

## Positive Social Impact

### Talent and Future Pipeline

#### Why Is It Important?

We are currently in the midst of an era of energy transition, which is predominantly driven by the need to transform the global energy system for a low carbon future. To capitalise on opportunities that the transition brings, our most valuable asset – our diverse group of talented employees – must be equipped with skills, capabilities and experience that are relevant for the future.

As competition for talent increases, we are focused on transforming our workforce to be ready to achieve our strategic priorities, including delivery of our Net Zero Carbon Emissions by 2050 (NZCE 2050) Pathway. By empowering and nurturing existing and potential talents, we can create a more equitable and sustainable future and contribute to economic growth, while positioning ourselves as a preferred employer in the industry.

#### What Is Our Approach?

We believe in upholding a high-performance culture, where we attract and retain talents with critical skills and offer opportunities for upskilling and reskilling. We recognise that our employees are crucial for business sustainability and we want to ensure that they are equipped with the right skills, mindset and behaviour; hence, we invested RM264 million in employee training and development in 2022.

Our five key Capability Development Priorities for developing our people to meet evolving needs are:

<b>Sustainability</b>	<ul style="list-style-type: none"> <li>• Elevate sustainability practices by expanding awareness programmes.</li> <li>• Equip or acquire talents with technical expertise to embed sustainability into decision-making and daily operations.</li> </ul>
<b>Continuous Improvement (CI), Agile and Innovation</b>	<ul style="list-style-type: none"> <li>• Agile and Innovation skills to ideate, incubate and scale new ideas. Continuous Improvement (CI) play a big role in delivering business results to maximise cash flow and improve efficiency.</li> </ul>
<b>Digital</b>	<ul style="list-style-type: none"> <li>• Accelerate digital solutions through digital literacy programmes.</li> <li>• Equip or acquire talents with technical expertise in automation and advanced analytics to improve productivity, enable better decision-making and utilise data for competitive advantage.</li> </ul>
<b>Technical and Functional</b>	<ul style="list-style-type: none"> <li>• Technical and functional capabilities needed to grow our businesses.</li> <li>• Equip or acquire talents with expanded technical and functional expertise.</li> </ul>
<b>Leadership</b>	<ul style="list-style-type: none"> <li>• Nurture leadership at all levels to ensure talents deliver desired results expected from their roles, establishing a robust and sustainable succession plan for driving Core and Growth business respectively.</li> </ul>

Our aim is to redefine the talent experience by focusing on people, processes and platforms. We want to create an empowered, agile and enabled workforce that can make meaningful progress and have a sustainable impact. To achieve this, we focus on developing future skills in areas such as analytics, sustainability and digitalisation. We also encourage our employees to take charge of their career progression by enhancing relevant talent management principles and processes.

In developing future talents, we provide education sponsorships to students as well as industrial and technical training opportunities for new graduates. We offer talented young people learning opportunities at our industry-recognised learning institutions such as Universiti Teknologi PETRONAS (UTP), Institut Teknologi Petroleum PETRONAS (INSTEP) and Akademi Laut Malaysia (ALAM) that provide energy industry-related curriculum and training programmes.

## Value Creation in 2022

### Existing Talent

For our existing talents in the company, we focused on the five key Capability Development Priorities, supported by our in-house learning institutions and platforms, enhanced talent ecosystem and a sustainable pool of leaders.

### Sustainability

We scaled up efforts in building our people’s knowledge and capabilities in the area of sustainability to accelerate our ability to deliver our NZCE 2050 Pathway and fortify trust among stakeholders.

### Sustainability Capability Development Framework

The Sustainability Capability Development Framework was developed as part of our efforts to equip employees with sustainability-related knowledge, practices and processes. We also identified learning pathways and priorities for leaders and top talents, functional sustainability practitioners and the broader employee population.

### Advancing Sustainability Conversations

#### Engagement with Leaders

We engaged leaders through conversations to raise awareness on the need for change and to improve understanding of how the organisation’s performance can be enhanced.

We engaged with members of the PETRONAS Board and the Board of Directors of our public-listed companies to help oversee sustainability-driven strategies and guide stakeholder-oriented long-term goals. Executive leaders received guidance in developing a strategic direction that is aligned to organisational purpose, strategy and business models that contribute towards society and the environment.

One of the Top Leaders Dialogue sessions in 2022 featured the launch of our NZCE 2050 Pathway and provided our leaders with greater clarity on sustainability challenges and targets. As a result of this dialogue, leaders felt more engaged, aligned, inspired and united in purpose.

On a global level, we also took part in sustainability conversations and leadership programmes provided through our membership in the World Business Council for Sustainable Development (WBCSD), a network of around 200 leading companies committed to advancing sustainable business practices.

### Improving Sustainability Knowledge and Skillsets

Colleagues from across the Group benefitted from a range of learning opportunities made available to enhance relevant knowledge and functional skills to drive and shape future sustainability practices.

- **101** employees completed training programmes on sustainability delivered by the Cambridge Institute of Sustainability Leadership, Yale School of Management, Harvard Kennedy School, Institute of Management Development and Centre for Sustainability and Excellence.
- **132** sustainability change agents were appointed.
- **84** employees were upskilled with Level 1 Methane Emissions knowledge.
- **289** employees including top leaders, have attended sustainability masterclasses.

We also carried out awareness-building initiatives for all employees to ensure they were able to apply the knowledge obtained on sustainability, its drivers, tools and approaches in their daily actions. Towards this end, a sustainability e-learning module was also made compulsory for all new hires.

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- **30,000** employees completed the Sustainability e-Learning module.
- All Trade Unions Executive Committee members from *Kesatuan Kakitangan PETRONAS (KAPENAS)* Peninsular Malaysia, Sarawak, Sabah, Labuan including *Kesatuan Pekerja-pekerja Optimal Chemicals Malaysia Sdn Bhd (KEPKO)*, attended our sustainability-themed engagements and information sessions.

### Continuous Improvement (CI), Agile and Innovation

We believe that being agile and innovative are critical factors in realising our transition towards a low carbon future. At the same time, we also need to effectively drive business performance and maximise cash flows.

#### Continuous Improvement (CI)

As a business entity, we continue to equip our people with the right knowledge, methodologies, skills and mindset to understand and improve our current business processes. This will ensure sustainable operations and cost efficiency in meeting customer needs and business objectives.

Since PETRONAS Lean Six Sigma (PLSS) was introduced in 2016, production performance has become more sustainable, with reduced cost, increased productivity and enhanced customer satisfaction. We have upskilled more than 11,000 employees on CI Awareness and developed almost 2,000 PLSS practitioners.

The PLSS process is subject to an annual Maturity Assessment to sustain the deployment of LSS across the organisation. In 2022, six operating units reached the status of PLSS Matured Organisation, namely Project Delivery and Technology (PD&T), Malaysian Refining Company Sdn Bhd (MRC SB), Global HR Services (GHR S), Engen Limited, Malaysia LNG Sdn Bhd (MLNG) and PETRONAS Chemicals Methanol (PC Methanol).

- **143** PLSS improvement projects were executed.
- Saved **216,821** manhours.
- Over **4,000** employees upskilled in CI Awareness.
- **299** practitioners were certified in PLSS: 228 Yellow Belts, 66 Green Belts, five Black Belts.
- **185** practitioners were trained in PLSS: 148 Green Belts, 31 Black Belts and six Master Black Belts.
- Achieved **57.77 per cent** Process Cycle Efficiency (PCE).

### Agile

In response to the dynamic pace of change experienced across the energy industry, we intensified efforts to develop more agile capabilities through our Agile Leadership and Capability Programmes. This will enable our people to ideate, incubate and scale new ideas and deliver customer solutions at pace.

As part of our goal to strengthen talent capabilities, we continued to enhance the Agile Coaching Enablement (ACE) programme by integrating it into the PETRONAS Leadership Centre to improve agile-based knowledge and application. We also strengthened the agile leadership platform by improving exposure to outside-in good practices on business agility through key engagements and learning programmes. In addition, we infused agile leadership topics into key leadership programmes and engagements such as the Top Leaders Dialogue sessions.

- **32** employees appointed as Agile coaches to support agile teams and pods across the business.
- **16** employees received Agile Coach (ICP-ACC) certification.
- **31** employees received Agile Leadership Certification.
- Launched the first e-learning module on Agile via myLearningX with participation from more than **800** employees.
- **6,690** employees upskilled with Agile capabilities programmes since its launch in 2018.

### Nurturing Innovative Capabilities

We continued to strengthen our employees' capabilities in order to build an innovation ecosystem across the Group. Taking advantage of the rapid progress made in building the foundation for innovation in 2021, the PETRONAS Working Backwards (PWB) Methodology and innovation framework was expanded to business divisions in PETRONAS and the Innovation Masterclass was established as a permanent offering at the PETRONAS Leadership Centre (PLC).

As a result, innovation practitioners are actively ideating and incubating high potential projects, contributing to the innovation opportunity funnel and boosting new business possibilities for growth in Core and New Business areas.

To inculcate a comprehensive innovative mindset and culture, learning modules and engagements are seeded into key activities, events and digital platforms such as the Knowledge Series, information sessions, Venture Build Fireside chats, and exhibitions throughout the year.

Key highlights in building innovation capability in PETRONAS through PWB:

- More than **850** employees involved in new business and innovation initiatives upskilled through Innovation Masterclasses.
- More than **200** practitioners in action comprising of "sharks", coaches, programme managers and incubators.
- **3,400** employees completed the awareness self-learning training on myLearningX.

- More than **100** ideas were registered from Innovation Masterclasses, with more than **30** high potential opportunities progressing into Incubation and Venture Build stages.

- At the end of 2022, an opportunity incubated using PWB, that is Vehicle-as-a-Service (VaaS), which leases electric vehicle fleets to businesses, was successfully launched to market under Gentari and is currently generating revenue.

### Digital

Digitalisation and technology play a heavy role in our transition towards net zero carbon emissions. We recognise that the future of work will involve increased cross-functional collaborations and automation to improve productivity and decision-making, supported by data to drive competitive advantage. Therefore, we need to equip our employees and acquire new talents with the right technical depth, tools and methodologies in automation and advanced analytics to harness value from digital solutions.

### Shaping a Digitally-Competent Workforce

In our efforts to shape a digitally-competent workforce, we conducted upskilling sessions and introduced tools, techniques and methodologies on analytics that can be applied to better solve business pain points and improve day-to-day operations.

- Upskilled **28,000** employees as part of our efforts to prepare them for jobs of the future.
- Upskilled close to **14,500** employees in Analytics, exceeding our initial target of **14,000**.

### Collaboration with Industry Players

We collaborated with Microsoft and Tata Consultancy Services to share new perspectives in our Knowledge Series webinars. We strengthened our position in the digital segment over the long term, partnering with Accenture to develop a customer-centric approach to building digital products. We also co-hosted the Amazon Web Services (AWS) User Group Meet-Up, where we extended our PETRONAS Cloud Community of Practice (CoP) to external cloud enthusiasts.

- 162** employees attended the Realising Value in Digital Product Management programme to improve customer-centric product development.

- 100** participants attended the AWS User Group event. Out of this, **80** represented a cross-section of the industry and **20** were from PETRONAS Group Digital.

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### Technical and Functional

We focused on strengthening the foundational capabilities of our people in our efforts to further grow our traditional portfolio of oil and gas, as well as prepare them in our pursuit of non-traditional growth to ensure PETRONAS' long-term survivability. To achieve this, we aim to increase our capability strength to 75 per cent by 2025.

- ➔ Recorded a **62.5 per cent** capability bench strength for Technical Skill Group (SKG) and 40.4 per cent for Business SKG.

We recognise that capability building is especially important for our new businesses such as Renewable Energy; carbon capture and storage (CCS); and Remote Autonomous Operations (RAO). As such, we continued to upskill our people via formal learning and On-the-Job learning (OJL).

Various upskilling programmes were also conducted and tailored to the needs of the respective businesses as we continued to develop our people in strengthening our core business. Programmes included Multi-Skill Acceleration Programmes for technical non-executives from the Upstream business and digital marketing for the marketing and trading teams from the Downstream and Gas businesses, while Project Delivery and Technology (PD&T) employees were provided training based on our new focus areas. A Capability Development Framework review was conducted for Risk Management fraternity while Finance saw the establishment of the Finance Academy, a structured learning platform to strengthen core or niche skills in support of new business areas.

### Leadership Development

Continuous development of leaders at all levels is essential in creating a robust talent pipeline and sustainable bench strength for effective succession. Working with reputable partners, we focused on three key areas to develop leadership skills, equipping senior leaders to lead and steer the workforce towards achieving organisational goals, continuously building a pipeline of leaders and supporting competency upskilling or reskilling programmes and new ways of working for talents.

**84** Senior Managers graduated from the Tactical Excellence programme.

**38** General Managers attended the Strategic Excellence programme in 2022 and are expected to graduate in 2023.

**109** Managers graduated from the Managerial Excellence programme.

**91** Executives completed the Professional Excellence programme.

**90** Executives completed the Building Leaders programme.

### In-house Learning Institutions and Platform

We continued to accelerate capability development by leveraging our specialised learning institutions namely the PETRONAS Leadership Centre (PLC), Institut Teknologi Petroleum PETRONAS (INSTEP), the Centre for Advanced and Professional Education at Universiti Teknologi PETRONAS (CAPE UTP), Akademi Laut Malaysia (ALAM), as well as the myLearningX virtual learning platform. In creating a future-relevant workforce, these learning institutions and platforms provide opportunities for our talents to be upskilled on leadership and the energy industry as a whole.

#### PETRONAS Leadership Centre (PLC)

The PETRONAS Leadership Centre (PLC), previously known as PERMATA when it was established in 1989, was created to develop progressive leaders that would not only make an impact on our organisation, but also the global energy industry. The new PLC campus was completed in 2022.

#### Developing and Nurturing Leaders

The programmes at PLC are designed to equip leaders with the skills and knowledge required to tackle the most pressing challenges faced across their diverse functions and industries. Towards this end, we ensure that our content is consistently relevant and delivered via the latest learning and development practices.

## Powering Innovation

We recognise the need to change the way we think and work as an organisation as we navigate towards a just transition. Towards this end, we have created an ecosystem where ideas are incubated, tested and scaled to market by supporting key PETRONAS innovation initiatives, namely PETRONAS Innovation Garage (PING), SEEd.Lab and FutureTech Accelerator.

## Driving Sustainability

In line with our net zero carbon emissions 2050 pathway commitments, PLC serves as a platform to upskill leaders in sustainability and at the same time build sustainability advocacy across the organisation, from the environmental and human capital perspectives. We have also designed and built a new campus to drive our sustainability efforts.



PLC also hosted several key events, namely the PETRONAS Race2Decarbonise Hackathon and a roundtable forum on Road to COP27: Alignment on Energy Sector Decarbonisation to support National Narratives on Net Zero GHG Aspirations, with the Malaysian Government's Economic Planning Unit (EPU) to demonstrate our strong commitment in lowering our carbon footprint in support of Malaysia's environmental agenda.

### Sustainability Efforts at PLC

Aligned with PETRONAS' approach to sustainability, PLC's campus is built with a green vision. It is environmentally responsive with energy-saving architecture as well as green and digital technologies in place. Our campus has achieved the Platinum status of the Green Building Index Malaysia Certification and Leadership in Energy and Environmental Design (LEED) Platinum status of the US Green Building Council.

#### ☉ Biodiversity

- Total area of 35 acres (including lakes, streams and landscapes) to provide habitats for flora and fauna such as indigenous plants, butterflies and dragonflies.
- 2,160 trees planted, which can potentially absorb 64.8 tCO<sub>2</sub>e equivalent to the amount of carbon dioxide produced by 127 air conditioners running for a year.

#### ☉ Wastewater Management

##### i. Greywater

- Wastewater generated from hand-washing basins is collected, filtered and used for toilet flushing, which reduces water demand and costs.

##### ii. Rainwater Harvesting Tank

- Rainwater is stored in four storage tanks with a maximum storage capacity of 1,368 m<sup>3</sup> and is used for landscape irrigation. This capacity can wash up to 228,000 linen bedsheets.

#### ☉ Waste Management

- A maximum of 150,124 kg of food waste per year can be fed into a vessel composting system. This generates an estimated 10,509 kg of compost per year that may be used as fertiliser for PLC's landscape.

#### ☉ Reduction of Heat Island Effect

- Man-made lake with water volume of 14,203 m<sup>3</sup> (equivalent to approximately 5.7 Olympic-sized swimming pools), reduces the air temperature surrounding the building.
- Main building facade is orientated north-south to minimise solar heat gain.

#### ☉ Energy Generation

- 4,066 photovoltaic (PV) panels installed to generate an estimated 2.3 million kWh/year, equivalent to the ability to power up 327 double-storey houses per year.

#### ☉ Daylight Harvesting and Glare Control

- Reduce reliance on artificial lighting through specially designed glass panels which are strategically placed for optimum natural light.
- High performance glazing to reduce energy consumption through the building envelope.

#### ☉ Electric Vehicle (EV) Chargers

- 17 Gentari EV charging points are available at PLC.

#### ☉ Health and Well-being

- Open spine area allows for well-ventilated social spaces.
- Use of MERV 13 rated air filters for better indoor air quality.
- Selection of Low Volatile Organic Compounds (VOCs) paints and adhesives.
- CO<sub>2</sub> sensors to maintain the quality of fresh air within air-conditioned building environment.

#### ☉ Efficient Systems

- Air Conditioning and Mechanical Ventilation (ACMV) system with high system co-efficient performance.
- Lighting system with automated light (lux) sensors and motion sensors.



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### Institut Teknologi Petroleum PETRONAS (INSTEP)

Institut Teknologi Petroleum PETRONAS (INSTEP) was established in 1981 to accelerate human capital development for the oil and gas industry through experiential learning and customised programmes. We leverage INSTEP to upskill our people to support the growth of the energy industry, anchored on its world-class facilities and industry-experienced instructors.

- More than **13,000** employees were upskilled via the following programmes:
  - Professional Development Programmes (PDP) for engineers and technicians.
  - Assessment and Certification (A&C) Programmes in meeting statutory requirements.
  - HSSE Generative Culture programmes.
  - Customised modules that fit specific business requirements.

### Centre for Advanced and Professional Education, Universiti Teknologi PETRONAS (CAPE UTP)

We established the CAPE UTP at Universiti Teknologi PETRONAS (UTP) in 2016 to enhance individual and team capabilities through a unique blend of post-bachelor degree programmes and professional short courses. At CAPE UTP, we prioritise human-centred learning solutions that combine academic knowledge with industry insights that maximise the value of technology and accelerate the adoption of technical capabilities.

In 2022, more than 1,000 PETRONAS employees were upskilled at CAPE UTP through open and customised courses related to the energy industry.

### Akademi Laut Malaysia (ALAM)

The Akademi Laut Malaysia (ALAM) is the leading maritime training academy in Malaysia. Through ALAM, we have been shaping maritime leaders and professionals at our fully-equipped 67-acre campus in Melaka.

Since its inception in 1977, 751 cadets have been awarded with sponsorships, with a total investment of RM24.2 million.

- ALAM won the Malaysian Society for Occupational Safety and Health (MSOSH) Gold Merit Award under the category of Educational Sectors, Petroleum, Gas, Petrochemical and Allied Sectors, affirming its move towards a generative HSSE culture.
- Successfully obtained ISO 9001:2015 for Quality Management Systems, reaffirming the commitment of ALAM to continuously improve its systems to enhance customer/student satisfaction.
- Introduced **18** new programmes to cover other segments of the maritime industry; four Ministry of Higher Education (MoHE) approved diploma programmes, four Marine Department (MARDEP) approved programmes and **10** market-ready customised programmes based on industry demands.
- Collaborated with five universities and seven industry partners to enhance education outcomes.

### myLearningX

We established myLearningX in 2021, our digital learning platform that offers personalised and flexible learning options to nurture a self-learning culture across the organisation and encourage inclusive growth. We enriched the learning content through partnerships with reputable learning providers.

We understand that people who share the same interests could improve their professional and personal growth by socialising and sharing expertise through learning communities. We formed over 100 learning communities on myLearningX in 2022 with more than 12,000 employees as members.

Additionally, recognising the rapid changes in the energy industry and in the organisation, coaching has become even more vital in untangling challenges and unlocking our people's potential to grow.

**30,647** learning objects available for training via curriculum, events, online courses, videos and external content.

**43,633** participants (**97.1 per cent** active learners).

Achieved **50.1** learning hours per employee via myLearningX.

**1,567** active coaches with **315** coaching relationships.

The refreshed EPM via myCareerX has enabled easy access for our employees and their managers to monitor performance and facilitate continuous performance conversations.

We also enhanced the Underperformer Management system to proactively carry out early intervention for identified employees.

We changed the PETRONAS Cultural Beliefs Behaviour Evaluation (BePCB) Guidelines into a 360-degree evaluation from the earlier 180-degree version. With this change, our employees' direct managers and team members were able to give feedback, as well as managers and members from other teams whom they have worked with.

We also embedded open and transparent values in BePCB to encourage employees to speak up in performance-related conversations, with a focus on learning and development aspects.

## Talent Ecosystem

We empower and enable our people to drive their career progression through a robust talent ecosystem.

In 2022, we continued to enhance our principles and processes, particularly in the areas of employee performance management, career progression and personal marketability, all of which are supported by an integrated HR platform called myCareerX.

### Refreshed Employee Performance Management (EPM)

We refreshed our EPM for the wholesome development of our employees and an enhanced end-to-end talent journey for them by nurturing a growth mindset and behaviour. The refreshed EPM aligns performance objectives with individual aspirations, commits employees to roles and responsibilities with the needed competencies and promotes a self-driven culture based on continuous feedback and coaching.

### Enhanced Career Progression Principles

We introduced our enhanced career progression principles in late 2021, which enables role-based progression anchored on competency, and a simplified decision-making process from 2022 onward.

We initiated a pilot programme within the Human Resource fraternity, focusing on the following areas:

- Enabling our people to progress within and across roles while balancing business and talent needs, in line with matching employees' aspirations with organisational goals.
- Promoting competency-based progression through fit-for-purpose assessments, with performance managed through EPM.
- Simplifying the decision-making process by empowering line managers to make progression decisions for manager-level and below.



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### Enhancing Personal Marketability via Talent Profile

We encourage our people to drive their own talent journey within the organisation. With this in mind, we introduced Talent Profile in myCareerX, which is a digital resume to allow our employees to be visible within the organisation, market themselves and attract managers and team leaders who are looking to build their team.

Close to **20,000** employees were able to access Talent Profile to build their personal marketability.

Over **10,000** users have used the Talent Profile to update their personal information and explore potential roles.

Talent Profile was intentionally used for talent deliberation in PETRONAS.

### A Sustainable Pool of Leaders

Effectively identifying potential leaders is key to successful succession planning. myTalentX was designed to ensure a sustainable pipeline of leaders through comprehensive insights on talent, succession planning and position requirements across PETRONAS, leveraging AI-enabled recommendations to identify best fit talents as successors for key positions. In addition, myTalentX provides real-time data on top talent for faster decision-making in meeting business demands.

### Future Talent

We continued to invest in identifying and nurturing our pipeline of future talents through our sponsorship programmes and learning institutions.

### Sponsorships

#### PETRONAS Education Sponsorship Programme (PESP)

Since 1975, we have successfully awarded education sponsorships to more than 38,000 young students with high academic calibres from diverse ethnic and economic backgrounds, with the majority from underprivileged families. Through PESP, we offer young Malaysians and others the opportunity to pursue their studies at UTP as well as other leading local and international universities.

In 2022, 587 scholarships were awarded to Malaysian students. In addition, we began offering PESP to students who were already enrolled at universities recognised by PETRONAS with a minimum of one remaining year of studies as well as students who were offered placements at universities recognised by PETRONAS. Three scholars have benefitted in areas such as Economics and Mechanical Engineering at University of California, Berkeley, University College London and Imperial College London.

During their undergraduate years, PESP scholars undergo a structured development programme via the PETRONAS Readiness for Employment Programme (PREP) to ensure they are continuously nurtured until graduation. Students are also given the opportunity to interact with our leaders to inspire and help them achieve their potential.

- Invested more than **RM174 million** through education sponsorships awarded to **587** Malaysian students.
- 64 per cent** of our scholars were recruited to work for the organisation upon graduation.
- Seven per cent** of our graduates were recruited by other companies.
- Five** engagement sessions between scholars and PETRONAS leaders were conducted both locally and internationally to inspire students to push their potential towards success.

### PETRONAS Education Sponsorship Programme for Postgraduates (PESP<sup>2</sup>)

The PETRONAS Education Sponsorship Programme for Postgraduates (PESP<sup>2</sup>) is an extension of PESP, serving as a platform for deserving students to strengthen their knowledge and capability through postgraduate studies in specific key areas that support PETRONAS' growth strategies.

Since its inception in 2018, 83 scholars have benefitted from the programme in various areas of expertise such as Drilling, Fluid Tech Solutions, Autonomous System (Robotics), Renewable Energy and Carbon Capture.

Invested over **RM4 million**, benefitting **20** recipients.

### Industrial Training Programmes

We provide industrial training opportunities for graduates and tertiary students through the Graduate Employability Enhancement Scheme (GEES) and internship programmes for on-the-job learning (OJL). These will help prepare students for better employment opportunities which would contribute towards improving their standard of living ultimately contributing to the socio-economic upliftment of the community.

### Graduate Employability Enhancement Scheme (GEES)

GEES provides graduates with actual working experience as part of our soft skills training programme, in support of the Malaysian government's Protégé Ready-to-Work initiative. It is a 12-month on-the-job training that aims to enhance the employability of new graduates towards securing long-term employment. We do this by instilling positive work attributes, including entrepreneurial training to encourage them to establish and manage their own business. We also provide technical bridging training to upskill students in relevant technical skills to facilitate their transition into the job market.



Since its inception in 2011, the programme has benefitted 4,683 participants.

### PETRONAS Internship Opportunity Programme

We provide undergraduate students with industry experience and learning under our internship programme where they are able to gain knowledge outside of their academic setting. Our aim is to enable students to integrate theories and knowledge obtained from learning institutions and actual work situations in a professional manner.

Through this programme, students will gain their first working exposure in the energy industry and the opportunity to engage across various operational areas. This enables them to put their learning into action and equip themselves with useful skills upon joining the workforce.



**1,403** students from local and international universities participated in our internship programme.

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### Leveraging our Learning Institutions

Our industry-recognised learning institutions such as UTP, INSTEP and ALAM continued to introduce relevant programmes to nurture and encourage young talents to achieve their potential.

#### Programmes Implemented in 2022

**UTP** 01

1. PETRONAS scholars at UTP:
  - More than 1,000 active scholars at UTP.
  - Over 200 scholars graduated from UTP.
2. UTP-AMG Internship Programme:
  - As part of the PETRONAS Readiness for Employment Programme (PREP) Framework and through collaboration and partnership with Mercedes-AMG PETRONAS Formula One Team, we sponsored students for internships at the Team's plant in the United Kingdom. The internship programme enabled PETRONAS scholars at UTP to gain technical knowledge and valuable experience in a highly competitive environment.
  - 75 PETRONAS scholars benefitted from the programme since inception.

**INSTEP** 02

1. Sponsored students at INSTEP:
  - More than 300 students were sponsored at INSTEP, with RM12.3 million invested.
  - 35 scholars from the 2021 intake have been recruited (91 per cent by PETRONAS, 9 per cent by others).
2. Structured development programme for scholars:
  - Technical Enrichment Programme (TEP) learning framework, focusing on competency and experiential learning throughout a 10-month programme.

**ALAM** 03

1. Sponsored students at ALAM:
  - 75 out of 340 cadets with investment of RM883,170 via Post Sea Programme.
  - Sponsored students at ALAM by Eaglestar:
    - 94 out of 142 new cadets with investment of RM10,254,883.
2. ALAM provided graduates with employment opportunities by assisting 51 eligible cadets at 16 shipping companies and 11 eligible able seafarers at multiple shipping companies.

## Community Engagement

### Why Is It Important?

Active engagement and community development are essential for building trust, establishing goodwill and maintaining positive relationships with the communities where we operate. By engaging with local communities and stakeholders, we understand their needs, reduce conflicts and minimise the risk of project delays or cancellations. This demonstrates our commitment to sustainable operations and nurtures a positive reputation. Investing in local communities stimulates economic growth, improves quality of life and creates a more supportive environment for our business. Building strong partnerships creates shared value contributing to our overall success and sustainability.

### What Is Our Approach?

At PETRONAS, we are committed to building strong, resilient and empowered communities through community engagement efforts. Our initiatives aim to improve the standard of living, enhance livelihoods, promote equitable growth and increase environmental awareness. We take a structured and systematic approach by developing a community engagement strategy that aligns with our business objectives and values while addressing the needs and aspirations of surrounding communities. Our Social Impact programmes focus on education, community well-being and development, and the environment, to encourage sustainable livelihoods and equip communities with the necessary skills for a just energy transition, a fair and inclusive process that aims to ensure no one is left behind.

### Identification Process for Social Impact Activation



## Positive Social Impact

PETRONAS invested close to RM900 million for our Social Impact activations in 2022, benefitting over 1.5 million beneficiaries in Malaysia and internationally. The goal of these investments is to champion the pursuit of knowledge among students and educators, provide access to essential resources for underserved communities and to empower them to reach their full potential as well as creating awareness and promoting the importance of biodiversity conservation.

Yayasan PETRONAS also conducts a significant portion of our Social Impact activations across the country, benefitting over 116,600 beneficiaries with an investment of around RM49.53 million.

### Three Key Areas of Social Impact Activations

#### EDUCATION

- Develop knowledge and capabilities to support nation-building by enhancing the skills and ability of individuals and organisations to help them achieve success.
- This includes ensuring access to quality education for all, regardless of their income level, gender, ethnicity, physical and mental abilities to improve education opportunities and levels.

#### COMMUNITY WELL-BEING AND DEVELOPMENT

- Improve well-being and contribute to community development by promoting the socio-economic development of local communities, support initiatives that lead to good physical and mental health and improve the safety of local communities.
- This includes creating pathways for sustainable livelihoods and better economic opportunities for vulnerable underserved communities.

#### ENVIRONMENT

- Conserve natural resources for current and future generations by protecting and preserving the natural environment to maintain biodiversity.
- Provide opportunities for communities to contribute to the reduction of GHG emissions and adapt to potential effects of climate change.

### Value Creation in 2022

#### Education – PETRONAS Powering Knowledge

Quality education is a fundamental building block for creating a strong workforce, empowering communities and supporting the nation’s socio-economic growth. To this end, we have developed a range of programmes that cater to students from primary to tertiary levels, as well as the general public, with a focus on Science, Technology, Engineering and Mathematics (STEM). We have also initiated programmes to improve educational and vocational opportunities for all.

In 2019, we set a target to achieve 24,100 beneficiaries from PETRONAS’ Educational Programmes by 2024. This was in line with our objective to provide access to quality education, as well as strengthening teachers’ capability in STEM and to serve as role models in enhancing higher order thinking skills through STEM which enables communities to progress collectively as a nation. In 2022, we managed to achieve the target two years ahead of schedule, reaching 42,839 education beneficiaries cumulatively from 2020 to 2022. The education programmes include our PETRONAS Education Sponsorship Programme (PESP), *Program Duta Guru* (Teacher Ambassador programme) and the Vocational Institution Sponsorship and Training Assistance (VISTA) programme, among others. Moving forward, we aim to continue providing better opportunities with sustainable impact to underprivileged students, and are in the process of developing other Social Impact measurement systems. We will be focusing on high impact initiatives through strategic partnerships and collaborations, and aspire to include more beneficiaries both domestically and internationally, especially in the areas where we operate.


## 1. Learning Institutions

Our commitment to nation-building is strongly linked with our industry-recognised learning institutions, which contributes to producing skilled talents for the workforce of the future and providing innovative solutions that enable Malaysians to achieve their full potential. By driving people forward through education, we are actively contributing to the growth and development of the nation, building a brighter future for all.

### i. Universiti Teknologi PETRONAS (UTP)

A wholly-owned subsidiary of PETRONAS, UTP has produced more than 23,000 graduates from over 60 countries. It has emerged as one of the main feeders within the region producing competent talent for the workforce.

- Offered **60** academic programmes (one foundation, **13** undergraduate and **46** postgraduate programmes).
- **6,648** students were enrolled in UTP, with **1,217** in foundation programmes, **4,340** in undergraduate courses and **1,091** in postgraduate studies.
- **1,438** students graduated.



### ii. Institut Teknologi Petroleum PETRONAS (INSTEP)

INSTEP has become an internationally-recognised learning solutions partner with customers from over 35 countries. It has successfully produced more than 130,000 job-ready technical workforce serving in more than 30 refineries and petrochemical plants, in addition to 100 platforms globally. INSTEP continues to push boundaries by providing technical talents with innovative solutions allowing them to grow with their respective organisations and achieve their potential.

- Offered over **70** programmes, with **11,660** enrolment.
- **116** students, sponsored by Sarawak Petchem Sdn Bhd, graduated from the Technician Training Programme.

### iii. Akademi Laut Malaysia (ALAM)

ALAM offers courses with comprehensive curriculums to prepare its graduates as officers, engineers, researchers and consultants in the global maritime industry.

- **550** students enrolled in ALAM's cadetship diploma programme, maritime studies programme, able seafarers programme, advanced post sea courses and short courses.

### iv. Kimanis Training Centre (KTC)

We established the KTC in collaboration with the Sabah State Government to assist in developing local youths' technical capabilities in fields related to the oil and gas industry. KTC has since produced qualified skilled workers to contribute and benefit from the East Malaysia Development Plan under the Sabah-Sarawak Integrated Oil and Gas Project (SSIOGP).

Currently managed by INSTEP under PETRONAS Technical Training Sdn Bhd (PTTSB), KTC is the first institution in Sabah to be recognised as an Accredited Centre by the Department of Skills Development under the Ministry of Human Resources to conduct a three-year full-time trainings in Industrial Instrumentation and Control, System-Monitoring and Control (Level 4) and Malaysian Skills Diploma (DKM). PETRONAS has invested RM34.6 million since KTC's inception in 2011, producing 231 graduates.

- Invested **RM4.4 million** in developing the capabilities of Sabahans.
- **20** students started their studies at KTC.



## Positive Social Impact

### 2. Collaboration with Higher Education Strategic Initiatives (CHES)

We collaborated with Malaysia's higher education sector to bridge industry-academia knowledge sharing in technical areas aligned with PETRONAS' Education Agenda and Sustainable Development Goals (SDGs) under quality education. CHES became one of the channels for us to share our knowledge and best practices in project management, engineering solutions, technology and digital delivery as part of our commitment to contribute to the nation.

Through these initiatives, we aim to create more platforms for Technical Professionals (TPs) and Subject Matter Experts (SMEs) to perform Technical Professional Excellence responsibilities and build rapport with the Higher Education sector and young Malaysian top talents in creating awareness and interest in the oil, gas and energy industry.

- We conducted:
  - more than **90** webinars and face-to-face sessions covering topics on engineering, technology and digital, as well as Career Talks with all **20** universities under the CHES initiative;
  - syllabus or curriculum reviews with seven universities;
  - adjunct lectures at six universities;
  - internship and industry visits, including a site visit to Malaysian Refining Company Sdn Bhd (MRC SB);
  - the Digital Young Graduates Programme (YGP) where seven Universiti Teknologi Malaysia (UTM) students received work-based learning placements; and
  - three oil and gas conferences and events.
- We provided industry supervisors and coaches for students' final-year projects, established mentor-mentee programmes and included them in the universities' industrial advisory and accreditation panels.
- We partnered with four universities for research collaborations in the oil, gas and energy field.

### 3. Proactive engagement with students

We continuously engage with students from primary to tertiary levels through several programmes to raise awareness on the importance of gaining knowledge, fostering interest in STEM and exposing students to opportunities in the oil, gas and energy industry.

#### i. Discover PETRONAS at School (DPS)


Since its establishment in 2014, PETRONAS has invested RM2.7 million, benefitting 24,000 students. The programme helps secondary school students learn more about the oil, gas and energy industry and the various career opportunities available across PETRONAS. This programme serves as a guide for students to choose the right education sponsorship application course, matching their career and future aspirations.

Through DPS, we engage with secondary school students to:

- strengthen knowledge and understanding of the PETRONAS Education Sponsorship Programme (PESP);
- instil interest in the oil and gas industry and related careers;
- build and enhance PETRONAS brand awareness and image;
- establish a sustainable network and mutual relationship with the Ministry of Education, schools and students.

DPS consists of career forums and booths where our volunteers conduct interactive engagements and experimental learning.

- Over **2,000** students benefitted from the DPS programmes conducted at four centralised locations: Kota Samarahan and Mukah, Sarawak; Kuala Nerus, Terengganu and Segamat, Johor.
- **52** schools participated in DPS 2022.
- Invested about RM1 million.
- **92** PETRONAS employees volunteered.



**ii. PETRONAS Vocational Institution Sponsorship and Training Assistance (VISTA)**

PETRONAS VISTA was introduced in 1992 as a flagship programme to assist in delivering technical courses at selected institutions under our Technical and Vocational Education and Training (TVET) process, emphasising on job-oriented learning and training.

We collaborate with government agencies and state governments of the selected institutions on infrastructure, equipment, trainers, or programmes readiness (depending on needs) to ensure the chosen technical courses will be delivered successfully as per the oil and gas industry requirements.

In 2022, 18 institutions were identified to be part of the VISTA programme. These institutions are expected to produce more than 1,000 technical talents annually.

Six new certifications have been introduced under the three-year programme implementation (2023-2026): Mechanical Fitter, Rigger, Crane Operator, Welding Inspector, Diploma in Oil and Gas, and Diploma in Process.

Since its inception, VISTA has benefitted more than 12,000 graduates with over RM90 million invested and has collaborated with 27 TVET institutions all over Malaysia.

Invested **RM1.6 million** in VISTA.



**2022**

Over **400** individuals across Malaysia benefitted from this programme, gaining technical and vocational capabilities.

**iii. Digital Equity Programme (DEP)**

Introduced in 2022, the Digital Equity Programme (DEP) was designed by Petrosains to increase STEM interest among students in Sabah, Malaysia, cultivating 21<sup>st</sup> century and technical skills in a fun and engaging manner to prepare participants for the workforce of the future.

This initiative exposed teachers to the innovative ways they can explore to ease the teaching process and guide students in enhancing their digital comprehension level, adding value to everyday solution design and curation. Students also gained a better understanding on the four elements of STEM, enhanced their problem-solving skills and discovered career opportunities in the field.

We upskilled and enhanced the capacity of teachers in technical-and digital-related skills, as well as democratised digital creation activities for students from low-income families to deepen their interests in STEM. Teachers and students also were given opportunities to expand their knowledge through the formation of a district-level committee and school-level technology clubs that are linked to other key players in the ecosystem.

- Invested around **RM500,000** in DPS.
- **80** teachers and **82** students from **39** secondary schools in Sandakan and Tawau, Sabah benefitted from the two sessions conducted.

## Positive Social Impact

### iv. BeDigital Bootcamp

We curated the BeDigital Bootcamp to strengthen young graduates' digital literacy and help them prepare for the jobs of the future. The intensive learning exposure brings participants through the concepts of design thinking, data storytelling, transitioning into the working world, digital entrepreneurship and concluding with a shark tank session in front of expert evaluators. Outstanding participants are offered roles in PETRONAS or its recruiting partners.

In order to elevate the employability of graduates and ensure they are future-ready, we collaborated with Sabah state government and other partners: PETROSAINS Sdn Bhd, SEEd.Lab, Center of Applied Data Science, Tata Consultancy Services, Microsoft, Universiti Malaysia Sabah, Universiti Teknologi MARA Sabah, University College Sabah Foundation, Sabah Net Sdn Bhd, Malaysia Board of Technologists, KLCC Urusharta Sdn Bhd, Sabah Energy Corporation, Four Seasons and Internspoon.

- Recorded more than **60** participants.
- **50 per cent** of total participants stood out during the bootcamp and received a conditional offer each from PETRONAS and other companies.

### v. Young Aspiring Mentees in STEM (YAMS)

YAMS is a mentoring programme by PETRONAS' young professionals that was established in 2022. We introduced this programme to coach and empower upper secondary school students in Sabah to help them achieve their potential by pursuing STEM careers and become future leaders. Our goal is to drive long-term holistic development of the Sabahan workforce, as this is part of PETRONAS' efforts in caring for the communities that we serve.

This programme consists of virtual check-ins, checkpoints and physical camps, where each young professional is assigned two students to coach. Mentors also received comprehensive training and clear guidance on the syllabus and resources to coach their mentees.

- Invested more than **RM170,000** in YAMS.
- Identified **40** science students from disadvantaged families in upper secondary schools in Sandakan and Tawau, Sabah.
- **20** PETRONAS young professionals were chosen as volunteers to mentor.

### vi. PETRONAS Leading Women Network (PLWN) – UTP Mentoring Programme

The PLWNxUTP Mentoring Programme started in 2021 to mentor UTP students selected by the university. Through this initiative, students are mentored by experienced mentors to build their confidence, learn networking skills and to be flexible, adaptable and empathetic at work.

- **20** mentors from technical and non-technical backgrounds were identified from across PETRONAS.
- **20** mentees from petroleum engineering and petroleum geoscience courses benefitted from the programme.
- Four online sessions were conducted throughout the programme, with about 100 participants on average per session.

### vii. Young Technologist Programme

This programme is aimed at increasing lower-secondary students' confidence in enrolling in STEM programmes and securing jobs in the future work environment. The programme focused on improving their competency in Communication, Collaboration, Critical Thinking, Creativity (4Cs).

- **2,040** students from Terengganu benefitted from this programme.

**viii. Engen Mathematics and Science School**

We designed the Engen Mathematics and Science School to improve the education quality and expand access to education or training for students in South Africa. The programme offers free Mathematics, Physical Science and English classes to students from grades 10 to 12.

**3. Providing Opportunities through Student Sponsorships and Bursaries**

We recognise that the path to gaining knowledge and pursuing tertiary-level education can be challenging for certain students. We assist through sponsorships to help the younger generation gain access to education and vocational learning opportunities.

**i. Yayasan UTP**

Yayasan UTP (YUTP) was established in 2007 to promote and enhance education while supporting the development of UTP as an academic institution of excellence. In addition to its role in seeking donations and forging partnerships, it also allows students to pursue knowledge, especially in science and technology. The assistance also helps students prepare to be part of the future workforce in an increasingly challenging global economy.

Since its inception in 2012, Yayasan UTP has provided financial assistance to 2,423 beneficiaries through Yayasan UTP's scholarships and bursaries.



**ii. Tabung Amanah Zakat UTP (TAZU)**

We believe in making education accessible to all by providing opportunities through *zakat* (alms) collection from UTP and PETRONAS employees. 50 per cent of the collection is returned to TAZU, which is then distributed to underprivileged students to ensure their continuous development and sustainable education.

Since TAZU was incepted in 2011, it has provided financial assistance to 5,600 beneficiaries through tertiary education sponsorship at UTP.

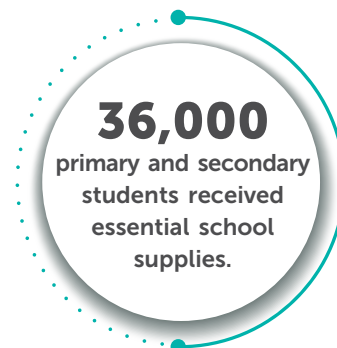
- **1,788** deserving students at UTP received financial assistance from the *zakat* contributions to cover university fees (registration, academic and hostel fees) and special assistance (laptop allowance and stipends).
- Introduced a Full Foundation Sponsorship Programme to sponsor **100** Asnaf students to further their studies at UTP.

**iii. Building Brighter Futures Programme**

This programme provides financial assistance to indigenous students in Canada. The programme gives indigenous learners the ability to complete post-secondary education. It also includes mentoring, youth conferences and educator support.

**iv. Back to School (BTS)**

We continued to reach to primary and secondary school students via Yayasan PETRONAS to help them prepare for the new academic year with essential school supplies. While the programme lessens the financial burden of their B40 (below the poverty line) parents, the school supplies are also intended to raise students' enrolment and participation.



## Positive Social Impact

### 4. Creating Conducive Education Environments

A conducive learning environment, with the right tools, materials and space allows students to feel empowered to acquire knowledge. Recognising the importance of a conducive environment, we provide a proper infrastructure for students as part of our contributions to nation-building.

#### i. Facilities Improvement Programmes in Iraq

The development of three new classrooms and renovation of the main hall of the teachers' Union office has provided access to quality education and safe, non-violent, inclusive and effective learning environments for over 500 students between seven to 12 years old in the surrounding Garraf Contract Area.

#### ii. Construction of MARA Junior Science Colleges (MRSM)

We are collaborating with the Sabah and Sarawak state governments (via Yayasan Sarawak) and Majlis Amanah Rakyat (MARA) to construct two MARA Junior Colleges in Ranau, Sabah and Bintulu, Sarawak. This collaborative effort aims to provide students access to quality education and promote their interest in STEM while developing their talents. Each MRSM can accommodate 450 students. Construction began in 2019 and the first student intake by MARA is targeted to be in Q1 2024.

The locations and sites of both MRSMs were determined and provided by the state governments. The buildings were designed according to the facilities requirements by MARA, with PETRONAS as the main sponsor for the overall construction, provision of furnishings and equipment. Local consultation firms and contractors were hired to support both projects.

The colleges will be handed over to the state governments and MARA for operation upon completion. It will also be the fifth MRSM in Sabah and the fourth MRSM in Sarawak.

- Achieved **94 per cent** physical progress for MRSM Bintulu.
- Achieved **94 per cent** physical progress for MRSM Ranau.
- Invested more than **RM220 million** for both MARA Junior Colleges.

### iii. Bridging the Online Learning Divide Programme

We remain committed to supporting students from all backgrounds despite the challenges posed by the COVID-19 pandemic, which forced schools to close and shift to online learning. Students from low-income communities (B40) needed help with their studies due to a lack of internet access and relevant devices. We have provided internet-enabled digital devices to students from B40 communities in Perak, Selangor, Johor, Kelantan, Sabah and Sarawak to help them engage in remote or hybrid learning and gain immediate learning support in early English literacy.

Lack of internet access and relevant devices resulted in dire challenges for students from low-income families. We responded to the need by providing internet-enabled digital devices. The tablets were equipped with digital resources and tutoring took place via WhatsApp, enabling volunteers based anywhere in Malaysia to tutor students nationwide.

- **2,000** underprivileged students from **B40** communities received tablets with a year of internet connectivity.

### 5. Building STEM Awareness Across Our Communities

PETROSAINS Sdn Bhd is our wholly-owned subsidiary that leads and steers the business and visit operations of Petrosains, The Discovery Centre and the PETRONAS Twin Towers.

#### i. Petrosains, The Discovery Centre

Through Petrosains, The Discovery Centre, we strive to deepen our relationships beyond school walls and build trust by engaging with the community through our interactive, experiential and hands-on programmes at the Centre.

Since its establishment in 1999, Petrosains has welcomed around eight million visitors as of 2022. The centre, approximately 7,000 square metres, hosts about 300 interactive exhibits within specific themed galleries. In 2022, Petrosains recorded the highest number of visitors since its establishment with 515,982 visitors.

As a PETRONAS Education initiative, Petrosains, The Discovery Centre provides an immersive learning experience, especially in science, technology and sustainability. We are committed to making a positive social impact and are driven to do our part in building a society equipped with skills needed for the future, in line with The PETRONAS Education Agenda.

We also aim to educate our people on the evolving digital era driven by the convergence of advanced technologies such as robotics, artificial intelligence (AI) and the internet of things (IoT) to enable the creation of innovative solutions towards shared progress for all, where no one is left behind.

Petrosains has positioned itself as a credible solution partner to various stakeholders in delivering impactful programmes, particularly in STEM Education, business and sustainability-related thematic learning. Some of these programmes include Discover PETRONAS @ Schools, Digital Equity Programme, BeDigital Bootcamp, Government-Linked Companies Open Day, PETRONAS Cub Prix, Meet The Expert, PETRONAS StreetSmart Design Thinking Challenges and Café Mesra operation.

Petrosains collaborated with:

- Ministry of Education for the *Seminar Pendidikan STEM Digital* session for educators, and Educators Brunch with the State Education Department;
- Mercedes-Benz for The Vision of an Electric Future and Sustainable Mobility for Tomorrow programme to inspire secondary and tertiary students to proactively think about responsible energy planning towards sustainable and safer living; and
- Offshore Petroleum Industry Training Organisation (OPITO) for My Energy Future



- Delivered learning programmes to **6,479** beneficiaries.
- Scored **85 points** (above 80-point baseline) for delivering five Learning dimensions knowledge and understanding; skills; attitude and values; enjoyment, inspiration and creativity; activity, behaviour and progression.

LIVE, an OPITO-led STEM project designed to engage and inspire the energy leaders of the future. School students from across Malaysia participated in the event and showcased their futuristic innovations.

Petrosains expanded its learning approach on digital platforms especially in the aftermath of the COVID-19 pandemic by partnering with content partner DELIMA (an online learning platform by Malaysia’s Ministry of Education), conducting Virtual Visit via PIXEL and SkyWalk 360, and other virtual learning programmes leveraging open platforms and social media. These activations netted 107,393 in virtual reach.

Petrosains learning includes creating awareness that resonates with PETRONAS’ material topics towards a sustainable future.

In 2022, Petrosains delivered sustainability-based content to enrich the school curriculum and equip the public by providing valuable hands-on learning experience using world-class activities designed to upskill and increase understanding of STEM. Contents included Energy Capsule through PETRONAS Innovation Catalyst Project (PICP) and thematic programmes: Chemsolve; Carbon Capture, Utilisation and Storage (CCUS); Digital, Automation and Robotics (DART); Chemical Energy Solutions. This underscores Petrosains’ commitment to support net zero carbon emissions by 2050 by creating positive social impact.

**ii. Petrosains Playsmart™ and Maker Studio**

Petrosains PlaySmart™ is an outreach programme implementing a hands-on learning approach in Johor, Pahang, Sabah and Sarawak. It acts as an education hub for surrounding communities through partnerships with the local state libraries in Malaysia. The various locations make STEM more accessible, fostering awareness and



## Positive Social Impact

increasing STEM literacy where Petrosains PlaySmart™ played its role in extending the immersive STEM learning experience to the community.

Petrosains PlaySmart™ also offers the Maker Studio, a space for hands-on and creative activities to encourage the public to design, experiment, build and invent as they engage in Science, Technology, Engineering, Arts and Mathematics (STEAM) through coding, design thinking, prototyping and robotics.

- Petrosains PlaySmart™ was able to reach out to more than **269,000** visitors physically via its centres in Johor, Pahang, Sabah and Sarawak. Outreach programmes with local communities were held consistently through collaboration with the respective State Government and PETRONAS Regional Offices.
- Petrosains accelerated STEM learning through its Visit to School and invitation programmes, allowing for interaction with students, community and general public outside of its physical facilities while also providing STEM learning opportunities. These initiatives generated **12,707** reach in 2022.
- Petrosains PlaySmart™ is also positioned as a credible solution partner through the Inspire Together Programme, which allowed for a wider range of **20,000** reach in the communities, providing access to STEM learning and experiences to underprivileged groups.

Petrosains PlaySmart™'s extension, the Maker Studio is currently available at Petrosains' main centre in Kuala Lumpur and Petrosains PlaySmart™ in Johor, Sabah and Sarawak, with the Maker Studio Tanjung Aru, Sabah operations officially handed over to the Sabah State Library in 2022.

### iii. Petrosains RBTX Challenge

The Petrosains RBTX Challenge is another effort to boost interest in STEM, allowing robotics enthusiasts to compete with their robotic creations in an open-source software

environment. The Sports and Arts Education Division, Ministry of Education, Malaysia, endorses the challenge as it aims to democratise STEM learning by providing participants, regardless of backgrounds, with unlimited open-source coding software and a diverse range of robotics equipment. Since its inception in 2018, it has attracted more than 7,000 participants of all ages.

In 2022, the programme continued to create value for Petrosains and its beneficiaries not just through traditional financial measures but also by bringing intangible value to communities, our brand image and through the creation of new innovations guided by the Malaysia Education Blueprint 2030, National Fourth Industrial Revolution (4IR) Policy thrusts, PETRONAS Education Framework, Four Sustainability Lenses, and Petrosains Strategic Framework - Progress.30.

Besides supporting the vision and aspirations of the Malaysia Education Blueprint through mastering higher order thinking skills and the ability to innovate, the challenge is also tailored to provide school students with basic designing, coding and sensor training in robotic development.

Petrosains RBTX Challenge 2022 contributed to the increased value in STEM learning for robotics enthusiasts through partnership with professional advisors from academic institutions and industry players. To prepare interested participants for the signature robotics competition, Petrosains' working team travelled across Malaysia months ahead of the competition to conduct workshops, mainly in areas such as basic designing, coding and sensor training.

- Reached out and provided training for **2,334** young people.
- Attracted 28 international teams involving **77** participants from Indonesia, Tunisia and the United States of America (USA).
- A total of **1,035** teams participated, with over **3,000** taking part in the competition and **243** teams advancing to the Grand Finals in Kuala Lumpur.

The strong participation in the Petrosains RBTX Challenge 2022 is testimony to the efforts towards democratising learning for all.

**Malaysia Book of Records** awarded a certificate of achievement to Petrosains for having the **Most Participants in a Robotic Interactive Learning Event** for RBTX2022.

## 2. Programme Duta Guru

Yayasan PETRONAS' flagship programme, *Program Duta Guru*, is a nationwide industry-linked programme conducted to strengthen the capabilities of STEM teachers serving schools with a majority of B40 students.

➤ **253** teachers completed the two-year programme and took on their roles as *Duta Guru* (Teacher Ambassadors) to increase STEM interest and competency among students in secondary schools.

### empowerAkademik

We continued to reach out to students from less privileged communities through Yayasan PETRONAS' empowerAkademik programme to improve their academic performance for *Sijil Pelajaran Malaysia (SPM)* or the Malaysian Certificate of Education and enable their progression towards tertiary education. It is a comprehensive programme that takes a three-pronged approach, involving students, teachers and parents to empower the communities via the academic path to create a more balanced, inclusive society.

Supported **1,000** SPM students through the *empowerAkademik* programme.

**94.7** per cent (947 students) passed SPM 2021 with **5.7 per cent** achieving 5As or more.

**100** per cent (57 students) of 5A students and **94** per cent (892 students) of those that obtained 4As and below secured placements in tertiary institutions.

## Community Well-being and Development – PETRONAS Uplifting Lives

We continuously reach out and extend a helping hand to our communities to help them empower themselves through skills and entrepreneurship training, access to better health and other programmes to improve their quality of life.

### Memampankan Ekonomi Asas Rakyat (MEKAR) Programme

Through Yayasan PETRONAS, we uplifted the livelihoods of the B40 community in Kelantan, Kedah, Terengganu, Johor, Pahang, Perak and Sabah leveraging the MEKAR Programme. Under the programme, we provided aid under three categories:

- i. Basic necessities  
We provided the communities in Pitas, Sabah and Kluang, Johor with access to water and solar power to help them improve their quality of life.
- ii. Skills and Entrepreneurship Development  
We uplift the lives of B40 communities through the provision of skills and entrepreneurship development programmes. The programme which runs over two years is also embedded with a culture of innovation to help them improve their income streams. In 2022, we completed the earlier cohorts in Kedah, Perak, Kelantan, Terengganu, Pahang, Johor and Selangor.
- iii. Go-to-Market  
We also helped communities improve their income generating skills with entrepreneurial training to enhance their quality of life and ensure a sustainable income stream.



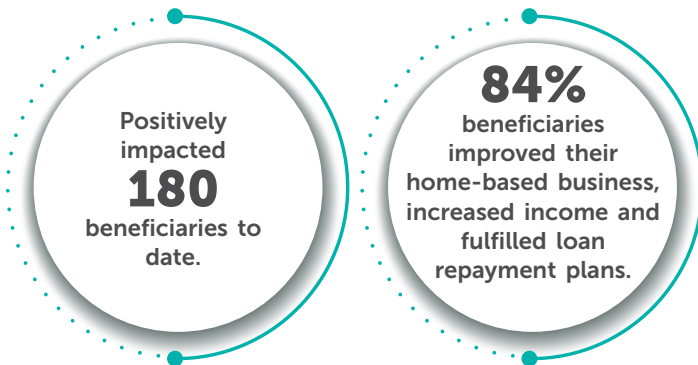
## Positive Social Impact

### Improving Youth Employability in Sabah

The Entrepreneurship Programme helps local entrepreneurs expand their business scale and find new market opportunities. The programme consisted of five training modules on ideation, conceptualisation, marketing strategy and business analysis which aims to equip participants with basic entrepreneurial skills. Agrobank provided information on financial management.

Working closely with the Giatmara Training Programme, we aim to upskill local youth and improve their employability. Youths from Lawas and Baram were exposed to courses such as welding and metal fabrication, automotive technology and building technology through the Towards Uplifting Lives Programme (TULiP).

- **22** participants from Lawas completed the Entrepreneurship Programme.
- **10** local youths graduated from the Giatmara Training Programme.



### MyLady Assistance Scheme

Yayasan PETRONAS supported the MyLady Assistance Scheme programme to empower single mothers and women living with HIV to get out of poverty. Through this scheme, these women were given access to microcredit business loans, entrepreneurial training and peer support, to assist them with their home-based enterprises.

- **30** single mothers and women living with HIV received assistance through the MyLady Assistance Scheme.

### SAGA Health Access Programme (SHAPE)

Through the Malaysia Aids Foundation (MAF) SAGA Health Access Programme (SHAPE), Yayasan PETRONAS assisted B40 patients with HIV, Thalassemia and Paediatric illness from rural Sabah to attend their treatment appointments by subsidising the high logistical costs to local hospitals or clinics.

- Assisted **180** patients under the SHAPE programme.
- **95 per cent** attendance rate (HIV beneficiaries) adhered based on scheduled appointments.

### Supporting Cancer Research

Yayasan PETRONAS continued to support cancer research for the Asian population and paediatric patients by providing grants to Cancer Research Malaysia (CRM) and Hospital Canselor Tuanku Mukhriz (HCTM) in 2022. These grants will drive new research to address cancer more effectively, from prevention to detection and treatment.

### Community-based Disaster Risk Management

Yayasan PETRONAS collaborated with the National Disaster Management Association Malaysia (NADIM) to introduce Community-Based Disaster Risk Management (CBDRM) training to local communities in Tumpat, Kelantan and Pekan, Pahang. Seasonal floods impacted both areas for several years.

CBDRM aims to strengthen community resilience by enhancing their capabilities and skills in pre-disaster training provided to help communities prepare for disasters to minimise its impact on their assets and lives. The training also allowed local emergency responders and agencies to forge stronger relationships.

- Equipped **200** participants, including community leaders with pre-disaster training.

### Training for People with Disabilities

The Perlis Special Teens Centre (PeSTeC) under the management of the Perlis Special Children Community Rehabilitation Organisation upgraded its facilities as a result of a grant received from Yayasan PETRONAS in 2022. This further supported PeSTeC in helping special needs teenagers adapt to society by providing them with skills training and instilling a sense of independence.

### Breaking the Cycle of Poverty Among Malaysia's Indigenous Communities and Extreme Poor

PETRONAS collaborates with a dedicated government department for the indigenous community (*Orang Asli*), *Jabatan Kemajuan Orang Asli* (JAKOA) and NGOs for a programme aiming to uplift the lives of *Orang Asli* across Malaysia. The programme focuses on providing access to clean energy, clean water and education.

- The programme was expanded in 2022 to include access to clean water and learning programmes.



In 2022, installing solar power systems under the programme impacted 156 Orang Asli homes across six villages. Each household benefitted from six hours of additional electricity and light per night, adding six hours of productivity which the community can spend on their daily routines such as domestic chores and other community activities. The installations have also reduced the community's energy expenses to approximately RM400 per month for each home. They previously purchased diesel fuel generator sets for their power supply.

As of 31 December 2022, more than 232,000 productivity hours were achieved from the installations and a savings of RM406,152.

The programme was expanded in 2022 to include access to clean water and learning programmes. The pilot solar-powered filtration systems were completed in Kampung Gakuyah in Bera, Pahang. Three units of the system provide clean water to 12 homes for each unit.

Access to clean water protected the community from waterborne diseases, reducing their healthcare expenses and improved the mortality rate among children. It also increased the community's awareness of personal hygiene and healthy living.

Meanwhile, a pilot learning programme was completed in Kampung Kepong in Bentong, Pahang. This programme is ready to be scaled-up further in 2023.

### MERCY Malaysia

We are committed to doing our part in assisting those in need. We contributed to MERCY Malaysia to support its flood relief efforts in Pakistan and offered aid through Yayasan PETRONAS to flood-prone districts throughout Malaysia.

- Contributed **RM2.5 million** to MERCY Malaysia for flood relief assistance in Pakistan.
- Delivered **5,000** care packages worth close to RM1 million through Yayasan PETRONAS to flood prone districts in Malaysia.

### SEEd.Lab Social Enterprise Programme

Through our end-to-end incubator programme, Social Enterprise Education Lab (SEEd.Lab), in partnership with Tata Consultancy Services, we tackle social pain points by building self-sustaining social enterprises that forge solutions for specific beneficiaries within communities. For the second cohort, our social enterprises address specific social challenges that exist within five domains namely Food and Agriculture, Health and Hygiene, Education and Skills, Personal and Financial Security; and Entrepreneurship in Sabah. The first of its kind in comprehensiveness in Malaysia, SEEd.Lab has enriched the lives of over 13,000 people and counting.

#### Yayasan PETRONAS' festive programme

- Provided more than 11,800 families and nine welfare homes with essential food supplies and festive hampers via Yayasan PETRONAS' festive programme during major festive celebrations.

#### Yayasan PETRONAS' Homeward programme

- Donated home medical equipment worth RM2.2 million to 965 beneficiaries under the Homeward programme by Yayasan PETRONAS, working with *Jabatan Kebajikan Masyarakat* (JKM) and *Jabatan Perkhidmatan Kebajikan Am Sabah* (JPKAS). The beneficiaries from 13 states and two federal territories (except Putrajaya) received 609 hospital beds, 44 oxygen concentrators and 312 wheelchairs.

## Positive Social Impact

### Environment – PETRONAS Planting Tomorrow

We recognise that achieving environmental awareness is a continuous journey that requires collective action. Therefore, we constantly work with our local communities to support environmental conservation and minimise our impact on the environment.

#### Environmental Conservation

Through Yayasan PETRONAS, we contributed towards carbon sequestration via tree planting activities. We did this by working with local communities in 11 states namely Kedah, Penang, Perak, Selangor, Kuala Lumpur, Melaka, Johor, Terengganu, Pahang, Sabah and Sarawak, where we provided them with the appropriate education, supported the setting-up of nurseries, participated in planting activities and monitored the survival of the trees. These actions help in improving the community's income levels and quality of life.

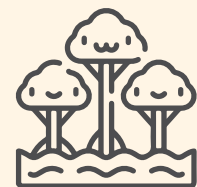
- Continued to support environmental conservation under the PETRONAS Walk4Trees Challenge, a nationwide tree-planting project. A total of 61,584 trees have been planted across 11 states since this project began in September 2020.
- Three peat swamp forests in Selangor, Sabah and Pahang were rehabilitated and irrigation control management was implemented as part of fire prevention.

We conducted the mangrove conservation programme in Johor and Terengganu. In Johor, it was carried out in support of the Johor State Government's plan to develop Sungai Johor Estuary into an ecotourism attraction by planting 14,500 mangrove trees. In Terengganu, this was part of PCG's conservation and rehabilitation awareness programme along Sungai Kertih. The programme covers more than 14,000 square metres, with over 20,000 mangrove trees planted.

#### Biodiversity efforts:

- We are also doing various conservation efforts to prevent and minimise impacts to biodiversity and the ecosystem, while restoring and rehabilitating the ecosystems surrounding where we operate.

Our Upstream business planted over 15,000 trees, including mangroves, converted shipwrecks into artificial reefs, conducted coral restoration works and deployed mini *unjam*, a fish aggregating device, to provide alternative breeding grounds for marine life, especially fish. These efforts helped improve the marine ecosystem services to ensure food security, sustainable economic and coastal livelihood development (ecotourism) and shoreline protection.



### Beach Cleaning Activities

We collaborated with several Non-Governmental Organisations (NGOs) and government ministries to clean up beaches. In Melaka, as part of our participation in World Clean-Up Day, we partnered with Solid Waste and Public Cleansing Management Corporation (SWCorp), the city council, *Majlis Bandaraya Melaka Bersejarah* (MBMB), and the state's legislative assembly development and coordination committee, *Jawatankuasa Pembangunan dan Penyelarasan Dewan Undangan Negeri* (JAPERUN).

The collaborative effort saw 100.2 kilogrammes of waste collected. In Terengganu, we collaborated with a local NGO, *Geng Plastik Ija* and the state's Department of Statistics Malaysia branch to collect 1,897 kilogrammes of waste, with 844 kilogrammes of recyclable waste materials.

Collected **100.2kg** of waste by collaborating with SWCorp, MBMB and JAPERUN in conjunction with World Clean-Up Day in Melaka.

Collected **1,897kg** of waste, including **844kg** of recyclable waste in Terengganu.

### Sea Turtle Conservation in Mexico

We contributed to conservation efforts by building a larger and more protected nesting area for endangered sea turtles, increasing hatching rates by 30 per cent since 2020. In addition, we enhanced workers' living conditions, boosting morale and performance, and provided a safer, more efficient warehouse for equipment and materials storage.

**240,891**  
turtles were released as compared to  
**294,660** in 2021.

#### Helping fishermen

- We uplift the lives of the fishermen community in Sabah, Sarawak and Terengganu with programmes tailored to their needs. These include safety awareness, educational activities focusing on the environment and contributing essential supplies and life jackets.
- The engagements, awareness sessions and outreach programmes have enhanced the community's safety awareness. This is reflected in a **60 per cent** reduction in oil rig encroachments and zero fish bombing activities.
- Additionally, the disposal of seized boats and the contribution of *unjam*, a traditional fish aggregating device, created fish breeding grounds for marine ecosystems to thrive and provided alternative fishing spots for the community

#### Clean water

- PETRONAS is positively impacting local communities in South Sudan, Sudan, Iraq and Indonesia by providing access to clean water. As a result, business and farming in South Sudan and Sudan have improved health and economic opportunities.
- PETRONAS also contributed water filters in Iraq and implemented a clean water programme in Indonesian schools, improving students' education and hygiene awareness.

#### Student Voices

The Student Voices competition provides a platform for future generations to share their ideas and solutions for some of the world's biggest challenges.

The competition aims to promote environmental protection, stronger communities and social responsibility by inspiring young contestants with educational videos on green mobility, solar energy and hydrogen. Our goal is to empower these students to become the voice for change.

In 2022, the competition saw the participation of 500 contestants from 26 schools in both online and onsite events. Since 2020, we have impacted over 200,000 beneficiaries, primarily teenagers and their families, in Shanghai and surrounding cities.