion, Adif Zulkifli, the **D&I Council** comprises members and representatives from across our organisation.

The council held its **first meeting in July 2020 and met every two months to lead and guide the D&I Agenda**, to achieve the aspirations of PETRONAS' D&I Statement.

2 Raised unconscious bias awareness among PETRONAS' leadership

In collaboration with the PETRONAS Leading Women Network (PLWN), we initiated several sessions to raise awareness on unconscious bias among the PETRONAS Executive Leadership Team (ELT), followed by **eight virtual sessions** with other leaders across the Group.

The sessions were designed to raise awareness on the common barriers that hinder inclusivity by taking the leaders through an immersive experience as well as working with them to **identify and address unconscious bias in the workplace**. To make unconscious bias training accessible to all employees, it is infused into other leadership programmes. Online learning modules were also made available to encourage self-learning anytime.



3 Organised D&I workshops and brainstorm sessions

We implemented a series of **D&I workshops to introduce the PETRONAS D&I Statement** to employees and discuss on the future state of a diverse and inclusive workplace.

D&I discussions and measures were elevated to the PETRONAS ELT and Board levels.

4 Incorporated measurements to gauge results

We established a section in the **PETRONAS Organisational Culture Survey (POCS) 2020** to gauge baseline insights and interventions.



The PETRONAS Leading Women Network

In 2020, PLWN made significant progress in championing an inclusive workplace through both its male and female champions.

PLWN made significant progress in 2020 with support from its female and male champions, achieving many milestones despite the pandemic.

→ Partnered with HR to provide equal opportunities

- Efforts were made to increase the number of female successors for top leadership positions.
- Continued the Mentoring Programme for women leaders.

→ Increased male participation to support gender agenda

- Bronze sponsor at the Women's Global Leadership Conference (WGLC) in Houston, with three speakers including a male champion. PETRONAS recorded the highest number of global attendees participating at the WGLC, with Malaysia the second highest after the USA.
- Attracted 30 per cent male participation at PLWN events.

→ Created a work environment that supports female staff

- Achieved 1 Link Up, 4 Reach Out, 3 External Network programmes - collaboration with Society of Petroleum Engineers (SPE), Sarawak Energy Women Leading Network (SEWLN) and Baker Hughes Women's Network Malaysia.
- Assisted in the establishment of PLWN Canada, Brazil and Indonesia.
- Rolled out new HR policies to support women's career progression: Return to Work Policy, Extension of Unpaid Leave Spousal Assistance, and Establishment of PETRONITA Crèche in collaboration with PETRONITA.
- Increased the number of female assignees for international talent mobility by 23 per cent in the last five years (2015–2020).
- Hosted month-long International Women's Day, championed by several male advocates.

→ Championed unconscious bias awareness

- 8 Unconscious Bias Theatre Exchanges conducted among leadership team.
- Articles and publications amplified through various digital platforms.
- Issued tip cards during performance appraisals.

Human Capital Investment

PETRONAS continues to make meaningful investments in its human capital as seen by these numbers to date:



PETRONAS Education Sponsorship Programme (PESP) 2020

PETRONAS remains committed to developing future talents for the organisation and industry. Since 1975, PETRONAS has awarded education sponsorships under the PESP amounting to over RM3.3 billion to more than 37,000 deserving Malaysian students of high academic calibre and with good leadership qualities. We focus on nurturing the right talents who will ultimately contribute to the growth of the Group and Malaysia.

The pandemic did not stop PETRONAS from awarding deserving young students the opportunity to pursue their tertiary education. The PETRONAS YoungStar Day 2020 annual assessment and selection process was conducted virtually. Students underwent an online assessment and group interviews were conducted virtually while upholding the same rigour and quality of face-to-face assessments. The virtual platform enabled PETRONAS to reach students across the country in both rural and urban areas. We collaborated closely with the state education departments to ensure that less fortunate students had internet access to sit for the virtual assessments.

A total of 1,394 candidates participated in this year's selection process. Some 370 students were awarded the PETRONAS Education Sponsorship to pursue their tertiary education in various disciplines. PETRONAS currently has active sponsored students under the PESP in the USA, Canada, the United Kingdom, Australia, New Zealand, China and Japan.

Discover PETRONAS@Schools (DPS)

The DPS programme continues to build awareness among secondary school students about the sponsorship opportunities that we offer and the benefits of the energy industry in general. In 2020, due to the COVID-19 pandemic and Movement Control Order (MCO), the Digital DPS was launched and conducted virtually, reaching out to 1,924 students. Since 2014, the DPS has benefited a total of 17,714 secondary school students from over 300 high-performing schools across Malaysia.

Graduate Employability Enhancement Scheme (GEES)

The GEES programme is a soft-skills and on-job-training inspired by the government's Professional Training and Education for Growing Entrepreneurs (PROTÉGÉ) initiative. It aims to support the Malaysian government's efforts to enhance the employability of young Malaysian graduates and fast-forward the nation's human capital development. In 2020, a total of 140 graduates were accepted to undergo the 12-month training programme at PETRONAS with added exposure to the areas of entrepreneurship, environment sustainability and social impact. A total of 1,180 graduates benefited from this programme between 2011 and 2020, with 71 per cent of apprentices gaining employment.



Vocational Institution Sponsorship and Training Assistance (VISTA)



Note: All photos were taken before the pandemic.

The PETRONAS VISTA Programme was established in 1992 to assist vocational institutions across Malaysia in developing their technical and vocational capabilities according to the standards and requirement of the oil and gas industry. Under this programme, PETRONAS contributes by way of infrastructure, training equipment, consumables, trainers and programme readiness based on the requirements of each institution.

Through VISTA, PETRONAS collaborated with selected institutions and agencies under Federal Government as well as state governments for courses related to the oil and gas industry such as 6G welding, gas pipe fitting, chargemen, scaffolding, building maintenance, as well as oil and gas related engineering programmes. To date, VISTA has benefited 28 institutions, including 11 active institutions in 2020.

Social Performance

PETRONAS is conscious of the impacts that may arise from our business and operations. Our Social Performance Framework governs how we manage these impacts in these five areas: Environment, Health, Safety, Security, Socio-economic and Cultural.



The issue of Human Rights is a vital component of our Social Performance Framework and is applicable in these areas of our business:

Labour and Working Conditions

- Forced or trafficked labour in contractors' and subcontractors' workforce
- Child/minor labour
- Condition of employment and work
- Discrimination in hiring and contractual terms
- Freedom of association and collective bargaining
- Workers' health and safety
- Workers' camp conditions

Supply Chain

- Contractor/supplier performance related to labour and working conditions, community well-being and security



Community Well-being

- Community health and safety
- Access to natural resources for health, cultural needs and livelihood
- Land acquisition and involuntary resettlement with/without economic displacement
- Indigenous peoples
- In-migration

Responsible Security

- Use of force and conduct of third-party security
- Human rights training for staff and third-party security

PETRONAS' Human Rights Commitment

PETRONAS is committed to respecting internationally-recognised human rights in all areas of its operations, complying with its Code of Conduct and Business Ethics (CoBE), and all relevant legal requirements.

The commitment applies to all employees of the Group of Companies, contractors, subcontractors and any third parties within PETRONAS' premises or performing work and/or business for or on behalf of PETRONAS, in line with the PETRONAS Contractors' Code of Conduct on Human Rights.

While we ensure compliance with human rights principles and laws, we also embed industry best practices into key businesses processes through PETRONAS' Social Performance standards and guidelines aligned with the United Nation Guiding Principles on Business and Human Rights and mapped against stakeholder expectations.

We also drive an outcome-based approach through Just Transition in support of the Sustainability Agenda and net zero carbon emissions by 2050 (NZCE 2050) aspiration. It aims to generate positive social impact in our operations through the creation of new and inclusive opportunities that are founded on human rights.

For further details, go to the Sustainability Agenda section on pages 10 to 13 of this report.



To ensure we minimise risks to the communities surrounding our operations, we have issued Technical Standards and Guidelines on specific areas pertaining to human rights:



Note: This photo was taken before the pandemic.

Positive Social Impact

In 2020, we undertook several social performance measures that reinforced our social licence to operate and added value through a risk-based management approach for our overall business.

Social Risk Assessments

We conducted eight social risks assessments within our projects and operations. The results identified that the most pertinent risks to our workforce included labour and working conditions, as well as nuisance issues such as noise pollution caused by project construction and land issues. All findings were addressed and the risks and issues mitigated.

Third-Party Gap Analysis

To assess the completeness and alignment of our social risk management processes against the United Nations Guiding Principles on Business and Human Rights (UNGPR), a third-party assessment was conducted in 2020 to identify any gaps and the necessary mitigation measures. These were among the findings:

Positive Observations

Effective mainstreaming and governing of human rights in relevant functions, systems and processes, with a competent team of practitioners.

Supplier and contractor assessments and engagements on human rights; and the establishment of a grievance mechanism covering contractors and communities.

Areas for Improvement

Enhancing the PETRONAS Human Rights Commitment to meet the requirements of the UNGP and stakeholder expectations.

Strengthening engagement with stakeholders during the social risk assessments phase.

PETRONAS has been actively addressing these findings, which contribute towards the realisation of our Sustainability Agenda and Just Transition outcomes.

Capability Building

To date, over 70 per cent of our employees have attended and passed the human rights management e-learning module. Similarly, 66 per cent of participants who enrolled in our e-module on grievance mechanisms have also passed. We continue with our efforts to nurture a capable workforce which is essential for sustainable business growth.

In 2020 we conducted:

67 training sessions for practitioners, employees and contractors.

12 virtual training sessions on the grievance mechanism and reporting module for 400 employees who serve as Community Liaison Officers, Grievance Focal and Health, Safety, Security and Environment (HSSE) practitioners.

10 Contractors Code of Conduct on Human Rights (CoCHR) refresher sessions to ensure our procurement team and contract holders were kept abreast of human rights developments.

Three training sessions with our Auxiliary Police which saw the participation of over 300 personnel.

Two Social Performance Masterclasses to enhance awareness and knowledge on topics such as "Social Sustainability in Investments" and "Cultural Mapping".

Positive Social Impact

Grievance Management

The management of grievances is an integral aspect of our social performance efforts. In managing grievances across our business effectively, we launched an integrated online tool that allows us to monitor grievance cases. In 2020, we received 102 grievance complaints, most of which related to the areas of labour and working conditions. Each complaint was attended to and at the same time we made the necessary improvements to our grievance mechanism as well as the way we engage with our contractors and the surrounding communities.



Exemplary Grievance Management

PETRONAS Energy Canada Limited (PETRONAS Canada) is recognised as a leader in the management of grievances via its efforts to uphold exemplary human rights governance best practices. PETRONAS Canada operates within the North Montney basin in northeast British Columbia, in a region that comprises both cities and rural areas. With a dominant land position in that resource-rich area, the company is one of the largest natural gas resource owners in Canada.

Being a community-centric company, PETRONAS Canada is aware of the impact that its activities can have on the 22,000-strong population in the region that it operates in. As such, it has set in place specially designated teams to communicate regularly with its diverse stakeholders that include the indigenous First Nations people of that region. The Stakeholder Relations and Indigenous Relations teams share pertinent information about the company's development plans with residents, landowners, business owners and government officials. These engagements serve as a platform for a two-way communication in which

members of the community may share their concerns with PETRONAS Canada. The team also works directly with other key stakeholders and vendors.

PETRONAS Canada's efforts are directed by their guiding principles which entail how all its employees and operatives are to behave and interact with those in the community. These guidelines ensure that measures for mutual respect are upheld and that PETRONAS Canada maintains its social licence to operate.

By combining their stakeholder management system with PETRONAS' grievance management system, PETRONAS Canada's effective management of grievances has seen the company respond to and follow up on 100 per cent of its grievances cases since 2015. In 2020, PETRONAS Canada shared their best practices in managing community grievances at the PETRONAS Upstream Community Liaison Officer/Grievance Focal Upskilling Learning Series 2020 event.

Note: All photos were taken before the pandemic.



Labour and Supply Chain



In 2020, we acted swiftly in response to supply chain disruptions from the year's twin shocks by implementing measures such as diversifying supply sources from various geographical locations. Moving forward, the real challenge would be on how we respond to the fundamental shifts in producing energy, given the acceleration of the energy transition, heightened stakeholder expectations and the Group's aspiration to achieve NZCE 2050.

To ensure our businesses continue to operate in an optimal, beneficial and sustainable manner, it is crucial that PETRONAS' supply chain be managed effectively. Today, we are focusing our efforts on strengthening the entire ecosystem of our supply chain via the digital transformation of our procurement processes, forging a resilient ecosystem for the local industry and ensuring the Group's commitment towards human rights is upheld. As we work on de-risking the supply chain, we are also moving in tandem with efforts to capture new value through the vast opportunities that are expected to emerge from all of the fundamental shifts.

Leveraging on Digitalisation to Streamline and Strengthen the Procurement Process

With businesses having to transform themselves to remain agile and relevant to their markets, supply chains too have evolved and become more prolific and complex. To ensure the needs of the Group's businesses are supported in an effective and efficient manner, we have implemented a streamlined procurement digital platform. On top of this, we are creating added value for our businesses by giving them the capability to wield powerful insights from analytics to bolster their efforts.

Digitalisation has been key to these efforts, giving us the ability and agility to adapt and pivot as required, as well as to rapidly implement innovative change amidst the disruptions brought on by the external environment. The digitalisation of the procurement processes has also increased transparency and improved decision-making as well as governance and controls particularly in purchasing and investments.

In 2020, we implemented the following procurement measures which delivered tangible results:

We **transformed the tendering process** from the conventional paper-based process to an end-to-end paperless integrated online tendering platform. With its simplified retail-like user interface, the new platform has improved the tendering experience. Staff continue to work from home while overseeing and managing tender exercises. Petroleum Arrangement Contractors, partners and vendors, **have benefited from tapping the integrated platform** alongside other complementary digital procurement solutions.

We deployed the PETRONAS Licensing Management System (PLMS) in April 2020, which has helped to streamline the processes as well as enabled parallel submission and automated data population from the SSM database. With this improvement, **the registration and licensing experience has improved significantly**.

We **leveraged digital and analytics to improve our inventory planning and ensure the right inventory levels**. In addition, we **embarked on the digitalisation of our logistics operations**, including the sharing of vessels among our oil and gas assets.

With digitalisation, we have **generated savings and value creation** for PETRONAS, which in turn **allows us to sustain our long-term competitive positioning**.

Shaping a Resilient Ecosystem for Local Oil and Gas Players

PETRONAS' humble beginnings started in 1974 when 15 staff with no oil and gas industry experience came together to kickstart the domestic business. The Company grew exponentially by leaps and bounds over the years and is today a fully integrated oil and gas multinational corporation with over 48,000 employees. In 2020, PETRONAS was deemed the most valuable Asean brand in the Brand Finance Global 500.

Having gone through the ups and downs of the oil and gas business for some time now, we understand the struggles, hopes and dreams of homegrown companies aspiring to build their strengths and credentials to become globally competitive players. PETRONAS remains committed to helping develop homegrown success stories as this is crucial for the future of Malaysia's oil and gas landscape. To this end, we introduced the PETRONAS Vendor Development Programme (VDP) in 1993.

PETRONAS focuses on nurturing the Oil and Gas Service Equipment (OGSE) and Small and Medium Enterprises (SMEs) vendors as well as helping them to take the leap into more complex and higher risk areas of business such as technology development, manufacturing, as well as enhanced oil recovery and deepwater exploration operations. We believe that by providing vendors a conducive environment, this will spur SMEs and OGSEs to generate value, multiply their acumen and develop sustainably.

Positive Social Impact

To support vendors that were hit badly by the pandemic, we continued to provide assistance in 2020 through these initiatives:

Established innovative partnerships with nine financial institutions to facilitate access to financing under the **Vendor Financing Programme**. A total of **RM1.14 billion in financing was disbursed and 214 applications approved** for main contractors and sub-contractors.

Introduced the **Contractors' Special Assistance Programme** in March 2020 to support the local OGSE sector as well as to minimise the impact of the pandemic and low oil price environment on local contractors. Despite the challenging market, we honoured all vendor contracts awarded in 2020.

Collaborated with **five investment banks and corporate finance advisors** to facilitate vendors pursuing initial public offerings (IPOs) under the Road to Bursa initiative. The programme encourages the listing of potential OGSE vendors on the local bourse to improve vendors' resilience and sustainability. PETRONAS has to date conducted IPO briefings and one-on-one coaching sessions with **vendors** who we identified to potentially meet the IPO requirements. We will continue to identify vendors with high potential to be listed on Bursa Malaysia.

Published the **PETRONAS Activity Outlook 2021–2023** on 31 December 2020 to share the Company's insights into industry trends, demand outlook and the upcoming activities of PETRONAS' Upstream, Gas + New Energy and Downstream businesses.

As we venture forth amidst an unpredictable oil and gas landscape, we remain cautiously optimistic and are encouraging our partners to be conscious in managing costs, implement activity levelling to sustain offshore activities and pursue innovative solutions. To enhance their competitiveness, speed, accuracy, agility and ultimately resiliency, industry players need to embrace innovation, technology and digitalisation which will definitely bring bigger benefits over a longer horizon. The industry also needs to forge stronger partnerships that would ultimately enrich lives for a sustainable future.

Tapping a Robust Supply Chain for Pandemic Preparedness

The Group, on behalf of the Ministry of Health (MOH), was able to procure and deliver medical equipment through a robust supply chain mechanism, in less than seven days to support COVID-19 patients dependent on ventilators in Malaysia.

For more details on PETRONAS' COVID-19 response, refer to the Safeguarding the Well-being of People Amidst Crisis on pages 179 to 181.

We also lent support to local hotels converted into quarantine hotels by housing our employees undergoing quarantine there; ensured essential contractors were able to continue working for PETRONAS via collaboration with Group Security and the Malaysian National Security Council (or Majlis Keselamatan Negara Malaysia); as well as drew up and issued guidelines on the tendering process during the Movement Control Order (MCO).



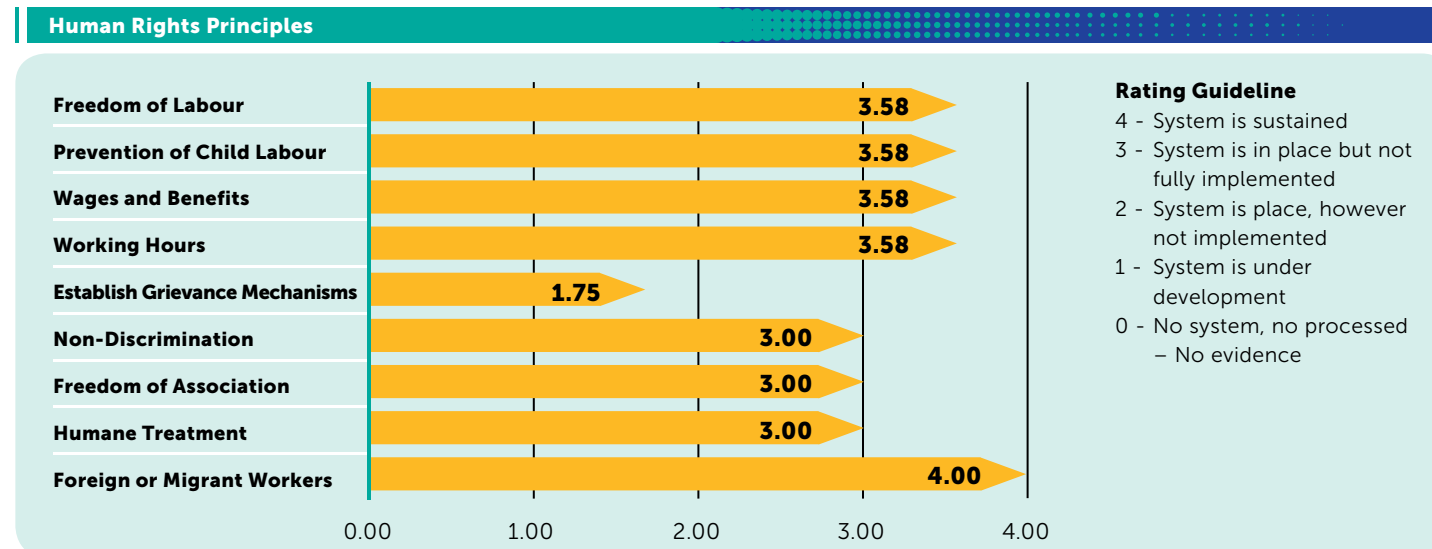
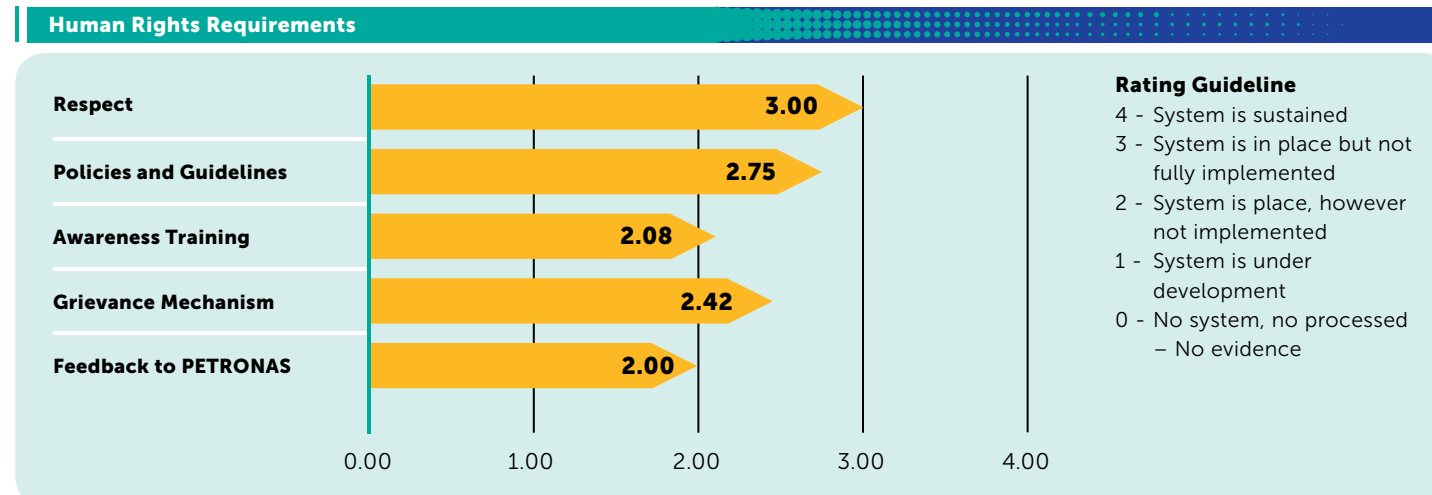
Positive Social Impact

Human Rights in the Supply Chain

PETRONAS' obligation to uphold human rights within our supply chain is guided by the United Nations Sustainable Development Goal 8 which advocates "decent work and economic growth." In support of our goal to create positive social impact, we have adopted a top-down approach in our dealings with our contractors and suppliers. This approach stems from our recognition of our contractors and suppliers as pivotal starting points of influence, which we leverage on to cascade good human rights practices and opportunities for growth, down to their respective workforces.

In 2017, we launched our Contractors Code of Conduct on Human Rights (CoCHR), which addresses issues such as labour and working conditions as well as outlines the ethical practices that we expect each contractor to subscribe to. This requirement has been embedded into our procurement processes in Malaysia, where respect for human rights has become a contractual obligation for all goods and services providers who pass through our procurement process.

To help us gauge the rate of compliance with the CoCHR among our contractors, we conducted a digital voluntary self-assessment in 2019. We ran the second iteration of the self-assessment in 2020 which saw 34 per cent of new contractors respond to the survey (an additional 75 per cent of respondents over 2019's number). We also conducted 22 onsite and remote assessments. The survey findings are summarised in the following diagramme:



Based on the survey results, while most contractors in Malaysia comply with their legal obligations, there are still gaps in their respective approaches when it comes to effectively addressing matters related to human rights. These include a lack of communication and training on human rights among their employees and contractors as well as inadequate grievance mechanisms in their supply chain. The assessments did not indicate forced or child labour in the assessed contractors' labour pool. In narrowing these gaps, we reached out to the contractors to address the issues on hand and uphold the importance of respecting human rights. Since then, 16 contractors that were previously assessed have reported improvements made in their policy enhancement, grievance mechanisms and training sessions.

Human Rights & COVID-19: Quick Guide For Contractors

In response to the impact of COVID-19 on businesses, we heightened our focus on ensuring respect for human rights within the supply chain during the crisis. Recognising that adverse economic conditions impacting contractors could potentially impinge on their workers, we addressed these negative outcomes in our contractor assessments and engagements. We also distributed a publication titled *Human Rights and COVID-19 Quick Guide* for contractors to meet CoCHR requirements. This guide was based on the United Nations Development Programme (UNDP)'s *Human Rights Due Diligence* and *COVID-19: Rapid Self-Assessment* for Business self-assessment tool, to help businesses consider and manage the human rights impacts on their operations.

We will continue to engage with the contractors with the aim of raising awareness on human rights matters.

Product Stewardship

"Life Cycle Thinking" is an integral part of PETRONAS' NZCE 2050 aspiration. This helps us to appraise our environmental footprint across the value chain and to identify opportunities to create products and solutions that are geared towards a more sustainable production and consumption. In this regard, PETRONAS has several initiatives to strengthen our product safety and sustainability portfolio including Raw Material Management, Life Cycle Assessment and Product Safety Assessment.



Raw Material Management

Managing the raw material supply chain is an important element in improving product sustainability in the context of life cycle thinking and reducing the impact of Health, Safety and Environmental (HSE) risk. We initiated the Raw Material Information Request (RAWMIR) programme at the end of 2019 at Engen, and in 2020 it was further expanded to include PETRONAS Chemicals Group Berhad (PCG)'s operating units. Through RAWMIR, we have obtained critical data pertaining to raw material in terms of composition, physical-chemical, toxicology, ecotoxicology, regulatory and supplier/manufacturer perspectives. In 2020, a total of 792 RAWMIR documents were sent out to vendors and this elicited an 86 per cent response rate. The RAWMIR initiative, which has been extended to the oilfield chemicals segment in the Upstream business and other Downstream operating units, is slated to be completed by the end of 2022.

Embedding Product Stewardship in New Product Development

PETRONAS continues to strengthen the management of product HSE risks across their lifecycles, starting from the earliest stages of Research and Development (R&D). In this respect, product stewardship requirements were embedded into the R&D phase for new product development to mitigate HSE and regulatory risks, which supports the design of sustainable products. The scope of the product stewardship requirements includes assessing products for compliance with the relevant regulations and application sector-specific requirements to ensure their safe use. In addition, sustainability requirements such as product life cycle assessment and selection of safer raw materials are included. The appropriate toxicity, eco-toxicity and environmental fate studies are performed in a timely manner to validate product safety and sustainability claims.

Centralised Safety Data Sheet (SDS) Database

Product Safety Data Sheets (SDSs) are the primary means of communicating information on product hazards and risk management measures to stakeholders. The development of product SDSs are guided by the fundamentals of the Strategic Approach to International Chemicals Management (SAICM) on sound chemicals and waste management. The SAICM calls for particular attention be paid to the collection and systems for the transparent sharing of relevant data and information among all relevant stakeholders using a life cycle approach such as the implementation of the Globally Harmonised System of Classification and Labelling of Chemicals.

PETRONAS product SDSs have been made publicly available on PETRONAS SDS portal (<https://sds.petronas.com.my>) since 2014. This aligns with PETRONAS digitalisation agenda by leveraging on an in-house authoring of product SDSs using the Stewardship, Health, Information and Environment Linked Database (SHIELD). A stringent internal technical review process ensures that the information presented in our SDSs comply with all regulatory requirements.

Product Toxicity and Environmental Fate Assessments

Understanding how chemicals affect human as well as flora and fauna - and how they behave in the environment, is important for effective chemical management. We commissioned 29 tests to contract research organisations to address customer requests, fill the data gaps, step out with new uses for existing products and establish preliminary toxicology properties for new product development. These tests ensure the safety of our products for the intended consumer, ensure we meet global regulatory compliance criteria, as well as indicate new market and product opportunities.



Life Cycle Assessments (LCAs)

The LCAs are used to determine the environmental impacts occurring across the entire value chain of a product. At PETRONAS, LCAs are conducted in accordance with international standards and best practices that support our customers' sustainability agendas and enhances the brand value of PETRONAS' products.

In 2020, a total of 35 product LCAs were conducted supporting the Upstream, Gas + New Energy and Downstream businesses. Out of these, LCAs for PCG's Glycol products were conducted to provide disclosure on all environmental impact categories within the Dow Jones Sustainability Index. LCAs conducted for refinery and base oil products aided necessary disclosures towards addressing customer requests. Preliminary LCAs also indicate conformity to blue hydrogen criteria, which creates new business opportunities for PETRONAS.

Product Risk Assessment

In support of SAICM, PETRONAS has completed and published the Global Product Strategy Safety (GPSS) summaries, which has been made available on the PETRONAS SDS portal (<https://sds.petronas.com.my>) for high priority petrochemical, gas and refinery products.

The GPSS summaries were developed to provide essential HSE information on products and is also aligned with the voluntary Responsible Care® initiative. They also serve as a guide to the public about the hazards and risks of products. This disclosure ensures that we conduct product risk assessments with full transparency, which in turn, strengthens public confidence in PETRONAS' products.



Corporate Social Responsibility

Yayasan PETRONAS – Sharing Our Success with Society

The PETRONAS Group remains committed to its mission of enriching lives for a better future through delivering sustainable impact and improving the quality of life and socio-economic well-being of the communities that we operate in. Our contributions to society are extended through our philanthropic arm, Yayasan PETRONAS (or PETRONAS Foundation). The Foundation, which is accountable to a Board of Trustees, supplements the groupwide corporate social responsibility (CSR) efforts that have been ongoing since 1974.

Yayasan PETRONAS aims to deliver value to society by carrying out effective philanthropy; ensuring a sustainable, scalable impact on the communities; and sharing PETRONAS' success with others.

The Foundation focuses its efforts on assisting underprivileged youth and low-income or B40 communities, by providing them sustainable opportunities that transform lives and elevate the well-being of communities. Our long-term ambition is to replicate the success stories of these target groups and scale up the delivery of proven programmes and activities so as to benefit a wider audience, impact the broader ecosystem and truly drive sustainable change.

In 2020, despite turbulent operating conditions, we continued to undertake tangible CSR initiatives (where practical) to impact society for the better.



Note: This photo was taken before the pandemic.



Safeguarding the Well-being of People Amidst Crisis

During the year in review, exceptional and unprecedented challenges brought on by the twin shocks of the COVID-19 pandemic and the oil price rout resulted in many facing an uncertain future in terms of their livelihood. The uncertainty was especially prevalent among healthcare professionals and non-medical frontline workers, as well as underprivileged communities.

Considering the fraught economic situation that many were facing, Yayasan PETRONAS stepped up to the plate and helped out the affected communities. In addition to its ongoing programmes, the Foundation also focused on initiatives that supported capacity-building to help raise the income level of financially challenged communities. These efforts went a long way in bringing comfort to the B40 families and those affected by natural disasters.

Yayasan PETRONAS also contributed to the fight against COVID-19 by providing medical equipment and supplies to the country's National Disaster Management Agency (NADMA) to bolster the efforts of the nation's frontliners. The following are the highlights of our efforts over the course of 2020:

March 2020

Upon the implementation of the Movement Control Order (MCO) in Malaysia on 18 March 2020, Yayasan PETRONAS acted swiftly to secure **medical equipment and supplies totalling RM20 million** through close collaborations with the Ministry of Health (MOH) and NADMA. At the same time, PETRONAS' Management and staff voluntarily contributed a total of **RM6.4 million through salary deductions** to fight the pandemic.

November 2020

In November 2020, Yayasan PETRONAS contributed **RM2.5 million worth of medical equipment** on top of the earlier contribution to MOH and NADMA, to combat the second wave of COVID-19 in the state of Sabah.



Yayasan PETRONAS contributed **RM22.6 million** worth of medical equipment and supplies



PETRONAS employees made voluntary contribution totaling **RM6.4 million** through salary deduction



100 beds for Intensive Care Unit (ICU)



35 ventilators for hospitals in 5 states



28,900 disposable gowns



5,150 shoe covers



100,000 units of hand sanitisers to all hospitals and health clinics



Sanitisers and dispensers for **68,000 students** from 104 schools in 9 states

Our Upstream Business operations committed approximately **RM3.5 million** to eight host countries

This took the form of:

Financial contributions to host governments in **Azerbaijan and Brunei**.

Funds and aid for PPE in Mexico, the Republic of South Sudan, Iraq and Canada.

Medical equipment for **Suriname and Myanmar**.



PETRONAS Dagangan Berhad (PDB)



Supplied water and food items to hospitals and PDRM frontliners in Malaysia, via a joint effort with Group HSSE and Yayasan PETRONAS.

Collaborated with RessQ60Min

to set up service workshops at hospitals such as Hospital Sungai Buloh, Pusat Perubatan Universiti Malaya (PPUM) and Hospital Kuala Lumpur (HKL) to offer auto services to frontliners, including free PETRONAS Syntium oil changes.

Malaysia LNG

Distributed **3,500 food aid packets** to targeted groups in **46 areas** under the local authority, State Legislative Assembly (or DUN) Samalaju, Sarawak.

Malaysian Refining Company Sdn Bhd

Donated **500 pieces of Tyvek coveralls** to Pejabat Kesihatan Daerah (PKD) Melaka Tengah, Melaka.

Students and staff of **Universiti Teknologi PETRONAS (UTP)**, through the Engineering, Prototyping and Innovation Centre (EPIC) repurposed their **3D printing and laser cut technology** to produce **120 face shields daily** with the target of producing **10,800 shields in three months** for hospitals and clinics in Perak.

PETRONAS Lubricants International



Provided **fluids for truck fleets** delivering essential goods and supporting the construction of hospitals in Wuhan, China.

Converted its **coolant production lines to manufacture ethanol-based sanitisers** for hospitals and the local communities in Italy and Brazil.

Ventured into **new product lines by enhancing its existing Fulcron formulation to bring to market specially-designed disinfectant products** through the Arexons operation in Milan.

Several associations within PETRONAS, namely **PETRONITA, Badan Kebajikan Islam PETRONAS (BAKIP) and Kelab Sukan dan Rekreasi PETRONAS (KSRP)**, organised **donation drives** rallying staff to contribute over **RM300,000** for the **supply of medical equipment and supplies** for HKL, Hospital Ampang, Hospital Canselor Tuanku Muhriz UKM and PPUM, as well as funding for the Malaysian Red Crescent Society.

PETRONAS Refinery and Chemicals Corporation



Extended a month's supply of essential food items to **200 low-income families** from eight villages around the Pengerang Integrated Complex (PIC) in Johor. In total, 200 bags/packets/cans each of rice, flour, salt, sugar, biscuits, rice vermicelli, tea bags as well as 400 packets/cans each of sardine, cooking oil and condensed milk were disbursed.

Contributed **200 sets of PPE, 30 boxes of surgical masks, 56 bottles of disinfectants, six boxes of rubber gloves and 35 bottles of sanitisers** to protect our medical frontliners who were fighting against the pandemic.

All in all, PETRONAS' companies, operations, associations and staff globally banded together and contributed a total of **RM50.6 million** in cash and in kind to help flatten the curve of the pandemic worldwide.

PETRONAS Chemicals Group Berhad

Delivered **5,000 kgs of polypropylene for universities** Universiti Teknologi MARA (UiTM), Advanced Technology Training Center (ADTEC), German-Malaysian Institute (GMI), and Universiti Teknikal Malaysia Melaka (UTeM) to produce over **300,000 face shield frames** for frontliners including government hospitals and clinics nationwide.

Disbursed food aid to **3,000 B40 families** in Kedah, Labuan, Pahang, Sabah, Sarawak and Terengganu.

PETRONAS Research Sdn Bhd (PRSB)

Produced hand sanitiser formula with **higher ethanol and glycerin content** within one week to fulfill the need of our frontliners.

The Foundation's Three Key Focus Areas

Yayasan PETRONAS carries out all CSR initiatives under the banner of three focus areas - Education, Community Well-Being and Development, as well as the Environment.



Sentuhan Ilmu — Education

Focused on underprivileged students from the B40 income segment, Sentuhan Ilmu's series of programmes are aimed at providing educational opportunities to students for them to realise their potential through Science, Technology, Engineering and Mathematics (STEM) subjects.

Desired impact:
**To contribute towards
60:40 national STEM
enrolment**



Sentuhan Harapan — Community Well-Being and Development

The programme aims to improve the standards of living of less-fortunate communities and youth creating opportunities for sustainable livelihoods.

Desired impact:
**Sustainable economic
growth**



Sentuhan Alam — Environment

This area focuses on the conservation of environmental and natural resources for the well-being of current and future generations. Encompassing marine, forest, river and shore-oriented initiatives, Sentuhan Alam's programmes are structured to better the environment through biodiversity, conservation and carbon-neutral programmes.

Desired impact:
**To reduce year-on-year
environmental impact**



Note: All photos were taken before the pandemic.



Sentuhan Ilmu — Education

Education has always been an important aspect of the Group's Human Capital Investment Programmes since we kickstarted these initiatives back in 1975. In 2019, Yayasan PETRONAS partnered with the Ministry of Education (MOE) to reach out specifically to deserving students through our Education initiatives. By providing better opportunities for both the teachers and students in underprivileged areas, we are helping to close the socio-economic gap for the betterment of all.



Note: This photo was taken before the pandemic.

The following are some of the programmes that are in place under the Sentuhan Ilmu education banner. As a result of the pandemic and the ensuing phases of the Movement Control Order (MCO) in 2020, public schools nationwide were closed. Due to the many restrictions over the course of the year, Yayasan PETRONAS had to significantly limit its school-based and school-building initiatives.

Signature Programmes

Program Duta Guru

The *Program Duta Guru* Kementerian Pendidikan Malaysia-Yayasan PETRONAS is Yayasan PETRONAS' flagship initiative through a collaboration with the Ministry of Education (MOE). This programme aims to nurture highly competent teacher ambassadors in STEM subjects as well as to enhance Higher Order Thinking Skills (HOTS) through education. We believe that by enhancing HOTS in STEM education today, this will help in the development of the workforce of tomorrow that will steadfastly build up Malaysia's nation-building capabilities in the long run.

The programme aims to equip 4,500 teachers in all 144 districts nationwide and positively impact 3.96 million students. It began in 2020 and will be carried out in three phases until 2028. To date, Yayasan PETRONAS has invested RM2.5 million in this programme with 135 teachers trained from 112 districts. As 2020 progressed, the programme evolved to help teachers adapt to teaching online classes and virtual content. Some 136 teachers from Cohort 1 were also provided with Online Teaching Kits that included a DIY mini green screen kit, a pedagogical book *Pembelajaran Abad ke-21* (also known as PAK21) and a variety of school stationery to help make online lessons effective, fun and interactive.

Yayasan PETRONAS also made donations amounting to RM95,624 under the Sentuhan Ilmu initiative for school and education-related activities.

Other Programmes under Sentuhan Ilmu

Back To School Programme

The Back to School programme aims to provide school essentials to 21,000 primary school students from low-income households nationwide and help alleviate the burden of their parents. It also serves to motivate students to stay in school while promoting the importance of education among them.

Given that schools were closed for most of year 2020, students received their personal hygiene kits and school supplies in March 2021 when school reopened. Each student received two pieces of three-layer reusable face masks, a small towel, a box of soap, a school bag, a tumbler, a student activity notebook, a pencil case and stationery items, as well as two sets of school uniforms and a pair of socks and shoes. The student activity notebook included several simple science experiments on personal hygiene, health infographics and stickers, designed to spark interest amongst the students and help them understand science and its application in real life.

PETRONAS Counsellors Programme

The PETRONAS Counsellors Programme (PCP), is a collaboration between Yayasan PETRONAS and the Sektor Pengurusan Kaunseling dan Kerjaya Murid, Bahagian Pengurusan Sekolah Harian (or Student Counselling and Career Management Unit of the Daily School Management Division), which is under the MOE. The PCP aims to help school counsellors in their role of advising students on their career pathways, with a focus on STEM as well as Technical and Vocational Education and Training (TVET). The PCP also acts as a platform to spread awareness about PETRONAS' Learning Institutions such as Akademi Laut Malaysia (ALAM), Universiti Teknologi PETRONAS (UTP) and Institut Teknologi Petroleum PETRONAS (INSTEP); as well as the educational and financial aids that we have provisioned for the students (such as PESP and VISTA). In 2020, a total of 210 counsellors from seven states benefitted from this programme.

For more details on the PESP and VISTA initiatives, go to the Human Capital Investment sub-section on pages 166 to 167 of this report.

Construction of Maktab Rendah Sains MARA (MRSM) in Sabah and Sarawak

PETRONAS is funding the construction of an MRSM (or MARA Junior Science College) in Sabah and Sarawak respectively. The MRSM Ranau project is a collaboration between PETRONAS, the Sabah State Government and MARA, while the MRSM Bintulu is a collaboration between PETRONAS, the Sarawak State Government, Yayasan Sarawak and MARA. Both MRSMs have a combined capacity of 900 students (450 each) and are estimated to be completed by 2021. The aim of the project is to encourage and promote students' interest in STEM while developing their talents. Due to the pandemic and the MCO, very little progress was made in the construction of these learning institutions over 2020.

Construction of Asrama Harian Luar Bandar (AHLB) in Sabah and Sarawak



Note: This photo was taken before the pandemic.

PETRONAS, in collaboration with the MOE and state governments of Sabah and Sarawak, also funded the construction of two AHLBs or rural day hostels. The construction of the AHLB in Paloh, Sarawak and Pulau Balambangan, Sabah were completed back in July and October 2019 respectively, with a total investment of RM8.7 million. These hostels are today providing access to education for the rural communities of Sabah and Sarawak, in addition to creating opportunities for the children in Paloh and Pulau Balambangan to pursue education in a conducive learning environment.



Sentuhan Harapan – Community Well-Being and Development

Here at PETRONAS, we believe in strengthening the less fortunate communities and equipping youth as part of our efforts to accord them a sustainable future. Sentuhan Harapan serves as the operational platform on which all the Group's community-based activities take place.

Signature Programmes

The MEKAR Initiative

One of Sentuhan Harapan's signature programmes, the MEKAR (or Memampankan Ekonomi Asas Rakyat) initiative is an extension of the Planting Tomorrow programme. MEKAR aims to bring about sustainable economic growth to B40 families in both the urban and rural areas. The programme, which was established in collaboration with government agencies to upskill communities, offers participants coaching in financial literacy, knowledge on management, marketing, branding and go-to-market strategy, among others. First rolled out in 2017 as pilot projects for Sabah and Terengganu, the MEKAR programme, which was officially launched in 2019, has since been implemented in seven states and positively impacted 3,955 beneficiaries to date. Through its various initiatives, Yayasan PETRONAS aims to accomplish the following targets:

To reach **3,400 beneficiaries** in eight states over the span of two years.

Improve the Standard of Living:

To provide participating communities with access to basic needs such as clean water, electricity (through renewable energy) and food.

Strengthen Income Streams:

To create financially viable opportunities through upskilling targeted beneficiaries and providing them with resources based on market demand. Focus areas include agricultural skills and technology resources, technical services and repair works. It also aims to support small business owners selling pastries and providing spa services. All in all, MEKAR serves to motivate participants and equip them with entrepreneurial skills that include financial knowledge and marketing.

Ensure Sustainable Income Streams:

To propagate sustainable income by assisting beneficiaries with financial solutions through a buyers' network, an employers' network and microfinancing. The aim is to increase income by 50 to 70 per cent over six years, elevating participants' income status from B40 to M40.

Note:

The Planting Tomorrow initiative was implemented by Yayasan Sejahtera Sabah as part of Yayasan PETRONAS' move to improve access to water in Sabah. Not limited to solely providing water access, the programme implements a holistic approach to community development. This approach includes improving sanitation and increasing the community's income through agriculture. To learn more about this programme, please visit <https://www.yayasanpetronas.com.my/voices-of-inspiration-planting-tomorrow/>.



MEKAR @ Kuala Nerus, Terengganu (Phase 3: Go-to-Market)



Note: This photo was taken before the pandemic.

In 2020, Yayasan PETRONAS rolled out the third phase of our MEKAR programme in Kuala Nerus, Terengganu. This saw 45 alumni from the Planting Tomorrow programme receiving further coaching as they prepared to go-to-market with the businesses they had already established. The objective of this programme is to help participants gain market access and to set a clear vision for their business growth and expansion.

The business accelerator programme will end in September 2021. Following the completion of this phase, participants will have their products ready to be marketed outside their communities, for example, at supermarkets.

empowerNCER

The empowerNCER programme was implemented in collaboration with the Northern Corridor Implementation Authority (NCIA) as part of an initiative to increase the livelihood of B40 participants in the Northern Corridor Economic Region (NCER) in Kedah. To date, 1,000 beneficiaries, specifically from Baling, Kuala Muda, Pendang, Sik and Yan, have participated in the programme which started in August 2019. It is tentatively scheduled to run until July 2021, depending on the government's decision on the MCO. In 2020, Yayasan PETRONAS invested a total of RM2.3 million in this programme. As of November 2020:



In 2020, a total investment of RM116,325 was made in the MEKAR @ Kuala Nerus, Terengganu programme.



empowerNCER - Academic Programme

As part of our goal to equip communities, Yayasan PETRONAS in collaboration with the NCIA, initiated the empowerNCER academic programme for SPM 2020 students from B40 families with a total investment of RM500,000. Utilising an e-learning platform, the curriculum comprises the Empower English Attack (eEA), eQMaths, eWorkshops and eSTEM for SPM. The programme currently has 750 students enrolled in Kedah, specifically from Baling, Kuala Muda, Pendang, Sik and Yan. With a project timeline spanning from November 2019 until October 2021, the programme is ongoing as per schedule, with an average attendance of 98 per cent. Post-SPM students will be assisted with placement in universities/technical institutions/ skills programme where suitable.

empowerECER-MEKAR

Yayasan PETRONAS has partnered with the East Coast Economic Region Development Council (ECERDC) in this programme, which is part of an initiative to increase the income of B40 participants in Pahang, Kelantan and Terengganu. Participants are selected from each state based on a thorough demand and supply analysis. This process ensures that participants will have the opportunity to increase their skills development. Upon completion of the programme, anchor companies will be appointed to provide on-the-job training, job placement and opportunities for product placement for the participants.

The programme anticipates that some 1,000 participants from districts in Pahang (Lipis), Kelantan (Pasir Puteh and Tanah Merah) and Terengganu (Dungun and Kemaman) will be enrolled in 2021. It is scheduled to run until August 2022, subject to the government's decision on the MCO. To date, Yayasan PETRONAS has invested a total of RM 2.1 million in the project.

Collaboration with Cancer Research Malaysia



Note: This photo was taken before the pandemic.

In 2020, Yayasan PETRONAS contributed RM4 million to the Cancer Research Malaysia (CRM) as part of the Group's continued support of precision medicine in Asia. As a leading research institute, CRM is actively exploring ways to address the disease more accurately in all its stages, from prevention to detection and treatment. The grant enables the establishment of a genetic testing laboratory as well as the replacement and upgrading of the equipment that CRM requires. Through this research, CRM aims to double the proportion of preventable cancers and save lives, especially among high-risk groups. Ultimately, the institute aspires to reduce the guesswork involved for Malaysians facing the disease, leading to a future free from the fear of cancer.

Yayasan PETRONAS also made contributions under Sentuhan Harapan amounting to RM46,000 for community well-being and development activities.

Other Programmes under Sentuhan Harapan

Sentuhan Kasih Festive Programme

In addition to our training programmes, Yayasan PETRONAS makes contributions in kind during Malaysia's festive celebrations. Yayasan PETRONAS' *Sentuhan Kasih* programme serves as a platform for the Group to spread festive joy and care among the B40 communities.

In 2020, our contributions comprising food provisions, daily necessities and hygiene kits, were even more important as many faced harsh economic circumstances. Yayasan PETRONAS' efforts to alleviate the financial burden faced by the beneficiaries saw the Group contributing RM1.17 million in 2020, that brought smiles to the following groups:



Total contribution in 2020: RM1.17 million

Sentuhan Kasih Disaster Relief

Over the course of 2020, Yayasan PETRONAS also provided ad hoc assistance during local disasters, including the following:



Contributions in kind to **14 students** affected by a fire at **SK Sebauh, Bintulu, Sarawak**

Contribution of **400 cartons of bottled water** to **100 beneficiaries** from B40 communities in **Labuan** during the prolonged water crisis

Contributions in kind to **222 victims of a fire** at a **long house at RH Dinggon, Sibul, Sarawak**

Contributions in kind (**mineral water and LPG cylinders**) to flood victims in the **East Coast region**

Total contribution in 2020: RM253,054



Sentuhan Alam
— Environment

Sentuhan Alam is the environmental focus of Yayasan PETRONAS that aims to reduce the negative impact of climate change and the Group's carbon footprint. Yayasan PETRONAS' efforts in researching biodiversity, carbon sinks and new energy as well as our biodiversity and recycling initiatives are in line with the 11th Malaysian Plan that aims to reduce Malaysia's year-on-year environmental impact in a bid to achieve net zero carbon emissions by 2050 (NZCE 2050).

Signature Programmes

Imbak Canyon Studies Centre (ICSC)

Launched in March 2019, the ICSC initiative marks a significant milestone in biodiversity conservation by PETRONAS and Yayasan Sabah to protect and conserve the 27,599-hectare Imbak Canyon Conservation Area (ICCA) in Sabah. To spur research activities, PETRONAS, through Yayasan PETRONAS, plans for a sustainable model in the areas of conservation, biodiversity and community via a Memorandum of Understanding (MoU) with Yayasan Sabah. Yayasan PETRONAS also funded the Imbak Canyon Scientific Expedition at Gunung Kali Research Station from 18 to 28 December 2019.



Note: This photo was taken before the pandemic.

Since 2010, PETRONAS has invested a total of RM83 million in the conservation of Imbak Canyon. This includes the implementation of environmental awareness and community enhancement programmes in the area. Plans are underway to introduce sustainability expeditions at the Imbak Canyon, whereby the outcomes will provide a database for future research on potential commercialisation of these expeditions. For the year in review, no activities were carried out at Imbak Canyon due to pandemic restrictions.

PCG Be Green

During the year in review, PETRONAS Chemicals Group Berhad (PCG) organised its annual conservation and plastic usage awareness programme called PCG Be Green which aims to promote the 3Rs (Reduce, Reuse, Recycle). Established in 2013, the programme aims to spread awareness on the importance of recycling and anti-littering as well as the impact of plastic usage on the environment, if not discarded properly. The programme involves talks, educational campaigns and clean-up programmes to effectively communicate 3R education to communities.

PCG first collaborated with Yayasan PETRONAS in 2019 as part of its effort to enhance the programme. The partnership saw the introduction of the #recycleforlifecycle awareness campaign and clean-up programme. In 2020, the "Cabaran PCG Be Green 2020" initiative was organised under the PCG Be Green banner. Utilising platforms such as WhatsApp, Instagram and Facebook, educational content was shared followed by a competition. The campaign offered prizes to those who collected the most waste items and then recycled them. The digital format of the campaign strictly adhered to the government's various COVID-19 standard operating procedures (SOPs) which are now part of the new norm. Carried out at four different locations, the campaign reached approximately 2,880 members of the community and saw 2,000 kg of recyclable waste being recovered.

PETRONAS walk4trees challenge

Yayasan PETRONAS has committed to planting 50,000 trees as part of its environmental conservation efforts under the Sentuhan Alam initiative. This initiative ties in with a commitment made by PETRONAS and its employees through the "walk4trees challenge" that aims to promote healthy lifestyles among PETRONAS staff, while they in turn pledge to do their bit to care for the environment. This programme entails planting one tree sapling for every 1 million steps that participants achieve.

For further details of this initiative, turn to the section titled "The walk4trees challenge – A Good Reason to Keep on Walking" within the HSSE section on page 146 of this report.