



# THRIVING IN TOUGH TIMES

SUSTAINABILITY REPORT 2015





# INSIDE

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# PETRONAS AT A GLANCE

Petroliam Nasional Berhad (PETRONAS), established in 1974, is Malaysia's fully integrated oil and gas multinational ranked among the largest corporations on FORTUNE Global 500®. As the custodian of Malaysia's oil and gas resources, we explore, produce and deliver energy to meet society's growing needs.

**Started business in 1974:  
41 years of proven  
track record**





**91**  
partners  
worldwide

**28%**

of PETRONAS  
workforce  
are women



**53%**

of total  
workforce  
are below  
35 years old



**78**

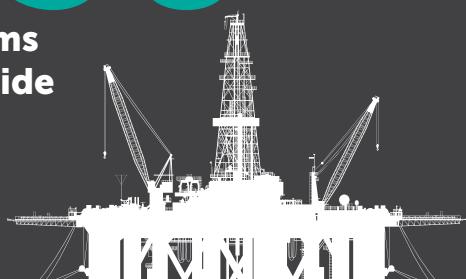
Upstream  
development  
projects



More than

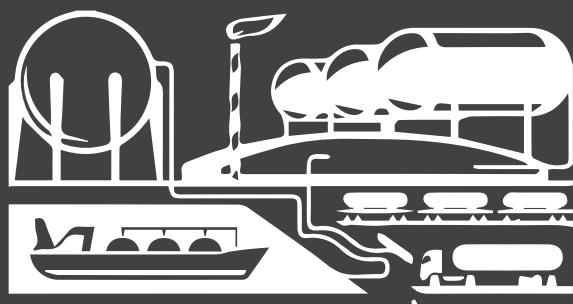
**250**

platforms  
worldwide



**5**

major LNG  
facilities



# KEY HIGHLIGHTS

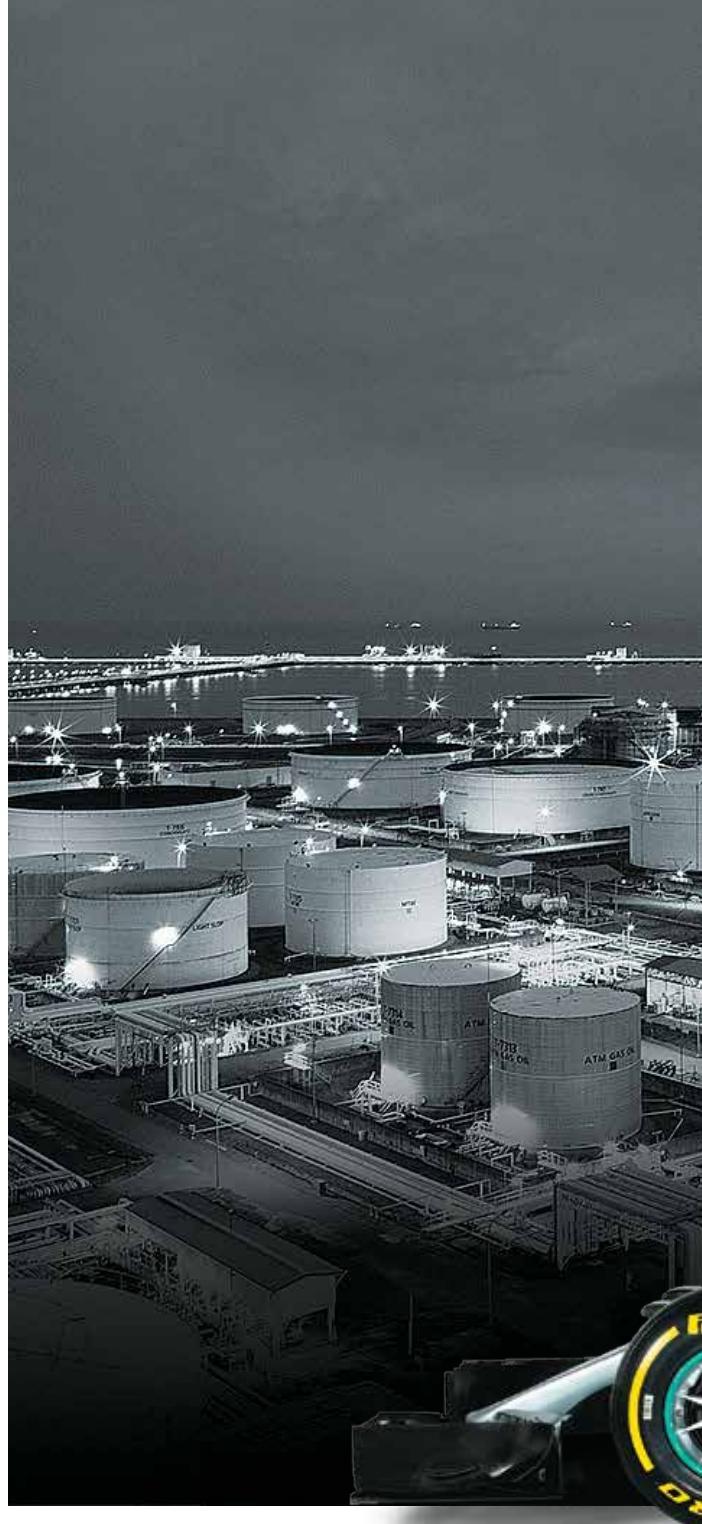
PETRONAS provided the winning formula to the Formula One **world champions** of 2014 & 2015

2014 & 2015 F1 World  
**Constructor's  
Championship**  
title for MERCEDES AMG  
PETRONAS Formula One Team

Total assets increased to  
**RM591.9 billion**  
from RM537.5 billion in 2014

Downstream business recorded  
**56% increase**  
in Profit After Tax in 2015

Recorded  
**15 million  
man-hours**  
without Lost Time Injury for the  
PETRONAS Floating LNG Satu  
project



**17**

new oil and gas discoveries were recorded with reserves totalling  
**1 billion boe**

**11**

projects delivered first hydrocarbons for the year, including five international assets

**Nine**

new Production Sharing Contracts (PSCs) were signed in Malaysia and abroad



# OUR **VISION**

A Leading **Oil and Gas**  
Multinational of Choice





# OUR MISSION

We are a business entity

Oil and Gas is our core business

We add value to this resource

We contribute to the wellbeing  
of society

# OUR VALUES

Loyalty

Loyal to corporation

Integrity

Honest and upright

Professionalism

Strive for excellence

Cohesiveness

United, trust and respect for each other

# OUR PROFILE

Petroliam Nasional Berhad (PETRONAS) is Malaysia's fully integrated oil and gas multinational wholly-owned by the Malaysian Government. Established in 1974, PETRONAS is now ranked amongst the largest companies in the world with a proven track record in integrated oil and gas operations spanning the entire hydrocarbon value chain.

PETRONAS' business activities include (i) the exploration, development and production of crude oil and natural gas in Malaysia and overseas; (ii) the liquefaction, sale and transportation of Liquefied Natural Gas (LNG); (iii) the processing and transmission of natural gas, and the sale of natural gas products; (iv) the refining and marketing of petroleum products; (v) the manufacturing and selling of petrochemical products; (vi) the trading of crude oil, petroleum, gas and LNG products and petrochemical products; and (vii) shipping and logistics relating to LNG, crude oil and petroleum products. Committed to ensuring business sustainability, PETRONAS also strives to responsibly manage natural resources in a way that contributes holistically to the wellbeing of society wherever it operates.



## UPSTREAM

### MAXIMISING RESOURCES FOR GROWTH

PETRONAS' Upstream business which encompasses Exploration, Development & Production, LNG Trading & Marketing, LNG Assets and Malaysia Petroleum Management, is a fully integrated business covering a broad portfolio of resources and play types in more than 20 countries. As the custodian of Malaysia's petroleum resources, PETRONAS is focused to pursue sustainable value-driven production growth, monetise gas resources, strengthen core capabilities and build niche competencies. Proven capability and track record of successful onshore and offshore developments in oil and gas have earned PETRONAS reputable operatorship in many ventures across the world.

In Malaysia, PETRONAS runs 198 producing fields and 355 offshore platforms while promoting sustainable and orderly development of Malaysia's petroleum resources through 101 active Production Sharing Contracts.



### EXPLORATION

Exploration is the 'growth engine' for PETRONAS comprising a consolidation of exploration functions from Upstream Malaysia, Upstream International (PETRONAS Carigali Sdn Bhd) and Malaysia Petroleum Management (MPM) which searches, acquires, extracts and delivers new resources to sustain long-term production. Core activities are block acquisition, growth strategies, basin evaluation, play generation, prospect maturation and exploration drilling.

An Exploration Centre of Excellence (COE) comprising Basin & Petroleum System Analysis, Geology Solutions, Reservoir Geoscience and Geophysics Solutions collectively deliver new Resource Addition providing the pipeline for hydrocarbon reserves to be developed, leading to sustained and long-term hydrocarbon production.

### DEVELOPMENT & PRODUCTION

Development & Production (D&P) comprises a consolidation of development and production functions of Upstream Malaysia and Upstream International, LNG Assets as well as a COE, which provides value-driven, world-class operational delivery, with utmost priority on Health, Safety, Security and Environment (HSSE), and Asset Integrity.

Strategic expansion plans underway include shale gas-to-LNG project in Canada and one of the world's first coal bed methane-to-LNG projects in Gladstone, Australia. The completion and commissioning of the PETRONAS Floating LNG Satu, the first-of-its-kind in the world, puts the Company at the forefront of technology and innovation in carrying out its strategies to monetise gas. A portfolio of inventive technology and engineering solutions complement its existing capabilities across the integrated gas value chain, providing PETRONAS a competitive edge and flexibility to meet buyers' energy needs.

Meanwhile, the end-to-end capabilities across the integrated gas value chain has allowed PETRONAS to become a leading global LNG player and reliable LNG supplier (PETRONAS LNG Complex, Bintulu), having successfully delivered more than 9,000 LNG cargoes to buyers across the globe for more than three decades. With a current total of eight production trains and a combined capacity of 25.7 mtpa, the complex is one of the world's largest LNG production facilities at a single location. Train 9 will add another 3.6 mtpa of LNG.

The D&P COE which comprises Petroleum Engineering, Wells and Operations & Maintenance, collectively looks at technical solutions for Exploration, MPM and Project Delivery & Technology (PD&T) to support upstream business growth.

## MALAYSIA PETROLEUM MANAGEMENT

Premised upon efficiency, profitability and value maximisation, PETRONAS' successes in its upstream efforts in Malaysia are realised through partnerships with oil and gas majors as well as international and domestic service providers. A distinctive resource owner and regulator of Malaysia's upstream industry, Malaysia Petroleum Management (MPM) drives value creation and shapes Malaysia's petroleum industry whilst managing external stakeholders.

MPM focuses on building a competitive and conducive business environment to attract new investments via attractive commercial propositions to enable further growth in mature basins to maximise Malaysia's resource recovery. In addition, MPM regulates and provides stewardship to Petroleum Arrangement Contractors (PACs) throughout the whole development and operations phase.

## PACIFIC NORTH WEST LNG

A joint venture company responsible for the development of the Canada LNG project, together with partners Japan Petroleum Exploration Co Ltd (JAPEX), China Petroleum & Chemical Corporation (SINOPEC), Indian Oil Corporation Ltd, and Brunei National Petroleum Company Sdn Bhd (PetroleumBRUNEI).

## LNG TRADING & MARKETING

Capturing the best value across the LNG value chain by offering the most competitive value propositions to PETRONAS' LNG customers, LNG Trading & Marketing determines immediate and long-term LNG volume requirements, marketing & trading strategies and deliveries, to capture optimum value.

Operating in a manner that is commercially, environmentally and socially sustainable, PETRONAS strives to invest and build capabilities in communities where it operates. This commitment continues to drive a technical edge which allows PETRONAS to consistently deliver value to its partners, stakeholders and investors in the upstream business.

## DOWNSTREAM

Downstream Business is made up of multiple businesses and plays the strategic role in enhancing value to molecules through an integrated operation, on the foundation of being operationally and commercially excellent. The diverse activities include refining, trading, and marketing of crude oil and petroleum products as well as manufacturing and marketing of petrochemical products for local and international consumption.

PETRONAS owns and operates gas infrastructure and utilities, involving gas processing and utilities, as well as gas transmission and regasification. Within Peninsular Malaysia, PETRONAS processes natural gas piped from offshore fields and transports the processed gas via the Peninsular Gas Utilisation (PGU) pipeline network to customers in Malaysia and Singapore. In addition, the Company supplies steam and industrial gases for customers at Kertih Integrated Petrochemical Complex in Terengganu and Gebeng Industrial Area in Pahang.

Across the diverse value chain, the challenge for Downstream remains on managing the margins. The brand is expected to be a high-performing business backed by world-class operations, infrastructure and manufacturing facilities. It is recognised as a significant industry player with competitive products, offerings and solutions delivered to customers with consistent quality and reliability. As such, its operating model is designed to enhance market competitiveness, mitigate external and internal challenges as well as maximise future growth potential.

Currently, the Company has 570 kbpd of refining capacity – 430 kbpd domestically and the remaining in Durban, South Africa and 10.8 million mtpa of petrochemical production capacity within 16 manufacturing subsidiaries, joint ventures and associate companies. By 2020, once completed and fully in operation, the Refinery and Petrochemical Integrated Development (RAPID) Project in Pengerang, Johor (slated for start-up in 2019), and Project SAMUR in Sipitang, Sabah (by 2016), will increase refinery capacity by 300 kbpd and petrochemical capacity to 16 million mtpa. Set to be the largest integrated refinery and petrochemical development in a single location, Project RAPID will diversify the feedstock from gas-based to naphtha and expand the portfolio of products to include specialty chemicals.

PETRONAS Trading Corporation Sdn Bhd (PETCO), a wholly-owned subsidiary of PETRONAS, undertakes marketing and trading activities of crude oil and petroleum products.

PETRONAS Dagangan Berhad (PDB) manages all domestic marketing and retailing activities for a wide range of petroleum products in Malaysia, while Engen Petroleum Limited is responsible for handling of retail business in South Africa and sub-Saharan Africa.

Petrochemical products are distributed through our marketing subsidiaries in Malaysia, Thailand and China as well as supported by representative offices in Indonesia, Vietnam and the Philippines. To date, 80 per cent of PETRONAS'



petrochemical revenues are generated from more than 1,000 active customers who have been in business with PETRONAS for over 10 years. Moving forward, the Asia Pacific market will remain key to PETRONAS' petrochemical arm.

PETRONAS Lubricants International Sdn Bhd (PLI) oversees the lubricants business globally through an extensive network that expands over 30 marketing offices in 23 countries. PETRONAS owns 11 lubricants blending plants globally.

Since 2009, PETRONAS has not only been the Title Sponsor to the Mercedes AMG PETRONAS Formula One™ Team, but more

importantly, has grown to be a Technical Partner. The PETRONAS Total Fluid Solutions™ is a collaboration with the Mercedes AMG engineers to co-develop not just the fuels, lubricants and functional fluids, but also to co-design the new 1.6 litre turbocharged direct-injection V6 hybrid Formula One engine to exploit maximum synergy between engine development and PETRONAS products. The same is now powering the Silver Arrows: the double consecutive World Constructor's Champion in 2014 and 2015.

More importantly, given the 2014 FIA regulations intended to ensure that race car technology is well aligned to road car technology, the switch to turbocharged 1.6 litre V6 hybrid formula strengthens the focus on fuel efficiency to power engine performance. This valuable experience along with the many successes from this intense sport enables PETRONAS to consistently transfer the knowledge and insights from extreme racing machines on the race tracks to everyday vehicles on the roads.

It comes as no surprise then, that all of the four-cylinder and eight-cylinder AMG models as well as a significant number of Mercedes-Benz units are factory-filled with PETRONAS Syntium with °CoolTech™, an innovative solution to fight excessive engine heat that also delivers optimum engine performance, whether on the race track or on the road. It is also the only engine oil approved as the first fill for all high-performance Mercedes-Benz AMG M133 engines, which is the world's most powerful 4x-cylinder series production engine across all applications.

Moving forward, PETRONAS will further leverage on its proven track record in sustaining world-class operational excellence and competitive marketing capabilities, to capture opportunities domestically as well as key growth markets internationally, expanding our presence across the Downstream value chain. Stronger emphasis will also be placed on delivering key projects safely, on time and within cost.

Downstream Business Excellence will focus on operational strategy, planning & integration, Health, Safety, Security & Environment (HSSE) excellence, asset performance excellence, plant project, turnaround & shutdown excellence as well as culture excellence.

This will be reinforced by Downstream Commercial Excellence, where greater emphasis will be placed on customer experience and cost excellence, whilst leveraging on technology to be more competitive.

## PRODUCT RANGE

### PETRONAS Fuel



### Convenience Store (C-Store)



### LPG



## LUBRICANTS BUSINESS

PETRONAS Lubricants International Sdn Bhd (PLI) is PETRONAS' global lubricants manufacturing and marketing arm. With a strong presence in more than 80 countries and five continents, the PLI product range includes high-quality lubricants and functional fluids for both the automotive and industrial markets, as well as a range of car care products. Flagship brands include PETRONAS Syntium for passenger vehicles, PETRONAS Sprinta for motorcycles, and PETRONAS Urania for commercial vehicles. Headquartered in Kuala Lumpur, PLI has over 30 marketing offices in 23 countries, managed through regional offices in Kuala Lumpur, Turin, Belo Horizonte, Chicago and Durban.

### LUBRICANTS

Passenger Car Motor Oil	<b>PETRONAS SYNTIUM</b>	<b>PETRONAS MACH 5</b>	<b>PETRONAS SELIA</b>
Motorcycle Oil	<b>PETRONAS SPRINTA</b>	<b>PETRONAS SYNTIUMmoto</b>	
Automotive Functional Fluids	<b>PETRONAS TUTELA®</b>	<b>PETRONAS Paraflu</b>	
Agriculture & Construction Lubricants	<b>PETRONAS Akros</b>	<b>PETRONAS Arbor</b>	<b>AMBRA</b> <b>AKCELÀ</b>
Commercial Vehicle Lubricants		<b>PETRONAS Urania</b>	

Base Oil	<b>E</b> <b>TRO</b> ®
	<b>Group III</b> Etro 4 & Etro 6

## PETROCHEMICAL BUSINESS

PETRONAS Chemicals Group Berhad (PCG) leads the growth of PETRONAS' Petrochemical Business, an important segment of the petroleum industry which supports the manufacturing and fast-moving consumer goods (FMCG) sectors. The leading petrochemicals producer in Malaysia and one of the largest in Southeast Asia, PCG is involved primarily in the manufacturing, marketing and selling of a diverse range of petrochemical products including olefins, polymers, fertilisers, methanol and other chemicals and derivative products. Today, its integrated petrochemical complexes in Kertih, Terengganu and Gebeng, Pahang as well as manufacturing complexes in Gurun, Kedah; Bintulu, Sarawak; and Labuan have a total production capacity of over 10 million mtpa.

### 1 Chemical Products

PCG comprises **22** manufacturing companies producing a wide range of chemical products



### 4 Manufacturing Complexes

**3** manufacturing complexes that produce fertilisers and methanol:  

- Gurun, Kedah
- Bintulu, Sarawak
- Federal Territory of Labuan

### 7 Sole Producer

of methanol, urea, paraxylene, methyl tertiary butyl ether (MTBE), ethanolamines, ethoxylates, glycol ethers, butanol and butyl acetates in Malaysia



### 2 Business Segment

**2** business segments:  

- Olefins and Derivatives
- Fertilisers and Methanol

### 5 Production Capacity

**10.8** million mtpa



### 3 Petrochemical Complexes

**2** integrated petrochemical complexes:  

- Kertih, Terengganu
- Gebeng, Pahang



### 6 Market Leadership

- Largest producer of methanol in the world; Fourth largest producer in Southeast Asia.
- Second largest producer of urea in Southeast Asia, with the Completion of the SAMUR Project.
- Third largest producer of low-density polyethylene (LDPE) in Southeast Asia.



### 8 Joint Venture

BASF Nederland BV, BP Holdings International BV, Idemitsu Kosan Co Ltd, Dialog Equity Sdn Bhd, VOPAK Terminal Penjuru Pte Ltd, MJPX Co Ltd, Sasol Holdings (Asia Pacific) Pty Ltd, and National Farmers Organisation (NAFAS)

## PROJECT DELIVERY & TECHNOLOGY

PETRONAS continues to redefine the future of energy with innovative approaches to technology and engineering in order to maximise and deliver sustainable energy for tomorrow. Project Delivery and Technology (PD&T), PETRONAS' Centre of Excellence with distinctive expertise, leading practices and innovative solutions as well as robust systems and processes is strategically positioned to support PETRONAS' growth and future positioning strategies. PD&T leverages on the value integration between Project, Procurement, Technical and Technology to deliver top quartile projects and technology as a differentiator.

PD&T with its leaner, flatter and efficient structure allows PETRONAS to be more agile whilst continuing to remain competitive and robust enough to withstand challenges and grow, to meet desired targets.

# OUR GLOBAL PRESENCE

## ASIA PACIFIC



**UPSTREAM** • **Australia** – Exploration, Development, Production & LNG • **Brunei** – Exploration & Development, Project Delivery & Technology • **China** – Exploration • **Indonesia** – Exploration & Development, Project Delivery & Technology • **Malaysia** – Exploration, Development, Production, LNG & Project Delivery & Technology • **Malaysia-Thailand Joint Development Area** – Exploration, Development • **Myanmar** – Exploration, Development, Production & Project Delivery & Technology • **Vietnam** – Exploration, Development & Production & Project Delivery & Technology

**DOWNTREAM** • **Australia** – Oil & Petrochemical • **Bangladesh** – Oil • **China** – Lubricants, Oil & Petrochemical • **Hong Kong** – Oil • **India** – Lubricants, Oil & Petrochemical • **Indonesia** – Lubricants, Oil & Petrochemical • **Japan** – Oil & Petrochemical, Project Delivery & Technology • **Malaysia** – Lubricants, Oil & Petrochemical, Project Delivery & Technology • **Myanmar** – Lubricants & Oil • **New Zealand** – Petrochemical • **Pakistan** – Lubricants & Oil • **Philippines** – Oil & Petrochemical, Project Delivery & Technology • **Singapore** – Oil & Petrochemical • **South Korea** – Oil & Petrochemical, Project Delivery & Technology • **Sri Lanka** – Oil • **Taiwan** – Oil & Petrochemical • **Thailand** – Lubricants, Oil & Petrochemical, Project Delivery & Technology • **Vietnam** – Oil & Petrochemical

\* Includes Engen subsidiaries and marketing and trading offices.

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## AFRICA



**UPSTREAM** • **Algeria** – Development & Production • **Angola** – Exploration • **Cameroon** – Development • **Chad** – Development & Production • **Egypt** – Development, Production & LNG • **Gabon** – Exploration • **Mauritania** – Production & Project Delivery & Technology • **Mozambique** – Exploration • **Republic of Sudan** – Exploration, Development & Production • **Republic of South Sudan** – Exploration, Development & Production

**DOWNTREAM** • **Angola** – Lubricants • **Botswana** – Lubricants & Oil • **Burkina Faso** – Lubricants • **Burundi** – Lubricants & Oil • **Cameroon** – Lubricants • **Congo** – Lubricants • **Democratic Republic of the Congo** – Oil & Lubricants • **Gabon** – Lubricants & Oil • **Ghana** – Lubricants & Oil • **Kenya** – Lubricants & Oil • **Lesotho** – Lubricants & Oil • **Madagascar** – Lubricants • **Malawi** – Lubricants & Oil • **Mauritius** – Lubricants & Oil • **Mozambique** – Lubricants & Oil • **Namibia** – Oil • **Niger** – Lubricants • **Réunion** – Lubricants & Oil • **Republic of Sudan** – Lubricants & Oil • **Rwanda** – Lubricants & Oil • **Senegal** – Lubricants • **South Africa** – Lubricants & Oil • **Swaziland** – Lubricants & Oil • **Tanzania** – Lubricants & Oil • **Togo** – Lubricants • **Zambia** – Lubricants & Oil • **Zimbabwe** – Lubricants & Oil

**EUROPE**

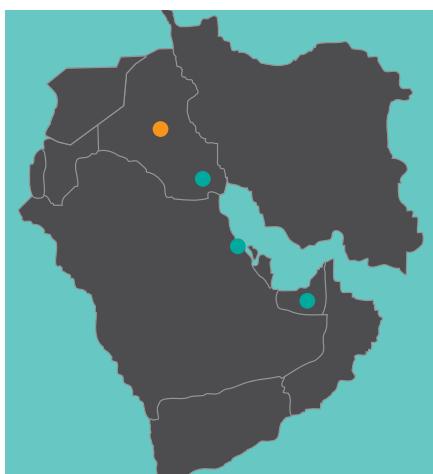
**UPSTREAM** • **Ireland** – Exploration, Production & Gas Storage  
• **United Kingdom** – LNG

**DOWNTREAM** • **Austria** – Lubricants • **Belgium** – Lubricants  
**Denmark** – Lubricants • **France** – Lubricants • **Germany**  
– Lubricants • **Italy** – Lubricants & Project Delivery &  
Technology • **Netherlands** – Lubricants & Oil • **Norway** – Oil  
• **Poland** – Lubricants • **Portugal** – Lubricants • **Russia** –  
Lubricants & Oil • **Spain** – Lubricants • **Turkey** – Lubricants  
• **United Kingdom** – Lubricants & Oil

**LATIN AMERICA**

**UPSTREAM** • **Suriname** – Exploration • **Argentina** – Exploration

**DOWNTREAM** • **Argentina** – Lubricants • **Balboa** – Lubricants  
& Oil • **Brazil** – Lubricants • **Chile** – Lubricants • **Colombia**  
– Lubricants • **Peru** – Lubricants

**MIDDLE EAST**

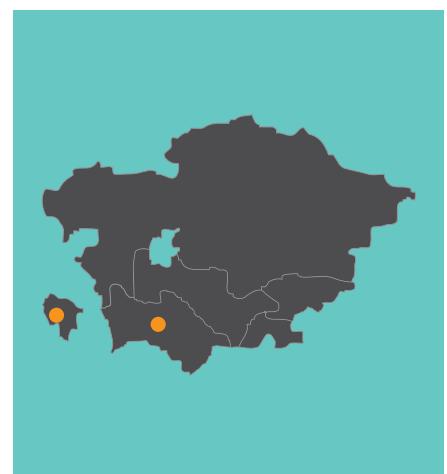
**UPSTREAM** • **Iraq** – Development,  
Production & Project Delivery & Technology

**DOWNTREAM** • **Egypt** – Lubricants  
• **Kuwait** – Oil • **Qatar** – Oil • **United**  
**Arab Emirates** – Lubricants & Oil

**NORTH AMERICA**

**UPSTREAM** • **Canada** – Exploration,  
Development, Production, LNG

**DOWNTREAM** • **Mexico** – Lubricants  
• **United States of America** – Lubricants

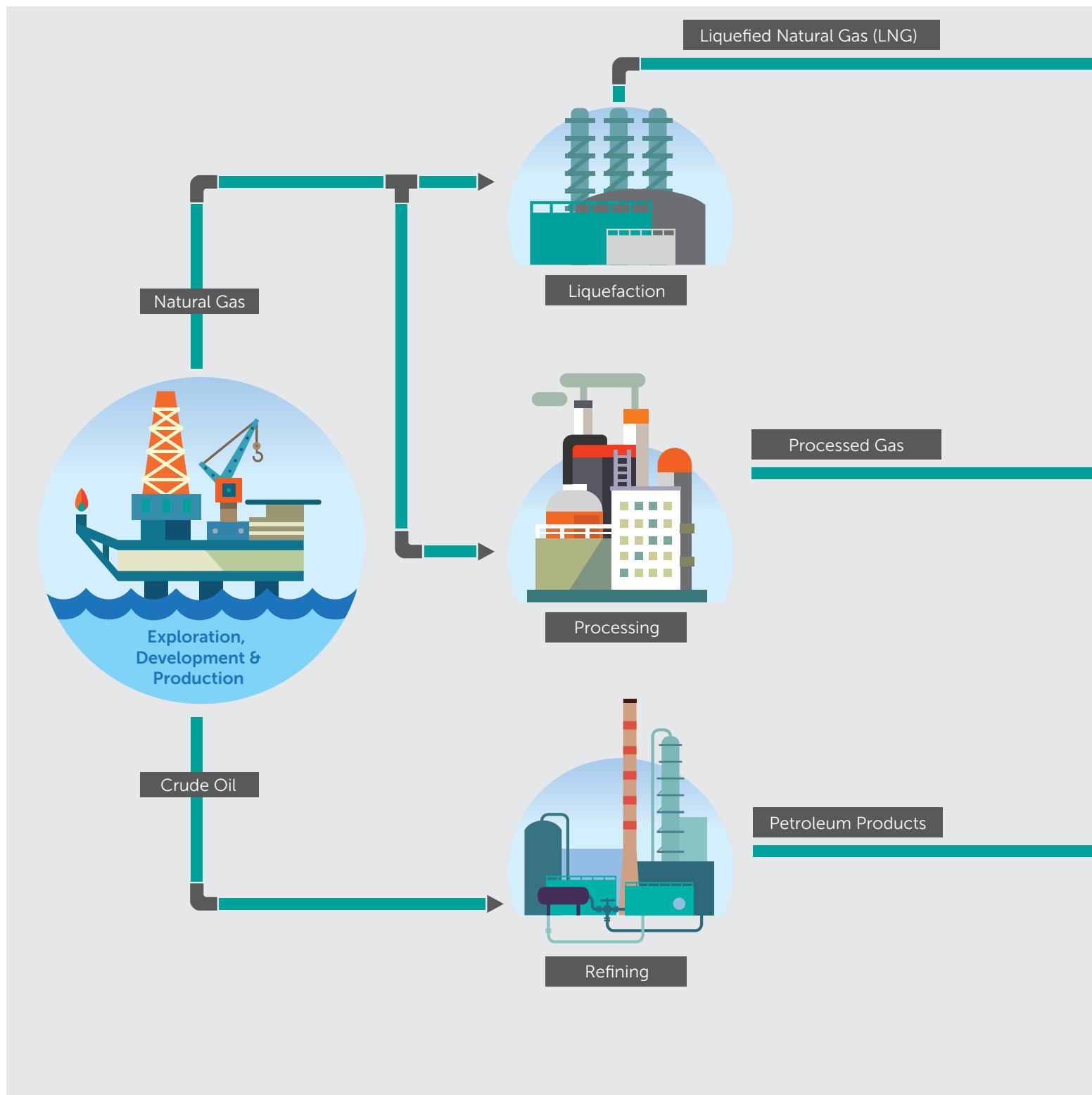
**CENTRAL ASIA**

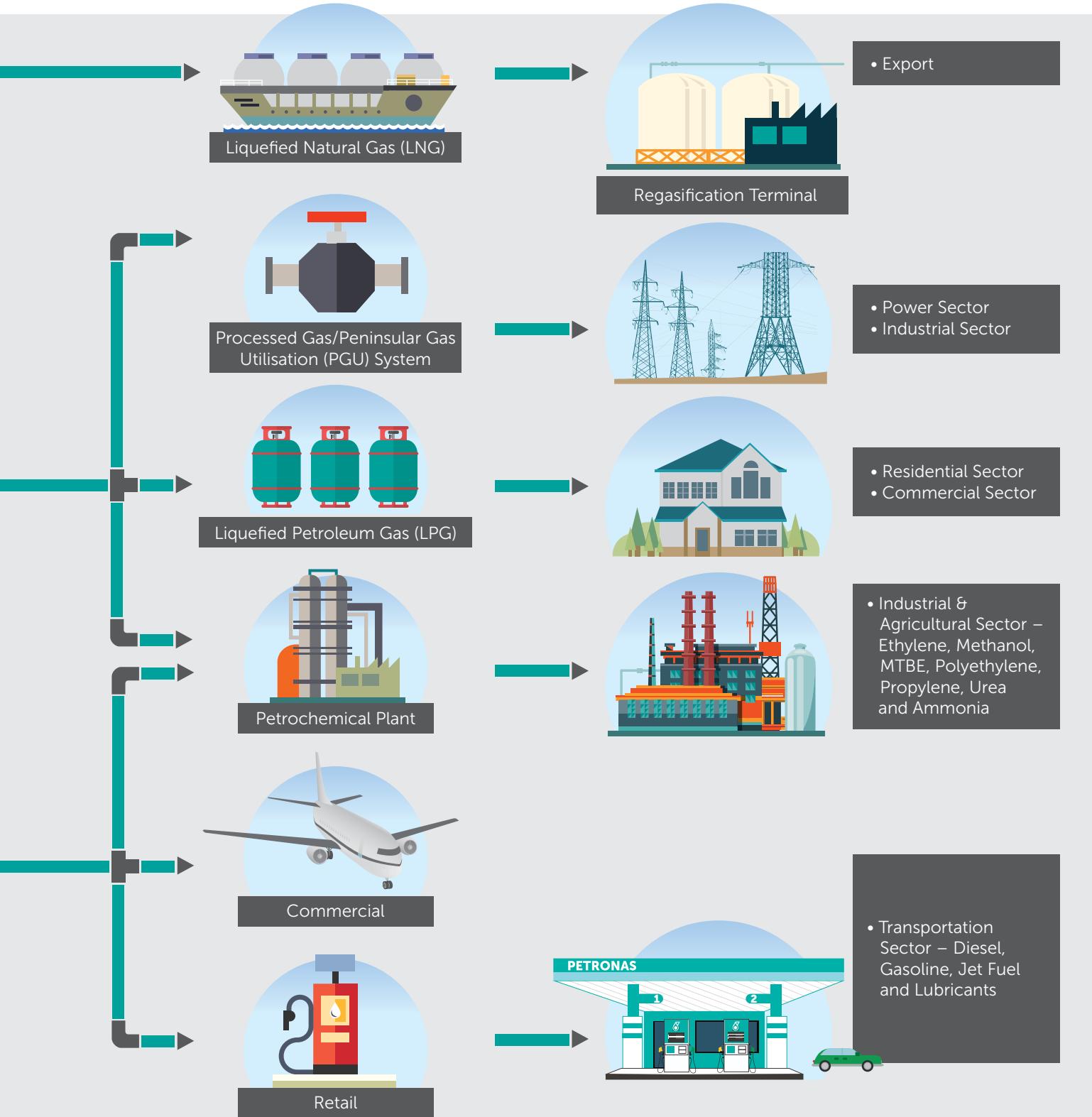
**UPSTREAM** • **Turkmenistan** – Exploration,  
Development, Production & Project  
Delivery & Technology

• **Azerbaijan** – Development & Production

**DOWNTREAM** • **Georgia** – Oil

# OUR BUSINESS





# GROUP CORPORATE STRUCTURE

## WHOLLY-OWNED SUBSIDIARIES (89)

PETRONAS Carigali Sdn Bhd

- PETRONAS Carigali Chad Exploration & Production Inc
- PETRONAS Carigali Overseas Sdn Bhd
- PETRONAS Carigali Iraq (Garraf) Ltd
- PETRONAS Carigali Iraq Holding BV
- E&P Venture Solutions Co Sdn Bhd
- E&P Malaysia Venture Sdn Bhd

PETRONAS Research Sdn Bhd

Primesourcing International Sdn Bhd  
Institute of Technology PETRONAS Sdn Bhd  
PETRONAS eLearning Solutions Sdn Bhd  
PETRONAS Penapisan (Terengganu) Sdn Bhd  
PETRONAS Penapisan (Melaka) Sdn Bhd  
PETRONAS Management Training Sdn Bhd  
PETROSAINS Sdn Bhd  
Bekalan Air KIPC Sdn Bhd  
Sanisbury Stead Sdn Bhd  
PETRONAS Capital Limited  
PETRONAS NGV Sdn Bhd  
Energas Insurance (L) Limited  
PETRONAS Technical Training Sdn Bhd  
PETRONAS LNG 9 Sdn Bhd  
PETRONAS Floating LNG 1 (L) Ltd  
PETRONAS Floating LNG 2 (L) Ltd  
Malaysian Refining Company Sdn Bhd

OGP Technical Services Sdn Bhd

KLCC (Holdings) Sdn Bhd

PETRONAS International Corporation Ltd

- SIRRI International Ltd
- PETRONAS Carigali Myanmar Inc.
- PETRONAS Carigali (Turkmenistan) Sdn Bhd
- PC JDA Limited
- MITCO Labuan Co. Ltd
- PETRONAS Carigali Nile Ltd
- PETRONAS Marketing Sudan Ltd
- P.T. PETRONAS Niaga Indonesia
- PICL (Egypt) Corporation Limited
- Nada Properties Ltd
- PC Madura Ltd
- PC Muriah Ltd
- PETRONAS Carigali (West Glagah Kambunan) Ltd
- PC (Myanmar) Holdings Ltd
- PETRONAS Carigali Myanmar III Inc.

PETRONAS Assets Sdn Bhd

- Petrofibre Network (M) Sdn Bhd
- PETRONAS ICT Sdn Bhd
- Virtus IP Sdn Bhd

PETRONAS Hartabina Sdn Bhd

- Prince Court Medical Centre Sdn Bhd
- PRBF Holdings Corporation Sdn Bhd

PETRONAS Lubricants International Sdn Bhd

- PLI (Netherlands) B.V.
- PETRONAS Lubricants China Company Limited
- PETRONAS Lubricants Africa Ltd
- PETRONAS Base Oil (M) Sdn Bhd

PETRONAS Trading Corporation Sdn Bhd

- PETCO Trading (UK) Limited
- PETCO Trading Labuan Company Ltd
- PETCO Trading DMCC

PETRONAS Technical Services Sdn Bhd

- PTSSB DMCC (formerly known as PTSSB JLT)
- PETRONAS Technology Ventures Sdn Bhd
- PETRONAS Global Technical Solutions Sdn Bhd

PETRONAS Refinery and Petrochemical Corporation Sdn Bhd

- PRPC Refinery Cracker Sdn Bhd
- PRPC Utilities and Facilities Sdn Bhd

Note:

(I) This chart includes directly owned and up to the 2nd tier companies held by PETRONAS

(II) This chart excludes subsidiary companies of MISC Berhad, KLCC (Holdings) Sdn Bhd, Engen Limited and PLI (Netherlands) BV

(III) The records are correct as at 6 June 2016

- |  |   |
|--|---|
| PETRONAS Carigali (Jabung) Ltd           | PETRONAS Carigali (Greenland) Holding Ltd |
| PETRONAS Myanmar Ltd                     | PETRONAS Power Sdn Bhd                    |
| PICL Marketing Thailand Ltd              | PETRONAS LNG Carriers Ltd                 |
| Myanmar PETRONAS Trading Co. Ltd         | PETRONAS LNG Sdn Bhd                      |
| PETRONAS (Thailand) Co. Ltd              | PETRONAS Carigali Brunei Ltd              |
| PC Vietnam Limited                       | PETRONAS Marketing Ventures Limited       |
| PC Mauritania I Pty Ltd                  | PETRONAS South Africa (Pty) Ltd           |
| PC Mauritania II BV                      | PETRONAS Sierra Leone (E&P) Ltd           |
| PETRONAS Philippines Inc                 |   |
| PARSI International Ltd                  |   |
| Argentinean Pipeline Holding Company S.A |   |
| PETRONAS Australia Pty Ltd               |   |
| PETRONAS (E&P) Overseas Ventures Sdn Bhd |   |
| PETRONAS Carigali (Urga) Ltd             |   |
| Labuan Energy Corporation Limited        |   |

# PETRONAS GROUP OF COMPANIES

## PARTLY-OWNED SUBSIDIARIES (38)

\*MISC Berhad (62.67%)  
 Malaysia LNG Sdn Bhd (90%)  
 Malaysia LNG Dua Sdn Bhd (80%)  
 Malaysia LNG Tiga Sdn Bhd (60%)

\*PETRONAS Gas Berhad (60.63%)  
 Regas Terminal (Sg Udang) Sdn Bhd (100%)  
 Regas Terminal (Lahad Datu) Sdn Bhd (100%)  
 Regas Terminal (Pengerang) Sdn Bhd (100%)  
 Kimanis Power Sdn Bhd (60%)  
 Kimanis Power O&M Sdn Bhd (60%)  
 Pengerang LNG (Two) Sdn Bhd (65%)

\*PETRONAS Dagangan Bhd (69.86%)  
 PETRONAS Lubricants Marketing (Malaysia) Sdn Bhd (100%)  
 (formerly known as Lub Dagangan Sdn Bhd)  
 PETRONAS Aviation Sdn Bhd (100%)  
 PDB (Netherlands) B.V. (100%)  
 Kuala Lumpur Aviation Fuelling System Sdn Bhd (65%)

\*KLCC Property Holdings Berhad (75.46%)

Engen Limited (80%)

\*PETRONAS Chemicals Group Bhd (64.35%)  
 PETRONAS Chemicals Marketing Sdn Bhd (100%)  
 PETRONAS Chemicals Derivatives Sdn Bhd (100%)  
 PETRONAS Chemicals Polyethylene Sdn Bhd (100%)  
 Vinyl Chloride (Malaysia) Sdn Bhd (100%)  
 PETRONAS Chemicals Methanol Sdn Bhd (100%)  
 PETRONAS Chemicals Glycols Sdn Bhd (100%)  
 PETRONAS Chemicals Ammonia Sdn Bhd (100%)  
 Polypropylene Malaysia Sdn Bhd (100%)  
 Kertih Port Sdn Bhd (100%)  
 PETRONAS Chemicals Fertiliser Kedah Sdn Bhd (100%)  
 PETRONAS Chemicals Fertiliser Sabah Sdn Bhd (100%)  
 PETRONAS Chemicals MTBE Sdn Bhd (100%)  
 PETRONAS Chemical Aromatics Sdn Bhd (70%)  
 PETRONAS Chemicals Olefins Sdn Bhd (88%)  
 PETRONAS Chemicals LDPE Sdn Bhd (60%)  
 PETRONAS Chemicals Ethylene Sdn Bhd (87.5%)  
 Asean Bintulu Fertilizer Sdn Bhd (63.47%)

## ASSOCIATE COMPANIES (20)

Kebabangan Petroleum Operating Co. Sdn Bhd (40%)  
 PCPP Operating Company Sdn Bhd (40%)  
 BC Petroleum Sdn Bhd (20%)  
 \*Bintulu Port Holdings Berhad (32.79%)

Industrial Gases Solutions Sdn Bhd (50%)

IOT Management Sdn Bhd (20%)  
 Tanjung Manis Oil Terminal Management Sdn Bhd (20%)  
 PS Pipeline Sdn Bhd (50%)  
 PS Terminal Sdn Bhd (50%)

IndianOil PETRONAS Pvt Ltd (50%)  
 Trans Thai-Malaysia (Thailand) Ltd (50%)  
 Trans Thai-Malaysia (Malaysia) Sdn Bhd (50%)

Centroid Technical Services Co. Ltd (40%)

Transasia Pipeline Company Pvt Ltd (35%)  
 Dragon LNG Group Ltd (50%)

BASF PETRONAS Chemicals Sdn Bhd (40%)  
 Kertih Terminals Sdn Bhd (40%)  
 Idemitsu SM (Malaysia) Sdn Bhd (30%)  
 BP PETRONAS Acetals Sdn Bhd (30%)

# MESSAGE FROM PRESIDENT AND GROUP CEO

Welcome to the PETRONAS Group Sustainability Report 2015 focusing on our efforts in doing business right to meet the Group's long-term obligations safely and responsibly. Sustainability to PETRONAS is about business resilience amid evolving social dynamics and a changing environmental landscape, as we are mindful that we co-exist in a larger integrated environment.

Continued volatility of the oil and gas industry in 2015 exerted immense pressure on PETRONAS as price of crude oil plunged to new lows, and oversupply persisted in the market. The new reality called for us to further optimise our business practices, with sustainability strategies at the core, including in the areas of operational integrity, climate change and human rights.

## **Energy Matters**

Affordable energy is vital for development, especially as global populations and urbanisation grow steeply, driving the burgeoning of new infrastructures. Meanwhile, spotlight on the global interest in climate change expanded following conclusion of the 2015 Paris Climate Conference where nations collectively echoed a commitment to limit global warming.

**PETRONAS' efforts are fundamentally premised on a dual philosophy: enhancing operational efficiency and excellence to realise our Carbon Commitments; and concurrently fortifying our position as a leading producer of Liquefied Natural Gas (LNG) as a cleaner source of energy.**

The challenge for us, like any other energy company, is to emit less when monetising energy resources. Though energy transition has taken off, demand for traditional sources of energy remains high given its compatibility with the existing energy system. Suffice to say, conventional fuel-types will continue to have a significant share of the global energy mix in the foreseeable future, even as diversification of the existing energy system continues.

PETRONAS' efforts are fundamentally premised on a dual philosophy: enhancing operational efficiency and excellence to realise our Carbon Commitments; and concurrently fortifying our position as a leading producer of Liquefied Natural Gas (LNG) as a cleaner source of energy.

To this end, PETRONAS' Malaysia operations recorded a 17 per cent reduction in flaring, as a result of mitigation-related initiatives, towards our mid-term goal to achieve zero continuous venting and flaring by 2017, where feasible. Commendably, the inaugural PETRONAS Floating LNG facility was being assembled in the period under review, a revolutionary and unconventional solution to redefine the production for natural gas. Other initiatives include investments in the area of carbon capture and storage, while continuing to leverage on Solar Photovoltaic technology.

## **Safety Matters**

Focus on Health, Safety and Environment (HSE) remains a top priority in realising our growth strategies. In 2015, PETRONAS recorded a 66 per cent reduction in Fatal Accident Rate compared to 2014. Despite our efforts, we are saddened to have recorded four loss of lives and remain committed to achieve zero fatalities.

We continued to enhance our HSE culture by instilling strong operational discipline and compliance with PETRONAS' HSE standards such as the Zero Tolerance (ZeTO) Rules. The outcomes of HSE assurances are vigilantly monitored by the senior leadership team.



**DATUK WAN ZULKIFLEE WAN ARIFFIN**

President and Group Chief Executive Officer (CEO)

## Social Matters

The needs of our key stakeholders, both internal and external, are vital considerations in achieving our business aspirations.

Our employees are a formidable force driving the organisation through these challenging times. Their determination, agility and strength continue to take PETRONAS to greater heights. In 2015, despite a tighter watch on cash expenditure, we invested further in our human capital to hone a competent workforce with functional skills, evolving knowledge and commercial foresight to complement the Company's ambitious growth plans. We also made progress in enhancing existing processes and policies to steadily attract, develop and retain the best talents.

Externally, multidisciplinary teams actively monitored and mitigated social risks at our operational sites. I am happy to share that taking on from the PETRONAS Social Performance Framework, the PETRONAS Human Rights Commitment was launched in 2015.

Disclosure paves way for improved transparency in the larger scope of Sustainability and Human Rights, alike. Going forward, we will fortify equitable measures to manage and report on the Company's non-financial risks. On this note, I am pleased to share that in 2015, all of PETRONAS' public-listed companies, namely, PETRONAS Chemicals Group Berhad, PETRONAS Dagangan Berhad, PETRONAS Gas Berhad, KLCC Property Holdings Berhad, Malaysia Marine and Heavy Engineering Holdings Berhad and MISC Berhad were among the 34 constituents of the FTSE4Good Bursa Malaysia Index. We are proud of this achievement which is a testament of PETRONAS' persistence in integrating sustainable business practices across the Environment, Social and Governance spheres.

**In 2015, despite a tighter watch on cash expenditure, we invested further in our human capital to hone a competent workforce with functional skills, evolving knowledge and commercial foresight to complement the Company's ambitious growth plans. We also made progress in enhancing existing processes and policies to steadily attract, develop and retain the best talents.**

## Progress Matters

Sustainability is our business philosophy. It goes beyond regulatory compliance to embody sincere concern for the wellbeing of present and future generations. While it is important to integrate practices that are socially and environmentally-responsible, we place importance on ensuring the relevance of our strategies in coming times, being mindful of the fast-paced changes in the external operating environment. To this end, we have much to do in achieving our Sustainability aspirations.

Going forward in this volatile period, our endurance would be tested and we remain determined to push the barriers of excellence. Financial health will undeniably remain a priority, but equally important is the commitment to manage the issues and needs of our employees, society, and the environment.

Above all else, integrity remains of utmost significance, and the Company remains committed to eliminate any and all forms of corruption. PETRONAS remains grounded to its Vision, Mission, Strategic Business Direction and more importantly, Shared Values in rising above the test of time.



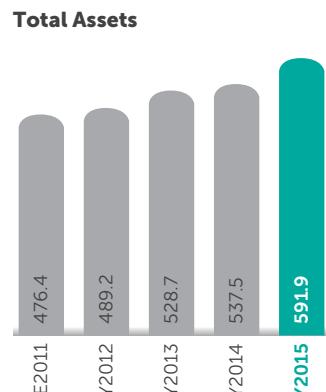
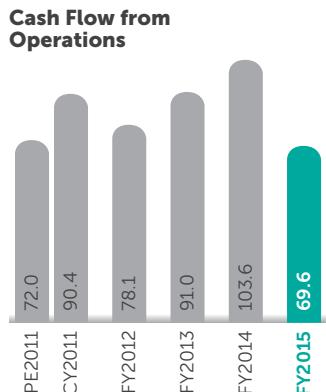
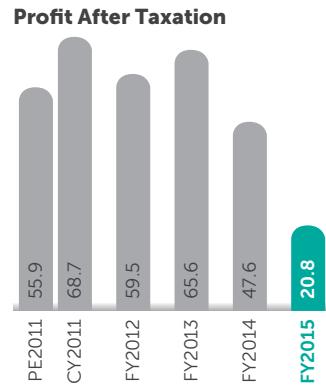
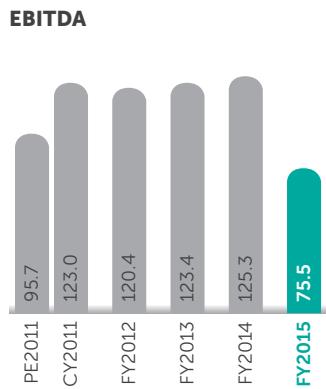
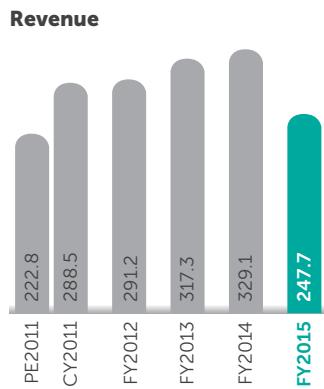
Datuk Wan Zulkifle Wan Ariffin

President and Group CEO

# GROUP FINANCIAL PERFORMANCE REVIEW

## PETRONAS' KEY FINANCIAL INDICATORS

In RM billion



**Note:**

PE2011 represents audited nine-month period from 1 April to 31 December 2011.

Financial Ratios	FY2015	FY2014	FY2013	FY2012	PE2011*
Profit After Tax Margin	<b>8.4%</b>	14.5%	20.7%	20.4%	25.1%
Return on Total Assets**	<b>5.9%</b>	14.1%	17.5%	18.0%	21.6%
Return on Average Capital Employed**	<b>5.1%</b>	11.9%	17.4%	16.8%	20.1%
Debt/Assets Ratio	<b>0.10x</b>	0.07x	0.08x	0.08x	0.11x
Gearing Ratio**	<b>16.0%</b>	12.6%	14.3%	15.1%	17.5%
Dividend Payout Ratio**	<b>70.2%</b>	53.6%	54.1%	57.0%	54.7%

\* PE2011 was calculated based on annualised figures.

\*\* Comparative figures have been restated to conform to the revised computation method.

Contribution to the Federal and State Governments of Malaysia in 2015 totalled RM 52.7 billion, compared to RM 75.3 billion in 2014. Dividends paid in 2015 of RM26.0 billion were in respect of 2014, which translated to a dividend payout ratio of 70 per cent. Please refer to the Group's Annual Report 2015 for more information.

# ABOUT THIS REPORT



**PETRONAS has voluntarily disclosed the Company's non-financial performance since 2007. In this eighth edition of the Group Sustainability Report, PETRONAS continues to highlight its efforts towards realising business objectives in a safe, responsible and ethical manner, amidst a challenging operating environment.**

The PETRONAS Group Sustainability Report 2015 (SR2015) highlights the key environmental, social and governance related initiatives carried out throughout a 12-month period, from 1 January to 31 December 2015, supported by data on lagging and leading performance indicators.

The SR2015 was developed by a dedicated unit at the Group-level, entrusted to consolidate information from the various Business, Operating and Holding Company Units. PETRONAS' financial statements and strategic business plans are made available in the PETRONAS Group Annual Report. Both reports are available online at [www.petronas.com](http://www.petronas.com).

## SCOPE AND DATA COLLECTION

The scope of information in SR2015 covers entities where PETRONAS has operational control in its Businesses of oil and gas production, unless otherwise stated, in Malaysia and internationally. The sustainability data presented in SR2015 was collated through a centralised web-based system. To date, initiatives such as tightening of internal mechanisms to enhance overall monitoring, reporting and verification of sustainability data are ongoing. PETRONAS strives to ensure the highest accuracy levels of its sustainability data. Potential variances in sustainability data compared to levels reported previously is due to ongoing streamlining of data accounting and management practices.

## STAKEHOLDER MANAGEMENT

PETRONAS delivers upon its business priorities by taking into consideration the concerns, interests and expectations of its various stakeholders, wherever it operates. The intent is to achieve mutually beneficial relationships by; building trust and commitment; growing with nations and partners; and ensuring stable and reliable supply of energy.

PETRONAS adopts a systematic mechanism in engaging the Company's stakeholders, where the approach is localised based on applicable norms in the countries of operations. Formal and informal channels are deployed to obtain feedback and where required, coordinated efforts are undertaken by multidisciplinary teams to act upon the perspectives received. Typically, regular and timely engagements enable the Company to share updates as well as obtain viewpoints from its stakeholders in realising shared growth aspirations.

Stakeholder Groups	Engagement Platforms	Leading Areas of Interest	The Company's Efforts
Business Partners, Suppliers and Service Providers	<ul style="list-style-type: none"> <li>• Face-to-face meetings</li> <li>• Audits</li> <li>• Targeted forums</li> <li>• Monitoring of contractual provisions</li> </ul>	<ul style="list-style-type: none"> <li>• Health, Safety and Environment (HSE) practices</li> <li>• Key investment projects</li> <li>• Socio-economic growth</li> <li>• Volatile oil prices</li> </ul>	<ul style="list-style-type: none"> <li>• Provided timely project updates using multiple communication platforms</li> <li>• Disbursed payment of dividends and royalties to governments</li> <li>• Held continuous engagements with various stakeholders on HSE matters</li> <li>• Launched the PETRONAS Human Rights Commitment</li> <li>• Continued to pursue Corporate Social Investments in Malaysia and internationally</li> <li>• Prioritised growth projects, with a stronger focus on asset rationalisation</li> </ul>
Customers and Consumers	<ul style="list-style-type: none"> <li>• Hotline</li> <li>• Email queries</li> </ul>		
Employees and Trade Unions	<ul style="list-style-type: none"> <li>• Townhall sessions</li> <li>• Open dialogues among teams</li> <li>• Intranet portal</li> </ul>		
Host Governments and Regulatory Authorities	<ul style="list-style-type: none"> <li>• Face-to-face meetings</li> <li>• Regular reports</li> <li>• Participation in discussions</li> </ul>		
Industry Associations and Non-Governmental Organisations	<ul style="list-style-type: none"> <li>• Engagements through business partnerships</li> <li>• Leading working groups in Industry associations</li> </ul>		
Local Communities	<ul style="list-style-type: none"> <li>• Face-to-face meetings</li> <li>• Various social events</li> </ul>		
Media	<ul style="list-style-type: none"> <li>• Media releases</li> <li>• Quarterly media briefings</li> </ul>		
Shareholders, Financial Institutions, Bond Holders and Investors	<ul style="list-style-type: none"> <li>• Group Annual Report</li> <li>• Quarterly media briefings</li> <li>• Email queries</li> </ul>		

Note: This list is not exhaustive and collectively represents the Group's stakeholders at large. The PETRONAS Whistleblower channels are accessible by all internal and external stakeholders.

## ABOUT THIS REPORT

### IDENTIFYING MATERIALITY

PETRONAS strives to provide fair, comparable and accurate information on the initiatives pursued for managing non-financial risks, supported by performance data on selected sustainability indicators.

Content of the SR2015 was generated by reviewing several internal and external sources of information, findings from which were deliberated with internal subject-matter experts. The exercise conducted internally facilitated the identification of material areas and key priorities of stakeholders, taking into consideration the wider industry context and the Company's interests, and cross-referenced against the PETRONAS' Corporate Sustainability Framework. Resources assessed to facilitate the content development exercise included:

- Current and emerging global trends on Sustainable Development
- Findings from Enterprise Risk Management process
- Internal collaterals such as business plans, speeches and management reports
- Input from Businesses, Operating, and Holding Company Units
- Media articles on the Company
- Sustainability reporting guidelines and assessment requirements

Content in the SR2015 has been divided into four themes to address areas of concern as depicted in the table below. These areas were identified through an internal materiality assessment exercise described above. In each of the four themes, namely Corporate Governance and Business Ethics; Safety and Health; Environmental Stewardship; and Society, key focus areas are outlined. These are supported by disclosure on management approach, discussions on non-financial performance and sustainability efforts implemented, complemented by relevant features, where applicable.

### REPORTING STANDARDS

The SR2015 was prepared in accordance with the Global Oil and Gas Association for Environmental and Social Issues or IPIECA's third edition of the oil and gas industry guidance on voluntary sustainability reporting published in 2015. Concurrently, it was cross-referred to the Global Reporting Initiative's (GRI) sustainability reporting guidelines and FTSE Environmental, Social and Governance assessment indicators.

### FEEDBACK

Please send any comments, insights and/or queries to:

#### **PETRONAS Sustainability Reporting**

Sustainable Development Department  
Group Health, Safety, Security and Environment  
Petroleum Nasional Berhad (PETRONAS)  
Level 45, Tower 1, PETRONAS Twin Towers  
Kuala Lumpur City Centre  
50088 Kuala Lumpur  
Malaysia

Or email [sustainability@petronas.com.my](mailto:sustainability@petronas.com.my)

<b>Corporate Governance and Business Ethics</b>	<b>Safety and Health</b>	<b>Environmental Stewardship</b>	<b>Society</b>
Business Ethics and Compliance	Safety Health and Wellness Industrial Hygiene Product Stewardship	Climate Change Water Management Environmental Management	Social Performance Community Investments Our People

# SUSTAINABLE DEVELOPMENT IN PETRONAS

## SUSTAINABILITY AND BUSINESS STRATEGY

Balancing social and environmental considerations in meeting the current as well as future energy needs underpin the Group's commitment to generating long-term business value.

### **Context:**

Energy is an essential component for growth, with crude oil and natural gas constituting a significant portion of the global energy mix. The projected increase in global population, growing urbanisation rate and the quest to support burgeoning socio-economic developments collectively intensify the need for energy resources. The challenge herein lies in meeting increasing energy needs while being mindful of the changing social and environmental landscape, conscious that energy resources are finite.

Realities facing the global oil and gas industry include:

- Higher cost of monetising and adding value to energy resources
- Environmental risks related to climate change and fresh water use
- Shrinking profits due to the plunging oil price
- Increasing demand and requirements from stakeholders on social performance matters
- Maturing facilities and assets
- Geopolitical issues and political unrest
- Business transparency and corporate governance



### **Approach:**

Sustainable Development encompasses carrying out business in a socially responsible and holistic manner to ensure continued growth as well as success for the benefit of present and future generations where PETRONAS operates. The underlying aim being to create lasting social benefits; safeguard the health and safety of employees, contractors and neighbours; minimise disruptions to the community; lower emissions; minimise impact on ecosystems and biodiversity; and use energy, water and other resources efficiently. The Group is guided by the PETRONAS Code of Conduct and Business Ethics (CoBE), PETRONAS Corporate Sustainability Framework, PETRONAS Policies, Standards and Guidelines as well as compliance to local regulations on environmental and social requirements in countries of operations.

## SUSTAINABLE DEVELOPMENT IN PETRONAS

### Embedding Sustainability in PETRONAS

Strong governance mechanisms facilitate the integration and promote holistic management of sustainability in PETRONAS, spanning across the integrated business value chain covering day-to-day operations as well as projects, via:

<b>Robust systems and processes</b>	<ul style="list-style-type: none"> <li>• PETRONAS CoBE</li> <li>• PETRONAS Health, Safety and Environment (HSE) Policy</li> <li>• PETRONAS HSE Management System and Mandatory Control Framework</li> <li>• PETRONAS Corporate Sustainability Framework</li> <li>• PETRONAS Carbon Commitments</li> <li>• PETRONAS Energy and Loss Management System</li> <li>• PETRONAS Human Rights Commitment</li> <li>• PETRONAS Technical Guidelines on Social Risk Assessment, Human Rights Due Diligence and Grievance Mechanism</li> <li>• PETRONAS Water Management Guide</li> <li>• Procedures and Guidelines for Upstream Activities 2.0</li> <li>• Sustainable Development Management System</li> </ul>	<i>Outlines clear expectations to facilitate business decision making and streamline our practices in managing operational sustainability Group-wide</i>
<b>Resilient organisational structure</b>	<ul style="list-style-type: none"> <li>• PETRONAS Corporate Sustainability Council</li> <li>• Subject matter Experts at Business, Operating and Holding Company Units</li> </ul>	<i>Oversees implementation of sustainability plans in adherence with existing procedures and processes</i>
<b>Ongoing capability development</b>	<ul style="list-style-type: none"> <li>• Climate Change</li> <li>• Social Performance and Human Rights</li> <li>• Fresh Water Management</li> <li>• Biodiversity and Ecosystem Services</li> </ul>	<i>Nurtures individuals with knowledge and skills to effectively address sustainability risks as well as opportunities</i>

## SUSTAINABLE DEVELOPMENT IN PETRONAS

### Growing Sustainability in PETRONAS

The Group's focus was to continue achieving operational sustainability in 2015, parallel to which, PETRONAS further strengthened its foothold in the three identified areas below. Multidisciplinary teams worked together in addressing evolving stakeholder and business needs, amidst a challenging operating landscape in these focus areas:

Focus Areas	2013	2014	2015	
Social Performance	<ul style="list-style-type: none"> <li>Established Social Performance Framework</li> </ul>	<ul style="list-style-type: none"> <li>Conducted Social Risk Assessments.</li> <li>Held strategic engagements with local communities</li> </ul>	<ul style="list-style-type: none"> <li>Accelerated capability development efforts Group-wide</li> </ul>	<ul style="list-style-type: none"> <li>PETRONAS Human Rights Commitment approved by PETRONAS EXCO and endorsed by the Board</li> <li>Developed three PETRONAS Technical Guidelines</li> <li>Ongoing social risk assessments and Human Rights Due Diligence</li> </ul>
Water Management	<ul style="list-style-type: none"> <li>Streamlined definition of fresh water withdrawal</li> <li>Internal verification on accounting</li> <li>Capability development</li> </ul>	<ul style="list-style-type: none"> <li>Completed groundwork to develop a Water Management Guide</li> <li>Pursued internal fresh water assessments</li> <li>Carried out situational analysis for the development of commitments on fresh water withdrawal</li> </ul>		<ul style="list-style-type: none"> <li>Deployed the PETRONAS Water Management Guide</li> <li>Developed best practices on water and wastewater systems</li> <li>Conducted water review exercise at selected plants</li> </ul>
Climate Change	<ul style="list-style-type: none"> <li>Roll out of Carbon Commitments</li> <li>Developed systems and processes</li> </ul>	<ul style="list-style-type: none"> <li>Reduced greenhouse gas (GHG) emissions via process enhancements</li> <li>Reinforced the Energy and Loss Management System</li> <li>Rolled out best practices on energy management</li> </ul>		<ul style="list-style-type: none"> <li>Established PETRONAS Climate Change Framework</li> <li>Established climate change risk profiling methodology</li> <li>Reduced GHG emissions through operational excellence practices</li> </ul>

### Governing Sustainability in PETRONAS

The PETRONAS Corporate Sustainability Council (the Council) is an advisory body established to discuss business matters on sustainability facing the oil and gas industry. The Council, comprising top management personnel with diverse expertise, experience and knowledge spanning across the energy industry, is entrusted to oversee the implementation of sustainability-related strategies in PETRONAS.

Key roles of the Council include making recommendations to the PETRONAS Executive Committee and/or the PETRONAS

Health, Safety and Environment Executive Committee (PETRONAS EXCO and/or PETRONAS HSE EXCO) for the implementation of corporate sustainability practices across the Group. Secretary to the Council, which is scheduled to meet at least twice a year, is the Sustainable Development Department.

To date, the Council played an instrumental role in solidifying PETRONAS' sustainable development practices by providing clear guidance on current and emerging sustainability issues.

## SUSTAINABLE DEVELOPMENT IN PETRONAS

In the period under review, composition of the Council was reviewed and expanded in response to the revised Company structure as well as changing business landscape, as approved by the President and Group Chief Executive Officer of PETRONAS. The position of the Chair is helmed by the Senior Vice President of Corporate Strategy, supported by seven members from the respective Business, Operating and Holding Company Units. The holistic representation allows the Council to effectively cascade corporate sustainability practices Group-wide, ensuring a streamlined execution of plans and strategies in line with established systems and processes.

### Evolution of Non-Financial Disclosure

The concept of sustainability reporting or non-financial disclosure is gaining a stronger foothold internationally, led by growing investor interest and tightening legislation. In Malaysia, Public Listed Companies (PLCs) must adhere by the amended listing requirements on sustainability disclosure. Presently, selected Malaysian PLCs undergo an assessment of respective environmental, social and governance performance based on publicly available information. As of 31 December 2015, all six of the Group's partly-owned PLCs successfully made it to the FTSE4Good Bursa Malaysia (F4GBM) Index, compared to 2014 when three of the PLCs were included on the F4GBM Index. These PLCs, namely PETRONAS Chemicals Group

Berhad, PETRONAS Dagangan Berhad, PETRONAS Gas Berhad, KLCC Property Holdings Berhad, Malaysia Marine and Heavy Engineering Holdings Berhad and MISC Berhad are also required to uphold PETRONAS' Sustainable Development aspirations as outlined in the PETRONAS Corporate Sustainability Framework.

### Promoting Industry Growth

PETRONAS is a member of several industry associations which deliberate on current and emerging trends in response to business needs. The Group supports relevant events to spur knowledge development amongst members of the oil and gas fraternity. In-house Community of Practice (CoP) for the various HSE disciplines were also established to deliberate and cascade learning acquired from industry-wide participations. Some of the Group's efforts to promote sharing and discourse among Malaysian as well as international industry players on various energy-related disciplines in 2015 are as below:

Associations and Memberships	Working Groups	Events
<ul style="list-style-type: none"> <li>• The Institution of Chemical Engineers</li> <li>• International Association of Oil and Gas Production</li> <li>• International Council of Chemical Associations</li> <li>• International Gas Union</li> <li>• Malaysian Gas Association</li> <li>• Malaysian Industrial Hygiene Association</li> <li>• Malaysia Oil and Gas Services Council</li> <li>• Petroleum Industry of Malaysia Mutual Aid Group</li> <li>• Subscribing Member of Oil Spill Response Limited</li> <li>• Certified Professional of Industrial Hygiene Board</li> <li>• IPIECA - Water, Field and Production, Climate Change, Biodiversity and Oil Spill, Social Responsibility, Globally Harmonised System for Classification and Labeling of Chemicals</li> <li>• The National Institute for Occupational Safety and Health</li> <li>• The Society of Petroleum Engineers - Environment and Social Responsibility Technical Committee Member</li> </ul>	<ul style="list-style-type: none"> <li>• ASEAN Council on Petroleum - Environmental Health Expert Working Group</li> <li>• Asian CORE Programme (Japan – Malaysia) on Risk Based Watershed Management</li> <li>• Industrial Hygiene Technical Working Group, Department of Standards, Malaysia</li> <li>• Joint Food and Agriculture Organization of the United Nations/World Health Organization Meeting on Pesticide Residue Expert Panel</li> </ul>	<ul style="list-style-type: none"> <li>• Asia Oil and Gas Conference 2015</li> <li>• Center for Chemical Process Safety Asia Pacific Regional Meeting and Conference 2015</li> <li>• ENSEARCH - Payment of Cess and Environmental Impact Assessment Order 2015 Forums</li> </ul>

## SUSTAINABLE DEVELOPMENT IN PETRONAS

### FEATURE

## SUSTAINABLE DEVELOPMENT IN A LOW OIL PRICE ENVIRONMENT

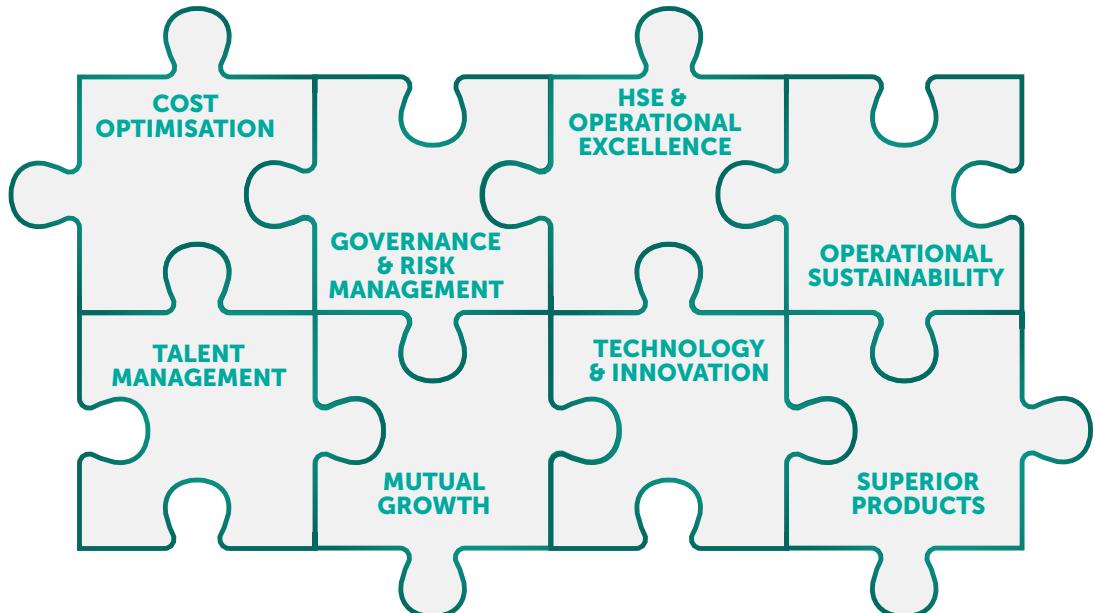
The sharp decline in price of crude oil reshaped the external business landscape for energy companies globally. For the Group, this resulted in realignment of growth plans and strategies amidst a challenging operating outlook, backed by a stronger focus on sustainable business practices.

The emphasis is on delivering optimum shareholder value over the longer term across PETRONAS' various Businesses:

- **Upstream:** Sustain production to maintain healthy reserves, and seek further growth in the Liquefied Natural Gas (LNG) Business, a cleaner-burning fuel.

- **Downstream:** Achieve and sustain optimum plant reliability and performance. This includes diversifying the Company's petrochemicals portfolio and promoting our range of product offerings in new international markets.

Elements of sustainability embedded into the Company's business value chain to boost resilience in a low price environment are encapsulated below:



## SUSTAINABLE DEVELOPMENT IN PETRONAS

<b>Our Actions</b>	<b>Value Proposition</b>	<b>Achieving Sustainable Growth</b>
<b>Cost Optimisation</b>	Strengthening the Company's financial position and business competitiveness	<ul style="list-style-type: none"> <li>Reduced capital and operating expenditure</li> <li>Prioritised growth projects to manage investments</li> <li>Simplified business processes</li> </ul>
<b>Governance and Risk Management</b>	Upholding integrity, while addressing current and emerging risks facing the energy industry	<ul style="list-style-type: none"> <li>Zero tolerance on corruption and bribery</li> <li>Established the position of a Chief Integrity Officer</li> <li>Increased participation of women on PETRONAS' Board</li> <li>Expanded the scope of the Enterprise Risk Management on sustainability elements</li> </ul>
<b>HSE and Operational Excellence</b>	Operating reliably, effectively and efficiently across the Health, Safety and Environment (HSE), including societal spheres	<ul style="list-style-type: none"> <li>Promoted HSE excellence across the business value chain</li> <li>Conducted thorough HSE assessments and audits</li> <li>Strengthened asset integrity management</li> </ul>
<b>Operational Sustainability</b>	Striving for prudent use of natural resource and improved social performance practices	<ul style="list-style-type: none"> <li>Implemented Commitments on Carbon and Human Rights</li> <li>Focused on 3R (reduce, recycle, reuse) activities on fresh water</li> <li>Improved governance via the Sustainable Development Management System</li> <li>Held timely engagements with various stakeholders</li> </ul>
<b>Superior Products</b>	Manufacturing and marketing quality products	<ul style="list-style-type: none"> <li>Strengthened chemical management practices via robust product risk management and toxicology plans</li> <li>Produced innovative fuels and developed class-leading lubricants via involvement in Formula One</li> </ul>
<b>Technology and Innovation</b>	Developing and deploying technologies to drive business growth	<ul style="list-style-type: none"> <li>Forayed the PETRONAS Floating Liquefied Natural Gas Facility</li> <li>Generated energy using Solar Photovoltaic (PV) technology</li> <li>Pursued the carbon capture, utilisation and storage technology</li> </ul>
<b>Talent Management</b>	Nurturing a diverse and talented workforce to drive business growth strategies via robust talent planning	<ul style="list-style-type: none"> <li>Developed holistic leaders equipped with business acumen and technical expertise</li> <li>Ongoing succession planning</li> <li>Mobilised talents across varying functions to provide enriching on-the-job exposure</li> </ul>
<b>Mutual Growth</b>	Spurring socio-economic growth by contributing towards societal wellbeing	<ul style="list-style-type: none"> <li>Awarded education sponsorships – collectively, more than 35,000 individuals have benefitted to date</li> <li>Sourced goods and services from local suppliers in areas of operations</li> <li>Created job opportunities to host country nationals</li> </ul>

# SUSTAINABILITY PERFORMANCE DATA

<b>Safety</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>NO. OF FATALITIES</b>	12	4	10	<b>4</b>
Employees	5	0	3	<b>0</b>
Contractors	7	4	7	<b>4</b>
<b>FATAL ACCIDENT RATE</b> Recordable fatalities per 100 million man-hours	3.91	1.23	3.03	<b>1.02</b>
<b>LOST TIME INJURY FREQUENCY (LTIF)</b> No. of cases per one million man-hours	0.39	0.24	0.19	<b>0.20</b>
<b>TOTAL RECORDABLE CASE FREQUENCY (TRCF)</b> No. of cases per one million man-hours	0.68	0.40	0.64	<b>0.63</b>
<b>NO. OF TIER 1 PROCESS SAFETY EVENTS</b>	22	10	7	<b>15</b>
<b>TOTAL RECORDABLE OCCUPATIONAL ILLNESS FREQUENCY (TROIF)</b> Illness per million working hours – employees	0.50	0.51	0.07	<b>0.32</b>

<b>Environment</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>TOTAL GREENHOUSE GAS EMISSIONS</b> (millions tCO <sub>2</sub> e)	49.75	52.36	48.82	<b>48.63</b>
Upstream	28.9	31.83	29.54	<b>29.38</b>
Downstream	15.36	15.17	14.70	<b>14.80</b>
MISC Bhd	5.49	5.36	4.58	<b>4.45</b>
<b>TOTAL FRESH WATER WITHDRAWAL</b> (million cubic metres per year)	49.94	48.89	50.47	<b>52.26</b>
Upstream	2.23	2.17	2.93	<b>3.71</b>
Downstream	47.71	46.72	47.54	<b>48.55</b>
<b>TOTAL AMOUNT OF ENERGY GENERATED FROM SOLAR PV INSTALLATIONS IN MALAYSIA</b> (megawatt-hours)	830	1,662	14,782	<b>14,902</b>
<b>NO OF HYDROCARBON SPILLS TO THE ENVIRONMENT OVER ONE BARREL (bbl)</b> One bbl is equivalent to 159 litres	-	24	25	<b>25</b>
<b>TOTAL SULPHUR OXIDES EMISSIONS</b> (metric tonnes)	-	63,721	61,698	<b>63,363</b>
<b>TOTAL NITROGEN OXIDES EMISSIONS</b> (metric tonnes)	-	85,496	100,915	<b>144,729</b>
<b>TOTAL DISCHARGES TO WATER</b> (metric tonnes of hydrocarbon)		992	992	<b>680</b>
<b>TOTAL HAZARDOUS WASTE DISPOSED</b> (metric tonnes)	-	-	26,974	<b>29,280</b>

Note: Efforts are ongoing to achieve higher accuracy in data accounting.

## SUSTAINABILITY PERFORMANCE DATA

<b>Our Workforce</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>TOTAL NUMBER OF EMPLOYEES</b>	46,145	49,193	50,949	<b>53,149</b>
<b>BREAKDOWN OF EMPLOYEES (%)</b>				
Malaysian	79	78	79	<b>80</b>
Other Nationals	21	22	21	<b>20</b>
<b>CONTRACT TYPE (%)</b>				
Permanent	84	82	85	<b>83</b>
Contract	16	18	15	<b>17</b>
<b>GENDER DISTRIBUTION (%)</b>				
Male	73	72	72	<b>72</b>
Female	27	28	28	<b>28</b>
<b>EMPLOYEES ABOVE AND BELOW AGE OF 35 (%)</b>				
Above 35	48	44	46	<b>47</b>
Below 35	52	56	54	<b>53</b>
<b>NO. OF NEW HIRES</b> (core businesses in Malaysia)				
Malaysian	5,428	3,699	3,541	<b>4,078</b>
Other Nationals	4,864	3,380	3,198	<b>3,781</b>
	564	319	343	<b>297</b>
<b>NO. OF GROUP-WIDE TECHNICAL EXPERTISE</b>				
Technical Authorities (TAs)	125	163	276	<b>499</b>
Technical Professionals (TPs)	613	673	736	<b>825</b>
Technical Trade Specialists (TTS)	114	126	144	<b>180</b>
<b>WOMEN IN TECHNICAL POSITIONS (%)</b>	14	14	14	<b>14</b>
<b>TOTAL ATTRITION RATE BASED ON NO. OF EMPLOYEES (%)</b>				
Male	5.9	6.5	5.7	<b>5.9</b>
Female	5.2	6.1	5.3	<b>5.5</b>
	7.6	7.4	6.7	<b>7.0</b>
<b>NO OF STAFF UNDER COLLECTIVE BARGAINING AGREEMENTS</b>	10,260	10,684	8,954	<b>9,651</b>
<b>NO. OF PETRONAS SCHOLARS RECRUITED</b>				
Recruited by PETRONAS (%)	563	432	250	<b>351</b>
Recruited by Others (%)	63	75	47	<b>51</b>
	37	25	53	<b>49</b>
<b>NO. OF SCHOLARSHIPS AWARDED TO MALAYSIANS</b>	318	329	337	<b>326</b>
International Universities (%)	25	41	44	<b>42</b>
Malaysian Universities (%)	75	59	56	<b>58</b>
<b>*NO. OF SPONSORED NON-MALAYSIANS</b>	290	255	257	<b>191</b>
Universiti Teknologi PETRONAS (UTP), Malaysia				

\*This constitutes number of students studying at the UTP which varies from number of scholarships awarded to non-Malaysians.

Note: Efforts are ongoing to achieve higher accuracy in data accounting.

## SUSTAINABILITY PERFORMANCE DATA

<b>TOTAL NO. OF MALAYSIAN AND HOST COUNTRY NATIONALS (HCN) IN SELECTED COUNTRIES - 2015</b>	<b>No. of Employees</b>	<b>HCN</b>	<b>Malaysians</b>	<b>Other Nationalities</b>
Indonesia	356	329	22	5
Myanmar	342	253	82	7
South Africa	4,153	3,509	4	640
Turkmenistan	577	457	85	35

Note: Efforts are ongoing to achieve higher accuracy in data accounting.

# CORPORATE GOVERNANCE & **BUSINESS ETHICS**



PETRONAS takes a proactive approach in responding to business risks and opportunities, while being mindful of stakeholder expectations. The quest is to achieve long-term business competitiveness facilitated through robust policies, management systems, standards as well as guidelines that conform to internationally accepted standards and industry good practices. This entails abiding by the PETRONAS Shared Values of Loyalty, Integrity, Professionalism and Cohesiveness in every aspect of business decision-making. The Company seeks to uphold transparency in its actions and disclosures, subject to provision on business confidentiality.

#### **This area matters:**

- Business Ethics and Compliance

## CORPORATE GOVERNANCE & BUSINESS ETHICS

### BUSINESS ETHICS AND COMPLIANCE

#### **Context:**

The Company strives to meet energy needs through sound financial and operational practices, wherever it operates by being privy to the external landscape influencing the industry.

#### **Approach:**

Good governance provides clarity on acceptable and expected standards of behaviour. It paves the way for business competitiveness in an effective and efficient manner. PETRONAS' commitment to good corporate governance is reflected in its Code of Conduct and Business Ethics (CoBE), which guides the Company in fulfilling its business obligations with utmost integrity as well as transparency. The CoBE, as well as other policies and procedures, are rolled out to stakeholders through various training as well as communication programmes. In addition to a robust governance mechanism, PETRONAS conforms to applicable laws, rules and regulations in countries where it operates.

Overseeing the Company's overall strategic and operational business performance are PETRONAS' Board of Directors. The Board Governance and Risk Committee as well as the Board Audit Committee were established to assist the PETRONAS Board in discharging its functions in relation to internal controls, risk management, compliance with applicable laws and regulations, as well as reviewing internal policies and procedures. Collectively, they are entrusted to further fortify the levels of accountability and integrity in PETRONAS.

In the period under review, PETRONAS continued to engage with various business constituents and Non-Governmental Organisations in Malaysia as well as internationally on matters such as integrity,



anti-corruption and transparency. This included the World Economic Forum's Partnering against Corruption Initiative (PACI) and Transparency International Malaysia. PETRONAS is also a signatory to the Malaysian Corporate Integrity Pledge.

#### **Code of Conduct and Business Ethics**

The CoBE, benchmarked to international standards, outlines the behaviour and ethical conduct expected of employees, directors as well as third parties working for or on behalf of the PETRONAS Group. Some of the pertinent areas covered encompass conflict of interest, anti-corruption, competition, anti-money laundering, international trade and export controls.

To date, PETRONAS has communicated the CoBE to all existing and new employees through a series of training programmes since 1 April 2012. An online helpdesk was also established for internal and external stakeholders to forward enquiries, seek clarifications and/or report breaches of the CoBE, including raise any matters relating to PETRONAS at [cobe@petronas.com.my](mailto:cobe@petronas.com.my).

As of 31 December 2015, a total of 39,203 employees underwent face-to-face training on the CoBE. Refresher trainings are also conducted periodically to ensure ongoing compliance by all directors and employees. In 2015, a compulsory online training programme on CoBE was rolled out, with the first phase targeting PETRONAS Group employees in Malaysia.

## CORPORATE GOVERNANCE & BUSINESS ETHICS

The CoBE is constantly reviewed and relevant provisions are enhanced on need basis to adapt with requirements of the local norms in countries of operations. The CoBE Country Supplements are thus developed to cater for local jurisdictions' applicable legislation and social mores. The CoBE is accompanied by a CoBE Guide that sets out the Frequently Asked Questions, together with a list of Do's and Don'ts in relation to specific situations.

The CoBE Country Supplements (where applicable) and CoBE Guide have been distributed to all employees. A written acknowledgement is obtained citing an obligation to read and adhere to the CoBE. The consequences of breaching the Code are clearly set out in the CoBE. Subject to applicable laws, disciplinary action will be taken against any employee for non-compliance with the CoBE.

The CoBE and supporting documents are available on PETRONAS' corporate website at <http://www.petronas.com.my/about-us/governance/Pages/governance/code-of-conduct-business-ethics.aspx>.

### **Anti-Bribery and Corruption Compliance Programme**

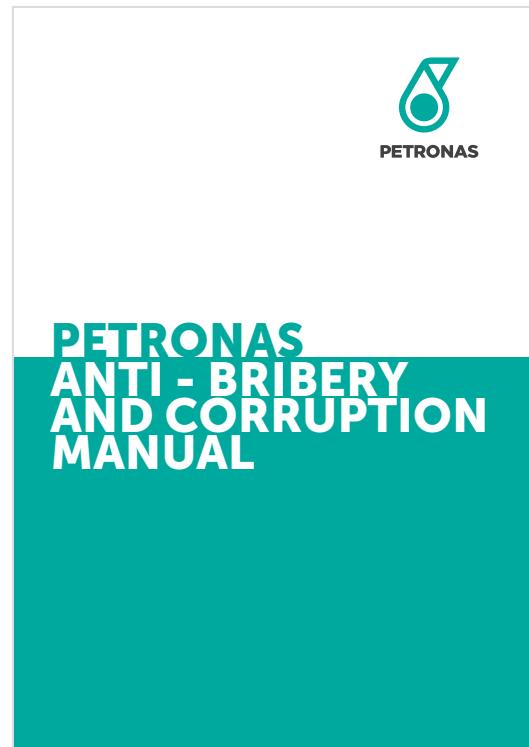
PETRONAS mandates zero tolerance for all forms of bribery as well as corruption and has implemented a No Gift Policy since 1 April 2012. The PETRONAS Integrity Compliance Framework (PICF) focusing on the following three core components was developed to inculcate a stronger culture of ethics and integrity within the Company, complementing the CoBE:

- Policies and Procedures
- Systems and Processes
- People and Culture

The Anti-Bribery and Corruption (ABC) Manual, among others, was developed to supplement the general policy statements set out in the CoBE on fighting corruption and unethical practices. The ABC Manual, applicable across the PETRONAS Group, contains detailed explanation on procedures for dealing with improper solicitation, bribery and corruption, as well as addressing ethical issues in sensitive situations. This includes dealing with gifts, entertainment and corporate hospitality; facilitation payments; dealing with third parties; including promoting PETRONAS' whistleblowing channels to all employees as well as third parties. As of 31 December 2015, a total of 29,436 employees underwent face-to-face training on the ABC Manual. In addition, personnel working in positions or job functions exposed to a higher risk of bribery and corruption were identified to attend a more in-depth training programme. Mandatory online ABC training was rolled out in December

2015, commencing with the PETRONAS Group of Companies in Malaysia. The ABC Manual is available at <http://www.petronas.com.my/about-us/governance/Pages/default.aspx>.

In addition to the ABC Manual, PETRONAS launched a handbook entitled Integrity Management Training Manual in 2015 which guides the formulation of an effective anti-bribery and corruption compliance programme. This manual outlines five modules to provide employees with the necessary tools and guidance for planning as well as conducting comprehensive Integrity Management Trainings to suit respective business functions, compatible with risks facing the Company, including third parties dealing with PETRONAS, such as vendors, suppliers and contractors. The five modules of the Integrity Management Training Manual are for:



## CORPORATE GOVERNANCE & BUSINESS ETHICS

- Management Directors/Chief Executive
- Officers, PETRONAS Group of Companies
- Middle Management
- Executive
- Non-Executive
- External Party/Vendors

All employees are to strictly adhere by the provisions on anti-bribery and corruption stipulated in the CoBE as well as ABC Manual. PETRONAS may suspend an employee when investigating a suspected breach of CoBE or law based on internal procedures. PETRONAS may institute disciplinary action against an employee should findings reveal concrete and cogent evidence in support of the alleged acts of misconduct. Consequences of breaching the CoBE may include dismissal, among others.

### **Managing Bribery and Corruption Risks**

To further strengthen its anti-bribery and corruption compliance programme, PETRONAS has introduced the PETRONAS Compliance Desktop in 2015. The Compliance Desktop is an integrated online compliance solution designed to effectively manage PETRONAS' Group-wide compliance needs. In managing bribery and corruption risk, the Compliance Desktop provides on-line training on the ABC Manual, an online register for employees to declare gifts, entertainment and conflicts of interest as well as facilitate compliance activities related to third party screening and due diligence.

The Compliance Desktop will be rolled out in phases to all PETRONAS subsidiaries across the Group, starting with PETRONAS Group of Companies in Malaysia.

### **Combating Corruption Programme among Third Parties**

PETRONAS has imposed a provision in all contracts requiring third parties to comply with the CoBE. Contractors, sub-contractors, consultants, agents, representatives and others performing work or services on behalf of PETRONAS are thus expected to abide by the relevant parts of the CoBE. Failing to do so shall result in legal consequences which may include termination of contract.

Companies applying for Licensing and Registration undergo an internal due diligence screening process to filter out third parties engaged in improper business practices. This process involves verification of information provided against credible sources to detect elements of corruption, fraud, money laundering, sanctions and insolvency. An overall risk rating is generated based on findings from the due diligence process, and other relevant requirements, following which the application for Licensing and Registration will either be approved or rejected.

In addition, an online compliance screening process was rolled out in 2015 to further enhance the due diligence process across all aspects of the procurement and supply chain activities in ensuring adherence with PETRONAS' standards of integrity.

PETRONAS also conducts training and holds regular engagements with external stakeholders to ensure compliance with the CoBE and stipulation within the ABC Manual. A total of 188 companies have participated in nine PETRONAS Vendor Integrity Programme held in 2015, which reinforced the message that consequences of non-compliance may include termination of contract, debarment and/or disqualification from participating in any PETRONAS tender exercise.

Furthermore, several roundtable dialogues were held with contractors, vendors and joint venture partners to share industry good practices in embedding integrity as part of the corporate culture, including PETRONAS' governance mechanisms. The sessions promoted coordinated efforts among PETRONAS' contractors and business partners to internalise ethical business practices.

## CORPORATE GOVERNANCE & BUSINESS ETHICS

In 2015, PETRONAS' partly-owned subsidiaries, PETRONAS Chemicals Group Berhad, PETRONAS Dagangan Berhad and PETRONAS Gas Berhad, including 33 contractors became signatories to the Corporate Integrity Pledge representing Anti-Corruption Principles for Corporations in Malaysia. The support towards unilateral declaration against corrupt practices demonstrated a collective interest to promote a highly principled business environment.

### Fortifying Compliance and Integrity

A series of regional engagements themed *Instilling a Compliance Culture by Setting the Tone at the Top* involving PETRONAS' senior and middle management were continued in 2015. The programme, carried out in Malaysia and internationally, emphasised on the need for leaders to embody ethical behaviours in influencing others to follow suit.

The Corporate Integrity Advocacy Programme was also conducted to raise awareness among PETRONAS employees stressing on maintaining business integrity, while complying with relevant laws and regulations. In 2015, three employee engagement sessions were conducted in Malaysia.

The Company also participated in external fora promoting compliance and integrity. Among the international conferences and meetings PETRONAS participated in were the 11<sup>th</sup> South-East Asia Parties against Corruption (SEA-PAC) Meeting in Brunei Darussalam, the International Ethical Alliance Discussion webcast and the 16<sup>th</sup> International Anti-Corruption Conference in Malaysia.

### Whistleblowing Policy and Procedures

The PETRONAS Whistleblowing Policy launched in 2012 allows PETRONAS employees and members of the public to disclose any improper conduct such as misconduct or criminal offence or malpractices to the Company.

A whistleblower is assured confidentiality of identity, to the extent reasonably practicable. This includes protecting employees against implications for disclosing any act which was committed or pending execution within PETRONAS, provided that the disclosure is made in good faith. A whistleblower remains anonymous should investigation findings reveal errors in facts, as well as misunderstanding in interpretation of rules and procedures.

PETRONAS' Whistleblowing Committee (Committee) deliberates on disclosures made and decides on the next course of action, as well as monitors progress of cases. The Committee which meets at least once a month provides updates to the Internal Audit Management Committee and the Board Audit Committee. In 2015, the Committee received a total of 26 disclosures via existing channels and appropriate actions were taken in accordance with the PETRONAS Whistleblowing Procedures.

The Company's ongoing efforts to promote the Whistleblowing Policy and its established platforms entailed displaying communication collateral at strategic locations within the Group's office premises such as the PETRONAS Twin Towers in Kuala Lumpur, and countries of operations.

The Whistleblowing Policy and Procedures are available on PETRONAS' corporate website at [www.petronas.com.my/about-us/governance/Pages/governance/whistleblowing.aspx](http://www.petronas.com.my/about-us/governance/Pages/governance/whistleblowing.aspx)

## CORPORATE GOVERNANCE & BUSINESS ETHICS

### FEATURE

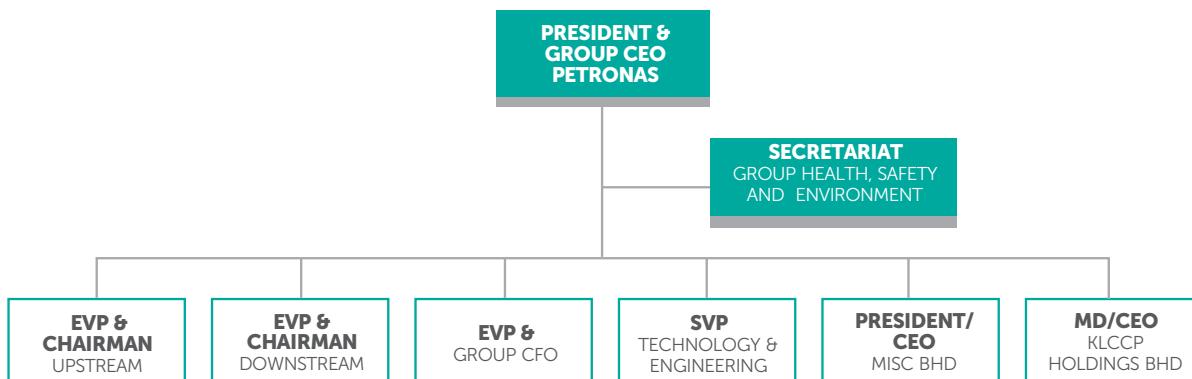
### HOLISTIC HSE GOVERNANCE

Managing the safety of people, assets and the environment is PETRONAS' top priority. The emphasis being to develop adequate and effective controls on identified Health, Safety and Environment (HSE) risks. PETRONAS' business control, quality principles and risk management elements center on *doing the right thing right every time*, as well as promoting proactive leadership at all levels. Hazards are identified and reviewed through risk assessments as well as a comprehensive HSE assurance and management review processes. HSE assurance findings are deliberated at the Board Audit Committee. In addition, HSE and Sustainable Development performance updates are presented at scheduled intervals to the PETRONAS' Executive Committee and subsequently, the Board for oversight.

The PETRONAS HSE Policy governs and reinforces the commitment towards safeguarding its employees, preserving the reliability of facilities and operations. This in turn translates into efficient business activities wherever PETRONAS operates. The Policy, which is applicable to all employees and third party service providers, is supported by a HSE Mandatory Control Framework (MCF) to strengthen HSE Governance within the Group while providing clear requirements on operational safety, environment and health for consistent and effective implementation.

### PETRONAS HSE Executive Council

The PETRONAS HSE Executive Council, depicted below, provides leadership for strengthening existing governance and strategies on HSE across the Group, including policies, practices, contractor HSE management, and resource requirements including capability development. The HSE Council, which meets at least twice a year, is chaired by PETRONAS' President and Group Chief Executive Officer (CEO), supported by Group HSE. Similar HSE committees are established at Business, Operating and Holding Company Units to deliberate on HSE matters.



Note: EVP refers to Executive Vice President, CFO refers to Chief Financial Officer and SVP refers to Senior Vice President and MD refers to Managing Director.

### The Zero Tolerance Rules (ZeTo rules)

Strict compliance to 10 primary elements of the ZeTo Rules, which must be observed by all employees and contractors.



### ZeTo Rules

- Work with a valid work permit (PTW) required by the job
- Verify energy isolation before starting work
- Obtain authorisation before overriding or disabling safety critical equipment
- Obtain authorisation before entering a confined space
- Protect yourself against a fall when working at height
- Use the correct personal protective equipment (PPE) when handling hazardous chemicals
- Obtain authorisation before excavation or entering a trench
- Do not position yourself under a suspended load
- Do not smoke outside designated areas or bring potential ignition sources into process areas without authorisation
- Do not use your mobile phone/walkie-talkie while driving, follow the speed limit and use your seat belt

# SAFETY & HEALTH

Health, Safety and Environment (HSE) is a prerequisite for a resilient and sustainable business. PETRONAS continues placing unparalleled importance on the commitment to safeguard people, the environment and its assets, in line with the PETRONAS HSE policy.



## SAFETY

### Context:

Safety considerations are embedded in all that PETRONAS does, where every person is entrusted to collectively take ownership in upholding safety.

Technically complex global operations with diverse and multidisciplinary teams of people are subjected to stringent PETRONAS HSE standards.

### Approach:

PETRONAS adopts a single-minded focus to meet energy demand as well as discharges its responsibilities across the oil and gas value chain in a safe, reliable, and efficient manner. This is done by managing identified HSE risks to ensure integrity of assets in safeguarding PETRONAS' workforce, third party personnel and the community living around the operating facilities.

### These areas matter:

- Safety
- Health and Wellness
- Industrial Hygiene
- Product Stewardship

## SAFETY & HEALTH

PETRONAS has in place robust governance mechanisms and adopted streamlined safety practices Group-wide, demonstrating a strong commitment to uphold the PETRONAS HSE Policy. This includes the HSE Management System (HSE MS), HSE Mandatory Control Framework (MCF) as well as PETRONAS Technical Standards and Guidelines. The HSE stipulations are cascaded to members of the workforce and contractors via various platforms such as contractual obligations, formal and informal engagement sessions, including other means of communication such as trainings and briefings. Assurance programmes are established to review and verify the effectiveness of the HSE controls.

The approach to safety involves ensuring the design, technical and operational integrity of assets, focusing on the adequacy as well as effectiveness of control barriers. PETRONAS has in place crisis management and emergency response plans to mitigate the consequences from an event. The plans are tested through regular emergency drills and exercises to evaluate the response capabilities. PETRONAS works with its stakeholders such as local authorities and

communities to inform on potential incident scenario, supported by necessary controls and appropriate measures to mitigate the situation.

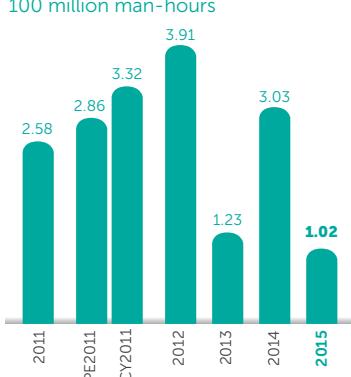
The call for HSE excellence is especially vital on the back of tightening regulatory requirements and increasing stakeholders' expectations. PETRONAS takes active efforts to strengthen its HSE culture, mindset and operational discipline among the workforce. Great emphasis is placed on the PETRONAS Zero Tolerance (ZeTo) Rules, applicable to all personnel working at PETRONAS' assets, with level of compliance being monitored by top management. Efforts to raise awareness on HSE matters were also led by the leadership team through regular management walkabouts, engagement sessions with internal as well as external stakeholders to foster shared accountability on HSE matters, including learning from internal and external incidents.

Overseeing safety performance across the Company are HSE experts, including Technical Professionals, monitored by top management through scheduled reporting to the PETRONAS Board and Executive Committee. Key performance indicators on HSE are also incorporated as part of the Executive Committee members' scorecard.

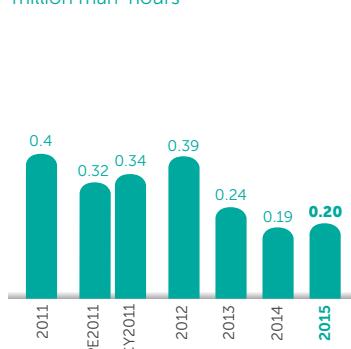
The changing operating landscape heightens the need for competent and well-rounded HSE talents. PETRONAS actively hones the knowledge, skills, capabilities and experience of personnel in the HSE discipline through targeted capacity development programmes as well as assessments. The Company adopts platforms such as trainings, plant exposure and information sharing through the various HSE related Community of Practice (CoP).

### HSE PERFORMANCE

#### FATAL ACCIDENT RATE (FAR) Recordable Fatalities per 100 million man-hours



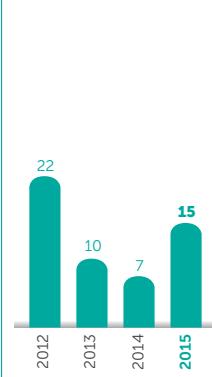
#### LOST TIME INJURY FREQUENCY (LTIF) Number of cases per one million man-hours



#### TOTAL RECORDABLE CASE FREQUENCY (TRCF) Number of cases per one million man-hours



#### TIER 1 PROCESS SAFETY Number of events



## SAFETY & HEALTH



Adherence to HSE practices and procedures across the Business, alongside the availability of effective control barriers, underpins how PETRONAS strives for sustainable HSE performance. In the period under review, the Company recorded a 66 per cent and two per cent reduction in FAR and TRCF, respectively.

Regrettably, four fatalities were recorded in 2015. Three casualties took place in the Upstream, and one at Downstream, attributed to project construction activities as well as land transportation, namely business travel. Such unfortunate incidents serve as a painful reminder to continuously elevate existing HSE standards, particularly, through rigorous safety mechanisms, supported by heightened awareness on taking a collective responsibility in managing personal safety.

The rise in Tier 1 Process Safety Events was largely due to increased number of Loss of Primary Containments (LOPCs) recorded at local and international operational sites. In 2015, PETRONAS focused on Safety Critical Element (SCE) management, by leveraging on Hazard and Effects Management Process to ensure the adequacy of controls. Concurrently, efforts are ongoing to strengthen operating discipline and HSE culture Group-wide.

### Safety Programmes

PETRONAS adopts a holistic approach on safety across its business value chain in Malaysia and internationally. In 2015, the following initiatives were carried out to strengthen existing controls for identified risk areas.

### Project Safety

Safety is a top consideration for the successful delivery of projects. In 2015, the Company focused extensively on the Refinery and Petrochemical Integrated Development (RAPID) Project ensuring HSE requirements are integrated from the early design stage, spanning throughout the project lifecycle. This included reviews on Fire Safety Adequacy, 3D Model and Fire Safety Design Philosophy to address risks associated with the design, construction, operation as well as maintenance of the planned facilities.

### Contractor Management

PETRONAS views effective HSE communication as an imperative for the safe execution of project activities. Parallel to this, a revamped and standardised HSE Briefing video was deployed to enhance contractors' understanding of HSE requirements in the changing business landscape. This video, available in several languages, provides consistent insights to contractors of varying nationalities serving at all PETRONAS project sites in Malaysia. The video also complements other safety educational collateral.

### Fire Safety Assessment

PETRONAS conducted Fire Safety Assessments (FSA) at selected operating facilities in Malaysia and internationally to assess the adequacy as well as operational readiness of its fire protection systems. Training and coaching sessions on the FSA were held for plant personnel to strengthen internal capacity for conducting the necessary reviews based on the PETRONAS Technical Standard on Management of Fire Protection Systems, while instilling greater ownership and accountability among the identified individuals. Classroom sessions on the FSA techniques were supported by practical plant inspection activities to assess the operational conditions of the existing fire protection systems.

## SAFETY & HEALTH

### Process Safety

PETRONAS works towards enhancing the design, technical and operational integrity of its assets by deploying engineering solutions based on internationally-accepted codes and standards on process safety. This means, *design it right, operate it right and maintain it right* in line with the requirements of PETRONAS' HSE MS and MCF. The ultimate aim being to protect the environment and ensure continual improvement of the Company's HSE management and performance. This includes preventing LOPC.

In 2015, PETRONAS continued to strengthen and accelerate process safety implementation by undertaking relevant Group-wide interventions arising from thorough performance review analysis. Largely, the efforts focused on risk and barrier management, instilling operational discipline as well as capacity and capability building.

PETRONAS embarked on in-depth analysis of process safety leading key performance indicators (KPIs) where the results were deliberated by top management, following which, endorsement was obtained to enhance and expand the scope of leading KPIs. The importance of existing internal process safety systems and processes in managing SCEs were reinforced which enabled a more holistic management oversight.

PETRONAS also adopted a Process Safety Tool that uses a customised risk management software for proactive identification of potential issues at its operational facilities using the Dynamic Risk Analyser (DRA) technology to provide leading or early warning signs of potential risks. This risk management system and tool was a winner under the Process Safety category at the 2015 Institution of Chemical Engineers (IChemE) Malaysia Award.

A stronger operating discipline is fundamental to drive improvements in process safety performance. PETRONAS advocated the need for strong process safety culture through regular awareness sessions to enhance knowledge and skills across all levels of personnel via leadership workshops as well as boot camps on process safety. While these assist in addressing some of the arising concerns, PETRONAS also pursues concerted efforts at its Upstream and Downstream Businesses to inculcate a stronger focus on safety culture, focusing on the behaviour as well as mindset of its people, via integrated human factors engineering practices.

In continuously honing a competent talent pool in the niche discipline of process safety, PETRONAS pursues capability development initiatives through collaboration with internationally-renowned bodies on process safety and higher learning institutions for the development of learning modules. In addition to providing and sharing technical expertise on process safety at international conferences, in 2015, PETRONAS led the Technical Committee for the second Center for Chemical Process Safety's Global Summit on Process Safety which was held in Kuala Lumpur.

### Asset Integrity

In upholding the HSE aspects of the industry, PETRONAS continuously enhanced its asset integrity management to incorporate industry good practices and standards. Some of the existing governance mechanism encompass the PETRONAS Technical Standards, Project Management processes and Operational Readiness Framework to ensure robust inspection, check and balance of its maintenance system. PETRONAS takes a lifecycle approach to assess the physical condition of assets and feasibility of processes, to determine if an operational facility should be enhanced or rejuvenated. Ongoing initiatives in 2015 include the Technical Integrity and Process Safety programme in the Upstream Business, alongside rigorous asset integrity assurance activities across the Group.

## SAFETY & HEALTH

### Awards for Process Safety

In 2015, PETRONAS received recognition from the Institution of Chemical Engineers (IChemE), in the following categories:

- **Leading Indicators Approach to Process Safety:** ASEAN Bintulu Fertilizer Sdn Bhd for the Dynamic Risk Analyser which resulted in early identification of potential risks, thus avoiding potential process safety and plant reliability issues.
- **Future of Process Safety Management:** PETRONAS Chemicals Ammonia Sdn Bhd (Highly Commended) for successfully implementing the Deep Dive Audit, which subsequently improved overall plant effectiveness and functionality.

### Human Factors

PETRONAS focuses on Human Factors as an important aspect of Process Safety which reduces the likelihood of events arising from human errors. The Company enhanced its guidelines on Human Factors Engineering (HFE) in projects, aligned to PETRONAS Project Management Standard. Several HFE workshops were held throughout the year, which included topics such as 3D Model Review, Valve Criticality Analysis (VCA) and Safety Critical Task Analysis (SCTA).

### Series of Technological Solutions for Process Safety and Asset Integrity

A range of solutions collectively known as the Pipeline Integrity Management System using maintenance and protective technologies were utilised to perform risk assessment, inspection, and rehabilitation as well as repair works of pipeline infrastructures. This included the composite ProAssure™ Clamp, an award-winning PETRONAS innovation, deployed for field trial at a propane pipeline located at Kertih, Malaysia in 2015. The composite material infrastructure is corrosion-resistant and weighs one-third of a similar-sized metal clamp. It can also be easily customised, allowing efficient and cost-effective repairs.

Minimising risks in hydrocarbon fields is the Sand Solutions, a methodology for managing sand in wells. The solution reduces erosion risks by using Computational Fluid Dynamics (CFD) simulations that employ proprietary sand erosion correlations to determine optimum placement of segmentisers in Open Hole Stand Alone Screen (OHSAS) completion wells. In 2015, the technology was successfully applied at several oilfields in Malaysia and internationally.



## SAFETY &amp; HEALTH

SmartCen™ replaces conventional systems to manage metering operations more effectively by accurately monitoring the movement of hydrocarbon products, thus eliminating potential error margins in billing. SmartCen™ preserves data integrity by producing tamper-proof reports, while its integrated and automated validation function offers an added advantage, particularly for remote and offshore facilities. In 2015, SmartCen™ bagged the Special Meritorious Awards for Engineering Innovation under the Intelligent Systems and Components Category.

Rigorous Independent Asset Integrity Review (i-AIR™) inspections were accelerated to address challenges posed by ageing offshore platforms. This enhanced process safety and asset integrity of the operational facility, thereby extending the lifespan of the Group's assets. Complementing i-AIR™ is the Global Ultimate Strength Analysis (GUSA™), a methodology for assessing the integrity status of fixed offshore jackets and facilitating mitigation works where needed.

### Recognition for PETRONAS' Technical Programmes

In 2015, the Group's holistic technical training initiatives, namely the Technical Capability Development Programme, received recognition having been accorded the Getenergy Award under the category - *Learning at the Core*.

PETRONAS staff also won at the 2015 Institution of Chemical Engineers (IChemE) Malaysia Awards, in addition to, being highly commended at the IChemE Global Awards for the category *Young Chemical Engineer in Industry*.

In 2015, GUSA™ was among the 10 standard engineering solutions applied to improve reliability and efficiency at varying operating facilities across the Group through streamlined data tracking for ease of benchmarking as well as trend analysis.

The other engineering solutions were:

- P-RBI™ (PETRONAS Risk Based Inspection) for plant inspections and maintenance.
- P-ALST™ (PETRONAS Asset Life Study) assesses a plant nearing end of its design life.
- P-IPFTM (PETRONAS Instrumented Protective Function) prevents operations beyond safety limits.
- P-ELSORT™ (PETRONAS Electrical Safety and Operability Review) verifies safety limits of electrical systems during design stage.
- P-VIP™ (PETRONAS Value Improvement Program) integrates engineering know-how and process simulation capability across the Upstream and Downstream operating facilities to increase yields, minimise hydrocarbon loss as well as improve energy efficiency.
- FnGMap™ maps the best placement for fire and gas detectors using a visualisation software at engineering stage.
- P-EDMST™ (PETRONAS Engineering Data Management System) uses web-based engineering design and data management system for projects as well as plant operations.
- PERSIST™ (PETRONAS Equipment Reliability Strategy and Information System) sees to the inspection, testing and preventive maintenance of assets.
- P-ALARM™ (PETRONAS Alarm Management) prevents operations beyond safety limits.

### HSE Capability Development

PETRONAS' frontline personnel are central to the Company's growth and contribute significantly towards HSE value creation, a central component for enhanced operational excellence. Considering this, three areas of specialisation, particularly operation safety, industrial hygiene, and occupational health were included as part of the Technical Trade Specialist (TTS) framework for non-executives in 2015. This scheme, while providing an alternative career progression opportunity, retains the tacit technical knowledge and niche HSE skills.

New disciplines on safety, particularly Technical and Maritime were also established under the Technical Professional Career Progression (TPCP) framework for executives. This move carried out in the period under review intended to develop a pool of competent personnel on process safety and marine related activities in new projects for complementing growing business needs.

## SAFETY & HEALTH

### Emergency Preparedness and Crisis Management

Ongoing emergency response and crisis management exercises as well as programmes further elevated the Group's preparedness, including response capabilities to manage major fires and oil spills, among others. The primary aim being to minimise harm on people via effective solutions and swift response time, while upholding business resilience by adequately controlling exposure to current and emerging risks. Regular training and engagement sessions with various parties such as local government agencies, host country authorities, business partners, contractors and local community members wherever PETRONAS operates underscores the strategy to foster a closer working relationship in addressing emergencies as well as crisis situations. In 2015, a multidisciplinary internal task force was formed to enhance existing current emergency plans and processes, based on findings derived from the various exercises conducted.

In 2015, a crisis management exercise, *Ex-Siaga 3*, was conducted at the PETRONAS Twin Towers in Kuala Lumpur, Malaysia to test the robustness of existing controls, particularly, the emergency evacuation procedures, security features and business continuity plans. The simulation exercise which depicted a major catastrophic incident involved occupants of both the Towers, including multiple local government agencies. Results of the exercise allowed for the identification of potential improvement areas and opportunities to leverage upon shared synergy via partnerships with the Company's various stakeholders for increased vigilance against potential crisis.

Internationally, existing contingency plans were reviewed and strengthened in line with the changing external landscape. Emergency response and crisis management exercises were also conducted at selected international operational facilities to assess our preparedness and readiness in managing potential crisis. This included assessing the effectiveness and efficiency in collaborating with multiple stakeholders to overcome an occurrence, such as turnaround time as well as clear understanding of respective responsibilities.

### Local Community Safety Programmes

In upholding safe and responsible operations, the Group engages its stakeholders to share regular updates on safety prerequisites, based on the nature of the operations. In Malaysia, for example, PETRONAS abides by the Control of Industrial Major Accidents Hazard (CIMAH) Regulations 1996. In striving to go beyond legislative requirements, the Group proactively conducts safety initiatives to create awareness among local community members surrounding areas of operations through relevant programmes.

In 2015, PETRONAS raised awareness among local community members in Lawas, Sarawak, Malaysia on pipeline safety for the Sabah-Sarawak Gas Pipeline Project via a pilot programme, *Bomba Sukarelawan*. The collaborative initiative, aimed at forming a knowledgeable and skilled voluntary fire brigade, equipped rural communities with skills to act as the first line of defense in emergency situations. Tailored trainings on basic fire-fighting and emergency response were provided to the identified members of the voluntary fire brigade. The grooming of our overall safety response capabilities, while complementing the PETRONAS Community Emergency Response Team effort, brought together its various stakeholders, including local regulatory authorities, in achieving a common safety goal. Notably, establishment of this voluntary unit will also benefit 10 satellite villages in the area of Lawas.

## OCCUPATIONAL HEALTH AND WELLNESS

### Context:

Healthy employees are fundamental for the delivery of the Group's business priorities. The nature of its operations and presence across multiple geographical locations with unique challenges may result in varying degrees of health risks. The underlying intent is to sustain optimal health levels of its people towards achieving PETRONAS' growth aspirations by preventing work-related diseases and promoting a healthy lifestyle, wherever the Group operates.

### Approach:

PETRONAS develops, implements and oversees the implementation of health strategies, which are aligned to the Company's needs and evolving trends of the energy industry. The Group has put in place robust health standards and guidelines, in line with industry good practices. It conducts risk identification, health surveillance, assessment of fitness for work, management of fatigue, and communicable diseases, among others to manage and mitigate health risks among employees. In addition, the effectiveness in responding to medical emergencies at the workplace is regularly tested at its facilities. Collectively, these requirements are applicable across the PETRONAS Group, including projects.

An enhanced Occupational Health strategy was rolled out covering five priority areas over a five-year period from 2015 - 2019, centered on fulfilling the requirements stipulated in PETRONAS' HSE Technical Standards and MCF, among others. The priority in 2015 was to institutionalise Global Travel Health, Safety and Security management system for PETRONAS employees.

Management of occupational health assessment, and documentation were also enhanced further through the development of a secure online system that systematically simplifies current process and strengthens medical record management. Timely health advisories in response to public health concerns such as Ebola, Middle East Respiratory Syndrome (MERS) and Atmospheric Haze are also developed to address and manage the potential business impacts as well as consequences to employees' health. Concurrently, The Group focused on encouraging a healthy culture among its people through regular health promotion activities, as an additional means to influence workforce behaviour and health culture.

### Travel Health

The scope and delivery of Travel Health, Safety and Security management was streamlined in 2015 for better consistency Group-wide, particularly, in the areas of health, safety and security advice for employees as well as assignees. It also encompasses support for management of medical issues and emergencies during business travel, including during the course of work while at a respective destination or host country location. This entails access to 24-hour medical advice by medical personnel, more efficient outpatient and hospital admission assistance as well as adequate support, evacuation and repatriation during an emergency situation. Moving forward, regular updates on travel health advisories, alerts and precautionary measures would be made available using a dedicated travel website for employees offering up-to-date, timely and fit for purpose information.

### Occupational Illnesses

**TOTAL RECORDABLE OCCUPATIONAL ILLNESS FREQUENCY (TROIF)**  
Illness per million working hours - employees



## SAFETY & HEALTH

Total recordable occupational illness cases were largely attributed to food poisoning and occupational noise induced hearing loss. To date, the Group recorded a reduction in the latter since 2012, resulted from ongoing Hearing Conservation programmes involving exposure monitoring, strengthening of noise control measures and surveillance activities. The number of food poisoning incidents however continued to occur, and constituted 93 per cent of the total recorded cases in 2015 as higher number of cases were reported for each of the incidents. Relevant interventions are being developed and deployed in compliance with the PETRONAS MCF's requirements on food and water safety.

### Healthy Lifestyle and Culture

Supporting The Group's various health activities are ongoing Workplace Wellness programmes to improve workforce health and wellness. This entailed elevating awareness levels among employees through health and nutritional talks, voluntary health screenings, weight management programmes, smoking cessation campaigns, addressing communicable health diseases, namely, Tuberculosis and Dengue, in addition to global public health concerns in the period under review. The Group developed and disseminated timely health advisories as well as recommendations for reducing potential risks to its employees and contractors.

A new Group-led wellness initiative launched in 2015 was the *Klinik GHSE dan Rakan Rakan* (Clinic GHSE and Partners) themed *A Recharge Station to Wellness*. The initiative underscored the importance of mental resilience for enhanced productivity, as well as fortifying the Group's existing culture on healthy living.

### Contractor Health Management at Project-Level

PETRONAS ensures that the living and welfare conditions for workers are aligned with its internal and industry practices, including globally recognised requirements such as International Finance Corporation's standards on Labour and Working conditions (IFC PS 2). Notable initiatives have been executed to ensure that the workers' accommodation and infrastructure meet requirements, as well as provision of sanitary, recreational and catering facilities for a diverse workforce.

Regular tool box talks and health promotions such as awareness events and information posters on identified topics are among means to instill a strong HSE culture. The materials are also translated into multiple languages to enhance workers' understanding levels, such as at the RAPID Project.

### Atmospheric Haze

Several regions in Malaysia were affected by atmospheric haze, with potential health impacts and disruptions to work activities. In addressing the national-scaled occurrence, the Group activated a multidisciplinary taskforce to implement interventions in mitigating potential health consequences by adhering to the Company's guidelines on Managing Haze Hazard Situations. The Group's efforts covered issuance of Haze Health Advisories to employees and regular alerts to Businesses on the air pollutant index as well as guidance on response which included distribution of N95 masks, and provision of flexible working arrangements for high risk staff.

Fortnightly health promotional themes have been identified for a year-long period and topics such as personal hygiene are repeated to ensure that the right behaviour is inculcated and practiced on a daily basis.

Though there have been no cases reported to date, in order to address the risk of sexually transmitted diseases which is a potential health concern especially in projects involving large numbers of contractor workforce, a proactive approach was taken by the project team to organise a HIV/AIDS campaign in collaboration with the local Government District Health Office for the RAPID Project community.

## SAFETY & HEALTH

This was held in conjunction with World Aids Day 2015 and comprised talks and exhibitions on HIV/AIDs targeting contractors as well as local community members while being sensitive to local norms, and citing availability of free voluntary testing at the neighboring Government Health Centre. Moving forward, efforts would be intensified to raise awareness on HIV/AIDs among contractors from varying cultural backgrounds, especially with the expected significant increase in the number of contractors from mid-2016 onwards.



### INDUSTRIAL HYGIENE

#### Context:

We adopt Industrial Hygiene principles through the anticipation, recognition, evaluation, prevention and control of health risks arising in or from the workplace. The primary intent being to develop health risk profile, its applicable control measures, and assess its effective implementation through timely assessments.

#### Approach:

PETRONAS addresses health risks in its operations and projects by developing relevant governance mechanisms on Industrial Hygiene, aligned to the PETRONAS MCF. This extends to conducting coordinated health risk assessments using an integrated online database which simplifies processes, while producing timely information. The Company works closely with multidisciplinary engineering teams to ensure industrial hygiene controls are established and implemented Group-wide. This involves reviewing workers' personal exposures, effectiveness of control measures and monitoring gap closure activities. Mitigation initiatives include specific programmes such as Chemical Management, Noise Controls as well as Human Factors Engineering and Ergonomics. Sufficient resources are also allocated to develop internal technical capabilities to facilitate the roll out of Industrial Hygiene strategies Group-wide.

#### Chemical Management

In 2015, the Company's Chemical Management process was updated to meet the Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 requirements, Industry Code of Practice on Chemicals Classification and Hazard Communication 2014. Collectively, the revisions further enhanced the management of onsite chemicals, with a view of minimising exposure to possible health effects. A more stringent chemical approval process was implemented, whereby incoming chemicals categorised as highly hazardous must be thoroughly screened and assessed for replacement. Any exceptions must obtain approval from the relevant Group Technical Authority.

#### Chemical Risk Management

The PETRONAS Health Risk Assessment (HRA) methodology, particularly the Company's standard on Chemical Management was enhanced in line with the revised Malaysian regulations, namely Guideline on Assessment of Hazardous Chemicals. Moving forward, efforts to further strengthen management of hazardous chemicals will be continued in high risk areas such as turnaround activities.

## SAFETY & HEALTH



### Industrial Hygiene in Design

Industrial Hygiene requirements in the RAPID Project was strengthened stipulating specific requirements such as Health Risk Assessment for design, noise engineering study, ergonomic/manual handling study, and chemical compatibility study. The Group utilised internal expertise in providing project oversight for ensuring compliance to PETRONAS design requirements. Findings from the assessments were incorporated in the overall design facilities for proactively minimising workers' exposure to health hazards.

### PRODUCT STEWARDSHIP

#### **Context:**

The Downstream Business, in particular, produces an array of chemicals for use across multiple industries, and formulates fuels and lubricants. The use of chemicals sourced externally also facilitates day-to-day operations, requiring strict adherence to PETRONAS' safety and health requirements.

#### **Approach:**

PETRONAS' product stewardship practices are aligned with industry good practices such as that by the United Nations Strategic Approach to International Chemicals Management (SAICM) 2020 goals. The Group's product lifecycle management approach encompasses prudent risk assessments to ensure the substances developed and chemicals utilised across its operations are safe for people and the environment. The Group's dedicated team of internal experts spearhead the development of Safety Data Sheets (SDS) for the products it manufactures and undertakes continuous hazard communication. This is central to the aim of achieving sustainable sound chemical management and ongoing engagements with stakeholders to communicate HSE measures such as safe handling of chemicals and transportation of dangerous goods. Simultaneously, this ensures the Group delivers more efficient products formulated using innovative solutions which offer superior quality, meeting evolving stakeholder requirements through rigorous research and development activities.

#### **Product Risk Assessment**

In 2015, five product risk assessments were conducted by the Group's partially-owned subsidiary, PETRONAS Chemicals Group Berhad (PCG), for substances identified to contain higher risk elements, in facilitating the development of Global Product Safety Summary (GPSS) sheets. This enabled accurate characterisation of risks, facilitating the development of suitable mitigation measures. In 2015, PETRONAS has published one GPSS for Ammonia in 2014, accessible for public viewing on the portal of International Council of Chemical Associations (ICCA).

#### **Product Safety Data Sheet**

In 2015, all PETRONAS' products were compliant with the Malaysia Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013, or better known as CLASS Regulations 2013. In 2015, the Group completed the development of SDS for all PETRONAS' manufactured products, available in English and Malay, accessible at <https://sds.petronas.com.my>, with efforts ongoing to translate these SDS in relevant languages for export markets.

Customer communication was improved through feedback channel within the portal, via timely responses on queries, largely related to product specifications. Moving forward, an automated label management system is scheduled for implementation.

PCG continued to comply with international product-specific regulations such as the Strategic Trade Act 2010 (STA), Chemical Weapons Convention (CWC) and the European Union's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). New and emerging chemical regulations are being screened proactively to put in place adequate measures, as required.

Some of PCG's products, namely, polymers and methanol, are accorded *HALAL* certification and in 2015, several programmes were carried out to raise awareness and promote *HALAL* management practices throughout the business value chain.

### Ongoing Capability Development

Skills and know-how of identified PETRONAS staff in the discipline of Product Stewardship was expedited through structured capability building programmes, focusing on on-the-job experience. Training sessions to impart insights on the CLASS 2013 Regulations requirements were conducted for relevant personnel to ensure consistent understanding on the revised stipulations and promote streamlined SDS labelling practices. Several knowledge sharing sessions to impart information on good practices for product stewardship and toxicology were also led by internal product stewards throughout the year.

### Responsible Care Initiative

In 2015, PCG was awarded two platinum, four gold, six silver and 14 merit awards under the Corporate Awards for the Six Codes of Management Practices category at the Chemical Industries Council of Malaysia (CICM) Responsible Care (RC) Awards 2014/2015. To date, PETRONAS, via PCG, is a Malaysian signatory to the RC Global Charter.

Engagements were also held with the Malaysian regulatory authority to share knowledge and experiences on the Group's toxicology and chemical management practices.

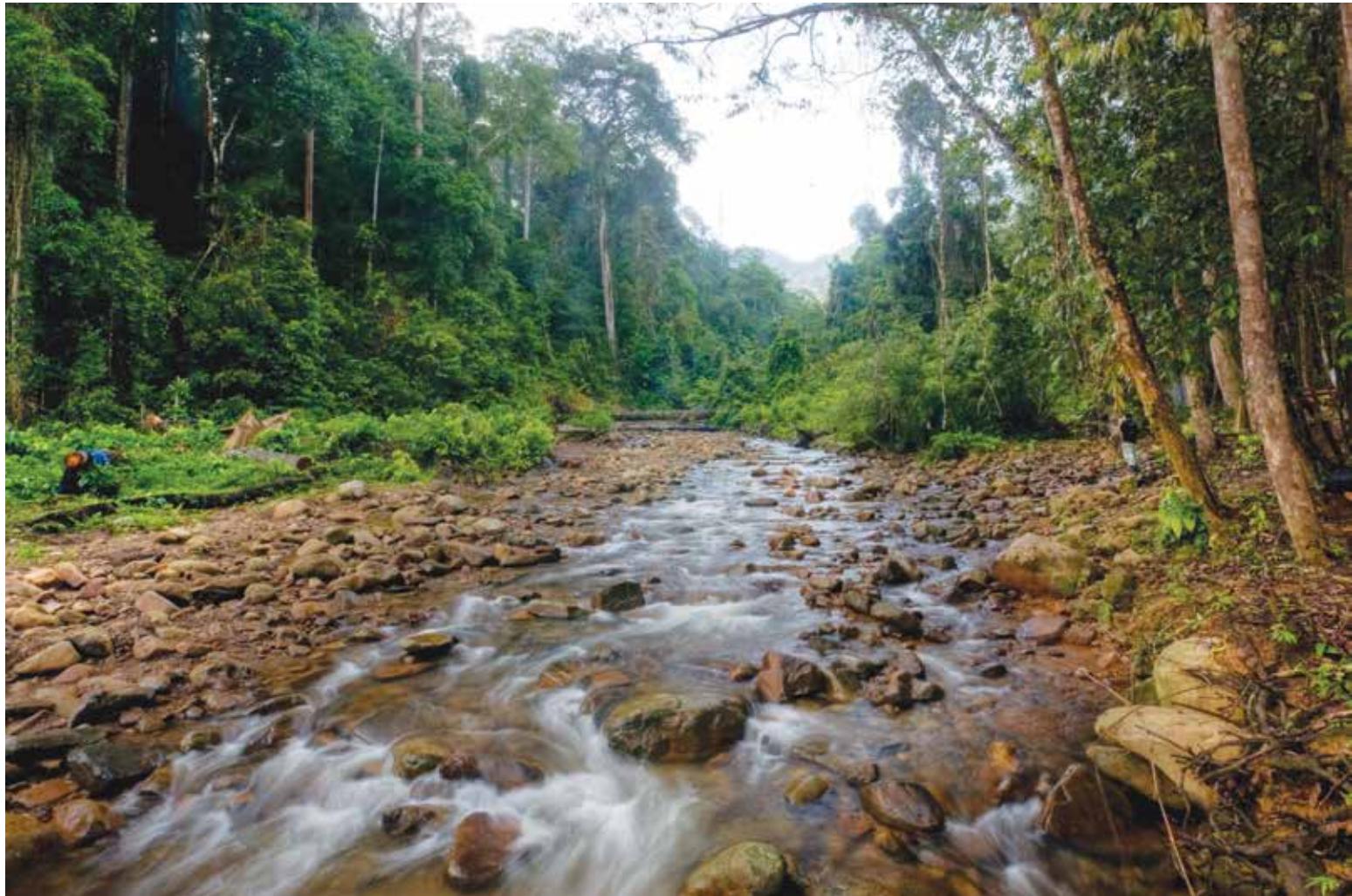
In 2015, PETRONAS led the Environmental Health Working Group under the ASEAN Council on Petroleum (ASCOPE) and the IPIECA Taskforce on Globally Harmonised System Task Force under Fuels and Products.

### SHIELD – Enterprise Wide System

SHIELD, short for Stewardship, Health, Information and Environment Linked Database, was developed to further integrate HSE risk management practices across PETRONAS. SHIELD paves the way for an enterprise-wide database on HSE from which relevant risks can be managed holistically from the Business, Operating and Holding Company's perspective, based on the PETRONAS HSE MS.

In 2014, SHIELD was kicked off with three core areas namely Occupational Health (OH), Industrial Hygiene (IH) and Product Safety (PS), covering Employee Medical Records, Health Risk Assessment (HRA) and the consolidation of all PETRONAS product Safety Data Sheets (SDS). SHIELD's roll out was divided into several phases or waves, spanning over a period of five years. Wave 1, executed in 2014, was successfully completed in March 2015 with the implementation at five Operating Units (OPUs) in Malaysia. SHIELD continued into Wave 2 in 2015, with deployment of SHIELD at nine additional OPUs. Expanded deployment of SHIELD across domestic and international OPUs is anticipated moving forward, with ongoing improvements to the current system functionalities.

# ENVIRONMENTAL **STEWARDSHIP**



PETRONAS' holistic approach to upholding operational sustainability entails adopting robust systems and processes in protecting the environment as well as using natural resources more efficiently in line with the PETRONAS Health, Safety and Environment (HSE) Policy. The underlying intent being to elevate operational excellence wherever it operates.

#### **These areas matter:**

- Climate Change
- Water Management
- Environmental Management

## ENVIRONMENTAL STEWARDSHIP

### CLIMATE CHANGE

#### **Context:**

Greenhouse gas (GHG) emissions are rising in tandem with the world's growing energy demand. The 2015 Paris Agreement is a clear indication that the world is signaling for a new transitional phase towards a low-carbon economy.

#### **Approach:**

PETRONAS duly recognises its corporate responsibility as a player in the global energy sector to balance climate change risks while sustainably producing affordable and reliable energy. PETRONAS focuses on enhancing its existing carbon management practices and proactively seeking out measures to address climate change issues. Guiding the Company's initiatives is the PETRONAS Climate Change Framework, in addition to other prudent risk management for addressing as well as adapting to the effects of climate change.

#### **PETRONAS Carbon Commitments**

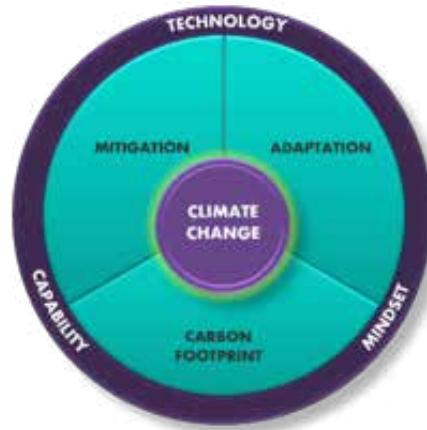
The Carbon Commitments drive the Company's efforts to reduce carbon footprint and improve operational efficiency. The intent is on reducing flaring and venting in Upstream, and improving energy efficiency in Downstream as well as other operations, where PETRONAS has operational control. Key efforts in 2015 included:

- Carbon footprinting covering monitoring, reporting and verification of GHG emissions;
- Climate change mitigation and adaptation activities;
- Investment in low-carbon technology;
- Climate change awareness and capability building; and
- Ongoing engagements with key stakeholders.

#### **Improved Governance Mechanisms on Climate Change**

Over time, PETRONAS has strengthened existing systems and processes to ensure the effective management of its Carbon Commitments and other supporting initiatives to reduce GHG emissions, including:

- Embedded GHG monitoring and reporting requirements in the HSE Mandatory Control Framework (MCF);
- Developed the PETRONAS GHG Monitoring, Reporting and Verification Standard;
- Implemented the Exploration and Production Flaring and Venting Framework and Guideline;
- Enhanced PETRONAS Energy Practices Standard (PEPSTAR) to support the Energy and Loss Management System (ELMS) as well as equipment operating guidelines;
- Adopted an internal carbon price mechanism to assist in project decision-making process; and
- Initiated an internal GHG verification programme.



**The PETRONAS Climate Change Framework**

## ENVIRONMENTAL STEWARDSHIP

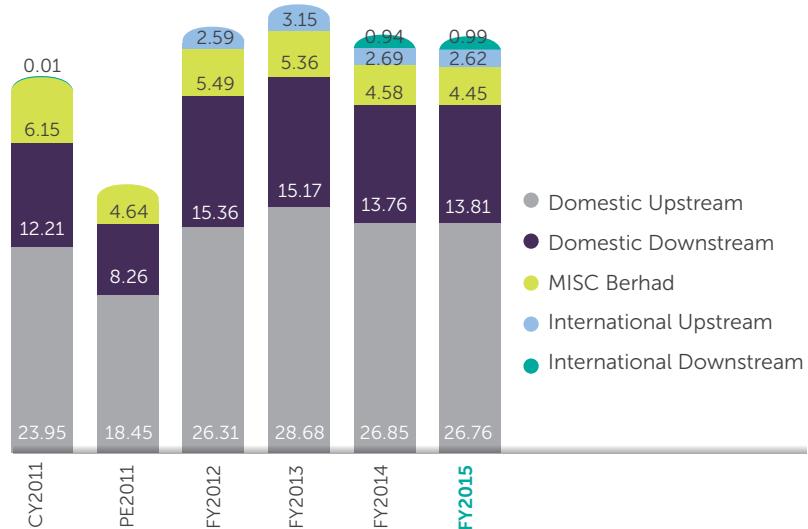
### GHG Performance

Overall, PETRONAS' GHG emissions for the Group totalled 48.63 million metric tonnes of carbon dioxide equivalent (million tCO<sub>2e</sub>). Of this, 83.43 per cent was attributed to its Malaysian operations, while the remaining was from its international operations. Direct GHG emissions accounted for 99 per cent, and the rest was indirect emissions, mainly from electricity purchased.

- Domestic Operations:** Overall, PETRONAS' operations in Malaysia recorded emissions of 40.57 million tCO<sub>2e</sub>, a 0.10 per cent decrease compared to 2014. The Upstream Business reduced GHG emissions by 0.34 per cent compared to 2014, contributed largely by a 17 per cent reduction in flaring and venting at several oilfields. The Downstream Business reported a nominal rise of 0.36 per cent compared to 2014, despite higher petrochemical production.
- International Operations:** PETRONAS' CoBs and identified Downstream operations collectively reported a total of 3.61 million tCO<sub>2e</sub> in emissions, citing a 0.55 per cent decrease compared to 2014. This was mainly due to prudent operational excellence practices.

### PETRONAS Total GHG Emissions

GHG Emissions (million tCO<sub>2e</sub>)



Note: Efforts are ongoing to achieve higher accuracy in data accounting.

In 2015, an internal GHG verification programme was conducted involving PETRONAS Chemicals Group Berhad and PETRONAS Gas Berhad, which are partly-owned subsidiaries. Historical GHG data was adjusted to reflect improved accuracy as a result of the internal GHG verification programme. Moving forward, similar exercises would be carried out at other Operating Units.

In addition, MISC Berhad, also a partly-owned shipping subsidiary, recorded emissions of 4.45 million tCO<sub>2e</sub>, a reduction of 2.84 per cent compared to 2014, ensuring compliance with International Maritime Organization and International Organization for Standardization (ISO) 50001 energy efficiency standards.

International Operations	2012	2013	2014	2015
<b>Upstream Business' Carigali-operated Blocks (CoBs)</b>	Mauritania Myanmar Turkmenistan Vietnam	Mauritania Myanmar Turkmenistan Vietnam	Ireland Mauritania Myanmar Turkmenistan Vietnam	Indonesia Ireland Mauritania Myanmar Turkmenistan Vietnam
<b>Downstream Operations</b>	-	-	Argentina Belgium Brazil China Italy South Africa Spain	Argentina Belgium Brazil China Italy South Africa Spain

## ENVIRONMENTAL STEWARDSHIP

## Managing Climate Change

The Company's key efforts in 2015 to improve GHG emissions are as follows:

### Promote Natural Gas as a Low-Carbon Fuel:

Natural gas will play a key role towards achieving a low-carbon economy and PETRONAS aspires to strengthen its position as a global Liquefied Natural Gas (LNG) player. In supporting this pursuit, the Company embarked on its first PETRONAS Floating LNG (PFLNG) Satu Project, a versatile facility comprising LNG production, processing, liquefaction and offloading facilities. The structure, which limits the need for extensive pipelines or heavy infrastructure will further unlock value from Malaysia's remote and stranded gas fields. PFLNG is PETRONAS' new game-changer that will transform the landscape of energy production.

**Minimise Flaring and Venting:** Elimination of continuous flaring and venting are key aspects of the PETRONAS Carbon Commitments, and are mandatory considerations for new projects. For existing undertakings and assets, vent-to-flare conversion projects were pursued, where feasible. Initiatives, namely, better well management and improved export compressor reliability collectively contributed towards reductions in overall flaring and venting.

### Improving Energy Efficiency through Operational Excellence:

The ELMS was developed for improving energy utilisation in the Downstream Business to reduce GHG emissions. The ELMS utilises an Energy Index (EI) which measures the amount of energy consumed for every unit of output against the design or best achieved level. In 2015, PETRONAS completed a baselining exercise involving all Downstream Operating Units in Malaysia to develop strategies for improving energy utilisation.

### Renewable Energy Solution:

PETRONAS continued to pursue existing projects in Malaysia which converted solar energy into electricity using photovoltaic (PV) technology. Supply from PETRONAS Solar Independent Power Producer (IPP) Project in Gebeng, Malaysia totalled 14,229 MWh, resulting in a reduction of 9,732 tCO<sub>2e</sub> in GHG emissions. In 2015, solar energy totalling up to 13,676 MWh or 96.11 per cent of the total solar energy produced from the IPP was sold as a cleaner source of energy to the national grid.

In addition, 673 MWh of solar energy, equivalent to 460 tCO<sub>2e</sub> reduction in emissions, was generated from the Solar PV Demonstration Project located at the rooftops of Suria KLCC and PETRONAS commercial stations, namely Solaris Putra and Solaris Serdang. A significant proportion of the solar energy generated was reused as electricity at the respective facilities.

	Suria KLCC, PETRONAS Solaris Putra and PETRONAS Solaris Serdang (MWh)	The IPP Project (MWh)
2013	860	802
2014	811	13,971
<b>2015</b>	<b>673</b>	<b>14,229</b>

Note: The year 2013 covered a period of two months, November and December. Subsequent years covered a period of 12 months, from January to December.

## ENVIRONMENTAL STEWARDSHIP

### PETRONAS Sabah Operations Received International Commendation

PETRONAS was accorded the World Bank Sponsored Global Gas Flaring Reduction (GGFR) Partnership Excellence Award 2015 for successfully achieving zero continuous flaring at the Sumandak Field, and for significantly reducing flaring at the Erb West Field, both located offshore Sabah, Malaysia. These projects, commenced in 2014, reduced the Upstream Business' overall carbon footprint, resulted by utilisation of two additional gas compressors which maximised resource monetisation, in addition to, refurbishment of two compressor trains that enhanced associated gas export to achieve zero continuous flaring.

## WATER MANAGEMENT

### Context:

Water is a fundamental natural resource for local communities and socio-economic development. Water scarcity is however a growing concern as changes in weather impacts rainfall patterns resulting in floods and extreme drought, among others. An uninterrupted supply of water is nevertheless vital for operational integrity across commercial sectors including the oil and gas industry.

### Approach:

PETRONAS seeks to continuously elevate its water management systems in ensuring the responsible use of this natural resource across the business value chain. The approach entails improving water use efficiency by assessing water withdrawal practices and managing effluents across its operations. In 2015, PETRONAS rolled out its Water Practices (WAPS) for Water and Wastewater Systems as well as streamlined implementation of 3R (Reduce, Reuse, Recycle) initiatives.

### Fresh Water Withdrawal

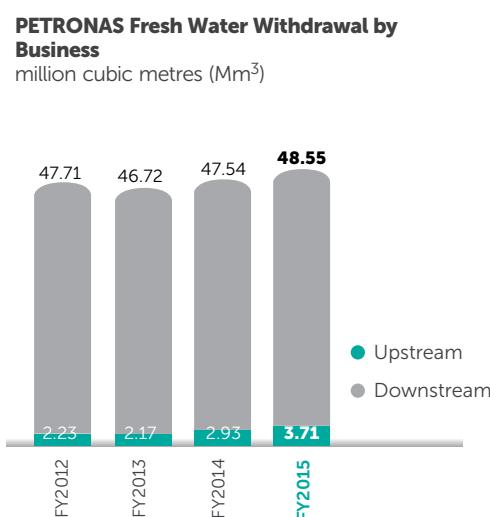
Total fresh water drawn in 2015 stood at approximately 52.26 Mm<sup>3</sup>, covering both Malaysian and international operations. The Downstream Business constituted 48.55 Mm<sup>3</sup>, encompassing gas processing, petrochemical and refining plants as well as PETRONAS subsidiary, Engen Petroleum Ltd, in South Africa. Whereas the remaining 3.71 Mm<sup>3</sup> was attributed to the Upstream Business, including CoBs.

### PETRONAS Water Management Guidelines

Strengthening of existing measures is an ongoing effort to improve fresh water and wastewater systems performance. In 2015, PETRONAS Water Management Guidelines, inclusive of the PETRONAS WAPS, were developed to enhance work processes in the areas, namely, fresh water withdrawal, use of water in operations and wastewater discharge.

### PETRONAS Water Risk Assessment

PETRONAS developed a water risk assessment methodology to identify and address potential concerns within its operations, such as water stress and regulatory changes on fresh water. Moving forward, Water Risk Assessments (WRAs) will be conducted at selected Downstream operating facilities in Malaysia.



Note: Efforts are ongoing to achieve higher accuracy in data accounting.

## ENVIRONMENTAL STEWARDSHIP

# ENVIRONMENTAL MANAGEMENT

### **Context:**

PETRONAS' operations at varying geographical locations are subject to differing regulatory regimes for managing environmental impacts, related to air emissions, wastewater, hazardous waste, soil and groundwater.

### **Approach:**

The PETRONAS HSE MCF stipulates requirements on several environmental aspects. PETRONAS also manages and addresses environmental issues at various stages of the project from project planning, development, commercialisation to decommissioning and site closure. Ongoing risk management allows for effective management of environmental related challenges through proactive mitigations, incorporated into the Company's overall business strategies.

### **Spills to the Environment**

Efforts to mitigate spills have resulted in no increase in the number of hydrocarbon spills greater than one barrel in 2015. The total estimated volume of hydrocarbon spills greater than one barrel in 2015 was approximately 178 cubic meters, a 72 per cent reduction from the level reported in 2014. Lessons learnt from previous incidents are used to proactively prevent Loss of Primary Containment (LOPC) with the aim to prevent and manage spills.

### **Waste Management**

In 2015, PETRONAS generated approximately 72,277 metric tonnes of hazardous waste, from its Malaysian and international operations. Of this, around 60% of the waste was recycled and recovered, and the remaining was disposed at approved licensed facilities. PETRONAS is strengthening its technical capability in the area of waste identification and characterisation.

### **Effluent Discharge**

In 2015, PETRONAS reviewed the performance of its Industrial Effluent Treatment System (IETS) at three selected Downstream operating facilities in Malaysia, and one in South Africa to ensure compliance with regulatory as well as PETRONAS requirements. The IETS was benchmarked against international standards and other industry specific guidelines to ascertain its robustness, following which interventions were implemented to sustain performance at an optimum level.

For the Upstream Business, the controlled discharge of oil to water was 680 metric tonnes, as compared to 992 metric tonnes reported in the previous year. The reduction was attributed to improved quality of produce water discharge as a result of stringent manual interventions and close monitoring to meet regulatory limits.

### **Oil Recovery at an Aviation Fuel Terminal**

Previously, oil trapped in the oil interceptor at the Bayan Lepas Aviation Fuel Terminal in Penang, Malaysia was manually pumped using a portable diaphragm pump into drums prior to being disposed as scheduled waste.

The mixture pumped into the drums contained oil which increased the amount of scheduled waste generated and disposal cost.

A system consisting a floating suction and intermediate tank was designed to resolve the issue. Suction allowed for the mixture to be pumped into drums, whilst the intermediate tank provided the mixture additional time to settle before water is drained back into the interceptor, so only oil was recovered.

Overall, this initiative saved man-hours spent on carrying out this task manually and reduced scheduled waste disposal cost.

## ENVIRONMENTAL STEWARDSHIP

### Waste Management Practices

The Malaysia Marine and Heavy Engineering Holdings Berhad (MHB), PETRONAS' partly-owned subsidiary via MISC Berhad offers offshore solutions, engineering construction, including marine conversion as well as repair services for the global oil and gas sector. In the year, the Company successfully recovered and recycled 97 per cent of its hazardous waste via the following measures:

- **On-site Garnet Waste Treatment Facility:** Recovered approximately 98 per cent of industrial grade spent garnet used in MHB's operations. It was recycled into material for use in manufacturing ceramic tiles and as an abrasive media for MHB's waterjet cutting system.
- **Use of Spent Copper Slag:** Recycled Copper slag from blasting operations as a raw material for the local cement manufacturing industry.
- **Waste to Energy Conversion Plant:** Generated electricity from heat oil recovered from sludge incineration.
- **Oil Slops Recovery Unit:** Recovered as well as treated usable oil produced by the waste stream and waste water processes, prior to discharge. This minimised the volume of waste transported to disposal facilities, in turn, enabled cost savings and resource optimisation.

### Air Emissions

In 2015, the sulphur oxides (SOx) and nitrogen oxides (NOx) emissions from PETRONAS operations were recorded at 63,363 metric tonnes and 144,729 metric tonnes, respectively. Work is ongoing to embark on a Volatile Organic Compound (VOC) inventory programme with the view of developing a long term mitigation plan.

The Malaysian Environmental Quality (Clean Air) Regulations 2014 was gazetted in 2014 to replace the Environmental Quality (Clean Air) Regulations 1978. PETRONAS has established a Group-wide strategy to ensure the systematic implementation of the requirements.

### Achieving Responsible Discharge with Bioreactors

The Engen 1-Stop and Vacation Station network was designed specifically to meet the needs of long distance travellers, providing an avenue to fuel up and take short breaks. The network of 46 service stations located across South Africa's transit routes, comprised several stations in remote areas faced with logistical challenges being disconnected from the municipal sewage systems. This included being equipped with outdated sewage treatment systems with an irregular maintenance schedule.

In addressing this, nine of Engen's 1-Stop stations embarked on a bioreactor programme utilising waste water treatment process combined with the restorative effect of a reedbed facility. Waste water discharge is treated via a multi-level bioreactor process, combining fine bubble aeration with chemical, anoxic and anaerobic reaction. The reedbeds receive the treated waste water and further removed remnants of untreated contaminants.

A systematic reporting procedure established logged the discharge quantity on a weekly basis, with discharge effluent quality being reported to relevant local authorities on a monthly basis. The bioreactor programme, requiring minimal maintenance, yielded improved trends in discharge quality, meeting local discharge limit.

## ENVIRONMENTAL STEWARDSHIP

### Biodiversity and Ecosystem Services

PETRONAS focuses its efforts on building and strengthening awareness on the importance of protecting biodiversity wherever it operates to benefit present as well as future generations. This covers conducting environmental studies, developing infrastructure to support research and development activities on ecosystem sustenance as well as nurturing knowledge, including skills in biodiversity management. For example, in 2015, PETRONAS continued its partnership for the Imbak Canyon Conservation Area (ICCA), a Class 1 Forest Reserve in Sabah, Malaysia. The conservation of this primary rainforest is critical for protecting rich biodiversity species and discovering new medicinal plants, among others.

#### **BEACON Project Update**

The BEACON Project at SNP, which was in its third year of implementation, saw an encouraging increase in the number of returning sea turtles after a five year lapse. According to the local conservation authority's records, the last documented sighting of turtle eggs at the SNP was in July 2010. As a result of this project, in 2015, a total of 545 turtle eggs were transferred to the established BEACON Turtle Hatchery, located near the SNP headquarters and to date, 277 turtle hatchlings were released back to the sea.



#### **PETRONAS Eco Marine Conservation Project**

The Miri-Sibuti Coral Reefs National Park in Sarawak, covering an area of 186,930 hectares, is Malaysia's second largest Marine National Park. Conservation of this park contributes towards Malaysia's commitment under the Convention on Biological Diversity, aimed at protecting marine areas in the country.

The Miri-Sibuti Coral Reefs National Park is home to many coral reef complexes and its beaches were a nesting area for sea turtles. Due to the unlawful trawling activities in recent years, sea turtles no longer return to the beaches. Similarly, the number of other marine species such as whales have dwindled.

In 2015, PETRONAS collaboratively launched a five-year environmental conservation project to protect the park's marine biodiversity. The RM8 million project entails deployment of 2,000 units of artificial Reef Balls™ and corresponding Conservation, Education, Promotion and Awareness (CEPA) programme involving students and local communities, among others.

The eco-friendly artificial Reef Balls™ which mimic natural limestone will be placed at identified locations around the Miri-Sibuti Coral Reefs National Park to spur regeneration of coral reefs and deter illegal fishing activities, while creating alternative fishing ground for the local fishermen.

Once completed, this project is expected to boost eco-tourism in Sarawak and promote economic spin-offs for the local communities in Miri and Sibuti. It further complements PETRONAS' other efforts in Sarawak, namely, the PETRONAS Biodiversity, Environmental and Conservation (BEACON) Project at Similajau National Park (SNP) in Bintulu, and more recently, the Piasau Nature Reserve conservation initiatives in Miri.

# SOCIETY



Responsible growth encompasses balancing business and societal considerations, ultimately encouraging holistic value creation as well as spur lasting socio-economic development. People are at the centre of the Group's development plan, as human capital is a fundamental driver to sustain growth. PETRONAS promotes a progressive, empowered and resilient workforce, parallel to enhancing local communities' knowledge and skills.

## These areas matter:

- Social Performance
- Community Investments
- Our People

## SOCIAL PERFORMANCE

### Context:

The external operating landscape has changed as the oil and gas industry grew its presence in remote areas internationally. Businesses continue to helm a more proactive role in addressing social risks within their sphere of control in tandem with changing social expectations.

### Approach:

PETRONAS defines Social Performance as managing impacts arising from areas of the Group's business while contributing to the society in a responsible manner. This entails robust social risk management as well as adequate systems and processes which conform to industry good practices, supported by the PETRONAS Social Performance Framework depicted below. Regular engagement sessions and trainings are ongoing to advocate and reinforce the importance of Social Performance among the Company's various constituents. Leading the Group's efforts are a dedicated pool of internal Social Performance practitioners, supported by multidisciplinary teams within Businesses, Operating and Holding Company Units.



### Human Rights

PETRONAS launched its Human Rights Commitment in 2015 which states **PETRONAS is committed to respecting internationally-recognised human rights in areas of its operations, complying with its Code of Conduct and Business Ethics (CoBE), and all relevant legal requirements**. The Group's Social Performance practitioners assess potential Human Rights risks in the following areas:

- **Community Wellbeing**: Support access to community health and safety including natural resources required for health, cultural needs as well as livelihood.
- **Supply Chain**: Expand current supply chain practices to review contractors and suppliers' performance in the areas of labour and working conditions, community wellbeing and security.
- **Labour and Working Conditions**: Eliminate forced or trafficked labour, child labour or underaged workers in contractors' and subcontractors' workforce. Ensure conditions of employment and work are in line with human rights practices, including eliminating discrimination in hiring and contractual terms.
- **Security**: Promote human rights training for staff and third party security to prevent use of excessive force.

All employees of PETRONAS Group of Companies, contractors, subcontractors and any third parties within PETRONAS premises or performing work and/or business for or on behalf of PETRONAS are required to abide by the Human Rights Commitment. In 2015, a total of 17 training and awareness sessions were conducted to enhance internal capability in the discipline of human rights. The target groups comprised identified personnel with a potentially higher exposure to human rights risks across the Group's various Businesses globally.

## FEATURE

# INTERVIEW WITH DATUK WAN ZULKIFLEE WAN ARIFFIN PETRONAS HUMAN RIGHTS COMMITMENT



President and Group CEO

Human Rights is generally defined as basic standards of treatment entitled to every person, regardless of gender, nationality, ethnic origin, religion, spoken language, or any other status. In the larger scope, it is incumbent upon organisations to uphold fair business practices to mitigate potential consequences arising from unintentional infringement of human rights within the value chain. In recognition of this, PETRONAS went beyond the conventional ambit by expanding our focus to include our local communities' wellbeing as a key consideration when carrying out day-to-day operations, by establishing the Human Rights Commitment.

### **What is the PETRONAS Human Rights Commitment?**

The PETRONAS Human Rights Commitment was introduced last year after the launching ceremony on 20 October 2015 by our Chairman, Tan Sri Mohd Sidek Hassan. It demonstrates PETRONAS' commitment to respect internationally recognised human rights in areas of its operations. This Commitment complements our existing Code of Business Conduct and Ethics (COBE), Anti-Bribery and Corruption (ABC) Policy, and Whistleblowing Policy.

**As the basis for embedding their responsibility to respect human rights, many organisations have expressed their commitment to meet this responsibility through a statement of policy.**

**Why is this Commitment important to PETRONAS?**

This Commitment supports PETRONAS' mission to contribute to the wellbeing of society and so I view it as a sincere effort to strengthen our stand on human rights. We have a responsibility to ensure that the rights of people impacted by our operations are not compromised, regardless of where we operate. Also, we need to have adequate systems and processes in place to manage these risks. To this end, we have further enhanced our existing barriers to address human rights risks such as establishing a grievance mechanism procedure, conducting due diligence on security providers and contractors and introducing technical guidelines to facilitate the implementation of the Commitment Group-wide.

### **With an end goal to prevent and mitigate potential and actual impacts of PETRONAS' social risks, could you share how this Commitment was first established?**

The team first consolidated findings from our Social Risk Assessments conducted across key projects and operations located in Malaysia and internationally. A Human Rights Task Force was then formed, and among their tasks included benchmarking with peers in the energy industry. The assessment outcomes were then deliberated with multidisciplinary teams, Senior Management representatives across Business units, and the Corporate Sustainability Council to develop the Human Rights Commitment. After endorsement by the PETRONAS Board, the Commitment was made applicable to all employees across the Group, contractors, subcontractors and any third parties performing duties for or on behalf of PETRONAS.

**The Commitment to uphold fair business practices needs to be reflected in other policies, procedures and practices in order to embed respect for human rights throughout the business. What impact will the Commitment have to PETRONAS and the industry?**

Our long term goal is to be certain that every aspect of our operations takes human rights into consideration and that we have done our due diligence to ensure that we act as a responsible corporate citizen. We have embarked on several internal awareness sessions and trainings, and will continue these efforts to help our employees internalise this collective Commitment.

This initiative has certainly paved the way to establish a common consciousness on human rights within PETRONAS, and we will look to expand our communication efforts and attention to partners, suppliers, contractors and subcontractors over the next few years. I urge everyone across our integrated value chain to play a part in ensuring the successful realisation of the PETRONAS Human Rights Commitment.

## Governing Social Performance and Human Rights

The following PETRONAS Technical Guidelines were developed to support the Social Performance Framework and Human Rights Commitment:

- **Social Risk Assessment (SRA):** Provides a holistic view of social risks and issues across a project's lifecycle, including steps to prepare risk mitigation plans, based on the Enterprise Risk Management methodology. The process was refined through use at 11 projects between 2014 and 2015.
- **Human Rights Due Diligence (HRDD):** Formalises the assessment of human rights risks over the project lifecycle and developing mitigation plan, aligned with the United Nations Guiding Principles on Business and Human Rights (UNGPs), and other widely-accepted industry good practices.
- **Grievance Mechanism Guideline:** Developed through benchmarking with UNGPs, IPIECA and industry good practices, Grievance Mechanism is a non-judicial process for stakeholders to raise concerns as well as seek access to remedy in a timely, fair, and consistent manner.

## Social Performance Matters Forum

PETRONAS held its inaugural Social Performance Matters (SP Matters) Forum on 20 October 2015, during which the PETRONAS Human Rights Commitment was launched by the Group's Chairman. The event promoted better understanding on PETRONAS' Social Performance practices. It also provided updates on current and emerging social impacts facing the oil and gas industry. Highlights of the day-long forum was a panel session led by top management personnel on operationalising social performance in PETRONAS. An interactive exhibition was held concurrently participated by various Business, Operating and Holding Company Units.



## SOCIETY

### SRA Conducted in 2015

To date, a total of 13 SRAs and HRDD exercises were carried out at selected Malaysian and international operational sites, aimed at identifying and profiling social risks.

In the year under review, a HRDD was conducted based on the International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability for the Pengerang Integrated Complex (PIC) Project in Johor, Malaysia. The exercise, led by an internal multidisciplinary team, facilitated the development of mitigation plan to address identified risks.

### Shaping the Industry's Approach to Social Performance

PETRONAS plays an active role in sharing good practices and learnings with industry peers on various topics and issues through guidance documents as well as engagements. PETRONAS is an active member of IPIECA and currently, the Company's representatives co-chair two task forces; Local Content, and Social Investment. In addition to co-chairing the International Gas Union's (IGU) Sustainability Committee.

## COMMUNITY INVESTMENTS

### Context:

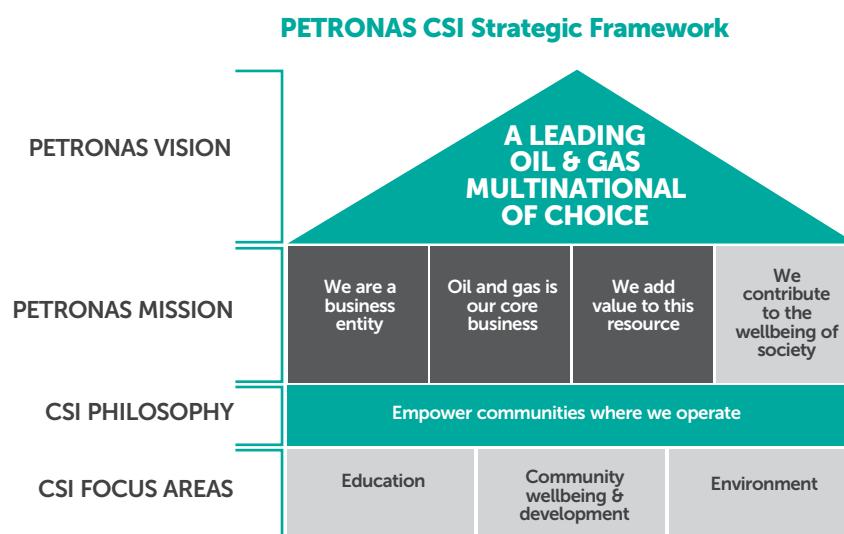
The Group works with multicultural communities and embraces local norms to generate sustainable socio-economic benefits wherever it operates. PETRONAS seeks to build relationships on the back of lasting mutually beneficial partnerships.

### Approach:

PETRONAS' Corporate Social Investment (CSI) philosophy is based on the guiding principle to nurture local communities with the relevant knowledge, skills and capabilities. PETRONAS also promotes staff volunteerism, thereby encouraging staff to collectively lead the Company's social and capability building programmes.

### CSI Strategic Framework

The PETRONAS Corporate Social Investment (CSI) Framework was developed and implemented Group-wide in 2015, following a rationalisation exercise completed in the preceding year. The Framework outlines parameters of social contributions, supported by a standardised process to evaluate and endorse request for sponsorships. Collectively, our CSI initiatives amounted to RM500 million in 2015, covering initiatives carried out in Malaysia and internationally, across the following three focus areas:



- **Education:** Providing access to knowledge gathering and capability building opportunities regardless of gender, ethnicity and social standards.
- **Community Wellbeing and Development:** Empowering and uplifting local communities via provision of basic needs, upskilling trainings as well as youth development programmes.
- **Environment:** Encouraging active contribution towards natural ecosystems related conservation efforts.

## CSI Initiatives in 2015

### All About Youth

The All About Youth (AY) programme was expanded to six states in 2015 from three when it was initially piloted in 2014. The competition-based education programme held in Johor, Melaka, Kelantan, Sabah, Sarawak and Terengganu was participated by 1,800 students from 90 schools who collectively applied creativity for the invention of impactful and sustainable projects to benefit local communities. This programme provided an avenue to hone the knowledge and soft skills of youths, evidenced through feedback received. Enabling the successful execution of this programme were PETRONAS staff who voluntarily provided mentorship to the participants.

### Improving Water Quality in Sabah

Taking the Group's involvement in the AAY Programme further, PETRONAS' engineers supported students from a secondary school, *Sekolah Menengah Kebangsaan* Bongkol in Pitas, Sabah to tackle water supply constraints facing local community members by enhancing the original One Filter Bongkol prototype model design concept developed using easily accessible materials such as gravel, sand and coal. A knowledge sharing workshop was conducted to build the revised water filtration system based on the enhanced design specifications, involving PETRONAS' engineering experts and students who collectively developed the initial prototype. Trial run of the improved infrastructure showed mark reduction in water turbidity levels.

### Long Kerangan Micro Hydro Project

PETRONAS pursued a Micro-Hydro rural electrification project for providing power and clean water access to indigenous communities in Long Kerangan in Baram, Sarawak. This project benefitted close to 30 families or approximately 120 individuals, by generating uninterrupted supply of power sufficient to support existing and future needs. The 24-hour supply of electricity improved the indigenous communities' access to affordable energy, enhanced living conditions and provided additional economic opportunities.

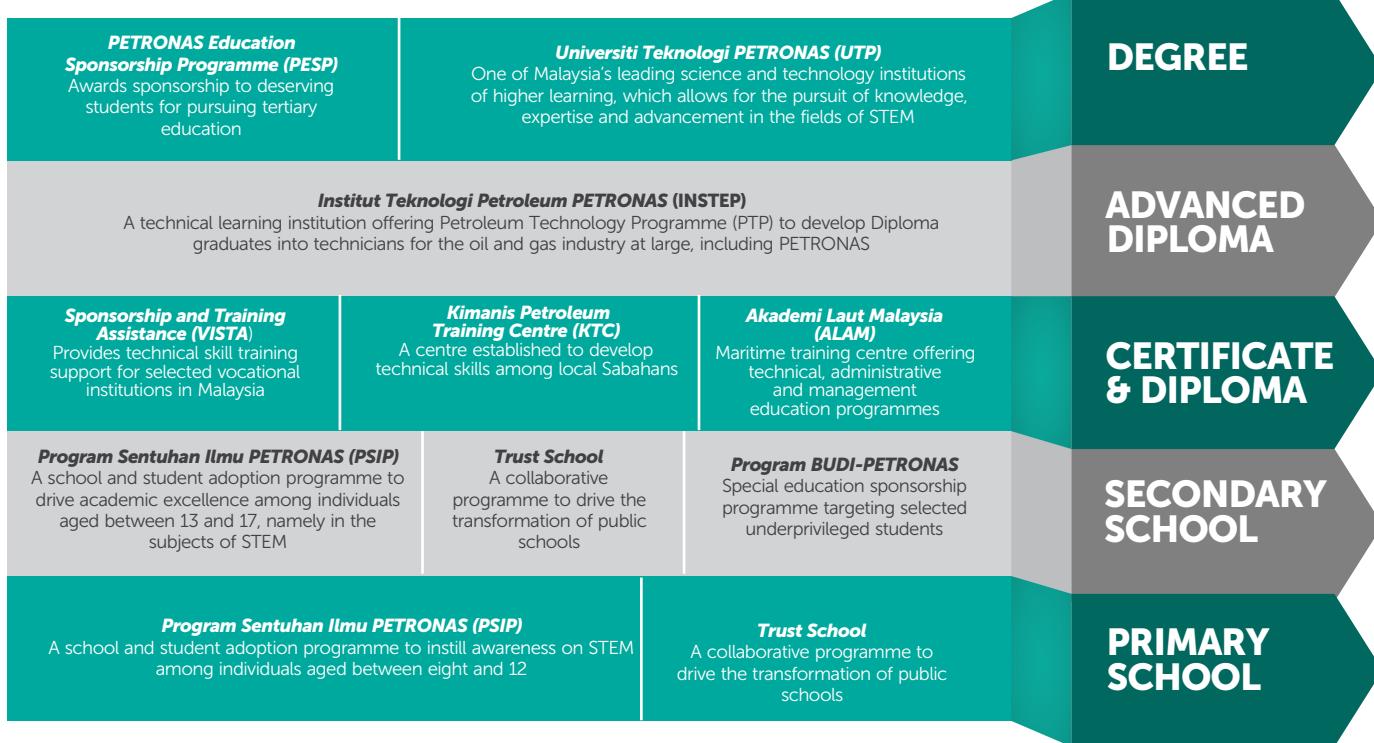
The project costing of RM230,000 involved tapping water flow from a nearby waterfall using a turbine which was developed from aluminium waste material.

### Kimanis Petroleum Training Centre (KTC)

The establishment of KTC equipped Sabah's youths with basic functional and technical skills to spur development of its domestic oil and gas industry. Notably, KTC enrolled its first batch of female trainees in 2014. In the period under review, KTC was also accorded approval from the Department of Skill Development, Ministry of Human Resources, Malaysia to conduct Diploma programmes.

## SOCIETY

### PETRONAS EDUCATION AND LEARNING VALUE CHAIN



### Holistic Education and Learning Value Chain

PETRONAS' social investments center on nurturing students across primary, secondary and tertiary education levels to proactively develop talents for the oil and gas industry. This is supported through established PETRONAS education and learning institutions in Malaysia, namely PETRONAS Leadership Centre (PLC), UTP, INSTEP and ALAM. PETRONAS' other education programmes include the following:

- **Trust School:** Contributed RM10.35 million in support of the Malaysia Education Blueprint 2013-2025. A total of 4,634 students across 10 schools in East Malaysia have gained from this collaborative effort for which PETRONAS is a programme sponsor.
- **PSIP:** Benefitted 1,211 students from 31 primary schools and 12 secondary schools across the states of Sabah, Sarawak, Labuan, Pahang, Terengganu, Melaka, Johor, Kedah and Perak in 2015, entailing some RM960,000 in investment. The structured programme emphasised on enhancing participating students' academic foundation in the subjects of Science, Technology, Engineering and Mathematics (STEM), as well as character building.



### Science and Mathematics Workshop in Iraq

In 2015, PETRONAS Carigali Iraq Holding BV, assisted by Petrosains, held a Creative Science and Maths Workshop to inculcate interest in the subjects of Science as well as Mathematics among students from the Garraf Contract Area (GCA). The eight-day workshop consisted three components – train the trainers, train the teachers and train the students sessions. The programme held at the Garraf Vocational Training Centre (GVTC) in the GCA, located one kilometre from the Garraf Base Camp, received an overwhelming response from 722 students from 10 schools. Moreover, approximately 40 teachers and 28 PETRONAS staff volunteers were also trained on innovative techniques to teach the subjects of Mathematics and Science.

### Growing with the Nation in Myanmar

PETRONAS spearheaded numerous social development efforts in Myanmar, prioritising on providing access to quality education as well as enhancing the skills of local communities in the areas such as health and sanitation.

#### Education

A total of 53 schools were established under the Early Childhood Care and Development (ECCD) Programme - 22 in Dawei and 31 in Kanbauk. To date, more than 20,000 young children have gained from the ECCD, many of whom marked notable improvement in knowledge levels and soft skills such as creativity and communication abilities. Trainings were also provided to the facilitators and local community members on ways to effectively execute these programmes, in making learning a fun concept for the children. Overall, the ECCD is a holistic initiative which benefitted children and adults alike, via job opportunities. Children who participated in the ECCD programme were visibly better equipped to fare at primary schooling than their non-ECCD peers.

Eight outstanding students from Kanbauk were also sponsored to study at a boarding school in Yangon. To date, under the PESP, the Company has awarded 68 scholarships to deserving individuals for pursuing quality tertiary education at UTP in Malaysia. This includes in fields such as Information Technology, Electrical, Instrumental, Mechanical, Chemical and Petroleum Engineering.

#### Community Wellbeing and Development

Vocational and computer training programmes were organised under the Yetagun CSI programme. Presently, 433 individuals completed the vocational programmes on carpentry, masonry, basic electronics and electrical wiring, whereas 6,000 youth hailing from Yangon attended classes on basic computer literacy. Overall, this programme improved the employability of youth and identified local communities from rural areas.

On enhancing healthcare systems, medical officers and volunteers were sent to logically challenged areas such as Ka lain Aung, Kanbauk, Michaung Hlaung, Ohn Bin Gwin and Zinbar to provide dental health care services to the local community members.

*Continues on Page 74*

## SOCIETY

The Group also contributed laboratory equipment to selected hospitals in expanding the reach of affordable medical services across identified local villages.

Notably, to date, about 36,769 households obtained sufficient medical treatment at hospitals located in Dawei, Kan Bauk, Laung Long and Yay Phyu.

In terms of infrastructure, PETRONAS funded projects to build roads in the Tanintharyi region and upgraded roads in several villages. For example, Daminseit, Kanbauk, Kaungmu, Mawgyi, Maw Ngan, Meetaing Tat, Pait Te Lay, Parchaung Inn, Paungdaw, Talaingmyaw, Thabutchaung, The Chaung, Thingandaw and Ownbingwin. This made travelling easier for the local communities and offered safer service tracts for operators where pipelines were laid.

PETRONAS also funded a project to build mechanical water wells in Myanmar. This provided local communities with access to efficient, clean and safe source of water.

### Environment

PETRONAS collaboratively supported the Tanintharyi Nature Reserve Project (TNRP) in Dawei District located at Southern Myanmar, encompassing an area of 1,700 square km. Several activities were carried out to protect the area's rich biodiversity and preserve its natural form, since 2004. This covered survey on flora and fauna including bird species, seedlings and annual tree planting as well as environmental education.

Capacity building efforts were executed to upskill local community members to independently run programmes listed under the three CSI themes. This is to ensure the programmes are sustainably executed over the longer term. Commendably, the local communities have grown to possess needful skills for leading the social programmes, backed by proactive initiatives to boost self-reliance and self-improvement via personal initiatives.

### Local Talent

PETRONAS seeks to develop a reliable pool of empowered individuals for the Group, the Company's partners, host nations and communities where it operates. The Group encourages the participation of local communities in the business value chain by providing job opportunities as well as encouraging the growth of enterprises across multiple industries, in support of the larger oil and gas industry. The underlying aim being to spur socio-economic growth via strategies tailored to suit the aspirations of people in areas of operations, in Malaysia and internationally. Where necessary, PETRONAS offers institutional capacity building programmes to hone local talents with the desired knowledge and functional skills required to perform the task.

### Strategic Procurement Partnerships

Category management allows for standardisation of specifications, volume consolidation, security of supply and localisation. PETRONAS seeks to elevate the commitment level on areas such as quality, delivery and after sales services through various agreements with Original Equipment Manufacturers (OEMs) and their local partners. The sales volume built up by PETRONAS over time has encouraged OEMs to establish local service centres. Benefits to the local community include transfer of technology and capability development. Collectively, these contribute towards the growth of Malaysia's oil and gas industry, while spurring socioeconomic growth in the country.



## Developing High Skilled Talents

The Vocational Institution Sponsorship and Training Assistance (VISTA) programme was established in 1992 to nurture skilled personnel for the oil and gas industry. To date, this signature effort promoted technical and vocational skills development amongst youths, such as in the areas of welding, A0 chargeman, HSE and gas pipe fitting. The Group's contributions also involved provision of infrastructure, maintenance services, and collaboration with INSTEP for the development of training modules. Collectively, over a period of 24 years, PETRONAS invested approximately RM65.5 million for the VISTA programme, collaborating with 22 vocational institutions under the federal government and various states government agencies.

## OUR PEOPLE

### Context:

The Group's workforce of more than 53,000 people comprises individuals from different multicultural backgrounds, with varying experiences and expectations, located across 75 countries.

### Approach:

PETRONAS' unique approach is holistic in nature where the Company focuses on sharpening the knowledge and skills of employees given intricacies of the industry, spurring internal succession planning, while pursuing efforts to hone future talents by providing educational and capability development opportunities. The Company's Human resources policies, procedures and strategies are aligned with international laws, regulatory requirements, cultural practices as well as industry good practices.

### Policy Enhancements

The following are some policies enhanced in 2015:

- **Flexible Annual Leave:** Provision of half-day leave.
- **Compassionate Leave:** Additional allocation of two days per year to care for immediate family members.
- **Optional Extended Maternity Leave:** Optional 30 consecutive days maternity leave on half-pay. This is an enhancement to the current practice.



## SOCIETY

### PETRONAS Global Talent Strategy

The Company's journey towards building an agile, resilient and distinctive workforce continued in 2015 via the Group's Global Talent Strategy (GTS), enabling the Company to attract, recruit and retain talented people and create an environment where employees can thrive. The GTS is founded on three core pillars, and some achievements in 2015 included:

<b>The Right Talent Driving Business Growth</b>	<b>The Right Environment Encouraging Agility</b>	<b>The Right Leaders Promoting Sustainable Performance Excellence</b>
Structured development to promote equitable opportunities for the Company's workforce, while leveraging on global perspectives in creating new opportunities.	Upholding diversity and inclusion in encouraging staff mobility across multiple Businesses and geographical locations, guided by an integrated talent development ecosystem aligned to the changing business dynamics.	Hone holistic individuals who are commercially-savvy while upholding PETRONAS' shared values, equipped with knowledge, functional and technical skills.
<ul style="list-style-type: none"> <li>• Talent Advisor Leadership Academy</li> <li>• Global Mobility and Regional Pay</li> <li>• Robust Global Sourcing Strategy</li> <li>• Alignment of Employment Terms and Conditions for Upstream Host Country Nationals to Third-Party Nationals</li> <li>• Top Talent Development Programme</li> </ul>	<ul style="list-style-type: none"> <li>• Half-Day Leave</li> <li>• Enhancement of Compassionate Leave</li> <li>• Optional Extended Maternity Leave</li> <li>• PETRONAS Returnee Programme</li> <li>• PETRONAS Leading Women Network</li> <li>• Competitive Medical Packages</li> </ul>	<ul style="list-style-type: none"> <li>• Enhancement of PETRONAS Leadership Learning Series (PLLS)</li> <li>• Executive Coaching</li> <li>• Beanbag sessions with PETRONAS Leaders</li> <li>• Leaders Presence Programme</li> </ul>

### Talent Recruitment and Retention

The Group's talent sourcing practices and employment terms are benchmarked against industry good practices, appealing to fresh and experienced hirers. This includes designing, piloting and syndicating best-in-class people strategies. The PETRONAS Employment Value Proposition (EVP) of Trust, Grow and Reward propels PETRONAS to hire as well as retain the best of talents. The EVP focuses on putting in place the right people policies, processes and offering an environment which encourages employee growth. In turn, building a workplace environment which rewards workforce members on the back of meritocracy, performance and delivery, offering fair growth opportunities and an environment to excel, concurrently, upholding diversity as well as inclusion.

In 2015, the number of new hires who had undergone meticulous and stringent evaluation processes accounted for 3,290, to fulfill the Company's manpower requirements, including being equipped with knowledge, leadership and technical skills pertinent to support major project developments, across the Businesses. The Company's efforts in the year

included the enhanced Deferred Incentive Programme for better management of talent retention in PETRONAS, as well as introduction of the Regional Executive Scheme to attract and retain selected globally marketable, scarce, niche including skilled talents.

PETRONAS was accorded The Graduate Employer of the Year Award 2015. The Award recognises Malaysia's 100 Leading Graduate Employers (M100) and in the period under review, PETRONAS emerged as the overall winner and in addition, bagged an additional recognition for being the most popular graduate employer under the Energy/Oil and Gas/Utilities sector 2015. PETRONAS also emerged as among the top 50 Malaysian most preferred organisations for the GRADUAN BRAND AWARDS 2015.

## Diversity and Inclusion

The PETRONAS Leading Women Network (PLWN), established in 2015, complemented the EVP and GTS in promoting a high performance culture. Overall, the PLWN is intended to harness the value of women leaders based on a multi-prong model: leader-led development; enabling organisation; and peer engagement. The PLWN, rolled out in Malaysia, provides female employees with a platform to engage and share success stories citing elements vital for career advancement. In 1984, about two per cent of the Group's workforce comprised women, whereas in 2015, the number of female employees have grown to constitute one quarter of the Company's overall workforce.

The Group also provides employment opportunities to individuals from Malaysia and internationally to spur socio-economic growth, while supporting capacity development efforts. PETRONAS' local hiring practices are guided by regulatory requirements in countries of operations, grounded on the principle of meritocracy. Targeted initiatives are pursued to groom local talents' technical skills and knowledge as part of effective talent development as well as retention efforts. For example, the alignment of employment Terms and Conditions to absorb Home Country Nationals as Third Party Nationals.

## Collective Bargaining

PETRONAS adheres to policy statements set out in the CoBE alongside other Human Resources procedures, aligned with global requirements such as the International Labor Organisation. Concurrently, consolidating labour regulations and standards in countries of operations, strictly abiding by requirements such as wages, working hours, local content, nondiscrimination and employees' right for freedom of association.

PETRONAS respects and supports the right to organise as well as the right to collective bargaining, in line with national laws and regulations. To date, PETRONAS has established five in-house unions, namely, *Kesatuan Kakitangan Petroleum Nasional Berhad (KAPENAS)* for Semenanjung Malaysia, Sarawak, Sabah and Wilayah Persekutuan Labuan, including *Kesatuan Pekerja-Pekerja Optimal Chemicals (M) Sdn Bhd (KEPKO)*. These Unions are entrusted to uphold the wellbeing of employees through continuous engagement sessions, promoting a harmonious relationship between PETRONAS and its employees. In 2015, 10,167 staff were covered under the Collective Agreement, compared to 8,954 in the preceding year. Under the Agreement, the Company's in-house unions are the sole bargaining body for all eligible employees.



## Workforce Training and Development

PETRONAS adopts structured development programmes, paving way for employees' timely career progression. This encompasses formal and informal trainings, such as classroom sessions and on-the-job trainings at the Group's various operating facilities to equip them with the technical, functional, management and leadership skills at the Group's training institutions. In 2015, PETRONAS invested RM500 million on staff knowledge and capability development efforts. Staff are empowered to define and push the boundary of success through the Employee Performance Management (EPM) system, encouraging the concept of engagement all year-long. Mechanisms such as Skills Groups and Accelerated Capability Development (ACD) programmes are developed to systematically equip employees with the knowledge required in their respective disciplines to ensure safe operations.

PETRONAS owns several educational institutions, some of which are open to members of the oil and gas fraternity at large. To date, PETRONAS also offers in-house Master of Business Administration or MBA programmes, collaborating with international universities:

## SOCIETY

Technical	Management and Leadership	Tertiary Education	Others
• INSTEP	• PLC	• UTP	• ALAM • In-house academies such as Operational Excellence and Production

### Leadership Development

In 2015, the Group enhanced the PETRONAS Leadership Competencies for all levels of staff, which centred on four dimensions; Develop Self and Others, Outperform, Behave as an Owner, and Inspire Others. Staff's Leadership Competencies are annually assessed using an online feedback form. The findings from which are consolidated and deliberated, resulting in the development of specific action plans to improve identified gaps, tracked during the regular EPM discussions.

In the period under review, PETRONAS employees benefitted from the wide range of leadership programmes offered at the PLC, an accredited leadership and management learning institution. The learning modules on competency building and people development cover topics on leadership as well as management, focusing on inculcating a high performance culture. The various modules are developed in consultation with subject matter experts.

### Technical Capability Development

PETRONAS' structured capability building plan entails technical, leadership and management programmes, promoting the concept of continuous learning. Having established a formalised requirement for HSE embedment in all technical groups in 2014, the Group developed and executed a dedicated training module on HSE fundamentals in 2015. PETRONAS also promote HSE awareness by incorporating HSE module at every PETRONAS Induction Programme for Executives (PIPE).

Our ongoing structured programmes include:

- Accelerated Capability Development (ACD) for technical executives
- Technical Professional Career Progression (TPCP) for Technical Professionals (TP)
- PETRONAS Competency Assessment System (PECAS) for technical non-executives
- Technical Trade Specialist (TTS) for skilled technicians and operators

### Workforce Engagement

In 2015, three President Townhall sessions were held, compared to one in the previous year, predominantly, to discuss the Group's strategies in mitigating impacts of the low oil price environment. Similar Management-led sessions were also conducted by the Businesses, to cascade insights from the President's Townhall and discuss targeted business strategies. The Townhall sessions were also a platform for PETRONAS' employees to network with and seek insights from the Company's management team.



# PETRONAS IN SARAWAK

FEATURE



Sarawak is an important State in the development of oil and gas industry in Malaysia. Oil was discovered in 1910 and the industry has exponentially developed into an integrated oil and gas value-chain since the enactment of the 1974 Petroleum Development Act and the stewardship of PETRONAS; from oil and gas production, to liquefaction of Natural Gas, to feedstock supply for petrochemical products and feed source to electricity and reticulation businesses. Today, Sarawak is producing an average of 850 thousand barrels of oil equivalent per day (kboe/d) from 64 fields with 23 investors.

## PETRONAS IN SARAWAK

For the gas business, our PETRONAS LNG Complex, or in short MLNG, at Bintulu, which started its operations in 1983, is currently running on 8 trains, with a total capacity of 25.7 million tonnes per annum (MTPA). A further expansion of our MLNG will see a ninth train to be operated in 2016, adding another 3.6 MTPA of capacity.

Additionally, our PFLNG Satu, the world's first floating Liquefied Natural Gas (LNG), will begin operating in 2016 at the Kanowit gas field located offshore Bintulu. With a capacity of 1.2 MTPA, the PFLNG Satu is set to redefine the business landscape, as processes such as liquefaction, production and processing of LNG will be carried out closer to the source of gas. Previously, this was only possible at onshore plants, making it difficult to monetise stranded gas resources in an economical and safe manner.

As for downstream, we operate the Asean Bintulu Fertiliser (ABF) plant with a 63.5 per cent equity. The plant produces 0.75 MTPA of urea, making it Asia's largest granular urea plan, and 0.45 MTPA of ammonia. Additionally, PETRONAS runs and manages five fuel terminals, four bunkering facilities, four aviation depots, two LPG bottling plants and over 80 ground service stations across the State.



### PETRONAS and the Sarawak State Government

PETRONAS and the Sarawak State Government has formed a special committee to collaboratively work towards spurring greater growth of Sarawak's energy industry. Among the focus areas are:

- Supply of natural gas for domestic consumption, including State's participation in PETRONAS LNG 9 Sdn Bhd
- Development of local Sarawak vendors and/or service providers
- Development of human capital and educational programmes
- Accelerate corporate social investment (CSI) programmes

### Developing Local Vendor

The thriving oil and gas industry in Sarawak entails a pool of qualified and credible local service providers capable of competing at the global forefront. Hence, PETRONAS collaborated with the State Government to spearhead strategies to enhance the participation of local Sarawakian companies in the industry, equipped with desired competencies and market competitiveness.

In 2015, we held nine engagement sessions with the State authorities and two seminars on licensing processes and procurement governance for local vendors. We also established three licensing counters, namely, in Kuching, Bintulu and Miri to facilitate applications of licenses. As a result, the number of Sarawak vendors with PETRONAS license increased by 15 per cent from 328 in 2014 to 385 in 2015.

## PETRONAS IN SARAWAK



### Mutual Growth Aspirations

We embarked on numerous long-term initiatives to inspire and empower local communities focusing on the areas of education; community wellbeing and development; and environment. PETRONAS had invested over RM87 million to execute over 100 CSI programmes in Sarawak, between 2010 and 2015, and will continue to invest towards initiatives aimed at upholding the wellbeing of Sarawakians.

**Education:** The PETRONAS Education Sponsorship Programme (PESP) provides selected students with opportunities to pursue tertiary education at local and international universities, whereas the *Program Sentuhan Ilmu PETRONAS* (PSIP) focuses on strengthening the academic and non-academic achievements of students residing at selected areas of its operations in Sarawak.

PETRONAS is also jointly contributing towards the construction of a new *Maktab Rendah Sains MARA* (MRSRM) in Bintulu and the establishment of Asrama Desa facilities at three selected schools.

Education sponsorship are also extended to selected students hailing from underprivileged families studying at MRSRM Kuching, MRSRM Betong and MRSRM Mukah. In 2015, some 150 MRSRM students received the annual allowance. PETRONAS also jointly-sponsored the Trust School programme, benefitting a total of 2,600 students from five public schools in Lundu, Sarawak.

## PETRONAS IN SARAWAK

**Community Wellbeing and Development:** The Group pursued the following initiatives in 2015:

- *Program Kenali Anak Kita* a social ills awareness programme targeting parents;
- *Program Sentuhan Harapan PETRONAS* for providing food aid and skills training to the extreme poor; and
- PETRONAS' Disaster Relief Programme to channel immediate aid in times of disaster.

In addition, PETRONAS will expand coverage of the Vocational Institution Sponsorship and Training Assistance (VISTA) programme to support four additional technical institutions, namely Centre of Technical Excellence Sarawak, *Pusat Pembangunan Kemahiran Sarawak*, *Institut Latihan Perindustrian* (ILP) Miri and *Institut Kemahiran Belia Negara* (IKBN) Miri. The assistance will include provision of machineries and heavy equipment, learning and training aids, technical support and advisory as well as financial support for selected trainees.

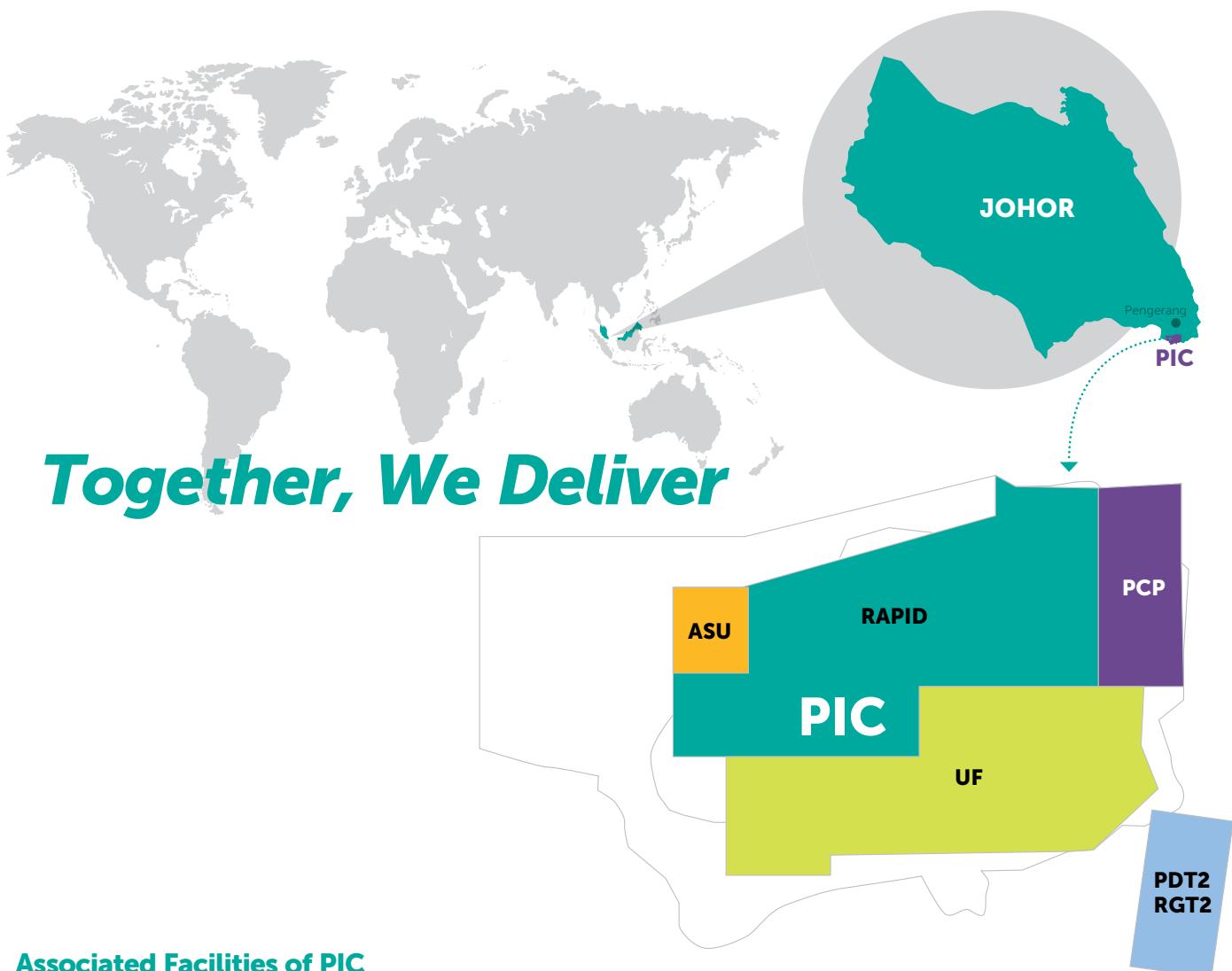
**Environment:** Some of the Group's ongoing commitments include contributions towards the Biodiversity, Environmental and Conservation (BEACON) Project and Piasau Nature Reserve development initiative - collectively, entailing an investment of more than RM15 million.

Amongst the new environmental undertakings in 2015 include conservation of coral reefs at the 12,200 hectares Sibuti Reef Complex within the 186,930 hectares of Miri-Sibuti Marine National Park.



# PENGERANG INTEGRATED COMPLEX (PIC)

FEATURE



## Associated Facilities of PIC



**PAMER**  
Raw Water Supply  
Project to RAPID  
230 MLD of water



**PCP**  
Pengerang  
Cogeneration Plant  
Power > 1,220 MW  
Steam at 1,480 tph



**RGT2**  
Regasification  
Terminal 2  
2x 200,000 m<sup>3</sup> LNG storage  
500 MM SCFD natural gas



**PDT2**  
Pengerang Deepwater  
Terminal 2  
1.3mil tonnes of petroleum  
0.2mil tonnes of chemicals



**ASU**  
Air Separation Unit  
O<sub>2</sub> at >1,500 TPD  
N<sub>2</sub> at >1,300 TPD



**UF**  
Utilities and Facilities  
Centralised and shared  
facilities

To date, PIC marks PETRONAS' largest downstream investment in Malaysia. In 2015, the PIC Project delivery was on track, whereby 19.3 per cent completion was achieved. PIC, located in the State of Johor, Malaysia comprises the Refinery and Petrochemical Integrated Development (RAPID) and several associated facilities, namely:

- Pengerang Cogeneration Plant (PCP): Provide reliable supply of steam and power, where surplus would be supplied to the national grid.
- Pengerang Deepwater Terminal 2 (PDT2): Storage facility for the imported feedstock (crude oil) and export products (petrochemical and petroleum products).
- Utilities and Facilities (UF): Comprehensive utilities and facilities network comprising infrastructure such as air and fuel system, firewater, flare, tankage and storage, among others.
- Raw Water Supply Project to RAPID: Source of raw water for the PIC and local communities.
- Regasification Terminal 2 (RGT2): Feed natural gas for the PIC and Peninsular Gas Utilisation system.
- Air Separation Unit (ASU): Breaks atmospheric air particles into its primary components; nitrogen and oxygen, converting it into industrial gases.

In 2015, PETRONAS focused its efforts to continue engagements with local community members, spurring the involvement of local Johoreans in the project, while addressing the needs of a growing personnel population. Engagements at PIC adopted a process aligned with the International Finance Corporation's (IFC) Performance Standards.

## **Local Community Engagement**

PETRONAS regularly engages with local community members throughout the various phases of a project to share updates and seek insights on development plans. Largely, these dialogue sessions are led by the project team members, taking into account the local cultural norms and expectations. Feedback received is carefully scrutinised to ascertain areas for further improvement and deliberation.

In 2015, cases were received via the Grievance Mechanism channel, using a systematic process to receive, assign, investigate, resolve and report issues, monitored by committees such as the Grievance Resolution as well as Grievance Management. Collectively, these complemented the overarching PIC Health, Safety and Environment Policy. To date, all the issues have been resolved, where some were cascaded to local authorities for further action.

Consultations with local communities in Pengerang were conducted using several channels, some of which are listed below:

- Community Leaders Committee (CLC) – an avenue for leaders from different segments of the society to raise issues and concerns, in the presence of relevant state authorities and PETRONAS. The meeting held on a monthly basis was participated by representatives such as women leaders, village heads and youth leaders.
- Community Liaison Officer (CLO) – a dedicated Company focal point for local community members to directly raise any concerns to PETRONAS.
- Project Disclosure Sessions – targeted engagement sessions for various stakeholder groups such as students, teachers and cultural heritage groups to provide project updates in a conducive manner.

The effective discourse enabled timely implementation of measures to address local communities' concerns. This included embarking on a Raw Water Supply Project to RAPID or PAMER, one of the several associated facilities at PIC. PAMER is expected to channel 230 million litres per day (MLD) of raw water to the water treatment plant within the project site at PIC and 30 MLD to Sungai Lebam Dam to supplement Johor State's existing water supply for public consumption in the Pengerang sub-district. The facility scheduled for completion in 2016 will comprise a dam with storage capacity of 72 million cubic metres, an intake pump station, a booster pump station, a terminal reservoir and raw water pipeline measuring approximately 90 kilometres in length.

PETRONAS is also constructing a haulage and public access road in curtailing potential traffic increase due to transportation of heavy equipment, movement of workers to and from the project site as well as availability of limited infrastructure.

Operationalisation of the Material Offloading Facilities (MOLFs) at Teluk Ramunia and Tanjung Setapa are additional solutions to reduce foreseeable road congestion. Collectively, the ports are estimated to receive about four million tonnes of containerised bulk and super heavy lift oversized materials via sea passage for the development of PIC over the next three years.

### **Temporary Workers' Village**

PETRONAS is establishing a temporary workers' village covering some 2,167,550 m<sup>2</sup> within PIC to minimise impact of a large workforce on the local community within Pengerang.

Approximately more than 15,000 workers are presently involved in the project activities. Developments are ongoing to ensure the availability of adequate facilities for an estimated peak workforce of around 60,000 individuals in total.

Main contractors have been allotted sub-plots within the larger village area to construct, operate and maintain accommodation for respective workers, ensuring compliance with PETRONAS' standards on living conditions for workers.

The facilities' pending completion include road, drainage networks, power substations, portable water storages, sewerage treatment plants and fire water system. Amenities such as administration buildings, mosque, fire station, ambulatory medical clinic, cinemas, post office, workshop, supermarket and grocery, cafe, mass hall, barber shop and gymnasium would also be made available. The village will also be equipped with leading edge systems on security, telecommunications and access control.

### **Local Talent Development**

PETRONAS' sustainable solutions on human capital development have increased the participation of Johoreans in our operations at Pengerang. In 2015, sub-contract value totalling some 82 per cent was awarded to qualified, reliable and experienced Johor local vendors to partake in the numerous growth projects related to PIC.

Other initiatives executed in the Johor State were:

- #ForPengerang – Initiative to create and offer business and job opportunities for local communities to benefit from industrial spin-offs of the larger PIC Project.
- Vocational Institution Sponsorship and Training Assistance (VISTA) – A skills development programme held alongside selected institutions which benefitted 2,176 individuals since 2009, many of whom are employed to serve in a myriad of industries. In 2015, PETRONAS invested close to RM1 million for the VISTA programme edition held in Johor.
- Recruit to Train (RTT) – Recruitment and training programme for securing talent pool to drive project growth, in both technical and non-technical areas.
- Entrepreneurship Development Programme (EDP) – Avenue for small cottage industries to grow and participate in the development of Pengerang.

### **KOPEJA**

Relocated residents from Taman Bayu Damai made up 90 per cent of Koperasi Pengerang Jaya Johor Berhad's (KOPEJA) membership. In late 2015, the KOPEJA's was allocated dealership to run PETRONAS' first commercial fuel station at the site of PIC. This initiative under #ForPengerang provided job opportunities to locals and promoted capacity building for effectively operating a PETRONAS commercial fuel station. In turn, this generates a stable income and dividends for its members, including capital for reinvestment.

# AWARDS & RECOGNITION

## 1. MALAYSIA'S 100 LEADING GRADUATE EMPLOYERS 2015

### **PETRONAS was accorded the Graduate Employer of the year Award**

This Award highlights Malaysia's finest graduate employers focusing on specific recruitment processes.

### **PETRONAS emerged as a sector winner under the Energy/Oil and Gas Utilities**

This Award is based on public polls to identify and recognise the most popular graduate recruiters.

## 2. MALAYSIAN INSTITUTE OF CHEMISTRY LABORATORY EXCELLENCE AWARDS 2015

This Award was designed to ensure laboratories demonstrate a strong commitment in providing quality and competent testing services in the fields of health, safety and the environment.

### **Winners/Companies**

PETRONAS Chemicals Group Berhad

### **Areas of Testing**

1. Water and Wastewater
2. Ethylene
3. Polyethylene

PETRONAS Chemicals Methanol Sdn Bhd

### **Areas of Testing**

1. Methanol
2. Water
3. Gas
4. Environmental Samples

PETRONAS Chemicals MTBE (M) Sdn Bhd

### **Areas of Testing**

1. Polypropylene
2. MTBE and Propylene
3. Water
4. Catalyst

PETRONAS Gas Berhad

### **Areas of Testing**

1. Gas
2. Water
3. Wastewater

PETRONAS Penapisan (Melaka) Sdn Bhd

### **Areas of Testing**

1. Petroleum
2. Water

PETRONAS Penapisan (Terengganu) Sdn Bhd

### **Areas of Testing**

1. Petroleum
2. Petroleum Products
3. Aromatics – Benzene and p-Xylene
4. Utilities (Water)
5. Gas
6. Wastewater

PETRONAS Research Sdn Bhd

### **Areas of Testing**

1. Petroleum Products (Crude Oil, Fuel, Polyolester)
2. Water (Drinking Water, Formation Water, Wastewater, Seawater)
3. Natural Gas

### **3. PRIME MINISTER'S HIBISCUS AWARD 2014/2015**

This Award is a premier recognition honouring companies' commitment towards upholding environmental protection.

#### **Exceptional Achievement under the Chemical Industry**

1. PETRONAS Chemicals Ammonia Sdn Bhd, Terengganu
2. PETRONAS Chemicals Derivatives Sdn Bhd, Terengganu

#### **Notable Achievement Award**

Malaysia LNG Sdn Bhd

#### **Notable Achievement Award**

PETRONAS LNG Complex (MLNG)

### **4. CHEMICAL INDUSTRIES COUNCIL OF MALAYSIA (CICM) RESPONSIBLE CARE AWARDS 2014/2015**

This Award aims to recognise organisations' notable progress in implementing the Responsible Care's Six Codes of Management Practices in Malaysia.

#### **Corporate Awards for the Six Codes of Management Practices Petrochemicals Category under the Chemical Industry**

1. PETRONAS Chemicals Group Berhad
  - Two platinum, four gold, six silver and 14 merit awards

### **5. ROYAL SOCIETY FOR THE PREVENTION OF ACCIDENTS (ROSPA) OCCUPATIONAL HEALTH AND SAFETY AWARDS 2015**

This prestigious national Award scheme recognises excellence in work-related health and safety performance by private and public sector organisations.

#### **Gold Medal Award**

PETRONAS Chemicals Ammonia Sdn Bhd

#### **Gold Award**

PETRONAS Penapisan (Melaka) Sdn. Bhd  
Malaysia LNG Sdn Bhd

#### **Silver Award**

PETRONAS Chemicals Methanol Sdn Bhd

#### **Sector Award**

Commended: PETRONAS Chemicals Ethylene Sdn Bhd and PETRONAS Chemicals Polyethylene Sdn Bhd

### **6. INSTITUTION OF CHEMICAL ENGINEERS (IChemE) MALAYSIA AWARDS 2015**

This Award celebrates excellence, innovation and achievement in the chemical, biochemical and process industries.

#### **Oil and Gas Award Category**

Winner: MG3DFT™ – “1<sup>st</sup> PETRONAS Drilling Fluid”

#### **Sustainable Technology Award Category**

Winner: “Palm-Based Polyester Polyols and Polyol Esters”

## 7. GETENERGY AWARDS 2015

This global Award recognises the oil & gas companies which have made the most significant contribution to staff learning and development in the past 12 months.

PETRONAS' Technical Capability Development Programme (TCDP) won the Getenergy Awards 2015 under the "Learning at the Core" Category.

## 8. MERITORIOUS AWARDS FOR ENGINEERING INNOVATION (MEA) 2015

The MEA, organised by Hart Energy's E&P editors and now in its 44th year, is among the most distinguished engineering award programmes in the industry, recognising the world's best new tools and techniques for finding, developing and producing hydrocarbons.

The PETRONAS SmartCen™ won the 2015 Special Meritorious Award for Engineering Innovation under the Intelligent Systems and Components Category.

## 9. BRITISH SAFETY COUNCIL 56<sup>th</sup> INTERNATIONAL SAFETY AWARDS 2015

This Award acknowledges and celebrates the successes of organisations in the areas of health, safety and employee wellbeing.

PETRONAS Penapisan (Melaka) Sdn Bhd was accorded the Best Distinction Award.

## 10. MINORITY SHAREHOLDER WATCHDOG GROUP (MSWG) – ASEAN CORPORATE GOVERNANCE INDEX 2015 AWARD

This Award commends public listed companies which promote high levels of business transparency and notable corporate governance practices.

PETRONAS Chemicals Group Berhad received the Industry Excellence Award under the Oil and Gas sector.

## 11. MALAYSIAN OCCUPATIONAL SAFETY AND HEALTH PROFESSIONAL ASSOCIATION (MOSHPA) OSH EXCELLENCE AWARDS 2015

This Award recognises industry players' outstanding achievements in implementing safety and health practices in the workplace.

KLCC Parking Management Sdn Bhd was accorded a Gold Award for its Parking Management Services.

## 12. NATIONAL ANNUAL CORPORATE REPORT AWARDS (NACRA) 2015

The Award recognises and highlights the importance of good financial reporting, not only to protect stakeholders' interest, but also to ensure the effective functioning of the capital market. In 2015, a new Award category on Inclusiveness and Diversity was introduced.

PETRONAS Dagangan Berhad received a Gold Award for Best Designed Annual Report.

PETRONAS Gas Berhad received the Industry Excellence Award under the Industrial Products and Technology category.



