

Petroliam Nasional Berhad (PETRONAS) is one of the few national oil companies in the world that has transformed itself into being a leading multinational of choice and ranked amongst the largest corporations on FORTUNE Global 500°.

Since our establishment in 1974, we have not stopped pursuing new solutions and pushing boundaries across the entire oil and gas value chain. We continue to strengthen our portfolio through technological advancements, operational excellence and by being a responsible corporate citizen wherever we set foot.

Unlocking potentials and adding value to oil and gas resources are what our diverse, resilient and competent workforce strives to deliver each day.

Why do we do so? Because we are inspired – to meet the world's growing energy needs, while weaving each pursuit into enduring stories.



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#### PETRONAS' Listed Subsidaries:

- PETRONAS Chemicals Group Berhad www.petronaschemicals.com
- PETRONAS Dagangan Berhad www.mymesra.com.my
- PETRONAS Gas Berhad www.petronasgas.com
- MISC Berhad for Logistics and Maritime www.misc.com.my
- KLCC Property Holdings Berhad www.klcc.com.my

Please visit our Corporate Website for more information on our other businesses and related subsidiaries.

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# **PETRONAS HERE IS OUR**

#### **OUR UPSTREAM STORY**

#### PROVEN CAPABILITIES TO MAXIMISE VALUE

In Malaysia, we are the custodian of the nation's oil and gas resources, with a longterm commitment to maximise its value for the progress of the nation.

From this deep-rooted pledge, we've expanded our exploration and production capabilities and earned reputable operatorship the world over, running more than 216 producing fields with over 381 offshore platforms today.

With a broad portfolio of resources and play types, we operate as a fully-integrated business with an added advantage of niche expertise across the oil and gas value

(Read more in Our Technology Story)

#### PIONEERING DEVELOPMENTS IN GAS

The world's demand for natural gas as a greener energy resource is steadily increasing with industrial and power sectors majorly contributing to the spike in consumption.

While supply is abundant, it calls for a player with end-to-end capabilities to ensure that the resource is responsibly managed and delivered in a timely manner – one who knows gas long and well enough to be a game **changer** and offer competitive value to its customers.

Our LNG has powered Asia's major cities of Japan, Korea and China for over three decades with a trusted portfolio and cutting-edge technologies that keep our customers satisfied.

We are the LNG pioneers and the third largest in the region, recording the timely delivery of over 10,000 LNG cargos and counting. Our PETRONAS LNG Complex in Bintulu, Sarawak is one of a handful single-site facilities of such magnitude in the world, which provides end-to-end production to delivery point solutions.

The complex also houses the world's first onshore Boil-Off Gas (BOG) re-liquefaction facility, allowing the commercialisation of up to eight cargos per annum from BOG.

With solid expertise across the LNG value chain, we are able to design and build the world's first floating LNG facility, the PFLNG Satu, an engineering feat of the century that makes capturing and monetising reserves from remote fields possible.

(Read more in Our Technology Story)

Our entry in unconventional plays from coal bed methane in Australia to shale gas in Canada are strengthening our gas portfolio further, enabling us to offer the best value to customers from 55 supply points around the

# **UPSTREAM STORY**

Wherever we operate, the trust gained from our stakeholders is returned through excellent and responsible delivery of our operations.

PETRONAS' operations in Garraf, Iraq is anticipated to reach peak production of 230,000 bpd.









## **HERE IS OUR DOWNSTREAM STORY**

We enhance the value of molecules and enrich more lives through a wide range of touchpoints that cater to customers' needs.

More than 1,000 PETRONAS stations nationwide are also the "Go-To-Safety Points", a joint initiative with the Royal Malaysia Police in creating safer spaces for the public.







#### **OUR DOWNSTREAM STORY**

We strive not only to meet the demand of our customers, but to do so efficiently and competitively. This propels us to play a strategic role in enhancing the value of molecules through an integrated operation, on the foundation of being operationally and commercially excellent.

customers so as to serve them well. Our presence spans over 70 countries through almost 30 representative and marketing offices for lubricants and petrochemical products, and over 2,000 retail stations in Malaysia, South Africa as well as sub-Saharan Africa.

We insist on keeping close proximity to our

#### **ENHANCING VALUABLE RESOURCES** TODAY...

Our world class facilities comprise three refineries (570 kbpd capacity); 11 blending plants (615,000 mtpa); 18 petrochemical manufacturing plants and two fully integrated complexes (10.8 million mtpa).

In addition, we have gas infrastructure and utilities, involving gas processing and utilities, as well as gas transmission and regasification. Within Peninsular Malaysia, we process natural gas from offshore fields and transport them to customers in Malaysia and Singapore through the Peninsular Gas Utilisation (PGU) pipeline network spanning across 2,500 kilometres.

#### ...TO MEET THE NEEDS OF TOMORROW.

We've grown to be the regional market leader for petrochemicals products. As the world is fast evolving, we ensure that we are always ready with a diversified product portfolio at hand. With integrated facilities and infrastructure, we are able to meet our customers' changing needs with no compromise on value and quality.

This explains why we are the **#1 for** methanol, #3 for ethylene glycol and #4 for urea by production capacity in South East Asia.

Anticipating population growth especially in Asia, increasing urbanisation and rise of the new middle class with higher purchasing power, we are expanding our focus on key growth areas of differentiated and specialty chemicals, to capture the growing demand from automotive, pharmaceutical and consumer products sectors. This will come onstream once the Refinery and Petrochemical Integrated Development (RAPID) – set to be the largest of such development in a single location – is fully operationalised in 2019.

(Read more in Our Technology Story)

#### TRANSFERRING VALUE FROM RACE TRACKS TO ROADS

We have been on a relentless pursuit on the Formula One™ track and a Technical Partner for the MERCEDES AMG PETRONAS Formula One<sup>™</sup> Team since 2010. Today, PETRONAS is the Fluid Technology Solutions™ provider supplying lubricant (PETRONAS Syntium), fuel (PETRONAS Primax) and functional fluids (PETRONAS Tutela) to the **Silver Arrows: the triple consecutive** World Constructors' Champion 2014-2017.

More importantly, the valuable experience and repeated successes gained from this intense sport enable us to transfer knowledge and insights from cars at the race tracks to vehicles on the roads. This is part of our relentless pursuit to meet and add value to the needs of our valued customers.

(Read more in Our Technology Story)

# HERE IS OUR TECHNOLOGY STORY

We pursue technologies with keen foresight, unlocking new opportunities once considered impossible.

By integrating proactive sensors in reservoirs and surface seismic, we've overcome gas cloud imaging problems to produce high resolution subsurface images.

#### **OUR TECHNOLOGY STORY**

#### **UNLOCKING NEW OPPORTUNITIES**

Reservoir Engineering Well Engineering

PETRONAS

Through strategic research and development (R&D) activities in highly specialised areas, we pursue technologies with keen foresight, unlocking new opportunities once considered impossible.

Today, we have acquired the ability to identify and unlock new opportunities in new basins. Our algorithm knowledge and capabilities in Geoimaging made new forays in seeing the unseen; better than others. The technology enables greater accuracy in identifying resources through advances in Subsurface Imaging and Quantitative Geophysics. Without having to shut down production wells in Sarawak, Malaysia; PETRONAS successfully acquired the first in Asia Pacific, Distributed Acoustic Sensing 3D VSP simultaneously with 3D multicomponent Ocean Bottom Seismic. By integrating proactive sensors in reservoirs and surface seismic, we've overcome gas cloud imaging problems to produce high resolution subsurface images.

Technology has also enabled us to bring back to life and increase resource recovery rate in fields that were considered depleted. We are spearheading innovations in Enhanced Oil Recovery (EOR) technology, with the first deployment of EOR – Water Alternating Gas (WAG) production in 2014. We have raised the bar once again by extending field life and improving oil recovery, this time with **Gravity Assisted Simultaneous Water Alternating Gas (GASWAG) EOR.** 

The world's first of such EOR technique was successfully deployed in Sabah which improves the field's resource recovery rate for the next 20 years.

Through our wide-ranging operations, we've built an extensive engineering solution suite that optimises life-cycle costs, provides safety assurance and enhances asset integrity in our capital projects. With these and many more exciting technologies continuing to unfold, PETRONAS' move into the future has elevated our human capital capabilities to new heights, geared to unlock more new opportunities.

#### **CAPITAL PROJECTS THAT SPUR INNOVATION**

Our capital projects are hotbeds for technological innovations. Our world's first floating LNG facility – the PFLNG Satu enables us to monetise reserves in remote fields, where 60% of the world's reserves reside. The 22 modular systems fitted into a 365-metre long vessel is able to 0treat, liquefy, store and offload gas offshore from water-depths up to 200 metres. It passed the test of waves, winds and sea currents to be able to produce 1.2 mtpa of LNG for 20 years without dry-docking.

With Pengerang Integrated Complex (PIC) in Johor, Malaysia in full operation by 2019, we will be able to process 300,000 bpd of crude oil into the fuel of the future like Euro 5 Diesel, specialty chemicals such as new generation of polymer and glycol, as well as 2.64 mtpa of petrochemical products (excluding merchant) of superior quality.

The Samur project in Sabah, Malaysia is a world scale green field project leveraging on cutting edge technologies to produce urea and fertiliser up to 2.6 mtpa.

#### THE WINNING FORMULA PARTNERSHIP

We began the race for the Winning Formula over 20 years ago and since 2010, embarked on a strategic collaboration with the MERCEDES AMG PETRONAS Formula One™ Team which marked a new era of historical wins of the World Constructors' Championship for four consecutive years (2014-2017).

Our pursuit has gained us something priceless – the building of human and technical capabilities through research and development (R&D) and knowledge transfer exercises in a speed and intensity as gruelling as Formula One<sup>TM</sup> itself.

This has led to the creation of the Winning Formula - PETRONAS Fluid Technology Solutions™, the ever evolving quest for superior fuel, lubricant and functional fluids:-

#### **PERFORMANCE**

PETRONAS Syntium engine oil with °CoolTech™ that fights excessive engine heat for a trouble free drive.

#### **EFFICIENC**

PETRONAS Primax fuel with Advanced Energy Formula that drives superior acceleration and economy.

#### RELIABILITY

PETRONAS Tutela Energy Recovery System (ERS) cooling fluid that overcomes the build-up of heat in ERS.



## **HERE IS OUR SUSTAINABILITY STORY**

We are mindful that we co-exist in a larger world, and therefore invest in its future as well as in its present, precious moments.

Building the Flood Alert System for the Tamparuli bridge in Sabah, Malaysia - this group of youths are amongst the thousands that are applying their creativity and innovation in making an impact in their own communities.

#### **OUR SUSTAINABILITY STORY**

#### **SUSTAINING OPERATIONS**

Focus on Health, Safety and Environment (HSE) remains our top priority. We continue to enhance our HSE culture by instilling strong operational discipline and compliance with PETRONAS' HSE standards such as the Zero Tolerance (7eTo) Rules

With the establishment of PETRONAS Code of Conduct and Business Ethics (CoBE). employees, directors and third parties working for or on behalf of PETRONAS are governed to uphold the highest level of integrity and business conduct with a dedicated whistleblower helpdesk for stakeholders to submit enquiries or report breaches of the CoBE: cobe@petronas.com.my

#### SUSTAINING INDUSTRY COMPETITIVENESS

Technology and innovation will continue to be PETRONAS' key differentiators to remain competitive. (Read more in Our Technology Story)

The Cost Reduction Alliance 2.0 (CORAL 2.0). an industry-wide, long-term collaboration across Malaysia's upstream sector was initiated to optimise costs, increase efficiency and drive innovation. The alliance achieved a cost saving of RM2.4 Billion in its first implementation year.

We are committed to responsibly manage impact related to the environment through our diverse operations and locations.

Global Gas Flaring Reduction (GGFR) Partnership Excellence Award 2015	Zero Continuous Flaring at Sumandak Field and Significant Flaring Reduction at Erb West Field, both in Sabah, Malaysia.
Renewable Energy Solution	Reduction of GHG emissions of 10,192 tCO <sub>2x</sub> with photovoltaic (PV) technology applied in PETRONAS Solar Independent Power Producer Project in Pahang, Malaysia, rooftops of Suria KLCC in Kuala Lumpur, Malaysia and PETRONAS commercial stations.
Floating Suction and Intermediate Tank	Reduction of scheduled waste disposal by recovering oil before water is drained into the interceptor at Bayan Lepas Aviation Fuel Terminal in Penang, Malaysia.
Multi-Level Bioreactor	Removal of remnants of untreated contaminants that improves discharge

#### SUSTAINING CORPORATE SOCIAL **INVESTMENTS**

PETRONAS' global presence demands a fair and wholesome attention throughout the diverse states, regions and countries we operate in. These Corporate Social Investments are strategically allocated through the three pillars of Education, Community Wellbeing and Development as well as Environment.

#### **EDUCATION**

PETRONAS focuses on nurturing students across primary, secondary and tertiary education to proactively develop talents for the oil and gas industry.

- More than **36,000 students** have benefited from our Education Sponsorship Programme.
- Establishment of education and learning institutions as epicentres to create a steady stream of highly skilled and competent industry workforce, well into the future.

#### **COMMUNITY WELLBEING AND DEVELOPMENT**

• Empowering **4,600 youths** from 200 schools to apply creativity and innovation in enhancing livelihood of local communities through the All About Youth Programme.

#### • Providing access to uninterrupted clean water supply and instilling awareness on the need to conserve water for close to 8,000 families from 14 rural communities via the Water for Life programme.

needs for stations in remote areas of

#### **ENVIRONMENT**

- Establishment of Biodiversity Research Facilities and Conservation Efforts through the development of Imbak Canyon Conservation Area in Sabah, Malaysia and ecoCare programme in Terengganu, Malaysia.
- Planting of close to 14,000 mangrove seedlings on 11,000 sqm of area along the Kertih River in Terengganu, Malaysia under ecoCare, Environmental Education Centre

# 1.750 Artificial Reefballs **Conservation Project**



### EDUCATION AND LEARNING INSTITUTIONS

- Epicentres of Highly Skilled and Competent Workforce

#### PETRONAS LEADERSHIP CENTRE (PLC)

Top corporate learning hub for industry leaders of the oil and gas industry

#### UNIVERSITI TEKNOLOGI PETRONAS (UTP)

Malaysia's leading university offering industry-relevant engineering, science and technology programmes at undergraduate and postgraduate levels

#### INSTITUT TEKNOLOGI PETROLEUM PETRONAS (INSTEP)

Industry renowned technical training and certification centre for the oil and gas industry with Asia's only live simulation training facility

#### KIMANIS PETROLEUM TRAINING CENTRE (KTC)

Technical training and certification centre for local Sabahans

#### AKADEMI LAUT MALAYSIA (ALAM)

Malaysia's only full range maritime shipping related training and certification centre for seafarers