www.petronas.com

#### Petroliam Nasional Berhad (PETRONAS) (20076-K)

Tower 1, PETRONAS Twin Towers, Kuala Lumpur City Centre 50088 Kuala Lumpur, Malaysia



**ANNUAL REPORT 2016** 



#### COVER RATIONALE



Clean in its approach, this cover has depth in chaotic changes in the oil and gas industry.

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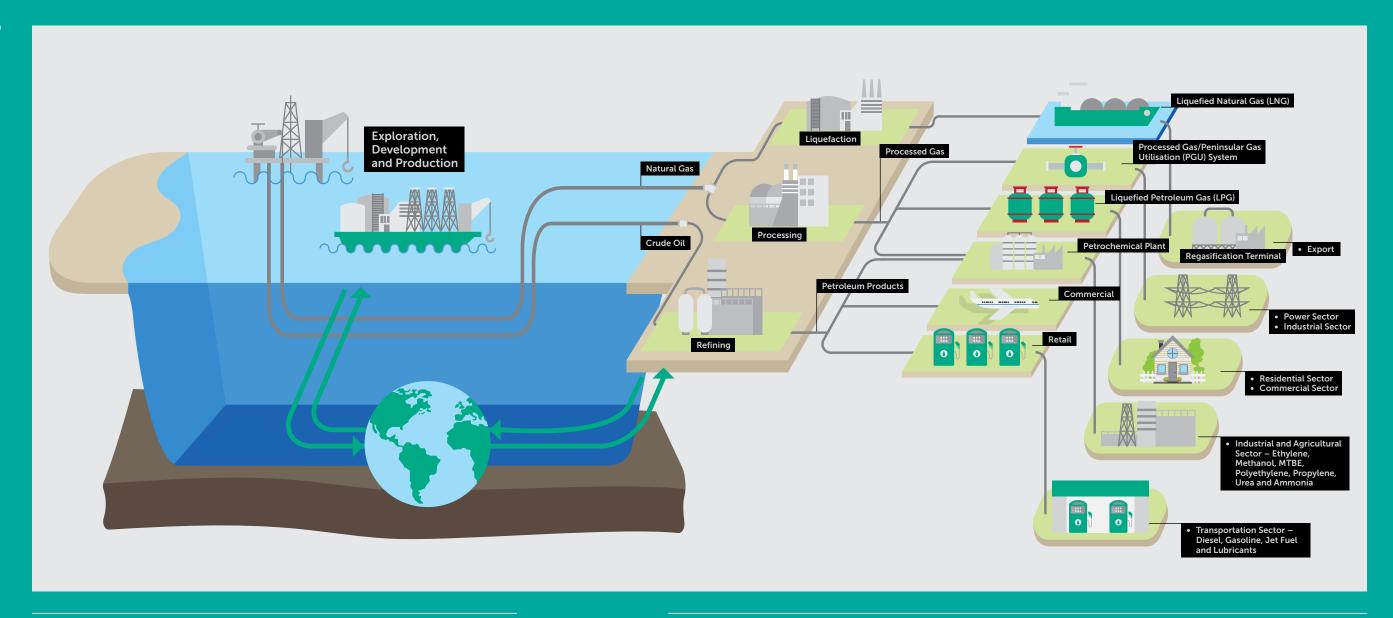
WHO WE ARE **WHO WE ARE** 

#### **PETRONAS AT A GLANCE**

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

entire oil and gas value chain.

value to oil and gas resources



**UPSTREAM** See Upstream page 29.

2,363 kboe/d

#### 420 BCE LNG LOADABLE

#### DOWNSTREAM



Reliability

98.2%

Downstream **Plant Utilisation** 



**Overall Equipment** Effectiveness (OEE)







OF ZAR 3.1 BILLION

**PROFIT BEFORE** TAX (PBT) OF RM1.2 BILLION

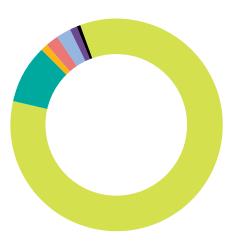
#### PETRONAS DYNAMIC DIESEL EURO 5

SUCCESSFULLY PRODUCED **ON-SPECIFICATION** UREA AND

## 3-TIME CONSECUTIVE

#### WHO WE ARE

#### **OUR WORKFORCE**



#### **PETRONAS Employees by Region**



#### 51,034 **Total Employees**

84.0% Inside Malaysia Outside Malaysia 16.0%

#### **NORTH AMERICA**

UPSTREAM • Canada – (Unconventional) Development & Production • Mexico - Exploration

**DOWNSTREAM • Canada** – Lubricants • **Guatemala** – Lubricants • Mexico - Lubricants • Panama - Lubricants • Dominican Republic -Lubricants • United States of America – Petrochemicals, Lubricants



# Legends ■ → UPSTREAM ■ → DOWNSTREAM

■ → PROJECT DELIVERY & TECHNOLOGY

#### **LATIN AMERICA**

**UPSTREAM • Suriname** – Exploration • Argentina - (Unconventional) Development & Exploration

**DOWNSTREAM • Argentina** – Lubricants

- Bolivia Lubricants Brazil Lubricants
- Chile Lubricants Colombia Lubricants
- Ecuador Lubricants Guyana Lubricants
- Paraguay Lubricants Peru Lubricants
- Suriname Lubricants Uruguay Lubricants

#### WHO WE ARE

#### **EUROPE**

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

DOWNSTREAM • Albania – Lubricants • Austria – Lubricants • Belgium – Lubricants • Bosnia – Lubricants • Bulgaria – Lubricants • Creatia – Lubricants • Czech Republic - Lubricants • Denmark - Lubricants • Estonia - Lubricants • Finland - Lubricants • France - Lubricants • Georgia - Lubricants • Germany - Lubricants • Great Britain - Lubricants • Greece - Lubricants • Hungary - Lubricants • Iceland - Lubricants • Italy - Lubricants • Kosovo - Lubricants • Latvia - Lubricants • Liechtenstein -Lubricants • Lithuania – Lubricants • Macedonia – Lubricants • Malta – Lubricants • Martinique – Lubricants • Moldova – Lubricants • Montenegro – Lubricants • Norway - Lubricants • Poland - Lubricants • Portugal - Lubricants • Romania - Lubricants • Russia - Lubricants • San Marino - Lubricants • Serbia - Lubricants • Slovakia -Lubricants • Slovenia – Lubricants • Spain – Lubricants • Sweden – Lubricants • Switzerland – Lubricants • Ukraine – Lubricants • Vatican City – Lubricants

#### **PROJECT DELIVERY & TECHNOLOGY • Italy • Spain • United Kingdom**



**UPSTREAM • Azerbaijan** – Development & Production • Turkmenistan Development & Production

**DOWNSTREAM • Azerbaijan** – Lubricants

Annual Report 2016

Petroliam Nasional Berhad (PETRONAS)

- Kazakhstan Lubricants Kyrgyzstan
- Lubricants Turkmenistan Lubricants
- Turkey Lubricants Uzbekistan -

#### PROJECT DELIVERY & TECHNOLOGY

Azerbaijan • Turkmenistan

**UPSTREAM • Iraq** – Development &

**DOWNSTREAM • Bahrain** – Lubricants

- Cyprus Lubricants Egypt Lubricants
- Iraq Lubricants Jordan Lubricants
- Lubricants Oman Lubricants
- Qatar Lubricants Saudi Arabia -
- Lubricants Svria Lubricants

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

**DOWNSTREAM • Algeria** – Lubricants • **Angola** – Lubricants • **Botswana** - Retail, Lubricants • Burundi – Retail, Lubricants • Cameroon -Lubricants • Democratic Republic of the Congo – Retail, Lubricants • Gabon – Retail, Lubricants • Ghana – Retail, Lubricants • Guinea Bissau

- Lubricants Guinea Konakri Lubricants Ivory Coast Lubricants
- Kenya Retail, Lubricants Lesotho Retail Libya Lubricants
- Madagascar Lubricants Malawi Retail, Lubricants Mauritania Lubricants • Mauritius – Retail, Lubricants • Morocco – Lubricants
- Mozambique Retail, Lubricants Namibia Retail, Lubricants
- Reunion Retail, Lubricants Rwanda Retail, Lubricants Senegal - Lubricants • South Africa - Refinery, Retail, Lubricants • Swaziland - Retail • Tanzania - Retail, Lubricants • Togo - Lubricants • Tunisia -Lubricants • Zambia – Retail, Lubricants • Zimbabwe – Retail, Lubricants

PROJECT DELIVERY & TECHNOLOGY • Egypt • Mauritania • Republic of South Sudan • Republic of Sudan

#### **ASIA PACIFIC**

UPSTREAM • Australia − Exploration, Development, Production & LNG • Brunei − Exploration & Development • Indonesia – Exploration, Development & Production

- Japan LNG Marketing Malaysia Exploration, Development, Production & LNG
- Malaysia—Thailand Joint Development Area Exploration, Development & Production
- Myanmar Exploration, Development & Production Vietnam Production

**DOWNSTREAM • Australia** – Petrochemicals, Lubricants • **Bangladesh** – Lubricants • Brunei – Lubricants • Cambodia – Lubricants • China – Petrochemicals, Lubricants • Hong Kong - Lubricants • India - Petrochemicals, Lubricants • Indonesia -

- Petrochemicals, Lubricants Japan Petrochemicals, Lubricants Laos Lubricants • Malaysia – Petrochemicals, Retail, Refinery, Lubricants • Myanmar – Lubricants
- Nepal Lubricants New Zealand Petrochemicals, Lubricants Pakistan -Lubricants • Papua New Guinea – Lubricants • Philippines – Petrochemicals,
- Lubricants Singapore Petrochemicals, Lubricants South Korea Petrochemicals, Lubricants • Taiwan - Petrochemicals, Lubricants • Thailand - Petrochemicals,

Lubricants • Timor Leste – Lubricants • Vietnam – Petrochemicals, Lubricants PROJECT DELIVERY & TECHNOLOGY • Brunei • China • India • Indonesia • Japan

• Malaysia • Myanmar • Philippines • South Korea • Vietnam

## **GROUP CORPORATE STRUCTURE**

#### **GROUP CORPORATE STRUCTURE**

	WHOLLY-OWNED SUBSIDIARIES (89	)	PARTLY-OWNED SUBSIDIARIES (38)	ASSOCIATE COMPANIES (20)
	WITOLLI OWNED SODSIDIARILS (69	1	PARTEL OWNED SOBSIDIARIES (50)	ASSOCIATE COMPANIES (20)
ETRONAS GROUP OF COMPANIE	S			
ETRONAS Carigali Sdn Bhd				
PETRONAS Carigali Chad Exploration & Production Inc PETRONAS Carigali Overseas Sdn Bhd PETRONAS Iraq Garraf Ltd PETRONAS Carigali Iraq Holding BV E&P Venture Solutions Co. Sdn Bhd E&P Malaysia Venture Sdn Bhd Vestigo Petroleum Sdn Bhd  ETRONAS Trading Corporation Sdn Bhd PETCO Trading (UK) Limited PETCO Trading DMCC PETRONAS (Thailand) Co. Ltd PICL Marketing Thailand Ltd  ETRONAS Technical Services Sdn Bhd PTSSB DMCC PETRONAS Global Technical Solutions Sdn Bhd	PETRONAS Assets Sdn Bhd Petrofibre Network (M) Sdn Bhd PETRONAS ICT Sdn Bhd Virtus IP Sdn Bhd  PETRONAS Lubricants International Sdn Bhd PLI (Netherlands) BV PETRONAS Lubricants China Company Limited PETRONAS Lubricants Africa Ltd PETRONAS Base Oil (M) Sdn Bhd PLI Australia Pty. Limited  PETRONAS Refinery and Petrochemical Corporation Sdn Bhd PRPC Phenolics Sdn Bhd PRPC Refinery Cracker Sdn Bhd PRPC Utilities and Facilities 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 Sanzbury Stead Sdn Bhd PETRONAS Capital Limited PETRONAS NGV Sdn Bhd Energas Insurance (L) Limited PETRONAS Technical Training Sdn Bhd PETRONAS Floating LNG 1 (L) Ltd PETRONAS Floating LNG 2 (L) Ltd Malaysian Refining Company Sdn Bhd PETRONAS Marketing International Sdn Bhd PETRONAS Hartabina Sdn Bhd PETRONAS Global Sukuk Limited	*MISC Berhad (62.67%) Malaysia LNG Sdn Bhd (90%) Malaysia LNG Dua Sdn Bhd (80%) Malaysia LNG Tiga Sdn Bhd (60%)  *PETRONAS Chemicals Group Bhd (64.35%) PETRONAS Chemicals Marketing Sdn Bhd (100%) PETRONAS Chemicals Derivatives Sdn Bhd (100%) PETRONAS Chemicals Derivatives 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%) PETRONAS Chemicals Fertiliser Kedah Sdn Bhd (100%) PETRONAS Chemicals Fertiliser Kedah Sdn Bhd (100%) PETRONAS Chemicals Fertiliser Sabah Sdn Bhd (100%) PETRONAS Chemicals MTBE Sdn Bhd (100%) PETRONAS Chemicals MTBE Sdn Bhd (100%) PETRONAS Chemicals MTBE Sdn Bhd (100%) PETRONAS Chemicals Aromatics Sdn Bhd (70%) PETRONAS Chemicals Aromatics Sdn Bhd (70%) PETRONAS Chemicals Aromatics Sdn Bhd (88%) PETRONAS Chemicals LDPE Sdn Bhd (60%) PETRONAS Chemicals LDPE Sdn Bhd (87.5%) Asean Bintulu Fertilizer Sdn Bhd (63.44%)	Kebabangan Petroleum Operating Co. Sdn Bhd (40%) PCPP Operating Company Sdn Bhd (40%)  BASF PETRONAS Chemicals Sdn Bhd (40%) Kertih Terminals Sdn Bhd (40%) Idemitsu SM (Malaysia) Sdn Bhd (30%) BP PETRONAS Acetyls Sdn Bhd (30%) PCM Chemical India Private Limited (00.1%)  IndianOil PETRONAS Pvt Ltd (50%) Trans Thai-Malaysia (Thailand) Ltd (50%) Trans Thai-Malaysia (Malaysia) Sdn Bhd (50%) *Bintulu Port Holdings Berhad (28.52%)
OGP Technical Services Sdn Bhd				Centroid Technical Services Co. Ltd (40%)
LCC (Holdings) Sdn Bhd				
			*KLCC Property Holdings Berhad (75.46%)	
ETRONAS International Corporation Ltd				
SIRRI International Ltd PETRONAS Carigali Myanmar Inc PETRONAS Carigali (Turkmenistan) Sdn Bhd	PC (Myanmar) Holdings Ltd PETRONAS Carigali Myanmar III Inc PETRONAS Carigali (Jabung) Ltd	Argentinean Pipeline Holding Company S.A PETRONAS Australia Pty Ltd PETRONAS (E&P) Overseas Ventures Sdn Bhd	Engen Limited (80%)  *PETRONAS Gas Berhad (60.66%)	Transasia Pipeline Company Pvt Ltd (35%) Dragon LNG Group Ltd (50%)
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	PETRONAS Myanmar Ltd PICL Marketing Thailand Ltd Myanmar PETRONAS Trading Co. Ltd PETRONAS (Thailand) Co. Ltd PC Vietnam Limited PC Mauritania I Pty Ltd PC Mauritania II BV PETRONAS Philippines Inc	PETRONAS Carigali (Urga) Ltd Labuan Energy Corporation Limited PETRONAS Power Sdn Bhd PETRONAS LNG Carriers Ltd PETRONAS LNG Sdn Bhd PETRONAS Carigali Brunei Ltd PETRONAS Marketing Ventures Limited	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 O&M Sdn Bhd (60%) Pengerang LNG (Two) Sdn Bhd (65%) Pengerang Gas Solutions Sdn Bhd (51%) Industrial Gases Solution Sdn Bhd (50%)	······································

- (i) This chart includes directly owned and up to the second 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 5 May 2017

#### **ABOUT THIS REPORT**



This Annual Report combines our financial and non-financial reporting.

The consolidated financial statements of the PETRONAS Group as at 31 December 2016, comply with the International Financial Reporting Standards (IFRS) valid at the closing date and with the provisions of the Malaysian Financial Reporting Standards (MFRS). The Statement of Corporate Governance and the Statement on Risk Management and Internal Control are guided by the recommendations of the Malaysian Code of Corporate Governance 2012 (MCCG 2012). Our reporting is also aligned with international guidelines and recommendations.

At PETRONAS, we see reporting as an ongoing, evolving process, not just as an annual exercise. We expect to evolve further still and invite your feedback on this Report, as well as our approach to reporting at digital.comm@petronas.com.

The PETRONAS Annual Report 2016 is available in both print and online versions.





The online version of the PETRONAS Annual Report 2016 can be found at http://www.petronas.com.my/investor-relations/Pages/AnnualRepTimeline.aspx

Section One

# STRATEGIC REPORTS

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# UNLOCKING NEW OPPORTUNITIES

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

Today, we have acquired the ability to identify and unlock new opportunities in new basins. Our algorithm knowledge and capabilities in Geoimaging made new forays in seeing better than others. The technology enables greater accuracy in identifying resources without having to shut down production wells.

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

Sustainability remains one of the key focus areas in all of PETRONAS' operations. We continuously strive to reduce  $CO_2$  emissions through  $CO_2$  Storage Studies and  $CO_2$  Utilisation R&D programmes, in line with international environmental standards and regulations.

Through our wide-ranging operations, we have built an extensive engineering solution suite that optimises life-cycle cost, safety assurance and enhances asset integrity in our capital projects.

With these and many more exciting technologies continuing to unfold, PETRONAS' move into the future has elevated our human capital capabilities to new heights, geared to unlock more opportunities once considered impossible.





## LETTER FROM THE CHAIRMAN

## Dear Stakeholders,

I write with deep appreciation and pride in PETRONAS, an extraordinary company with an exceptional legacy, heritage and vision. Despite the profound political and economic vagaries around the world in 2016, we were steadfast in our commitment to our clients, communities and the countries we served and operated in. Our continued dedication is a function of our people, systems and processes, the quality of our services and products, as well as the unwavering support of our stakeholders.



#### A MOMENT OF REFLECTION

Having emerged from one of the most tumultuous times in the recent history of oil and gas, it is only wise that we take a step back to reflect on last year. Not only on what we have achieved thus far, but more importantly on the valuable lessons and insights that only these rare, defining moments have to offer. Guided by the Board of Directors and Executive Leadership Team (ELT) who have taken to heart Winston Churchill's words, "Never let a good crisis go to waste", PETRONAS has leveraged on this

In the last two years, PETRONAS embarked on a transformation journey to ensure its resilience and long-term sustainability. One of the most profound intuitions for PETRONAS is having clarity and focus in all that we do. This journey has enabled for a higher level of consciousness in gaining clear line of sight of both the risks as well as opportunities that this new reality beholds.

#### LETTER FROM THE CHAIRMAN



Although our ranking in the FORTUNE Global 500° fell from 68 to 125 as a result of external factors which are beyond our control, principally the global oil price, as well as the world's geopolitical changes, and new developments in regulations and policies, I strongly believe that the behaviour and mindset of a FORTUNE Global 500° Company are far more important than the ranking itself. Hence our agility in the areas of technology, collaboration, business models and crucially, our collective behaviour that shapes our organisational culture would stand us in good stead. Our brand reputation is underpinned by the cohesiveness of our people, our deep and long established client relationships, our robust processes and systems, and our vision.

The world that operates before us today is unrelenting in its demands. There has to be a sense of urgency in us, and the humility to acknowledge that we do not know all, and that we cannot undertake everything on our own. Hence the need for us to collaborate, internally within PETRONAS, as well as externally. We need to continuously be ahead of the curve. We must bring the 27th century mindset forward to today. Our long-term sustainability is underpinned by our collective ability to think and act for tomorrow, TODAY.

#### MANAGING RISK AND CHAMPIONING GOVERNANCE

We have an effective risk management framework in place where a wholesome risk identification approach is critical to gain sufficient understanding and appreciation for better, informed decision-making. With the Board's oversight on risk, supplemented by the establishment of the Board Governance and Risk Committee (BGRC) since 2010, these have set the tone and culture from the top towards embedding the rigorous risk management practices across the Group. In 2016, we have continuously enhanced the overall risk management strategy by focusing on three areas of business resilience namely Enterprise Risk Management, Crisis Management and Business Continuity Management.

PETRONAS has always been lauded for upholding the highest standards of integrity and corporate governance, with transparency and ethics being the core of its processes and systems. I am pleased to report that the disclosures and transparency to our investors and regulators locally and globally have been compliant. I would credit this to our strong and robust compliance and control systems and the inculcation of a culture that upholds integrity without compromise. This is core to our Shared Values.

#### LETTER FROM THE CHAIRMAN

PETRONAS' Zero Tolerance policy against all forms of bribery and corruption is embedded in our Code of Conduct and Business Ethics (CoBE) and is applicable to all employees and directors. The CoBE is included in all our contracts with third parties who represent and/or act for the Group. Similarly, we have also made the PETRONAS Whistleblowing Policy transparent and accessible to the general public. All of these are to ensure that our businesses worldwide uphold the same level of commitment to ethics and transparency.

#### **EMBRACING DIVERSITY**

I am very pleased to share that in 2016, PETRONAS' Board has further increased its diversity, with the appointment of two Board members representing the state of Sarawak and the state of Sabah, respectively. In 2015, the Board saw the appointment of two women Board members.

Moving forward, PETRONAS will work on increasing the participation of professional women in higher roles and functions throughout the Group, locally and globally. That development would ensure a pipeline of ready women talent at Management as well as Board levels.

#### **INVESTING IN HUMAN CAPITAL**

Our people are our most invaluable assets. PETRONAS has some of the best talents in Malaysia and I dare say, globally. These are the faceless heroes who, on a daily basis, work to make this Company the pride of every Malaysian. They are the ones who have accomplished all the things carried by the media and in this Annual Report. Therefore, it is immensely important for us to continuously invest in our own future leaders that shall ensure the vitality of a strong leadership bench for succession planning purposes. Such investments shall not be compromised even during the most challenging of times.



#### **KEEP MOVING FORWARD**

On behalf of the Board, I would like to express my utmost appreciation to Datuk Wan Zulkiflee, the ELT as well as all employees of the Group, for an amazing performance in 2016 – true to our definition of "Shared Success". It was truly a commendable accomplishment, particularly given the gloomy landscape of our industry during the year.

Likewise, we continue to be very much humbled and encouraged by the trust and support from our Shareholder, the Government of Malaysia who, since 17 August 1974, has accorded PETRONAS the independence and operational freedom to shine as a respected entity in Malaysia, in the region and globally.

Let me end by quoting Allahyarham Tun Azizan Zainul Abidin who wrote the last Chairman's Message in the Annual Report of June 2004, "We will keep on investing in the development of our human resources as well as our technological base and capabilities to position PETRONAS at the forefront of competition in the global arena".

That, in a nutshell, is what we have to do, for PETRONAS to be benchmarked by the best. An International Oil Company that proudly remembers its roots, conscious of its *raison d'etre*, and comprehensively acquits its responsibilities.

Thank you.



TAN SRI MOHD SIDEK HASSAN Chairman

11 May 2017

Annual Report 2016



# LETTER FROM THE PRESIDENT AND GROUP CHIEF EXECUTIVE OFFICER

## IT IS MY PLEASURE TO PRESENT THE PETRONAS ANNUAL REPORT FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2016.

Financial Year 2016 (FY2016) proved to be yet another challenging period for PETRONAS, as the oil and gas industry experienced continued volatility, amidst increased supplies coupled with lower energy consumption due to slowing world economic growth. Brent prices which started its fall in mid-2014 continued to slide, with a further decline to below USD30 per barrel in early 2016 before averaging USD44 per barrel for the year compared to USD52 per barrel in 2015.

In response to the deteriorating market environment, PETRONAS introduced a series of sequential steps to face the difficult period and established prerequisites for our long-term sustainability in what is clearly a major industry downcycle. These steps included a restructuring of our organisation to increase effectiveness, optimisation of our manpower to eliminate redundancy and reducing expenditure.

These prudent measures have allowed PETRONAS to weather the industry challenges and remain resolutely in the black. For FY2016, PETRONAS recorded a revenue of RM204.9 billion, a 17 per cent decrease from 2015, due to lower average prices in line with the downward trend of key benchmark prices (Dated Brent and Japan Customs-cleared Crude) coupled with the impact of lower sales volume.

Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA) decreased by 7 per cent to RM70.4 billion, while Profit After Tax increased by 12 per cent to RM23.5 billion due to lower operating expenditures and tax expenses partially offset by lower average prices.

The PETRONAS Group closed the Financial Year with total assets of RM603.2 billion, up from RM591.9 billion in 2015, mainly due to continued investment in assets, as we seek to sustainably maintain long-term growth for the business.

Overall, PETRONAS ended the year maintaining a strong credit rating, low gearing of 17 per cent and a healthy cash balance. The Group took a RM12.9 billion impairment on assets to ensure the robustness of our balance sheet throughout the prolonged low oil price environment. PETRONAS also saw an increase in both Profit Before Tax (PBT) and EBITDA margins which indicate improvements in the Group's underlying performance.



#### LETTER FROM THE PRESIDENT AND GROUP CHIEF EXECUTIVE OFFICER



PETRONAS paid RM16 billion in dividends to the Malaysian Government in 2016 and continued to be the sole contributor to the National Trust Fund with a contribution of RM100 million for the year.

PETRONAS' Health, Safety and Environment (HSE) performance for 2016 recorded a higher Fatal Accident Rate of 3.53 and 13 fatalities as compared to 2015. We were disappointed by this record and focused interventions have been introduced to enhance safety practices in areas requiring immediate attention, as well as steps to enhance accountability and ownership of safety practices.

In the area of sustainability, PETRONAS continuously worked to enhance and align the Company's carbon footprinting practices in accordance with international industrial guidelines developed together with the International Petroleum Industry Environmental Conservation Association (IPIECA) in line with the aspirations laid out by the United Nations Framework Convention on Climate Change. We also succeeded in efforts to cut down our Greenhouse Gas (GHG) emissions through initiatives such as reducing flaring, improving plant reliability and enhancing energy efficiency in our operations.

PETRONAS continued to enhance our operational excellence and pace of delivery, and remained focused on executing key growth projects, despite the headwinds faced during 2016. The Group achieved a number of significant milestones which are detailed out further by the respective Executive Vice Presidents and Chief Executive Officers (CEO) of the Upstream and Downstream Businesses in this Annual Report.

PETRONAS' success during this challenging period is a testament to the tenacity and collective determination of our people to strive for excellence, in the spirit of Shared Success.

On the part of the organisation, a series of deliberate sequential steps were introduced to weather the immediate impact of the declining oil price which focused on cutting costs, improving cash generation and ensuring successful delivery of our key projects.

The organisation undertook a critical Capital Expenditure (CAPEX) and Operational Expenditure (OPEX) review to reduce RM50 billion from 2016 to 2019. In 2016, PETRONAS made a concerted effort to reduce CAPEX and OPEX between RM15 billion to RM20 billion, with a primary focus on re-examining and optimising all costs. The cost cutting efforts succeeded and we even managed to reduce controllable costs by a further 8 per cent as compared to costs in 2015.

A flatter and leaner organisation structure was also introduced, designed to allow faster decision-making and improve operational efficiency.

#### LETTER FROM THE PRESIDENT AND GROUP CHIEF EXECUTIVE OFFICER



These efforts sent a resounding signal across the organisation to strive in achieving more with less. Despite the challenging environment, with the difficult decisions made to rein in cost and raise efficiency, we continued to deliver strong results for 2016. These measures strengthen the foundation for PETRONAS to move into a still uncertain future.

In 2017, we aim to continue this momentum by focusing on the themes of Collaboration, Pace and Going Digital to guide our efforts to elevate and sharpen our focus in delivering results. As part of this, we will continue to look for further avenues to achieve long-term growth, especially by leveraging on increased collaboration with host authorities, other industry players and our key stakeholders. We will also accelerate our pace of delivery and widen the implementation of digital solutions to better integrate and orchestrate efforts across our integrated value chain.

In this vein, I would like to put on record my appreciation to the Board of Directors for their continued stewardship of the Company, as well as to my leadership team for their continued support and trust in me, as we face this period of prolonged turbulence together.

We have experienced one of the most challenging years in recent history. With the key prerequisites to transform PETRONAS in place, and with the anticipated recovery in the market, I am confident that we are well-positioned to face future challenges and will continue to uphold our 'amanah' in delivering a strong performance and sustaining long-term value for our resources.

DATUK WAN ZULKIFLEE WAN ARIFFIN
President and Group Chief Executive Officer

11 May 2017



# LETTER FROM THE GROUP CHIEF FINANCIAL OFFICER

#### **REVIEW OF 2016 FINANCIAL RESULTS**

It was a challenging year for the industry but our improved operational performance and effective cost optimisation efforts helped to soften the impact of lower oil price.

PETRONAS Group's revenue for 2016 stood at RM204.9 billion, a 17 per cent reduction compared to RM247.7 billion in 2015, primarily a result of lower average prices recorded across most product groups following the downward trend of key benchmark prices (Dated Brent and Japan Customs-cleared Crude (JCC)), coupled with the impact of lower sales volume mainly from crude oil and condensates, and petroleum products.

The reduction in revenue was partially offset by the effect of the weakening Ringgit against the US Dollar. In 2016, the Ringgit averaged at RM4.15 against RM3.90 in 2015 to the US Dollar.

The Group's better operational performance in 2016 also helped cushion the impact of lower revenue for the year. Total Upstream production in 2016 increased by 3 per cent compared to 2015, primarily contributed by production growth for domestic and international operations.

In Malaysia, higher crude oil and condensates production was mainly driven by the resumption of Sabah-Sarawak Gas Pipeline operations in early 2016, higher facilities uptime in Gumusut-Kakap and higher Peninsular Malaysia gas production. On the international front, higher facilities uptime in Canada also helped increase production, alongside higher production from Indonesia and Australia.

Group profit after tax increased by 12 per cent to RM23.5 billion principally driven by lower operating expenditure, net impairment on assets and tax expense in 2016. Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA) for the year was RM70.4 billion, a reduction of 7 per cent as compared to 2015 mainly due to lower oil prices.

The Group's better operational performance and effective cost optimisation efforts in 2016 helped soften the impact of lower oil prices.

#### **REVENUE**

#### ▼ RM204.9 billion

Revenue reduced by 17 per cent primarily a result of lower average prices



#### PROFIT AFTER TAX

#### ▲ RM23.5 billion

Profit After Tax (PAT) higher by 12 per cent due to lower operating expenditure, net impairment on assets and tax expense partially offset by lower average prices



## CASH FLOWS FROM OPERATIONS

#### ▼ RM53.8 billion

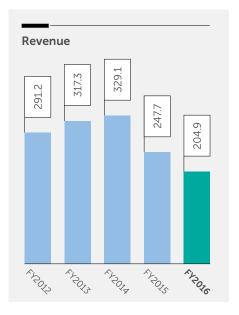
Cash Flows from
Operations (CFFO)
decreased by 23 per cent
in line with the reduction
in average product prices



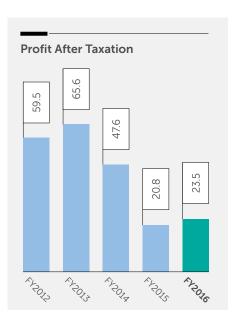
#### LETTER FROM THE GROUP CHIEF FINANCIAL OFFICER

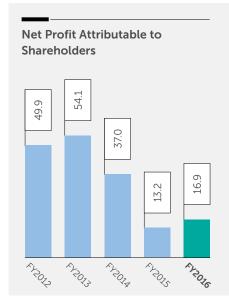
#### PETRONAS' KEY FINANCIAL INDICATORS

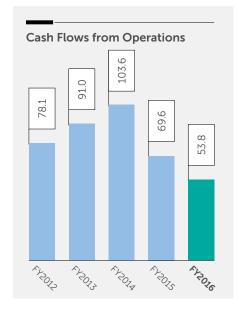
In RM billion













Financial Ratios	FY2016	FY2015	FY2014	FY2013	FY2012
PAT Margin	11.5%	8.4%	14.5%	20.7%	20.4%
Return on Total Assets (ROTA)	5.4%	5.9%	14.1%	17.5%	18.0%
Return on Average Capital Employed (ROACE)	5.3%	5.1%	11.9%	17.4%	16.8%
Debt/Assets Ratio	0.11x	0.10x	0.07x	0.08x	0.08x
Gearing Ratio	17.4%	16.0%	12.6%	14.3%	15.1%
Dividend Payout Ratio	>100%	70.2%	53.6%	54.1%	57.0%

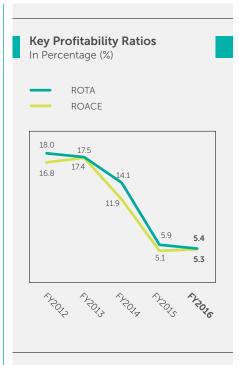
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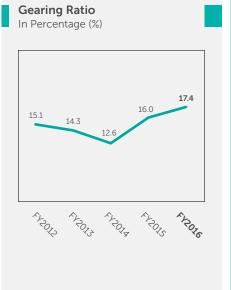
#### FINANCIAL POSITION AND LIQUIDITY

PETRONAS' financial position remained solid with robust liquidity. Total assets as at 31 December 2016 amounted to RM603.3 billion as compared to RM591.9 billion as at 31 December 2015. Property, plant and equipment increased by 8 per cent, a result of continuous investments by the Group in Upstream and Downstream projects for PETRONAS' long-term sustainability.

Cash, fund and other investments of RM131.8 billion decreased slightly in 2016 compared to RM136.7 billion in the previous year. Cash flows from operating activities decreased by 23 per cent to RM53.8 billion in 2016 primarily due to lower average prices partially offset by lower taxes paid. Other cash inflows for 2016 included drawdown of term loans and revolving credit facilities by the subsidiaries for capital investments.

Capital investments in 2016 amounted to RM50.4 billion of which 52 per cent was predominantly spent on the Refinery and Petrochemical Integrated Development (RAPID) project in Pengerang, Johor. Out of the RM50.4 billion, 80 per cent was spent in Malaysia. Other cash outflows for 2016 included payment of dividends to PETRONAS' shareholder, the Government of Malaysia and the Group's non-controlling interests; and repayment of borrowings amounting to RM6.2 billion. The Group's ROTA for 2016 has decreased to 5.4 per cent in line with lower Profit Before Tax (PBT) whilst ROACE was higher at 5.3 per cent in line with higher profit for the year. Gearing ratio slightly increased from 16.0 per cent in 2015 to 17.4 per cent as at 31 December 2016, following additional drawdown of borrowings during the year.



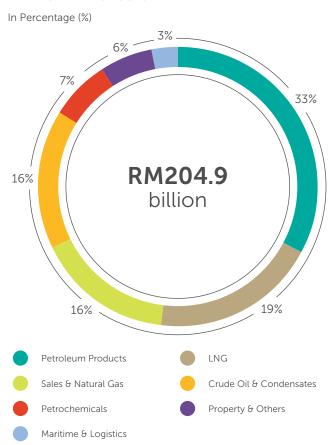




Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

#### LETTER FROM THE GROUP CHIEF FINANCIAL OFFICER

#### **REVENUE BY PRODUCTS**



## Prices remained low as impacted by robust supply and tepid demand

## 17% decline in Group's total revenue



**Petroleum Products** 

▼ 16% to RM67.3 billion



LNG

▼ 27% to RM39.5 billion



#### Sales & Natural Gas

▼ 12% to RM33.7 billion, despite increase in sales volume



#### Crude Oil & Condensates

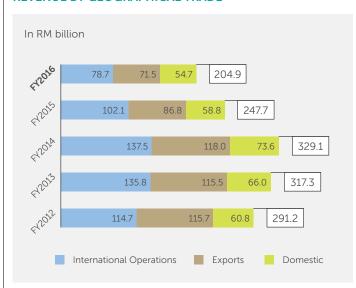
▼ 24% to RM31.9 billion



#### Petrochemicals

▲ 6% to RM14.0 billion, in line with higher sales volume

#### **REVENUE BY GEOGRAPHICAL TRADE**



For 2016, the Group recorded lower revenue for all categories of its geographical trade and this was due to lower average prices across most product groups. Revenue from international operations remained the highest contributor to the Group's revenue, followed by exports and domestic operations.

For the fourth consecutive year, revenue from international operations continued to be the largest contributor to the Group's total revenue, amounting to RM78.7 billion or 38 per cent. This, however, was a decrease of 23 per cent from RM102.1 billion in 2015, reflective of lower average prices coupled with the impact of lower sales volume mainly from petroleum products and crude oil and condensates.

Revenue generated from exports decreased by 18 per cent to RM71.5 billion in 2016, representing a 35 per cent share of Group's total revenue. The decrease was primarily due to lower LNG prices following lower JCC benchmark price and the lower number of LNG cargoes delivered during the year.

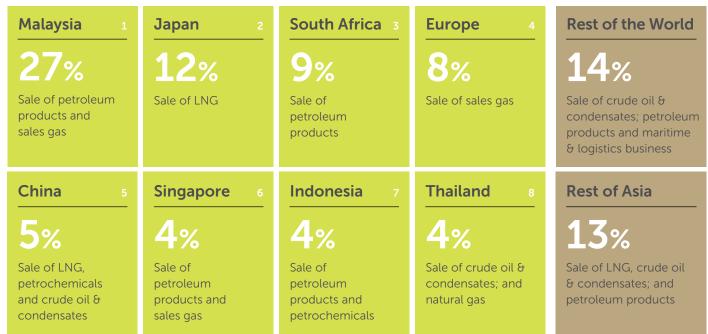
Domestic operations accounted for the remaining 27 per cent of Group's total revenue, which decreased to RM54.7 billion in 2016 from RM58.8 billion last year. The decrease was mainly due to lower revenue from petroleum products as a result of lower average prices in 2016.

#### **REVENUE BY GEOGRAPHICAL SEGMENTS**

LETTER FROM THE GROUP CHIEF FINANCIAL OFFICER

The Group's revenue by geographical segments is based on the geographical location of our customers.





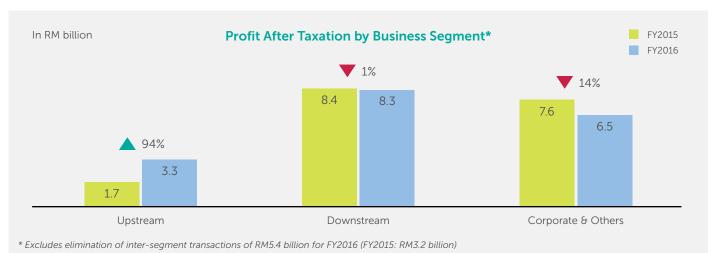
Note: Percentage changes are in comparison to 2015

Petroliam Nasional Berhad (PETRONAS)

#### LETTER FROM THE GROUP CHIEF FINANCIAL OFFICER

#### **SEGMENT EARNINGS**





The Group has two reportable operating segments comprising Upstream and Downstream. Corporate and Others comprise primarily maritime and logistics business, property business and the central treasury function.

The Upstream segment recorded higher PAT of RM3.3 billion in 2016, a significant increase by 94 per cent from RM1.7 billion reported in 2015 despite lower revenue reported for the year as a result of lower average prices. The increase was primarily driven by lower operating expenditure resulting from cost optimisation initiatives, lower net impairment on assets and lower tax expense. For 2016, Upstream segment contributed 18 per cent to the Group's gross PAT.

The reduction in Upstream's operating expenditure was realised via rationalisation efforts of exploration and production activities in Malaysia and its international assets as well as cost optimisation initiatives. 2016 Upstream oil and gas entitlement volume<sup>1</sup> was 1,794 kboe/d, a 10 per cent increase from 1,624 kboe/d in 2015.

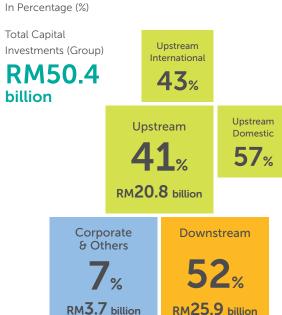
Downstream segment recorded a slightly lower PAT of RM8.3 billion in 2016, a 1 per cent decrease compared to RM8.4 billion recorded last year, mainly driven by lower domestic refining margins and lower petrochemical product spreads. The Downstream segment contributed 46 per cent to the Group's gross PAT.

The PAT for Corporate and Others decreased by RM1.1 billion or 14 per cent to RM6.5 billion in 2016 as compared to RM7.6 billion last year. The decrease was mainly a result of lower sales of oil and gas equipment, fund investment income and net foreign exchange gain.

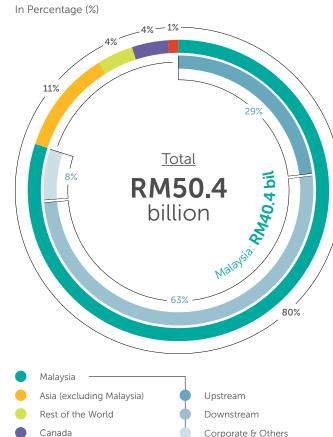
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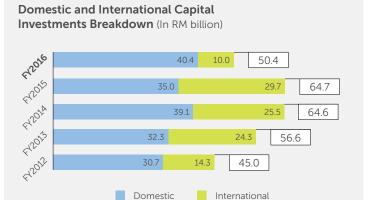
#### SEGMENT CAPITAL INVESTMENTS

Capital Investments Allocation 2016



## Capital Investments by Geographical Segment 2016





In response to the deteriorating business environment as a result of price downcycle, PETRONAS undertook several steps to stabilise expenditure. These included a reduction in capital investments from 2016 to 2019. In 2016, capital investments reduced by RM14.3 billion or 22 per cent to RM50.4 billion compared to RM64.7 billion in the previous year. However, key projects in Upstream to ensure long-term sustainability continued to receive capital during the year.

Capital investments for Upstream amounted to RM20.8 billion or 41 per cent of the Group's total capital investments, a decrease of RM27.9 billion compared to 2015. This year, the investments were predominantly made in exploration and production activities to sustain growth in Malaysia and International operations; and the remaining were mainly invested in LNG projects. Domestic capital investments of RM11.9 billion or 57 per cent include Floating LNG projects, Baram Delta Gas Gathering Project 2 (Bardegg 2) and Baronia Enhanced Oil Recovery (EOR) project as well as NC3 offshore facilities project for Train 9 located offshore Sarawak and the North Malay Basin pipeline and facilities in Terengganu, whilst RM8.9 billion were invested outside Malaysia in key countries including Azerbaijan, Iraq, Canada and Australia.

Capital investments in Downstream increased by RM14.3 billion to RM25.9 billion in 2016 mainly attributed to the RAPID project in Pengerang, Johor and the Sabah Ammonia Urea (SAMUR) project in Sipitang, Sabah. Completion of these state-of-the-art projects will position PETRONAS as a key Downstream player in Asia Pacific's petroleum and petrochemical markets.

Businesses under Corporate and Others spent RM3.7 billion during the year with MISC Berhad (MISC) accounting for 60 per cent of total spending. The bulk of capital investments for MISC was spent on finance lease assets under construction as well as refurbishment and dry-docking of existing vessels. The remaining capital investments were spent mostly by KLCC (Holdings) Sdn Bhd on acquisition of land for development purposes.

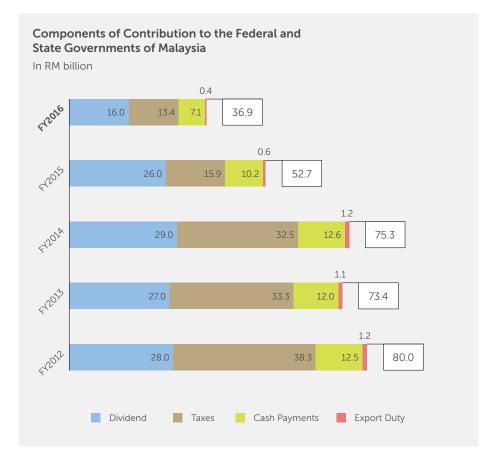
26 27

Australia

<sup>&</sup>lt;sup>1</sup> Represents PETRONAS Group's entitlement to Malaysia's production and PETRONAS Group's international entitlement volume.

#### LETTER FROM THE GROUP CHIEF FINANCIAL OFFICER

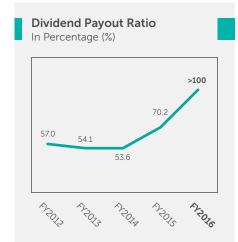
#### CONTRIBUTION TO GOVERNMENTS AND REVENUE FORGONE



Revenue Forgone (in RM Billion)	FY2016	FY2015	+/-	Cumulative total since 1997
POWER SECTOR	1.9	5.5	-65%	156.9
NON-POWER SECTOR (including industrial, commercial, residential users and NGV)	1.2	5.4	-78%	84.5
Total	3.1	10.9	-72%	241.4

PETRONAS' contribution to the Federal and State Governments of Malaysia for the year ended 31 December 2016 amounted to RM36.9 billion, lower by RM15.8 billion as compared to 2015.

Dividends paid in 2016 in respect of earnings after tax and non-controlling interest for 2015 amounted to RM16.0 billion and translated to a dividend payout ratio of more than 100 per cent. The payout was lower by RM10.0 billion as compared to total dividends of RM26.0 billion paid in 2015.



Revenue forgone in respect of regulated pricing mechanism imposed on the supply of gas to Peninsular Malaysia's power and non-power sectors decreased to RM3.1 billion in 2016 as compared to the previous year. The decrease in revenue forgone was a result of lower contract prices in line with the decline in oil prices, as well as increases in regulated sales gas prices during the year for both power and non-power as part of the Government's subsidy rationalisation efforts. Total revenue forgone of RM241.4 billion was recorded since regulated gas prices came into effect in May 1997.

Since its incorporation in 1974, PETRONAS has contributed a total of RM971 billion to both Federal and State Governments.

Shem huh-

DATUK MANHARLAL RATILAL Executive Vice President and Group Chief Financial Officer

11 May 2017

## **UPSTREAM**



DATUK MOHD ANUAR TAIB
Executive Vice President and
Chief Executive Officer,
Upstream

Our focus on innovation continues despite the market conditions and I am pleased to note that we have been recognised by the industry for it.



The Upstream business environment was challenging in 2016 with lower oil and Liquefied Natural Gas (LNG) prices compared to 2015. In addition to the lower prices, the commencement of many new LNG facilities in Australia and the United States have resulted in additional supply to the market, suppressing margins on new LNG contracts.

The prolonged low crude oil price environment and suppressed LNG margins, if left unchecked, would have weakened Upstream contributions to the Group. For 2016, the Upstream business focused on the following key areas:

- Prioritising safety and asset integrity
- Prioritising cost reduction initiatives and delivering projects with discipline
- Maximising value across PETRONAS' integrated gas-to-LNG and gas-to-petrochemical value chains
- Securing new LNG customers
- Maintaining a consistent investment flow in exploration to ensure sustainable resources to support future growth

Annual Report 2016

Petroliam Nasional Berhad (PETRONAS)

UPSTREAM

#### UPSTREAM







Several projects achieved first commercial LNG production, amongst which was the Train 9 LNG project completion at the PETRONAS LNG Complex in Bintulu, Sarawak. We also achieved an industry first, celebrating the success of the PETRONAS Floating LNG SATU facility producing its first LNG drop in December 2016 and first cargo in April 2017.

In the effort to ensure long-term sustainability of the Upstream business, we signed a new Production Sharing Contract for Block SK 410B with PTT Exploration and

Company (KUFPEC) and PETRONAS Carigali Sdn Bhd. Internationally, PETRONAS secured entry into two additional exploration blocks in Myanmar and won two deepwater exploration blocks in Mexico. In the Unconventional area, PETRONAS is currently in the second pilot phase of our project in the Vaca Muerta shale oil formation area in Argentina. During the year in review, we made four exploration discoveries, adding 890 million boe of resources.

Production Pcl (PTTEP), Kuwait Foreign Petroleum Exploration

In Canada, the integrated unconventional-shale-gas-to-LNG project, Pacific NorthWest LNG (PNW LNG), received a conditional approval from the Canadian Federal Government in September 2016. We are currently reviewing the conditions, cost, schedule and market development to ascertain the overall competitiveness of the project.

Our focus on innovation continues despite the market conditions and I am pleased to note that we have been recognised by the industry for it. Our Intelligent Circulation While Drilling (iCWD) technology won the "Spotlight on New Technology" Award at the Offshore Technology Conference (OTC) Asia 2016. Our innovative spirit was also celebrated at the Asia Pacific Oil and Gas Council award ceremony, where we were accorded the "Asia Pacific National Oil Company of the Year" and "Asia Pacific Innovation of the Year" awards. These awards are a testament to the commitment and dedication of our people.

Our performance in 2016 was commendable and we must keep the momentum going. We expect the low crude price environment to stabilise in 2017. Meanwhile, we need to step up the pace to find innovative ways to improve efficiency, reduce costs and discover new resources and customers, all these to ensure long-term sustainability. Collaboration and ingenuity, both within and beyond the oil and gas industry, will be key to finding these solutions.

In 2016, despite our best efforts, we suffered one fatality against three fatalities in 2015 and 16 Lost Time Injury (LTI) against 23 in 2015. We have reinforced our pledge towards creating a safe working environment through our Aim Zero programme.

I would like to point out that the PETRONAS corporate culture has been key to delivering our results. Accountability is made clearer and there are visible demonstrations of greater ownership and commitment to deliver results. This has resulted in a 3 per cent increase in equity production volume from 2015 to 2,363 kboe/d with an average Unit Production Cost of around USD7/boe; an 11 per cent reduction from 2015. In total, Upstream business spent RM2.2 billion less in Operating Expenditure.

Playing our role as the steward of the oil and gas industry in Malaysia, PETRONAS also steered industry players through the Cost Reduction Alliance (CORAL 2.0) and other transformation efforts, to achieve a cost reduction of RM4.1 billion via industry-wide optimisation, efficiency improvement and innovation.

Our focus on maximising the integrated gas value chain in Malaysia has resulted in the delivery of 420 LNG Big Cargo Equivalent (BCE) against 2015 delivery of 417 BCE and a record high delivery extraction of ethane at an average of 137 MT/hr.

Our focus on LNG commercial excellence has resulted in our ability to maintain our current market share in the soft LNG market through extensions of existing contracts, inclusion of new customers in existing markets and securing new customers in new markets. This bodes well in ensuring security of demand through the expected challenging LNG market outlook.

**UPSTREAM BUSINESS SPENT** 

RM2.2 billion less in Operating Expenditure

RM29 billion less in Capital Expenditure against 2015



Annual Report 2016
Petroliam Nasional Berhad (PETRONAS)

#### DOWNSTREAM



MD ARIF MAHMOOD Executive Vice President and Chief Executive Officer, Downstream

This strong operational performance provided a solid foundation in negating the effects of weaker refining margins and tighter petrochemicals spread faced by our businesses.



2016 was a challenging year for the Downstream business as the downshifting demand growth in advanced economies created a stronger push towards Asia, increasing competition and tightening margins in key markets for petroleum and petrochemical products.

Amidst this backdrop, I am pleased to share that we have performed commendably during the year. We have successfully sustained the level of Profit after Tax (PAT) at RM8.3 billion; only a 1 per cent variance from the previous record in 2015. This achievement is a result of cohesive effort from strong plant performances as well as resilient commercial performance of our marketing businesses.

First, let me touch on our operational performance. This year, we recorded an improved operational performance across all our businesses. Utilisation was at a significant high of 86.3 per cent from 77.0 per cent in 2015. Our Petrochemical plants achieved 96 per cent utilisation from 85 per cent in 2015. Our refineries in Malaysia and South Africa also recorded world-class utilisation at 90.5 per cent and 89.9 per cent from 79.6 per cent and 70.1 per cent respectively in 2015. Reliability has also improved to 98.2 per cent from 97.3 per cent in 2015, with our Gas Processing Plants Reliability recording 99.9 per cent compared to 99.2 per cent in 2015. At 95.2 per cent, our Overall Equipment Effectiveness (OEE) was the best recorded in the last five years, an upward trend from 93.8 per cent in the previous year.

#### DOWNSTREAM



This strong operational performance provided a solid foundation in negating the effects of weaker refining margins and tighter petrochemicals spread faced by our businesses. Key to this achievement was the strong collaboration and shared success demonstrated across PETRONAS' value chain allowing us to capture value through improved operational coordination with better sight on the end-to-end molecule management value chain.

In 2016, greater collaboration between Upstream business and PETRONAS Gas Berhad for the delivery of 138 metric tonne/hour of ethane to PETRONAS Chemicals Group Berhad, have contributed to increased overall utilisation in Downstream.

In Sabah, the commissioning of the Dalak pipeline tie-in in Quarter 1 secured additional gas supply to PETRONAS Chemicals Methanol Sdn Bhd in Labuan. This resulted in total production increase of 45 per cent compared to 2015, allowing it to achieve production volume of over 2 million metric tonnes

for the first time, boosting PETRONAS Chemicals Methanols' utilisation to 81.5 per cent in 2016 from 56.7 per cent in 2015.

During the year, we also achieved significant milestones in key projects.

The Pengerang Integrated Complex (PIC) has progressed to 60 per cent and is on schedule to achieve start up in 2019. On 28 February 2017, we signed a Share Purchase Agreement with Saudi Aramco for its 50 per cent equity participation in the Refinery and Cracker project within PIC. This signing brings together two organisations with strong reputations, a wealth of operational experience as well as capabilities in developing mega projects in addition to having their respective commercial networks in different markets. This partnership would secure Refinery and Petrochemical Integrated Development (RAPID) at least 50 per cent of its crude requirements from Saudi Aramco while leveraging on supply of natural gas, power and other utilities from PETRONAS.

Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

#### **DOWNSTREAM**



The Sabah Ammonia Urea project in Sipitang, Sabah, otherwise known as SAMUR, has successfully produced on-specification urea and is now in the process of ramping up for full commercial operations in 2017.

The economic slowdown was especially tough on our marketing businesses. However, our push for commercial excellence by creating superior customer experience, as well as tighter inventory and cost management, helped us perform well financially and we remain confident for further improved performance. Domestically, PETRONAS Dagangan Berhad achieved the highest ever retail volume for petrol and a record PAT of RM946.5 million, a 19 per cent increase from 2015. While our international lubricant business recorded lower revenue than last year, it outperformed competitors by

recording higher sales volume in Europe and China by 4 per cent and 17 per cent respectively. Engen Limited, our retail arm in South Africa recorded its highest replacement Profit After Tax since 1999. Our trading arm PETRONAS Trading Corporation Sdn Bhd also recorded the best five-year trading margin.

On HSE, we faced challenges and setbacks during the 141.81 million manhours recorded in 2016. Regrettably, we recorded 11 fatalities in 2016. This underscores the paramount importance of having a zero tolerance culture when it comes to safety – one incident is simply one too many. It is our collective responsibility to ensure that everyone goes to work and returns home safely.

#### **TOWARDS A SUSTAINABLE FUTURE**

Moving forward in 2017, we will continue to pay close attention to strengthening the basics, especially in the areas of HSE, cost control and operational excellence to ensure our business remains resilient.

In this new norm of prolonged low oil prices and compressed margin environment, we will strive to offer superior customer experience from our commercial excellence efforts. We will also continue our cost optimisation efforts and play our role to support the Group's transformation initiatives.

PIC remains one of the largest industrial developments in the region as well as PETRONAS' largest downstream investment to date. Its progress and safety track record will certainly remain a priority as we reach peak construction period in mid-2017.

Despite the uncertain industry outlook in the near future, we remain optimistic that the global demand for oil and gas will continue to grow. We are in this business for the long-term, hence the investments we put in place are always measured and calculated to contribute to a sustainable performance and long-term profitability.

I have been blessed with a committed and tenacious 20,000 odd workforce in Downstream business who do not shy away from a tougher operating environment. With the same dedication and resolve, we will continue to brave the new norm together.

#### **OUR MARKET IN 2016**



2016 saw dismal global economic growth of 3.1 per cent versus 3.2 per cent in 2015, following continued growth moderation in China and weak recovery in advanced economies.

The resilience of the global economy was hampered by weak aggregate demand in key economies following sluggish wage growth, a weak labour market and low productivity.

Additionally, political uncertainties have put a huge dent in business confidence, which led to a cautious approach on spending as uncertainties prompted expectations of inward-looking policies and increased threats of protectionism.

2016 was the year for climate change and renewable energy. After two decades of lengthy negotiations, the Paris Agreement on climate change came into force in November 2016, affirming the world's commitment to arrest carbon emission and combat global warming. Renewable energy options became more competitive, holding promise of its viability in the global energy mix.

In the Upstream sector, constrained by cash flow, industry players remained cautious in investment, particularly in US unconventional. CAPEX spending declined to USD375 billion from a peak of USD715 billion in 2014. Cash flow constraints also weighed down the appetite for high-risk exploration. However, the good news is, cost went down and significant improvement was made in drilling efficiency which allowed explorers to drill deeper wells in lesser time and at lower cost. The recovery of crude prices towards end of 2016 led to a pick-up in Mergers and Acquisition activities, which had been muted due to a lack of price convergence between sellers and buyers.

The global oil market remained oversupplied in 2016 and this pushed Dated Brent crude oil prices to a 14-year low in January. Towards year-end, however, Brent improved to the USD50 to USD55/bbl range, supported by OPEC's decision to cut output in the first half of 2017. Brent averaged USD44/bbl in 2016 or 17 per cent below the 2015 average.

The global LNG market remained under pressure on ample supply, which translated into a weaker Japan Korea Marker (JKM) spot LNG prices of USD5.72 per mmBtu in 2016, about 23 per cent lower than 2015. LNG supply increased to 264 million tonnes as new projects came onstream in Australia and North America. The US became a net exporter of natural gas last year after the completion of the Sabine Pass LNG plant. 2016 saw final investment decisions for only two projects while more than 60 mtpa of planned projects were shelved. Floating storage and regasification units (FSRUs) became a more popular option for LNG importers, with Colombia, Jamaica and Malta importing for the first time in 2016 using this option.

In the petrochemical sector, ethylene prices in South East Asia fell 6 per cent to USD1,041/tonne in 2016, following declining feedstock prices. Global ethylene demand increased by 3.3 per cent to 146.5 mtpa in 2016 driven by demand growth in Asia Pacific, the Middle East and North America which accounted for 90 per cent of global ethylene demand growth. Ethylene capacity increased by 4.6 mtpa to 163.9 mtpa in 2016, led by China and India, and the Middle East which contributed about 77 per cent of global capacity additions.

#### **OUR STRATEGIC FOCUS**

#### **UPSTREAM**

- Prioritise safety and asset integrity
- Prioritise margins over production volume via cost reduction initiatives
- Maximise value of integrated domestic production across the value chain
- Secure new LNG customers
- Maintain consistent investment in exploration to support future growth

### **DOWNSTREAM**

- Strive for operational and commercial excellence
- Deliver project excellence
- Optimise value chain
- Ensure the right talent and cultural beliefs to deliver on our strategies
- Leverage on digital and technology

#### **KEY PRIORITY AREAS**

PETRONAS continues to focus on these six key priority areas to build resilience, maintain competitiveness and profitability for long-term positioning and sustainability.

- Cash generation
- Cost efficiency and process simplification
- Project execution
- Technology as a differentiator
- Rethinking talent
- Culture change





Focus on the six key priority areas and intensify culture change across the organisation.



Make hard decisions

Prudent cost management through CAPEX rationalisation and OPEX reduction.

Increase efficiency through business model review and structure simplification.



Stay the course on key priorities

Drive delivery of key growth projects and heighten commitment on exploration and technology.

#### **OUR STRATEGIC FOCUS**

### SUSTAINING INDUSTRY COMPETITIVENESS

In 2016, PETRONAS continued to work with Petroleum Arrangement Contractors (PACs) and Service Providers under the Cost Reduction Alliance 2.0 (CORAL 2.0). Aiming to enhance competitiveness in the domestic Upstream sector, CORAL 2.0 drives the industry to achieve cost optimisation, efficiency and innovation through collaboration. As at December 2016, CORAL 2.0 achieved RM2.6 billion in cost savings.

## **COST SAVINGS HIGHLIGHTS**



Technology Replication Thrust

RM411 MILLION



Lean Well Intervention

RM389 MILLION



Low Cost Drilling

RM346 MILLION



\$

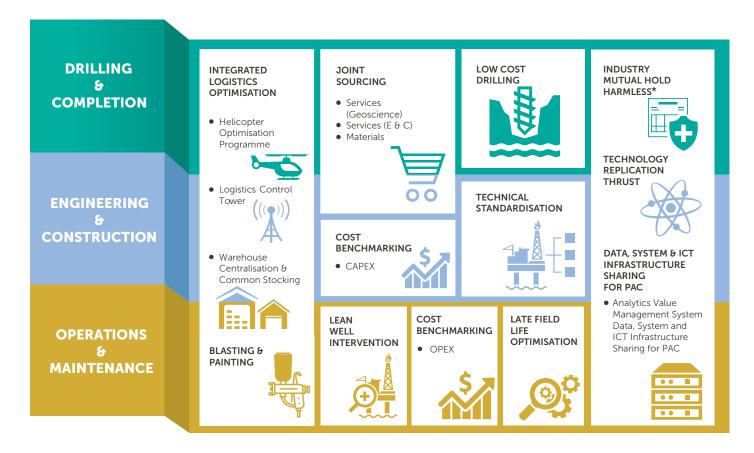
OPEX Benchmarking

RM290 MILLION



Integrated Logistics Control Tower

RM241 MILLION



<sup>\*</sup> This is an initiative to establish a mutual hold-harmless deed between all PACs and Service Providers working in Malaysia, to improve clarity on risk allocation and reduce the need for dual insurance for the same risks.

## **GROUP ORGANISATION STRUCTURE**



President and
Group Chief Executive Officer

Datuk Wan Zulkiflee Wan Ariffin



Senior Vice President Group Legal and General Counsel

Mohamad Rauff Nabi Bax



Senior Vice President Group Human Resource Management

Dato' Raiha Azni Abd Rahman



Senior Vice President Corporate Strategy

Adif Zulkifli



Head Group Strategic Communications

Zahariah (Liza) Abdul Rahman



Head Group Internal Audit

Asril Rahman Abdul Hadi



**Chief Integrity Officer** 

Dato' Jaafar Mahad

#### **GROUP ORGANISATION STRUCTURE**



Executive Vice President and Chief Executive Officer Upstream

Datuk Mohd Anuar Taib



Executive Vice President and Chief Executive Officer Downstream

Md Arif Mahmood



**Executive Vice President and Group Chief Financial Officer** 

Datuk Manharlal Ratilal



Senior Vice President Project Delivery and Technology

Mazuin Ismail



Vice President Group Health, Safety, Security and Environment

Dzafri Sham Ahmad



Chief Digital Officer

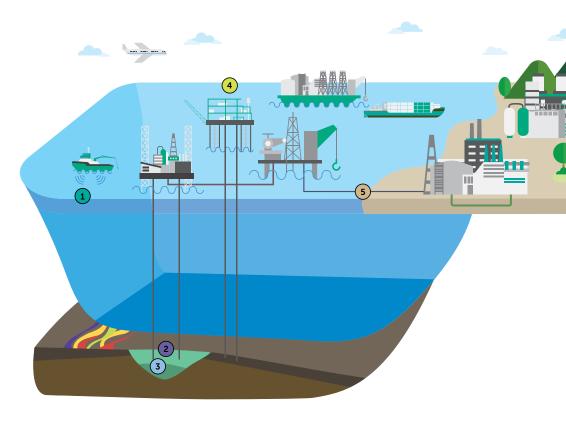
Wan Shamilah Wan Muhammad Saidi



Head Transformation Office

Idris Ibrahim

#### **OUR ADVANCED CAPABILITY**



#### **TECHNOLOGY AND INNOVATION**

PETRONAS continues to pursue technological breakthroughs in delivering the world's preferred oil and gas technology. With the objective to unlock new opportunities and potential, the successful technology deployment within PETRONAS is augmented to benefit not just the industry but also global wellbeing which includes consideration of people, economics and the environment.

We commit to advancements in technology, to enhance our businesses across the oil and gas value chain in achieving higher production rates at lower operating costs. This is realised through cutting-edge methods and techniques in hydrocarbon resource and reserve addition, state-of-the-art product differentiation and substantial improvement in operational efficiency at our fields and processing plants.

As an innovative and responsible technology provider, PETRONAS develops solutions that also take people and the environment into consideration. Our technology seeks to empower through winning collaborative efforts, knowledge and capability exchange, as well as to uphold our responsibility in honing the best talents for the industry.

The pioneering and innovative spirit of PETRONAS lives on through our cutting-edge technologies that cut across PETRONAS' Upstream and Downstream businesses and operations, cementing our significance as one of the top players in the global oil and gas arena.



126 Researchers



815 Technical Professionals (TP) Groupwide



198 Technical Trade Specialists (TTS) Groupwide

#### **OUR ADVANCED CAPABILITY**



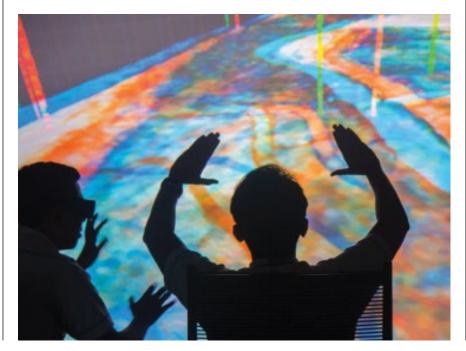
Through advances in Exploration Technology, we acquire the ability to identify hydrocarbon resources more accurately and unlock new opportunities, increasing resource recovery and efficiency rates. Our advanced geophysical algorithm knowledge and capabilities allow us to see better than others. We are able to significantly reduce technical risks and increase the probability of exploration success, making new forays in the areas of deepwater, pre-salt/pre-carbonate, gas cloud and 4D Reservoir Monitoring. New technologies in this field can be used to identify oil and

gas prospects more accurately, place wells more effectively, reduce the number of dry

holes drilled, trim drilling costs, and significantly cut exploration time.

We are making headways in our Geoimaging programme which allow us to enhance asset value and ensure their integrity. 2016 has seen significant enhancements made to our internally-developed geophysical technology in solving gas cloud imaging problems, developing exploration tools for complex geology and improve acoustic monitoring of subsurface fluid movement. In 2016, PETRONAS became the first oil company in the Asia Pacific region to acquire the Distributed Acoustic Sensing (DAS) 3D Vertical Seismic Profiling (VSP) with 3D multicomponent Ocean Bottom Seismic. The fibre optics DAS technology provides geologists and geophysicists higher resolution seismic images beneath the gas cloud region, de-risk well placement ensuring the optimisation of our Capital Expenditure (CAPEX) and Operational Expenditure (OPEX). The technology has already been successfully deployed at an offshore field in Sarawak, Malaysia.

These Geoimaging technologies have given PETRONAS the competitive edge to identify opportunities in new basins more accurately, increase reserves and improve recovery rate through optimising well trajectory. Collectively, these initiatives help to ensure sufficient oil and gas supply within the changing hydrocarbon landscape.





2

RECOVERY (EOR)

PETRONAS continues to spearhead innovations in the field of Enhanced Oil Recovery (EOR) and throughout 2016, we successfully introduced several breakthrough technologies.

The state-of-the-art Gravity Assisted Simultaneous Water Alternating (GASWAG) EOR has enabled fields that were considered depleted to be brought back to life.

The technology has already been used to develop an offshore oil field in Sabah and is expected to improve the field's resource recovery by more than 50 per cent over the next 20 years.

The Reinforced Thermo Plastic (RTP) technology has enabled us to cut costs by up to 80 per cent. RTP enables rig-less operation which significantly reduces man hours, simplifies installation and lessens exposure to health, safety and environment risks. We have successfully deployed RTP at an offshore field in Terengganu and we intend to introduce the technology at other assets in Malaysia.

The Dual Function Demulsifier (DFD) chemical was developed to enhance the quality of oil produced using EOR technology. In May 2016, we introduced DFD at an offshore field in Sarawak and given the encouraging results, we intend to introduce DFD at more fields in the eastern state.

#### OUR ADVANCED CAPABILITY



3

## WELLS AND FACILITIES TECHNOLOGY

PETRONAS Sep-iSYS™ Low Pressure Production Unit (LPPU) was developed to effectively evacuate liquids from low pressure wells and boost the pressure to flow into the production header. Its compact and self-contained design stretches its flexibility whilst leaving a smaller footprint. It is lightweight and requires little to no manning at site.

The deployment of LPPU at three offshore drilling platforms in Peninsular Malaysia and Sarawak has reactivated idle wells and provided oil gain within a short period of time.



4

## SUSTAINABILITY

PETRONAS leverages on its broad portfolio of advanced technologies and technical knowledge to lead new innovations in contaminants removal and hydrocarbon feeds. These technologies range from pre-engineered modular units to highly integrated operations and gas processing solutions that combine multiple technologies. They enable customisation and efficient gas treatment, a reduced footprint, hence minimising capital investment and operating costs.

HycaPure™ Hg is the world's first ionic liquid technology for the removal of mercury in natural gas. Its capacity to capture mercury is up to four times higher than similar commercially-available products. This technology has demonstrated a robust performance in PETRONAS' dry gas processing plants and variants are being developed for other types of feeds. Following the success of HycaPure™ Hg Dry Gas, PETRONAS researchers have successfully designed HycaPure™ Hg Condensate, an efficient adsorbent for the highly complex raw condensate streams.

HycaPure™ Hg Condensate was successfully tested in the laboratory and validated at pilot scale. It has been found to be robust under the highly complex condensate matrix and its ability to remove mercury has outperformed other commercially-available products. In recognition for its leading-edge qualities, HycaPure™ was named the winner of the Oil and Gas Award at the IChemE Malaysia Award 2016.

PETRONAS is also committed to initiatives that increase the production of cleaner gas and, to this end, is involved in the ongoing development of high  $CO_2$  and contaminants gas fields. The development of the K5 Strategic Technology Project will showcase a myriad of surface and subsurface technological wonders and will be the world's largest Carbon Capture Utilisation Storage (CCUS) development. The success of the project will position PETRONAS as the leading organisation in the development of high  $CO_2$  gas fields offshore.

Whilst onshore, PN1, another advanced  $CO_2$  absorption technology is being deployed at one of PETRONAS' Gas Processing Plants (GPP) in Terengganu. Using feed gas from live plant, it is the largest integrated pilot plant ever built by PETRONAS.



5

## ADVANCED

PETRONAS continues to develop and deploy advanced composite materials technologies in its operations. The award winning ProAssure™ Clamp, the world's first all-composite pipeline repair clamp, has now been commercialised after being successfully tested in the field for more than 12 months, thus paving the way for its expanded application. Other composite innovations such as the ProAssure™ Wrap systems and the In-Field Liner™ are able to ensure pipeline integrity at a fraction of the cost for pipeline repair and rehabilitation. Its extensive usage to prevent and contain hydrocarbon leaks and spillage plays a critical role in safeguarding the environment.

PETRONAS is also engaged in ongoing research and development for other advanced material innovations such as fibre-reinforced, non-metallic pipes and nano-reinforced coatings. The comprehensive range of technological solutions will be used to ensure continued safety and integrity of our upstream and downstream operations.

#### **OUR ADVANCED CAPABILITY**



6

#### BASE OIL, LUBRICANTS AND FUEL

At PETRONAS, we aspire to achieve sustainable growth for our global lubricants business through superior products that ensure performance and reliability in meeting the growing demand of the transportation and machinery sectors. Our pursuit of technological excellence has seen fruitful collaborations with like-minded organisations and has advanced our own technical capabilities.

PETRONAS' acquisition of FL Selenia in 2008, with its more than 20 years' of experience in Formula One and century-long legacy in lubricants, paved the way for us to establish our leadership in lubricants technology through the development of superior racing products for the Mercedes AMG PETRONAS Motorsport team. Our scientists, in close collaboration with the Mercedes AMG engineers, applied the Fluid Technology Solutions<sup>™</sup> approach in the development of our fuels, lubricants and functional fluids, and in co-designing the new 1.6L turbo-charged, direct-injection V6 hybrid Formula One engine, for maximum synergy between our products and the engine. The full suite of our Fluid Technology Solutions™, which includes customdesigned lubricants (PETRONAS Syntium); functional fluids (PETRONAS Tutela Energy Recovery System (ERS) coolant, hydraulic oil, and transmission oil); and fuel (PETRONAS PRIMAX), powered the Silver Arrows to win the 2014, 2015 and 2016 Constructors' and Drivers' Championship Award for Mercedes-Benz.

The 2016 Dakar Rally marked the fifth year of the PETRONAS De Rooy-Iveco partnership. The team secured its first win in 2012 and again in 2016. As a long-term technical collaborator with Iveco, we play a fundamental role in the development of lubricants, transmission fluids and coolant that are customised especially for De Rooy's Powerstars for racing and Iveco's global fleet. PETRONAS Urania Next 0W20, the world's first 0W20 heavy duty engine oil, is qualified to Iveco Standard 18-1804 TLV LS and is technologically enhanced for fuel economy.

The recent introduction of PETRONAS Syntium with °CoolTech™ which is based on PETRONAS' Winning Formula for Formula One, and the world's first 0W20 fuel-economy heavy duty engine oil which was co-developed by PETRONAS and Iveco, are great examples of our winning partnerships.



7

## PETROCHEMICAL DERIVATIVES AND SPECIALTY CHEMICALS

PETRONAS' research efforts are purposefully directed towards developing sustainable energy. Through a research programme in diversification of feedstock, PETRONAS has developed a one-step process to convert biomass from the cellulose of empty fruit bunch, an abundant agricultural waste in Malaysia, to bio Mono Ethylene Glycol (MEG) production. This is aligned with PETRONAS' green and sustainability agenda emphasising the use of Malaysia's natural resources as an alternative source of feed.

PETRONAS' research and development of bio polyols using palm-based feedstock won the 2015 IChemE Malaysia award under the category of Sustainable Technology. The research on palm-based polyol was conducted for the production of Polyurethane (PU) and Lubricant Base Oil. Polyol demonstrated process scalability at 160 times with product performance at par with petroleum-based products. To date, PETRONAS has developed 25 new product grades, ready for commercialisation.



#### THE MARKET IN 2017

Global economic growth is expected to remain below trend at 3.5 per cent as economies struggle to gain momentum as a result of moderate growth in China and other advanced economies.

geopolitical uncertainties around the world. China's growing assertiveness, technological advancement in the clean energy space and greater commitment by both China and India to invest in renewables will support the global move towards clean energy.

Upstream capital expenditure is expected to increase slightly, particularly for tight oil plays in the US and short-cycle opportunities, which will provide players with quick returns. As oil prices gradually improve, more projects will be sanctioned, notably in deepwater areas. However, appetite for high-risk exploration is expected to remain low as industry players remain cautious on highrisk ventures and instead focus on drilling simpler and better wells located near existing infrastructure, avoiding high-cost frontiers and high pressure, high temperature (HPHT) plays. Upstream costs are expected to bottom out as demand for material and labour increases. Industry players will continue to focus on cost improvements to achieve optimisation and efficiency gains.

In the global oil arena, market rebalancing will progress throughout 2017, aided by moderate growth in demand and slower supply growth. The pace of the market rebalancing will be underpinned by cuts in output by both OPEC and non-OPEC producers which

Business confidence will be affected by will reduce supply by 1.8 mbpd in the first half of 2017. Price sustainability will depend on whether producers honour the output cuts and how quickly US oil producers return to the market. In refining, the East of Suez region will add 1.8 mbpd of refining capacity from 2017 to 2020, with 1.3 mbpd in Asia Pacific and 0.5 mbpd in the Middle East. By the end of 2020, the Asia Pacific region will have a total refining capacity of 33.4 mbpd and the Middle East 9.1 mbpd.

> Global LNG supply is expected to surge with the ramping up of production in the US and Australia and the completion of new projects in 2017, which would add around 30 million tonnes of capacity. While demand is expected to grow by 10 per cent in 2017, the prospects are weaker for traditional markets, particularly Japan due to the liberalisation of its gas and power market.

> In 2017, global ethylene demand is expected to grow at a steady pace of 3.3 per cent to 151.3 tpa, driven by Asia Pacific, North America and the Middle East. Global ethylene capacity is expected to increase by 8.3 mtpa to 172.2 mtpa, of which about threequarters will come from Asia Pacific and North America. The start-up of new crackers in the US will lead to significant conversion of derivatives and the export of products to South America, Western Europe and parts of







Section Two

# O U R COMMITMENT TO SUSTAINABILITY

CONTENTS \_\_\_\_\_

- Investing in People to Build a Better Tomorrow
- Corporate Social Investment
- Upholding Health, Safety, Security and Environment

# PLANTING TOMORROW

PETRONAS, through our Corporate Social Investment (CSI) programme, embarked on the Planting Yayasan Sejahtera, a non-profit group mandate help improve the lives of the poor in Malaysia. E of the most remote villages in Sabah.

Our objective of improving the socio-economic conditions of the communities wherever we operate is in line with Malaysia's national agenda to eradicate poverty and further demonstrates PETRONAS' commitment to act as a socially responsible corporate citizen.

The villages that have been earmarked for Planting Tomorrow are households earning an average monthly income ranging between RM358 and RM371.

The programme involves the provision of an alternative water supply solution and agricultural training to 160 families in seven villages in Sabah's Mukim Dandun in Pitas namely Dowokon, Bambangan Ulu, Maliau Layung, Maliau Pusat, Perupok, Pinapak and Nunguh; and three villages in Mukim Simpangan in Kota Marudu namely Patiu, Kotud, and Pulutan.

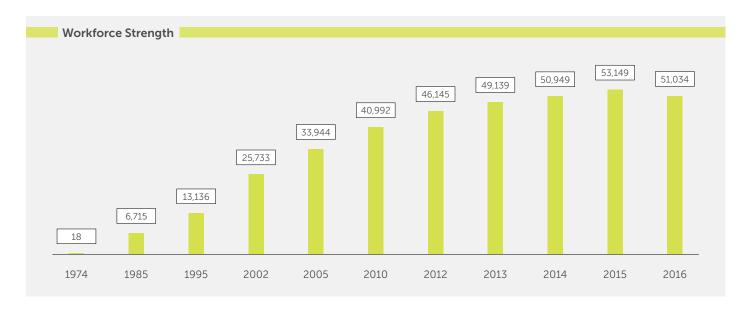
For this initiative, PETRONAS collaborated with Yayasan Sejahtera, a non-profit group mandated to help improve the lives of the poor in Malaysia. Besides the villages around Pitas and Kota Marudu, PETRONAS has also included Kampung Imbak, Tongod in Sabah where we also have a collaboration with Yayasan Sabah for the Imbak Canyon Conservation Area and Imbak Canyon Studies Centre.

Through Planting Tomorrow, about 1,000 villagers around Pitas, Kota Marudu and Tongod have experienced positive changes in their quality of life.

Planting Tomorrow achieved its first major milestone recently when two villages became the first to enjoy clean water supply. The installation of a gravity-fed water supply system in Kampung Patiu and Kampung Kotud meant that the villagers no longer had to rely on rainwater or make the trek to the river to obtain water for their daily needs. With the new water supply system, spring water is directed to a dam, which is then piped to storage tanks and filtered. From these tanks, water is then piped to several taps in a particular village, with each village having its own source of water supply, dam and storage tanks.

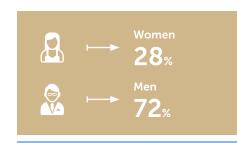
#### INVESTING IN PEOPLE TO BUILD A BETTER TOMORROW

#### Our People



## Workforce Demographics

Employees	2016
Total Number of Employees	51,034
Executives	56%
Non-Executives	39%
Others	5%
Inside Malaysia	84%
Outside Malaysia	16%
Permanent Staff	80%
Non-Permanent Staff	20%
Women	28%
Men	72%
Baby Boomers	10%
Gen-X	38%
Gen-Y	52%
Malaysian	80%
Other Nationalities	20%
Union Members	8,616
Number of Nationalities	105







80% Non-Permanent Staff

20%

#### INVESTING IN PEOPLE TO BUILD A BETTER TOMORROW



#### **OUR WINNING FORMULA**

With the increasing pace of change in the business world and the breakneck technological advancement, our journey to becoming a global champion requires a team of high-calibre staff to help us achieve our goals.

Against the backdrop of our employment value proposition of 'Trust, Grow and Reward', we have therefore crafted the PETRONAS Global Talent Strategy of 'Right Talent, Right Environment and Right Leader' which aims to help us build a sustainable pipeline of global-oriented talents that we can entrust and empower to perform and deliver for the organisation. Central to this, is our ability to provide our staff with a platform to grow a dynamic career and reward them for high performance.

Our Shared Values of Loyalty, Integrity, Professionalism and Cohesiveness are the core of our DNA, and together with the PETRONAS Cultural Beliefs, anchor the shared principles and beliefs that unite all of us within the organisation. They also guide the behaviour of our business and decisions that drive performance excellence and sustainability. Our integrated talent management framework and adoption of best practices continue to guide us in attracting, recruiting, developing, engaging and retaining the talents required to create a sustainable advantage.

As PETRONAS grows, we offer a fulfilling career with a wealth of opportunities for our people to develop skills, expertise and experience. Our dual career path, namely managerial

or specialist (business or technical), provides a structured capability development framework for our people to grow based on their skills and interests.

In line with our philosophy to build our talents, PETRONAS adopts a blending learning approach based on the 70:20:10 model to ensure employees maximise their learning, with 70 per cent focus placed on 'on-the-job' learning, 20 per cent on learning through continuous, real-time feedback via formal and informal platforms such as coaching and mentoring, and 10 per cent on formal programmes.

The environment we operate in emphasises leadership development at all levels for growth and sustainability of the organisation's future. Our 3P Leadership Model (Passion, People-Centric and Performance) sets the standards and defines our expectations on the qualities required of leaders at all levels. All employees are expected to represent and uphold the Shared Values manifested through the qualities of Passion – the motivation and drive to go beyond; People-Centric – the drive to develop and inspire others; and Performance – excellence in function and leadership excellence.

We have also instituted concrete steps to improve the efficiency and effectiveness of key people management processes guided by the LEAN process methodology and the principle of empowerment. These enhancements are focused on delivering key value-added services and ultimately to create positive employee experiences at work.

#### **CORPORATE SOCIAL INVESTMENT**

PETRONAS Corporate Social Investment (CSI) anchors its CSI Strategic Framework on three pillars, namely Education, Community Wellbeing and Development, and Environment. The framework provides us with better focus in implementing CSI programmes and most importantly, enables resources to be channeled towards better outcomes for the communities where we operate.

## 

PETRONAS has invested close to RM300 million in various Education, Community Wellbeing and Development as well as Environment programmes in 2016.

Through Education, we aim for sustainable growth and development by streamlining our investments for a more holistic approach in building a pipeline of potential talents. This is achieved by focusing on providing better access to education as well as capability development.

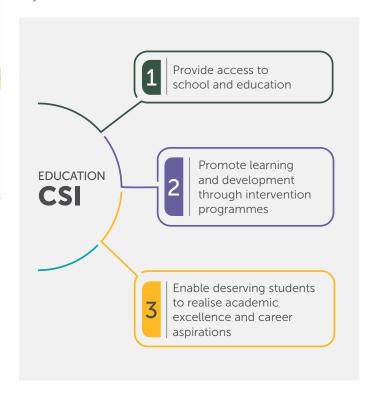
We also seek to empower and uplift lives through our various Community Wellbeing and Development programmes that are customised to address the needs of specific groups, such as underprivileged communities. Environment is also a key CSI pillar where we focus on the preservation of the natural environment for current and future generations. Biodiversity conservation is one of the many efforts that we emphasise on via our Environment programmes.

Some of our key initiatives carried out in 2016 are as follows:

#### EDUCATION \_\_\_\_\_

We have always seen education and human capital development as crucial elements for sustainable growth and development. As our focus is on building a sustainable pipeline of talents, PETRONAS' CSI Strategic Framework is in line with our mission to contribute to the wellbeing of society.

Our Education CSI programmes are centred on three key objectives:



#### **INFRASTRUCTURE**

PETRONAS, in collaboration with Majlis Amanah Rakyat (MARA), is setting up two new Maktab Rendah Sains Mara (MRSM) campuses in Bintulu, Sarawak and in Ranau, Sabah. PETRONAS is also funding the construction of Asrama Harian Luar Bandar (AHLB) in Sarawak and in Sabah. Each MRSM would accommodate approximately 450 students, and each AHLB will house approximately 120 students.

#### **CORPORATE SOCIAL INVESTMENT**

#### **PROGRAMMES**

#### **Programme Sentuhan Ilmu PETRONAS (PSIP)**

PSIP is a community outreach initiative that focuses on assisting underprivileged and borderline primary and secondary school children across Malaysia to improve their overall academic performance. There are 24 primary and 10 secondary schools adopted under the PSIP in 2016, with more than 1,000 students benefiting from the programme.

PSIP has been continuously enhanced over the years and presently features the following:

- Student Basic Aid
- Science, Technology, Engineering and Mathematics (STEM) development programme
- Teachers' Professional Development Workshop

#### **Trust School Programme**

The Trust School Programme aims to drive sustainable school transformation, focusing on excellent student outcomes. PETRONAS contributes financial assistance to enable Yayasan AMIR, a foundation under Khazanah Nasional Berhad (Khazanah), to implement the five-year school transformation programme at selected public schools, currently targeting Sabah, Sarawak and Terengganu.

As a sponsor, we contribute to the implementation of value-added enrichment programmes at the adopted schools to support the following:

- Delivery of professional development programmes for teachers and school leaders
- Introduction of performance management systems
- Implementation of Trust School Improvement Plan
- Delivery of extra-curricular and parent engagement programmes.

The following are the clusters of schools under this programme based on locations:

- Kimanis, Sabah Sekolah Kebangsaan Kimanis, Sekolah Kebangsaan Pekan Kimanis, Sekolah Kebangsaan Mandahan, Sekolah Menengah Kebangsaan Bongawan II and Sekolah Menengah Kebangsaan Agama Limauan;
- **Lundu, Sarawak** Sekolah Kebangsaan Siar Campuran. Sekolah Kebangsaan Stunggang Melayu, Sekolah Kebangsaan Sampadi, Sekolah Kebangsaan Bumiputera and Sekolah Menengah Kebangsaan Lundu;
- Kijal, Terengganu Sekolah Kebangsaan Kijal, Sekolah Kebangsaan Bukit Ara Dara, Sekolah Kebangsaan Telok Kalong, Sekolah Kebangsaan Ibok and Sekolah Menengah Kebangsaan Kijal.

#### TRENGLISH Programme

The TRENGLISH programme was initiated in 2014 by Terengganu State Education Department with the aim to spur English proficiency in the State. Currently, 37 schools in Terengganu are listed in the TRENGLISH programme. PETRONAS' sponsorship began in 2015 and continued into 2016, for the following activities:

- Mega TRENGLISH Camp
- TRENGLISH Magazine
- TRENGLISH Activity Allowance
- PETRONAS Merchandise Support

#### **Discover PETRONAS @ Schools**

Introduced in 2013, this programme reached out to 1,144 students from high performing schools across Malaysia in 2016. A total of 12 sessions involving 39 schools were conducted this year.

The programme provides exposure to students on PETRONAS' business, interactive career conversations. awareness on PETRONAS Education Sponsorship Programme (PESP) and also invites PESP-sponsored students to share their experiences.

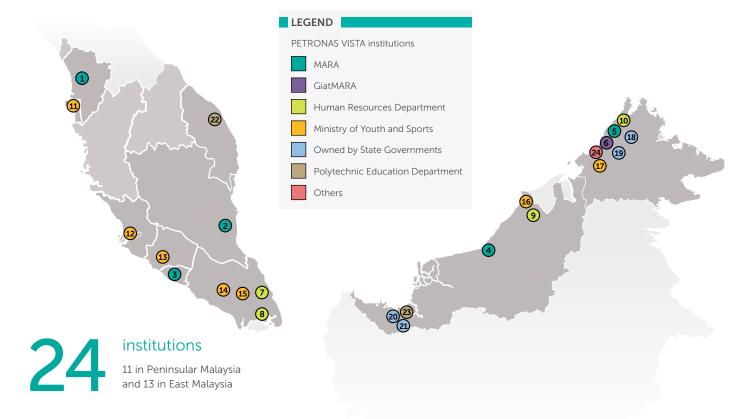
#### **Vocational Institution Sponsorship and Training Assistance (VISTA)**

VISTA focuses on technical and vocational skills development. The programme was initiated in 1992 at several technical institutions in Peninsular Malaysia to support the Peninsular Gas Utilisation (PGU) pipeline project. Since then, the programme has grown alongside key PETRONAS projects, providing talents for the domestic oil and gas industry.

Through VISTA, PETRONAS has collaborated with selected institutions under several Government agencies, such as MARA, the Ministry of Youth and Sports, Human Resources Department, State Governments of Sabah and Sarawak, and the Polytechnic Education Department in the Ministry of Higher Education (MOHE) to provide assistance in technical programmes including Welding, Gas Pipe Fitting, AO-Level Chargeman, HSE and Building Maintenance. Currently, there are 24 institutions throughout Malaysia under the

Assistance includes technical advisory, training equipment, training consumables, machines maintenance, training for trainers, INSTEP modules and student assessments. To date, RM65.5 million has been invested in VISTA since 1992 and close to 9.000 students have benefited from the programme.

#### **CORPORATE SOCIAL INVESTMENT**



- Institut Kemahiran Mara (IKM) Sq Petani
  - 6G Welding (3 months)
  - 60 trainees (3 batches) a year
  - IKM Tan Sri Yahya Ahmad Pekan
    - 6G Welding (3 months)
    - 60 trainees (3 batches) a year
- **IKM Jasin** 
  - 6G Welding (3 months)
  - 60 trainees (3 batches) a year
- - Instrumentation and Control
- IKM Kota Kinabalu
  - 6G Welding (3 months)
  - 60 trainees (3 batches) a year
- Pusat GiatMARA Kimanis
  - Building Maintenance (1 year)
  - 60 trainees (3 batches) a year
- Institut Latihan Perindustrian (ILP) Mersing
  - 6G Welding (3 months)
  - 60 trainees (3 batches) a year
- **ILP Pasir Gudang** 
  - 6G Welding (3 months)
- 60 trainees (3 batches) a year

- Gas Pipe Fitting (6 months)
- 40 trainees (2 batches) a year
- 10

#### ILP Kota Kinabalu

- Gas Pipe Fitting (6 months)
- 40 trainees (2 batches) a year
- Institut Kemahiran Tinggi Belia Negara (IKTBN) Bukit Mertajam
  - Electrical Engineering

## **IKTBN** Sepang

- Mechanical Engineering and **Electrical Engineering**
- **IKTBN Chembong** 
  - Automotive Engineering
- **IKTBN Pagoh**
- Mechanical Engineering
- Institut Kemahiran Belia Negara (IKBN) Bandar Penawar
  - HSE Programme
- **IKBN Miri** • SKM 2 Automotive and
  - Mechanical (2 years)
- **IKBN Kinarut** 
  - SKM 2 Electrical (2 years)

- Kolej Teknikal Yayasan Sabah
  - SKM 1 & 2 Welding (2 years) • 60 trainees (3 batches) a year
- Institut Latihan Teknik dan 19 Perdagangan (ILTP) Papar
  - 6G Welding (6 months)
  - 60 trainees (3 batches) a year
  - AO Chargemen (3 years)
  - 20 trainees (1 batch) a year
- Centre of Technical Excellence 20 Sarawak, Kuching
  - 6G Welding (3 months)
  - 60 trainees (3 batches) a year
- Pusat Pembangunan Kemahiran Sarawak - AWISAR
  - 6G Welding (3 months)
  - 60 trainees (3 batches) a year
- Politeknik Sultan Mizan Zainal Abidin
  - Mechanical Engineering

Politeknik Kuching • Petrochemical Engineering

- **Kimanis Training Centre** 
  - Industrial Instrumentation and Control (3 years)
  - 20 trainees a year

#### **CORPORATE SOCIAL INVESTMENT**

#### **ACADEMIC SPONSORSHIP PROGRAMMES**

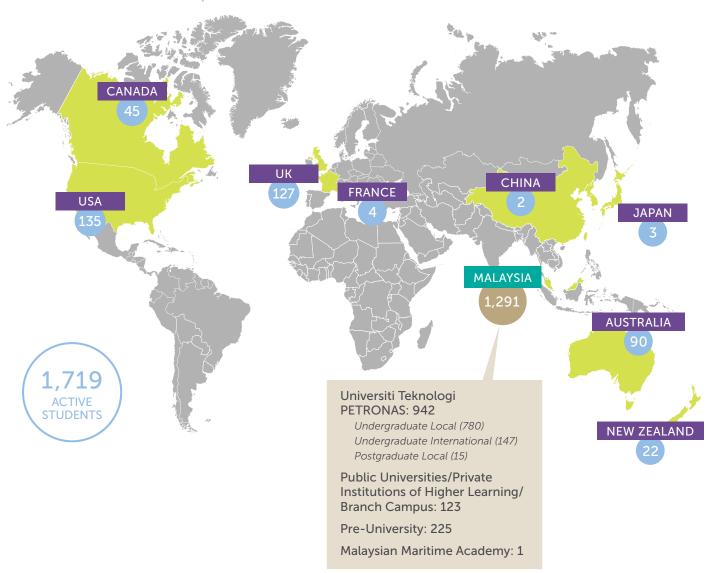
#### **PETRONAS Education Sponsorship Programme**

Since PETRONAS' inception in 1974, PETRONAS Education Sponsorship Programme (PESP) has benefited more than 35,000 students with an estimated investment value of more than RM3 billion, making us one of the major corporate sponsors of education in Malaysia.

The PESP offers academic sponsorships every year to deserving students to pursue their foundational studies until first degree. Through this programme, students have been able to pursue higher education in Malaysia and abroad in various fields and disciplines as part of our commitment to contribute to the wellbeing of society.

	2015	2016
Total Sponsored Students	216	375
Local Universities	93	229
International Universities	123	146

#### Distribution of Active PETRONAS Sponsored Students as at 31 December 2016



#### **CORPORATE SOCIAL INVESTMENT**

#### **OUR LEARNING ACADEMY PORTFOLIO**

Our integrated education portfolio across technical professional development segments includes Universiti Teknologi PETRONAS (UTP), Institut Teknologi Petroleum PETRONAS (INSTEP) and Malaysian Maritime Academy (ALAM).

These three learning units provide tertiary education to professional courses and ensure a sufficient talent pool not only for PETRONAS, but also for the industry and society at large.

#### **UNIVERSITI TEKNOLOGI PETRONAS**

In 2016, we had 1,469 engineering and technology graduates. Since Universiti Teknologi PETRONAS' (UTP) first convocation ceremony in 2001, the total graduates to date is 14,617.

	2015	2016
Total Graduates	1,154	1,469
PhD Holders	69	87
Master's Degree Holders	132	138
Bachelor's Degree Holders	953	1,244

#### 2016 Infrastructure Development

In strengthening its research and development (R&D) efforts towards becoming an internationally prominent and valued research institution, UTP has added 65 laboratories housed in a new four-storey building, in compliance with the Green Building Index Certification. These laboratories will mainly conduct UTP's Mission-Oriented Research, namely Carbon Dioxide Management and Enhanced Oil Recovery.

The remaining space will house the Exploration and Production Research laboratories, which include Long-Term Research Grant Scheme, Hybrid Energy Systems, Centre of Advanced Safety Process, South-East Asia Carbonate Research Laboratory, Gas Separation Research, Geoscience and Petroleum Engineering Research.



#### **UTP: 2016 Collaborations and Partnerships**

#### 16 February 2016

Signing of memorandum of agreement with Tribal, a global provider of world-class student management systems and analytic services to universities around the world. UTP has over 8,500 students from over 60 different countries. The university is keen to make processes more efficient and easier to manage so that students can concentrate on their educational experience rather than application, enrolment or support issues.

#### 7 April 2016

Further to the Memorandum of Understanding (MoU) between UTP and Pembroke College Cambridge, which was signed on 1 January 2015, both parties have initiated a Corporate Partnership Programme, which provides opportunities for students and staff in the areas of secondments, student placements, seminars, workshops, lectures and other collaborative efforts of mutual interest.

Also on 7 April 2016, we witnessed the ground breaking of the Alpha Matrix project, which received the largest single research grant of RM42 million from the Petroleum Research Fund.

#### 9 May 2016

Celcom Axiata Berhad (Celcom) and UTP inked an MoU that will see the two parties collaborate on data connectivity, internship opportunities and entrepreneurial programmes.

#### 16 May 2016

IChemE Safety Centre (ISC) signed an MoU with UTP which establishes a framework for collaboration in the areas of process safety education, continuing professional development and strategic leadership.

UTP and the National Institute of

#### 30 May 2016

Occupational Safety and Health (NIOSH) signed an MoU to pave the way for continued and mutual activities founded on the shared goal of promoting process safety in Malaysia. The MoU will cover various training and services activities, which include staff development programmes, module development and delivery, consultancy services, research and development, and commercialisation in process safety.

#### **CORPORATE SOCIAL INVESTMENT**

#### **UTP: 2016 Collaborations and Partnerships**

## 2016

**21 November** Formalisation of strategic partnership through the signing of an MoU between **Government-Linked Universities (GLUs)** comprising Universiti Kuala Lumpur (UniKL), Multimedia University (MMU), **UTP and Universiti Tenaga Nasional** (UNITEN) to promote the interests of GLUs to the Government, the industry and the general public and to develop policies and guidelines on matters relating to education including teaching, research and training.

#### **UTP: 2016 Student Awards**

#### June 2016

UTP students became the first South East Asian undergraduate team to win third place in the Global European Association of Geoscientists and Engineers (EAGE) Fully Integrated Evaluation and Development (FIELD) Challenge in Vienna, Austria.

#### **INSTITUT TEKNOLOGI PETROLEUM PETRONAS**

#### **INSTEP Graduates**

	2015	2016
Total Graduates	885	1,081
Electrical	0	57
Instrumentation	104	122
Mechanical	128	148
Laboratory	165	205
Process	120	232
Production	368	317

Institut Teknologi Petroleum PETRONAS (INSTEP), established in 1981, was set up with the aim to accelerate human capital development to support the growth of PETRONAS as well as the oil and gas industry. The training institute also serves international clients from more than 15 countries in line with its aspiration to be "A Leading Partner of Choice in Oil and Gas Technical Learning and Certification". INSTEP's learning experience and module offerings have since transformed with the launch of the integrated Upstream Downstream Training Plant (UDTP) on 27 March 2014, making a phenomenal shift in learning. The UDTP stands unique in being supported by six academies complete with practical workshops and advanced equipment.

Among INSTEP's achievements in 2016:

- 1. Global Getenergy 2016 Award Education & Training Provider of the Year
- 2. 12th IECEx Recognised Training Provider in the world
- 3. Pearson BTEC Centre of Excellence
- 4. Pearson Medallion Awards (Outstanding Learners)
- 5. ISO 9001:2008 by SIRIM

#### **MALAYSIAN MARITIME ACADEMY**

#### **ALAM Graduates**

	2015	2016
Total Graduates	294	341

Since its inception in 1977, more than 13,000 seafarers have been trained at the Malaysian Maritime Academy (ALAM).

#### ALAM: 2016 Collaborations and Partnerships

A total of 266 sponsorships totaling RM12 million were secured from various maritime organisations for school leavers to join ALAM's Cadetship and Ratings programmes in 2016. ALAM achieved a significant milestone in the international arena with the signing of an International Collaborative Agreement with Liverpool John Moores University (LJMU), which allows our cadets to sit for the LJMU Diploma of Higher Education (DipHE) at ALAM and subsequently transfer over to the Bachelor's Degree programme at LJMU.

ALAM also trained the first batch of 34 ratings in collaboration with the Melaka State Government's State Economic Planning Unit in 2016.

An MoU was also signed with Kolej Yayasan Pelajaran Johor (KYPJ) to provide KYPJ's culinary students with career options in the maritime sector. The MoU will see the inclusion of certain culinary modular courses at ALAM commencing in

#### **COMMUNITY WELLBEING** AND DEVELOPMENT \_

#### **WATER FOR LIFE**

PETRONAS has a long history of developing programmes that address basic needs and uplift communities around our areas of operations. In 2013, we embarked on the Water for Life programme addressing communities that lack access to clean water. Aside from providing clean water, the programme is an ongoing effort to reach out to the communities to educate them on the importance of water preservation.

#### **CORPORATE SOCIAL INVESTMENT**



This is one of the many PETRONAS initiatives under the Community Wellbeing and Development pillar, and was initiated via a partnership between PETRONAS Dagangan Berhad (PDB) and Malaysian Nature Society (MNS).

There are communities around Malaysia without proper access to clean water. These communities either have to travel a great distance to reach water sources such as rivers, or rely on man-made or natural wells that dry up during the drought season. Drought occurs regularly throughout the year in Malaysia and disrupts access to clean water for many who live in remote areas.

In 2016, the Water for Life programme successfully provided clean water supply to 500 villagers from Kampung Peta, Mersing, Johor, 500 villagers from Kampung Jongok Batu, Dungun, Terengganu and 1,000 villagers from Kampung Gayu, Serian, Sarawak. Access to clean water improves sanitation and promotes overall improvement in hygiene and health within the communities.

#### **ENVIRONMENT**

#### **ECO MARINE CONSERVATION PROJECT**

PETRONAS believes in the protection and preservation of the natural environment for future generations. The Eco Marine Conservation within Miri-Sibuti Coral Reefs National Park in northern Sarawak is one of the environment-related programmes that PETRONAS is actively supporting.

The organisation collaborates with Sarawak Forestry Corporation to protect and regenerate the dying coral reefs around the 12,200 ha Sibuti Reef Complex within the 186,930 ha Miri-Sibuti Coral Reefs National Park.

This project is a significant environmental conservation effort that focuses on enhancing Sarawak's marine biodiversity that has largely been destroyed by illegal fishing trawlers. The project kicked off last year and will see a total of 1,750 artificial reef balls deployed in stages at the coral reef. To date, some 550 artificial reef balls have been deployed.

The reef balls, weighing one tonne each, can last for 500 years under the sea and are able to mimic natural limestone and help to regenerate the corals. Their rough surface texture allows tiny soft-bodied organisms such as algae, coralline algae, sponges and coral polyps to land on them and proliferate.

Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

#### **CORPORATE SOCIAL INVESTMENT**

# FOUR OUTSTANDING INDIVIDUALS RECEIVE MERDEKA AWARD IN 2016

Four distinguished individuals were selected to receive the prestigious Merdeka Award in 2016. The accolade is in recognition of the recipients' significant achievements and contributions in their respective fields.

Established in 2007 by PETRONAS, ExxonMobil and Shell, the Merdeka Award is conferred annually on outstanding individuals and organisations and is an enduring contribution to the people of Malaysia, demonstrating and renewing the commitment of the oil and gas industry to the growth and development of the country.

The conferment of the Award follows the Award's stringent nomination and selection process, where the four eminent individuals were recognised for their notable achievements and contributions which have become a source of inspiration in driving progress and the pursuit of excellence.

The four distinguished individuals received the 2016 Merdeka Award from the Sultan of Perak Darul Ridzuan and Royal Patron of the Merdeka Award Trust, His Royal Highness Sultan Nazrin Muizzuddin Shah.

The 2016 Merdeka Award recipients in the respective categories are:

#### **EDUCATION AND COMMUNITY**

#### TAN SRI LAKSHMANAN KRISHNAN

For outstanding contribution to laying the foundation for the modern film industry in the country and for his instrumental role in developing early acting talents including Malaysian film icon, the late P. Ramlee.

#### **HEALTH, SCIENCE AND TECHNOLOGY**

#### DISTINGUISHED PROFESSOR DATUK DR LOOI LAI MENG

For outstanding contribution in pioneering research in amyloidosis, renal pathology and cancer pathology and for her significant contributions and role in promoting the field of pathology in Malaysia and the region.

#### **ENVIRONMENT** —

#### TAN SRI DATO' SERI DR SALLEH MOHD NOR

For outstanding contribution to the conservation of the natural environment and forestry in Malaysia through his leadership role at the Forest Research Institute Malaysia (FRIM) and the Malaysian Nature Society (MNS).

#### **OUTSTANDING SCHOLASTIC ACHIEVEMENT -**

#### PROFESSOR DATO' IR DR WAN RAMLI WAN DAUD

For outstanding scholarly research and development in advancing the technology of fuel cells and hydrogen energy in Malaysia and the region.

There is no recipient in the category of Outstanding Contribution to the People of Malaysia for 2016.

Since it was established, 38 individuals and two organisations have received the Merdeka Award. Each recipient receives the Merdeka Award Trophy, the Merdeka Award Work of Art designed by renowned Malaysian artist Latiff Mohidin, a Certificate of Recognition and a cash award of RM500,000. In the case of joint recipients, the prize money is divided equally.

#### SIGNATURE PROGRAMMES

The Merdeka Award runs several signature programmes – Merdeka Award Roundtables, Merdeka Award Grant for International Attachment and Merdeka Award Thumbs-Up Challenge – to create greater public awareness of the Award and to build its presence as an important and integral part of Malaysian life.

#### CORPORATE SOCIAL INVESTMENT

#### MERDEKA AWARD ROUNDTABLES

Merdeka Award Roundtables is a series of TV talk shows designed to inspire debate and discussion on key issues of interest to Malaysians. First launched in August 2011, the Roundtables feature leading personalities from Malaysia's corporate, academic and social spheres, coming together to discuss issues critical to the future of the nation.

The discussion and debate of the topics through the Merdeka Award Roundtables bring to life the true *Spirit of Merdeka* – that of the liberation of mind and spirit, and the pursuit of excellence.

This in turn creates opportunities for Malaysians to think about how they can also play a role in the development of our country.

Broadcast on 23 November 2016, the 15<sup>th</sup> Merdeka Award Roundtable entitled "The Future of Our Past – Safeguarding Malaysia's Historic and Heritage Places" featured five panelists with diverse perspectives discussing the association and challenges of heritage, development and sustainability in Malaysia. The discussion focused on how Malaysia's heritage can be used to shape a secure and sustainable future for the nation.

Merdeka Award Roundtables is broadcast on Astro AWANI Channel 501 and available for viewing on the "Merdeka Award" YouTube channel.

## MERDEKA AWARD GRANT FOR INTERNATIONAL ATTACHMENT

The Merdeka Award Grant for International Attachment is a short-term grant designed for qualified Malaysians between the ages of 22 to 35 to engage in collaborative projects and programmes at selected, internationally-recognised host institutions. The Grant, launched in 2012, creates opportunities for recipients to establish contact and working relationships with other experts in their fields, share knowledge and expertise, and upon their return, use these relationships and shared knowledge to further build on the body of work in their area of research.

Two Grants are offered annually to successful candidates in selected disciplines – Education and Community, Environment, as well as Health, Science and Technology, mirroring the categories in which the Merdeka Award itself is accorded. The broad categories include areas such as visual and performing arts, heritage and social work, sports, traditional disciplines like economics and finance, scientific disciplines, and areas related to the environment such as climate change, biodiversity and the protection and conservation of the natural environment.



Each category has been carefully selected for its importance to the progress of the country. The attachment is made possible and facilitated through the global network and reach of the Merdeka Award founding partners – PETRONAS, ExxonMobil and Shell.

Two young Malaysians, Dr Khamarrul Azahari Razak, 35, and Ms Koh Lily, 24, were awarded the 2016 Merdeka Award Grant for International Attachment. They will both have the opportunity to undergo an attachment of up to three months at an internationally-recognised institution abroad.

Dr Khamarrul's research focuses on the various approaches of strengthening natural disaster research and promoting integrated university-government-industry partnership for managing and reducing disaster risks in changing environments. Ms Koh's study centres on developing expertise and academic exchanges on innovative Small and Medium-sized Enterprises (SME) business models in encouraging Malaysian SMEs to effectively place themselves in the value chain. This is in light of Industry 4.0, a European Union (EU) Commission initiative under the Horizon 2020 plan, which is a part of the EU Framework Programme for Research and Innovation.

#### **MERDEKA AWARD THUMBS-UP CHALLENGE**

Launched in May 2015, the Merdeka Award Thumbs-Up Challenge presents Malaysians with the opportunity to share impactful, sustainable and tested ideas in inspiring others to contribute to the nation. Each challenge is based on a selected theme that reflects the Merdeka Award categories and Merdeka Award Roundtable topics. This extends across Education and Community; Environment; Health, Science and Technology; Heritage; and the Arts sectors, as well as other areas of outstanding contributions.

To find out more about the Merdeka Award's signature initiatives and to follow the Grant recipients' progress, please visit the Merdeka Award website (www.merdekaaward.my) and the Merdeka Award Facebook page (https://www.facebook.com/Merdeka-Award-224494950929548/).

# UPHOLDING HEALTH, SAFETY, SECURITY AND ENVIRONMENT



Although the external industry landscape remains challenging and has severely impacted our growth plans, we remain steadfast in ensuring that our operations remain optimised and sustainable. The integration of Group Health, Safety and Environment (HSE) and Group Security in 2016 further strengthens governance, capability and performance and this, in turn, improves Health, Safety, Security and Environment (HSSE) risk management throughout our business operations.

#### **HSSE PERFORMANCE**

During the period under review, PETRONAS recorded a Fatal Accident Rate (FAR) of 3.53. Regrettably, 13 fatalities were recorded in 2016, the majority of which were attributed to incidents involving the operation of vehicles and machineries, and activities during project execution.

PETRONAS aims to improve our HSSE performance by elevating our HSSE Culture through exemplary Felt Leadership at site, a strengthened HSSE governance mechanism and higher HSSE awareness to address risks and issues.

#### HSE PERFORMANCE

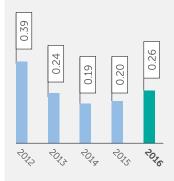
#### FATAL ACCIDENT RATE (FAR)

Recordable Fatalities per 100 million man-hours



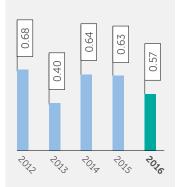
## LOST TIME INJURY FREQUENCY (LTIF)

Number of cases per one million man-hou



## TOTAL RECORDABLE CASE FREQUENCY (TRCF)

Number of cases per one million man-hours



#### **HSSE CULTURE AND LEADERSHIP**

The PETRONAS Executive Leadership Team (ELT) drives the ownership of upholding HSSE integrity across our operations. Leadership visibility within our operating facilities is imperative to inspire a positive mindset change in fostering a strong and sustainable HSSE culture in the organisation. HSSE competence is developed at all levels with recognition accorded to exemplary HSSE management practices. The HSSE agenda is prioritised by advocating strong operational discipline, integrating PETRONAS HSSE targets and risk management in business plans, as well as ensuring strict compliance to applicable laws and industry regulations.

**UPHOLDING HEALTH, SAFETY, SECURITY & ENVIRONMENT** 

#### **HSSE GOVERNANCE**

With comprehensive HSSE governance mechanisms in place, such as the PETRONAS HSE Policies, HSE Management System (HSE MS), HSE Mandatory Control Framework (MCF), Technical Standards and Zero Tolerance (ZeTo) Rules, every employee is expected to uphold the HSSE principles when conducting business.



In the year under review, the MCF governance mechanism went through an enhancement process with more stringent requirements established for some critical areas such as environment and transportation in the PETRONAS Technical Standards documents. These requirements are to be adhered to by all employees and contractors undertaking business for PETRONAS.

#### **ZETO RULES**

Underpinning the commitment to uphold HSSE in everything we do is the 10-point ZeTo Rules that ensure activities executed within PETRONAS' premises are conducted in a safe manner. We strive to ensure that the ZeTo Rules are adhered to by all employees and parties supporting PETRONAS' business. In 2016, efforts to monitor compliance to the ZeTo Rules were intensified, along with intervention programmes.

#### **HSSE ASSURANCE**

Regular HSSE assurance and management review processes were conducted in 2016 to validate and gauge the effectiveness of HSSE governance mechanism and standards. In 2016, a total of 10 Tier-3 Assurance exercises were carried out in our domestic and international operations. The outcomes of these reviews are consistently deliberated at various management levels. Enhancements to the existing regulations and processes are communicated to internal stakeholders on a regular basis. In 2016, enhancements included verification of HSE MCF self-assessment by OPUs, inclusion of overall MCF compliance status in the assurance report and the introduction of social performance in the assurance scope.

#### **OCCUPATIONAL SAFETY**

Safety requirements and work practices in PETRONAS are governed by the PETRONAS Technical Standards (PTS) which address, amongst other issues, safe systems of work, risk management processes, fire detection and protection system and management of projects and contractors. In 2016, emphasis was placed on enhancements of safety standards and requirements related to Land Transportation. The enhancements included clear demarcation of requirements between light and heavy vehicles, training requirements for ordinary and professional drivers, and fatigue management measures in accordance with industry best practices.

Throughout the year, several initiatives were undertaken to further enhance the safety performance at the construction sites of ongoing projects. For example, the project safety induction video has been standardised and made available in several languages to our contractors who are of different nationalities, to ensure effective communication and consistent understanding of HSSE requirements. In collaboration with a contractor, PETRONAS has also introduced an Incident Injury Free (IIF) Programme at

#### UPHOLDING HEALTH, SAFETY, SECURITY & ENVIRONMENT



PETRONAS
focuses on the
prevention of
Loss of Primary
Containment
(LOPC) by
implementing a
'design it right,
operate it right
and maintain it
right' principle.

our Pengerang Integrated Complex (PIC) facility. The programme, which is piloted at one of the packages in the Refinery and Cracker Project, is aimed at elevating the accountability and safety leadership of key project personnel and enhancing supervisors' ability to assign work safely, provide recognition of safe work practices and correct unsafe work through an engaging and effective conversation with workers.

#### **PROCESS SAFETY**

PETRONAS focuses on the prevention of Loss of Primary Containment (LOPC) by implementing a 'design it right, operate it right and maintain it right' principle at the design stage of a project. This is emphasised in 2016 when we introduced the LOPC Reduction Framework to achieve zero LOPC, by focusing on Operational Integrity, Technical Integrity and Design Integrity. Continual assessment is also made to ensure asset integrity, including timely inspections and maintenance of Safety Critical Equipment (SCE) to sustain operating reliability.

#### **CRISIS MANAGEMENT**

PETRONAS Group of Companies is constantly exposed to potential crises due to the nature of our businesses. The lack of preparation and foresight in emergency response and crisis management can be costly and detrimental, given PETRONAS' global exposure as well as the presence of emerging and imminent threats that can jeopardise our operations. PETRONAS Contingency Plans serve to mitigate the impact of these threats across the organisation.

The competency and capabilities of internal responders are continuously tested through regular exercises and proven under real conditions. As a result of these efforts, PETRONAS is able to minimise the impact of incidents and limit damages to people, environment, assets and our reputation. In order to achieve the required level of competency, responders are regularly trained and monitored through emergency drills and simulation. Collaborative effort through government agencies and mutual aid arrangement ensures seamless integration in emergency response.

#### **HSE CAPABILITY DEVELOPMENT**

It is important to continuously strengthen and enhance our technical core competency in maintaining our technical standards. During the year under review, four new areas of specialisation, namely Technical Safety, Maritime Safety, Toxicology and Social Performance were established as part of the HSE Capability Building Framework.

#### **UPHOLDING HEALTH, SAFETY, SECURITY & ENVIRONMENT**

## SUCCESSFUL INTERNATIONAL EVACUATION

In July 2016, 30 employees and contractors were evacuated from one of our operational sites in the African continent as a result of rising civil unrest. The safe evacuation process would not have been possible without prior procedures that include Country Contingency Plans (CCP), drills and exercises, and a sound understanding of on-the-ground conditions by employees. The CCP establishes the organisation structure, roles and responsibilities for the Country Contingency Team and internal communication protocols. The evacuation was also made possible through close cooperation between PETRONAS and Malaysia's Ministry of Foreign Affairs who jointly coordinated the departure and arrival of the evacuees from the afflicted country to Kuala Lumpur, Malaysia.

#### 2016 ENVIRONMENTAL CAMPAIGN -



In 2016, we advocated environmental awareness with a Groupwide campaign that features operational and non-operational best practices for valuing natural resources. The campaign aims to share and promote initiatives undertaken in the areas of Waste Reduction, Energy Conservation, Water Conservation and the promotion of Virtual Communication. Consequently, the campaign yielded potential cost savings amounting to RM75 million from activities ranging from optimised asset utilisation, efficient resource management and proactive behavioural interventions in the workplace.

#### **ENVIRONMENT**

Our commitment towards preserving the environment encompasses efforts to manage spills, emissions and effluent discharges to the environment, as well as reduce waste generation in our business value chain. We aim to continually promote natural resource conservation and education for the benefit of present and future generations.

#### **TOXICOLOGY AND PRODUCT STEWARDSHIP**

PETRONAS is committed to ensure full regulatory compliance for new and existing products. In 2016, the PETRONAS Product Safety Data Sheet (SDS) Development and Update Process were established to meet the emerging SDS regulations stipulated for countries within the Asia Pacific region.

PETRONAS products are systematically assessed throughout their lifecycle (from R&D to waste). We publish Global Product Safety Summaries which provide product safety and associated risks and controls information in a simplified manner to educate society on the safe use of chemicals. Similarly, we established a Groupwide guideline on the Management of Reproductive Toxicants that standardises the process of identifying Reproductive Toxicants at the workplace to improve the management of hazardous chemicals by our employees.

#### **OCCUPATIONAL HEALTH AND WELLNESS**

PETRONAS strives to provide a safe and healthy environment for all employees and contractors working throughout our business and operating facilities. Key initiatives were carried out in 2016 based on the established five-year Occupational Health strategy. These initiatives include the development of Medical Emergency Response and Mass Casualty Management Procedures for the Integrated Petrochemical Complex, in Kertih, Terengganu, Malaysia, as well as the revision of technical standards on Medical Emergency Response, Fatigue Management and Fitness to Work (FTW).

2016 also saw a rise in Total Recordable Occupational Illness Frequency (TROIF) due mainly to food poisoning and malaria. Control measures were strengthened to ensure stricter compliance with the PETRONAS Food and Water Safety and Technical Standards on Managing Communicable Disease. The PETRONAS Travel, Health, Safety and Security service launched and rolled out in 2016, enabled access to a dedicated online portal, pre-trip advisories and 24-hour access to medical consultation and medical emergency management. To address employees' health and wellness, a risk-based PETRONAS Health and Wellness strategy was developed for implementation in 2017.

The implementation of the Occupational Health Record Management System continued with its third phase rollout in 2016. Enhancements include automating the process of

#### UPHOLDING HEALTH, SAFETY, SECURITY & ENVIRONMENT



collating existing employees' medical data submitted by the medical services providers which was previously done manually. This has significantly reduced the workload for manual data entry.

#### **INDUSTRIAL HYGIENE**

As part of our commitment to ensure we provide a safe and healthy working environment, we intensified the management of chemicals used onsite and ergonomic practices amongst office workers. This includes a series of revised chemical standards emphasising the control of incoming chemicals ensuring full compliance to CLASS Regulations 2013 and management of change. It also focuses on chemical reactivity studies and enhanced asbestos control programme. Proactively, we drive an office ergonomics programme through Groupwide awareness sessions, employees' workplace surveys, complaints investigations and engagement with stakeholders such as Information, Communication and Technology (ICT) and facilities management to ensure we continue to 'design it right'. The implementation of the Stewardship, Health, Information and Environment Linked Database, or SHIELD continued with its third phase rollout in 2016. With 21 OPUs onboard this project, the management and governance of Industrial Hygiene-related risks are expected to be more efficient, with specific focus on innovative solutions.

#### SUSTAINABLE DEVELOPMENT

PETRONAS' commitment to sustainable development encompasses the pillars of environment, social and economic advancement, guided by the PETRONAS Corporate Sustainable Development Framework. Nine focus areas within the framework were reinforced by enhancements and included Governance and Business Ethics, Biodiversity and Ecosystem Services, and the Expansion of Societal Needs to Incorporate Human Rights, Corporate Social Investment and Workforce Development. The enhanced framework serves to widen its scope and further inculcate the sustainable development commitment amongst our employees. Strong environment, social and governance practices were reflected in the Sustainability Statements developed by all PETRONAS public-listed entities, all of which are constituents of Bursa Malaysia's FTSE4Good Index.

#### Climate Change

PETRONAS Climate Change Position drives the organisation's efforts to lower Greenhouse Gas (GHG) emissions and improve energy efficiency to mitigate climate change effects. PETRONAS continually seeks proactive engagement with various governmental agencies to support Malaysia's Nationally Determined Contribution (NDC) ambition towards realising the Paris Agreement.

#### Water

Sustainable water management is an area of increasing importance to PETRONAS. Efforts are undertaken by operating units to ensure that water consumption is optimised and reduced, while continuous improvements are made on general water quality and effluent volumes. In the period under review, PETRONAS continues to ensure the availability of water supply for the communities surrounding our operating sites. This includes the establishment of Pengerang Integrated Complex (PIC) Raw Water Supply Project (PAMER) in the state of Johor, Malaysia which is expected to supplement the existing water supply for public consumption.

#### **Social Performance**

As PETRONAS continues to advocate Human Rights across the organisation, efforts were undertaken to implement the PETRONAS Human Rights Commitment and its governance. These include the establishment of technical guidelines pertaining to Indigenous Peoples' Assessment, Land Acquisition and Involuntary Resettlement, and Cultural Heritage Assessment and conducting human rights training for businesses to develop their capacity in implementing this commitment.

For more information on the organisation's non-financial performance, including HSE and Sustainable Development practices, please refer to the PETRONAS Group Sustainability Report 2016 which is accessible at www.petronas.com.

Section Three

# OUR AWARDS AND HIGHLIGHTS

#### CONTENTS

- 65 Awards and Recognition
- 67 Significant Events in 2016
- 75 Media Highlights



# THE RACE FOR THE WINNING FORMULA

What began as a global branding initiative over 20 years ago has blazed trails for a historical three consecutive wins of Formula One's World Constructors' Championship.

It unfolded in 2014 when the Mercedes AMG PETRONAS Motorsport team ushered in the new energy efficiency era. The team was challenged to deliver a superior formula when the rules of the game for Formula One were rewritten.

The move into smaller and more efficient engines in 2014 marked a turning point for the world's fastest sport. PETRONAS and the Mercedes AMG team worked together to find an intelligent approach in engineering a brand new range of customised fuels and lubricants to meet the drastic changes in the regulation. The collaboration led to what was recognised as the biggest technical revolution since the first Formula One season in 1950.

Through the all-new and ever-evolving PETRONAS Fluid Technology Solutions™, PETRONAS continues to keep powering the Silver Arrows – as we have since 2010.

PETRONAS Fluid Technology Solutions™ Milestones:

2010: Syntium engine oil, Tutela transmission and hydraulic functional fluids

2011: Primax fuels

2015: Tutela energy recovery system cooling fluid

Today, we are the principal technical resource behind the design and development of the Winning Formula, the technological breakthrough that has taken the world by storm. Whilst the collaboration to be the best with our Technical Partner Mercedes AMG allowed meaningful knowledge-exchange and robust expertise-building of our talents, it has also opened doors for the PETRONAS brand to set foot towards global commercial and business expansion.

At home ground in Malaysia, PETRONAS has been the title sponsor for the PETRONAS Malaysian Grand Prix which is coming to a close in year 2017 with its 19<sup>th</sup> season, having created a vibrant motorsports culture in the region.

The journey continues for PETRONAS as we strive to further improve the Winning Formula. On our way to raising more chequered flags on the tracks, cleaner fuels, energy efficiency and fewer emissions are made possible; as we continue to deliver fluids fit for world champions and also to be enjoyed by our customers on the roads.

#### **AWARDS AND RECOGNITIONS**

#### 1 ASIA-PACIFIC OIL AND GAS AWARDS 2016

PETRONAS outperformed other major NOCs at the 2016 Asia-Pacific Assembly and Awards Dinner winning the prestigious 2015 APAC National Oil Company (NOC) of The Year Award for demonstrating overall leadership as an industry benchmark of excellence.

#### 2 JOBSTREET.COM TOP 10 COMPANIES AWARD 2016

PETRONAS was again recognised as a leading employer in Malaysia where we received top accolade for the Most Preferred Employer at the Jobstreet.com Top 10 Companies 2016 Award.

## 3 FTSE4GOOD BURSA MALAYSIA INDEX

PETRONAS Gas Berhad remains a constituent of the FTSE4Good Bursa Malaysia Index, following the 2016 assessment. The FTSE4Good Index Series is designed to identify companies that demonstrate strong Environmental, Social and Governance practices measured against globally recognised standards.

## 1 NATIONAL ANNUAL CORPORATE REPORT AWARDS (NACRA) 2016

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.

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

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

## 5 READER'S DIGEST TRUSTED BRAND AWARDS

The PETRONAS Stations' signature one-stop-centre convenience concept has proven to be a popular one as we were voted the Best Petrol Station by Malaysians at the Reader's Digest Most Trusted Brand Awards. This award is given solely on customers' nominations conducted in a survey by Malaysia's Reader's Digest readership.

**PETRONAS Dagangan Berhad** received a Gold Award for Best Petrol Station.

# 6 CHEMICAL INDUSTRIES COUNCIL OF MALAYSIA (CICM) RESPONSIBLE CARE AWARDS 2015/2016

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

**PETRONAS Chemicals Group Berhad (PCG)** won five gold, 13 silver and six merit awards for our commitment to Responsible Care's Six Codes of Management Practices.

#### 7 MALAYSIA SOCIETY FOR OCCUPATIONAL SAFETY AND HEALTH (MSOSH) AWARDS 2016

The annual award ceremony recognises companies from various sectors that have performed exceptionally well in occupational safety and health aspects.

#### **Gold Merit**

- ASEAN Bintulu Fertilizer Sdn Bhd
- PETRONAS Chemicals LDPE Sdn Bhd

#### Gold Class 1

- PETRONAS Chemicals MTBE Sdn Bhd
- PETRONAS Chemicals Ammonia Sdn Bhd

# 8 MINORITY SHAREHOLDER WATCHDOG GROUP (MSWG) – ASEAN CORPORATE GOVERNANCE AWARD 2016

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

#### PETRONAS Dagangan Berhad

Received a Merit Award for Corporate Governance Disclosure.

#### PETRONAS Gas Berhad

Received an Award under the Industry Excellence for the Oil and Gas category.

#### 9 ROYAL SOCIETY FOR THE PREVENTION OF ACCIDENTS (ROSPA) OCCUPATIONAL HEALTH AND SAFETY AWARDS 2016

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

#### **Gold Award**

- PETRONAS Gas Berhad Five Gold Awards for GPU (Gas Processing Kertih, Gas Processing Santong, Utilities Kertih, Utilities Gebeng and Tanjung Sulong Export Terminal)
- PETRONAS Chemicals Ethylene Sdn Bhd
- PETRONAS Chemicals Ammonia Sdn Bhd

## 10 RANDSTAD AWARD 2016: MOST ATTRACTIVE EMPLOYERS IN

1<sup>st</sup> Runner-up

## 11 MALAYSIA'S 100 LEADING GRADUATE EMPLOYERS AWARDS 2016

- The Graduate Employer of the Year Award 2016 **2**<sup>nd</sup> **Runner-up**
- The Most Popular Graduate Employer in the Energy/Oil and Gas/Utilities 2016 **Winner**

#### 14 17<sup>TH</sup> NATIONAL CONTACT CENTRE AWARDS 2016

PETRONAS Group ICT won the Gold award for the Most Innovative Technology Adoption in a Contact Centre (Open) category at the 17<sup>th</sup> National Contact Centre 2016 Awards.

This is the first time Group ICT participated in the award which was organised by the Contact Centre Association of Malaysia.

# 12 MALAYSIA SOCIAL MEDIA WEEK/ SOCIAL MEDIA CORPORATE EXCELLENCE AWARD 2016

MSMW Awards distinguishes the best in social media leadership to engage with the public and in particular the youth generation (Gen Y). The award will highlight, recognise and reward individuals and organisations on their active roles in promoting social media to the mass through various channels available on the new media scene today.

**PETRONAS Dagangan Berhad** won Best in Oil and Gas Sector.

#### 13 PUTRA BRAND AWARDS 2016

PETRONAS was voted as the Gold Award recipient in the 2016 Putra Brand Awards, marking our seventh and third-year win for the Automotive Fuel and Lubricants category.

The award is an honour for PETRONAS, as a brand that has consistently received gold accolades in the Putra Brand Awards. It indicates a strong brand presence and recognition of the PETRONAS brand amongst Malaysians.

#### **AWARDS AND RECOGNITIONS**

# 15 UNIVERSITI TEKNOLOGI PETRONAS (UTP) STUDENT AND ACADEMIC TEACHING EXCELLENCE

As one of the most prominent private universities in Malaysia, UTP has achieved a series of awards and accolades under its helt:

#### Brand Laureate Awards 2015 - 2016

The Best Brands Award in Tertiary Education for Engineering, Science and Technology.

## QS Asian University Rankings 2016 Panked sixth in Malaysia as the Bost Prive

Ranked sixth in Malaysia as the Best Private University in Malaysia.

#### 2016 Staff Awards

2016 Top Research Scientists Malaysia (TRSM) Award by the Academy of Sciences, Malaysia – Associate Professor at the Chemical Engineering Department, Dr Suzana Yusup.

Malaysia's Rising Star Award (MRSA) 2016 Award: Highly Cited Review for Women in Science Award – Associate Professor at the Chemical Engineering Department, Dr Suzana Yusup.

Second Prize Winner in the Elsevier Green and Sustainable Chemistry Challenge 2016 – Associate Professor at the Chemical Engineering Department, Dr Suzana Yusup.

#### Private Education Excellence Awards 2016 Dr Mohammad Tazli Azizan - National

Dr Mohammad Tazli Azizan - National Outstanding Educator Award (University Category).

Professor Dr Azmi Mohd Shariff - National Outstanding Researcher Award (University Category).

Associate Professor Dr Irraivan Elamvazuthi – National Outstanding Researcher Award (University Category).

Associate Professor Dr Lau Kok Keong

– National Outstanding Innovator Award
(University Category).

# 22 THE ROYAL SOCIETY OF CHEMISTRY (RSC) AND THE SCIENCE COUNCIL, UK

Dr Kuah Yong Cheun, Senior Researcher in Group Research and Technology (GR&T) of Project Delivery and Technology (PD&T) Division, achieved a first in PETRONAS when he gained two UK-based Charterships simultaneously. He was awarded Chartered Chemist (CChem) status by the Royal Society of Chemistry (RSC) and Chartered Scientist (CSci) status by the RSC and the Science Council, UK. In Malaysia, Dr Kuah is one of the 10 individuals who has received such recognition.

# 16 INSTITUT TEKNOLOGI PETROLEUM PETRONAS (INSTEP) STUDENT AND ACADEMIC TEACHING EXCELLENCE

INSTEP is a state-of-the-art technical training institute that aims to accelerate human capital development to support the growth of PETRONAS as well as Malaysia's oil and gas industry.

#### Getenergy Global Awards 2016

Awarded the Education and Training Provider of the Year.

#### **BTEC Outstanding Centre of Excellence**

Pearson Centre of Excellence

# 18 INTERNATIONAL CONVENTION ON QUALITY CONTROL CIRCLE (ICQCC) 2016

The award recognises and highlights the successful implementation of quality, productivity or customer satisfaction improvement projects through innovation and systematic approach. It also distinguishes the fruitful collaborations of non-executive level employees, to select problems to be tackled, analyse and determine root causes following a systematic method, generate alternative solutions, select and implement the best and standardise the new method if successful.

## PETRONAS Penapisan (Terengganu) Sdn Bhd Representing PP(T)SR A'Aromatic Innovative

Representing PP(T)SB, A'Aromatic Innovative and Creative Circle (ICC) Team received a 3-Star Gold Award during the International Convention of Quality Control Circles 2016 in Bangkok, Thailand.

The team was also crowned as Champion of the Manufacturing Category, enabling them to compete in the next ICQCC 2017 in Manila, Philippines.

#### ASEAN Bintulu Fertilizer Sdn Bhd Received the Gold Award during the ICQCC 2016

#### 23 THE CHINA MEMBRANE INDUSTRY ASSOCIATION'S SCIENCE AND TECHNOLOGY AWARD

PETRONAS in collaboration with Dalian Institute of Chemical Physics (DICP) received the First Class 2015-2016 China Membrane Industry Association Science and Technology Award on 7 May 2016 in Nanjing. The presentation ceremony was held during the China Membrane Industry 135<sup>th</sup> Technology Innovation, Development Planning Summit.

## 17 DOWNSTREAM OPERATIONAL EXCELLENCE FORUM AND AWARD

#### PETRONAS Penapisan (Terengganu) Sdn Bhd

• Operational Excellence Award (Bronze)

- Culture Excellence Award (Gold)
- HSE Excellence Award (Silver)

#### **PETRONAS Dagangan Berhad**

 HSE Excellence Awards - Bintulu Fuel Terminal, Miri Fuel Terminal and Kota Kinabalu Aviation Terminal

#### PETRONAS Lubricants International Sdn Bhd

• iHSE Personality Award Argentina and Brazil

## 19 THE OTC ASIA 2016 SPOTLIGHT ON NEW TECHNOLOGY AWARD

Intelligent Circulation While Drilling (iCWD<sup>TM</sup>), a jointly-developed technology by **PETRONAS** and **MIT Technologies** was recognised by industry experts when it won the OTC Asia's Spotlight on New Technology award (SONT) at the OTC Asia 2016.

## 20 SIEMENS AERODERIVATIVE GAS TURBINE (AGT) AWARD

PETRONAS received two awards from SIEMENS, a global powerhouse focusing on the areas of electrification, automation and digitalisation. The trophies were presented on 16 November 2016 at SIEMENS' Gala Awards Dinner at the flagship Asia Pacific Technical Conference (APTC) 2016.

#### 21 ICHEME MALAYSIA AWARDS

Crowned the winner for oil and gas awards 2016 by the IChemE Malaysia, **HycaPure<sup>TM</sup> Hg** made a significant stride in technological advancement with the capability to irreversibly capture all species of mercury with water resistance feature for enhanced robustness in plant operations.

#### 24 CHINA LUBTOP AWARDS 2016

This award recognises and highlights top performance of the new international brand lubricant which bring Chinese customers better product experience in the last three years.

**PETRONAS Syntium** was announced as the top performer of New International Brands Merit in China Market.

#### **SIGNIFICANT EVENTS IN 2016**

#### **22 JANUARY**

#### PETRONAS TRIUMPHS IN THE DAKAR RALLY 2016

Gerard De Rooy, captain of the PETRONAS De Rooy Iveco team, won the 2016 edition of what is recognised in the world as the most demanding off-road racing event. The Dutch driver with his green Iveco Powerstar truck powered by PETRONAS Urania engine oil and PETRONAS functional fluids was the first to cross the finish line with 1 hour 15 minutes 27 seconds ahead of Mardeev, the Russian driver of Kamaz Team.

#### 4 MARCH



## PETRONAS NAMES FIRST FLOATING LNG FACILITY

PETRONAS' first floating liquefied natural gas (LNG) facility officially received its name, marking another milestone for Malaysia's national oil and gas corporation in the global LNG business arena. The PFLNG SATU was named at a ceremony held by PETRONAS, together with our strategic partners Daewoo Shipbuilding and Marine Engineering Co Ltd (DSME) and Technip, at the DSME shipyard in Okpo, South Korea.

#### 23 MARCH

COMMERCIALISATION AGREEMENT FOR PROASSURE CLAMP BETWEEN PETRONAS TECHNOLOGY VENTURES SDN BHD, ADVANCED COMPOSITE STRUCTURES AUSTRALIA PTY LTD AND COOPERATIVE RESEARCH CENTRE FOR ADVANCED COMPOSITE STRUCTURES (CRC-ACS)

PETRONAS, through innovation, has persistently challenged industry norms in seeking solutions to stay ahead of our peers. On 23 March 2016, PETRONAS pushed through with the commercialisation of two new technologies. Taking place at the Offshore Technology Conference Asia (OTCA) 2016, a commercialisation agreement on ProAssure<sup>TM</sup> Clamp and intelligent Circulation While Drilling (iCWD<sup>TM</sup>) was signed between PETRONAS Technology Ventures Sdn Bhd and its partners.

#### **3 FEBRUARY**



## PETRONAS LAUNCHES COMMERCIAL AND COFFEE BREAK CAMPAIGN TO CELEBRATE THE LUNAR NEW YEAR

PETRONAS kicked off our Chinese New Year festive campaign with the launch of a fresh TV commercial titled 'Rubber Boy', as well as the reactivation of our flagship road safety programme, PETRONAS Coffee Break for 2016.

#### 26 MARCH



## PETRONAS RAPID PROJECT RECEIVES FIRST CARGO AT MOLF TANJUNG SETAPA

PETRONAS recorded another achievement in the development of its Refinery and Petrochemical Integrated Development (RAPID), with the arrival of three steam cracking modules at the Material Offloading Facility (MOLF) port in Tanjung Setapa, Johor.

The three modules are part of the main structures for RAPID's Steam Cracker Complex, which will be constructed by a consortium of Toyo Engineering Corporation and Toyo Engineering and Construction Sdn Bhd. The modules, measuring 76 metres in length and 4.2 metres in diameter, have a combined weight of approximately 540 tonnes.

# **SIGNIFICANT EVENTS IN 2016**

# **30 APRIL**

Annual Report 2016



# PETRONAS LAUNCHES HULL FOR SECOND FLOATING LNG FACILITY

PETRONAS marked another construction milestone for its second FLNG facility with the official launch of the hull at Samsung Heavy Industries (SHI) shipyard in Geoje Island, South Korea.

# 5 MAY



# PENGERANG POWER AND TENAGA NASIONAL SIGN POWER PURCHASE AGREEMENT

PETRONAS' wholly-owned subsidiary, Pengerang Power Sdn Bhd, signed a Power Purchase Agreement to supply electricity to Tenaga Nasional Berhad from its cogeneration plant within the Pengerang Integrated Complex (PIC) in Johor.

Pengerang Power is expected to commence commercial operation and supply 400MW to TNB beginning from 1 June 2017, to be followed by an additional 200MW from 1 January 2019 onwards. The contract is for a period of 21 years.

# 4 MAY



# SAFE AND SUCCESSFUL INSTALLATION OF TUKAU TIMUR WELLHEAD PLATFORM (TTJT-A) AT TUKAU TIMUR FIELD, OFFSHORE SARAWAK

BARDEGG-2 and Baronia EOR Development Project achieved a major milestone with the safe and successful installation of the Tukau Timur Wellhead Platform (TTJT-A) in the Tukau Timur Gas Field, offshore Sarawak.

# **19 MAY**



# PENGERANG INTEGRATED COMPLEX RECEIVES FIRST VESSEL CARGO

PETRONAS' PIC received the first delivery equipment by ocean-going vessel for its refinery via the Material Offloading Facility (MOLF) in Tanjung Setapa, Johor. This was the first unloading of the vessel cargo

# **SIGNIFICANT EVENTS IN 2016**

# **14 MAY**



# PFLNG SATU SETS SAIL FOR MALAYSIA

PFLNG SATU set sail for the Kanowit gas field, offshore Sarawak, making its historic 2,120 nautical mile journey to Malaysia.

At 365-metre-long and with a dry weight of 132,000 tonnes, PFLNG SATU was towed from the Daewoo Shipbuilding and Marine Engineering Co Ltd (DSME) shipyard in Okpo, South Korea for the offshore phase of the project.

# 10 JUNE



# FIRST GAS TURBINE FOR PETRONAS' PENGERANG POWER PLANT ARRIVES

The first of four massive gas turbines for cogeneration power plant in Pengerang – each weighing as much as an Airbus A380 superjumbo – arrived in Johor from Hamburg, Germany, and is set to begin commercial operation by mid-2017. The turbine, measuring 13.5 metres in length, 5.5 metres in height and 5.9 metres in width, is the most powerful gas turbine in commercial operation today, and arrived after a four-week trip.

# **26 MAY**

# PETRONAS STRENGTHENS LNG FOOTHOLD IN CHINA WITH JOVO'S CONTRACT EXTENSION

PETRONAS continued efforts to strengthen our LNG market presence in China with the successful conclusion of a contract extension with JOVO Group Co. Ltd.

JOVO owns and operates the Dongguan LNG terminal based in Guangdong, South China, where stability of supply and competitive pricing are fundamental to its growth strategies.

# **26 MAY**



# PETRONAS HANDS OVER WATER TREATMENT PLANT TO TERENGGANU

PETRONAS and the Terengganu State Government signed a Share Sale Agreement that will see the ownership transfer of Bekalan Air KIPC Sdn Bhd (BAKIPC) from PETRONAS to the State.

BAKIPC owns a water treatment facility in Dungun, Terengganu that has the capacity to produce up to 230 million litres of treated water per day. The facility was built in 1999 at RM464 million to supply water to customers within the Kertih Integrated Petrochemical Complex. It became operational in 2002.

# 1 JUNE

# PETRONAS AWARDS EXPLORATION BLOCK LIMBAYONG PSC

PETRONAS awarded the Limbayong Production Sharing Contract offshore Sabah to PETRONAS Carigali Sdn Bhd.

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Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

# SIGNIFICANT EVENTS IN 2016

# **3 JUNE**

Annual Report 2016

# PETRONAS AND JX NIPPON OIL AND ENERGY SIGN SALE AND PURCHASE AGREEMENT FOR EQUITY INTEREST IN PETRONAS LNG 9 SDN BHD

PETRONAS and JX Nippon Oil and Energy signed an agreement for the sale and purchase of equity in PETRONAS LNG 9 Sdn Bhd, a whollyowned subsidiary of PETRONAS.

# **25 JUNE**



# PENGERANG UNVEILS TALLEST AND HEAVIEST FRACTIONATOR PROCESS COLUMN

After an eight-day journey from the Hyundai Mipo Dockyard in South Korea, the tallest and heaviest propylene fractionator process column for Pengerang Integrated Complex's (PIC) steam cracker facility arrived at the Material Offloading Facility (MOLF) port in Tanjung Setapa, Johor.

The vessel also carried a smaller-scale propylene fractionator and an ethylene fractionator. All three process columns are part of the main structures for PIC's steam cracker complex.

# **29 JUNE**



# PETRONAS CONTINUES TO BRING MALAYSIANS TOGETHER THROUGH FESTIVE ADS

PETRONAS released our webfilm produced in conjunction with the Hari Raya Aidilfitri celebrations.

Entitled "Vroom Vroom", the webfilm imparts the virtue and values of patience, kindness, forgiveness and family unity synonymous with the spirit of Aidilfitri, and in line with PETRONAS' commitment in bringing Malaysians together through its festive campaigns.

# **18 JULY**



# PROJEK AIR MENTAH (PAMER) BEGINS OPERATIONS

PAMER is one of six associated facilities at PIC which will support the complex's overall development, slated to achieve successful start-up in the first quarter of 2019. It commenced raw water supply from the Seluyut dam to Johor State's Sungai Lebam reservoir since March 2016 and started supplying to the PIC in Pengerang in the fourth quarter of 2016.

#### **21 JULY**



# PETRONAS AWARDS EXPLORATION BLOCK SK410B

PETRONAS awarded a Production Sharing Contract to PTTEP HK Offshore Limited, KUFPEC Malaysia (SK-410B) Limited, and PETRONAS Carigali Sdn Bhd for the exploration Block SK410B.

# **6 SEPTEMBER**

# PETRONAS COLLABORATES WITH UITM ON CAPABILITY BUILDING

PETRONAS signed a Memorandum of Understanding with Universiti Teknologi MARA to further collaborate in the areas of joint research and development, student internship as well as adjunct lecturer programmes.

Supporting the Malaysia Education Blueprint 2015–2025 (Higher Education) and the Ministry of Higher Education's aspiration for more intensive and frequent industry-public university engagement and partnerships, the collaboration enables PETRONAS to further strengthen our existing collaboration with UiTM to enhance the capabilities and competencies of selected students.

# **SIGNIFICANT EVENTS IN 2016**

# **7 SEPTEMBER**



# SAMARANG EOR FIRST CUT

First Steel Cutting Ceremony for Samarang Redevelopment Project - Phase 2 EOR took place at the Petra Fabrication Yard, Labuan signifying the kick-start of the onshore fabrication for Water and Gas Injection package of the Project. The commencement of new water and gas injection facilities in Samarang Field will help to increase PETRONAS' total production and maintain our credibility as one of the world's biggest provider for oil and gas.

# **8 SEPTEMBER**



# THE RESILIENT SPIRIT OF MALAYSIAN ARTISTS CELEBRATED AT GALERI PETRONAS

PETRONA

GALERI PETRONAS launched its exhibition, "CROSSINGS: PUSHING BOUNDARIES". The exhibition showcased the artworks by 15 Malaysian artists on their artistic interpretation of world issues and events shaped by socioeconomic and political development of the 1970s up to present times.

# **30 SEPTEMBER**



# PETRONAS RECEIVES DELIVERY OF SERI CAMELLIA

PETRONAS and MISC Berhad (MISC) celebrated the successful delivery of the LNG Carrier SS Seri Camellia, the first in a series of five MOSS-type LNG carriers ordered from Hyundai Heavy Industries Co Ltd, to commence its 15-year charter with PETRONAS LNG.

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# **10 OCTOBER**



# QATARGAS AND PETRONAS INK NEW 5-YEAR LNG SALE AND PURCHASE AGREEMENT

Under the terms of the new Sale and Purchase Agreement, Qatargas will deliver 1.1 mtpa of LNG to PETRONAS LNG UK LTD (PLUK) until 31 December 2023, an extension of its current contract, which is due to expire on 31 December 2018. The extension of the agreement proves the value of a long-term LNG business relationship for both PETRONAS and Qatargas Tiga.

# 10 OCTOBER



# BREATHING NEW LIFE INTO THE OCEAN THROUGH PETRONAS-SARAWAK FORESTRY ECO-MARINE CONSERVATION PROJECT

The dying coral reefs around the 12,200 ha Sibuti Reef Complex within the 186,930 ha Miri-Sibuti Coral Reefs National Park in northern Sarawak, Malaysia was given a new lease of life, thanks to the five-year collaborative effort between PETRONAS and Sarawak Forestry Corporation (SFC). The project aims to regenerate corals in the area and boost the state's tourism sector.

# 24 OCTOBER

# PETRONAS SIGNS GLOBAL CONTRACTS WITH 21 CONTRACTORS TO PROVIDE SERVICES FOR PETRONAS CARIGALI'S EXPLORATION AND DRILLING ACTIVITIES WORLDWIDE

Project Delivery and Technology achieved a new milestone when Group Procurement, Upstream and International, established Global Contracts with 21 contractors to provide services for PETRONAS Carigali's exploration and drilling activities worldwide.

# **SIGNIFICANT EVENTS IN 2016**

# 28 OCTOBER

Annual Report 2016



# PETRONAS AND TOKYO GAS SIGN MEMORANDUM OF COLLABORATION

PETRONAS LNG Ltd and Tokyo Gas Co Ltd signed a memorandum of collaboration (MOC) in a ceremony held at Tokyo Gas' headquarters in Japan.

The MOC aims to establish a platform to enhance the 33-year business relationship between PETRONAS and Tokyo Gas which began as Malaysia was embarking on its initial liquefied natural gas (LNG) project in Bintulu, Sarawak through MLNG Satu, and sustained throughout the development of MLNG Dua and MLNG Tiga.

# **16 NOVEMBER**



# **TRAIN 9 MAIDEN CARGO CEREMONY**

The commemoration of the maiden cargo of Train 9 was held at Berth 2 of the PETRONAS LNG Complex (PLC) with the shareholders of PETRONAS LNG 9 Sdn Bhd. With it coming on stream, PLC's production capacity is increased to approximately 30 million tonnes of LNG per annum. The new production module incorporates some of the most advanced gas treating technology, thereby allowing PLC to handle feed gas with  ${\rm CO_2}$  content as high as 20 per cent.

# 14 NOVEMBER



# FIRST GAS FOR PFLNG SATU

PFLNG SATU achieved its first gas milestone from the Kanowit gas field, offshore Sarawak.

The introduction of gas from the KAKG-A central processing platform at the field ignited the PFLNG SATU flare tower at the height of 130 metres, proving the technological aspirations of PETRONAS to unlock gas reserves in Malaysia's remote and stranded gas fields.

**SIGNIFICANT EVENTS IN 2016** 

# 23 NOVEMBER



# SOUTHEAST ASIAN CONTEMPORARY ARTS REUNITE AT GALERI PETRONAS

"SEMANGAT 10: Visual Expressions of Southeast Asian Identity" showcased 34 unique contemporary artworks by 24 artists from 10 ASEAN nations. It celebrated the region's revered landscape, cultural diversity, traditional practices and belief systems through paintings, installations, photography, videography and sculptures.

# **30 NOVEMBER**



# SARAWAK'S SMK TATAU WINS PETRONAS ALL ABOUT YOUTH ALL STAR EDITION

SMK Tatau, Sarawak was announced as the winner of PETRONAS All About Youth (AAY) All Star 2016, defeating teams from 29 other schools. The school received a grand prize of RM50,000. SMK Tatau captured the judges' interest with their project titled "Green Toilet", an eco-friendly toilet built to effectively save energy using solar gutter lights and rain water.

# 23 NOVEMBER



# SECOND PHASE OF THE SHALE OIL PILOT PROJECT INITIATED

Yacimientos Petroliferos Fiscales S.A. (YPF) and PETRONAS E&P Argentina S.A. agreed to continue with the second phase of the shale oil pilot project initiated by both companies in 2015 for the exploration and development of La Amarga Chica, located in Neuquen Province. The decision to enter the second phase was taken following encouraging technical results from the first phase.

## **5 DECEMBER**

# SUCCESSFUL PRODUCTION OF LNG FROM PFLNG SATU

PFLNG SATU achieved industry breakthrough with the successful production of its first drop of LNG from the Kanowit gas field, offshore Sarawak.

The operational milestone marked a decade-long journey for PETRONAS since conceptualising a floating LNG facility to maximise the potential of remote and stranded gas reserves to deliver a game changer in the global LNG business.

# **SIGNIFICANT EVENTS IN 2016**

# 7 DECEMBER



# PETRONAS SIGNS LNG SUPPLY AGREEMENT WITH HOKURIKU **ELECTRIC POWER COMPANY**

PETRONAS subsidiary, Malaysia LNG Sdn Bhd, signed an agreement with Hokuriku Electric Power Company to supply up to six cargoes of LNG per year to them for 10 years beginning March 2018.

# 8 DECEMBER



# FOUR ILLUSTRIOUS MALAYSIANS HONOURED FOR EXCELLENCE AT THE 2016 MERDEKA AWARD PRESENTATION CEREMONY

The 2016 Merdeka Award was presented to four distinguished individuals at the ninth Merdeka Award Presentation Ceremony by His Royal Highness Sultan Nazrin Muizzuddin Shah, the Sultan of Perak Darul Ridzuan who is also the Royal Patron of the Merdeka Award Trust

# **8 DECEMBER**

# SIGNING OF PICOAT COMMON UNDERSTANDING: ANOTHER STEP TOWARDS SELF-REGULATION BY **PETRONAS**

As part of efforts towards achieving HSE and Asset Integrity Excellence across PETRONAS, a 'Common Understanding' was signed between the Malaysian Department of Occupational Safety and Health (DOSH) and PETRONAS Refinery and Petrochemical Corporation. This is to further accord the collaboration between the two parties on the Pengerang Integrated Complex OSH Administration Transformation (PICOAT) project.

# 9 DECEMBER



# **DEEPWATER BLOCK 4 AND BLOCK 5 IN THE GULF** OF MEXICO'S SALINA BASIN AWARDED

PETRONAS was awarded deepwater Block 4 and Block 5 in the Gulf of Mexico's Salina Basin following Mexico's first ever auction of its deepwater exploration areas. PETRONAS Mexico will be the operator of Block 4. Block 5 was awarded to a consortium led by Murphy Sur, S. de R.L. de C.V. with partners PETRONAS Mexico, Ophir Energy, and Sierra Offshore Exploration.

# 11 DECEMBER

## MALIKAI FIELD ACHIEVES FIRST OIL

The Malikai field located 100 kilometres offshore Sabah achieved its first oil production.

The field is part of the Deepwater Block G where oil was discovered in 2004. It is the fourth deepwater project successfully implemented in Malaysia after the Kikeh, Siakap-North Petai, and Gumusut-Kakap fields.

# **MEDIA HIGHLIGHTS**

# Startup of Malikai oil field off Sabah to boost Kimanis exports

US\$27B PENGERANG

PROJECT ON TRACK

RUALA LUMPUR: Petroliam Nasional Bhd's (Petronas) first floating liquefied natural gas (LNG) facility, the 'PFLNG SATU' achieved its first gas milestone on Nov 14, 2016 from the Kanowit gas field off Sarawak.

The national oil company said the introduction of gas from the KAKG-A central processing platform at the field ignited the PFLNG SATU development and production. Petronas said the achievement proved the technological aspirations of the company to unlock gas reserves in Malaysia's remote and stranded gas fields.

Petronas Acting Vice-President LNG Assets, Development and Production Adnan Zainal Abidins aid the first gas milestone signified the commencement of commissioning and startup for

**PFLNG SATU hasil usaha Petronas** 

Petronas' PFLNG SATU achieves first gas milestone

E. Malaysia is expected to start till to the odd of Devenheit et a deeps-that could lift February exports styr grade Kinnais by 25% from sources with knowledge of the to grade boost experts of lisasian the rould boost experts of lisasian the rould boost experts of lisasian started per day in February, or baurred cargoes, they said, meet-mand from Australia and India.

New Straits Times Moody's assigns

# A3 rating to Petronas LNG

PETALING IANA: Moody's Investors Service has assigned an A3 foreign currency issuer rating to Petronas LNG Ldd (PLL).

At the same time, the rating agency had affirmed PLL3 A3 local currency issuer rating. The outlook on all ratings is stable. Moody's said that PLL3 A3 foreign and local currency issuer ratings had been positioned two notches below its ultimate parent Petroliam Nasional Bhds (Petronas) A1 issuer rating.

Petroliam Nasional Bhd's (Petronas) AI issuer rating.

"This top-down approach reflects PLL's full ownership by and strong operational and financial integration with Petronas, which, in turn, is Malaysia's national oil company and wholly owned by the Malaysian sovereign (A3 stable), "said Vikas Halan, Moody's vice-president and senior credit officer in a statement.

It added that Petronas' strong support was evident from its willingness to provide corporate guarantees to PLL's counterparties for long-term facility purchases of liquefied natural gas (LNG).

# Rapid on track for completion in 2019

off prices that have sent profit tum-bling, but the company remains Arif.

Like other energy companies, Petrochemical Integrated DevelopPetronas has cut costs, laid off work-

Committed to the Refinery and Petronshamical consensation of the Refinery and Refinery and

# Wolff thanks Petronas for playing big role in Mercedes' win

round in Abu Dhabi on Sunday after playing goes beyond the sport\*.

second fiddle to British team-mate Lewis
Hamilton for the last two wars. EUALA LIMITE. Mercodes, Ferrada foot established and the season an

# etronas terima 2 projek di Mexico

# Petronas to expand ties with Azerbaijan oil firm

PETROLIAM Nasional Bhd (Petronas) is interested to improve ties with Azerbaijan's state-owned energy company SOCAR.

CEO Datuk Wan Zulkiflee Wan Ariffin says Petronas is proud to participate in international large-scale projects in Azerbaijan. He said this in his recent meeting with SOCAR president Roynag

In April last year, Petronas completed the deal which saw the transfer of Norway Statoil's 15.5% participating interest in the Shah Deniz production sharing agreement, 15.5% interest in the South Caucasus Pipeline Company and 12.4% share in the Azerbaijan Gas Supply Company. The deal cost US\$2.25 bil.



# Lancar turus propilena



# **MEDIA HIGHLIGHTS**

# Seven Sabah schools in Petronas competition



# Kembali Ke Sekolah 2017: Petronas bantu 550 pelajar





PETRONAS holds	workshop for media practitioner
KIRCHING: Twenty media prac-	Johannes Ridu said: "Some of tion in shoping it.

SINCHING Tremty media practicioners attended an Oil & Gas Industry Workshop for Media Fractitioners in Sozemak organ- ised by PETROVAS peatwday. The workshop is an on-going effect by PETROVAS to encoura- ing incombing whating amount age included whating amount media fasternily. Bead of Media Butantons Department, PETROVAS Department, PETROVAS	Johannes Rolu said: "Some of the activities that we have con- ducted to support this initiative include medical familiarisation. violis to our planes and neveni-nabls in Peninsatia Malaysia. Sababa and Sarawuk."  He added that the workshop aims to enhance the participations' assurements on the factors and developments that impact. Malaysia's old and gas industry to Malaysia's old and gas industry.	tion is shoping it.  "It is our hope that through this workshop, the media will have a better understanding of the industry especially here is Samenia on well as PETBOMA's business and broad strategies," sald Bible.  The workshop was also attended by a beam of especis from PETBOMA's who shared their views about the indus-
Sarawak Regional Office.	and PETRONAS' role and direc-	try.

# SMK Tatau, Bintulu harumkan nama S'wak

Projek Green Toilet bawa mereka muncul juara Petronas All About Youth Star 2016





# Investing in human capital



PETRONAS' BUKA

Petronas president and chief executive officer Datuk Wan Zulkiflee Wan Ariffin (third from left) chatting with journalists during the national oil company's breaking of fast event with the media at Kuala Lumpur Convention Centre last night. Pic by Haftz Sobalmi

# **PETRONAS conducts intensive** learning for MRSM Mukah students

Section Four

# GOVERNANCE

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# MONETISATION OF STRANDED FIELDS

The PETRONAS Floating LNG (PFLNG) facility carries an entire integrated LNG plant equipped with floating production, storage and offloading (FPSO) unit. Stationed offshore at a gas field, it receives natural gas from the wellhead which is then processed into LNG and stored in its containment system and offloaded directly into LNG carriers offshore.

This engineering and technological marvel is an LNG production game-changer that addresses the challenge of dwindling production and maturing fields, opening up new opportunities to monetise stranded gas fields, which previously had zero economic value if remain untapped.

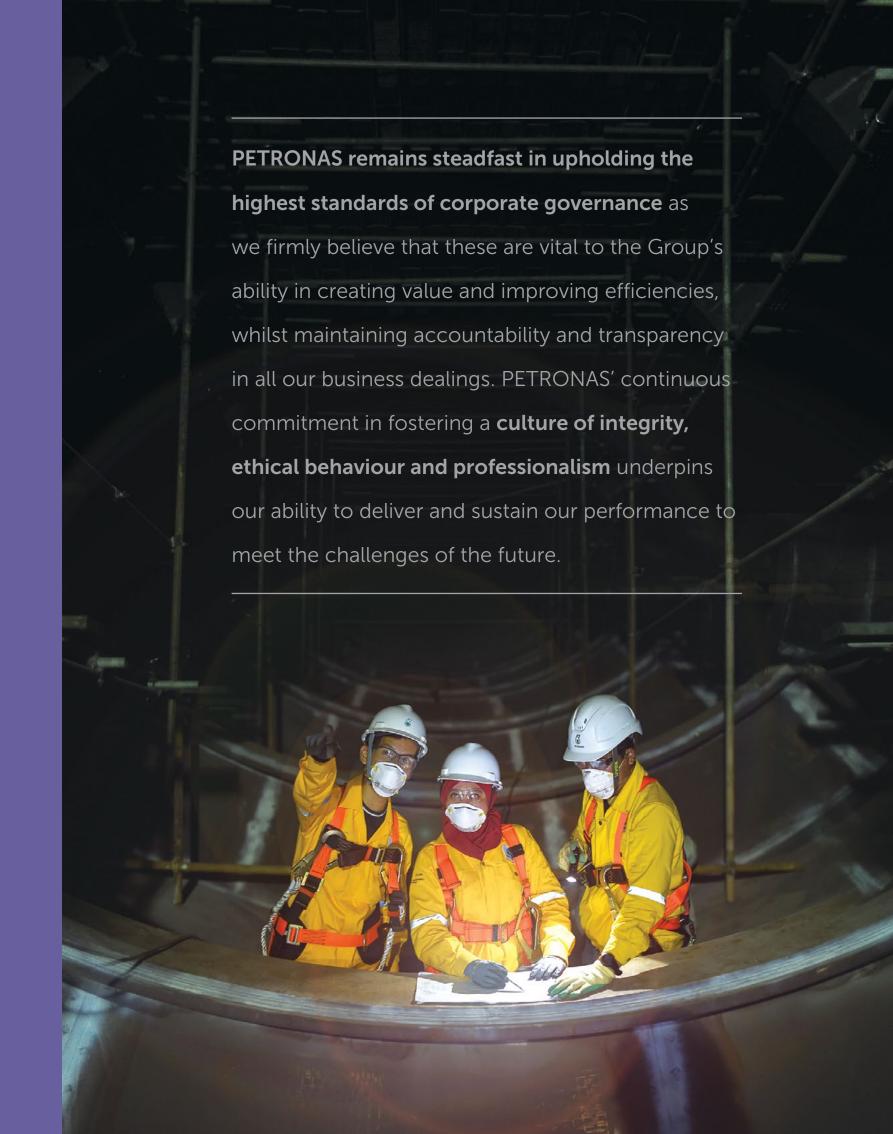
The floating facility fits an LNG processing train including all its utilities and support units, which traditionally are spread across an area of approximately 2.5 km², onto one compact 365 metre-long and 40 metre-wide structure.

The PFLNG technology showcases PETRONAS' effort in going beyond conventional methods to reshape rules of design in order to press forward as a leading global LNG player.

Operated by PETRONAS Floating LNG 1 (L) Ltd, the development of PFLNG SATU, began in 2010. In May 2016, it arrived at the Kanowit gas field, offshore Bintulu, Sarawak. In November, PFLNG SATU received its first gas and achieved the first LNG drop in December.

Work on a second floating facility, PFLNG 2, started in 2012 and will be fully operational by 2020. It will be moored at the deepwater gas field, Rotan, offshore Sabah.

A giant leap in innovation for the LNG industry, PFLNG is expected to boost Malaysia's total LNG production capacity to 32 mtpa and forever change the landscape of the world's LNG industry. The production onboard PFLNG will allow for direct shipping to markets - a feasible solution for early monetisation and a more agile LNG production.



# **BOARD OF DIRECTORS**



Tan Sri Mohd Sidek Hassan Chairman of the PETRONAS Board



Datuk Wan Zulkiflee Wan Ariffin

Executive Director
(President and Group Chief Executive Officer)



Tan Sri Dr Mohd Irwan Serigar Abdullah
Non-Independent Non-Executive Director
Member of the PETRONAS Board Audit Committee



Tan Sri Amirsham A Aziz
Independent Non-Executive Director
Chairman of the PETRONAS Board Governance and Risk Committee

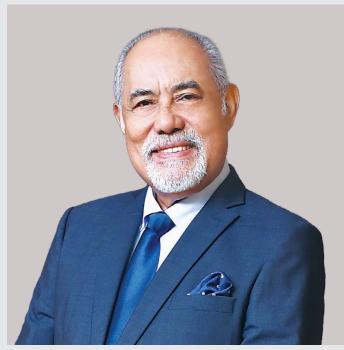
# **BOARD OF DIRECTORS**



Datuk Muhammad Ibrahim
Independent Non-Executive Director
Member of the PETRONAS Board Governance and Risk Committee



Independent Non-Executive Director
Chairman of the PETRONAS Board Audit Committee
Member of the PETRONAS Remuneration Committee



Tan Sri Dato' Seri Haji Megat Najmuddin Datuk Seri Dr Haji Megat Khas\* Independent Non-Executive Director



Krishnan CK Menon, FCA
Independent Non-Executive Director
Member of the PETRONAS Board Audit Committee
Member of the PETRONAS Board Governance and Risk Committee

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<sup>\*</sup> Tan Sri Dato' Seri Haji Megat Najmuddin Datuk Seri Dr Haji Megat Khas retired effective from 25 April 2017.

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# **BOARD OF DIRECTORS**



Datuk Mohd Omar Mustapha Independent Non-Executive Director Chairman of the PETRONAS Board Remuneration Committee



Dato' Sri Sharifah Sofianny Syed Hussain
Independent Non-Executive Director
Member of the PETRONAS Board Audit Committee
Member of the PETRONAS Board Remuneration Committee



Independent Non-Executive Director

Member of the PETRONAS Board Audit Committee

Member of the PETRONAS Board Remuneration Committee

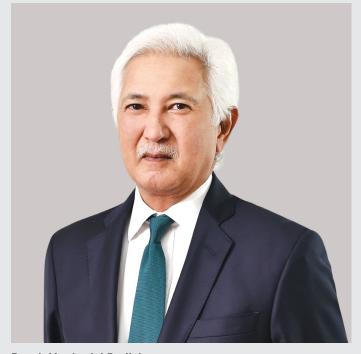


Tan Sri Datuk Amar Haji Mohamad Morshidi Abdul Ghani Non-Independent Non-Executive Director

# **BOARD OF DIRECTORS**



Datuk Pengiran Hassanel Datuk Pengiran Haji Mohd Tahir Non-Independent Non-Executive Director



**Datuk Manharlal Ratilal**Executive Director
(Executive Vice President and Group Chief Financial Officer)



**Dato' Khodijah Abdullah**Alternate Director to Tan Sri Dr Mohd Irwan Serigar Abdullah



Ahmad Redza Abdul Wahab Company Secretary



Abdul Rahman Musa @ Onn Company Secretary

# Annual Report 2016

#### **BOARD OF DIRECTORS**

Petroliam Nasional Berhad (PETRONAS)

■ MEMBER OF AUDIT COMMITTEE
■ MEMBER OF GOVERNANCE AND RISK COMMITTEE
■ MEMBER OF REMUNERATION COMMITTEE
■ CHAIRMAN OF COMMITTEE

**BOARD OF DIRECTORS** 

MEMBER OF AUDIT COMMITTEE
MEMBER OF GOVERNANCE AND RISK COMMITTEE
MEMBER OF REMUNERATION COMMITTEE
OCHAIRMAN OF COMMITTEE

# Tan Sri Mohd Sidek Hassan

Chairman of the PETRONAS Board

Age 65, Malaysian

Appointed on 1 July 2012

Tan Sri Sidek Hassan is the Chairman of Petroliam Nasional Berhad (PETRONAS), the national oil and gas corporation of Malaysia, a position he assumed in July 2012.

Prior to joining PETRONAS, Tan Sri Sidek served in the Administrative and Diplomatic Service of the Malaysian Civil Service for over 38 years, the last six as the Chief Secretary to the Government.

Tan Sri Sidek began his career on 15 April 1974 as an Assistant Director at the International Trade Division, Ministry of Trade and Industry. He has extensive working experience within the Ministry of International Trade and Industry (MITI) including postings at MITI offices in Tokyo (Japan), Sydney (Australia) and Washington, DC (United States of America). He was appointed as Deputy Secretary-General (Trade) on 19 January 2001 and as the Secretary-General of the Ministry of International Trade and Industry on 24 October 2004.

Tan Sri Sidek served as President of International Islamic University Malaysia (IIUM) between 2008 and 2013, and is currently the Pro-Chancellor of Universiti Teknologi PETRONAS (UTP).

He was a former Board member of Top Glove Corporation Berhad and Malayan Flour Mills Berhad. Since 1 May 2016, Tan Sri Sidek is the Chairman of Malaysia Digital Economy Corporation Sdn Bhd (MDEC).

Tan Sri Sidek holds a Bachelor of Economics (Honours) degree in Public Administration from Universiti Malaya and Master's of Business Administration (MBA) from New Hampshire College, United States of America.

He also holds an Honourary Doctorate degree in Public Administration from Universiti Tun Abdul Razak (UNITAR), an Honourary Doctorate degree in Management from Universiti Putra Malaysia (UPM), an Honourary Doctorate degree in Management from Universiti Teknikal Malaysia Melaka (UTeM) and an Honourary Doctorate degree in International Business from IIUM.

## Datuk Wan Zulkiflee Wan Ariffin

Executive Director (President and Group Chief Executive Officer)

Age 57, Malaysian

Appointed on 1 April 2015

Datuk Wan Zulkiflee Wan Ariffin began his career with PETRONAS in 1983 as a Process Engineer. His prior positions include Executive Assistant to the President: General Manager. International Projects Management Division of OGP Technical Services; and General Manager for the Strategy and Business Development Unit.

He advanced his career as the Managing Director and Chief Executive Officer of PETRONAS Gas Berhad and later became the Vice President of Gas Business.

In 2012, he was appointed Chief Operating Officer of PETRONAS in addition to leading the Downstream business as Executive Vice President and Chief Executive Officer. He was also the Chairman of PETRONAS Chemicals Group Berhad and PETRONAS Dagangan Berhad.

He is currently a Council Member of the East Coast Economic Region Development Council (ECERDC) and chairs its Audit Committee. He also chairs the National Trust Fund whilst acting as the Industry Advisor to the Engineering Faculty of Universiti Putra Malaysia. Datuk Wan Zulkiflee is also an Advisory Council member of the National Institute of Public Administration (INTAN).

Datuk Wan Zulkiflee holds a Bachelor of Engineering degree in Chemical Engineering from the University of Adelaide, South Australia. He completed the INSEAD Senior Management Development Programme and the Advanced Management Programme at Harvard Business School. He was conferred an Honourary Fellowship by the Institution of Chemical Engineers, United Kingdom in 2005.

# Tan Sri Dr Mohd Irwan Serigar Abdullah

Non-Independent Non-Executive Director

Age 60, Malaysian

Appointed on 28 November 2012

Tan Sri Dr Mohd Irwan Serigar Abdullah has extensive experience in the Economic Planning Unit of the Prime Minister's Department from 1984 to 2003 and was involved in the preparation of the Fifth Malaysia Plan, Action Plan of the First Industrial Master Plan, and setting up of the Energy Division. In 2003, he joined the Ministry of Finance and held various positions, including Principal Assistant Secretary in the Economics and International Division; Head of Econometrics Section; Head of Multi-Lateral Relations; Deputy Under Secretary (Macro) of the Economics and International Division; Under Secretary of Economics and International Division; and Deputy Secretary General (Policy), before being appointed to his current position as Secretary General of Treasury in 2012.

Tan Sri Dr Mohd Irwan is currently the Chairman of Kumpulan Wang Persaraan (KWAP); Lembaga Hasil Dalam Negeri; and Cyberview Sdn Bhd. He also serves as a Board member in several agencies and government bodies such as Malaysia Airline System; Malaysia Deposit Insurance Corporation; Bank Negara Malaysia; Lembaga Tabung Haji; Johor Petroleum Development Corporation Berhad; and Malaysia Global Innovation & Creativity Centre Berhad.

He holds a PhD in Economics from the International Islamic University Malaysia, Master's of Science in Energy, Management and Policy from University of Pennsylvania, United States of America and a Bachelor's degree with Honours in Population Studies from Universiti Malaya. He has also attended the Advanced Management Programme at Harvard Business School, United States of America.

# Tan Sri Amirsham A Aziz

Independent Non-Executive Director

Age 66, Malaysian

Appointed on 21 October 2011

Tan Sri Amirsham A Aziz began his career with Maybank Group in 1977 where he held various senior positions. He served as the President and Chief Executive Officer of Maybank for a period of 14 years from 1994 to 2008. He was appointed a Minister in the Prime Minister's Department on 18 March 2008 in charge of the Economic Planning Unit and the Department of Statistics until 9 April 2009. He was appointed as the Chairman of the National Economic Advisory Council from 1 June 2009 until 31 May 2011.

Tan Sri Amirsham is the Chairman of Bursa Malaysia Berhad, Malaysian Investment Development Authority, Financial Services Talent Council, and Themed Attractions Resorts and Hotels Sdn Bhd. He also sits as Non-Executive Director on the Boards of Samling Global Limited, Bermuda; CapitaLand Limited, Singapore and RAM Holdings Berhad.

He holds a Bachelor of Economics (Honours) degree majoring in Accounting from Universiti Malaya and is a member of the Malaysian Institute of Certified Public Accountants.

# **Datuk Muhammad Ibrahim**

Independent Non-Executive Director

Age 56, Malaysian

Appointed on 28 April 2010

Datuk Muhammad Ibrahim was appointed as Governor of Bank Negara Malaysia with effect from 1 May 2016. He is the Chairman of the Monetary Policy Committee and Financial Stability Committee. His areas of expertise include financial markets, foreign exchange, reserve management, payment and settlement systems, banking and insurance.

He also serves as the Chairman of the Labuan Financial Services Authority, the Finance Accreditation Agency and International Centre for Education in Islamic Finance; a member of the Malaysian Institute of Accountants and a Trustee of the National Trust Fund.

Datuk Muhammad holds a Master's degree from Harvard University and International Islamic University Malaysia. He is a Fellow Chartered Banker, Asian Institute of Chartered Banker.



# **BOARD OF DIRECTORS**

■ MEMBER OF AUDIT COMMITTEE
■ MEMBER OF GOVERNANCE AND RISK COMMITTEE
■ MEMBER OF REMUNERATION COMMITTEE
■ CHAIRMAN OF COMMITTEE

**BOARD OF DIRECTORS** 

MEMBER OF AUDIT COMMITTEE
MEMBER OF GOVERNANCE AND RISK COMMITTEE
MEMBER OF REMUNERATION COMMITTEE
OCHAIRMAN OF COMMITTEE

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# Dato' Mohamad Idris Mansor

Independent Non-Executive Director

Age 72, Malaysian

Appointed on 28 April 2010

Dato' Mohamad Idris Mansor has extensive experience in the oil and gas industry, having held various senior management positions within the Group including as Senior Vice President, Exploration and Production Business. He also served as the International Business Advisor to PTT Exploration and Production Company of Thailand prior to his current appointment. He is currently a Board member of PETRONAS Carigali Sdn Bhd.

He holds a Bachelor degree in Mining from Cambourne School of Mines, United Kingdom; Honourary Doctor of Science degree from the University of Exeter, England; MSc in Mining Geology and Exploration from the University of Leicester, United Kingdom; and M.S. in Petroleum Engineering from the University of Tulsa, Oklahoma, United States of America.

# Tan Sri Dato' Seri Haji Megat Najmuddin Datuk Seri Dr Haji Megat Khas\*

Independent Non-Executive Director

Age 72, Malaysian

Appointed on 28 April 2010

Tan Sri Dato' Seri Haji Megat Najmuddin is the President of the Federation of Public Listed Companies Berhad and Honourary Patron of the Malaysian Institute of Corporate Governance. He also serves as the Non-Executive Chairman of several public listed companies and is active in various non-governmental organisations (NGOs). Currently, he sits on Bank Negara Malaysia's Financial Directors' Education Steering Committee.

He was previously a committee member of the Advisory Board of the Malaysian Anti-Corruption Commission.

He holds a Bachelor's degree (Honours) in Law from the National University of Singapore and was conferred the honour of Adjunct Professor at the Faculty of Law, Universiti Utara Malaysia.

# Krishnan CK Menon

Independent Non-Executive Director

Age 67, Malaysian

Appointed on 28 April 2010

Prior to joining PETRONAS, Krishnan CK Menon spent 13 years in public practice with Hanafiah Raslan & Mohamad, seven years of which he served as a partner. He then joined Public Bank Berhad as General Manager and was later promoted to Executive Vice President. Subsequently he joined Putrajaya Holdings Sdn Bhd as Chief Operating Officer in 1997 for three years before leaving the company in 2000.

He is a Fellow of the Institute of Chartered Accountants in England and Wales, a member of the Malaysian Institute of Accountants and the Malaysian Institute of Certified Public Accountants.

He is the Chairman of SCICOM (MSC) Berhad and Econpile Holdings Berhad.

# Datuk Mohd Omar Mustapha

Independent Non-Executive Director

Age 45, Malaysian

Appointed on 15 September 2009

# Datuk Mohd Omar is the Chairman of PETRONAS

Management Training Sdn Bhd. He has a 20-year professional career as a strategy consultant serving in a number of senior roles at Ethos and McKinsey. He is an Eisenhower Fellow and a Young Global Leader of the World Economic Forum. Datuk Mohd Omar has previously served on the Advisory Council of the Institute for Democracy and Economic Affairs (IDEAS) and on the boards of Air Asia Berhad and Symphony House

He holds a Bachelor of Arts (Honours) and a Master of Arts degree in Politics, Philosophy and Economics from Oxford University and attended advanced leadership studies at the Harvard Kennedy School of Government.

# Tan Sri Zarinah Anwar

Independent Non-Executive Director

Age 64, Malaysian

Appointed on 17 August 2015

Tan Sri Zarinah Anwar is the former Chairman of the Securities Commission Malaysia (SC), a position she held for 6 years until her retirement in March 2012. Prior to joining the SC, Tan Sri Zarinah was Deputy Chairman of Shell Malaysia, having spent 22 years with the Shell Group, serving in various capacities across Shell's diverse business interests in Malaysia.

She is currently the Chairman of Malaysia Debt Ventures Berhad. She is a member of the Board of Directors of Permodalan Nasional Berhad and a Trustee of the Razak School of Government, Yayasan Hasanah and the Jeffrey Cheah Foundation. She is the Pro-Chancellor of Universiti Teknologi Mara (UiTM) and a member of the Academic Advisory Council of Universiti Teknologi PETRONAS.

Tan Sri Zarinah is one of the Founding Chairs of the 30% Club, Malaysia and also serves as a member of the National Advisory and Consultative Council on Women.

She is the Abdullah bin Abdulaziz Fellow at the Oxford Centre for Islamic Studies United Kingdom, and is a member of the Advisory Board of the Emirates Securities and Commodities Authority, United Arab Emirates.

Tan Sri Zarinah holds a Bachelor of Law (Honours) degree from the Universiti Malaya.

# Dato' Sri Sharifah Sofianny Syed Hussain

Independent Non-Executive Director

Age 55, Malaysian

Appointed on 1 October 2015

Dato' Sri Sharifah Sofianny's professional career evolved from managing corporate finances, equity broking and trading, to creating financial structures for large corporates in the world of global banking.

Her illustrious years in Shell Malaysia demonstrated her aptitude in finance and negotiations spanning both regional and international markets. She established her footprint in capital markets with conglomerates in the likes of Kenanga Investment Bank and JF Apex; and as a catalyst for re-invigorating Maybank's Institutional Equities business.

Through strong client network development and organisational innovation, she led the revival of several institutional accounts in Employees Provident Fund, Permodalan Nasional Berhad, Kumpulan Wang Persaraan (Diperbadankan) and Lembaga Tabung Haji. Prior to sitting on the PETRONAS Board, she served as the Managing Director, Head of Client Coverage, Global Banking at Maybank Investment Bank Berhad where she pursued strategic innovations for its ASEAN market expansion.

Dato' Sri Sharifah Sofianny holds a degree in accountancy from University of Missouri, United States of America and sits on the Committee of Review of the Bachelor of Finance programme at the Faculty of Business and Accountancy of Universiti Malaya. She also sits as Chairman to the Industry Advisory Panel for Bachelor of Finance at Universiti Tenaga Nasional and on the Board of ValueCap Assets Managers Sdn Bhd.

<sup>\*</sup> Tan Sri Dato' Seri Haji Megat Najmuddin has retired effective on 25 April 2017.

# **BOARD OF DIRECTORS**

# Tan Sri Datuk Amar Haji Mohamad Morshidi Abdul Ghani

Non-Independent Non-Executive Director

Age 60, Malaysian

Appointed on 1 November 2016

Tan Sri Datuk Amar Haji Mohamad Morshidi Abdul Ghani is currently the State Secretary of Sarawak at the Chief Minister's Department, Sarawak. Prior to this, he had served as the Deputy State Secretary from 2007 until 2009.

He held various senior positions in the Chief Minister's Department as Director of Human Resource and Human Resource Development Unit, and Director of Resource Planning Unit. He was previously Director of City of the Kuching North Commission, and Permanent Secretary of the Ministry of Social Development.

Presently, he serves on the boards of Malaysia Airline System, Sarawak Energy Berhad and Bintulu Port Holding Berhad.

Tan Sri Datuk Amar holds a Bachelor of Economics degree, majoring in Statistics from Universiti Kebangsaan Malaysia and a Master of Science in Human Resource Administration from University of Scranton, Pennsylvania, United States of America. He has completed the Course in Senior Executive Fellows from Harvard University, United States of America.

He was awarded Honourary Doctorate by Swinburne University of Technology, Australia.

# **Datuk Pengiran Hassanel** Datuk Pengiran Haji Mohd Tahir

Non-Independent Non-Executive Director

Age 59, Malaysian

Appointed on 1 November 2016

Datuk Pengiran Hassanel Datuk Pengiran Haji Mohd Tahir is currently the Permanent Secretary to the Ministry of Finance, Sabah. Prior to this, he had served as the Permanent Secretary to the Ministry of Infrastructure Development, Sabah and Director of the State Economic Planning Unit.

He also sits as a Board member of Warisan Harta Sabah Sdn Bhd, Sabah Ports Sdn Bhd, Sabah Development Bank Berhad, and Sabah Energy Corporation Sdn Bhd.

Datuk Pengiran Hassanel holds a Bachelor of Arts (Honours) degree, majoring in Social Sciences/Economics from University of Hertfordshire, United Kingdom.

#### Datuk Manharlal Ratilal

Executive Director

(Executive Vice President and Group Chief Finance Officer)

Age 57, Malaysian

Appointed on 8 May 2015

Since joining PETRONAS in 2003, Datuk Manharlal Ratilal has held various positions including the Executive Vice President of Finance as well as the Group Chief Finance Officer and Executive Vice President at PETRONAS Dagangan Bhd.

Currently, he is a member of the Board of Directors of PETRONAS and sits on the Boards of several subsidiary companies in the Group. He also serves on the Board of Cagamas Holdings Berhad, and is a member of the Capital Market Development Fund Board.

Prior to his career with PETRONAS, he was attached to a local merchant bank for 18 years. He was later appointed as its Managing Director for five years, during which he specialised in corporate finance where he advised on mergers and acquisitions and the capital markets.

Datuk Manharlal Ratilal obtained his Bachelor of Arts (Honours) degree in Accountancy from Birmingham City University, United Kingdom in 1982 and Master's in Business Administration from the University of Aston in Birmingham, United Kingdom in 1984.

# **BOARD OF DIRECTORS**

# Dato' Khodijah Abdullah

Alternate Director to Tan Sri Dr Mohd Irwan Serigar Abdullah

Age 58, Malaysian

Appointed on 12 October 2015

Dato' Khodijah Abdullah is currently Under-Secretary of the Tax Division at Malaysia's Ministry of Finance. She began her civil service career in 1983 as Assistant Director in the Industries Division of the Ministry of International Trade and Industry, before moving on to the Tax Division of the Ministry of Finance in 1989.

A skilled negotiator, Dato' Khodijah's versatile skills, knowledge and experience spans from evaluating applications for manufacturing licenses and tax incentives, to formulating tax policies, and negotiating international trade and taxation agreements for Malaysia.

Her expertise has elevated her to a lead position in the Malaysian delegation tasked to negotiate on the Agreement for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Income, and the Tax Information Exchange Agreement. She has also been instrumental in negotiating agreements at bilateral, regional and multilateral levels including free trade agreements (FTAs), joint development and cooperation agreements, investment guarantee agreements and the General Agreement on Trade and Tariff (GATT) of the World Trade Organisation.

Dato' Khodijah holds a degree in Agribusiness Science from Universiti Putra Malaysia, a Master's degree in Public Administration from the Kennedy School of Government of Harvard University, United States of America and a Certificate in International Tax Programme from Harvard Law School, Harvard University, United States of America.

# **COMPANY SECRETARY**

# Ahmad Redza Abdul Wahab

Company Secretary

Age 51, Malaysian

Appointed on 31 July 2016

Ahmad Redza Abdul Wahab, is the Secretary to PETRONAS Board and is also the Secretary to the PETRONAS Board of Governance and Risk Committee. He is currently the Head of Legal Corporate Governance and Secretariat. He joined PETRONAS in 1991 and has served in various positions in PETRONAS.

# Abdul Rahman Musa @ Onn

Company Secretary

Age 59, Malaysian

Appointed on 5 July 2012

Abdul Rahman Musa, is the Joint Secretary to PETRONAS and is also the Secretary to the Executive Leadership Team of PETRONAS. He is the Head of Group Secretarial & Board Governance, Group Legal. He joined PETRONAS in 1981 and has been with the Company for over 30 years. His areas of legal expertise include corporate law, company secretarialship, corporate governance and compliance.

# **EXECUTIVE LEADERSHIP TEAM**

# **DELIVERING OUR VISION AND MANAGING A MORE AGILE ORGANISATION**

The depth of diverse experience, knowledge and complementary skills within our Executive Leadership Team (ELT) strengthens our ability to adjust to changing market environments and to deliver our vision to become A Leading Oil and Gas Multinational of Choice.



01	DATUK WAN ZULKIFLEE WAN ARIFFIN President and Group Chief Executive Officer	05 -	MOHAMAD RAUFF NABI BAX Senior Vice President Group Legal and General Counsel
02	DATUK MOHD ANUAR TAIB Executive Vice President and Chief Executive Officer, Upstream	06	DATO' RAIHA AZNI ABD RAHMAN Senior Vice President Group Human Resource Management
03 -	MD ARIF MAHMOOD Executive Vice President and Chief Executive Officer, Downstream	07 -	ADIF ZULKIFLI Senior Vice President Corporate Strategy
04 -	DATUK MANHARLAL RATILAL Executive Vice President and Group Chief Financial Officer	08	MAZUIN ISMAIL Senior Vice President Project Delivery and Technology
		09 -	ABDUL RAHMAN MUSA Secretary

# **EXECUTIVE LEADERSHIP TEAM**

# 1 Datuk Wan Zulkiflee Wan Ariffin

President and Group Chief Executive Officer

Age 57, Malaysian

Appointed on 1 April 2015

Refer to page 84.

# 2 Datuk Mohd Anuar Taib

Executive Vice President and Chief Executive Officer, Upstream

Age 49, Malaysian

Appointed on 1 April 2016

Datuk Mohd Anuar Taib joined PETRONAS in 2012 as Chief Executive Officer of PETRONAS Development and Production where he was responsible for both Malaysia and International operations. He then advanced to the role of Senior Vice President of Upstream Malaysia.

His current portfolio includes serving as Chairman of the Board of PETRONAS Gas Berhad; PETRONAS LNG Sdn Bhd; MLNG Group of Companies; Progress Energy Canada Ltd and Pacific NorthWest LNG Ltd; and various other PETRONAS Boards of subsidiaries and Joint Venture Companies. He is also the Chairman of the Society of Petroleum Engineers (SPE) Asia Pacific Advisory Council.

He began his career in 1990 as a well site drilling engineer with an international oil and gas company. He then progressed through various technical, commercial and leadership positions taking on country, regional and global leadership roles.

Datuk Mohd Anuar graduated with a Bachelor of Science degree in Mechanical Engineering from Case Reserve University, United States of America and a Master's of Business Administration in International Management from the Royal Melbourne Institute of Technology University, Melbourne, Australia.

# 3 Md Arif Mahmood

Executive Vice President and Chief Executive Officer, Downstream

Age 54, Malaysian

Appointed on 1 April 2016

Md Arif Mahmood has held the key positions of Senior Vice President of Corporate Strategy and Risk, and Vice President of Oil Business and other various senior management positions in PETRONAS Gas Berhad; Engen Petroleum Limited; PETRONAS Dagangan Berhad; and Asean Bintulu Fertilizer Sdn Bhd.

He sits on the Board of various subsidiaries and JV companies within the PETRONAS Group, including as Chairman to PETRONAS Dagangan Berhad, PETRONAS Chemicals Group Berhad, BASF PETRONAS Chemicals Sdn Bhd, Engen Petroleum Limited and PETRONAS Lubricants International Sdn Bhd.

He is a Board member of a number of PETRONAS subsidiaries, including PETRONAS Carigali Sdn Bhd and also serves as a member of the Universiti Teknologi PETRONAS (UTP) Industry Advisory Panel.

Md Arif worked closely with the Boston Consulting Group (BCG) and McKinsey & Co when he was a PETRONAS Corporate
Strategy Study member in 1995; Director in 2002; and Steering
Committee member in 2008. In 2012, he led the PETRONAS
team in the acquisition of Canada's Progress Energy.

He obtained a Bachelor of Science degree in Electrical Engineering (summa cum laude) from Boston University, United States of America and a Master's of Business Administration from Massachusetts Institute of Technology, United States of America.

# 4 Datuk Manharlal Ratilal

Executive Vice President and Group Chief Financial Officer

Age 56, Malaysian

Appointed on 8 May 2015

Refer to page 88.

# Annual Report 2016

Petroliam Nasional Berhad (PETRONAS)

# **EXECUTIVE LEADERSHIP TEAM**

#### 5 Mohamad Rauff Nabi Bax

Senior Vice President, Group Legal and General Counsel

Age 63, Malaysian

Appointed on 1 June 2012

Mohamad Rauff has held various legal positions in the Projects Department of the Marketing and Refining Division during his tenure with the company.

He was appointed as the General Manager for Legal Oil Business before advancing to the Country Manager's post for PETRONAS in India. In India, he was directly involved in the setting up of the LPG Receiving Terminal at Haldia, West Bengal and at Ennore, Tamil Nadu.

He has also served as Director for several companies in the PETRONAS Group, including PETRONAS Dagangan Berhad, Malaysian International Trading Corporation Sdn Bhd, PETRONAS Trading Corporation Sdn Bhd, Indian Oil PETRONAS Pvt Ltd and PETRONAS Lubricants (India) Pvt Ltd.

He is currently a Director of Prince Court Medical Centre.

Mohammad Rauff holds a Bachelor of Law (Honours) degree from Universiti Malaya. Rauff commenced his career with PETRONAS in 1990.

## 7 Adif Zulkifli

Senior Vice President, Corporate Strategy

Age 47, Malaysian

Appointed on 16 April 2015

Adif Zulkifli was previously the Vice President of Malaysian Petroleum Management accountable for all upstream regulations and governance for the country's oil and gas resources.

He was once the Head of Strategy & New Ventures Division in the Exploration & Production Business and served as the Executive Assistant to the President and Group CEO of PETRONAS.

Adif is a Director for a number of PETRONAS companies, including PETRONAS Carigali Sdn Bhd; PETRONAS LNG Sdn Bhd; PETRONAS Leadership Centre; and Universiti Teknologi PETRONAS. He is the Chairman for Kertih Terminal and Petroleum Research Fund, and a Director for Malaysian Industry-Government Group for High Technology, an organisation under the Prime Minister's Department. He is also a Board Director of International Petroleum Technology Conference (IPTC) and a member of the Society of Petroleum Engineers (SPE).

Adif holds a Bachelor of Science degree in Petroleum Engineering from the Colorado School of Mines and a Master's of Business Administration from Kellogg School of Management, Northwestern University, Illinois, United States of America.

# 6 Dato' Raiha Azni Abd Rahman

Senior Vice President, Group Human Resource Management

Age 57, Malaysian

Appointed on 16 April 2014

Dato' Raiha Azni has been in the Human Resource Management fraternity for 32 years, assuming her current position in 2012. Prior to this, she served as Vice President of Group Human Resource Management Division. She has held various leadership positions in PETRONAS' Exploration and Production Business; PETRONAS Carigali Sdn Bhd; PETRONAS Gas Bhd; and Malaysian International Trading Corporation Sdn Bhd.

Dato' Raiha is also a council member of the Malaysian Employers Federation; Industry Advisory Council; Polytechnic Education Department, Ministry of Higher Education; and a Board member of the Board of Studies for Master in Human Resources Development programme, Universiti Putra Malaysia. She also holds the Chairmanship of the Board of Directors for Institut Teknologi PETRONAS Sdn Bhd and PETRONAS Technical Training Sdn Bhd. Additionally, she serves as a Director on the Boards of PETRONAS Management Training Sdn Bhd; Malaysia Maritime Academy; and PETRONAS Lubricants International.

She received her Bachelor's degree in Marketing from Syracuse University, New York, United States of America and completed numerous senior management development programmes including INSEAD.

# 8 Mazuin Ismail

Senior Vice President,
Project Delivery and Technology

Age 49, Malaysian

Appointed on 16 April 2016

Mazuin Ismail leads the Project Delivery and Technology division, a Centre of Excellence for engineering, procurement and technology in PETRONAS since April 2016. Leading up to his appointment to the current position, Mazuin was Vice President of Technical Global, a division tasked to ensure the adoption of PETRONAS' best practices in projects and engineering, drilling, petroleum engineering technology, technical data and operational excellence, throughout its operations worldwide.

With more than 25 years of experience under his belt, Mazuin's career includes not only project execution and engineering, but also internal audit and governance; and business development. He has also taken on leadership roles in the areas of petroleum management, strategic planning and change management.

He graduated in Civil and Structural Engineering from the University of Bradford, United Kingdom, and obtained his Master of Business Administration from University of Adelaide, Australia.

# STATEMENT OF CORPORATE GOVERNANCE

PETRONAS remains steadfast in upholding the highest standards of corporate governance as we firmly believe that these are vital to the Group's ability in creating value and improving efficiencies, whilst maintaining accountability and transparency in all our business dealings. PETRONAS' continuous commitment in fostering a culture of integrity, ethical behaviour and professionalism underpins our ability to deliver and sustain our performance to meet the challenges of the future.

In developing and implementing Groupwide policies, PETRONAS refers to and complies with all applicable laws and regulations. In addition, we regularly benchmark our policies and procedures against prevailing international standards as we believe it is essential for the organisation to adopt industry best practices in corporate governance given PETRONAS' strong global orientation and the growing expectations of stakeholders worldwide for good corporate citizenship.

## PETRONAS BOARD GOVERNANCE FRAMEWORK -

The Board recognises that having an established and clearly defined roles and responsibilities of the Board and the management is important to strike a reasonable balance between the strategy foundation and policy-making on the one hand, and the conformance roles of executive supervision and accountability on the other.

Delegation of the Board's authority to the management is subject to defined limits of authority and monitoring by the Board. However, as the Board has the overall responsibility to manage and supervise the affairs of the Company in accordance with the law, there are matters which are reserved for the Board's consideration as set out in the Board Charter.

The Board determines the Company's strategic plans, reviews its financials as well as oversees its operational and resource management and assessment of risks and provides effective oversight of the management. In this regard, the Board also monitors the risks material to PETRONAS and ensures that internal systems of risk management and control are in place to mitigate such risks. Certain functions of the Board are delegated to Board Committees.

There is a clear separation of the positions and roles between the Chairman and the President and Group CEO to promote greater accountability and enhance checks and balance. The positions of the Chairman and the President and Group CEO are held by two different individuals.

The Chairman provides leadership and guidance to the Board to enable members to make considered decisions on all Board reserved matters. His role, amongst others, is to facilitate the meeting process and ensure that the Board and its Committees function effectively including providing guidance on governance. The Chairman sets the agenda for the meeting in accordance with the Board Charter and together with the Company Secretary, ensures that the Board members receive regular and timely information regarding the Company prior to Board meetings. Board members also have access to the Company Secretary for any further information they may require.

The President and Group CEO leads the management of the Company and provides direction for the implementation of the strategies and business plans as approved by the Board and the overall management of the business operations Groupwide. The President and Group CEO also chairs the Executive Leadership Team which assists him in his management of the business and affairs of the Company.

#### STATEMENT OF CORPORATE GOVERNANCE

# STATEMENT OF CORPORATE GOVERNANCE

#### THE BOARD -

In accordance with the provisions of the Company's Articles of Association, the number of Directors shall not be less than two or more than fifteen.

As at 31 December 2016, the Board comprising 14 members was made up of the Non-Independent Non-Executive Chairman, the President and Group CEO, one Executive Director and eleven Non-Executive Directors of which eight were Independent Directors.

A list of the current Directors, with their biographies, is provided on pages 80 to 89.

#### **BOARD CHARTER**

The Board is guided by the Board Charter which sets out the Board's strategic intent and provides guidelines on the Board's roles and responsibilities. The roles of the Chairman as well as the President and Group CEO are also described in the Board Charter.

The Board Charter, specifies, amongst others, the authority, responsibilities, membership and operation of the Board of PETRONAS, as well as the list of matters which are reserved for the Board's consideration.

Matters reserved for the Board include, amongst others, strategy and management matters such as long term objectives and strategy of the Company, policies, annual budgets, major investment decisions on matters such as capital projects, mergers and acquisition, as well as matters relating to funding requirements. It also includes financial, governance and risk matters, such as financial reporting and control and enterprise risk management. Corporate matters such as reputation and stakeholder management, HSE, board and board committee membership, Directors' remuneration and succession planning are also amongst the items for the Board's consideration.

# **BOARD BALANCE AND INDEPENDENCE**

The Malaysian Code of Corporate Governance (MCCG) emphasises board effectiveness through strengthening its composition and reinforcing its independence. In line with the spirit of the MCCG, the Company has in place the selection criteria for the appointment and re-appointment of Directors. The Company has also developed the Independent Directors' Guidelines and the Independent Directors' Review. The Directors are assessed annually and the findings are analysed and consolidated in a performance report which is tabled at the Board Governance and Risk Committee (BGRC) for review before it is subsequently presented to the Board.

The current Board composition consists of individuals who have diverse skills, knowledge, experience, expertise and gender and is considered to be a well-balanced group and of an appropriate size. This diversity is identified by the members as one of the strengths of the Board.

The Non-Executive Directors combine broad business and commercial experience with independent and objective judgment. The balance between the Non-Executive and Executive Directors enables the Board to provide clear and effective leadership and maintain the highest standards of integrity across the Company's business activities.

The Company has in place an Independent Directors' Guidelines (Guidelines) and the Independent Directors' Review, where assessments on the independence of Independent Directors are carried out annually. For the year under review (2016), there are eight independent Non-Executive Directors and four Non-Independent Non-Executive Directors

# **BOARD ASSESSMENT**

The Board recognises the importance of Board assessment to provide the opportunity to enhance its effectiveness and to better understand its own roles and responsibilities. The assessment gives an indication as to whether the Board and the various Board Committees are performing effectively, and are of the right size, composition, skills mix and competencies to effectively discharge its fiduciary and leadership duties.

The Board undergoes a 360-degree assessment whereby each Director assesses the Board as a whole and its Committees as well as assessing himself/herself and his/her peers.

For the year under review (2016), the Directors agreed that the information provided to the Directors are adequate and sufficient, that there is appropriate frequency and proper planning of Board meetings, that there is accessibility to the Chairman and that there is an open communication environment during the Board meetings. Most directors also found that there are clearer Board roles and responsibilities, clearly defined Board reserve matters and adequate system of internal controls.

The results of the Board Committee Assessment demonstrated that the Board Audit Committee (BAC), the BGRC and Board Remuneration Committee (REMCO) had carried out their duties effectively based on their respective Terms of Reference.

# ONBOARDING PROGRAMME AND BOARD CONTINUOUS TRAINING

In order to ensure the Board discharges its duties effectively as well as to keep abreast with regulatory and governance updates, other developments and broad business trends, the Board members frequently attend training programmes provided by external training providers or in-house training programmes.

During the year under review, PETRONAS had successfully developed and established a structured development programme for the PETRONAS Board of Directors and Directors of its Group of Companies led by the PETRONAS Leadership Centre (PLC) and Legal Corporate Governance and Secretariat Department in collaboration with Malaysian Directors Academy (MINDA). The objectives of the development programme are to enhance directors' effectiveness in performing their fiduciary roles and ability to comply to governance and regulations to support growth and to keep directors abreast on policies and regulations changes. The development programme comprise the "Foundational Programme" focusing on basic knowledge and skills of directorship and the "Advanced Programme" which focuses on specific topics to elevate directors' knowledge and skills on the best practices on Board effectiveness. Two Advanced Programmes were organised for the PETRONAS Board of Directors in 2016.

The Company also provides in-house onboarding programmes for newly appointed Directors. During the year under review, one onboarding programme was conducted to the newly appointed Directors and alternate director. The onboarding serves as an introductory programme to the new Directors on the Company's overall business as well as provides an overview of the PETRONAS governance framework, which includes the PETRONAS Code of Conduct and Business Ethics (CoBE), PETRONAS No Gift Policy, Anti-Bribery and Corruption Policy and Guidelines (ABC Manual), PETRONAS Whistleblowing Policy, PETRONAS Competition Law Guidelines and PETRONAS Economic Sanctions and Export Control Policy and Guidelines amongst others.

# **BOARD MEETINGS AND ATTENDANCE**

The Board met a total of 13 times including Special Board Meetings during the year.

Prior to Board meetings, the Non-Executive Directors meet to discuss issues relevant to the Company.

Details of Directors' attendance at Board Meetings during the year 2016 are as follows:

		<b>Board Meetings</b>	
No.	Name of Directors	Attendance	%
1	Tan Sri Mohd Sidek Hassan	13	100
2	Datuk Wan Zulkiflee Wan Ariffin	13	100
3	Tan Sri Dr Mohd Irwan Serigar Abdullah (His alternate attended 5 Board Meetings)	7	54
4	Datuk Muhammad Ibrahim	12	92
5	Tan Sri Amirsham A Aziz	13	100
6	Dato' Mohamad Idris Mansor	12	92
7	Tan Sri Dato' Seri Haji Megat Najmuddin Datuk Seri Dr Haji Megat Khas	13	100
8	Mr Krishnan A/L C K Menon	12	92
9	Datin Yap Siew Bee*	3 out of 3	100
10	Datuk Mohd Omar Mustapha	13	100
11	Tan Sri Zarinah Anwar	13	100
12	Dato' Sri Sharifah Sofianny Syed Hussain	13	100
13	Dato' Wee Yiaw Hin**	4 out of 4	100
14	Datuk Manharlal Ratilal	12	92
15	Encik Md Arif Mahmood***	11 out of 11 meetings	100
16	Tan Sri Datuk Amar Haji Mohamad Morshidi bin Abdul Ghani****	2 out of 2 meetings	100
17	Datuk Pengiran Hassanel Bin Datuk Pengiran Haji Mohd Tahir***	2 out of 2 meetings	100

## . . .

held in 2016

1 November 2016

- Datin Yap Siew Bee retired with effect from 28 April 2016.
- Dato' Wee Yiaw Hin had resigned as Director with effect from 1 April 2016.

  Encik Md Arif Mahmood had resigned as Director with effect from

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\*\*\*\* Tan Sri Datuk Amar Haji Mohamad Morshidi bin Abdul Ghani and Datuk Pengiran Hassanel bin Datuk Pengiran Haji Mohd Tahir were both appointed to the Board with effect from 1 November 2016.

# STATEMENT OF CORPORATE GOVERNANCE

# THE BOARD (CONTINUED) —

# **CONFLICT OF INTEREST**

In ensuring transparency and integrity of decision making as well as to prevent any conflict of interest, a declaration of interest by Directors is fixed as an agenda item of the Board Meeting. In this regard, the Directors acknowledge that they shall immediately disclose the nature and extent of their interest and abstain from participating in any discussion or voting on any proposal in which they have an interest. Such matters are recorded in the minutes of the Board Meeting.

The Company also disseminates the approved disclosure forms annually to ensure the Directors update their disclosures pursuant to Section 221 and Section 219 of the Companies Act, 2016, and the CoBE. The Company also maintains the Directors Register of Interest pursuant to the said sections.

Apart from the above, the Directors are required to declare their interests annually, in line with the requirements on the disclosure of Director's interest in the Company's Audited Financial Statement.

# **RE-ELECTION AND RE-APPOINTMENT**

In accordance with Article 71(1) of the Company's Articles of Association, at least one-third of the Directors shall retire from office by rotation at each AGM but shall be eligible for re-election. This retirement by rotation shall only be applicable to all Non-Executive Directors except the Chairman.

In light of the above, at the 2017 AGM which was held on 25 April 2017, Datuk Mohd Omar bin Mustapha and Dato' Mohamad Idris bin Mansor retired pursuant to Article 71(1) of the Company's Articles of Association and were subsequently re-elected. Meanwhile, Tan Sri Dato' Seri Haji Megat Najmuddin bin Datuk Seri Dr. Haji Megat Khas, did not wish to seek re-election at the 2017 AGM and retired as a Director of the Company with effect from 25 April 2017.

In accordance with Article 68 of the Company's Articles of Association which requires newly appointed Directors to hold office until the following AGM, Tan Sri Datuk Amar Haji Mohamad Morshidi bin Abdul Ghani and Datuk Pengiran Hassanel bin Datuk Pengiran Haji Mohd Tahir retired at the 2017 AGM pursuant to Article 68 of the Company's Articles of Association [and were subsequently re-elected as Directors of the Company.]

#### BOARD COMMITTEES —

There are three Board Committees made up of Non-Executive Directors, namely the Board Audit Committee, the Board Governance and Risk Committee and the Board Remuneration Committee.

#### **BOARD AUDIT COMMITTEE**

The PETRONAS Board Audit Committee assists the Board in fulfilling its oversight functions in relation to internal controls and financial reporting of the Company. The Committee provides the Board with the assurance of the quality and reliability of the financial information reported by the Company whilst promoting efficiency and good governance practices to ensure the proper conduct and safeguarding of PETRONAS' assets.

The Board Audit Committee comprises entirely of Non-Executive Directors. The members of the Board Audit Committee are as shown on pages 85 to 87.

In 2016, the Board Audit Committee convened nine times to deliberate on a total of 77 papers comprising the audit reports, Group quarterly financial results as well as other Group Internal Audit performance reports. The members' attendance at meetings in 2016 are as follows:

	BAC Meetings	
Name of Directors	Attendance	%
Datuk Muhammad Ibrahim	4*	100
Dato' Mohamad Idris Mansor	9**	100
Tan Sri Zarinah Anwar	5***	100
Mr Krishnan A/L C K Menon	8	89
Dato' Sri Sharifah Sofianny Syed Hussain	8	89
Tan Sri Dr Mohd Irwan Serigar Abdullah	7	78
BAC Meetings held in	9	
	Datuk Muhammad Ibrahim Dato' Mohamad Idris Mansor Tan Sri Zarinah Anwar Mr Krishnan A/L C K Menon Dato' Sri Sharifah Sofianny Syed Hussain Tan Sri Dr Mohd Irwan Serigar Abdullah BAC Meetings held in	Datuk Muhammad Ibrahim  Dato' Mohamad Idris Mansor  Tan Sri Zarinah Anwar  Mr Krishnan A/L C K Menon  Dato' Sri Sharifah Sofianny Syed Hussain  Tan Sri Dr Mohd Irwan Serigar Abdullah  BAC Meetings held in

## Note.

- \* Datuk Muhammad Ibrahim retired as Chairman and BAC
- Member with effect from 21 June 2016.
  \* Dato' Mohamad Idris Mansor was appointed as Chairman with
- effect from 21 June 2016.

  \*\*\* Tan Sri Zarinah Anwar was appointed as a BAC member on 21
  June 2016.

# BOARD COMMITTEES (CONTINUED) -

# **BOARD GOVERNANCE AND RISK COMMITTEE**

STATEMENT OF CORPORATE GOVERNANCE

The Board Governance and Risk Committee is responsible for assessing the performance of the Board, as well as identifying, nominating and orientating new Directors. The Committee also reviews the policies, practices, principal risks and oversees the adequacy and effectiveness of the risk assessment and risk management system to monitor risks in the PETRONAS Group.

The Committee also continues to review and recommend to the Board the appropriate corporate governance policies and procedures in accordance with international governance and best practices and monitors the Company's compliance with good governance standards.

The Committee has direct access to the Corporate Governance and International Compliance Unit, Group Legal, which promotes a structured, consistent and centrally-driven integrated approach to global governance and compliance for the PETRONAS Group.

The members of the Board Governance and Risk Committee are as shown on pages 85 to 87.

In 2016, the Committee met a total of eight times. The members' attendance at meetings during financial year ended 2016 are as follows:

		BGRC Meetings	
No.	Name of Directors	Attendance	%
1	Tan Sri Amirsham A Aziz	8	100
2	Tan Sri Datoʻ Seri Haji Megat Najmuddin Datuk Seri Dr Haji Megat Khas	7	88
3	Datuk Muhammad Ibrahim	6	75
4	Mr Krishnan A/L C K Menon	6	75
Total in 20	BGRC Meetings held 16	8	

#### **BOARD REMUNERATION COMMITTEE**

The Board Remuneration Committee was established to assist the Board in discharging its responsibilities in the determination of the remuneration and compensation of the Directors and Top Management of the Company. The Committee recommends to the Board the remuneration policy for the Executive Directors and Top Management of the Company. The Committee also reviews the President and Group CEO's Performance Scorecard, and recommends the rating of the scorecard to the Board for its approval.

The Committee also oversees the development of a succession management plan for the President and Group CEO and Top Management as well as Top Management's appointments or renewal.

In 2016, the Committee met a total of nine times.

The members of the Board Remuneration Committee are as shown on pages 85 to 87.

The members' attendance at meetings during financial year ended 2016 are as follows:

		REMCO Mee	tings		
No.	Name of Directors	Attendance	%		
1	Datuk Mohd Omar Mustapha	9	100		
2	Datin Yap Siew Bee*	4 out of 4 meetings	100		
3	Dato' Mohamad Idris Mansor	9	100		
4	Tan Sri Zarinah Anwar	9	100		
Total REMCO Meetings held 9 in 2016					
Note:  * Datin Yap Siew Bee retired with effect from 28 April 2016.					

## **EXECUTIVE LEADERSHIP TEAM -**

The Executive Leadership Team (ELT), formerly known as the Executive Committee (EXCO), assists the President and Group CEO in his management of PETRONAS particularly in relation to strategic business development, high impact and high value investments and cross-business issues of the Group.

The President and Group CEO chairs the ELT meetings and during the year under review 26 meetings were held.

The members of the ELT are as shown on pages 90 to 92.

#### STATEMENT OF CORPORATE GOVERNANCE

# ANNUAL GENERAL MEETING

The AGM was held on 25 April 2017 in accordance with the legal and regulatory requirements prescribed by the Companies Act, 2016.

# BUSINESS ETHICS AND COMPLIANCE —

#### **CODE OF CONDUCT AND BUSINESS ETHICS**

PETRONAS' commitment to achieve excellent corporate governance is reflected in its Code of Conduct and Business Ethics (CoBE) and is part of the Group's overall business strategy. This commitment includes upholding the highest standards of ethics and integrity in the conduct of the Group's business and operations and this applies to all employees, directors and third parties who represent or act for the Group.

Benchmarked to international standards, the CoBE comprises detailed policy statements on the standards of behaviour and ethical conduct expected of each employee, director as well as third parties working for or on behalf of the PETRONAS Group. The CoBE governs the daily conduct of the employees on matters relating to conflict of interest, anti-corruption, competition, anti-money laundering, international trade and export controls, amongst others. The CoBE also emphasises and advances the principles of discipline, good conduct, professionalism, loyalty, integrity and cohesiveness that are critical to the success and wellbeing of the PETRONAS Group.

Since its launch on 1 April 2012, PETRONAS has communicated the CoBE to all employees through a series of training programmes, including its onboarding programme for new executives. As at 31 December 2016, 39,596 employees have undergone face-to-face training on the CoBE. Refresher trainings are also conducted periodically to ensure ongoing compliance by all directors and employees.

In reaching out to more employees that are located in various locations globally, PETRONAS has in place the PETRONAS Compliance Desktop, an integrated online compliance solution designed to effectively manage PETRONAS' Groupwide compliance programme which includes an online e-learning platform. A compulsory CoBE online training programme for PETRONAS Group employees in Malaysia was completed in March 2016.

The CoBE is accompanied by a CoBE Guide that sets out the FAQs, together with a list of "Dos and Don'ts" in relation to certain specific situations. In view of the

CoBE's global application across the Group in all countries where we have operations, some provisions of the CoBE will be modified to adapt the CoBE to the requirements of the local jurisdictions. In such cases, the CoBE will have separate Country Supplements to cater for local jurisdictions' applicable legislation and social mores.

The consequences of breaching the CoBE are clearly set out in the CoBE, and subject to the requirements of applicable laws, disciplinary action will be taken against any employee for non-compliance.

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

# THIRD PARTIES WORKING WITH THE COMPANY

PETRONAS expects all third parties acting for or on its behalf to share the Company's values and ethical standards as their actions can implicate PETRONAS legally and tarnish the Company's reputation.

For the purpose of ensuring that we only do business with third parties who share our commitment to ethics and integrity, all third parties are made aware of the CoBE and our expectations of them. A provision for all third parties to comply with the CoBE is now required to be included in all our contracts.

Training and communication sessions on the CoBE have also been conducted to ensure that third parties understand PETRONAS' expectations, and to guarantee their compliance with the CoBE.

# "ASK THE CoBE"

In order to ensure better understanding of the CoBE, a helpdesk cobe@petronas.com.my was created to answer queries from employees, third parties and members of the public on matters related to the CoBE. Since its inception, the CoBE helpdesk has received and responded to various queries raised by employees, third parties and the public on issues related to the CoBE.

#### STATEMENT OF CORPORATE GOVERNANCE

# ANTI-BRIBERY AND CORRUPTION COMPLIANCE PROGRAMME -

PETRONAS adopted a zero tolerance policy against all forms of bribery and corruption, a reflection of our strong commitment to high ethical standards and anticorruption laws. The CoBE explicitly prohibits the giving and acceptance of bribes by PETRONAS employees, including the giving and receiving of facilitation payments in all its business dealings. This is in line with PETRONAS' core values, business principles and various internal policies, which reflect its focus on making ethics and anti-corruption an integral part of PETRONAS' business operations.

In supporting the general policy statements in the CoBE, PETRONAS has developed the PETRONAS Integrity Compliance Framework (PICF) to instill and ensure compliance to all elements related to the propagation of integrity and business ethics within the business activities of PETRONAS Group of Companies. The Anti-Bribery and Corruption Policy and Guidelines (ABC Manual) was rolled out on 19 September 2013 for Groupwide implementation, starting with PETRONAS Group Companies in Malaysia. It governs matters including engagement with public officials, facilitation payments, engagement with third parties, and gifts, entertainment and corporate hospitality. The ABC Manual will be rolled out in phases to subsidiaries across all international jurisdictions in which the PETRONAS Group operates.

The consequences of breaching the ABC Manual are clearly set out in the CoBE, and subject to the requirements of applicable laws, consequence management will be taken against any employee for non-compliance.

Training sessions are currently being conducted for employees Groupwide to equip them with sufficient knowledge and understanding on how the ABC Manual should be interpreted and applied across the Group. As at 31 December 2016, a total of 32,990 employees have undergone face-to-face training on the ABC Manual. In 2016, six training sessions on the ABC Manual and compliance were conducted for higher and middle management of PETRONAS companies in Malaysia. The programme, entitled Corporate Integrity Advocacy Programme (CIAP) was conducted with the primary aim of educating the managers in PETRONAS on the important role they play in building a culture of compliance and integrity as they will be largely

responsible for setting the standards for ethical behavior and business conduct for the entire organisation. As such, it is pertinent for management to set the right 'tone' as this will be cascaded down and emulated by the employees across the Group.

In reaching out to more employees that are located in various locations globally, PETRONAS has in place the PETRONAS Compliance Desktop, an integrated online compliance solution designed to effectively manage PETRONAS' Groupwide compliance programme which includes an online e-learning platform. A compulsory ABC Manual online training programme for the PETRONAS Group employees in Malaysia was completed in March 2016.

In promoting compliance and integrity, PETRONAS has also actively participated in international conferences and meetings. Among the international conferences and meetings participated by PETRONAS were the Ethics Compliance Summit in Singapore and the Anti-Corruption Business Principles for State-Owned-Entities development meeting in Berlin, Germany.

PETRONAS' efforts and commitment in implementing best practices and integrity in its day-to-day operations and business transactions were recognised by the anticorruption watchdog Transparency International (TI). The Berlin-based organisation in its Transparency in Corporate Reporting (TRAC) 2016 survey has ranked PETRONAS as the most transparent company in the emerging market, under the oil, gas and energy industry category. According to the published reports, PETRONAS scored 88 per cent in anti-corruption reporting and 100 per cent for voluntary disclosures of organisation transparency (while industry average is 47 per cent and 48 per cent respectively). Moreover, PETRONAS recorded a 0.8 per cent improvement in country-to-country reporting (in comparison to TRAC 2013 figures). It is also to be noted that PETRONAS has voluntarily participated in this survey and was the only Malaysian company to be listed in the

The ABC Manual has been printed and distributed to all employees and directors of the PETRONAS Group and is also available on PETRONAS' corporate website at <a href="http://www.petronas.com.my/about-us/governance/Pages/default.aspx">http://www.petronas.com.my/about-us/governance/Pages/default.aspx</a>.

# STATEMENT OF CORPORATE GOVERNANCE

# ANTI-BRIBERY AND CORRUPTION COMPLIANCE PROGRAMME (CONTINUED) -

#### THIRD PARTIES WORKING WITH THE COMPANY

PETRONAS' dealings with third parties must be carried out in compliance with all relevant laws and be consistent with the values and principles of the CoBE and ABC Manual. As part of this commitment, all forms of bribery and corruption are unacceptable and will not be tolerated. As such, PETRONAS is highly committed in ensuring its contractors, vendors and joint venture partners comply with the standards of behaviour set out in the CoBE and ABC Manual to ensure the highest level of integrity is observed and practiced. To this end, nine Vendor Integrity Programmes were conducted in 2016 which were attended by 192 companies.

In addition, PETRONAS had conducted several roundtable dialogues with its contractors, vendors and joint venture partners to share industry best practices in embedding integrity as part of the corporate culture. This platform enabled PETRONAS to share the Company's best practices in ensuring good governance. Consequently, the sessions have been effective in promoting a collective action amongst PETRONAS' contractors, vendors and joint venture partners to foster ethical business practices.

PETRONAS also strives to ensure that the values and principles important to us are embedded in all aspects of our procurement and supply chain activities. To achieve this objective, we have enhanced our third party due diligence process to ensure our contractors, vendors and joint venture partners meet our standards of integrity. In line with the above, an online third party due diligence compliance screening was rolled out in 2016, via the PETRONAS Compliance Desktop.

# PETRONAS WHISTLEBLOWING POLICY AND **PROCEDURES**

On 1 April 2012, the PETRONAS Whistleblowing Policy (Policy) was implemented to provide an avenue for all PETRONAS employees and members of the public to disclose any improper conduct (misconduct or criminal offence or malpractices) in accordance with the procedures as provided under the Policy.

Under the Policy, a whistleblower will be accorded with protection of confidentiality, to the extent reasonably practicable. In addition, an employee who "blows the whistle" internally will also be protected against any adverse and detrimental actions for disclosing any improper act committed or about to be committed within PETRONAS, to the extent reasonably practicable, provided that the disclosure is made in good faith. Such protection is accorded even if the investigation later reveals that the whistleblower is mistaken as to the facts and the rules and procedures involved.

The PETRONAS Whistleblowing Committee (Committee) was set up in tandem with the Policy roll out, to deliberate on the disclosure and decide on the next course of action as well as to monitor progress of the cases. The Committee meets at least once a month and provides updates to the Internal Audit Management Committee. In 2016, the Committee received a total of 59 disclosures. Appropriate actions have been taken on reports received via the whistleblowing channels in accordance with the Whistleblowing Procedures adopted by PETRONAS.

Buntings are displayed at prominent areas within the PETRONAS Twin Towers, and at strategic locations within the office premises of PETRONAS Group Companies, as part of the Company's ongoing efforts to promote the whistleblowing channels and to encourage the effectiveness of the Whistleblowing Policy.

The Whistleblowing Policy and Procedures is available on PETRONAS' corporate website at http://www.petronas. com.my/about-us/governance/Pages/governance/ Whistleblowing-eForm.aspx.

# STATEMENT OF CORPORATE GOVERNANCE

#### COMPETITION LAW COMPLIANCE PROGRAMME

To date, there are more than 130 countries in the world with competition laws, including Malaysia with the passing of the Malaysian Competition Act 2010 (Competition Act) which came into force in January 2012. The publication of the ASEAN Economic Community Blueprint 2025 indicates ASEAN's move towards greater harmonisation of competition policy amongst the ASEAN Member States, forming the framework for regional convergence. As PETRONAS has commercial presence in ASEAN countries, such developments are important to note.

Within the CoBE, there are specific provisions on anti-competitive practices reflecting PETRONAS' commitment to conduct its business activities in adherence with the relevant competition law legislations. To supplement the general provisions in the CoBE, PETRONAS rolled out the PETRONAS Competition Law Guidelines (the Guidelines) in 2012 to cultivate better awareness and foster an effective competition law compliance culture within the Group. The aim of the Guidelines is to ensure our employees have a practical understanding of competition law through the Guideline's user-friendly "Dos and Don'ts" and FAQs. PETRONAS has also rolled out the Competition Law e-learning module to PETRONAS Group employees in Malaysia, via the PETRONAS Compliance Desktop. The online training programme was completed in August 2016.

At the same time, the availability of in-house competition law advisors and specialised training provides an avenue for PETRONAS' businesses to learn and seek advice with regard to complex competition law matters. Several engagement sessions were initiated with the Malaysian Competition Commission (MyCC) to gain better understanding of the Competition Act and its implications on PETRONAS' business operations as well as foster future collaborative capability enhancing programmes.

The Guidelines have been printed into booklets for distribution to all employees and is also available on PETRONAS' corporate website at http://www.petronas.com.my/about-us/governance/Pages/default.aspx.

# PETRONAS RAID PROTOCOL —

On 17 July 2014, the PETRONAS Raid Protocol was rolled-out to educate PETRONAS' employees on the scope and powers of competition and anti-corruption agencies whilst conducting investigations and/or raids within the premises of PETRONAS Group Companies. Following the launch of the Raid Protocol, continuous trainings have been conducted and are still ongoing to ensure our employees are well equipped to handle and facilitate visits by the relevant authorities during a raid. Employees are also trained on their rights vis-à-vis the agencies' investigative powers during the conduct of a raid, how to handle officials during and after a raid, and how to mitigate PETRONAS' exposure to actual or potential enforcement action following a raid. In 2016, PETRONAS continued the series of face-to-face training on the Raid Protocol to PETRONAS Group Companies in Malaysia.

# INTERNATIONAL ECONOMIC SANCTIONS AND **EXPORT-CONTROL COMPLIANCE PROGRAMME**

Continuous compliance with international economic sanctions regimes and export-control regulations remains one of the top priorities for PETRONAS as part of its compliance agenda. With the global oil and gas industry continuously tasked with adapting to an ever evolving sanctions-imposed environment, it was imperative for PETRONAS to implement an effective sanctions and export-control compliance framework.

In 2016, a framework to reflect the Group's commitment to comply with international economic sanctions regimes and export control regulations was implemented by the introduction of the PETRONAS Economic Sanctions and Export Control Policy and Guidelines (Policy and Guidelines) which was approved by the PETRONAS Board on 25 February 2016.

The Policy and Guidelines aims to put forth, amongst others, PETRONAS' position in adhering to applicable economic sanctions and export control regulations wherever it operates, consistent with international norms and standards. The Policy and Guidelines are applicable to all PETRONAS employees and third parties performing work for or on behalf of PETRONAS. The Policy and Guidelines will be rolled out in phases to all PETRONAS operating units.

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# STATEMENT OF CORPORATE GOVERNANCE

# PERSONAL DATA PROTECTION COMPLIANCE PROGRAMME

With the coming into force of the Personal Data Protection Act 2010 (Act) on 15 November 2013, PETRONAS has commenced a Groupwide analysis and intervention plan to ensure compliance with the Act. Practical recommendations were provided to ensure full compliance with the Act and that the principles and rights enshrined in the Act are protected and upheld. Assurance has been sought from the relevant business and operating units within PETRONAS on their commitment to ensure conformity to the Act.

With the recent developments in privacy laws as well as taking into consideration the diverse geographical location of PETRONAS business operations, the Privacy Policy and Guidelines will be reviewed to ensure effective framework of data transfer. The revised Privacy Policy and Guidelines is expected to be rolled out in 2017.

#### **HUMAN RIGHTS COMPLIANCE PROGRAMME** -

The Corporate Sustainability Framework encapsulates the Company's Sustainability Development (SD) focus areas, expanded from seven to nine in 2016, one of which being Human Rights. PETRONAS is committed to respecting internationally-recognised human rights in areas of its operations, complying with its Code of Conduct and Business Ethics, and all relevant legal requirements. The identified focus areas encompass, labour and working conditions for contractors, security, supply chain and community wellbeing.

To date, initiatives are ongoing to streamline the Company's Human Rights practices, following the launch of the PETRONAS Human Rights Commitment in 2015. This include strengthening governance mechanisms and elevating internal and external stakeholders' understanding of Human Rights requirements and obligations. In 2016, three new Technical Guidelines were introduced, namely on Indigenous Peoples Assessment, Land Acquisition and Involuntary Resettlement, and Cultural Heritage Assessment. Trainings and engagement sessions were also held for various stakeholders to enhance their understanding and effectively operationalise Human Rights across PETRONAS. Furthermore, Social Risks Assessment were continued in the period under review for identified projects and operating units, with findings assessed by multidisciplinary teams to effectively address potential social risks across our businesses.

The Human Rights Good Practices for Contractors was also rolled out in 2016, stipulating clear expectations of contractors, subcontractors and third parties in upholding PETRONAS' Human Rights Commitment. The elements identified to facilitate implementation of good Human Rights practices were policies and guidelines, awareness, grievance mechanism and reporting.

Please visit the PETRONAS corporate website for more information on the Company's Human Rights Good Practices for Contractors or download a copy of the PETRONAS Group Sustainability Report 2016 for additional insights on PETRONAS' Social Performance practices, including Human Rights.

# STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

As part of institutionalising good corporate governance culture as propagated by Malaysian Code of Corporate Governance (MCCG), PETRONAS Board (the Board) is pleased to provide the following statement which outlines the nature and scope of risk management and internal control of Petroliam Nasional Berhad and its subsidiaries (PETRONAS Group) during the year under review. PETRONAS Statement of Corporate Governance can be referred to, in pages 93 to 102 of this annual report.

# BOARD'S ACCOUNTABILITY

The Board recognises its overall responsibility to oversee and ensure a sound system of risk management and internal controls for PETRONAS Group. An effective risk management framework helps PETRONAS Group to achieve its performance and profitability targets by incorporating risk information for better decision-making, whilst sound internal controls enable appropriate response to manage identified risks, thus facilitating effective and efficient operations, safeguard shareholders' investment and PETRONAS Group's assets.

The Board is also cognisant that its role in providing risk oversight sets the tone and culture towards embedding risk management practices across PETRONAS Group.

The PETRONAS Board Charter includes risk management and internal control oversight as one of the main functions of the Board, in line with the requirement under the Companies Act, 1965.

Board risk oversight is supported by the following committees:

# **Board Governance and Risk Committee (BGRC)**

The BGRC has been established since 2010 to assist the Board in providing, amongst others, direction, guidance and in-depth discussion on risk management matters. The BGRC reviews risk policies, strategies, principal risks, risk practices and oversees the adequacy of the risk management system to effectively monitor and manage risks in PETRONAS Group.

# **Board Audit Committee (BAC)**

The BAC assists the Board in fulfilling its responsibilities relating to internal controls and financial reporting by performing certain oversight functions on behalf of the Board to ensure good governance practices and proper conduct while safeguarding PETRONAS' assets.

# RISK MANAGEMENT

Risk management is an integral part of PETRONAS Group's activities. Ongoing improvement to strengthen the review and monitoring of principal risks remains a key focus of the Board towards building a successful and sustainable business. Risks across PETRONAS Group are being managed on an integrated basis and their evaluation is incorporated into the decision-making process.

Dedicated risk management units or functions also exist within PETRONAS Group, particularly for listed subsidiaries, to assess and evaluate the risk management processes for reporting to their respective Management and Board.

PETRONAS Group has in place an ongoing process to manage principal risks affecting the achievement of its business objectives. This includes identifying, evaluating, managing and monitoring these risks. This process continues to be in place for the year under review and up to the date of approval of this statement.

Annual Report 2016
Petroliam Nasional Berhad (PETRONAS)

#### STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

Risk Management and internal control implementation Groupwide are supported by the following committees:

#### **Executive Leadership Team (ELT)**

ELT is established to assist the President and Group CEO in the management of the Company and is responsible for providing a holistic approach to all business development strategy, high impact and high value investments including mergers and acquisitions. ELT reviews key risk management matters to provide guidance and direction prior to BGRC and Board reporting.

# Risk Management Committee (RMC)

RMC is formed to serve as the central platform to assist ELT, BGRC and Board in identifying, deliberating principal risks and reviewing governing documents at Group level as well as to provide assurance on risk management practices across PETRONAS Group to protect and safeguard PETRONAS' interest. RMC also promotes sound risk management practices through the sharing of information, best practices and lessons learnt to enhance the risk culture across PETRONAS Group.

PETRONAS Group's system of risk management and internal control seeks to manage and control risks appropriately. Due to the inherent limitations, the system can only provide reasonable and not absolute assurance against material misstatement or loss or the occurrence of unforeseeable circumstances.

# **RISK MANAGEMENT FRAMEWORK**

PETRONAS Risk Policy (refer Chart 1) stipulates general principles and guidelines for actions which influence decisions. It gives clear communication of management's expectations in relation to risk management practices throughout the organisation.

The commitment to achieve the PETRONAS Risk Policy is complemented by the PETRONAS Resiliency Model that provides an integrated and holistic view of the overall strategy to manage PETRONAS Group's risks, focusing on three areas of business resilience, namely Enterprise Risk Management (ERM), Crisis Management (CM) and Business Continuity Management (BCM). These are supported by risk frameworks and relevant guidelines to govern, guide and institutionalise risk management practices across PETRONAS Group. The status of risk management practices are monitored and reported quarterly to RMC.

# **PETRONAS RISK POLICY**

PETRONAS shall adopt and implement risk management best practices by identifying, assessing, treating and monitoring risks as well as effectively responding to crises.

In the event of prolonged disruption, business continuity practices shall be adopted to restore and ensure continuity of PETRONAS' key business activities.

# ENTERPRISE RISK MANAGEMENT

Structured and holistic approach to identify, assess, treat and monitor risks.

The aim is to **REDUCE** the likelihood and impact of all identified risks to enhance the organisation's ability to achieve its strategic objectives.

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# CRISIS MANAGEMENT

Comprehensive set of processes that aims to prepare the organisation to **RESPOND** and manage crises in the risk areas to protect and save people, environment, assets and reputation.

# BUSINESS CONTINUITY MANAGEMENT

Holistic management process that aims to build the capability of an organisation to **RECOVER** and continue delivery of products or services at acceptable predefined levels following a prolonged disruptive incident.

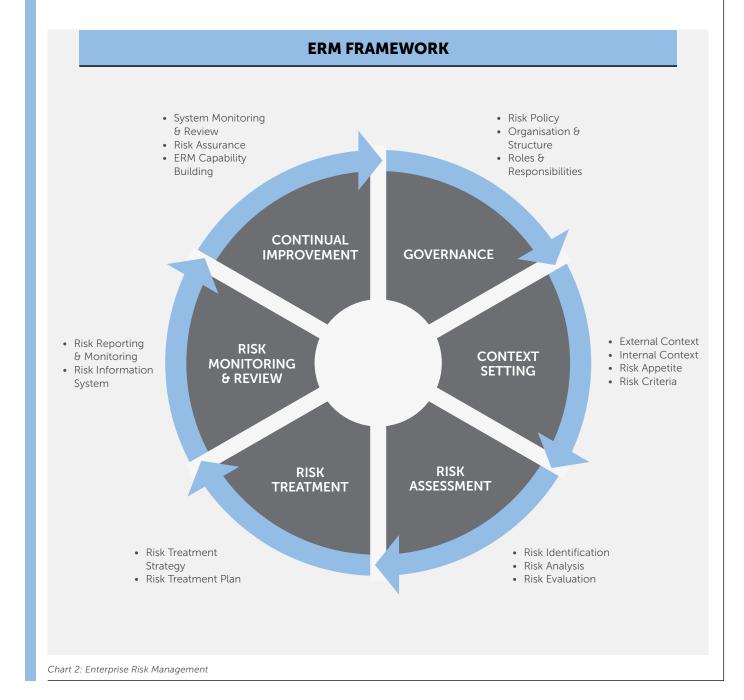
Chart 1: PETRONAS Risk Policy and PETRONAS Resiliency Model

#### STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

#### **ENTERPRISE RISK MANAGEMENT** (refer Chart 2) —

Enterprise Risk Management (ERM) process is an integral part of managing the business as it provides a guide to systematically identify, assess, treat, monitor and review risks. It aims to improve the ability to reduce the likelihood and/or impact of identified risks that may affect the achievement of business objectives.

Risk profiles developed through the ERM process are established and monitored at corporate level and across PETRONAS Group, which consist of identified principal risks with corresponding risk mitigations and key risk indicators. It allows actions to be taken to ensure that risks are being effectively managed by respective units, endorsed by the Head of Department of respective Holding Company Units (HCU), Business Units (BU) or Operating Units (OPU), and reported to their Management and Board on a quarterly basis.



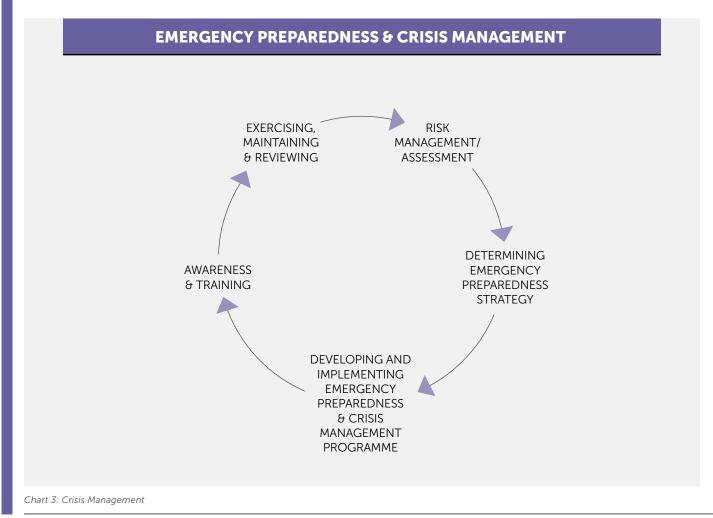
# STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

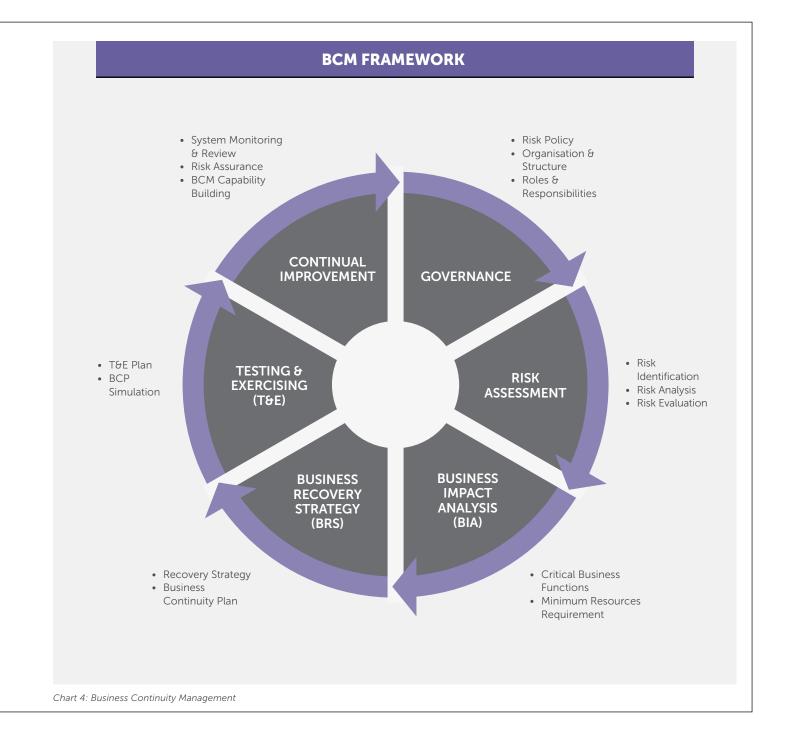
# STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

# CRISIS AND BUSINESS CONTINUITY MANAGEMENT (refer Charts 3 and 4) —

Crisis Management defines the structure and processes for managing emergencies including crises at both domestic and international operations. There is a three-tier response system in place which provides demarcation of roles and responsibilities between emergency site management, operating unit management, corporate and authorities. Drills and exercises are carried out at facility/asset level to determine and enhance readiness in the event of an emergency or crisis. Business Continuity Plan (BCP) is also in place to ensure business continuity in the event of a crisis or prolonged business disruption.

The integrated crisis management and business continuity plans seek to enhance PETRONAS Group's preparedness to respond and reduce the impact of crises as well as to recover and restore businesses' critical functions within a reasonable period of time towards sustaining PETRONAS Group's activities and minimising disruptions to stakeholders.





# STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

# INTERNAL CONTROL ELEMENTS

As part of PETRONAS Resiliency Model, internal controls are developed to facilitate standardisation of processes and practices across PETRONAS Group for focus risk areas such as Financial, Health, Safety & Environment (HSE), Security, Plant & Facilities, Project, Procurement, Information & Communication Technology (ICT), Reputation, Human Capital and Country.

## FINANCIAL

# **Limits of Authority**

Limits of Authority (LOA) defines decision-making limits within PETRONAS Group, providing a balance between effective and quality decision-making with appropriate management control.

The latest revision to PETRONAS' LOA took place in August 2016 following the enhancements to PETRONAS' operating model and organisation structure. Similarly, several subsidiaries had also revised their respective LOAs following changes in the subsidiaries' organisation structure and/or changes in business requirements throughout the year 2016.

All LOA development and revision are independently reviewed by Corporate Finance to ensure adherence and consistency with the PETRONAS Group LOA Framework and General Principles.

# **Budget Approval**

Budget is an important internal control mechanism used by PETRONAS Group to ensure an agreed allocation of resources and that the operational managers are sufficiently guided in making business decisions. PETRONAS performs a comprehensive annual planning and budgeting exercise including the development and validation of business strategies for a rolling five-year period, and the establishment of performance indicators against which business units and subsidiary companies are evaluated.

PETRONAS Group's strategic direction have been reviewed during the year due to significant changes in business environment.

# **Financial Control Framework**

PETRONAS Group has a Financial Control Framework (FCF) with the principal objective of enhancing the quality of financial reporting through a structured process of ensuring the adequacy and effectiveness of key internal controls operating at various levels within PETRONAS Group at all times. The FCF requires among others, documentation of key controls, remediation of control gaps as well as a regular testing of control operating effectiveness. On a semi-annual basis, each key process owner at various management levels is required to complete and submit a Letter of Assurance which provides confirmation of compliance to key controls for the areas of the business for which they are accountable.

# **Corporate Financial Policy**

The Corporate Financial Policy (CFP) prescribes PETRONAS Group's governing policies in effecting the consistent practice of financial management, as well as to form the foundation upon which financial risk exposures are identified and strategies to manage such risks are developed.

The financial risk management practices are implemented across PETRONAS Group in accordance with the requirements of CFP. This enables visibility on PETRONAS Group's key financial risk exposures for improved risk management.

Further enhancements were introduced in financial and risk management focusing on Liquidity Contingency Action Plan for managing liquidity in low oil price environment, including the establishment of the PETRONAS trading mandate to define risk management requirements for trading entities and tightening of specific controls on treasury and trading activities.

#### STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

# **HEALTH, SAFETY, SECURITY AND ENVIRONMENT**

The PETRONAS HSE Executive Leadership Team (HSE ELT) reviews the PETRONAS HSE performance, policies, practices, contractor HSE management and resource requirements including capability development, and sits a minimum of two times a year. There are similar HSE committees at the BU and OPU to deliberate on HSE performance.

PETRONAS HSE Policy is complemented by the HSE Mandatory Control Framework (MCF) to strengthen the HSE governance within PETRONAS Group. The MCF includes requirements on health, operational safety, and environment for consistent and effective Groupwide implementation.

Group Security Leadership Team (GSLT) has been established to discuss on key strategic issues which impact security related key result areas and provide guidance on the way forward.

The PETRONAS Security Policy is complemented by Security Management System (SeMS) which was approved on 21 September 2016. SeMS enhances security processes such as Security Risk Assessment (SRA), Security Risk Management & Contingency Plan (SRMCP), Security Manpower Audit and Security Exercises & Drills.

Security and HSE risk assessments have been conducted during the year to identify potential threats, analyse the adequacy of current security measures and propose new mitigation or counter-measures as part of managing security and HSE related matters across PETRONAS. Additionally, HSE assurance is carried out by Group HSE to provide independent assurance on the effectiveness of HSE controls while BU and OPU conduct HSE assurances to ensure compliance with regulatory requirements and HSE procedures. These assessments and assurance activities are presented to respective Management to provide a clear view of their security and HSE risks.

# PLANT AND FACILITIES —

Plant and Facilities Risk Management (PFRM) guideline prescribes principles and structured processes in managing operational risks. The PFRM provides guidance for operational personnel at plants and operating facilities to identify, assess, and monitor operational risks to improve the ability to reduce the likelihood and/or impact of identified risks.

PETRONAS Risk-Based Inspection (P-RBI) is a tool deployed Groupwide to determine the inspection and maintenance plan for plant equipment. It helps to strategise and focus on plant and facilities' operations, reliability, integrity, maintenance and turnaround plans to ensure that the plant and facilities are operated safely, ensure equipment availability, optimise maintenance effort and cost. Turnaround (TA) activities are conducted which consist of inspection and maintenance to ensure asset integrity of PETRONAS' plant and facilities as well as to satisfy statutory requirements under Factory and Machinery Act 1967 (FMA).

Plants and facilities' risk profiles have been developed through the PFRM process where risks are rated based on its probability and impact to the operations. This will help determine the appropriate mitigations to be taken to ensure that operational risks are being adequately managed.

## PROJECT —

Project Risk Management is implemented in accordance with PETRONAS Project Management System (PPMS). PPMS Phase Gated Process is designed to retain and maximise project value across a project's life cycle which includes decision-making process in directing and controlling investment of capital projects leading to project sanction.

The purpose of PPMS Phase Gated Process is to bring a measure of rational processes to the decision-making associated with transforming business opportunity into operational assets. PPMS Phase Gated process consists of structured phases from framing, feasibility study, scope selection, scope definition, execution to operationalisation. Each phase prescribes project management standards to ensure consistency of practices.

Project risks are identified, assessed, mitigated and validated through assurance program under the PPMS framework. The processes are meant to reduce the risk of unexpected technical and/or commercial factors significantly affecting project's viability.

# Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

# STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

# PROCUREMENT -

Procurement governance and internal controls are implemented based on PETRONAS Tenders and Contracts Administrative Manual (PTCAM). PETRONAS Group has clearly defined authorisation procedures and authority limits set for awarding tenders and all procurement transactions covering both capital and revenue expenditure items. Tender committees with crossfunctional representation have been established to provide the oversight functions on tendering matters and as a platform to present the risks pertaining to the tender prior to approval by the approving authorities as set out in the approved LOA.

# INFORMATION AND COMMUNICATION TECHNOLOGY —

PETRONAS Group is governed by the PETRONAS Information Security Policy and Baselines. This is supplemented by the Enforce Information Security initiative to protect PETRONAS' digital information. ICT governance is led by the Group ICT Council that deliberates and decides on all matters related to strategy, investments, policies, programmes, project prioritisations and performance review of the ICT function.

In responding to cyber security threats, Group ICT has in place adequate IT security tools and procedures to detect and respond to the threats. The IT security tools employed include Intrusion Prevention System (IPS), firewalls, anti-virus, anti-malware, Data Leakage Prevention (DLP), document classification system and incident management plans. Scheduled vulnerability assessments on systems are performed during the year to identify weaknesses and remediate accordingly. Cyber security threats are monitored on an ongoing basis.

Group ICT also has in place a Disaster Recovery Plan (DRP) for identified critical business applications. Scheduled drills and exercises are conducted annually to ensure readiness in the event of ICT disaster recovery activation.

PETRONAS' Information Security processes are accredited with the International Organisation for Standardisation (ISO) 27001:2013 – Information Security Management System Standard.

# REPUTATION

The Strategic Communications Management Committee (SCMC) leads and manages an integrated global strategic communications function for PETRONAS Group. It performs risks oversight and issues management, and plays a supervisory role for PETRONAS reputation risk governance and internal strategic communications controls. Deliberation by SCMC is conducted every two months.

Reputation risk framework and guideline have been established and implemented to govern and institutionalise reputation risk management across PETRONAS Group.

Risks and issues impacting the PETRONAS Group's reputation are communicated to the Management on a weekly basis. Communication strategies and mitigations plans are also developed and implemented to address the risks and issues; these are the cornerstone for reputation management and enhancement in support of PETRONAS Group's business objectives.

# HUMAN CAPITAL -

PETRONAS Group Human Resource Management (HRM) operates through a formal organisation structure with delineated lines of authority, responsibility and accountability. The HRM Management Committee, chaired by the Senior Vice President of Group HRM, is the main platform that deliberates and decides on matters related to HRM strategies, investments, policies, guidelines, project prioritisation and performance review.

The Group HRM Risk Profile has been established for the Human Capital Management and other key HRM functions within the Holding Company Units. A bi-annual Risk Meeting is held to track and deliberate risk matters such as anticipating and developing effective and robust human capital solutions to address business dynamics and sustaining continuous pipeline of leaders for PETRONAS' Corporate Critical Positions that could impact business delivery and growth. Detailed action plans have been developed to mitigate such risks.

Group HRM also complies with the approved LOA and is subjected to independent audits performed by PETRONAS Group Internal Audit Division to evaluate and improve the effectiveness of governance, risk management and control processes of human capital.

#### STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

#### COUNTRY —

The Country Risk Management Framework (CRMF) prescribes oversight structure, roles and responsibilities, and assessment tools in ensuring country risk is managed in a systematic and structured manner across PETRONAS Group.

CRMF describes how Country Risk Management (CRM) oversights and functions shall be organised within PETRONAS Group and defines clear roles and responsibilities at respective management levels. It also prescribes assessment tools during pre-entry, in-country and exit management that aim to support decision-making in relation to international investments and managing in-country risk holistically.

Country Risk Management reporting has also been established to ensure timely and comprehensive flow of information to respective country's Management and Board.

Risk activities conducted during the year under review include Pre-Entry Country Assessment (PECA) as well as development and review of Country Profile.

# INTERNAL AUDIT \_\_\_\_

The Board recognises that the internal audit function is an integral component of the governance process. PETRONAS Group Internal Audit Division reports directly to PETRONAS BAC. In addition, all public listed subsidiaries within PETRONAS Group have their own individual BACs. PETRONAS Group's Internal Audit functions support their respective BACs by providing an independent and objective assurance designed to add value and improve PETRONAS Group's operations.

The key responsibility of the PETRONAS' Internal Audit function is to assist PETRONAS Group in accomplishing its goals by bringing a systematic and disciplined approach to evaluate and improve the effectiveness of risk management, internal control and governance processes. The Internal Audit functions maintain its impartiality, proficiency and due professional care by having its plans and reports directly under the purview of the respective BACs.

The respective BACs review reports on internal audits performed under its purview, including the agreed corrective actions to be undertaken by the auditees' management, as well as the Group's quarterly financial results.

The internal audit functions perform independent audits in diverse areas within PETRONAS Group including management, accounting, financial, project and operational activities. The internal audit processes and activities are guided by the approved Internal Audit Charter and aligned with internal audit industry standards (i.e. The International Professional Practices Framework (IPPF) issued by the Institute of Internal Auditors (IIA) and Committee of Sponsoring Organisations of the Treadway Commission (COSO) internal control framework).

# OTHER MATTERS

The risk management and internal control systems discussed in this statement do not apply to entities where PETRONAS do not have control which includes joint arrangements.

Section Four | Governance

Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

# STATEMENT ON RISK MANAGEMENT AND INTERNAL CONTROL

# AFFIRMATION BY THE BOARD

The Board has received assurance from the President & Group Chief Executive Officer (CEO) and the Executive Vice President & Group Chief Finance Officer (CFO) that PETRONAS Group's financial records are properly maintained and that risk management and internal control system is operating adequately and effectively in addressing the material risks within the Group in its current business environment.

The Board is of the view that risk management and internal control instituted throughout the Group is sound and provides a reasonable level of confidence but not absolute assurance that PETRONAS Group is not affected by any event that cannot be reasonably foreseen. In the year under review, the Board is not aware of any significant control failure or weakness that would have resulted in material losses, contingencies or uncertainties requiring separate disclosure in the Annual Report.

# REVIEW OF STATEMENT BY EXTERNAL AUDITOR

The external auditors have reviewed this Statement on Risk Management and Internal Control in accordance with International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information as adopted by the Malaysian Institute of Accountants, and Recommended Practice Guide (RPG) 5 (Revised 2015) Guidance for Auditors on Engagements to Report on the Statement on Risk Management and Internal Control included in the Annual Report for the financial year ended 31 December 2016. The external auditors reported to the Board that nothing has come to their attention that cause them to believe that the Statement on Risk Management and Internal Control has not, been prepared, in all material respects, in accordance with the disclosures required by paragraphs 41 and 42 of the Statement on Risk Management and Internal Control: Guidelines for Directors of Listed Issuers, or is factually inaccurate.

ISAE 3000 and RPG 5 (Revised 2015) do not require the external auditors to consider whether the Statement on Risk Management and Internal Control covers all risks and controls, or to form an opinion on the adequacy and effectiveness of the Group's risk management and internal control system including the assessment and opinion by the Board of Directors and management thereon. The external auditors are also not required to consider whether the processes described to deal with material internal control aspects of significant problems, if any, disclosed in the Annual Report of the Company will, in fact, remedy the problems. Similarly, the external auditors are also not required to perform any procedures by way of audit, review or verification of the underlying records or other sources from which the Statement on Risk Management and Internal Control was extracted.

This statement is made in accordance with the resolution of the Board of Directors dated 25 April 2017.

# Section Five

# FINANCIAL STATEMENTS

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# A BOLD MOVE

PETRONAS' largest and boldest downstream investment in Pengerang, Johor – the Pengerang Integrated Complex (PIC) is expected to push the Malaysian Oil and Gas downstream sector into a new frontier of technology and economic development.

The USD27 billion development forms part of Johor state's ambitious Pengerang Integrated Petroleum Complex (PIPC). With its strategic location along the world's busiest shipping lanes and its proximity to international trading hub, the PIPC is well positioned to be the next regional downstream oil and gas industrial hub.

PIC is expected to be ready for start-up in the first quarter of 2019 and will house the Refinery and Petrochemical Integrated Development (RAPID) and six major associated facilities. The complex is designed to produce premium differentiated specialty petrochemicals to meet domestic and export demand for petroleum products and the Malaysian Government's future legislative requirements on the implementation of EURO 5 Mogas and Diesel specifications.

PIC will enable Malaysia to capitalise on the growing need for energy and commodity petrochemical products in Asia in the next 20 years. The development will complement the existing infrastructures, attract foreign companies to invest and pave the way for potential collaborations with global partners in logistics and product distribution.

# **DIRECTORS' REPORT**

for the year ended 31 December 2016

The Directors have pleasure in submitting their report and the audited financial statements of the Group and of the Company for the year ended 31 December 2016.

# PRINCIPAL ACTIVITIES

The principal activities of the Company in the course of the financial year remained unchanged and consist of exploitation of oil and gas, the marketing of petroleum and petroleum products and investment holding. The principal activities of key subsidiaries, associates and joint ventures are stated in note 43, note 44 and note 45 to the financial statements respectively.

#### **RESULTS**

In RM Mil	Group	Company
Profit for the year	23,508	30,190
Attributable to:		
Shareholders of the Company	16,950	30,190
Non-controlling interests	6,558	

# **DIVIDENDS**

During the financial year, the Company paid a final tax exempt dividend under Section 84 of the Petroleum (Income Tax) Act, 1967 of RM160,000 per ordinary share amounting to RM16 billion in respect of the financial year ended 31 December 2015.

The Directors propose a tax exempt final dividend under Section 84 of the Petroleum (Income Tax) Act, 1967 of RM130,000 per ordinary share amounting to RM13 billion in respect of the financial year ended 31 December 2016 for shareholders' approval at the forthcoming Annual General Meeting.

The financial statements for the current financial year do not reflect this proposed final dividend. Such dividend, if approved by the shareholders, will be accounted for in equity as an appropriation of retained profits in the financial year ending 31 December 2017.

# **RESERVES AND PROVISIONS**

There were no material movements to and from reserves and provisions during the year other than as disclosed in the financial

Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

**DIRECTORS' REPORT** 

for the year ended 31 December 2016 (continued)

# **DIRECTORS OF THE COMPANY**

Directors who served since the date of the last report are:

Tan Sri Mohd Sidek bin Hassan (Chairman)

Datuk Wan Zulkiflee bin Wan Ariffin

Datuk Mohd Omar bin Mustapha

Tan Sri Dato' Seri Hj Megat Najmuddin bin Datuk Seri Dr. Hj Megat Khas

Datuk Muhammad bin Ibrahim

Dato' Mohamad Idris bin Mansor

Krishnan C K Menon

Tan Sri Amirsham bin Abdul Aziz

Tan Sri Dr. Mohd Irwan Serigar bin Abdullah

Datuk Manharlal A/L Ratilal

Tan Sri Zarinah Sameehah binti Anwar

Dato' Sri Sharifah Sofianny binti Syed Hussain

Dato' Khodijah binti Abdullah (alternate to Tan Sri Dr. Mohd Irwan Serigar bin Abdullah)

Tan Sri Datuk Amar Haji Mohamad Morshidi bin Abdul Ghani (appointed on 1 November 2016)

Datuk Pengiran Hassanel Bin Pg Mohd Tahir (appointed on 1 November 2016)

Dato' Wee Yiaw Hin @ Ong Yiaw Hin (resigned on 1 April 2016)

Datin Yap Siew Bee (resigned on 28 April 2016)

Md Arif Mahmood (resigned on 1 November 2016)

# **DIRECTORS' INTERESTS**

The Directors in office at the end of the year who have interests in the shares of the Company's related corporations other than wholly-owned subsidiaries (including the interests of the spouses and/or children of the Directors who themselves are not directors of the Company) as recorded in the Register of Directors' Shareholdings are as follows:

# Number of ordinary shares of RM1.00 each in PETRONAS Gas Berhad

Name	Balance at 1.1.2016	Bought	Sold	Balance at 31.12.2016
Tan Sri Amirsham bin Abdul Aziz:				
- others	2,000	-	-	2,000

# Number of ordinary shares of RM1.00 each in PETRONAS Dagangan Berhad

Name	Balance at 1.1.2016	Bought	Sold	Balance at 31.12.2016
Tan Sri Amirsham bin Abdul Aziz:				
- others	2,000	-	-	2,000

# DIRECTORS' REPORT for the year ended 31 December 2016 (continued)

# **DIRECTORS' INTERESTS (CONTINUED)**

# Number of ordinary shares of RM0.10 each in PETRONAS Chemicals Group Berhad

	Balance at			Balance at
Name	1.1.2016	Bought	Sold	31.12.2016
Datuk Wan Zulkiflee bin Wan Ariffin	20,000	-	-	20,000
Datuk Mohd Omar bin Mustapha	10,000	-	_	10,000
Tan Sri Dato' Seri Hj Megat Najmuddin bin Datuk Seri Dr. Hj				
Megat Khas	20,000	-	-	20,000
Datuk Muhammad bin Ibrahim	20,000	-	-	20,000
Krishnan C K Menon	20,000	-	-	20,000
Datuk Manharlal A/L Ratilal	20,000	-	-	20,000

# Number of ordinary shares of RM1.00 each in MISC Berhad

	Balance at			Balance at
Name	1.1.2016	Bought	Sold	31.12.2016
Tan Sri Amirsham bin Abdul Aziz:				
Tari Sti Athirshatti biti Abdul Aziz.				
- own	11,600	-	-	11,600
- others	4,000	-	-	4,000

# Number of ordinary shares of RM0.50 each in Malaysia Marine and Heavy Engineering Holdings Berhad

Name	Balance at 1.1.2016	Bought	Sold	Balance at 31.12.2016
Datuk Wan Zulkiflee bin Wan Ariffin Tan Sri Amirsham bin Abdul Aziz:	10,000	-	-	10,000
- own	6,000	-	-	6,000
- others	6,000	-	-	6,000

# Number of ordinary shares of RM1.00 each in KLCC Property Holdings Berhad

Name	1.1.2016	Bought	Sold	31.12.2016
Datuk Manharlal A/L Ratilal	5,000	-	-	5,000
Datuk Manharlal A/L Ratilal	5,000	-		-

None of the other Directors holding office at 31 December 2016 had any interest in the ordinary shares of the Company and of its related corporations during the financial year.

Section Five | Financial Statements

Annual Report 2016 Petroliam Nasional Berhad (PETRONAS) Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

**DIRECTORS' REPORT** 

for the year ended 31 December 2016 (continued)

#### **DIRECTORS' BENEFITS**

Since the end of the previous financial year, no Director of the Company has received or become entitled to receive any benefit (other than the benefit included in the aggregate amount of emoluments received or due and receivable by Directors as shown in the financial statements), by reason of a contract made by the Company or a related corporation with the Director or with a firm of which the Director is a member, or with a company in which the Director has a substantial financial interest, other than a Director who has financial interests in a company which transacted with a company within the Group in the ordinary course of business.

There were no arrangements during and at the end of the financial year which had the object of enabling Directors of the Company to acquire benefits by means of the acquisition of shares in or debentures of the Company or any other body corporate.

# **ISSUE OF SHARES**

There were no changes in the issued and paid up capital of the Company during the financial year.

# **OPTIONS GRANTED OVER UNISSUED SHARES**

No options were granted to any person to take up unissued shares of the Company during the financial year.

# OTHER STATUTORY INFORMATION

Before the financial statements of the Group and of the Company were made out, the Directors took reasonable steps to ascertain that:

- (i) all known bad debts have been written off and adequate provision made for doubtful debts, and
- (ii) any current assets which were unlikely to realise, in the ordinary course of business, their values as shown in the accounting records of the Group and of the Company, had been written down to an amount which they might be expected so to realise.

At the date of this report, the Directors are not aware of any circumstances:

- (i) that would render the amount written off for bad debts, or the amount of the provision for doubtful debts, in the Group and in the Company inadequate to any substantial extent, or
- (ii) that would render the value attributed to the current assets in the financial statements of the Group and of the Company misleading, or
- (iii) which have arisen which render adherence to the existing method of valuation of assets or liabilities of the Group and of the Company misleading or inappropriate, or
- (iv) not otherwise dealt with in this report or the financial statements, that would render any amount stated in the financial statements of the Group and of the Company misleading.

At the date of this report, there does not exist:

- (i) any charge on the assets of the Group or of the Company that has arisen since the end of the financial year and which secures the liabilities of any other person, or
- (ii) any contingent liability in respect of the Group or of the Company that has arisen since the end of the financial year.

#### DIRECTORS' REPORT

for the year ended 31 December 2016 (continued)

### OTHER STATUTORY INFORMATION (CONTINUED)

No contingent liability or other liability of any company in the Group has become enforceable, or is likely to become enforceable within the period of twelve months after the end of the financial year which, in the opinion of the Directors, will or may substantially affect the ability of the Group and the Company to meet their obligations as and when they fall due.

In the opinion of the Directors, the financial performance of the Group and of the Company for the financial year ended 31 December 2016 have not been substantially affected by any item, transaction or event of a material and unusual nature other than impairment losses on certain property, plant and equipment and intangible assets as disclosed in note 27 to the financial statements, nor has any such item, transaction or event occurred in the interval between the end of that financial year and the date of this report.

#### **AUDITORS**

The auditors, KPMG PLT (converted from a conventional partnership, KPMG, on 27 December 2016), have indicated their willingness to accept re-appointment.

Signed on behalf of the Board of Directors in accordance with a resolution of the Directors:

Tan Sri Mohd Sidek bin Hassan

Chairman

Datuk Wan Zulkiflee bin Wan Ariffin

Director

Kuala Lumpur, Date: 27 February 2017

Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

# STATEMENT BY DIRECTORS

In the opinion of the Directors, the financial statements set out on pages 122 to 236, are drawn up in accordance with Malaysian Financial Reporting Standards, International Financial Reporting Standards and the requirements of the Companies Act, 1965 in Malaysia so as to give a true and fair view of the financial position of the Group and of the Company at 31 December 2016 and of their financial performance and cash flows for the financial year then ended.

Signed on behalf of the Board of Directors in accordance with a resolution of the Directors:

Tan Sri Mohd Sidek bin Hassan

Chairman

Datyk Wan Zulkiflee bin Wan Ariffin

Director

Kuala Lumpur,

Date: 27 February 2017

# STATUTORY DECLARATION

I, Datuk Manharlal Ratilal, the director primarily responsible for the financial management of PETROLIAM NASIONAL BERHAD, do solemnly and sincerely declare that the financial statements set out on pages 122 to 236 are, to the best of my knowledge and belief, correct and I make this solemn declaration conscientiously believing the declaration to be true, and by virtue of the Statutory Declarations Act, 1960.

Subscribed and solemnly declared by the abovenamed **Datuk Manharlal Ratilal** at **Kuala Lumpur** in **Wilayah Persekutuan** on 27 February 2017.

Shewh.

BEFORE ME:

No. W 530
TAN SEOK KETT

Lot 350, 3rd Floor, Wisma MPL, Jalan Raja Chulan, 50200 Kuala Lumpur.

# CONSOLIDATED STATEMENT OF FINANCIAL POSITION as at 31 December 2016

In RM Mil	Note	2016	2015
ASSETS			
Property, plant and equipment	3	333,977	310,268
Investment properties	4	10,356	10,177
Land held for development	5	3,113	2,665
Prepaid lease payments	6	1,061	1,027
Investments in associates	8	6,617	5,441
Investments in joint ventures	9	7,413	7,577
Intangible assets	10	25,552	34,304
Long term receivables	11	13,418	13,779
Fund and other investments	12	786	7,373
Deferred tax assets	14	9,917	11,811
TOTAL NON-CURRENT ASSETS		412,210	404,422
Trade and other inventories	15	13,764	12,838
Trade and other receivables	16	45,990	44,979
Assets classified as held for sale	17	359	354
Fund and other investments	12	9,477	8,583
Cash and cash equivalents	18	121,492	120,731
TOTAL CURRENT ASSETS		191,082	187,485
TOTAL ASSETS		603,292	591,907
EQUITY			
Share capital	19	100	100
Reserves	20	380,186	374,776
Total equity attributable to shareholders of the Company		380,286	374,876
Non-controlling interests	21	43,262	40,776
TOTAL EQUITY		423,548	415,652
HARMITIES			
LIABILITIES	22	57.650	F7.070
Borrowings	22	57,659	53,939
Deferred tax liabilities	14	9,635	14,526
Other long term liabilities and provisions	24	37,918	35,125
TOTAL NON-CURRENT LIABILITIES	25	105,212	103,590
Trade and other payables	25	62,445	65,219
Borrowings	22	9,954	3,963
Taxation		2,133	3,483
TOTAL CURRENT LIABILITIES		74,532	72,665
TOTAL LIABILITIES		179,744	176,255
TOTAL EQUITY AND LIABILITIES		603,292	591,907

# CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

for the year ended 31 December 2016

In RM Mil	Note	2016	2015
Revenue		204,908	247,657
Cost of revenue		(147,198)	(176,680)
Gross profit	26	57,710	70,977
Selling and distribution expenses		(5,633)	(5,352)
Administration expenses		(20,143)	(27,570)
Other expenses		(3,913)	(3,618)
Other income		8,064	4,535
Operating profit	27	36,085	38,972
Financing costs		(3,294)	(3,327)
Share of profit after tax and non-controlling interests of equity accounted associates and joint ventures		865	1,038
Profit before taxation		33,656	36,683
Tax expense	28	(10,148)	(15,823)
Profit for the year		23,508	20,860
Net movements from exchange differences		3,213	30,377
Items that may be reclassified subsequently to profit or loss			
Available-for-sale financial assets:		3,223	30,377
- Changes in fair value		2,128	(889)
- Transfer to profit or loss		(34)	1,637
Others		(29)	375
Total other comprehensive income for the year		5,278	31,500
TOTAL COMPREHENSIVE INCOME FOR THE YEAR		28,786	52,360
Profit attributable to:			
Shareholders of the Company		16,950	13,158
Non-controlling interests		6,558	7,702
PROFIT FOR THE YEAR		23,508	20,860
Total comprehensive income attributable to:			
Shareholders of the Company		21,105	41,289
Non-controlling interests		7,681	11,071
TOTAL COMPREHENSIVE INCOME FOR THE YEAR		28,786	52,360

The notes set out on pages 134 to 236 are an integral part of these financial statements.

The notes set out on pages 134 to 236 are an integral part of these financial statements.

Balance at 31 December 2015

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY for the year ended 31 December 2016

#### Attributable to shareholders of the Company Non-distributable Foreign Currency Available-Share Capital Translation for-sale In RM Mil Note Capital Reserves Reserve Reserve 13,622 14,250 (52)Balance at 1 January 2015 100 Net movements from exchange differences 27,106 Available-for-sale financial assets: (890) - Changes in fair value - Transfer to profit or loss 1,637 278 Other comprehensive income Total other comprehensive 278 27,106 747 income for the year Profit for the year Total comprehensive income 278 27,106 747 for the year Additional issuance of shares to non-controlling interests Changes in ownership interest in subsidiaries (63)Redemption of redeemable preference shares in a subsidiary Dividends 29 Total transactions with shareholders (63)4

100

13,904

continue to next page

695

41,293

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY for the year ended 31 December 2016

(continued)

# Attributable to shareholders of the Company

— Distributable ———

In RM Mil	Note	General Reserve	Retained Profits	Total	Non- Controlling Interests	Total Equity
Balance at 1 January 2015		12,000	314,748	354,668	37,261	391,929
Net movements from exchange differences		-	-	27,106	3,271	30,377
Available-for-sale financial assets:						
- Changes in fair value		-	-	(890)	1	(889)
- Transfer to profit or loss		-	-	1,637	-	1,637
Other comprehensive income		-	-	278	97	375
Total other comprehensive income for the year		-	-	28,131	3,369	31,500
Profit for the year		-	13,158	13,158	7,702	20,860
Total comprehensive income for the year		-	13,158	41,289	11,071	52,360
Additional issuance of shares to non-controlling interests		-	-	-	103	103
Changes in ownership interest in subsidiaries		-	4,978	4,919	(298)	4,621
Redemption of redeemable preference shares in a subsidiary		-	_	-	(111)	(111)
Dividends	29	-	(26,000)	(26,000)	(7,250)	(33,250)
Total transactions with shareholders	_	-	(21,022)	(21,081)	(7,556)	(28,637)
Balance at 31 December 2015		12,000	306,884	374,876	40,776	415,652

continued from previous page

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# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY for the year ended 31 December 2016

(continued)

Attributable to shareholders of the Company

		Non-distributable				
In RM Mil	Note	Share Capital	Capital Reserves	Foreign Currency Translation Reserve	Available- for-sale Reserve	
Balance at 1 January 2016		100	13,904	41,293	695	
Net movements from exchange differences		-	-	2,105	-	
Available-for-sale financial assets:						
- Changes in fair value		-	-	-	2,131	
- Transfer to profit or loss		-	-	-	(34)	
Other comprehensive (expenses)/ income		-	(47)	-	-	
Total other comprehensive (expenses)/income for the year		-	(47)	2,105	2,097	
Profit for the year		-	-	-	-	
Total comprehensive (expenses)/ income for the year		-	(47)	2,105	2,097	
Additional issuance of shares to non-controlling interests		-	-	-	-	
Changes in ownership interest in subsidiaries		-	-	(166)	-	
Redemption of redeemable preference shares in subsidiaries		-	132	_	-	
Dividends	29	-	_	-	-	
Total transactions with shareholders		-	132	(166)	-	
Balance at 31 December 2016		100	13,989	43,232	2,792	

continue to next page

# Attributable to shareholders of the Company

← Distributable → →

**CONSOLIDATED STATEMENT OF CHANGES IN EQUITY** 

for the year ended 31 December 2016 (continued)

In RM Mil	Note	General Reserve	Retained Profits	Total	Non- Controlling Interests	Total Equity
Balance at 1 January 2016		12,000	306,884	374,876	40,776	415,652
Net movements from exchange differences		-	-	2,105	1,108	3,213
Available-for-sale financial assets:						
- Changes in fair value		-	-	2,131	(3)	2,128
- Transfer to profit or loss		-	-	(34)	-	(34)
Other comprehensive (expenses)/ income		-	-	(47)	18	(29)
Total other comprehensive (expenses)/income for the year		-	-	4,155	1,123	5,278
Profit for the year		-	16,950	16,950	6,558	23,508
Total comprehensive (expenses)/ income for the year		-	16,950	21,105	7,681	28,786
Additional issuance of shares to non-controlling interests		-	-	-	30	30
Changes in ownership interest in subsidiaries		-	471	305	642	947
Redemption of redeemable preference shares in subsidiaries		-	(132)		(11)	(11)
Dividends	29	-	(16,000)	(16,000)	(5,856)	(21,856)
Total transactions with shareholders		-	(15,661)	(15,695)	(5,195)	(20,890)
Balance at 31 December 2016		12,000	308,173	380,286	43,262	423,548

continued from previous page

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# CONSOLIDATED STATEMENT OF CASH FLOWS for the year ended 31 December 2016

In RM Mil	ote	2016	2015
CASH FLOWS FROM OPERATING ACTIVITIES			
Profit before taxation		33,656	36,683
Adjustments for:			
Depreciation of property, plant and equipment and investment properties		22,766	20,688
Amortisation of intangible assets and prepaid lease payments		2,543	3,570
Net impairment loss on property, plant and equipment		8,775	13,171
Net impairment loss on intangible assets		2,692	1,920
Net impairment/write-off on well costs		6,129	2,303
Net impairment loss on receivables		1,810	1,611
Net impairment (write back)/loss on investments in associates and joint ventures		(411)	1,307
Net impairment (write back)/loss on other investments		(10)	1,793
Net inventories written down to net realisable value		22	396
Share of profit after tax and non-controlling interests of equity accounted associates and joint ventures		(865)	(1,038)
Property, plant and equipment written off		1,361	657
Gain on disposal of investments in subsidiaries, associates and joint ventures, other investments, and property, plant and equipment		(183)	(136)
Loss on disposal of investments in subsidiaries, associates and joint ventures, other investments, intangible assets, and property, plant and equipment		945	172
Bad debts written off		304	4
Net derivative (gain)/loss		(874)	809
Unrealised foreign exchange (gain)/loss		(2,487)	6,713
Gain on bargain purchase		(33)	(335)
Interest income		(4,342)	(5,321)
Interest expense		3,294	3,327
Operating profit before changes in working capital		75,092	88,294
Change in trade and other receivables		(1,409)	(314)
Change in trade inventories		(926)	594
Change in trade and other payables		(5,453)	(2,118)
Cash generated from operations		67,304	86,456

continue to next page

# CONSOLIDATED STATEMENT OF CASH FLOWS for the year ended 31 December 2016

(continued)

In RM Mil	Note	2016	2015
CASH FLOWS FROM OPERATING ACTIVITIES (continued)			
Interest income from fund and other investments		3,636	3,399
Interest expenses paid		(2,505)	(2,473)
Taxation paid		(14,592)	(17,741)
Net cash generated from operating activities		53,843	69,641
CASH FLOWS FROM INVESTING ACTIVITIES			
Net cash used in investing activities	30	(40,880)	(60,813)
CASH FLOWS FROM FINANCING ACTIVITIES			
Net cash used in financing activities	31	(14,390)	(16,254)
NET DECREASE IN CASH AND CASH FOUNTAINE		(4, 427)	(7.426)
NET DECREASE IN CASH AND CASH EQUIVALENTS		(1,427)	(7,426)
DECREASE/(INCREASE) IN DEPOSITS RESTRICTED  NET FOREIGN EXCHANGE DIFFERENCES			(207)
		2,185	10,927
CASH AND CASH EQUIVALENTS AT BEGINNING OF THE YEAR  CASH AND CASH EQUIVALENTS AT END OF THE YEAR		120,021	116,727
CASH AND CASH EQUIVALENTS AT END OF THE TEAR		120,791	120,021
CASH AND CASH EQUIVALENTS			
Cash and bank balances and deposits	18	121,492	120,731
Bank overdrafts	22	(151)	(148)
		121,341	120,583
Less: Deposits restricted	18	(550)	(562)
		120,791	120,021

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The Group has changed its presentation for the statement of cash flows from direct to indirect method in order to provide relevant information for the readers of the financial statements.

The notes set out on pages 134 to 236 are an integral part of these financial statements.

The notes set out on pages 134 to 236 are an integral part of these financial statements.

# STATEMENT OF FINANCIAL POSITION

as at 31 December 2016

In RM Mil	Note	2016	2015
ASSETS			
Property, plant and equipment	3	12,870	18,742
Investments in subsidiaries	7	94,289	70,477
Investments in associates	8	302	302
Investments in joint ventures	9	1,332	1,460
Long term receivables	11	161,889	157,907
Fund and other investments	12	76	6,991
Deferred tax assets	14	6,918	7,030
TOTAL NON-CURRENT ASSETS		277,676	262,909
Trade and other inventories	15	138	215
Trade and other receivables	16	18,135	16,547
Assets classified as held for sale	17	-	50
Fund and other investments	12	4,518	4,016
Cash and cash equivalents	18	68,426	67,760
TOTAL CURRENT ASSETS		91,217	88,588
TOTAL ASSETS		368,893	351,497
EQUITY			
Share capital	19	100	100
Reserves	20	278,470	264,286
TOTAL EQUITY		278,570	264,386
LIABILITIES			
Borrowings	22	42,367	40,533
Other long term liabilities and provisions	24	16,948	26,325
TOTAL NON-CURRENT LIABILITIES		59,315	66,858
Trade and other payables	25	30,255	18,898
Taxation		753	1,355
TOTAL CURRENT LIABILITIES		31,008	20,253
TOTAL LIABILITIES		90,323	87,111
TOTAL EQUITY AND LIABILITIES		368,893	351,497

# STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME for the year ended 31 December 2016

In RM Mil	Note	2016	2015
Revenue		81,567	98,197
Cost of revenue		(51,313)	(57,570)
Gross profit	26	30,254	40,627
Selling and distribution expenses		(480)	(541)
Administration expenses		(5,065)	(4,184)
Other expenses		(79)	(1,014)
Other income		12,479	28,582
Operating profit	27	37,109	63,470
Financing costs		(2,428)	(2,409)
Profit before taxation		34,681	61,061
Tax expense	28	(4,491)	(5,706)
Profit for the year		30,190	55,355
Other comprehensive expenses			
Items that may be reclassified subsequently to profit or loss			
Available-for-sale financial assets:			
- Changes in fair value		(3)	(2)
- Transfer to profit or loss upon disposal		(3)	(145)
Total other comprehensive expenses for the year		(6)	(147)
TOTAL COMPREHENSIVE INCOME FOR THE YEAR		30,184	55,208

# STATEMENT OF CHANGES IN EQUITY for the year ended 31 December 2016

		← Non-distril	butable $\longrightarrow$ $\leftarrow$	Distribu	table	
			Available-			
In RM Mil	Note	Share Capital	for-sale Reserve	General Reserve	Retained Profits	Total Equity
Balance at 1 January 2015		100	183	12,000	222,895	235,178
Available-for-sale financial assets:						
- Changes in fair value		-	(2)	-	-	(2)
- Transfer to profit or loss upon disposal		_	(145)	-	-	(145)
Total other comprehensive expenses for the year		-	(147)	-	-	(147)
Profit for the year		_	-	-	55,355	55,355
Total comprehensive (expenses)/ income for the year		-	(147)	-	55,355	55,208
Dividends representing transaction with shareholders of the Company	29	-	_	-	(26,000)	(26,000)
Balance at 31 December 2015		100	36	12,000	252,250	264,386
				-	-	
Balance at 1 January 2016		100	36	12,000	252,250	264,386
Available-for-sale financial assets:						
- Changes in fair value		-	(3)	-	-	(3)
- Transfer to profit or loss upon disposal		_	(3)	-	-	(3)
Total other comprehensive expenses for the year		-	(6)	-	-	(6)
Profit for the year		-	-	-	30,190	30,190
Total comprehensive (expenses)/ income for the year		-	(6)	-	30,190	30,184
Dividends representing transaction with shareholders						
of the Company	29	-	-	-	(16,000)	(16,000)
Balance at 31 December 2016		100	30	12,000	266,440	278,570

# **STATEMENT OF CASH FLOWS** for the year ended 31 December 2016

In RM Mil	Note	2016	2015
CASH FLOWS FROM OPERATING ACTIVITIES			
Profit before taxation		34,681	61,061
Adjustments for:			
Depreciation of property, plant and equipment		940	1,387
Net impairment loss on property, plant and equipment		2,100	355
Impairment loss on trade and others receivables		99	-
Net impairment write back on amount due from subsidiaries		(102)	(119)
Net impairment write back on loan and advances to subsidiaries		-	(104)
Net impairment write back on investment in subsidiaries		(381)	-
Net impairment loss on other investments		87	90
Interest income		(5,904)	(5,741)
Interest expense		2,428	2,409
Gain on partial disposal of investments in subsidiaries, other investments and			
property, plant and equipment		(572)	(5,202)
Loss on disposal of investment in a subsidiary		22	-
Net foreign exchange		(3,892)	(16,062)
Dividend income		(14,346)	(21,066)
Operating profit before changes in working capital		15,160	17,008
Change in trade and other receivables		(1,585)	2,044
Change in trade inventories		77	254
Change in trade and other payables		1,133	(3,799)
Cash generated from operations		14,785	15,507
Interest income from fund and other investments		2,770	3,446
Interest expenses paid		(1,424)	(1,307)
Taxation paid		(4,981)	(6,779)
Net cash generated from operating activities		11,150	10,867
CASH FLOWS FROM INVESTING ACTIVITIES			
Net cash generated from investing activities	30	4,702	8,601
CASH FLOWS FROM FINANCING ACTIVITIES			
CASH FLOWS FROM FINANCING ACTIVITIES	7.4	(4.5.000)	(0.075)
Net cash used in financing activities	31	(16,000)	(9,835)
NET (DECREASE)/INCREASE IN CASH AND CASH EQUIVALENTS		(148)	9,633
NET FOREIGN EXCHANGE DIFFERENCES		814	2,334
CASH AND CASH EQUIVALENTS AT BEGINNING OF THE YEAR		67,760	55,793
CASH AND CASH EQUIVALENTS AT END OF THE YEAR		68,426	67,760
		00,.20	3,,, 30
CASH AND CASH EQUIVALENTS			
Cash and bank balances and deposits	18	68,426	67,760

The Company has changed its presentation for the statement of cash flows from direct to indirect method in order to provide relevant information for the readers of the financial statements.

The notes set out on pages 134 to 236 are an integral part of these financial statements.

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# NOTES TO THE FINANCIAL STATEMENTS

# - 31 December 2016

# 1. BASIS OF PREPARATION

# 1.1 Statement of compliance

The financial statements of the Group and of the Company have been prepared in accordance with Malaysian Financial Reporting Standards ("MFRS"), International Financial Reporting Standards and the Companies Act, 1965 in Malaysia.

At the beginning of the current financial year, the Group and the Company had adopted amendments to MFRS and IC Interpretation (collectively referred to as "pronouncements") that have been issued by the Malaysian Accounting Standards Board ("MASB") as described fully in note 42.

MASB has also issued new and revised pronouncements which are not yet effective for the Group and the Company and therefore, have not been adopted for in these financial statements. These pronouncements including their impact on the financial statements in the period of initial application are set out in note 42. New and revised pronouncements that are not relevant to the operations of the Group and of the Company are set out in note 42.

The financial statements were approved and authorised for issue by the Board of Directors on 27 February 2017.

# 1.2 Basis of measurement

The financial statements of the Group and of the Company have been prepared on historical cost basis except that, as disclosed in the accounting policies below, certain items are measured at fair value.

# 1.3 Functional and presentation currency

The individual financial statements of each entity in the Group are measured using the currency of the primary economic environment in which the entity operates ("the functional currency"). The Group and the Company's financial statements are presented in Ringgit Malaysia, which is the Company's functional currency.

# 1.4 Use of estimates and judgments

The preparation of financial statements in conformity with MFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised and in any future periods affected.

In particular, information about significant areas of estimation uncertainty and critical judgments in applying accounting policies that have the most significant effect on the amounts recognised in the financial statements are described in the following notes:

i. Note 3: Property, Plant and Equipment;

i. Note 10 : Intangible Assets;

iii. Note 14 : Deferred Tax;

iv. Note 24: Other Long Term Liabilities and Provisions: and

v. Note 40: Financial Instruments.

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

#### 2. SIGNIFICANT ACCOUNTING POLICIES

The accounting policies set out below have been applied consistently to all periods presented in these financial statements and have been applied consistently by the Group entities, unless otherwise stated.

# 2.1 Basis of consolidation

#### **Subsidiaries**

Subsidiaries are entities, including structured entities, controlled by the Company. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Potential voting rights are considered when assessing control only when such rights are substantive. The Group considers it has de facto power over an investee when, despite not having the majority of voting rights, it has the current ability to direct the activities of the investee that significantly affect the investee's return.

The financial statements of subsidiaries are included in the consolidated financial statements of the Group from the date that control commences until the date that control ceases.

All inter-company transactions are eliminated on consolidation and revenue and profits relate to external transactions only. Unrealised losses resulting from inter-company transactions are also eliminated unless cost cannot be recovered.

#### **Business combinations**

A business combination is a transaction or other event in which an acquirer obtains control of one or more businesses. Business combinations are accounted for using the acquisition method. The identifiable assets acquired and liabilities assumed are measured at their fair values at the acquisition date. The cost of an acquisition is measured as the aggregate of the fair value of the consideration transferred and the amount of any non-controlling interests in the acquiree. Non-controlling interests are stated either at fair value or at the proportionate share of the acquiree's identifiable net assets at the acquisition date.

When a business combination is achieved in stages, the Group remeasures its previously held non-controlling equity interest in the acquiree at fair value at the acquisition date, with any resulting gain or loss recognised in the profit or loss. Increase in the Group's ownership interest in an existing subsidiary is accounted for as equity transactions with differences between the fair value of consideration paid and the Group's proportionate share of net assets acquired, recognised directly in equity.

The Group measures goodwill as the excess of the cost of an acquisition and the fair value of any previously held interest in the acquiree over the fair value of the identifiable assets acquired and liabilities assumed at the acquisition date. When the excess is negative, a bargain purchase gain is recognised immediately in profit or loss.

Goodwill arising from business combinations prior to 1 October 2009 is stated at the previous carrying amount less subsequent impairments, pursuant to the adoption of MFRS framework by the Group in the financial year ended 31 December 2012.

Transaction costs, other than those associated with the issuance of debt or equity securities, that the Group incurs in connection with a business combination, are expensed as incurred.

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# NOTES TO THE FINANCIAL STATEMENTS - 31 December 2016

(continued)

# 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

# 2.1 Basis of consolidation (continued)

# Non-controlling interests

Non-controlling interests at the end of the reporting period, being the portion of the net assets of subsidiaries attributable to equity interests that are not owned by the Company, whether directly or indirectly through subsidiaries, are presented in the consolidated statement of financial position and statement of changes in equity within equity, separately from equity attributable to the shareholders of the Company. Non-controlling interests in the results of the Group are presented in the consolidated statement of profit or loss and other comprehensive income as an allocation of the profit or loss and total comprehensive income for the year between the non-controlling interests and shareholders of the Company.

Losses applicable to the non-controlling interests in a subsidiary are allocated to the non-controlling interests even if doing so causes the non-controlling interests to have a deficit balance.

The Group treats all changes in its ownership interest in a subsidiary that do not result in a loss of control as equity transactions between the Group and its non-controlling interest holders. Any difference between the Group's share of net assets before and after the change, and any consideration received or paid, is adjusted to or against Group reserves.

## Loss of control

Upon loss of control of a subsidiary, the Group derecognises the assets and liabilities of the former subsidiary, any non-controlling interests and the other components of equity related to the former subsidiary from the consolidated statement of financial position. Any surplus or deficit arising on the loss of control is recognised in profit or loss. If the Group retains any interest in the previous subsidiary, then such interest is measured at fair value at the date that control is lost. Subsequently, it is accounted for as an equity-accounted investee or as an available-for-sale financial asset depending on the level of influence retained.

## 2.2 Associates

Associates are entities in which the Group has significant influence including representation on the Board of Directors, but not control or joint control, over the financial and operating policies of the investee company.

Associates are accounted for in the consolidated financial statements using the equity method. The consolidated financial statements include the Group's share of post-acquisition profits or losses and other comprehensive income of the equity-accounted associates, after adjustments to align the accounting policies with those of the Group, from the date that significant influence commences until the date that significant influence ceases.

The Group's share of post-acquisition reserves and retained profits less losses is added to the carrying value of the investment in the consolidated statement of financial position. These amounts are taken from the latest audited financial statements or management financial statements of the associates.

When the Group's share of post-acquisition losses exceeds its interest in an equity accounted associate, the carrying amount of that interest (including any long term investments) is reduced to nil and the recognition of further losses is discontinued except to the extent that the Group has an obligation or has made payments on behalf of the associate.

When the Group ceases to have significant influence over an associate, it is accounted for as a disposal of the entire interest in that associate, with the resulting gain or loss being recognised in profit or loss. Any retained interest in the former associate at the date when significant influence is lost is re-measured at fair value and this amount is regarded as the initial carrying amount of a financial asset.

# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

# 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

# 2.2 Associates (continued)

When the Group's interest in an associate decreases but does not result in loss of significant influence, any retained interest is not re-measured. Any gain or loss arising from the decrease in interest is recognised in profit or loss. Any gains or losses previously recognised in other comprehensive income are also reclassified proportionately to the profit or loss if that gain or loss would be required to be reclassified to profit or loss on the disposal of the related assets and liabilities.

Unrealised profits arising from transactions between the Group and its associates are eliminated to the extent of the Group's interests in the associates. Unrealised losses on such transactions are also eliminated partially, unless cost cannot be recovered.

# 2.3 Joint arrangements

Joint arrangements are arrangements of which the Group has joint control, established by contracts requiring unanimous consent for decisions about the activities that significantly affect the arrangements' returns.

Joint arrangements are classified as either joint operation or joint venture. A joint arrangement is classified as joint operation when the Group or the Company has rights to the assets and obligations for the liabilities relating to an arrangement. The Group and the Company account for each of its share of the assets, liabilities and transactions, including its share of those held or incurred jointly with the other investors, in relation to the joint operation. A joint arrangement is classified as joint venture when the Group has rights only to the net assets of the arrangement. The Group accounts for its interest in the joint venture using the equity method as described in note 2.2.

# 2.4 Property, plant and equipment and depreciation

Freehold land and projects-in-progress are stated at cost less accumulated impairment losses and are not depreciated. Other property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment losses, if any.

Cost includes expenditures that are directly attributable to the acquisition of the assets and any other costs directly attributable to bringing the assets to working condition for their intended use, and the costs of dismantling and removing the items and restoring the site on which they are located. The cost of self-constructed assets also includes the cost of material and direct labour. For qualifying assets, borrowing costs are capitalised in accordance with the accounting policy on borrowing costs. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

When the use of a property changes from owner-occupied to investment property, the property is reclassified as investment property at cost.

When significant components of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

The cost of replacing a component of an item of property, plant and equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the component will flow to the Group or the Company and its cost can be measured reliably. The carrying amount of the replaced item of property, plant and equipment is derecognised with any corresponding gain or loss recognised in the profit or loss accordingly. The costs of the day-to-day servicing of property, plant and equipment are recognised in the profit or loss as incurred.

Depreciation for property, plant and equipment other than freehold land, oil and gas properties and projects-inprogress, is recognised in the profit or loss on a straight-line basis over the estimated useful lives of each component of an item of property, plant and equipment. Property, plant and equipment are not depreciated until the assets are ready for their intended use.

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# **NOTES TO THE FINANCIAL STATEMENTS**

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(continued)

# 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

# 2.4 Property, plant and equipment and depreciation (continued)

Amortisation of producing oil and gas properties is computed based on the unit of production method using total proved and probable reserves for capitalised acquisition costs and total proved and probable developed reserves for capitalised exploration and development costs.

Lease properties are depreciated over the lease term or the estimated useful lives, whichever is shorter. Leasehold land is depreciated over the lease term.

The estimated useful lives of the other property, plant and equipment are as follows:

Buildings	14	_	50 years
Plant and equipment	3	_	67 years
Office equipment, furniture and fittings	5	_	10 years
Computer software and hardware			5 years
Motor vehicles	3	_	5 years
Vessels	20	_	40 years

Estimates in respect of certain items of property, plant and equipment were revised during the year (refer note 3).

The depreciable amount is determined after deducting residual value. The residual value, useful life and depreciation method are reviewed at each financial year end to ensure that the amount, period and method of depreciation are consistent with previous estimates and the expected pattern of consumption of the future economic benefits embodied in the items of property, plant and equipment.

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. The difference between the net disposal proceeds, if any, and the net carrying amount is recognised in the profit or loss.

# 2.5 Investment properties

Investment properties are properties which are owned either to earn rental income or for capital appreciation or for both. Properties that are occupied by the companies in the Group are accounted for as owner-occupied rather than as investment properties.

Freehold land and projects-in-progress are stated at cost and are not depreciated. Other investment properties are stated at cost less accumulated depreciation and accumulated impairment losses, if any, consistent with the accounting policy for property, plant and equipment as stated in note 2.4.

Cost includes expenditure that is directly attributable to the acquisition of the investment property. The cost of self-constructed investment property includes the cost of materials and direct labour, any other costs directly attributable to bringing the investment property to a working condition for its intended use and capitalised borrowing costs.

Depreciation is recognised in the profit or loss on a straight-line basis over their estimated useful lives ranging between 10 and 50 years for buildings.

An investment property is derecognised on its disposal, or when it is permanently withdrawn from use and no future economic benefits are expected from its disposal. The difference between net disposal proceeds and the carrying amount is recognised in the profit or loss in the period in which the item is derecognised.

# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

# 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

# 2.6 Land held for development

Land held for development consists of land or such portions thereof on which no development activities have been carried out or where development activities are not expected to be completed within the normal operating cycle. Such land is classified as non-current asset and is stated at the lower of cost and net realisable value consistent with the accounting policy for inventories as stated in note 2.16.

Cost includes acquisition cost of land and attributable development expenditure. Cost associated with the acquisition of land includes the purchase price of the land, professional fees, stamp duties, commissions, conversion fees and other relevant levies. Development expenditure includes the cost for development of main infrastructure works.

Land held for development is reclassified as properties under development at the point when development activities have commenced and where it can be demonstrated that the development activities can be completed within the normal operating cycle. Properties under development is, in turn, reclassified as developed properties held for sale upon completion of the development activities.

Properties under development and developed properties held for sale are recognised as trade and other inventories in current assets. The accounting policy is described separately in note 2.16.

#### 2.7 Leased assets

A lease arrangement is accounted for as finance or operating lease in accordance with the accounting policy as stated below. When the fulfilment of an arrangement is dependent on the use of a specific asset and the arrangement conveys a right to use the asset, it is accounted for as a lease in accordance with the accounting policy below although the arrangement does not take the legal form of a lease.

# Finance lease

A lease is recognised as a finance lease if it transfers substantially to the Group and the Company all the risks and rewards incidental to ownership. Upon initial recognition, the leased asset is measured at an amount equal to the lower of its fair value and the present value of the minimum lease payments. Subsequent to initial recognition, the asset is accounted for in accordance with the accounting policy applicable to that asset. The corresponding liability is included in the statement of financial position as non-current liabilities.

Minimum lease payments made under finance leases are apportioned between the finance costs and the reduction of the outstanding liability. Finance costs, which represent the difference between the total leasing commitments and the fair value of the assets acquired, are recognised in the profit or loss and allocated over the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability for each accounting period.

Contingent lease payments, if any, are accounted for by revising the minimum lease payments over the remaining term of the lease when the lease adjustment is confirmed.

Leasehold land which in substance is a finance lease is classified as property, plant and equipment, or as investment property if held to earn rental income or for capital appreciation or for both.

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# **NOTES TO THE FINANCIAL STATEMENTS**

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(continued)

#### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.7 Leased assets (continued)

#### Operating lease

All leases that do not transfer substantially to the Group and the Company all the risks and rewards incidental to ownership are classified as operating leases and, the leased assets are not recognised on the Group's and the Company's statement of financial position.

Payments made under operating leases are recognised as an expense in the profit or loss on a straight-line basis over the term of the lease. Lease incentives received are recognised as a reduction of rental expense over the lease term on a straight-line basis. Contingent rentals are charged to profit or loss in the reporting period in which they are incurred.

Leasehold land which in substance is an operating lease is classified as prepaid lease payments.

#### Prepaid lease payments

Prepaid rental and leasehold land which in substance is an operating lease are classified as prepaid lease payments. The payments made on entering into a lease arrangement or acquiring a leasehold land are accounted for as prepaid lease payments that are amortised over the lease term in accordance with the pattern of benefits provided.

Leasehold land is classified into long lease and short lease. Long lease is defined as a lease with an unexpired lease period of 50 years or more. Short lease is defined as a lease with an unexpired lease period of less than 50 years.

## 2.8 Investments

Long term investments in subsidiaries, associates and joint ventures are stated at cost less impairment loss, if any, in the Company's financial statements unless the investment is classified as held for sale or distribution. The cost of investments includes transaction costs.

The carrying amount of these investments includes fair value adjustments on shareholder's loans and advances, if any (note 2.12(i)).

# 2.9 Intangible assets

# Goodwill

Goodwill arising from business combinations is initially measured at cost as described in note 2.1. Following the initial recognition, goodwill is measured at cost less any accumulated impairment losses. Goodwill is not amortised but instead, it is reviewed for impairment, annually or more frequently if events or changes in circumstances indicate that the carrying value may be impaired.

In respect of equity-accounted investees, the carrying amount of goodwill is included in the carrying amount of the investment. The entire carrying amount of the investment is reviewed for impairment when there is objective evidence of impairment.

# Exploration expenditure

Intangible assets also include expenditure on the exploration for and evaluation of oil and natural gas resources (hereinafter collectively referred to as "exploration expenditure"). The accounting policy for exploration expenditure is described separately in note 2.10.

# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

#### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.9 Intangible assets (continued)

#### Other intangible assets

Intangible assets other than goodwill and exploration expenditure are measured on initial recognition at cost. The costs of intangible assets acquired in a business combination are their fair values as at the date of acquisition.

Following initial recognition, intangible assets with finite useful lives are carried at cost less accumulated amortisation and any accumulated impairment losses.

Amortisation for intangible assets with finite useful lives is recognised in the profit or loss on a straight-line basis over the estimated economic useful lives, other than certain recoverable expenditure incurred under a service contract which is amortised based on unit of production method. The amortisation method and the useful life for intangible assets are reviewed at least at each reporting date. Intangible assets are assessed for impairment whenever there is an indication that the intangible assets may be impaired.

Intangible assets with indefinite useful lives are carried at cost less accumulated impairment losses. These intangible assets are reviewed for impairment annually or more frequently if events or changes in circumstances indicate that the carrying value may be impaired.

#### 2.10 Exploration and development expenditure

The Group follows the successful efforts method of accounting for the exploration and development expenditure.

## Exploration expenditure

Costs directly associated with an exploration well, including license acquisition and drilling costs, are initially capitalised as intangible assets until the results have been evaluated.

If a well does not result in successful discovery of economically recoverable volume of hydrocarbons, such costs are written off as a dry well. If hydrocarbons are found and, subject to further appraisal activity which may include the drilling of further wells, are likely to be capable of commercial development under prevailing economic conditions, the costs continue to be carried as intangible assets. All such carried costs are reviewed at least once a year to determine whether the reserves found or appraised remain economically viable. When this is no longer the case, the costs are written off

Where development plan is commercially viable and approved by the relevant authorities, the related exploration and evaluation costs are transferred to projects-in-progress in property, plant and equipment.

## Development expenditure

Development expenditure comprises all costs incurred in bringing a field to commercial production and is capitalised as incurred. The amount capitalised includes attributable interests and other financing costs incurred on exploration and development before commencement of production.

Upon commencement of production, the exploration and development expenditure initially capitalised as projects-in-progress are transferred to oil and gas properties, and are depreciated as described in the accounting policy for property, plant and equipment (note 2.4).

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# **NOTES TO THE FINANCIAL STATEMENTS**

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(continued)

#### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.11 Non-current assets held for sale

Non-current assets and disposal groups comprising assets and liabilities that are expected to be recovered primarily through sale rather than through continuing use, are classified as held for sale. This condition is regarded as met only when the sale is highly probable and the asset is available for immediate sale in its present condition.

Immediately before classification as held for sale, the assets (or all the assets and liabilities in a disposal group) are remeasured in accordance with the Group's applicable accounting policies. Thereafter, on initial classification as held for sale, the assets or disposal groups are measured at the lower of carrying amount and fair value less cost to sell. Any differences are charged to the profit or loss.

Intangible assets, property, plant and equipment and investment properties once classified as held for sale are not amortised nor depreciated. In addition, equity accounting of equity-accounted investees ceases once classified as held for sale.

#### 2.12 Financial instruments

A financial instrument is recognised in the statement of financial position when, and only when, the Group or the Company becomes a party to the contractual provisions of the instrument.

#### (i) Financial assets

# Initial recognition

Financial assets are classified as financial assets at fair value through profit or loss, loans and receivables, held-to-maturity investments or available-for-sale financial assets, as appropriate. The Group and the Company determine the classification of financial assets at initial recognition.

Financial assets are recognised initially at fair value, normally being the transaction price plus, in the case of financial assets not at fair value through profit or loss, any directly attributable transaction costs.

Purchases or sales under a contract whose terms require delivery of financial assets within a timeframe established by regulation or convention in the marketplace concerned ("regular way purchases") are recognised on the trade date i.e. the date that the Group and the Company commit to purchase or sell the financial asset.

Fair value adjustments on shareholder's loans and advances at initial recognition, if any, are added to the carrying value of investments in the Company's financial statements.

#### Subsequent measurement

The subsequent measurement of financial assets depends on their classification as follows:

# Financial assets at fair value through profit or loss

Fair value through profit or loss category comprises financial assets that are held for trading, including derivatives (except for a derivative that is a financial guarantee contract or a designated and effective hedging instrument), contingent consideration in a business combination and financial assets that are specifically designated into this category upon initial recognition.

Financial assets categorised as fair value through profit or loss are subsequently measured at their fair value with gains or losses recognised in the profit or loss. The methods used to measure fair value are stated in note 2.25.

# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

#### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.12 Financial instruments (continued)

#### (i) Financial assets (continued)

#### Loans and receivables

Loans and receivables category comprises debt instruments that are not quoted in an active market. Subsequent to initial recognition, financial assets categorised as loans and receivables are measured at amortised cost using the effective interest method (note 2.12(vi)).

#### Held-to-maturity investments

Held-to-maturity investments category comprises debt instruments that are quoted in an active market and the Group or the Company has positive intention and ability to hold the assets to maturity. Subsequent to initial recognition, held-to-maturity investments are measured at amortised cost using the effective interest method (note 2.12(vi)).

Any sale or reclassification of a more than insignificant amount of held-to-maturity investments not close to their maturity, the entire category would be tainted and reclassified as available for sale, and prevent the Group and the Company from classifying investment as held-to-maturity for the current and the following two financial years.

## Available-for-sale financial assets

Available-for-sale category comprises investment in equity and debt securities instruments that are not held for trading.

Investments in equity instruments that do not have a quoted market price in an active market and whose fair value cannot be reliably measured are measured at cost. Other financial assets categorised as available-for-sale are subsequently measured at fair value with unrealised gains or losses recognised directly in other comprehensive income and accumulated under available-for-sale reserve in equity until the investment is derecognised or determined to be impaired, at which time the cumulative gain or loss previously recorded in equity is reclassified to the profit or loss.

All financial assets, except for those measured at fair value through profit or loss, are subject to review for impairment (see note 2.13(i)).

## (ii) Financial liabilities

# Initial recognition

Financial liabilities are classified as financial liabilities at fair value through profit or loss or loans and borrowings (i.e. financial liabilities measured at amortised cost), as appropriate. The Group and the Company determine the classification of financial liabilities at initial recognition.

Financial liabilities are recognised initially at fair value less, in the case of loans and borrowings, any directly attributable transaction costs.

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# **NOTES TO THE FINANCIAL STATEMENTS**

- 31 December 2016

(continued)

#### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.12 Financial instruments (continued)

#### (ii) Financial liabilities (continued)

#### Subsequent measurement

The subsequent measurement of financial liabilities depends on their classification as follows:

#### Financial liabilities at fair value through profit or loss

Fair value through profit or loss category comprises financial liabilities that are derivatives (except for a derivative that is a financial guarantee contract or a designated and effective hedging instrument), contingent consideration in a business combination and financial liabilities that are specifically designated into this category upon initial recognition.

Financial liabilities categorised as fair value through profit or loss are subsequently measured at their fair value with gains or losses recognised in the profit or loss.

#### Loans and borrowings

Subsequent to initial recognition, loans and borrowings are measured at amortised cost using the effective interest method (note 2.12(vi)).

Gains and losses are recognised in the profit or loss when the liabilities are derecognised as well as through the amortisation process.

#### (iii) Financial guarantee contracts

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the terms of a debt instrument.

Financial guarantee contracts are recognised initially as a liability at fair value, adjusted for transaction costs that are directly attributable to the issuance of the guarantee. Financial guarantee contracts are amortised on a straight-line basis over the contractual period of the debt instrument. Where the guarantee does not have a specific period, the guarantee will only be recognised in the profit or loss upon discharge of the guarantee.

When settlement of a financial guarantee contract becomes probable, an estimate of the obligation is made. If the carrying value of the financial guarantee contract is lower than the obligation, the carrying value is adjusted to the obligation amount and accounted for as a provision.

#### (iv) Derivative financial instruments

The Group and the Company use derivative financial instruments such as interest rate and foreign currency swaps, forward rate contracts, futures and options, to manage certain exposures to fluctuations in foreign currency exchange rates, interest rates and commodity prices.

Derivative financial instruments are initially recognised at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative.

Any gains or losses arising from changes in fair value on derivatives during the year are recognised in the profit or loss

# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

#### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.12 Financial instruments (continued)

## (iv) Derivative financial instruments (continued)

An embedded derivative is recognised separately from the host contract and accounted for as a derivative if, and only if, it is not closely related to the economic characteristics and risks of the host contract and the host contract is not categorised as fair value through profit or loss. The host contract, in the event an embedded derivative is recognised separately, is accounted for in accordance with the policy applicable to the nature of the host contract.

In general, contracts to sell or purchase non-financial items to meet expected own use requirements are not accounted for as financial instruments. However, contracts to sell or purchase commodities that can be net settled or which contain written options are required to be recognised at fair value, with gains and losses recognised in the profit or loss.

### (v) Offsetting of financial instruments

Financial assets and financial liabilities are offset and the net amount is reported in the statement of financial position if, and only if, there is a currently enforceable legal right to offset the recognised amounts and there is an intention to settle on a net basis or to realise the assets and settle the liabilities simultaneously.

## (vi) Amortised cost of financial instruments

Amortised cost is computed using the effective interest method. This method uses effective interest rate that exactly discounts estimated future cash receipts or payments through the expected life of the financial instrument to the net carrying amount of the financial instrument. Amortised cost takes into account any transaction costs and any discount or premium on settlement.

#### (vii) Derecognition of financial instruments

A financial asset is derecognised when the rights to receive cash flows from the asset have expired or, the Group and the Company have transferred their rights to receive cash flows from the asset or have assumed an obligation to pay the received cash flows in full without material delay to a third party under a "pass-through" arrangement without retaining control of the asset or substantially all the risks and rewards of the asset. On derecognition of a financial asset, the difference between the carrying amount and the sum of the consideration received (including any new asset obtained less any new liability assumed) and any cumulative gain or loss that had been recognised in equity is recognised in the profit or loss.

A financial liability is derecognised when the obligation under the liability is discharged or cancelled or expired. On derecognition of a financial liability, the difference between the carrying amount of the financial liabilities extinguished or transferred to another party and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognised in the profit or loss.

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# **NOTES TO THE FINANCIAL STATEMENTS**

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(continued)

#### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.13 Impairment

#### (i) Financial assets

All financial assets (except for financial assets categorised as fair value through profit or loss, investments in subsidiaries, investments in associates and investments in joint ventures) are assessed at each reporting date to determine whether there is any objective evidence of impairment as a result of one or more events having an impact on the estimated future cash flows of the asset. Losses expected as a result of future events, no matter how likely, are not recognised. For an investment in an equity instrument, a significant or prolonged decline in the fair value below its cost is an objective evidence of impairment. If any such objective evidence exists, then the financial asset's recoverable amount is estimated.

An impairment loss in respect of loans and receivables and held-to-maturity investments is recognised in profit or loss and is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the asset's original effective interest rate. The carrying amount of the asset is reduced through the use of an allowance account.

An impairment loss in respect of available-for-sale financial assets is recognised in profit or loss and is measured as the difference between the asset's acquisition cost (net of any principal repayment and amortisation) and the asset's current fair value, less any impairment loss previously recognised. Where a decline in the fair value of an available-for-sale financial asset has been recognised in other comprehensive income, the cumulative loss in other comprehensive income is reclassified from equity to profit or loss.

An impairment loss in respect of unquoted equity instrument that is carried at cost is recognised in profit or loss and is measured as the difference between the financial asset's carrying amount and the present value of estimated future cash flows discounted at the current market rate of return for a similar financial asset.

Impairment losses recognised in profit or loss for an investment in an equity instrument classified as available for sale is not reversed through profit or loss.

If, in a subsequent period, the fair value of a debt instrument increases and the increase can be objectively related to an event occurring after the impairment loss was recognised in profit or loss, the impairment loss is reversed, to the extent that the asset's carrying amount does not exceed what the carrying amount would have been had the impairment not been recognised at the date the impairment is reversed. The amount of the reversal is recognised in profit or loss.

# (ii) Other assets

The carrying amounts of other assets, other than inventories, amount due from contract customers, deferred tax assets and non-current assets or disposal groups classified as held for sale, are reviewed at each reporting date to determine whether there is any indication of impairment.

If any such indication exists, the asset's recoverable amount is estimated. An impairment loss is recognised if the carrying amount of an asset or the cash-generating unit to which it belongs exceeds its recoverable amount. Impairment losses are recognised in the profit or loss.

A cash-generating unit is the smallest identifiable asset group that generates cash flows from continuing use that are largely independent from other assets and groups. An impairment loss recognised in respect of a cash-generating unit is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to reduce the carrying amount of the other assets in the unit on a pro-rata basis.

# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.13 Impairment (continued)

# (ii) Other assets (continued)

The recoverable amount is the greater of the asset's fair value less cost to sell and its value-in-use. In assessing value-in-use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For an asset that does not generate largely independent cash inflows, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

An impairment loss in respect of goodwill is not reversed in a subsequent period. In respect of other assets, impairment losses are reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

Reversals of impairment losses are credited to the profit or loss in the year in which the reversals are recognised.

#### 2.14 Cash and cash equivalents

Cash and cash equivalents consist of cash on hand and bank balances, deposits with licensed financial institutions and highly liquid investments which have an insignificant risk of changes in value. For the purpose of the statements of cash flows, cash and cash equivalents are presented net of bank overdrafts and deposits restricted, if any.

# 2.15 Construction work-in-progress

Construction work-in-progress represents the gross unbilled amount expected to be collected from customers for contract work performed to date. It is measured at cost plus profit recognised to date less progress billings and recognised losses. Cost includes all expenditure related directly to specific projects and an allocation of fixed and variable overheads incurred in the Group's contract activities based on normal operating capacity.

Construction work-in-progress is presented as part of trade and other receivables as amount due from contract customers in the statement of financial position for all contracts in which costs incurred plus recognised profits exceed progress billings. If progress billings exceed costs incurred plus recognised profits, then the difference is presented as amount due to contract customers which is part of trade and other payables in the statement of financial position.

## 2.16 Inventories

Inventories are stated at the lower of cost and net realisable value. Net realisable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and the estimated costs necessary to make the sale.

Cost of crude oil and condensates includes costs of bringing the inventories to their present location and condition and is determined on a weighted average basis.

Cost of petroleum products includes crude oil costs, export duty, transportation charges and processing costs and is determined on a weighted average basis.

Cost of liquefied natural gas ("LNG") and petrochemical products includes raw gas costs and production overheads and is determined on a weighted average basis.

Cost of material stores and spares consists of the invoiced value from suppliers and import duty charges and is determined on a weighted average basis.

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# **NOTES TO THE FINANCIAL STATEMENTS**

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#### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.16 Inventories (continued)

Cost of developed properties held for sale and properties under development consists of costs associated with the acquisition of land, all costs that are directly attributable to development activities, appropriate proportions of common costs attributable to developing the properties, and interest expenses incurred during the period of active development.

# 2.17 Provisions

A provision is recognised if, as a result of a past event, the Group and the Company have a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future net cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. Where discounting is used, the accretion in the provision due to the passage of time is recognised as finance cost.

The amount recognised as a provision is the best estimate of the net expenditure required to settle the present obligation at the reporting date. Provisions are reviewed at each reporting date and adjusted to reflect the current best estimate.

Possible obligations whose existence will only be confirmed by the occurrence or non-occurrence of one or more future events not wholly within the control of the Group, are not recognised in the financial statements but are disclosed as contingent liabilities unless the possibility of an outflow of economic resources is considered remote.

In particular, information about provisions that have the most significant effect on the amount recognised in the financial statements is described in note 24.

## 2.18 Employee benefits

#### Short term benefits

Wages and salaries, bonuses and social security contributions are recognised as an expense in the year in which the associated services are rendered by employees of the Group and the Company.

## Defined contribution plans

As required by law, companies in Malaysia make contributions to the state pension scheme, the Employees Provident Fund ("EPF").

Some of the Group's foreign subsidiaries make contributions to their respective countries' statutory pension schemes and certain other independently-administered funds which are defined contribution plans.

Such contributions are recognised as an expense in the profit or loss as incurred.

#### 2.19 Taxation

Tax on the profit or loss for the year comprises current and deferred tax. Income tax is recognised in the profit or loss except to the extent it relates to items recognised directly in equity, in which case it is recognised in equity.

#### Current tax

Current tax expense is the expected tax payable on the taxable income for the year, using the statutory tax rates at the reporting date, and any adjustment to tax payable in respect of previous years.

# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

#### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.19 Taxation (continued)

# Deferred tax

Deferred tax is provided for, using the liability method, on temporary differences at the reporting date between the tax bases of assets and liabilities and their carrying amounts in the financial statements. In principle, deferred tax liabilities are recognised for all taxable temporary differences and deferred tax assets are recognised for all deductible temporary differences, unabsorbed capital allowances, unused reinvestment allowances, unused investment tax allowances, unused tax losses and other unused tax credits to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences, unabsorbed capital allowances, unused reinvestment allowances, unused investment tax allowances, unused tax losses and other unused tax credits can be utilised.

Deferred tax is not recognised for the following temporary differences: the initial recognition of goodwill and the initial recognition of an asset or liability in a transaction which is not a business combination and that affects neither accounting nor taxable profit or loss.

Deferred tax is measured at the tax rates that are expected to apply in the period when the asset is realised or the liability is settled, based on the laws that have been enacted or substantively enacted by the end of the reporting period.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets, and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities where they intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realised simultaneously.

Deferred tax asset is reviewed at each reporting date and is reduced to the extent that it is no longer probable that the future taxable profit will be available against which the related tax benefit can be realised.

#### 2.20 Foreign currency transactions

In preparing the financial statements of individual entities in the Group, transactions in currencies other than the entity's functional currency (foreign currencies) are translated to the functional currencies at rates of exchange ruling on the transaction dates

Monetary assets and liabilities denominated in foreign currencies at the reporting date have been retranslated to the functional currency at rates ruling on the reporting date.

Non-monetary assets and liabilities denominated in foreign currencies, which are measured at fair value, are retranslated to the functional currency at the foreign exchange rates ruling at the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in foreign currency are not retranslated.

Gains and losses on exchange arising from retranslation are recognised in the profit or loss, except for differences arising on retranslation of available-for-sale equity instruments, which are recognised in equity.

On consolidation, the assets and liabilities of subsidiaries with functional currencies other than Ringgit Malaysia, are translated into Ringgit Malaysia at the exchange rates ruling at reporting date, except for goodwill and fair value adjustments arising from business combinations before 1 April 2011 which are treated as assets and liabilities of the acquirer company pursuant to the adoption of MFRS framework.

The income and expenses are translated at the exchange rates at the date of the transactions or an average rate that approximates those rates. All resulting exchange differences are taken to the foreign currency translation reserve within equity.

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# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

## 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

# 2.20 Foreign currency transactions (continued)

In the consolidated financial statements, when settlement of a monetary item receivable from or payable to the Group's foreign operation is neither planned nor likely in the foreseeable future, foreign exchange gains and losses arising from such a monetary item are considered to form part of the net investment in a foreign operation and are reclassified to other comprehensive income and accumulated under foreign currency translation reserve in equity. Upon disposal of the investment, the cumulative exchange differences previously recorded in equity are reclassified to the consolidated profit or loss.

#### 2.21 Borrowing costs and foreign currency exchange differences relating to projects-in-progress

Borrowing costs which are directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to be prepared for their intended use or sale, are capitalised as part of the cost of those assets.

The capitalisation of borrowing costs as part of the cost of a qualifying asset commences when expenditure for the asset is being incurred, borrowing costs are being incurred and activities that are necessary to prepare the asset for its intended use or sale are in progress. Capitalisation of borrowing costs ceases when all activities necessary to prepare the qualifying asset for its intended use or sale are completed.

The capitalisation rate used to determine the amount of borrowing costs eligible for capitalisation is the weighted average of the borrowing costs applicable to borrowings that are outstanding during the year, other than borrowings made specifically for the purpose of financing a specific qualifying asset, in which case the actual borrowing cost incurred on that borrowing less any investment income on the temporary investment of that borrowings, will be capitalised.

Exchange differences arising from foreign currency borrowings, although regarded as an adjustment to borrowing costs, are not capitalised but instead recognised in the profit or loss in the period in which they arise.

## 2.22 Revenue

Revenue from sale of oil and gas and their related products are recognised in the profit or loss when the risks and rewards of ownership have been transferred to the buyer.

Revenue from services rendered is recognised in the profit or loss based on actual and estimates of work done in respect of services rendered for long term project management contracts. Work done is measured based on internal certification of project activities. Full provision is made for any foreseeable losses.

Revenue arising from shipping activities are mainly from freight income and charter income. Freight income and the relevant discharged costs of cargoes loaded onto vessels up to the reporting date are accrued for in the profit or loss based on percentage of completion method. Charter income is accrued on time accrual basis.

Revenue from sale of properties is recognised in the profit or loss when the significant risks and rewards of ownership of the properties have been transferred to the buyer.

Revenue arising from rental income of investment properties is recognised on a straight-line basis over the term of the lease under the lease arrangement per note 34.

Revenue arising from assets yielding interest is recognised on a time proportion basis that takes into account the effective yield on the assets.

Revenue arising from investments yielding dividend is recognised when the shareholders' right to receive payment is established.

## NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

#### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### 2.23 Financing costs

Financing costs comprise interest payable on borrowings and profit sharing margin on Islamic Financing Facilities, as well as accretion in provision due to the passage of time.

All interest and other costs incurred in connection with borrowings are expensed as incurred, other than that capitalised in accordance with the accounting policy stated in note 2.21. The interest component of finance lease payments is accounted for in accordance with the policy set out in note 2.7.

#### 2.24 Operating segments

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Group's other components, and for which discrete financial information is available. An operating segment's operating results are reviewed regularly by the chief operating decision maker, which in this case is the PETRONAS Executive Leadership Team, to make decision about resources to be allocated to the segment and to assess its performance.

#### 2.25 Fair value measurements

Fair value of an asset or a liability, except for lease transactions, is determined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The measurement assumes that the transaction to sell the asset or transfer the liability takes place either in the principal market or in the absence of a principal market, in the most advantageous market.

# (i) Financial instruments

The fair value of financial instruments that are actively traded in organised financial markets are determined by reference to quoted market prices at the close of business at the end of reporting date. For financial instruments where there is no active market, fair value is determined using valuation techniques. Such techniques may include using recent arm's length market transactions; reference to the current fair value of another instrument that is substantially the same; discounted cash flow analysis or other valuation models.

# (ii) Non-financial assets

For non-financial assets, the fair value measurement takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

When measuring the fair value of an asset or a liability, the Group and the Company use observable market data as far as possible. Fair value are categorised into different levels in a fair value hierarchy based on the input used in the valuation technique as follows:

- Level 1 Quoted prices (unadjusted) in active markets for identifiable assets or liabilities.
- Level 2 Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3 Inputs for the asset or liability that are not based on observable market data (unobservable input).

The Group and the Company recognise transfers between levels of the fair value hierarchy as of the date of the event or change in circumstances that caused the transfers.

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# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

# 3. PROPERTY, PLANT AND EQUIPMENT

Group 2016 In RM Mil	At 1.1.2016	Additions	Disposals/ write-offs	Acquisition/ (disposal) of subsidiaries
At cost:				
Freehold land	2,697	1	(8)	(10)
Leasehold land	2,599	2	-	-
Lease properties	438	-	-	_
Oil and gas properties	293,984	893	(937)	-
Buildings	18,057	142	(157)	(201)
Plant and equipment	117,653	1,324	(581)	(511)
Office equipment, furniture and fittings	2,994	56	(54)	(9)
Computer software and hardware	3,422	283	(99)	(27)
Motor vehicles	621	45	(22)	(145)
Vessels	40,038	501	(423)	1,184
Projects-in-progress				
- oil and gas properties	45,258	11,034	(219)	-
- other projects	64,508	32,263	(834)	(1)
	592,269	46,544	(3,334)	280

continue to next page

	At 1.1.2016	Charge for the year	Disposals/ write-offs	Acquisition/ (disposal) of subsidiaries
Accumulated depreciation and impairment losses:				
Freehold land	_	-	-	-
Leasehold land	631	74	-	-
Lease properties	359	11	-	-
Oil and gas properties	183,879	14,427	(576)	-
Buildings	6,491	459	(136)	(47)
Plant and equipment	64,460	4,772	(514)	(497)
Office equipment, furniture and fittings	2,130	204	(48)	(6)
Computer software and hardware	2,565	376	(80)	(26)
Motor vehicles	406	56	(17)	(102)
Vessels	18,364	1,892	(405)	-
Projects-in-progress				
- oil and gas properties	2,689	-	-	-
- other projects	27	-	(1)	-
	282,001	22,271	(1,777)	(678)

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

Group 2016 In RM Mil	Transfers/ reclass/ adjustments	Translation exchange difference	At 31.12.2016
At cost:			
Freehold land	(163)	36	2,553
Leasehold land	4,298	9	6,908
Lease properties	(10)	12	440
Oil and gas properties	25,982	6,985	326,907
Buildings	328	232	18,401
Plant and equipment	13,998	3,808	135,691
Office equipment, furniture and fittings	93	32	3,112
Computer software and hardware	367	94	4,040
Motor vehicles	23	36	558
Vessels	(183)	1,810	42,927
Projects-in-progress			
- oil and gas properties	(19,705)	460	36,828
- other projects	(24,775)	2,178	73,339
	a,b,c <b>253</b>	15,692	651,704

continued from previous page

	Impairment loss	Transfers/ reclass/ adjustments	Translation exchange difference	At 31.12.2016
Accumulated depreciation and impairment losses:				
Freehold land	_	_	-	-
Leasehold land	-	-	4	709
Lease properties	-	-	12	382
Oil and gas properties	3,239	(194)	5,181	205,956
Buildings	190	36	78	7,071
Plant and equipment	1,992	107	1,621	71,941
Office equipment, furniture and fittings	1	2	27	2,310
Computer software and hardware	-	12	74	2,921
Motor vehicles	2	2	13	360
Vessels	219	(439)	810	20,441
Projects-in-progress				
- oil and gas properties	3,018	(530)	322	5,499
- other projects	114	(6)	3	137
	8,775	c,d (1,010)	8,145	317,727

continued from previous page

a Includes net upward revision to future cost of decommissioning of oil and gas properties amounting to RM367 million.

b Includes net transfer in of RM23 million comprising transfers from intangible assets of RM1,066 million and other receivables of RM630 million and transfers to assets held for sale of RM1,390 million, investment properties of RM278 million and prepaid lease payments of RM5 million.

c Includes reclassification of certain assets from cost to accumulated depreciation of RM137 million.

d Includes net transfer out of RM873 million comprising transfers to assets held for sale of RM915 million, investment properties of RM2 million and transfer from other receivables of RM44 million.

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

Group				
2015	At		Disposals/	
In RM Mil	1.1.2015	Additions	write-offs	
At cost:				
Freehold land	2,668	28	(8)	
Leasehold land	2,574	5	(1)	
Lease properties	1,045	-	(14)	
Oil and gas properties	235,831	9,283	(1,510)	
Buildings	17,464	323	(57)	
Plant and equipment	91,134	2,168	(1,315)	
Office equipment, furniture and fittings	2,577	149	(24)	
Computer software and hardware	3,318	152	(168)	
Motor vehicles	568	73	(20)	
Vessels	32,082	768	(1,314)	
Projects-in-progress				
- oil and gas properties	55,364	20,202	(12)	
- other projects	45,599	26,515	(409)	
	490,224	59,666	(4,852)	

continue to next page

	At 1.1.2015	Charge for the year	Disposals/ write-offs
Accumulated depreciation and impairment losses:			
Freehold land	-	_	-
Leasehold land	596	33	-
Lease properties	880	11	(13)
Oil and gas properties	141,999	13,046	(846)
Buildings	6,065	439	(33)
Plant and equipment	56,156	4,753	(1,166)
Office equipment, furniture and fittings	1,942	184	(22)
Computer software and hardware	2,342	324	(135)
Motor vehicles	385	53	(18)
Vessels	17,607	1,360	(1,299)
Projects-in-progress			
- oil and gas properties	933	-	-
- other projects	33	-	(1)
	228,938	20,203	(3,533)

continue to next page

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

Group	Transfers/	Translation		
2015	reclass/	exchange	At	
In RM Mil	adjustments	difference	31.12.2015	
At cost:				
Freehold land	(9)	18	2,697	
Leasehold land	(12)	33	2,599	
Lease properties	(617)	24	438	
Oil and gas properties	27,857	22,523	293,984	
Buildings	199	128	18,057	
Plant and equipment	20,288	5,378	117,653	
Office equipment, furniture and fittings	248	44	2,994	
Computer software and hardware	57	63	3,422	
Motor vehicles	(2)	2	621	
Vessels	2,655	5,847	40,038	
Projects-in-progress				
- oil and gas properties	(34,502)	4,206	45,258	
- other projects	(11,995)	4,798	64,508	
	a,b <b>4</b> ,167	43,064	592,269	

continued from previous page

	Impairment	Transfers/ reclass/	Translation exchange	At
	loss	adjustments	difference	31.12.2015
Accumulated depreciation and impairment losses:				
Freehold land	-	-	-	-
Leasehold land	-	(17)	19	631
Lease properties	-	(540)	21	359
Oil and gas properties	10,778	1,028	17,874	183,879
Buildings	23	(93)	90	6,491
Plant and equipment	57	491	4,169	64,460
Office equipment, furniture and fittings	-	(3)	29	2,130
Computer software and hardware	-	(19)	53	2,565
Motor vehicles	-	(12)	(2)	406
Vessels	416	-	280	18,364
Projects-in-progress				
- oil and gas properties	1,896	(461)	321	2,689
- other projects	1	(6)	-	27
	13,171	c 368	22,854	282,001

continued from previous page

a Includes net downward revision to future cost of decommissioning of oil and gas properties amounting to RM957 million.

b Includes net transfer in of RM5,124 million comprising transfers from intangible assets of RM2,794 million, assets held for sale of RM2,146 million, other receivables of RM167 million, prepaid lease payments of RM12 million and investment properties of RM5 million.

c Includes net transfer in of RM368 million comprising transfers from assets held for sale of RM360 million, intangible assets of RM6 million and prepaid lease payments of RM2 million.

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# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

# 3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

Company 2016	At 2016	Additions	Disposals/
In RM Mil	1.1.2016	Additions	write-offs
At cost:			
Freehold land	-	-	-
Leasehold land	76	-	-
Lease properties	74	-	-
Oil and gas properties	18,655	26	-
Buildings	237	-	-
Plant and equipment	1,794	-	-
Office equipment, furniture and fittings	98	-	-
Computer software and hardware	300	1	(1)
Motor vehicles	21	3	-
Projects-in-progress			
- oil and gas properties	334	100	-
- other projects	9,365	816	-
	30,954	946	(1)

continue to next page

	At 1.1.2016	Charge for the year	Disposals/ write-offs
Accumulated depreciation and impairment losses:			
Freehold land	-	-	-
Leasehold land	20	1	-
Lease properties	66	2	-
Oil and gas properties	11,235	810	-
Buildings	55	1	-
Plant and equipment	281	79	-
Office equipment, furniture and fittings	93	2	-
Computer software and hardware	211	41	(1)
Motor vehicles	18	4	-
Projects-in-progress			
- oil and gas properties	233	-	-
- other projects	-	-	-
	12,212	940	(1)

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

Company 2016 In RM Mil	Transfers/ reclass/ adjustments	At 31.12.2016
At cost:		
Freehold land	-	-
Leasehold land	-	76
Lease properties	-	74
Oil and gas properties	5,596	24,277
Buildings	31	268
Plant and equipment	-	1,794
Office equipment, furniture and fittings	-	98
Computer software and hardware	-	300
Motor vehicles	-	24
Projects-in-progress		
- oil and gas properties	(34)	400
- other projects	(9,371)	810
	<sup>a,b</sup> (3,778)	28,121

continued from previous page

	Impairment loss	Transfers/ reclass/ adjustments	At 31.12.2016
Accumulated depreciation and impairment losses:			
Freehold land	-	-	-
Leasehold land	-	-	21
Lease properties	-	-	68
Oil and gas properties	2,069	-	14,114
Buildings	31	-	87
Plant and equipment	-	-	360
Office equipment, furniture and fittings	-	-	95
Computer software and hardware	-	-	251
Motor vehicles	-	-	22
Projects-in-progress			
- oil and gas properties	-	-	233
- other projects	-	-	-
	2,100	-	15,251

continued from previous page

a Includes upward revision to future cost of decommissioning of oil and gas properties amounting to RM373 million.

b Includes net transfer out to amount due from subsidiaries of RM4,151 million and subsequently the amount owing was partially converted to shareholders loan.

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

Company 2015	At		Disposals/
In RM Mil	1.1.2015	Additions	write-offs
At cost:			
Freehold land	6	_	(6)
Leasehold land	98	-	(22)
Lease properties	144	-	(23)
Oil and gas properties	15,767	3,669	-
Buildings	289	-	(17)
Plant and equipment	985	809	-
Office equipment, furniture and fittings	98	1	(1)
Computer software and hardware	368	4	(76)
Motor vehicles	20	2	(1)
Projects-in-progress			
- oil and gas properties	483	699	-
- other projects	4,678	6,355	-
	22,936	11,539	(146)

continue to next page

	At 1.1.2015	Charge for the year	Disposals/ write-offs
Accumulated depreciation and impairment losses:			
Freehold land	-	-	-
Leasehold land	35	1	(16)
Lease properties	118	3	(23)
Oil and gas properties	9,620	1,260	-
Buildings	60	1	(6)
Plant and equipment	209	72	-
Office equipment, furniture and fittings	86	8	(1)
Computer software and hardware	219	41	(49)
Motor vehicles	18	1	(1)
Projects-in-progress			
- oil and gas properties	233	-	-
- other projects	-	-	-
	10,598	1,387	(96)

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

Company	Transfers/	
2015	reclass/	At
In RM Mil	adjustments	31.12.2015
At cost:		
Freehold land	-	-
Leasehold land	-	76
Lease properties	(47)	74
Oil and gas properties	(781)	18,655
Buildings	(35)	237
Plant and equipment	-	1,794
Office equipment, furniture and fittings	-	98
Computer software and hardware	4	300
Motor vehicles	-	21
Projects-in-progress		
- oil and gas properties	(848)	334
- other projects	(1,668)	9,365
	<sup>a,b</sup> (3,375)	30,954

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	Impairment loss	Transfers/ reclass/ adjustments	At 31.12.2015
Accumulated depreciation and impairment losses:			
Freehold land	-	-	-
Leasehold land	-	-	20
Lease properties	-	(32)	66
Oil and gas properties	355	-	11,235
Buildings	-	-	55
Plant and equipment	-	-	281
Office equipment, furniture and fittings	-	-	93
Computer software and hardware	-	-	211
Motor vehicles	-	-	18
Projects-in-progress			
- oil and gas properties	-	-	233
- other projects	-	-	-
	355	c (32)	12,212

continued from previous page

a Includes downward revision to future cost of decommissioning of oil and gas properties amounting to RM1,629 million.

b Includes net transfer out to amount due from subsidiaries of RM1,664 million and assets held for sale of RM82 million.

c Includes net transfer out to assets held for sale of RM32 million.

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# **NOTES TO THE FINANCIAL STATEMENTS**

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(continued)

## 3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

	Gro	oup	Com	pany
	Carrying	amount	Carrying amount	
In RM Mil	2016	2015	2016	2015
Freehold land	2,553	2,697	_	-
Leasehold land	6,199	1,968	55	56
Lease properties	58	79	6	8
Oil and gas properties	120,951	110,105	10,163	7,420
Buildings	11,330	11,566	181	182
Plant and equipment	63,750	53,193	1,434	1,513
Office equipment, furniture and fittings	802	864	3	5
Computer software and hardware	1,119	857	49	89
Motor vehicles	198	215	2	3
Vessels	22,486	21,674	-	-
Projects-in-progress				
- oil and gas properties	31,329	42,569	167	101
- other projects	73,202	64,481	810	9,365
	333,977	310,268	12,870	18,742

#### Security

Property, plant and equipment of certain subsidiaries costing RM3,482,983,000 (2015: RM3,022,830,000) have been pledged as security for loan facilities as set out in note 22 and note 23 to the financial statements.

#### Projects-in-progress

Included in additions to projects-in-progress of the Group is borrowing costs capitalised during the year of RM24,401,000 (2015: RM1,721,000). The interest rate on borrowing costs capitalised is 1.20% - 3.41% (2015: 4.71%) per annum.

#### Restriction of land title

The titles to certain freehold and leasehold land are in the process of being registered in the subsidiaries' name.

# Change in estimates

During the year, the Company revised the estimated future cost of decommissioning of oil and gas properties. The revision was accounted for prospectively as a change in accounting estimates resulting in increase in cost of oil and gas properties by RM373,000,000 (refer note 24).

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

#### 3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

#### Estimation of oil and gas reserves

Oil and gas reserves are key elements in the Group's and the Company's investment decision-making process. Estimation of oil and gas reserves are conducted using industry recognised method.

The term "reserves" describes the recoverable quantity of oil and gas volumes that are commercially viable for development given the prevailing economic situation present at the time of estimation.

Reserves estimates are normally presented alongside the range of level of certainties namely P1 (proved reserves; high level of certainty), P2 (probable reserves; mean level of certainty) and P3 (possible reserves; low level of certainty). The level of certainties depends on the availability and understanding of the geological and reservoir data available at the time of estimation and is normally represented in the form of probability distribution.

The reserves are further subdivided into developed and undeveloped categories. Developed reserves are reserves expected to be recovered through existing wells and facilities under the operating conditions that have been designed for. Undeveloped reserves are reserves to be recovered from approved and sanctioned projects and remain so until the wells are drilled, completed and production commences which would by then be classified as developed.

Estimation of reserves are reviewed annually. These estimates are inherently imprecise, require the application of judgements and are subject to regular revision, either upward or downward, based on new information available such as new geological information gathered from the drilling of additional wells, observation of long-term reservoir performance under producing conditions and changes in economic factors, including product prices, contract terms or development plans.

Such revisions will impact the Group's and the Company's reported financial position and results which include:

- i) carrying value of oil and gas properties and their corresponding amortisation charges;
- ii) carrying value of projects-in-progress;
- iii) provisions for decommissioning and restoration; and
- iv) carrying value of deferred tax assets/liabilities.

# Impairment review of property, plant and equipment

As at 31 December 2016, the Group and the Company recognised net impairment losses on certain property, plant and equipment amounting to RM8,775,000,000 (2015: RM13,171,000,000) in administrative expenses and RM2,100,000,000 (2015: RM355,000,000) in cost of revenue respectively. The impairment losses primarily related to oil and gas properties as a result of the prolonged low oil price outlook, technical and operational challenges.

In arriving at the impairment loss amounts, the carrying amount of each impaired cash-generating unit is compared with the recoverable amount of the cash-generating unit. The Group's and the Company's recoverable amount for impaired cash-generating unit of RM28,753,000,000 (2015: RM109,657,000,000) and RM6,587,000,000 (2015: RM392,000,000) respectively were determined from the value in use calculations, using cash flow projections.

The Group and the Company uses a range of long term assumptions including prices, volumes, margins and costs based on past performance and management's expectations of market development. The projected cash flows were discounted using discount rates ranging between 6.6% and 10.3% (2015: 6.5% and 10.3%).

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

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# 4. INVESTMENT PROPERTIES

Group 2016	At	A 1 177	Disposals/
In RM Mil	1.1.2016	Additions	write-offs
At cost:			
Freehold land	1,377	-	-
Buildings	13,428	5	(10)
Projects-in-progress	249	391	-
	15,054	396	(10)

continue to next page

In RM Mil	At 1.1.2016	Charge for the year	Disposals/ write-offs
Accumulated depreciation:			
Freehold land	-	-	-
Buildings	4,877	495	(6)
Projects-in-progress	-	-	-
	4,877	495	(6)

continue to next page

Group 2015 In RM Mil	At 1.1.2015	Additions	Adjustments/ disposals
At cost:			
Freehold land	1,378	-	-
Buildings	13,341	16	-
Projects-in-progress	166	174	(18)
	14,885	190	(18)

continue to next page

In RM Mil	At 1.1.2015	Charge for the year	Adjustments/ disposals
Accumulated depreciation:			
Freehold land	-	_	-
Buildings	4,346	485	-
Projects-in-progress	-	-	-
	4,346	485	-

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 4. INVESTMENT PROPERTIES (CONTINUED)

Group 2016 In RM Mil	Transfers/ reclass	Translation exchange difference	At 31.12.2016
At cost:			
Freehold land	129	-	1,506
Buildings	148	18	13,589
Projects-in-progress	1	-	641
	°278	18	15,736

continued from previous page

In RM Mil	Transfers/ reclass	Translation exchange difference	At 31.12.2016
Accumulated depreciation:			
Freehold land	-	-	-
Buildings	2	12	5,380
Projects-in-progress	-	-	-
	b <b>2</b>	12	5,380

continued from previous page

Group 2015 In RM Mil	Transfers/ reclass	Translation exchange difference	At 31.12.2015
At cost:			
Freehold land	(2)	1	1,377
Buildings	(3)	74	13,428
Projects-in-progress	(73)	-	249
	c (78)	75	15,054

continued from previous page

In RM Mil	Transfers/ reclass	Translation exchange difference	At 31.12.2015
Accumulated depreciation:			
Freehold land	-	-	-
Buildings	(2)	48	4,877
Projects-in-progress	-	-	-
	d (2)	48	4,877

continued from previous page

a Includes transfer in from property, plant and equipment of RM278 million.

b Includes transfer in from property, plant and equipment of RM2 million.

c Includes transfer out to long term receivables of RM66 million, assets held for sale of RM7 million and property, plant and equipment of RM5 million.

d Includes transfer out to assets held for sale of RM2 million.

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# **NOTES TO THE FINANCIAL STATEMENTS**

- 31 December 2016

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# 4. INVESTMENT PROPERTIES (CONTINUED)

Group	Carrying	Carrying amount	
In RM Mil	2016	2015	
Freehold land	1,506	1,377	
Buildings	8,209	8,551	
Projects-in-progress	641	249	
	10,356	10,177	

Included in investment properties is borrowing costs capitalised during the year for assets under construction of the Group of RM10,779,000 (2015: RM3,840,000).

# Fair value information

The Directors have estimated the fair value of investment properties as at 31 December 2016 to be RM19,711,000,000 (2015: RM19,300,000,000).

The fair value of investment properties are categorised as follows:

Group	Lev	Level 3	
In RM Mil	2016	2015	
Freehold land	1,795	1,674	
Buildings	17,916	17,626	
	19,711	19,300	

The Group uses various valuation techniques in determining the fair value of its investment properties. Such techniques include discounted cash flows method, investment method and market comparable method.

# 5. LAND HELD FOR DEVELOPMENT

Included in land held for development is freehold land amounting to RM2,986,000,000 (2015: RM2,543,000,000).

## NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

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# 6. PREPAID LEASE PAYMENTS

Group 2016 In RM Mil	At 1.1.2016	Additions	Disposal of a subsidiary
Leasehold land			
- long lease	152	-	-
- short lease	21	77	-
Prepaid rental	854	13	(4)
	1,027	90	(4)

continue to next page

Group 2015	At		
In RM Mil	1.1.2015	Additions	Disposals
Leasehold land			
- long lease	147	1	-
- short lease	22	-	-
Prepaid rental	868	18	(1)
	1,037	19	(1)

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# **NOTES TO THE FINANCIAL STATEMENTS**

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# 6. PREPAID LEASE PAYMENTS (CONTINUED)

Group 2016 In RM Mil	Charge for the year	Transfers	Translation exchange difference	At 31.12.2016
Leasehold land				
- long lease	(1)	5	(1)	155
- short lease	(1)	-	-	97
Prepaid rental	(37)	-	(17)	809
	(39)	<sup>a</sup> 5	(18)	1,061

continued from previous page

Group 2015 In RM Mil	Charge for the year	Transfers	Translation exchange difference	At 31.12.2015
Leasehold land				
- long lease	(1)	-	5	152
- short lease	(1)	-	-	21
Prepaid rental	(42)	(10)	21	854
	(44)	<sup>b</sup> (10)	26	1,027

continued from previous page

#### Restrictions of land title

The title to certain leasehold land is in the process of being registered in the subsidiary's name. Certain long term leasehold land of the Group cannot be disposed of, charged or sub-leased without the prior consent of the relevant authority.

- a Includes transfer in from property, plant and equipment of RM5 million.
- b Includes transfer out to property, plant and equipment of RM10 million.

# 7. INVESTMENTS IN SUBSIDIARIES

	Company	
In RM Mil	2016	2015
Investments at cost in Malaysia		
- quoted shares	17,064	17,064
- unquoted shares	69,772	46,757
Fair value adjustments on loans and advances and financial guarantee	9,292	8,789
- all value adjustments on toans and advances and imancial guarantee	96,128	72,610
Less: Impairment losses	90,120	72,010
- unquoted shares	(1,839)	(2,133)
	94,289	70,477
Market value of quoted shares	101,801	110,877

Details of key subsidiaries are stated in note 43 to the financial statements.

# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

# 8. INVESTMENTS IN ASSOCIATES

	Group		Company	
In RM Mil	2016	2015	2016	2015
Investments at cost				
- quoted shares in Malaysia	263	263	302	302
- unquoted shares	6,966	6,348	-	-
Share of post-acquisition profits and reserves	2,394	2,269	-	-
	9,623	8,880	302	302
Less: Impairment losses				
- unquoted shares	(3,006)	(3,439)	-	-
	6,617	5,441	302	302
Market value of quoted shares	1,293	1,398	824	942
Share of associates' contingent liabilities:				
Guarantees extended to third parties	(200)	(405)	-	-

Details of key associates are stated in note 44 to the financial statements.

# 9. INVESTMENTS IN JOINT VENTURES

	Group		Company	
In RM Mil	2016	2015	2016	2015
Investments at cost				
- unquoted shares	4,176	4,418	624	752
Fair value adjustments on financial guarantee	717	717	717	717
Share of post-acquisition profits and reserves	2,614	2,698	-	-
	7,507	7,833	1,341	1,469
Less: Impairment losses	(94)	(256)	(9)	(9)
	7,413	7,577	1,332	1,460
Share of joint ventures' contingent liabilities:				
Guarantees extended to third parties	-	(1)	-	(1)
Claims filed by/disputes with various parties	(4)	(4)	(4)	(4)

Details of key joint ventures are stated in note 45 to the financial statements.

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 10. INTANGIBLE ASSETS

Group 2016	At		Disposals/
In RM Mil	1.1.2016	Additions	write-offs
At cost:			
Goodwill	5,877	-	-
Exploration expenditure	32,371	2,306	(7,209)
Other intangible assets	23,606	2,033	(89)
	61,854	4,339	(7,298)

continue to next page

	At 1.1.2016	Charge for the year	Disposals/ write-offs
Accumulated amortisation and impairment losses:			
Goodwill	552	-	-
Exploration expenditure	8,470	-	(448)
Other intangible assets	18,528	2,504	(36)
	27,550	2,504	(484)

continue to next page

2015 In RM Mil	At 1.1.2015	Additions	Disposals/ write-offs
At cost:			
Goodwill	5,664	-	-
Exploration expenditure	26,171	8,499	(1,412)
Other intangible assets	15,834	3,838	(9)
	47,669	12,337	(1,421)

continue to next page

	At 1.1.2015	Charge for the year	Disposals/ write-offs
Accumulated amortisation and impairment losses:			
Goodwill	342	-	-
Exploration expenditure	5,073	-	(388)
Other intangible assets	12,127	3,526	(6)
	17,542	3,526	(394)

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 10. INTANGIBLE ASSETS (CONTINUED)

Group 2016 In RM Mil	Transfers	Translation exchange difference	At 31.12.2016
At cost:			
Goodwill	-	54	5,931
Exploration expenditure	(1,061)	1,162	27,569
Other intangible assets	(5)	1,185	26,730
	a (1,066)	2,401	60,230

continued from previous page

	Impairment loss	Transfers	Translation exchange difference	At 31.12.2016
Accumulated amortisation and impairment losses:				
Goodwill	-	-	19	571
Exploration expenditure	3,698	7	388	12,115
Other intangible assets	11	(2)	987	21,992
	3,709	<sup>b</sup> 5	1,394	34,678

continued from previous page

2015 In RM Mil	Transfers	Translation exchange difference	At 31.12.2015
At cost:			
Goodwill	-	213	5,877
Exploration expenditure	(2,563)	1,676	32,371
Other intangible assets	224	3,719	23,606
	c (2,339)	5,608	61,854

continued from previous page

	Impairment loss	Transfers	Translation exchange difference	At 31.12.2015
Accumulated amortisation and impairment losses:				
Goodwill	206	-	4	552
Exploration expenditure	3,113	55	617	8,470
Other intangible assets	-	(11)	2,892	18,528
	3,319	d 44	3,513	27,550

continued from previous page

a Includes net transfer out to property, plant and equipment of RM1,066 million.

b Includes net transfer in from other receivables of RM5 million.

c Includes net transfer out of RM2,339 million comprising transfer to property, plant and equipment of RM2,794 million and transfers from assets held for sale of RM400 million and other receivables of RM55 million.

d Includes net transfer in of RM44 million comprising transfer from other receivables of RM55 million and transfers to property, plant and equipment of RM6 million and assets held for sale of RM5 million.

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# **NOTES TO THE FINANCIAL STATEMENTS**

- 31 December 2016

(continued)

## 10. INTANGIBLE ASSETS (CONTINUED)

Group	Carrying amount	
In RM Mil	2016	2015
Goodwill	5,360	5,325
Exploration expenditure	15,454	23,901
Other intangible assets	4,738	5,078
	25,552	34,304

#### Impairment review of goodwill

For the purpose of impairment testing, goodwill is allocated to groups of cash-generating units which represent the lowest level within the Group at which the goodwill is monitored for internal management purposes.

In assessing whether goodwill has been impaired, the carrying amount of the cash-generating unit (including goodwill) is compared with the recoverable amount of the cash-generating unit. The recoverable amount is the higher of fair value less costs to sell and value in use. In the absence of any information about the fair value of a cash-generating unit, the value in use is deemed to be the recoverable amount.

Included in goodwill is an amount of RM3,987,000,000 (2015: RM3,987,000,000) arising from the acquisition of PETRONAS Lubricants Italy S.p.A Group ("PLI Group"). The recoverable amount of PLI Group unit was based on its value in use and was determined with the assistance of independent valuers. The value in use was determined by using the discounted cash flow method based on management's business plan cash flow projections for 5 financial years from 2017 to 2021, adjusted with an estimated terminal value. The cash flow assumes a long term growth rate of Nil (2015: 2.9%) and is discounted to present value using discount rate of between 7.8% and 8.4% (2015: 6.5% and 10.0%).

Based on the above, the recoverable amount of the unit of RM5,777,000,000 (2015: RM5,059,000,000) was determined to be higher than its carrying amount of RM3,731,000,000 (2015: RM3,522,000,000) and therefore, no impairment loss was recognised.

The above estimates are sensitive in the following areas:

- (i) A decrease of 0.5 percentage point in long term growth rate used would have reduced the recoverable amount by approximately RM260,000,000.
- (ii) An increase of 0.5 percentage point in discount rate used would have reduced the recoverable amount by approximately RM378.000.000.

The value in use of other goodwill is derived from the respective cash-generating units' business plan cash flow projections for 5 financial years from 2017 to 2021, adjusted with an estimated terminal value. The cash flows assumes a long term average growth rate of the respective industries those units are engaged in and are discounted to present value using discount rate of between 7.6% and 10.3% (2015: 8.3% and 9.0%).

Based on the above, the carrying amount of other goodwill of certain units were determined to be lower than their recoverable amount, thus no impairment loss was recognised during the year. In 2015, impairment loss of RM206,000,000 was recognised in administrative expenses. The recoverable amount for the impaired goodwill was RM2,169,000,000.

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

## 10. INTANGIBLE ASSETS (CONTINUED)

#### Impairment review of exploration expenditure

As at 31 December 2016, the Group recognised net impairment losses on certain exploration expenditure in cost of revenue amounting to RM3,698,000,000 (2015: RM3,113,000,000), of which RM2,692,000,000 (2015: RM1,714,000,000) related to an oil and gas exploration cash-generating unit ("Exploration CGU"). The remaining impairment of RM1,006,000,000 (2015: RM1,399,000,000) is related to certain wells no longer capable of commercial development. The impairment on wells costs will be subsequently written off in accordance with the policy set out in note 2.10.

The impairment loss on Exploration CGU is mainly due to technical challenges to monetise the resources, which brought the recoverable amount to nil (2015: nil). In arriving at the impairment loss amounts, the carrying amount of Exploration CGU is compared with the recoverable amount of the cash-generating unit. The recoverable amount was determined from the value in use calculations, using cash flow projections. The Group uses a range of long term assumptions including prices, volumes, margins and costs based on past performance and management's expectations of market development. The projected cash flows were discounted using a discount rate of 8.5% (2015: 8.5%).

#### 11. LONG TERM RECEIVABLES

	Group		Company	
In RM Mil	2016	2015	2016	2015
Term loans and advances:				
Loans and advances due from subsidiaries	-	-	161,258	157,276
Loans and advances due from associates				
and joint ventures	1,504	1,323	-	-
	1,504	1,323	161,258	157,276
Finance lease receivables	10,314	11,122	-	-
Other receivables and prepayments	2,439	2,059	631	631
Derivative assets (note 13)	2	1	-	-
	14,259	14,505	161,889	157,907
Less: Impairment losses				
- Term loans and advances	(755)	(642)	-	-
- Other receivables and prepayments	(86)	(84)	-	-
	13,418	13,779	161,889	157,907

Included in the Company's loans and advances due from subsidiaries is an amount of RM141,014,799,000 (2015: RM139,953,962,000), which bears interest at rates ranging from 2.00% to 5.00% (2015: 1.83% to 7.88%) per annum.

Included in the Group's loans and advances due from associates and joint ventures is an amount of RM1,504,074,000 (2015: RM1,323,179,000), which bears interest at rates ranging from 4.50% to 10.00% (2015: 2.26% to 10.00%) per annum.

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# NOTES TO THE FINANCIAL STATEMENTS

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# 11. LONG TERM RECEIVABLES (CONTINUED)

#### Finance lease receivables

Finance lease receivables represent lease rental and interest receivable due from customers in relation to the lease of offshore floating assets by the Group:

	Group	
In RM Mil	2016	2015
Minimum lease receivables:		
Not later than 1 year	2,178	1,637
Later than 1 year and not later than 2 years	1,498	2,240
Later than 2 years and not later than 5 years	3,405	3,880
Later than 5 years	9,635	8,508
	16,716	16,265
Less: Future finance income	(4,907)	(4,291)
Present value of finance lease assets	11,809	11,974
Present value of finance lease assets:		
Not later than 1 year	1,495	852
Later than 1 year and not later than 2 years	896	1,580
Later than 2 years and not later than 5 years	1,893	2,353
Later than 5 years	7,525	7,189
	11,809	11,974
Analysed as:		
Due within 12 months (note 16)	1,495	852
Due after 12 months	10,314	11,122
	11,809	11,974

The effective interest rate of the Group's finance lease receivables is between 5.76% to 5.86% (2015: 5.90% to 6.16%). Included in minimum lease receivables are the estimated unguaranteed residual values of the leased assets of RM98,715,000 (2015: RM103,929,000).

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

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# 12. FUND AND OTHER INVESTMENTS

		oup	Company	
In RM Mil	2016	2015	2016	2015
Non-current				
Loans and receivables				
Unquoted securities	-	799	-	-
Held-to-maturity				
Malaysian Government Securities	-	1,979	-	1,959
Corporate Private Debt Securities	-	4,041	-	4,956
	-	6,020	-	6,915
Available-for-sale				
Quoted shares				
- in Malaysia	67	77	-	-
Quoted securities	34	26	-	-
Unquoted shares	744	510	76	76
	845	613	76	76
Less: Impairment losses				
Unquoted shares	(59)	(59)	-	-
	786	554	76	76
Total non-current investments	786	7,373	76	6,991

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

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# 12. FUND AND OTHER INVESTMENTS (CONTINUED)

	Gro	Group		Company	
In RM Mil	2016	2015	2016	2015	
Current					
Loans and receivables					
Islamic deposits with licensed financial institutions	_	622	_	_	
-		OLL			
Available-for-sale					
Quoted shares					
- in Malaysia	54	58	54	58	
- outside Malaysia	5,113	2,949	-	-	
Malaysian Government Securities	9	-	9	-	
Corporate Private Debt Securities	2,648	-	3,572	_	
	7,824	3,007	3,635	58	
Fair value through profit or loss					
- Designated upon initial recognition					
Quoted shares					
- in Malaysia	462	506	-	-	
Quoted securities					
- in Malaysia	283	422	-	-	
- outside Malaysia	4	-	_	-	
Malaysian Government Securities	38	3	38	3	
Corporate Private Debt Securities	866	3,158	845	3,291	
· · ·	1,653	4,089	883	3,294	
Held-to-maturity					
Corporate Private Debt Securities	_	865	_	664	
Total current investments	9,477	8,583	4,518	4,016	
Total fund and other investments	10,263	15,956	4,594	11,007	
Representing items:					
At amortised cost	719	8,783	76	7,655	
At fair value	9,544	7,173	4,518	3,352	
	10,263	15,956	4,594	11,007	

Included in Corporate Private Debt Securities of the Company are securities issued by subsidiaries amounting to RM1,770,000,000 (2015: RM1,993,000,000).

In 2016, as part of the Group's plan to review its portfolio investment mix, the Group and the Company have sold more than insignificant amount of held-to-maturity investments. As a result, the whole held-to-maturity category has been tainted and reclassified as available-for-sale. The carrying amount and fair value of the held-to-maturity investments reclassified into available-for-sale as at disposal and reclassification date are as follows:

In RM Mil	Group	Company
Carrying amount	8,578	7,338
Fair value	8,671	7,419

# NOTES TO THE FINANCIAL STATEMENTS

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# 13. DERIVATIVE ASSETS/LIABILITIES

		Gro	oup	Com	Company	
In RM Mil	Note	2016	2015	2016	2015	
Derivative assets						
Non-current						
Forward foreign exchange contracts		2	1	-	-	
Current						
Commodity swaps		4	144	-	-	
Forward gas contracts		285	289	-	-	
Forward foreign exchange contracts		15	26	13	3	
Forward oil price contracts		-	27	-	-	
		304	486	13	3	
Included within:						
Long term receivables	11	2	1	_	-	
Trade and other receivables	16	304	486	13	3	
		306	487	13	3	
Derivative liabilities						
Non-current						
Interest rate swaps		(1)	(1)	_	_	
Forward gas contracts		(7)	-	_	_	
		(8)	(1)	-	-	
Current						
Commodity swaps		(113)	(18)	_	_	
Forward gas contracts		(529)	(236)	_	-	
Forward foreign exchange contracts		(162)	(761)	(3)	(4	
Forward oil price contracts		-	(12)	-	_	
		(804)	(1,027)	(3)	(4	
Included within:						
Other long term liabilities and provisions	24	(8)	(1)	_	_	
Trade and other payables	25	(804)	(1,027)	(3)	(4	
		(812)	(1,028)	(3)		

In the normal course of business, the Group and the Company enter into derivative financial instruments to manage their normal business exposures in relation to commodity prices, foreign currency exchange rates and interest rates, including management of the balance between floating rate and fixed rate debt, consistent with risk management policies and objectives.

Certain subsidiaries of the Group adopt hedge accounting whereby hedges meeting the criteria for hedge accounting are classified as cash flow hedges. The effective portion of the gain or loss on the hedging instruments is recognised directly in equity until the hedged transaction occurs, while the ineffective portion is recognised in the profit or loss. As at 31 December 2016, the balance recognised under capital reserves in equity amounts to RM206,000,000 (2015: RM9,000,000). As these amounts are not significant to the Group, no full disclosure of hedge accounting is presented in the Group's financial statements.

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# NOTES TO THE FINANCIAL STATEMENTS

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# 14. DEFERRED TAX

## Recognised deferred tax assets/(liabilities)

Deferred tax assets and liabilities are attributable to the following:

	Ass	ets	Liabi	Liabilities		et
In RM Mil	2016	2015	2016	2015	2016	2015
Group						
Property, plant and equipment	664	(788)	(15,789)	(17,778)	(15,125)	(18,566)
Unused tax losses	8,961	10,294	-	-	8,961	10,294
Unabsorbed capital allowances	3,091	2,591	-	-	3,091	2,591
Unused reinvestment allowances	223	464	-	-	223	464
Unused investment tax allowances	2,767	2,197	-	-	2,767	2,197
Others	771	720	(406)	(415)	365	305
Tax assets/(liabilities)	16,477	15,478	(16,195)	(18,193)	282	(2,715)
Set off tax	(6,560)	(3,667)	6,560	3,667	-	-
Net tax assets/(liabilities)	9,917	11,811	(9,635)	(14,526)	282	(2,715)
Company						
Property, plant and equipment	409	265	-	-	409	265
Unused tax losses	6,192	6,563	-	-	6,192	6,563
Unabsorbed capital allowances	125	22	-	-	125	22
Others	192	180	-	-	192	180
Net tax assets	6,918	7,030	-	-	6,918	7,030

#### Unrecognised deferred tax assets

Deferred tax assets have not been recognised in respect of the following items (stated at gross):

	Gro	oup
In RM Mil	2016	2015
Deductible temporary differences	3,086	239
Unabsorbed capital allowances	1,368	580
Unused tax losses	28,316	23,553
Unused investment tax allowances	303	143
	33,073	24,515

The unabsorbed capital allowances, unused tax losses and unused investment tax allowances do not expire under current tax legislation. Deferred tax assets have not been recognised in respect of these items because it is not probable that future taxable profit will be available against which the Group can utilise the benefits.

The Group and the Company have unused tax losses carried forward of approximately RM65,444,000,000 (2015: RM66,445,000,000) and RM25,800,000,000 (2015: RM26,806,000,000) respectively, which give rise to the recognised and unrecognised deferred tax assets above.

The Group also has unused investment tax allowances and unused reinvestment allowances of approximately RM11,832,000,000 (2015: RM9,297,000,000) and RM929,000,000 (2015: RM1,933,000,000) respectively, which give rise to the recognised and unrecognised deferred tax assets above.

## NOTES TO THE FINANCIAL STATEMENTS

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# 14. DEFERRED TAX (CONTINUED)

The components and movements of deferred tax liabilities and assets during the year prior to offsetting are as follows:

Group 2016 In RM Mil	At 1.1.2016	Charged/ (credited) to profit or loss	Disposal of subsidiaries	Equity	Translation exchange difference	At 31.12.2016
Deferred tax liabilities						
Property, plant and equipment	17,778	(2,383)	-	-	394	15,789
Others	415	(55)	-	32	14	406
	18,193	(2,438)	-	32	408	16,195
Deferred tax assets						
Property, plant and equipment	788	(1,479)	1	-	26	(664)
Unused tax losses	(10,294)	1,479	-	-	(146)	(8,961)
Unabsorbed capital allowances	(2,591)	(462)	-	-	(38)	(3,091)
Unused reinvestment allowances	(464)	241	-	-	-	(223)
Unused investment tax allowances	(2,197)	(570)	-	-	-	(2,767)
Others	(720)	(52)	6	-	(5)	(771)
	(15,478)	(843)	7	-	(163)	(16,477)

Group 2015 In RM Mil	At 1.1.2015	Charged/ (credited) to profit or loss	Equity	Translation exchange difference	At 31.12.2015
Deferred tax liabilities					
Property, plant and equipment	18,656	(1,736)	-	858	17,778
Others	(299)	590	59	65	415
	18,357	(1,146)	59	923	18,193
Deferred tax assets Property, plant and equipment	674	117	_	(3)	788
Unused tax losses	(8,560)	(1,465)	-	(269)	(10,294)
Unabsorbed capital allowances	(1,772)	(819)	-	-	(2,591)
Unused reinvestment allowances	(475)	11	-	-	(464)
Unused investment tax allowances	(2,087)	(110)	-	-	(2,197)
Others	(1,029)	270	9	30	(720)
	(13,249)	(1,996)	9	(242)	(15,478)

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# 14. DEFERRED TAX (CONTINUED)

Company 2016 In RM Mil	Opening balance	Charged/ (credited) to profit or loss	Closing balance
Deferred tax assets			
Unused tax losses	(6,563)	371	(6,192)
Property, plant and equipment	(265)	(144)	(409)
Unabsorbed capital allowances	(22)	(103)	(125)
Others	(180)	(12)	(192)
	(7,030)	112	(6,918)
2015			
Deferred tax assets			
Unused tax losses	(5,361)	(1,202)	(6,563)
Property, plant and equipment	(176)	(89)	(265)
Unabsorbed capital allowances	-	(22)	(22)
Others	(193)	13	(180)
	(5,730)	(1,300)	(7,030)

# 15. TRADE AND OTHER INVENTORIES

	Group		Com	pany
In RM Mil	2016	2015	2016	2015
Crude oil and condensate	3,682	3,020	61	143
Petroleum products	4,489	3,719	23	26
Petrochemical products	394	420	-	-
Liquefied natural gas	1,037	1,641	54	46
Stores, spares and others	2,507	2,567	-	-
Developed properties held for sale	264	236	-	-
Properties under development	1,391	1,235	-	-
	13,764	12,838	138	215

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# 16. TRADE AND OTHER RECEIVABLES

	Gro	oup	Company	
In RM Mil	2016	2015	2016	2015
Trade receivables	30,836	29,285	4,085	4,674
Other receivables, deposits and prepayments	16,455	12,810	2,446	1,761
Amount due from:				
- contract customers	736	1,168	-	-
- subsidiaries	-	-	12,064	10,580
- associates and joint ventures	125	1,070	66	71
Tax recoverable	3,068	3,826	-	-
Finance lease receivables (note 11)	1,495	852	-	-
Derivative assets (note 13)	304	486	13	3
	53,019	49,497	18,674	17,089
Less: Impairment losses				
- Trade receivables	(5,098)	(3,233)	(373)	(274)
- Amount due from subsidiaries	-	-	(151)	(253)
- Other receivables, deposits and prepayments	(1,931)	(1,285)	(15)	(15)
	45,990	44,979	18,135	16,547

Amount due from subsidiaries, associates and joint ventures arose in the normal course of business.

Tax recoverable is subject to the agreement with the relevant tax authorities.

# Amount due from contract customers:

	Gro	oup
In RM Mil	2016	2015
Aggregate costs incurred to date	14,497	15,675
Less: Progress billings	(13,761) 736	(14,507) 1,168

# 17. ASSETS CLASSIFIED AS HELD FOR SALE

	Gro	oup	Company	
In RM Mil	2016	2015	2016	2015
Vessels	175	-	-	-
Land and buildings	1	2	-	50
Plant and equipment and net other assets	183	328	-	-
Intangible assets	-	24	-	-
	359	354	-	50

The above amount represents carrying values of net assets owned by the Group and the Company with the intention of disposal in the immediate future.

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#### 17. ASSETS CLASSIFIED AS HELD FOR SALE (CONTINUED)

#### Fair value information

In accordance with MFRS 5 Non-current Assets Held for Sale and Discontinued Operations, some of the assets classified as held for sale were written down to their fair value less costs to sell of RM141,000,000 (2015: RM354,000,000).

The fair value of assets classified as held for sale are categorised as follows:

Group	Level 3	
In RM Mil	2016	2015
Vessels	175	-
Land and buildings	1	2
Plant and equipment, and net other (liabilities)/assets	(35)	328
Intangible assets	-	24
	141	354

The assets classified as held for sale are stated at fair value are determined based on the following:

#### Vessels

The fair value of the vessels has been determined based on market comparable approach including the sale price offered by potential buyer.

# Land and buildings

The fair value of land and buildings has been generally derived using sales comparison approach. Sales price of comparable properties in close proximity are adjusted for differences in key attributes such as property size. The most significant input into this valuation approach is price per square foot of comparable properties.

#### Oil and gas properties, intangible assets and other assets

The fair value of oil and gas properties, intangible assets and other assets are determined based on the contracted price agreed with potential purchaser.

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#### 18. CASH AND CASH EQUIVALENTS

	Gro	oup	Company	
In RM Mil	2016	2015	2016	2015
Cash and bank balances	9,020	7,705	2,006	1,307
Deposits placed:				
Banks	112,472	113,026	101,542	101,094
	121,492	120,731	103,548	102,401
Less: Subsidiaries' cash with PETRONAS Integrated				
Financial Shared Service Centre	-	-	(35,122)	(34,641)
	121,492	120,731	68,426	67,760

The Company also manages the cash and cash equivalents on behalf of certain subsidiaries through its Integrated Financial Shared Service Centre in order to allow for more efficient management of cash. The cash and cash equivalents reported in the Company's financial statements do not include the amounts managed on behalf of the subsidiaries.

Included in cash and bank balances of the Group and the Company are interest-bearing balances amounting to RM7,033,320,000 (2015: RM5,695,414,000) and RM2,006,000,000 (2015: RM1,307,000,000) respectively.

Included in cash and bank balances of the Group are amounts of RM144,407,000 (2015: RM58,011,000) held pursuant to the requirement of the Housing Development (Control and Licensing) Regulations 2002 and are therefore restricted from use in other operations.

Included in deposits placed with banks of the Group is an amount of RM320,498,000 (2015: RM529,181,000) being deposits held under designated accounts for redemption of Islamic Financing Facilities.

Included in deposits placed with banks of the Group is an amount of RM84,282,000 (2015: RM33,314,000) which are restricted for certain payments under the requirements of the borrowing facilities agreement.

Included in cash and bank balances of the Group is the retention account of RM145,639,000 (2015: RM91,754,000) which is restricted for use because it is pledged to the bank for the purpose of acquisition of vessels.

## 19. SHARE CAPITAL

	Com	Company		
In RM Mil	2016	2015		
Authorised:				
500,000 ordinary shares of RM1,000 each	500	500		
Issued and fully paid:				
100,000 ordinary shares of RM1,000 each	100	100		

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#### 20. RESERVES

The Company has sufficient retained earnings to distribute the followings dividends:

- i. Dividends paid out of income derived from petroleum operations which are not chargeable to tax pursuant to the Petroleum (Income Tax) Act 1967.
- ii. Single tier dividends paid out of income derived from other operations other than petroleum which are exempt in the hands of shareholder pursuant to Paragraph 12B, Schedule 6 of the Income Tax Act, 1967.
- iii. Exempt dividends paid out of income which are exempt pursuant to Section 12 of Income Tax (Amendment) Act, 1999, Paragraph 28, Schedule 6 and Schedule 7A of the Income Tax Act, 1967.

# **Capital Reserves**

Capital reserves represent primarily reserves created upon issuance of bonus shares and redemption of preference shares by subsidiaries and the Group's share of its associate companies' reserves.

# **Foreign Currency Translation Reserve**

The foreign currency translation reserve comprises all foreign currency differences arising from the translation of the financial statements of subsidiaries whose functional currencies are different from that of the Company's functional currency as well as foreign currency differences arising from the translation of monetary items that are considered to form part of a net investment in a foreign operation.

## Available-for-sale Reserve

This reserve records the changes in fair value of available-for-sale investments. On disposal or impairment, the cumulative changes in fair value are transferred to the profit or loss.

## **General Reserve**

General reserve represents appropriation of retained profits for general purposes rather than for a specific item of future loss or expense. In effect, it is a reserve for unspecified possible events.

# 21. NON-CONTROLLING INTERESTS

This consists of the non-controlling interests' proportion of share capital and reserves of partly-owned subsidiaries.

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#### 22. BORROWINGS

	Gro	Group		Company	
In RM Mil	2016	2015	2016	2015	
Non-current					
Secured					
Term loans	2,551	2,134	-		
Islamic financing facilities	688	935	-		
Total non-current secured borrowings	3,239	3,069	-		
Unsecured					
Term loans	7,452	6,558	-		
Notes and Bonds	36,755	35,167	36,755	35,16	
Islamic financing facilities	10,213	9,145	5,612	5,36	
Total non-current unsecured borrowings	54,420	50,870	42,367	40,53	
Total non-current borrowings	57,659	53,939	42,367	40,53	
Current					
Secured					
Term loans	263	203	-		
Islamic financing facilities	308	611	-		
Total current secured borrowings	571	814	-		
Unsecured					
Term loans	5,440	1,142	-		
Islamic financing facilities	447	257	-		
Revolving credits	3,345	1,602	-		
Bank overdrafts	151	148	-		
Total current unsecured borrowings	9,383	3,149	-		
Total current borrowings	9,954	3,963	-		
Total borrowings	67,613	57,902	42,367	40,53	

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# 22. BORROWINGS (CONTINUED)

# Terms and debt repayment schedule

# Group

		Under	1-2	2-5	Over
In RM Mil	Total	1 year	years	years	5 years
Secured					
Term loans	2,814	263	269	1,079	1,203
Islamic financing facilities	996	308	560	73	55
	3,810	571	829	1,152	1,258
Unsecured					
Term loans	12,892	5,440	2,087	4,819	546
Notes and Bonds	36,755	-	-	13,413	23,342
Islamic financing facilities	10,660	447	309	7,215	2,689
Revolving credits	3,345	3,345	-	-	-
Bank overdrafts	151	151	-	-	-
	63,803	9,383	2,396	25,447	26,577
	67,613	9,954	3,225	26,599	27,835
Company					
Unsecured					
Notes and Bonds	36,755	-	-	13,413	23,342
Islamic financing facilities	5,612	-	-	5,612	-
	42,367	-	-	19,025	23,342

# Islamic financing facilities

Details of Islamic financing facilities are included in note 23.

# Unsecured term loans

The unsecured term loans obtained by the subsidiaries primarily comprise:

In Mil	2016	2015
USD Term loans	US\$4,076	US\$2,615
EURO Term loans	€441	€447

These unsecured term loans bear interest at rates ranging from 0.57% to 3.17% (2015: 1.00% to 2.08%) per annum and are fully repayable at their various due dates from 2017 to 2023.

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# 22. BORROWINGS (CONTINUED)

## **Unsecured Notes and Bonds**

The unsecured Notes and Bonds comprise:

In Mil	2016	2015
USD Notes and Bonds:		
5 1/4% Guaranteed Notes due 2019 <sup>^</sup>	US\$3,000	US\$3,000
7 7/8% Notes due 2022 <sup>^</sup>	US\$1,000	US\$1,000
3 1/8% Guaranteed Notes due 2022 <sup>^</sup>	US\$750	US\$750
3 1/2% Guaranteed Notes due 2025 <sup>^</sup>	US\$1,500	US\$1,500
7 5/8% Bonds due 2026#	US\$500	US\$500
4 1/2% Guaranteed Notes due 2045 <sup>^</sup>	US\$1,500	US\$1,500

<sup>#</sup> Obtained by the Company.

# Secured term loans

The secured term loans obtained by the subsidiaries primarily comprise:

In Mil	Securities	2016	2015
USD Term loans	Secured by way of a charge over certain vessels and property, plant and equipment, together with charter agreements and insurance of the relevant assets of certain subsidiaries.	US\$729	US\$469
RM Term loans	Secured by way of a charge over certain property, plant and equipment and investment properties and insurance of the relevant property, plant and equipment of certain subsidiaries.	RM771	RM763

The secured term loans bear interest at rates ranging from 1.99% to 4.42% (2015: 1.34% to 5.00%) per annum and are fully repayable at their various due dates from 2017 to 2025.

# Unsecured revolving credits, bankers' acceptances and bank overdrafts

The unsecured revolving credits, bankers' acceptances and bank overdrafts are obtained by the subsidiaries and primarily bear interest at rates ranging from 1.00% to 3.57% (2015: 0.34% to 8.90%) per annum.

<sup>^</sup> Obtained by the Company via a subsidiary.

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#### 22. BORROWINGS (CONTINUED)

In connection with the long term borrowing facility agreements, the Group and the Company have agreed on the following significant covenants with the bondholders:

- i. not to allow any material indebtedness (the minimum aggregate amount exceeding US\$30,000,000 or its equivalent in any other currency) for borrowed money of the Company to become due or capable of being declared due before its stated maturity, any guarantee of the Company for material indebtedness of any other person is not discharged at maturity or when validly called or the Company goes into default;
- ii. the Company (not including any of its subsidiaries) not to create, incur or have outstanding any mortgage, pledge, lien, charge, encumbrance or any other lien upon the whole or any part of its property or assets, present or future indebtedness of itself or any other person, unless the aggregate outstanding principal amount of all such secured indebtedness (other than indebtedness secured by the liens already in existence) plus attributable debt of the Company in respect of sales and leaseback transactions would not exceed 10% of the consolidated net tangible assets;
- ii. the Company (not including any of its subsidiaries) not to enter into any sale and leaseback transaction, unless the attributable debt in respect of such sale and leaseback transaction and all other sale and leaseback transaction plus the aggregate outstanding principal amount of indebtedness for borrowed money secured by security interests (other than permitted security interests) then outstanding which have not equally and rateably secured the total outstanding would not exceed 10% of the Company's consolidated net tangible assets provided that, within 12 months after such sale and leaseback transaction, it applies to the retirement of indebtedness for borrowed money the repayment obligations hereunder and which are not secured by any security interest, an amount to the greater of:
  - the net proceeds of the sale or transfer of the property or other assets which are the subject of such sale and leaseback transaction as determined by the Company; or
  - the fair market value of the property or other assets so leased as determined by the Company;
- iv. neither the Company nor PETRONAS Capital Limited ("PCL"), without consent of a majority bondholders may consolidate with, or merge into, or sell, transfer, lease or convey substantially all of its assets to any corporation unless any successor corporation expressly assumes the obligations of the Company or PCL, as the case may be under the Notes and Bond.

# 23. ISLAMIC FINANCING FACILITIES

## Secured Islamic Financing Facilities

The secured Islamic financing facilities obtained by the subsidiaries comprise:

In RM Mil	2016	2015
Al Bai'bithaman Ajil Facilities	300	300
Bai' Al-Dayn Note Issuance Facilities	106	106
Murabahah Medium Term Notes	2,495	2,495

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#### 23. ISLAMIC FINANCING FACILITIES (CONTINUED)

#### Secured Islamic Financing Facilities (continued)

The secured Islamic financing facilities bear a yield payable ranging from 3.70% to 7.25% (2015: 4.14% to 6.72%) per annum and are fully repayable at their various due dates from 2017 to 2022.

The Islamic financing facilities are secured by way of a charge over certain property, plant and equipment and investment properties.

#### **Unsecured Islamic Financing Facilities**

The unsecured Islamic financing facilities obtained by the subsidiaries comprise:

In Mil	2016	2015
Murabahah Note Issuance Facilities	RM21	RM21
Murabahah Note Issuance Facilities	CNY216	CNY216
Sukuk Musyarakah	RM4,522	RM4,522
Bai' Al-Dayn Note Issuance Facilities	RM122	RM122
Trust Certificates^	US\$1,250	US\$1,250

<sup>^</sup> Obtained by the Company via a subsidiary.

The unsecured Islamic financing facilities bear a yield payable ranging from 2.71% to 5.10% (2015: 3.53% to 6.90%) per annum and are fully repayable at their various due dates from 2017 to 2025.

In 2015, the Company has obtained the above Trust Certificates financing via a subsidiary of the Group (referred to as special purpose vehicle or "SPV"). In relation to this financing arrangement, the SPV purchased beneficial ownership in certain shariah-compliant assets from a wholly owned subsidiary of the Company ( $\geq$ 33% of trust certificates issued) and leased the assets to the Company at a rental rate of 2.71% per annum. The remaining portion of the trust certificates ( $\leq$ 67%) constitute the sale of shariah-compliant commodities to the Company based on deferred payment arrangement.

## 24. OTHER LONG TERM LIABILITIES AND PROVISIONS

	Group		Company	
In RM Mil	2016	2015	2016	2015
Provision for decommissioning of:				
- oil and gas properties	20,950	20,848	14,531	14,321
- other property, plant and equipment	541	338	-	-
Financial guarantees	-	523	51	565
Derivative liabilities (note 13)	8	1	-	-
Others	16,419	13,415	2,366	11,439
	37,918	35,125	16,948	26,325

Provision for decommissioning of oil and gas properties and other property, plant and equipment is recognised when there is an obligation to decommission and remove a facility or an item of property, plant and equipment and to restore the site on which it is located, and when a reasonable estimate of that liability can be made.

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#### 24. OTHER LONG TERM LIABILITIES AND PROVISIONS (CONTINUED)

The provision recognised is the present value of the estimated future costs determined in accordance with local conditions and requirements net off, in the case of oil and gas properties, amounts received and estimated future funds receivable from contractors pursuant to the terms of the various production sharing contracts that the Company has entered into.

A corresponding asset of an amount equivalent to the provision is also created. This asset is depreciated in accordance with the policy set out in note 2.4. The increase in the present value of the provision for the expected costs due to the passage of time is included within finance costs.

Most of these removal events are many years in the future and the precise requirements that will have to be met when the removal events actually occur are uncertain. Because actual timing and net cash outflows can differ from estimates due to changes in laws, regulations, public expectations, technology, prices and conditions, the carrying amounts of provisions, together with the interest rate used in discounting the cash flows and inflation rate, are regularly reviewed and adjusted to take into account of such changes. The interest rate and inflation rate used to determine the obligation as at 31 December 2016 was 4.50% (2015: 4.40%) per annum and 3.20% (2015: 2.50%) per annum respectively. Changes in the expected future costs are reflected in both the provision and the asset.

The movement of provision for decommissioning during the financial year are as follows:

In RM Mil	Group	Company
At 1 January 2016	21,186	14,321
Net changes in provision	(304)	(434)
Provision utilised	(263)	-
Unwinding of discount	872	644
At 31 December 2016	21,491	14,531

Net changes in provision include foreign exchange gains or losses arising from retranslation of the provision and are adjusted against the carrying amount of the corresponding asset accordingly.

During the year, the Company revised its estimated future costs of decommissioning of oil and gas properties resulting from changes in estimated cash flows. The revision was accounted for prospectively as a change in accounting estimates resulting in the following:

- i. decrease in other long term liabilities and provisions by RM434,000,000;
- ii. increase in cost of property, plant and equipment by RM373,000,000; and
- iii. increase in net profits by RM807,000,000.

# 25. TRADE AND OTHER PAYABLES

	Group		Company	
In RM Mil	2016	2015	2016	2015
Trade payables	20,388	22,408	783	791
Other payables	39,110	39,870	22,953	10,892
Amount due to:				
- subsidiaries	-	-	6,490	7,163
- associates and joint ventures	2,143	1,914	26	48
Derivative liabilities (note 13)	804	1,027	3	4
	62,445	65,219	30,255	18,898

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## 25. TRADE AND OTHER PAYABLES (CONTINUED)

Included in other payables of the Group are security deposits of RM127,572,000 (2015: RM131,709,000) mainly held in respect of tenancies of a shopping centre and office buildings. These deposits are refundable upon termination of the respective lease agreements.

Also included in trade payables of the Group are retention sums on construction contracts amounting to RM120,804,000 (2015; RM153.031.000).

Amount due to subsidiaries, associates and joint ventures arose in the normal course of business.

#### 26. GROSS PROFIT

	Group		Company	
In RM Mil	2016	2015	2016	2015
Revenue				
- sales of oil and gas	186,426	228,064	62,308	70,009
- others	782	802	1,315	3,396
	187,208	228,866	63,623	73,405
- rendering of services	3,539	4,494	909	621
- shipping and shipping related services	6,904	6,787	-	-
- sale and rental of properties	3,261	2,701	-	-
	13,704	13,982	909	621
- dividend income				
in Malaysia (Quoted)				
- subsidiaries	-	-	2,990	2,392
- associates	-	-	32	33
- investments	2	1	1	1
in Malaysia (Unquoted)				
- subsidiaries	-	-	11,178	18,445
- investments	51	62	51	62
outside Malaysia (Quoted)				
- investments	120	89	-	-
outside Malaysia (Unquoted)				
- joint ventures	-	-	94	133
	173	152	14,346	21,066
- interest income	3,823	4,657	2,689	3,105
	204,908	247,657	81,567	98,197
Control				
Cost of revenue	(476 707)	(4.65.753)	(54.747)	/57.570
- cost of sales	(136,303)	(165,752)	(51,313)	(57,570
- cost of services	(10,895)	(10,928)	(54.747)	
	(147,198)	(176,680)	(51,313)	(57,570
Gross profit	57,710	70,977	30,254	40,627

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# 27. OPERATING PROFIT

	Group		Company		
In RM Mil	2016	2015	2016	2015	
Included in operating profit are the following charges:					
Audit fees	38	35	2	2	
Amortisation of:					
- intangible assets	2,504	3,526	-	-	
- prepaid lease payments	39	44	-	-	
Bad debts written off:					
- trade and other receivables	304	4	-	-	
- receivables from subsidiaries	-	-	-	5	
Contribution to Tabung Amanah Negara	200	-	200	-	
Depreciation of property, plant and equipment and investment properties	22,766	20,688	940	1,387	
Net impairment losses on:					
- property, plant and equipment	8,775	13,171	2,100	355	
- intangible assets	2,692	1,920	-	-	
- investments in associates and joint ventures	-	1,307	-	-	
- trade and other receivables	1,731	1,275	99	-	
<ul> <li>loan and advances to associates, joint ventures and subsidiaries</li> </ul>	79	336	-	_	
- investments in subsidiaries	_	_	87	90	
- other investments	_	1,793	_	_	
Net impairment/write-off on well costs	6,129	2,303	-	-	
Inventories written down to net realisable value	28	450	-	-	
Loss on disposal of:					
- other investments	_	3	_	-	
- property, plant and equipment	47	96	-	-	
- intangible assets	457	_	_	-	
- investments in associates and joint ventures	24	71	_	-	
- investments in subsidiaries	417	2	22	-	
Operating lease rental	1,987	1,952	778	631	
Property, plant and equipment written off	1,361	657	-	-	
Rental of:					
- plant, machinery, equipment and motor vehicles	747	800	45	27	
- land and buildings	689	609	168	131	
Research and development expenditure	83	104	12	18	
Staff costs:					
- wages, salaries and others	8,401	9,362	1,310	1,306	
- contributions to Employee's Provident Fund	888	970	207	212	

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# 27. OPERATING PROFIT (CONTINUED)

	Gro	oup	Com	pany
In RM Mil	2016	2015	2016	2015
and credits:				
Gain on bargain purchase	33	335	-	-
Gain on disposal/partial disposal of:				
- other investments	32	35	22	14
- property, plant and equipment	34	37	22	143
- investments in associates and joint ventures	10	64	-	-
- investments in subsidiaries	107	-	528	5,045
Interest income - others	519	664	5,904	5,741
Reversal of inventories written down to net				
realisable value	6	54	-	-
Rental income on land and buildings	252	293	518	493
Net write back of impairment losses on:				
- investments in associates and joint ventures	411	-	-	-
- investments in subsidiaries	-	-	381	-
- amount due from subsidiaries	-	-	102	119
- loan and advances to subsidiaries	-	-	-	104
- other investments	10	-	-	-
Net gain on foreign exchange	3,682	98	3,892	16,062

# 28. TAX EXPENSE

	Gro	Group		Company	
In RM Mil	2016	2015	2016	2015	
Current tax expenses					
Malaysia					
Current year	11,482	16,086	3,966	5,982	
Prior year	349	1,785	413	1,024	
Overseas					
Current year	1,102	1,266	-	-	
Prior year	496	(172)	-	-	
Total current tax expenses	13,429	18,965	4,379	7,006	
Deferred tax expenses					
Origination and reversal of temporary differences	(2,782)	(4,538)	51	(609)	
(Over)/under provision in prior year	(499)	1,396	61	(691)	
Total deferred tax expenses	(3,281)	(3,142)	112	(1,300)	
Total tax expenses	10,148	15,823	4,491	5,706	

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# 28. TAX EXPENSE (CONTINUED)

A reconciliation of income tax expense applicable to profit before taxation at the statutory income tax rate to income tax expense at the effective income tax rate of the Group and of the Company is as follows:

2016

%

2015

III KM MIL	/0	2010	/0	2013
Group				
Profit before taxation		33,656		36,683
Taxation at Malaysian statutory tax rate	24	8,077	25	9,171
Effect of different tax rates in foreign jurisdictions	1	465	-	153
Effect of different tax rates between corporate income tax and petroleum income tax	6	2,009	6	2,216
Effect of changes in tax rates	-	1	1	367
Non deductible expenses, net of non assessable income	1	330	3	993
Tax exempt income	(5)	(1,591)	-	(179)
Tax incentives	(5)	(1,649)	(2)	(861)
Effect of net deferred tax benefits not recognised	6	2,054	2	589
Foreign exchange translation difference	-	106	1	365
	28	9,802	36	12,814
Under provision in prior years		346		3,009
Tax expense		10,148		15,823
Company				
Profit before taxation		34,681		61,061
		3 1,002		,
Taxation at Malaysian statutory tax rate	24	8,323	25	15,265
Effect of different tax rates between corporate				
income tax and petroleum income tax	3	1,184	4	2,189
Effect of changes in tax rates	-	-	-	(147)
Non assessable income, net of non				
deductible expenses	(6)	(2,047)	(11)	(6,667)
Tax exempt income	(10)	(3,443)	(9)	(5,267)
	11	4,017	9	5,373
Under provision in prior years		474	-	333
Tax expense		4,491		5,706

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# 29. DIVIDENDS

	Com	pany
In RM Mil	2016	2015
Ordinary:		
Final:		
Tax exempt dividend of RM160,000 (2015: RM220,000) per ordinary share under Section 84 of the Petroleum (Income Tax) Act, 1967 in respect of financial year 31 December 2015 (2015: 31 December 2014)	16,000	22,000
Interim:		
Second tax exempt dividend of Nil (2015: Second tax exempt dividend of RM40,000) per ordinary share under Section 84 of the Petroleum (Income Tax) Act, 1967 in respect of financial year 31 December 2015 (2015: 31 December 2014)	-	4,000
	16,000	26,000
Proposed:		
Final:		
Tax exempt dividend of RM130,000 (2015: RM160,000) per ordinary share under Section 84 of the Petroleum (Income Tax) Act, 1967 in respect of financial year		
31 December 2016 (2015: 31 December 2015)	13,000	16,000

The proposed tax exempt final dividend under Section 84 of the Petroleum (Income Tax) Act, 1967 of RM130,000 per ordinary share amounting to RM13 billion in respect of the financial year ended 31 December 2016, has not been accounted for in the financial statements.

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# NOTES TO THE FINANCIAL STATEMENTS

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# 30. NET CASH (USED IN)/GENERATED FROM INVESTING ACTIVITIES

The cash (used in)/generated from investing activities comprise:

	Gro	oup	Com	pany
In RM Mil	2016	2015	2016	2015
Acquisition of:				
- a subsidiary, net of cash acquired	(201)	_	-	-
- additional shares in subsidiaries	-	_	(4,842)	(2,266)
Dividends received	1,107	1,234	14,346	21,032
Investment in:				
<ul> <li>associates, joint ventures and unquoted companies</li> </ul>	(952)	(4,046)	-	-
- securities and other investments	(778)	(2,267)	(332)	(772)
Long term receivables and advances (to)/ repaid from:				
- subsidiaries	-	-	(11,161)	(18,070)
- associates and joint ventures	(37)	231	-	-
Other long term receivables	-	174	-	-
Proceeds from disposal/partial disposal of:				
- investments in subsidiaries, net of cash disposed	363	-	907	5,239
- investments in an associate and joint ventures	4	3,246	-	-
<ul> <li>property, plant and equipment, investment properties, prepaid lease payments, intangible</li> </ul>				
assets and assets classified as held for sale	1,149	627	72	174
- securities and other investments	8,659	4,646	6,739	4,603
Proceeds from capital reduction in joint ventures	171	-	150	-
Purchase of property, plant and equipment, investment properties, prepaid lease payments				
and intangible assets	(50,365)	(64,658)	(1,356)	(1,449)
Redemption of preference shares in subsidiaries	-	-	179	110
	(40,880)	(60,813)	4,702	8,601

## NOTES TO THE FINANCIAL STATEMENTS

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# 31. NET CASH USED IN FINANCING ACTIVITIES

The cash (used in)/generated from financing activities comprise:

	Gre	Group		Company	
In RM Mil	2016	2015	2016	2015	
Dividends paid	(16,000)	(26,000)	(16,000)	(26,000)	
Dividends paid to non-controlling interests	(5,856)	(7,250)	-	-	
Drawdown of:					
- Islamic financing facilities	1,212	5,720	-	4,582	
- term loans, notes and bonds	8,204	15,323	-	13,746	
- revolving credits and bankers' acceptances	3,364	1,517	-	-	
Repayment of:					
- Islamic financing facilities	(763)	(444)	-	-	
- term loans, notes and bonds	(3,832)	(7,224)	-	(2,163)	
- revolving credits and bankers' acceptances	(1,617)	(2,503)	-	-	
Payment to non-controlling interests on redemption of redeemable preference shares	(11)	(111)	-	-	
Payment to non-controlling interests on additional equity interest	-	(564)	-	-	
Proceeds from partial disposal of equity interests to non-controlling interest	879	5,179	-	-	
Proceeds from shares issued to non-controlling interests	30	103	-	-	
	(14,390)	(16,254)	(16,000)	(9,835)	

## 32. ACQUISITION OF INTEREST IN A SUBSIDIARY

# Acquisition of interest in Paramount Tankers Corporation

On 21 April 2016, the Group via its subsidiary, AET Inc. Limited ("AETIL"), being a wholly-owned subsidiary of MISC Berhad ("MISC"), entered into a share sale and purchase agreement with Golden Energy Tankers Holdings Corporation ("GET") for the acquisition of the remaining 50% equity interest in Paramount Tankers Corporation ("PTC") for a cash consideration of USD59 million (approximately RM239 million). Prior to the acquisition, PTC was a joint venture company between AETIL and GET with each party owning 50% of PTC.

Upon acquiring full control on 12 May 2016, PTC became a wholly-owned subsidiary of AETIL. On 29 August 2016, the final price adjustment was agreed and the acquisition was fully completed. The Group recognised a loss from remeasurement of previously held interest in joint venture amounting to RM24 million and a gain on bargain purchase of RM33 million for this acquisition in the current financial year. The net profit contributed by PTC from the date of acquisition to 31 December 2016 is not material in relation to the Group's consolidated net profit for the year.

The net effect of the above acquisition of subsidiary on the Group's cash flows is RM201 million.

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# **NOTES TO THE FINANCIAL STATEMENTS**

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# 33. DISPOSAL OF SUBSIDIARIES

During the financial year, the Group also disposed of its several subsidiaries for a total consideration of RM545 million. The net profit contributed by these subsidiaries from 1 January 2016 to the date of disposal is not material in relation to the consolidated net profit of the Group for the period.

The net effect of the above disposals of subsidiaries on the cash flows and carrying amount of net assets and liabilities disposed are as follows:

	Carrying amount representing fair
In RM Mil	value at disposal date
Property, plant and equipment	225
Prepaid lease payments	4
Assets classified as held for sale	297
Cash and cash equivalents	112
Other assets	257
Deferred tax assets	7
Realisation of foreign currency translation reserve upon disposal	282
Borrowings	(34)
Other liabilities	(295)
	855
Less: Net loss on disposal of subsidiaries	(310)
Proceeds from disposal of subsidiaries	545
Less: Cash and cash equivalents of subsidiaries disposed	(112)
Less: Proceeds from disposal of subsidiaries (accrued)	(70)
Cash flow on disposal of subsidiaries, net of cash disposed (note 30)	363

# 34. OPERATING LEASES

#### Leases as lessor

The Group via its subsidiary has entered into non-cancellable operating lease agreements for Government Office Buildings ("GOB") in accordance with the Concession Agreement ("CA") with the Government of Malaysia. Under the CA, the Group will construct various parcels of GOB on land belonging to the Government. Upon completion of each parcel, the Government will execute a 25-year lease agreement over the land of the said parcel to the Group. Simultaneously, the Group will sub-lease over the same land and buildings to the Government for the same period in return for lease rentals based on predetermined rates per square foot per month.

These leases have remaining period of non-cancellable lease terms between 10 and 25 years.

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

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# 34. OPERATING LEASES (CONTINUED)

#### Leases as lessor (continued)

The future minimum lease receivable under non-cancellable operating leases contracted for as at the reporting date but not recognised as receivables are as follows:

	Gre	oup
In RM Mil	2016	2015
Less than one year	2,863	2,875
Between one and five years	11,482	11,052
More than five years	16,566	19,399
	30,911	33,326

#### Leases as lessee

Total future minimum lease payments under non-cancellable operating leases are as follows:

	Gro	oup	Com	pany
In RM Mil	2016	2015	2016	2015
Less than one year	1,595	1,453	496	493
Between one and five years	3,495	3,554	2,026	1,992
More than five years	2,450	2,035	2,816	3,280
	7,540	7,042	5,338	5,765

## 35. COMMITMENTS

Outstanding commitments in respect of capital expenditure at the end of the reporting year not provided for in the financial statements are:

	Group		Company		
In RM Mil	2016	2015	2016	2015	
Property, plant and equipment					
Approved and contracted for					
Less than one year	36,590	56,270	596	435	
Between one and five years	18,710	37,951	1,095	1,044	
	55,300	94,221	1,691	1,479	
Approved but not contracted for					
Less than one year	18,144	19,375	5	-	
Between one and five years	66,023	55,777	-	-	
	84,167	75,152	5	-	
	139,467	169,373	1,696	1,479	

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# **NOTES TO THE FINANCIAL STATEMENTS**

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## 35. COMMITMENTS (CONTINUED)

	Gro	Group		Company	
In RM Mil	2016	2015	2016	2015	
Share of capital expenditure of joint venture					
Approved and contracted for					
Less than one year	9,378	9,854	-	-	
Between one and five years	7,965	2,114	-	-	
More than five years	3,926	397	-	-	
	21,269	12,365	-	-	
Approved but not contracted for					
Less than one year	5,542	6,590	-	-	
Between one and five years	41,768	41,949	-	-	
More than five years	388	6,646	-	-	
	47,698	55,185	-	-	
	68,967	67,550	-	-	
Total commitments	208,434	236,923	1,696	1,479	

# **36. CONTINGENT LIABILITIES**

	Gro	oup	Company		
In RM Mil	2016	2015	2016	2015	
Unsecured					
Guarantees extended to third parties	425	618	-	-	
Claims filed by/disputes with various parties	-	53	-	53	
Contingent payments	149	56	-	_	
	574	727	-	53	

## Material litigation

The legal suit brought against the Company by the Kelantan State Government in 2010 in respect of payment of petroleum proceeds under the terms of the agreement dated 9 May 1975 entered into between the Kelantan State Government and PETRONAS is still on-going as at the reporting date. PETRONAS has been advised by its solicitors that PETRONAS has a meritorious defence to the claim. The Company cannot estimate with sufficient reliability the ultimate financial obligation, if any, of this legal suit, since it has not gone for full trial yet.

## Other guarantees

Other than those disclosed elsewhere in the financial statements, the Group and the Company had entered into agreements which may include agreements to provide guarantees to third parties for the benefit of subsidiaries, associates and joint ventures ("Guaranteed Entities"). Such unsecured guarantees are normally provided in support of the Guaranteed Entities' normal and on-going business requirements, consistent with generally acceptable and recognised industry practices. The liability of the Group and the Company is therefore contingent and would only trigger upon the default of the Guaranteed Entities' obligation under the guarantee.

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

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#### 37. RELATED PARTY DISCLOSURES

For the purpose of these financial statements, parties are considered to be related to the Company if the Company has the ability, directly or indirectly, to control or jointly control the party or exercise significant influence over the party in making financial and operating decisions, or vice versa, or where the Group or the Company and the party are subject to common control. Related parties may be individuals or other entities.

Related parties also include key management personnel defined as those persons having authority and responsibility for planning, directing and controlling the activities of the Group either directly or indirectly and an entity that provides key management personnel services to the Group. The key management personnel comprises all the Directors of the Company.

The Company's related parties include key management personnel, subsidiaries, associates, joint ventures as well as the Government of Malaysia and its related entities as the Company is wholly-owned by the Government of Malaysia.

#### Key management personnel compensation

	Group and Company			
In RM Mil	2016	2015		
Directors remuneration:				
- Fees	4	4		
- Emoluments	26	29		

The estimated monetary value of Directors' benefits-in-kind is RM161,000 (2015: RM140,000).

#### Significant transactions with related parties

In addition to the transactions detailed elsewhere in the financial statements, the Group and the Company had the following transactions with related parties during the financial year:

# Group

In RM Mil	2016	2015
Federal and State Governments of Malaysia:		
Petroleum proceeds	(7,310)	(8,175)
Lease income receivable	1,360	1,362
Sales of petroleum products	268	311
Government of Malaysia's related entities:		
Sales of petroleum products, processed gas and utilities	7,544	8,379
Associate companies:		
Sales of petrochemical products, processed gas and utilities	5,053	5,023
Purchase of petrochemical products, processed gas and utilities	(1)	(15)
Lease and rental expenses	(273)	(274)
Joint ventures:		
Sales of petrochemical products, processed gas, petroleum products and general merchandise	35	37
Interest receivable from joint ventures	79	69
Gas processing fee payable	(144)	(126)
Other expenses	(198)	(220)
Other income	7	27

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# **NOTES TO THE FINANCIAL STATEMENTS**

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#### 37. RELATED PARTY DISCLOSURES (CONTINUED)

Company		
In RM Mil	2016	2015
Federal and State Governments of Malaysia:		
Petroleum proceeds	(7,310)	(8,175)
Government of Malaysia's related entities:		
Sales of processed gas	4,156	5,210
Subsidiaries:		
Sales of crude oil, petroleum products, processed gas and natural gas	35,798	41,111
Interest receivable from subsidiaries	5,460	5,333
Purchase of crude oil, natural gas and liquefied natural gas	(23,486)	(27,832)
Gas processing fee payable	(4,430)	(4,221)
Research cess	54	181
Supplemental payments and signature bonus	135	2,321
Contribution to fund	(402)	(201)
Associate companies:		
Sales of processed gas	3,610	3,431
Joint ventures:		
Gas processing fee payable	(144)	(126)

Information regarding outstanding balances arising from related party transactions as at 31 December 2016 are disclosed in note 11, note 16 and note 25.

Information regarding impairment losses on receivables and bad debts written off during the financial year are disclosed in note 27.

The Directors of the Company are of the opinion that the above transactions have been entered into in the normal course of business and have been established on a commercial basis.

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#### 38. OPERATING SEGMENTS, PRODUCTS AND SERVICES AND GEOGRAPHICAL INFORMATION

The Group has two reportable operating segments comprising Upstream and Downstream. Each reportable segment offers different products and services and are managed separately because they require different technology and marketing strategies. The following summary describes the operations in each of the Group's reportable segments:

- Upstream activities include oil and natural gas exploration, development and production, together with related pipeline and transportation activities as well as purchase and liquefaction of natural gas and marketing and trading of liquefied natural gas ("LNG") and sales gas.
- Downstream activities include the supply and trading, refining, manufacturing, marketing and transportation of crude
  oil, petroleum and petrochemical products as well as gas processing operations and power business.

Effective 2016, certain functions under Upstream and Downstream have merged into a single function named Project Delivery & Technology ("PD&T"), which is included under Corporate and Others. Corporate and Others now comprises primarily logistic and maritime segment, property segment, central treasury and PD&T function. Accordingly, the Group has restated the operating segment information for the prior years.

For each of the reportable segment, the Group chief operating decision maker, which in this case is the PETRONAS Executive Leadership Team, reviews internal management reports at least on a quarterly basis.

There are varying levels of integration between Upstream segment, Downstream segment and others. This integration includes transfers of products and services between segments. Inter-segment pricing is established on a commercial basis.

Inter-segment revenues includes sales of crude oil and condensates, petroleum products, sales gas and shipping services between business segments. These transactions are eliminated on consolidation.

Performance is measured based on segment profit after tax ("PAT"), as included in the internal management reports. Segment PAT is used to measure performance as the Executive Leadership Team believes that such information is the most relevant in evaluating the results of the segments.

Segment assets are measured based on total assets (including goodwill) of a segment, as included in the internal management reports and are used to measure the return of assets of each segment.

Segment liabilities information is neither included in the internal management reports nor provided regularly to the Executive Leadership Team. Hence, no disclosure is made on segment liability.

Segment capital expenditure is the total cost incurred during the financial year to acquire non-current assets other than financial instruments and deferred tax assets.

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

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# 38. OPERATING SEGMENTS, PRODUCTS AND SERVICES AND GEOGRAPHICAL INFORMATION (CONTINUED)

Group 2016			Corporate and	Consolidation adjustments and	
In RM Mil	Upstream	Downstream	Others	eliminations	Total
Revenue					
Third parties	99,001	90,821	15,086	-	204,908
Inter-segment	23,987	4,416	4,420	(32,823)	-
Total revenue	122,988	95,237	19,506	(32,823)	204,908
Reportable segment profit	3,251	8,292	6,549	° 5,416	23,508
Included in the measure of segment profit are:					
Depreciation and amortisation	(18,208)	(3,902)	(3,199)	-	(25,309)
Impairment losses and write-off on well costs	(18,084)	(218)	(683)	-	(18,985)
Interest income	552	738	3,118	(66)	4,342
Interest expense	(4,386)	(213)	(2,287)	3,592	(3,294)
Share of profit after tax and non-controlling interests of equity accounted associates					
and joint ventures	334	164	367	-	865
Tax expense	(6,928)	(2,572)	(99)	(549)	(10,148)
Segment assets	346,470	142,998	134,297	(20,473)	603,292
Included in the measure of					
segment assets are:					
Investments in associates and joint ventures	6,005	5,606	2,419	-	14,030
Additions to non-current assets other than financial instruments and deferred					
tax assets	20,916	27,225	3,725	-	51,866

<sup>&</sup>lt;sup>a</sup> Comprise consolidation adjustments in relation to unrealised gains and losses on inventories, intercompany borrowing costs capitalised as part of the cost of a qualifying asset, and reclassification of foreign exchange gains and losses to other comprehensive income arising from intercompany receivables that are considered to form part of the net investment in foreign operations (note 2.20).

# NOTES TO THE FINANCIAL STATEMENTS

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# 38. OPERATING SEGMENTS, PRODUCTS AND SERVICES AND GEOGRAPHICAL INFORMATION (CONTINUED)

Group 2015 Restated			Corporate and	Consolidation adjustments and	
In RM Mil	Upstream	Downstream	Others	eliminations	Total
Revenue					
Third parties	121,922	110,010	15,725	-	247,657
Inter-segment	23,798	3,589	6,275	(33,662)	-
Total revenue	145,720	113,599	22,000	(33,662)	247,657
Reportable segment profit	1,728	8,352	7,558	a 3,222	20,860
Included in the measure of segment profit are:					
Depreciation and amortisation	(18,006)	(3,709)	(2,543)	-	(24,258)
Impairment losses and write-off on well costs	(21,085)	(365)	(655)	_	(22,105)
Interest income	965	774	3,588	(6)	5,321
Interest expense	(4,062)	(248)	(2,324)	3,307	(3,327)
Share of profit after tax and non-controlling interests of equity accounted associates					
and joint ventures	440	173	425	-	1,038
Tax expense	(13,233)	(2,102)	(184)	(304)	(15,823)
Segment assets	326,725	116,636	177,543	(28,997)	591,907
Included in the measure of segment assets are:					
Investments in associates and joint ventures	7,095	3,432	2,491	-	13,018
Additions to non-current assets other than financial instruments and deferred					
tax assets	51,739	17,024	4,425	<u>-</u>	73,188

<sup>&</sup>lt;sup>a</sup> Comprise consolidation adjustments in relation to unrealised gains and losses on inventories, intercompany borrowing costs capitalised as part of the cost of a qualifying asset, and reclassification of foreign exchange gains and losses to other comprehensive income arising from intercompany receivables that are considered to form part of the net investment in foreign operations (note 2.20).

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### 38. OPERATING SEGMENTS, PRODUCTS AND SERVICES AND GEOGRAPHICAL INFORMATION (CONTINUED)

#### **Products and services information**

The following are revenue from external customers by products and services:

# Group

In RM Mil	2016	2015
Petroleum products	67,267	80,619
Crude oil and condensates	31,943	42,013
Liquefied natural gas	39,473	54,084
Sales and natural gas	33,734	38,169
Petrochemicals	14,009	13,179
Shipping services	6,904	6,787
Investment income	3,823	4,657
Others	7,755	8,149
	204,908	247,657

#### Geographical information

Geographical revenue is determined based on location of customers. The amounts presented in non-current assets are based on the geographical location of the assets and do not include financial instruments (including investments in associates and joint ventures) nor deferred tax assets.

Group	Revenue		
In RM Mil	2016	2015	
Asia	61,629	72,098	
Malaysia	56,173	65,951	
Japan	24,319	35,539	
Rest of the world	62,787	74,069	
	204,908	247,657	

Group	Non-current assets		
In RM Mil	2016 20		
Malaysia Asia	269,635 35,011	235,656 42,322	
Rest of the world	69,413	80,463	
	374,059	358,441	

#### Major customers

As at 31 December 2016 and 31 December 2015, there are no major customers with revenue that contribute to more than 10 percent of Group revenue.

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#### 39. PETROLEUM ARRANGEMENTS

The Petroleum Development Act, 1974 vests the entire ownership, rights, powers, liberties and privileges of exploiting petroleum resources on land and offshore Malaysia in PETRONAS.

The monetisation of petroleum resources is carried out primarily by means of production sharing contracts ("PSCs") between PETRONAS, its subsidiaries and other oil and gas companies ("PSC Contractors"). Under the terms of the various PSCs, the PSC Contractors shall bear all the costs and recover their costs in barrels of crude oil or gas equivalent in accordance with the terms of their respective PSCs.

Certain terms of the PSCs are:

i. Research cess, supplemental payments and crude oil or gas entitlement

The determination of research cess, supplemental payments, and PETRONAS' and the PSC Contractors' entitlements to crude oil or gas produced subsequent to 31 December 1992 have been based on the returns submitted by PSC Contractors and is dependent on agreement being reached on the method of valuation of crude oil or gas and the quantum of costs incurred and claimed by contractors subject to the maximum rate provided under the respective PSCs for the year. PETRONAS' entitlements to crude oil and natural gas are taken up as income on the basis of liftings and sales respectively made by the Company.

## ii. Property, plant and equipment

Title to all equipment and other assets purchased or acquired by PSC Contractors exclusively for the purpose of petroleum operations, and which costs are recoverable in barrels of cost oil or gas equivalent, is vested with PETRONAS. However, the values of these assets are not taken up in the financial statements of PETRONAS other than:

- the property, plant and equipment of a subsidiary which is also a contractor to PETRONAS under certain PSCs; and
- the estimated costs of decommissioning and removing the assets and restoring the site on which they are located where there is an obligation to do so.

## iii. Inventories

Title to all crude oil held in inventories by the PSC Contractors lies with PETRONAS and title to the contractors' entitlement passes only upon delivery at point of export.

The monetisation of petroleum resources is also carried out by means of risk service contracts ("RSCs"). Under the terms of the RSCs, RSC Contractors provide services for the development and production of oil and gas resources on behalf of PETRONAS.

Certain terms of the RSCs are:

. Cost reimbursement and remuneration fees

RSC Contractors incur all upfront costs and will be reimbursed upon first commercial production. Under the terms of the RSCs, PETRONAS owns the title to all equipment and other assets purchased or acquired by the RSC Contractors for the purpose of petroleum operations. The values of these assets are taken up in the financial statements of PETRONAS upon incurrence, together with the estimated costs of decommissioning the assets where there is an obligation to do so.

Contractors are also entitled to remuneration fees which commensurate with their performance under the contract. All payments of remuneration fees are recognised as expenditures in PETRONAS' financial statements.

#### ii. Production

All barrels of crude oil and gas produced belongs to PETRONAS and inventories, if any, are taken up in the financial statements of PETRONAS.

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# NOTES TO THE FINANCIAL STATEMENTS

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# 40. FINANCIAL INSTRUMENTS

# Categories of financial instruments

The table below provides an analysis of financial instruments categorised as follows:

- i. Loans and receivables ("L&R")
- ii. Fair value through profit or loss ("FVTPL")
  - Designated upon initial recognition ("DUIR")
  - Held for trading ("HFT")
- iii. Available-for-sale financial assets ("AFS")
- iv. Loans and borrowings ("L&B")
- v. Held-to-maturity investments ("HTM")

Group 2016 <i>In RM Mil</i>	Note	L&R/ (L&B)	FVTPL - DUIR	FVTPL - HFT	AFS	нтм	Total carrying amount
Financial assets							
Long term receivables	*	13,069	-	2	-	-	13,071
Fund and other							
investments	12	-	1,653	-	8,610	-	10,263
Trade and other							
receivables	*	38,737	-	304	-	-	39,041
Cash and cash							
equivalents	18	121,492	<del>-</del>	-	-	-	121,492
		173,298	1,653	306	8,610		183,867
Financial liabilities							
Borrowings	22	(67,613)	-	-	-	-	(67,613)
Other long term liabilities	*	(1,677)	-	(8)	-	-	(1,685)
Trade and other payables	*	(50,095)	-	(804)	-	-	(50,899)
		(119,385)	-	(812)	-	-	(120,197)
2015							
Financial assets							
Long term receivables	*	13,547	-	1	-	-	13,548
Fund and other							
investments	12	1,421	4,089	-	3,561	6,885	15,956
Trade and other							
receivables	*	38,397	-	486	-	-	38,883
Cash and cash							
equivalents	18	120,731	-	_	-		120,731
		174,096	4,089	487	3,561	6,885	189,118
Financial liabilities							
Borrowings	22	(57,902)	-	-	-	-	(57,902)
Other long term liabilities	*	(2,316)	-	(1)	-	-	(2,317)
Trade and other payables	*	(49,849)		(1,027)		_	(50,876)
		(110,067)	-	(1,028)	-	-	(111,095)

<sup>\*</sup> These balances exclude non-financial instruments balances.

Certain fund and other investments have been designated upon initial recognition at fair value through profit or loss as management internally monitors these investments on fair value basis.

# NOTES TO THE FINANCIAL STATEMENTS

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# 40. FINANCIAL INSTRUMENTS (CONTINUED)

# Categories of financial instruments (continued)

Company 2016 <i>In RM Mil</i>	Note	L&R/ (L&B)	FVTPL - DUIR	FVTPL - HFT	AFS	нтм	Total carrying amount
Financial assets							
Long term receivables	*	161,258	-	-	-	-	161,258
Fund and other							
investments	12	-	883	-	3,711	-	4,594
Trade and other							
receivables	*	17,997	-	13	-	-	18,010
Cash and cash							
equivalents	18	68,426	-	-	-	-	68,426
		247,681	883	13	3,711	-	252,288
Financial liabilities							
Borrowings	22	(42,367)	_	-	-	-	(42,367)
Other long term liabilities	*	(1,728)	_	-	-	-	(1,728)
Trade and other payables		(30,232)	-	(3)	-	-	(30,235)
		(74,327)	-	(3)	-	-	(74,330)
2015			·	'			
Financial assets							
Long term receivables	*	157,276	_	_	_	_	157,276
Fund and other		137,270					137,270
investments	12	_	3,294	_	134	7,579	11,007
Trade and other	12		5,254		154	1,515	11,007
receivables	*	16,328	_	3	_	_	16,331
Cash and cash		10,020					10,001
equivalents	18	67,760	-	_	-	-	67,760
		241,364	3,294	3	134	7,579	252,374
Financial liabilities							
Borrowings	22	(40,533)	_	_	_	_	(40,533)
Other long term liabilities		(2,358)	_	_	_	_	(2,358)
Trade and other payables		(18,865)	_	(4)	_	_	(18,869)
		(61,756)	_	(4)	_		(61,760)

<sup>\*</sup> These balances exclude non-financial instruments balances.

Certain fund and other investments have been designated upon initial recognition at fair value through profit or loss as management internally monitors these investments on fair value basis.

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# NOTES TO THE FINANCIAL STATEMENTS - 31 December 2016

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## 40. FINANCIAL INSTRUMENTS (CONTINUED)

#### Financial risk management

As an integrated oil and gas company, the Group and the Company are exposed to various risks that are particular to its core business of upstream and downstream operations. These risks, which arise in the normal course of the Group's and of the Company's business, comprise credit risk, liquidity risk and market risk relating to interest rates, foreign currency exchange rates, equity prices and commodity prices.

The Group has policies and guidelines in place that sets the foundation for a consistent approach towards establishing an effective financial risk management across the PETRONAS Group.

Risk taking activities are undertaken within acceptable level of risk or risk appetite, whereby the risk appetite level reflects business considerations and capacity to assume such risks. The risk appetite is established at Board level, where relevant, based on defined methodology and translated into operational thresholds.

The Group and the Company's goal in risk management are to ensure that the management understands, measures and monitors the various risks that arise in connection with their operations. Policies and guidelines have been developed to identify, analyse, appraise and monitor the dynamic risks facing the Group and the Company. Based on this assessment, each business unit adopts appropriate measures to mitigate these risks in accordance with the business unit's view of the balance between risk and reward.

#### Credit risk

Credit risk is the potential exposure of the Group and of the Company to losses in the event of non-performance by counterparties. The Group and the Company's exposures to credit risk arise principally from their receivables from customers, fund and other investments and financial guarantees given to financial institutions for credit facilities granted to subsidiaries, joint ventures and associates. Credit risks are controlled by individual operating units in line with PETRONAS' policies and guidelines.

#### Receivables

The Group and the Company minimise credit risk by ensuring that all potential counterparties are assessed prior to registration and entering into new contracts. Existing counterparties are also subject to regular reviews, including re-appraisal and approval of granted limits. The creditworthiness of counterparties is assessed based on an analysis of all available quantitative and qualitative data regarding business risks and financial standing, together with the review of any relevant third party and market information. Reports are prepared and presented to the management that cover the Group's overall credit exposure against limits and securities, exposure by segment and overall quality of the portfolio.

Depending on the types of transactions and counterparty creditworthiness, the Group and the Company further mitigate and limit risks related to credit by requiring collateral or other credit enhancements such as cash deposits, letter of credit and bank guarantees.

Management has taken reasonable steps to ensure that receivables that are neither past due nor impaired are stated at their realisable values.

Exposure to losses increases with concentrations of credit risk which may exist when a number of counterparties are involved in similar activities or operate in the same industry sector or geographical area, which may result in their ability to meet contractual obligations being impacted by changes in economic, political or other conditions. The Group's principal customers with which it conducts business are located globally and there is no significant concentration of credit risk at reporting date.

# NOTES TO THE FINANCIAL STATEMENTS

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### 40. FINANCIAL INSTRUMENTS (CONTINUED)

#### Receivables (continued)

As at the end of the reporting period, the maximum exposure to credit risk arising from receivables is equal to the carrying amount. The ageing of trade receivables net of impairment amount as at the end of the reporting period is analysed below:

	Gro	oup	Company		
In RM Mil	2016	2015	2016	2015	
At net					
Current	22,397	21,813	3,623	4,213	
Past due 1 to 30 days	764	601	68	2	
Past due 31 to 60 days	265	240	-	21	
Past due 61 to 90 days	444	1,254	10	17	
Past due more than 90 days	1,868	2,144	11	147	
	25,738	26,052	3,712	4,400	
Representing:					
Trade receivables (note 16)	30,836	29,285	4,085	4,674	
Less: Impairment losses (note 16)	(5,098)	(3,233)	(373)	(274)	
	25,738	26,052	3,712	4,400	

With respect to the Group and the Company's trade receivables, there are no indications as of the reporting date that the debtors will not meet their payment obligations except for impairment losses recognised below.

The movements in the allowance for impairment losses of trade receivables during the year are as follows:

In RM Mil	Group		Company	
	2016	2015	2016	2015
Opening balance	3,233	2,185	274	301
Impairment losses recognised	1,683	727	99	-
Impairment written off/adjustments	(66)	(81)	-	(27)
Disposal of a subsidiary	(22)	-	-	-
Translation exchange difference	270	402	-	-
Closing balance	5,098	3,233	373	274

#### Fund and other investments

The Group and the Company are also exposed to counterparty credit risk from financial institutions, government and corporate counterparties through fund and other investment activities comprising primarily money market placement and investments in bonds, and equities. These exposures are managed in accordance with existing policies and guidelines that define the parameters within which the investment activities shall be undertaken in order to achieve the Group's investment objective of preserving capital and generating optimal returns above appropriate benchmarks within allowable risk parameters.

Investments are only made with approved counterparties who met the appropriate rating and other relevant criteria, and within approved credit limits, as stipulated in the policies and guidelines. The treasury function is governed by a counterparty credit risk management framework.

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# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

### 40. FINANCIAL INSTRUMENTS (CONTINUED)

#### Fund and other investments (continued)

As at the reporting date, the Group and the Company have invested 99% (2015: 93%) and 100% (2015: 100%) of the investments in domestic securities respectively.

The fund and other investments are unsecured, however, in view of the sound credit rating of counterparties, management does not expect any counterparty to fail to meet its obligation.

#### Financial guarantees

The Group and the Company provide unsecured financial guarantees to banks in respect of banking facilities granted to certain subsidiaries, associates and joint ventures ("Group entities"). The Group and the Company monitor on an ongoing basis, the results of the Group entities and repayments made by the Group entities.

The maximum exposure to credit risk for the Group and the Company amounted to Nil (2015: RM986,332,000) and RM2,058,042,000 (2015: RM3,019,478,000) respectively, which represents the outstanding banking facilities of the Group entities as at reporting date. As at reporting date, there was no indication that any Group entities would default on repayment. The fair value of the financial guarantee recognised is disclosed in note 24.

# Liquidity risk

Liquidity risk is the risk that the Group will not be able to meet its financial obligations as they fall due. The Group's exposure to liquidity arises principally from its trade and other payables, and borrowings. In managing its liquidity risk, the Group maintains sufficient cash and liquid marketable assets. The Company's current credit rating enables it to access banking facilities in excess of current and immediate future requirements of the Group and of the Company. The Group's borrowing power is not limited by its Articles of Association. However, certain covenants included in agreements impose limited restrictions on some of the debt level of PETRONAS' subsidiaries.

#### Maturity analysis

The table below summarises the maturity profile of the Group and of the Company's financial liabilities as at the reporting date based on undiscounted contractual payments:

# NOTES TO THE FINANCIAL STATEMENTS

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# 40. FINANCIAL INSTRUMENTS (CONTINUED)

# Maturity analysis (continued)

Group		Contractual interest/		
2016	Carrying	profit rates	Contractual	Within
In RM Mil	amount	per annum %	cash flows	1 year
Loans and borrowings				
Secured Term Loans				
USD floating rate loan	1,933	2.30	2,180	285
USD fixed rate loan	411	2.90	461	9
RM floating rate loan	428	4.40	563	29
Other fixed rate loan	14	11.00	19	3
Other floating rate loan	28	4.00	28	10
Unsecured Term Loans				
USD fixed rate loan	1,617	2.80	1,675	32
USD floating rate loan	8,749	1.80	8,934	5,465
GBP floating rate loan	338	1.80	405	13
EURO floating rate loan	2,048	0.57 - 3.17	2,233	12
EURO fixed rate loan	31	3.70	32	28
Other fixed rate loan	19	5.80	21	9
Other floating rate loan	90	12.60	128	38
Unsecured Notes and Bonds				
USD Notes	4,485	7.88	6.426	353
USD Guaranteed Notes	30,028	4.46	43,354	1,350
USD Bonds	2,242	7.63	3,916	171
Unsecured revolving credits				
RM revolving credits	610	3.60	623	623
GBP revolving credits	882	1.20	888	888
USD revolving credits	1,766	1.70	1,777	1,777
Other revolving credits	87	3.80	88	88
	0,	3.00	00	00
Unsecured bank overdrafts				
ZAR bank overdrafts	16	10.05	16	16
USD bank overdrafts	63	7.10	64	64
Other bank overdrafts	72	15.70	72	72
Secured Islamic financing facilities				
RM Islamic financing facilities	996	5.43	1,090	369
Unsecured Islamic financing facilities				
RM Islamic financing facilities	4,909	4.03	6,399	769
USD Islamic financing facilities	5,612	2.71	6,080	152
CNY Islamic financing facilities	139	6.17	173	9
Other long term liabilities	1,677	-	2,603	289
Trade and other payables	50,095	-	50,095	50,095
Fair value through profit or loss – held for trading				
Derivative liabilities	812	_	812	804
	120,197		141,155	63,822

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# 40. FINANCIAL INSTRUMENTS (CONTINUED)

Maturity analysis (continued)

Group 2016			More than
In RM Mil	1-2 years	2-5 years	5 years
Loans and borrowings			
Secured Term Loans			
USD floating rate loan	287	1,138	470
USD fixed rate loan	9	24	419
RM floating rate loan	34	96	404
Other fixed rate loan	3	9	4
Other floating rate loan	10	8	-
Unsecured Term Loans			
USD fixed rate loan	1,352	291	
USD floating rate loan	762	2,161	546
GBP floating rate loan	13	379	-
EURO floating rate loan	24	2,197	-
EURO fixed rate loan	2	1	1
Other fixed rate loan	7	5	-
Other floating rate loan	38	52	-
Unsecured Notes and Bonds			
USD Notes	353	1,059	4,661
USD Guaranteed Notes	1,350	16,049	24,605
USD Bonds	171	513	3,061
Unsecured revolving credits			
RM revolving credits	-	-	-
GBP revolving credits	-	-	-
USD revolving credits	-	-	
Other revolving credits	-	-	-
Unsecured bank overdrafts			
ZAR bank overdrafts	-	-	
USD bank overdrafts	-	-	
Other bank overdrafts	-	-	
Secured Islamic financing facilities			
RM Islamic financing facilities	575	87	59
Unsecured Islamic financing facilities			
RM Islamic financing facilities	559	2,196	2,875
USD Islamic financing facilities	152	5,776	
CNY Islamic financing facilities	9	9	146
Other long term liabilities	289	868	1,157
Trade and other payables	-	-	
Fair value through profit or loss – held for trading			
Derivative liabilities	8	-	
	6,007	32,918	38,408

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# NOTES TO THE FINANCIAL STATEMENTS

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# 40. FINANCIAL INSTRUMENTS (CONTINUED)

Maturity analysis (continued)

Group 2015 In RM Mil	Carrying amount	Contractual interest/ profit rates per annum %	Contractual cash flows	Within 1 year
Loans and borrowings				
Secured Term Loans				
USD floating rate loan	1,716	1.74	1,940	199
RM fixed rate loan	413	4.38	538	33
RM floating rate loan	157	3.96	179	33
Other fixed rate loan	51	6.17	62	4
Unsecured Term Loans				
USD fixed rate loan	254	1.63	260	38
USD floating rate loan	4,769	1.25	5,052	1,030
GBP floating rate loan	505	2.05	585	132
EURO floating rate loan	2,062	1.17	2,114	28
Other fixed rate loan	29	5.76	32	16
Other floating rate loan	81	10.64	83	7
Unsecured Notes and Bonds				
USD Notes	4,294	7.88	6,491	338
USD Guaranteed Notes	28,726	4.46	43,035	1,292
USD Bonds	2,147	7.63	3,914	164
Unsecured revolving credits				
RM revolving credits	377	3.67	383	383
GBP revolving credits	1,082	1.00	1,093	1,093
Other revolving credits	143	4.50	147	147
Unsecured bank overdrafts				
ZAR bank overdrafts	58	10.00	64	64
Other bank overdrafts	90	10.17	105	105
Secured Islamic financing facilities				
RM Islamic financing facilities	1,546	5.45	1,677	668
Unsecured Islamic financing facilities				
RM Islamic financing facilities	3,910	4.16	5,069	470
USD Islamic financing facilities	5,349	2.71	5,962	145
CNY Islamic financing facilities	143	10.85	201	9
Other long term liabilities	2,316	-	3,849	791
Trade and other payables	49,849	-	49,849	49,849
Fair value through profit or loss – held for trading				
Derivative liabilities	1,028	-	1,028	1,027
	111,095	-	133,712	58,065

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# 40. FINANCIAL INSTRUMENTS (CONTINUED)

Maturity analysis (continued)

Group			
2015 In RM Mil	1-2 years	2-5 years	More than 5 years
Loans and borrowings			
Secured Term Loans			
USD floating rate loan	204	600	937
RM fixed rate loan	32	50	423
RM floating rate loan	30	84	32
Other fixed rate loan	14	38	6
Unsecured Term Loans			
USD fixed rate loan	11	211	
USD floating rate loan	927	2,851	244
GBP floating rate loan	16	437	
EURO floating rate loan	27	2,059	-
Other fixed rate loan	9	7	
Other floating rate loan	30	46	-
Unsecured Notes and Bonds			
USD Notes	338	1,014	4,80
USD Guaranteed Notes	1,292	16,082	24,369
USD Bonds	164	491	3,095
Unsecured revolving credits			
RM revolving credits	-	-	-
GBP revolving credits	-	-	
Other revolving credits	-	-	-
Unsecured bank overdrafts			
ZAR bank overdrafts	-	-	-
Other bank overdrafts	-	-	-
Secured Islamic financing facilities			
RM Islamic financing facilities	334	616	59
Unsecured Islamic financing facilities			
RM Islamic financing facilities	557	1,501	2,541
USD Islamic financing facilities	145	5,672	-
CNY Islamic financing facilities	9	26	157
Other long term liabilities	349	1,021	1,688
Trade and other payables	-	-	-
Fair value through profit or loss – held for trading			
Derivative liabilities	1		
	4,489	32,806	38,352

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# NOTES TO THE FINANCIAL STATEMENTS

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# 40. FINANCIAL INSTRUMENTS (CONTINUED)

Maturity analysis (continued)

Company 2016 In RM Mil	Carrying amount	Contractual interest/ profit rates per annum %	Contractual cash flows	Within 1 year
Loans and borrowings				
Unsecured Notes and Bonds				
USD Notes	4,485	7.88	6,426	353
USD Guaranteed Notes	30,028	4.46	43,354	1,350
USD Bonds	2,242	7.63	3,916	171
Unsecured Islamic financing facilities				
USD Islamic financing facilities	5,612	2.71	6,080	152
Other long term liabilities	1,728	_	2,654	340
Trade and other payables	30,232	-	30,232	30,232
Fair value through profit or loss – held for trading				
Derivative liabilities	3	-	3	3
	74,330	-	92,665	32,601
			continu	ue to next page
2015				
Loans and borrowings				
Unsecured Notes and Bonds				
USD Notes	4,294	7.88	6,491	338
USD Guaranteed Notes	28,726	4.46	43,035	1,292
USD Bonds	2,147	7.63	3,914	164
Unsecured Islamic financing facilities				
USD Islamic financing facilities	5,366	2.71	5,962	145
Other long term liabilities	2,358	-	3,891	833
Trade and other payables	18,865	-	18,845	18,845
Fair value through profit or loss – held for trading				
Derivative liabilities	4	-	4	4
	61,760	-	82,142	21,621

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### **NOTES TO THE FINANCIAL STATEMENTS**

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# 40. FINANCIAL INSTRUMENTS (CONTINUED)

#### Maturity analysis (continued)

Company			More than
2016 In RM Mil	1-2 years	2-5 years	5 years
Loans and borrowings			
Unsecured Notes and Bonds			
USD Notes	353	1,059	4,661
USD Guaranteed Notes	1,350	16,049	24,605
USD Bonds	171	513	3,061
Unsecured Islamic financing facilities			
USD Islamic financing facilities	152	5,776	-
Other long term liabilities	289	868	1,157
Trade and other payables	-	-	-
Fair value through profit or loss – held for trading			
Derivative liabilities	-	-	-
	2,315	24,265	33,484

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2015			
Loans and borrowings			
Unsecured Notes and Bonds			
USD Notes	338	1,014	4,801
USD Guaranteed Notes	1,292	16,082	24,369
USD Bonds	164	491	3,095
Unsecured Islamic financing facilities			
USD Islamic financing facilities	145	5,672	-
Other long term liabilities	349	1,021	1,688
Trade and other payables	-	-	-
Fair value through profit or loss – held for trading			
Derivative liabilities	-	-	_
	2,288	24,280	33,953

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# NOTES TO THE FINANCIAL STATEMENTS

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#### 40. FINANCIAL INSTRUMENTS (CONTINUED)

#### Market risk

Market risk is the risk or uncertainty arising from change in market prices and their impact on the performance of the business. The market price changes that the Group and the Company is exposed to includes interest rates, foreign currency exchange rates, commodity prices, equity prices and other indices that could adversely affect the value of the Group's and the Company's financial assets, liabilities or expected future cash flows.

#### Interest rate risk

The Group and the Company's investments in fixed rate debt securities and fixed rate borrowings are exposed to a risk of change in their fair values due to changes in interest rates. The Group's variable rate borrowings are exposed to a risk of change in cash flows due to changes in interest rates. Investments in equity securities and short term receivables and payables are not significantly exposed to interest rate risk.

All interest rate exposures are monitored and managed proactively in line with PETRONAS' policies and guidelines. The Group enters into hedging transactions with respect to interest rate on certain long term borrowings and other debts where necessary and appropriate, in accordance with policies and guidelines.

The interest rate profile of the Group's and the Company's interest-bearing financial instruments based on carrying amount as at reporting date is as follows:

	Group		Company	
In RM Mil	2016	2015	2016	2015
Fixed rate instruments				
Financial assets	121,114	127,444	193,166	204,559
Financial liabilities	(48,865)	(53,768)	(42,367)	(40,533)
	72,249	73,676	150,799	164,026
Floating rate instruments				
Financial assets	3,777	4,515	20,739	14,028
Financial liabilities	(18,748)	(4,134)	-	-
	(14,971)	381	20,739	14,028

Since most of the Group and the Company's financial assets and liabilities are fixed rate instruments measured at amortised cost, a change in interest rate is not expected to have material impact on the Group and the Company's profit or loss.

#### Foreign exchange risk

The Group and the Company are exposed to varying levels of foreign exchange risk when they enter into transactions that are not denominated in the respective companies' functional currencies and when foreign currency monetary assets and liabilities are translated at the reporting date. The main underlying economic currencies of the Group's cash flows are Ringgit Malaysia and US Dollars.

The Group and the Company's foreign exchange management policy are to minimise economic and significant transactional exposures arising from currency movements. The Group coordinates the handling of foreign exchange risks centrally typically by matching receipts and payments for the same currency. For major capital projects, the Group performs assessment of potential foreign exchange risk exposure at the investment decision phase to determine the appropriate foreign exchange risk management strategy. Residual net positions are actively managed and monitored against prescribed policies and control procedures. When deemed necessary and appropriate, the Group will enter into derivative financial instruments to hedge and minimise its exposures to the foreign currency movements.

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# NOTES TO THE FINANCIAL STATEMENTS

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### 40. FINANCIAL INSTRUMENTS (CONTINUED)

#### Foreign exchange risk (continued)

The Group and the Company's significant exposure to foreign currency risk, based on carrying amounts as at the reporting date is as follows:

Group	р
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In RM Mil	2016	2015
Denominated in USD		
Financial assets		
Loan and advances to subsidiaries	126,573	123,249
Cash and cash equivalents	24,353	37,603
Trade and other receivables	15,816	17,995
Fund and other investments	277	73
Other financial assets	375	76
	167,394	178,996
Financial liabilities		
Loan and advances from holding company	(16,923)	(12,983)
Borrowings	(34,850)	(44,991)
Trade and other payables	(35,135)	(9,040)
Other financial liabilities	(126)	(20,304)
	(87,034)	(87,318)
Net exposure	80,360	91,678
Denominated in RM		
Financial assets		
Cash and cash equivalents	5	19
Trade and other receivables	3,852	1,719
Other financial assets	3	-
	3,860	1,738
Financial liabilities	(4.007)	(7.446)
Trade and other payables	(4,203)	(3,116)
Other financial liabilities	(18)	(7.445)
Not any arms	(4,221)	(3,116)
Net exposure	(361)	(1,378)

# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

### 40. FINANCIAL INSTRUMENTS (CONTINUED)

#### Foreign exchange risk (continued)

# Company

In RM Mil	2016	2015
Denominated in USD		
Financial assets		
Loan and advances to subsidiaries	126,295	120,017
Cash and cash equivalents	40,176	36,622
Trade and other receivables	9,787	5,167
	176,258	161,806
Financial liabilities  Cash and cash equivalents		
- Subsidiaries' cash with PETRONAS Integrated Financial Shared Service Centre	(16,269)	(17,378)
Borrowings	(42,367)	(40,533)
Trade and other payables	(6,449)	(6,883)
Other financial liabilities	(1,678)	(2,316)
	(66,763)	(67,110)
Net exposure	109,495	94,696

Sensitivity analysis for a given market variable provided in this note, discloses the effect on profit or loss and equity as at 31 December 2016 assuming that a reasonably possible change in the relevant market variable had occurred at 31 December 2016 and been applied to the risk exposures in existence at that date to show the effects of reasonably possible changes in price on profit or loss and equity to the next annual reporting date. Reasonably possible changes in market variables used in the sensitivity analysis are based on implied volatilities, where available, or historical data for equity and commodity prices and foreign exchange rates. Reasonably possible changes in interest rates are based on management judgment and historical experience.

The sensitivity analysis is hypothetical and should not be considered to be predictive of future performance because the Group's actual exposure to market prices is constantly changing with changes in the Group's portfolio of among others, commodity, debt and foreign currency contracts. Changes in fair values or cash flows based on a variation in a market variable cannot be extrapolated because the relationship between the change in market variable and the change in fair value or cash flows may not be linear. In addition, the effect of a change in a given market variable is calculated independently of any change in another assumption and mitigating actions that would be taken by the Group. In reality, changes in one factor may contribute to changes in another, which may magnify or counteract the sensitivities.

Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

# NOTES TO THE FINANCIAL STATEMENTS

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# 40. FINANCIAL INSTRUMENTS (CONTINUED)

#### Foreign exchange risk (continued)

The following table demonstrates the indicative pre-tax effects on the profit or loss and equity of applying reasonably foreseeable market movements in the following currency exchange rates:

	Appreciation in foreign	Group		Company	
2016	currency rate		Profit		Profit
In RM Mil	%	Equity	or loss	Equity	or loss
USD	10	8,291	181	-	10,949
RM	10	-	(36)	-	-
2015					
USD	10	7,615	1,737	-	9,470
RM	10	-	(352)	-	-

A depreciation in foreign currency rate above would have had equal but opposite effect, on the basis that all other variables remain constant.

# **Equity price risk**

Equity price risk arises from the Group and the Company's investments in equity securities. Exposures to equity price risk are managed in accordance to Group's existing policies and guidelines. The Group and the Company monitors the equity investments on a portfolio basis and a performance benchmark is established for each investment portfolio giving consideration to portfolio objectives and return expectation. All buy and sell decisions are monitored by the Group Treasury Division.

The Group and the Company also hold equity investment for strategic purposes, that are classified as available-for-sale financial assets. Reports on the equity portfolio performance are submitted to the Group's and the Company's senior management on a regular basis.

The Group and the Company's exposure to equity price risk based on carrying amounts as at the reporting date is as follows:

	Group		Com	Company	
In RM Mil	2016	2015	2016	2015	
Local equities	583	641	54	58	
Foreign equities	5,113	2,949	-	-	
	5,696	3,590	54	58	

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

#### 40. FINANCIAL INSTRUMENTS (CONTINUED)

#### Equity price risk (continued)

The following table demonstrates the indicative pre-tax effects on the profit or loss and equity of applying reasonably foreseeable market movements in the following equities:

	Increase in price based on average change	Group		Compan	у
2016	in index rate		Profit		Profit
In RM Mil	%	Equity	or loss	Equity	or loss
Local equities	15	18	69	8	-
Foreign equities	15 to 30	846	-	-	-
2015					
Local equities	15	20	76	9	-
Foreign equities	15 to 30	591	-	-	-

A decrease in price based on average change in index rate above would have had equal but opposite effect, on the basis that all other variables remain constant.

#### Commodity price risk

The Group is exposed to changes in crude oil, gas and petroleum products prices which may affect the value of the Group's assets, liabilities or expected future cash flows. To mitigate these exposures from a business perspective, the Group enters into various financial instruments. In effecting these transactions, the Group operates within policies and procedures designed to ensure that risks are minimised. All financial instruments positions are marked-to-market by independent risk management department and reported to management for performance monitoring and risk management purposes on a daily basis.

Since the Group undertakes hedging using commodity derivatives for the majority of its transactions, a change in commodity price is not likely to result in a significant impact on the Group and the Company's profit or loss and equity.

# Fair value information

The carrying amounts of cash and cash equivalents, short term receivables and payables, revolving credits and bank overdrafts reasonably approximate their fair values due to the relatively short term nature of these financial instruments.

The following table analyses financial instruments carried at fair value and those not carried at fair value for which fair value is disclosed, together with their fair values and carrying amounts shown in the statement of financial position.

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# NOTES TO THE FINANCIAL STATEMENTS

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# 40. FINANCIAL INSTRUMENTS (CONTINUED)

Fair value information (continued)

Group 2016	Fair value of financial instruments carried at fair value		
In RM Mil	Level 1	Level 2	Total
Financial Assets			
Quoted shares	5,660	36	5,696
Quoted securities	38	283	321
Malaysian Government Securities	-	47	47
Corporate Private Debt Securities	-	3,514	3,514
Commodity swaps	-	4	4
Forward foreign exchange contracts	-	17	17
Forward gas contracts	285	-	285
	5,983	3,901	9,884
Financial Liabilities			
Interest rate swaps	-	(1)	(1)
Forward foreign exchange contracts	-	(162)	(162)
Commodity swaps	-	(113)	(113)
Forward gas contracts	(536)	-	(536)
	(536)	(276)	(812)

Group 2016	Fair value of financial instruments not carried at fair value			Carrying
In RM Mil	Level 2	Level 3	Total	amount
Financial assets				
Unquoted shares	-	685	685	685
Long term receivables	-	2,819	2,819	2,755
Finance lease receivables	-	10,314	10,314	10,314
	-	13,818	13,818	13,754
Financial liabilities				
Notes and Bonds	(35,086)	-	(35,086)	(36,755)
Term loans	-	(15,584)	(15,584)	(15,706)
Islamic financing facilities	(5,343)	(6,036)	(11,379)	(11,656)
Other long term liabilities	-	(1,677)	(1,677)	(1,677)
	(40,429)	(23,297)	(63,726)	(65,794)

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 40. FINANCIAL INSTRUMENTS (CONTINUED)

Fair value information (continued)

Group 2015	Fair	Fair value of financial instrum carried at fair v			
In RM Mil	Level 1	Level 2	Total		
Financial Assets					
Quoted shares	3,562	28	3,590		
Quoted securities	26	422	448		
Malaysian Government Securities	-	3	3		
Corporate Private Debt Securities	-	3,158	3,158		
Commodity swaps	-	144	144		
Forward foreign exchange contracts	-	27	27		
Forward gas contracts	289	-	289		
Forward oil price contracts	27	-	27		
	3,904	3,782	7,686		
Financial Liabilities					
Interest rate swaps	-	(1)	(:		
Commodity swaps	-	(18)	(18		
Forward foreign exchange contracts	-	(761)	(76:		
Forward gas contracts	(236)	-	(236		
Forward oil price contracts	(12)	-	(12		
	(248)	(780)	(1,028		

Group 2015	Fair value	Fair value of financial instruments not carried at fair value		
In RM Mil	Level 2	Level 3	Total	Carrying amount
Financial assets				
Unquoted securities	-	799	799	799
Corporate Private Debt Securities	6,779	-	6,779	4,906
Unquoted shares	-	451	451	451
Malaysian Government Securities	1,964	-	1,964	1,979
Islamic deposits with licensed financial institutions	-	622	622	622
Long term receivables	-	2,521	2,521	2,425
Finance lease receivables	-	11,122	11,122	11,122
	8,743	15,515	24,258	22,304
Financial liabilities				
Notes and Bonds	(34,633)	-	(34,633)	(35,167)
Term loans	-	(10,037)	(10,037)	(10,037
Islamic financing facilities	(5,286)	(5,585)	(10,871)	(10,948
Other long term liabilities	-	(1,864)	(1,864)	(2,316
	(39,919)	(17,486)	(57,405)	(58,468

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 40. FINANCIAL INSTRUMENTS (CONTINUED)

Fair value information (continued)

Company 2016	Fa	Fair value of financial instruments carried at fair value		
In RM Mil	Level 1	Level 2	Total	
Financial assets				
Quoted shares	54	-	54	
Malaysian Government Securities	-	47	47	
Corporate Private Debt Securities	-	4,417	4,417	
Forward foreign exchange contracts	-	13	13	
	54	4,477	4,531	
Financial liabilities				
Forward foreign exchange contracts	-	(3)	(3)	

Company 2016	Fai	Fair value of financial instruments not carried at fair value		
In RM Mil	Level 2	Level 3	Total	amount
Financial assets				
Unquoted shares	-	76	76	76
Long term receivables	-	159,746	159,746	161,258
	-	159,822	159,822	161,334
Financial liabilities				
Notes and Bonds	(35,086)	-	(35,086)	(36,755)
Islamic financing facilities	(5,343)	-	(5,343)	(5,612)
Other long term liabilities	(1,777)	-	(1,777)	(1,728)
	(42,206)	-	(42,206)	(44,095)

Company 2015	Fair value of financial instrumen carried at fair valu			
In RM Mil	Level 1	Level 2	Total	
Financial assets				
Quoted shares	58	-	58	
Malaysian Government Securities	-	3	3	
Corporate Private Debt Securities	-	3,291	3,291	
Forward foreign exchange contracts	-	3	3	
	58	3,297	3,355	
Financial liabilities				
Forward foreign exchange contracts	-	(4)	(4)	

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 40. FINANCIAL INSTRUMENTS (CONTINUED)

#### Fair value information (continued)

Company 2015	Fair	instruments dat fair value	Carrying	
In RM Mil	Level 2	Level 3	Total	amount
Financial assets				
Unquoted shares	-	76	76	76
Malaysian Government Securities	1,944	-	1,944	1,959
Corporate Private Debt Securities	5,590	-	5,590	5,620
Long term receivables	-	157,370	157,370	157,276
	7,534	157,446	164,980	164,931
Financial liabilities				
Notes and Bonds	(34,633)	-	(34,633)	(35,167)
Islamic financing facilities	(5,286)	-	(5,286)	(5,366)
Other long term liabilities	(1,864)	-	(1,864)	(2,358)
	(41,783)	-	(41,783)	(42,891)

# Derivatives

The calculation of fair value for derivative financial instruments depends on the type of instruments. The fair value of interest rate swap agreements are estimated by discounting expected future cash flows using current market interest rates and yield curve over the remaining term of the instrument. The fair value of forward foreign currency exchange contracts is based on the fair value difference between forward exchange rates and the contracted rate. The fair value of commodity swap and commodity forward contracts is based on the fair value difference between market price at the date of measurement and the contracted price.

#### Non-derivative financial instruments

Fair value, which is determined for disclosure purposes, is calculated based on the present value of future principal and interest cash flows, discounted at the market rate of interest at the end of the reporting period.

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# NOTES TO THE FINANCIAL STATEMENTS

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### 40. FINANCIAL INSTRUMENTS (CONTINUED)

Income/(expense), net gains and losses arising from financial instruments

Group					
2016 In RM Mil	Interest income	Interest expense	Impairment loss	Others	Total
Financial instruments at fair value					
through profit or loss					
- Held for trading	-	-	-	874	874
- Designated upon initial					
recognition	105	-	-	(6)	99
Held-to-maturity	161	-	-	-	161
Available-for-sale					
- recognised in profit or loss	57	-	10	235	302
- recognised in equity	-	-	-	2,094	2,094
Loans and receivables					
- recognised in profit or loss	4,019	-	(1,810)	6,185	8,394
- recognised in equity	-	-	-	(597)	(597)
Financial liabilities at amortised cost	-	(2,422)	-	(2,496)	(4,918)
Total	4,342	(2,422)	(1,800)	6,289	6,409
2015					
Financial instruments at fair value					
through profit or loss					
- Held for trading	-	-	-	(740)	(740)
- Designated upon initial				(1.0)	
recognition	229	-	-	(18)	211
Held-to-maturity	375	-	-	-	375
Available-for-sale					
- recognised in profit or loss	30	-	(1,793)	215	(1,548)
- recognised in equity	-	-	1,782	(1,034)	748
Loans and receivables					
- recognised in profit or loss	4,687	-	(1,611)	7,180	10,256
- recognised in equity	-	-	-	14,169	14,169
Financial liabilities at amortised cost	-	(2,439)	_	(7,152)	(9,591)
Total	5,321	(2,439)	(1,622)	12,620	13,880

# NOTES TO THE FINANCIAL STATEMENTS

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(continued)

# 40. FINANCIAL INSTRUMENTS (CONTINUED)

Income/(expense), net gains and losses arising from financial instruments (continued)

Company 2016 In RM Mil	Interest income	Interest expense	Impairment loss	Others	Total
Financial instruments at fair value		·			
through profit or loss					
- Designated upon initial					
recognition	91	-	-	-	91
Held-to-maturity	137	-	-	-	137
Available-for-sale					
- recognised in profit or loss	161	-	-	77	238
- recognised in equity	-	-	-	(6)	(6)
Loans and receivables	8,179	-	3	5,696	13,878
Financial liabilities at amortised cost	-	(2,031)	-	(1,804)	(3,835)
Total	8,568	(2,031)	3	3,963	10,503
				<u> </u>	
2015					
Financial instruments at fair value					
through profit or loss					
- Designated upon initial					
recognition	177	-	-	-	177
Held-to-maturity	326	-	-	-	326
Available-for-sale					
- recognised in profit or loss	-	-	-	222	222
- recognised in equity	-	-	-	(147)	(147)
Loans and receivables	8,184	-	223	22,976	31,383
Financial liabilities at amortised cost	-	(1,947)	-	(6,914)	(8,861)

Others relate to gains and losses arising from financial instruments other than interest income, interest expense and impairment loss such as realised and unrealised foreign exchange gains or losses, dividend income and fair value gains or losses.

(1,947)

223

16,137

23,100

### 41. CAPITAL MANAGEMENT

Total

The Group, as an essential part of its capital management strategy, is committed to a policy of financial prudence as outlined in the PETRONAS Group Corporate Financial Policy. The Group's capital structure consists of consolidated equity plus debt, defined as the current and long term portions of the Group's debt.

The objective of the Group's capital management is to maintain an optimal capital structure and ensure availability of funds in order to meet financial obligations, support business growth and maximise shareholders' value. The Group monitors and maintains a prudent level of total debt to total assets ratio so as to enable compliance with all covenants.

There were no changes in the Group's approach to capital management during the year.

8,687

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### **NOTES TO THE FINANCIAL STATEMENTS**

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#### 42. AMENDMENTS TO MFRS AND PRONOUNCEMENTS ISSUED BY MASB

#### Adoption of new and revised pronouncements

As of 1 January 2016, the Group and the Company adopted the following pronouncements that have been issued by the MASB and are applicable as listed below:

# Effective for annual periods beginning on or after 1 January 2016

Amendments to MFRS 5 Non-current Assets Held for Sale and Discontinued Operations (Annual Improvements 2012-2014 Cycle)

Amendments to MFRS 7 Financial Instruments: Disclosures (Annual Improvements 2012 – 2014 Cycle)

Amendments to MFRS 11 Joint Arrangements: Accounting for Acquisitions of Interests in Joint Operations

Amendments to MFRS 101 Presentation of Financial Statements: Disclosure Initiative

Amendments to MFRS 116 Property, Plant and Equipment: Clarification of Acceptable Methods of Depreciation and Amortisation

Amendments to MFRS 119 Employee Benefits (Annual Improvements 2012-2014 Cycle)

Amendments to MFRS 127 Separate Financial Statements: Equity Method in Separate Financial Statements

Amendments to MFRS 134 Interim Financial Reporting (Annual Improvements 2012-2014 Cycle)

Amendments to MFRS 138 Intangible Assets: Clarification of Acceptable Methods of Depreciation and Amortisation

The initial application of the abovementioned pronouncements did not have any material impact to the financial statements of the Group and the Company.

### Pronouncements yet in effect

The following pronouncements that have been issued by the MASB will become effective in future financial reporting periods and have not been adopted by the Group and the Company in these financial statements:

# Effective for annual periods beginning on or after 1 January 2017

Amendments to MFRS 12 Disclosure of Interests in Other Entities (Annual Improvements 2014-2016 Cycle)

Amendments to MFRS 107 Statement of Cash Flows: Disclosure Initiative

Amendments to MFRS 112 Income Taxes: Recognition of Deferred Tax Assets for Unrealised Losses

# Effective for annual periods beginning on or after 1 January 2018

MFRS 9 Financial Instruments (2014)

MFRS 15 Revenue from Contracts with Customers

Amendments to MFRS 15 Revenue from Contracts with Customers: Clarifications

Amendments to MFRS 140 Investment Property: Transfers of Investment Property

Amendments to MFRS 4 Insurance Contracts: Applying MFRS 9 Financial Instruments with MFRS 4 Insurance Contract

IC Interpretation 22 Foreign Currency Transactions and Advance Consideration

#### Effective for annual periods beginning on or after 1 January 2019

MFRS 16 Leases

# Effective for a date yet to be confirmed

Amendments to MFRS 10 Consolidated Financial Statements: Sale or Contribution of Assets between an Investor and its Associate or Joint Venture

Amendments to MFRS 128 Investments in Associates and Joint Ventures: Sale or Contribution of Assets between an Investor and its Associate or Joint Venture

# NOTES TO THE FINANCIAL STATEMENTS

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#### 42. AMENDMENTS TO MFRS AND PRONOUNCEMENTS ISSUED BY MASB (CONTINUED)

#### Pronouncements yet in effect (continued)

The Group and the Company are expected to adopt the abovementioned pronouncements beginning from the respective dates the pronouncements become effective. The initial application of the abovementioned pronouncements are not expected to have any material impact to the financial statements of the Group and the Company except as mentioned below:

#### i. MFRS 15 Revenue from Contracts with Customers

MFRS 15 replaces the guidance in MFRS 111 Construction Contracts, MFRS 118 Revenue, IC Interpretation 13 Customer Loyalty Programmes, IC Interpretation 15 Agreements for Construction of Real Estate, IC Interpretation 18 Transfers of Assets from Customers and IC Interpretation 131, Revenue – Barter Transactions Involving Advertising Services. The Group is currently assessing the financial impact that may arise from the adoption of MFRS 15.

#### ii. MFRS 9 Financial Instruments

MFRS 9 replaces the guidance in MFRS 139 *Financial Instruments: Recognition and Measurement* on the classification and measurement of financial assets and financial liabilities, and on hedge accounting. The Group is currently assessing the financial impact that may arise from the adoption of MFRS 9.

#### iii. MFRS 16 Leases

MFRS 16 replaces existing leases guidance in MFRS 117 Leases, IC Interpretation 4 Determining whether an Arrangement contains a Lease, IC Interpretation 115 Operating Leases – Incentives, and IC Interpretation 127 Evaluating the Substance of Transactions Involving the Legal Form of a Lease. The Group is currently assessing the financial impact that may arise from the adoption of MFRS 16.

### New pronouncements not applicable to the Group and the Company

The MASB has issued pronouncements which are not yet effective, but for which are not relevant to the operations of the Group and the Company and hence, no further disclosure is warranted.

### Effective for annual periods beginning on or after 1 January 2018

Amendments to MFRS 1 First-time Adoption of Malaysian Financial Reporting Standards (Annual Improvement 2014-2016 Cycle)

Amendments to MFRS 2 Share-based Payment: Classification and Measurement of Share-based Payment Transactions Amendments to MFRS 128 Investments in Associates and Joint Ventures (Annual Improvements 2014-2016 Cycle)

NOTES TO THE FINANCIAL STATEMENTS - 31 December 2016

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# 43. KEY SUBSIDIARIES AND ACTIVITIES

	Effective Percentage Holding				
		2016 %	2015 %	Country of Incorporation	Principal Activities
*	PETRONAS Carigali Sdn. Bhd.	100	100	Malaysia	Petroleum exploration, development and production
	PETRONAS Carigali Chad Exploration & Production Inc.	100	100	Cayman Islands	Investment holding
	PETRONAS Carigali (Chad EP) Inc.	100	100	Cayman Islands	Petroleum operations
	PETRONAS Chad Marketing Inc.	100	100	Cayman Islands	Trading of petroleum products
	PETRONAS Carigali Overseas Sdn. Bhd.	100	100	Malaysia	Investment holding and petroleum operations
	E&P Malaysia Venture Sdn. Bhd.	100	100	Malaysia	Petroleum operations
	PETRONAS Carigali Iraq Holding B.V.	100	100	Netherlands	Petroleum operations
∞*	PETRONAS International Corporation Ltd.	100	100	Malaysia	Investment holding
	PC JDA Limited	100	100	Republic of Mauritius	Petroleum operations
	PC Vietnam Limited	100	100	Republic of Mauritius	Petroleum operations
	PC (Myanmar) Holdings Limited	100	100	Hong Kong	Investment holding
	PC Myanmar (Hong Kong) Limited	100	100	Hong Kong	Petroleum operations
∞	PC Muriah Ltd.	100	100	Malaysia	Petroleum operations
	PETRONAS Australia Pty Limited	100	100	Australia	Investment holding
	PAPL (Upstream) Pty Limited	100	100	Australia	Exploration and production of coal seam gas
	PAPL (Downstream) Pty Limited	100	100	Australia	Production and transportation of liquefied natural gas for export
	PETRONAS Carigali (Jabung) Ltd.	100	100	Bahamas	Petroleum operations
	PETRONAS Carigali Myanmar Inc.	100	100	Liberia	Petroleum operations
	PETRONAS Carigali Nile Ltd.	100	100	Republic of Mauritius	Petroleum operations
	PETRONAS (E&P) Overseas Ventures Sdn. Bhd.	100	100	Malaysia	Investment holding
	Natuna 1 B.V.	100	100	Netherlands	Petroleum operations
	PETRONAS Carigali Canada B.V.	100	100	Netherlands	Investment holding
	Progress Energy Canada Ltd.	100	100	Canada	Petroleum and gas exploration, development and production
	PETRONAS Azerbaijan Upstream Sdn. Bhd.	100	100	Malaysia	Investment holding
	PETRONAS South Caucasus S.a.r.l.	100	100	Luxembourg	Investment holding
	PETRONAS Azerbaijan (Shah Deniz) S.a.r.l.	100	100	Luxembourg	Petroleum operations
	PETRONAS Carigali (Turkmenistan) Sdn. Bhd.	100	100	Malaysia	Petroleum operations
00	PICL (Egypt) Corporation Ltd.	100	100	Malaysia	Investment holding, exploration and production of oil and gas
	PETRONAS Power Sdn. Bhd.	100	100	Malaysia	Investment holding

# NOTES TO THE FINANCIAL STATEMENTS

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# 43. KEY SUBSIDIARIES AND ACTIVITIES (CONTINUED)

Effective				
Percentage Holding				

	reiceillag	e Holding		
	2016 %	2015 %	Country of Incorporation	Principal Activities
Pengerang Power Sdn. Bhd.	100	100	Malaysia	Developing and operating a power generation plant and distribution of electricity and steam
PETRONAS LNG Sdn. Bhd.	100	100	Malaysia	Investment holding
∞ PETRONAS LNG Ltd.	100	100	Malaysia	Trading of natural gas and LNG
PETRONAS Energy Trading Limited	100	100	United Kingdom	Trading of natural gas and LNG
* Malaysia LNG Sdn. Bhd.	90	90	Malaysia	Liquefaction and sale of LNG
* Malaysia LNG Dua Sdn. Bhd.	80	80	Malaysia	Liquefaction and sale of LNG
* Malaysia LNG Tiga Sdn. Bhd.	60	60	Malaysia	Liquefaction and sale of LNG
* PETRONAS LNG 9 Sdn. Bhd.	90	100	Malaysia	Selling, marketing and distribution of LNG
∞* PETRONAS Floating LNG 1 (L) Ltd.	100	100	Malaysia	Developing, constructing, owning, operating and maintaining an integrated floating natural gas liquefaction, storage and off loading facility
∞* PETRONAS Floating LNG 2 (L) Ltd.	100	100	Malaysia	Developing, constructing, owning, operating and maintaining an integrated floating natural gas liquefaction, storage and off loading facility
Engen Limited	80	80	South Africa	Refining of crude oil and marketing of refined petroleum products
PETRONAS Marketing Sudan Limited	-	100	Sudan	Marketing of petroleum products
™ MITCO Labuan Co. Limited	100	100	Malaysia	General merchandise trading
* PETRONAS Dagangan Berhad	69.9	69.9	Malaysia	Domestic marketing of petroleum products
* PETRONAS Gas Berhad	60.6	60.6	Malaysia	Processing and transmission of natural gas
Regas Terminal (Sg. Udang) Sdn. Bhd.	60.6	60.6	Malaysia	Manage and operate LNG regasification terminal
* PETRONAS Penapisan (Melaka) Sdn. Bhd.	100	100	Malaysia	Refining and condensation of crude oil
* Malaysian Refining Company Sdn. Bhd.	100	100	Malaysia	Refining and condensation of crude oil
* PETRONAS Penapisan (Terengganu) Sdn. Bhd.	100	100	Malaysia	Refining and condensation of crude oil
* PETRONAS Trading Corporation Sdn. Bhd.	100	100	Malaysia	Marketing of crude oil and trading in crude oil and petroleum products and investment holding
∞ PETCO Trading Labuan Company Ltd.	100	100	Malaysia	Marketing of crude oil and trading in crude oil and petroleum products

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# 43. KEY SUBSIDIARIES AND ACTIVITIES (CONTINUED)

# Effective Percentage Holding

Percentage Holding					
	2016 %	2015 %	Country of Incorporation	Principal Activities	
PETCO Trading (UK) Limited	100	100	United Kingdom	Marketing of crude oil and trading in crude oil and petroleum products	
PETCO Trading DMCC	100	100	United Arab Emirates	Trading of petroleum products	
@* PETRONAS Chemicals Group Berhad	64.3	64.3	Malaysia	Investment holding	
PETRONAS Chemicals Aromatics Sdn. Bhd.	45	45	Malaysia	Production and sale of aromatics products	
PETRONAS Chemicals Ammonia Sdn. Bhd.	64.3	64.3	Malaysia	Production and sale of ammonia, syngas and carbon monoxide	
∞ PETRONAS Chemicals Marketing (Labuan) Ltd.	64.3	64.3	Malaysia	Marketing of petrochemical products	
PETRONAS Chemicals Fertiliser Kedah Sdn. Bhd.	64.3	64.3	Malaysia	Production and sale of urea, ammonia and methanol	
PETRONAS Chemicals Glycols Sdn. Bhd.	64.3	64.3	Malaysia	Production and sale of ethylene oxide, ethylene glycol and other related by-products	
PETRONAS Chemicals Marketing Sdn. Bhd.	64.3	64.3	Malaysia	Marketing of petrochemical products	
PETRONAS Chemicals Methanol Sdn. Bhd.	64.3	64.3	Malaysia	Production and sale of methanol	
PETRONAS Chemicals MTBE Sdn. Bhd.	64.3	64.3	Malaysia	Production and sale of methyl tertiary butyl ether and propylene	
PETRONAS Chemicals Olefins Sdn. Bhd.	56.6	56.6	Malaysia	Production and sale of ethylene, propylene and other hydrocarbon by-products	
Asean Bintulu Fertilizer Sdn. Bhd.	40.9	40.9	Malaysia	Processing of natural gas into urea and ammonia	
PETRONAS Chemicals Derivatives Sdn. Bhd.	64.3	64.3	Malaysia	Production and sale of ethylene oxide derivatives, propylene derivatives and related chemical products	
PETRONAS Chemicals Polyethylene Sdn. Bhd.	64.3	64.3	Malaysia	Production and sale of polyethylene	
PETRONAS Chemicals Ethylene Sdn. Bhd.	56.3	56.3	Malaysia	Production and sale of ethylene	
PETRONAS Chemicals Fertiliser Sabah Sdn. Bhd.	64.3	64.3	Malaysia	Production and sale of ammonia and urea	
PETRONAS Chemicals LDPE Sdn. Bhd.	38.6	38.6	Malaysia	Production and sale of low-density polyethylene pellets ("LDPE")	
* PrimeSourcing International Sdn. Bhd.	100	100	Malaysia	Marketing and trading of steel, mechanical and electrical instrumentation, chemical and catalyst	

# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

# 43. KEY SUBSIDIARIES AND ACTIVITIES (CONTINUED)

# Effective Percentage Holding

Percentage Holding				
			Country of	
	%	%	Incorporation	Principal Activities
* PETRONAS Lubricants International Sdn. Bhd.	100	100	Malaysia	Investment holding, manufacturing and trading of lubricant products
PLI (Netherlands) B.V.	100	100	Netherlands	Investment holding
PETRONAS Lubricants Italy S.p.A	100	100	Italy	Manufacturing and marketing of lubricant products
PETRONAS Lubrificantes Brasil S.A.	100	100	Brazil	Manufacturing and marketing of lubricant products
@* MISC Berhad	62.6	62.6	Malaysia	Shipping and shipping related activities
AET Tanker Holdings Sdn. Bhd.	62.6	62.6	Malaysia	Investment holding
Malaysia Marine and Heavy Engineering Holdings Berhad	41.6	41.6	Malaysia	Investment holding
∞ Gas Asia Terminal (L) Pte. Ltd.	62.6	62.6	Malaysia	Development and ownership of LNG floating storage units
∞ MISC Capital (L) Ltd.	62.6	62.6	Malaysia	Special purpose vehicle for financing arrangement
∞ MISC Offshore Floating Terminals (L) Ltd.	62.6	62.6	Malaysia	Offshore floating terminals ownership
Gumusut-Kakap Semi-Floating Production System (L) Limited	62.6	81.3	Malaysia	Owning and leasing of semi- submersible floating production system
MISC Tankers Sdn. Bhd.	62.6	62.6	Malaysia	Investment holding and provision of management services
MISC Tanker Holdings Sdn. Bhd.	62.6	62.6	Malaysia	Investment holding
MISC Tanker Holdings (Bermuda) Limited	62.6	62.6	Bermuda	Investment holding
* KLCC (Holdings) Sdn. Bhd.	100	100	Malaysia	Investment holding, property development management and provision of management service
Kuala Lumpur Convention Centre Sdn. Bhd.	100	100	Malaysia	Property investment
Putrajaya Holdings Sdn. Bhd.	64.4	64.4	Malaysia	Property development and investment
<sup>®</sup> KLCC Property Holdings Berhad	75.5	75.5	Malaysia	Investment holding, property investment and provision of management services
« KLCC Real Estate Investment Trust   ("KLCC REIT")	-	-	Malaysia	To invest in a Shariah compliant portfolio of real estate assets and real estate related assets
Suria KLCC Sdn. Bhd.	45.5	45.5	Malaysia	Property investment
Putrajaya Homes Sdn. Bhd.	64.4	64.4	Malaysia	General construction and property development
Putrajaya Ventures Sdn. Bhd.	64.4	64.4	Malaysia	Property development
* Institute of Technology PETRONAS Sdn. Bhd.	100	100	Malaysia	Institute of higher learning

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### **NOTES TO THE FINANCIAL STATEMENTS**

- 31 December 2016

(continued)

### 43. KEY SUBSIDIARIES AND ACTIVITIES (CONTINUED)

		ctive je Holding		
	2016 %	2015 %	Country of Incorporation	Principal Activities
∞* Energas Insurance (L) Limited	100	100	Malaysia	Offshore captive insurance business
∞* PETRONAS Capital Limited	100	100	Malaysia	Investment holding
	100	100	Malaysia	Investment holding
<sup>3</sup> Petroleum Research Fund	-	-	Malaysia	Providing financial contributions to research activities relating to petroleum and other energy sources industry
Abandonment Cess Fund	-	-	Malaysia	Manage, hold and utilise the trust fund to discharge obligations for the Abandonment of Petroleum Facilities in Malaysia

The Group does not hold any ownership interest in KLCC Real Estate Investment Trust ("KLCC REIT"). However, the Group exercises power by virtue of its control over KLCC REIT Management Sdn. Bhd., the manager of KLCC REIT. KLCC REIT units are stapled to the ordinary shares of KLCC Property Holdings Berhad ("KLCCP") such that the shareholders of KLCCP are exposed to variable returns from its involvement with KLCC REIT and the Group has the ability to affect those returns through its power over KLCC REIT. Consequently, KLCC REIT is regarded as a subsidiary of the Group.

- The Group does not hold any ownership interest in these funds. However, the Group has the rights to appoint and remove members of Board of Trustees, which is the decision making body of the funds and able to determine the manner in which balance of the funds, after fulfilment of certain obligation, should be distributed upon dissolution. Consequently, the funds is regarded as subsidiaries of the Group.
- \* Subsidiaries held directly by the Company.
- @ The shares of these subsidiaries are quoted on the Main Market of Bursa Malaysia Securities Berhad.
- ∞ Companies incorporated under the Labuan Companies Act 1990.

# NOTES TO THE FINANCIAL STATEMENTS - 31 December 2016

(continued)

### 44. KEY ASSOCIATES AND ACTIVITIES

		Effective Percentage 2016 %	2015	Country of	Duta singl Assistation
	BASF PETRONAS Chemicals Sdn. Bhd.	25.7	<b>%</b> 25.7	Incorporation  Malaysia	Principal Activities  Purchases propylene and n-butane feedstock from the Group for production, marketing and sale of acrylic, oxo and butanediol products
	Bintulu Port Holdings Berhad	28.5	28.5	Malaysia	Port management
	Cameroon Oil Transportation Company - S.A.	29.8	29.8	Republic of Cameroon	Pipeline operations
	El Behera Natural Gas Liquefaction Company S.A.E.	35.5	35.5	Egypt	Manufacturing and production of LNG for the purpose of export
#	Gas Malaysia Berhad	9.0	9.0	Malaysia	Selling, marketing, distribution and promotion of natural gas
	IDKU Natural Gas Liquefaction Company S.A.E.	38.0	38.0	Egypt	Manufacturing and production of LNG for the purpose of export
	Pacific North West LNG Ltd	62.0	62.0	Canada	Overall management and control of the business and affairs of LNG Partnership
	Pacific North West LNG Limited Partnership	62.0	62.0	Canada	Evalution, engineering and final investment decision and eventual construction and operation of planned LNG factory
	Pacificlight Power Pte Ltd	30.0	30.0	Singapore	Build, own and operate power generation plant
	Tchad Oil Transportation Company - S.A.	30.2	30.2	Republic of Chad	Pipeline operations
	The Egyptian LNG Company S.A.E.	35.5	35.5	Egypt	Owning, managing and developing the land and the common facilities related to the Egyptian LNG facility
#	South Caucasus Pipeline Holding Company	15.2	15.2	Cayman Islands	Investment holding
#	South Caucasus Pipeline Company	15.5	15.5	Cayman Islands	Pipeline operations
#	Azerbaijan Gas Supply Company Ltd	12.4	12.4	Cayman Islands	Marketing and selling of natural gas

<sup>#</sup> Although the Group has less than 20% of the ownership in the equity interest of these associates, the Group has determined that it has significant influence over the financial and operating policy of the associate through representation on the said associate's board of directors.

Although the Group has 62% of the ownership in the equity interest of Pacific NorthWest LNG Ltd, the governing agreements and constitutive documents for this entity do not allow the Group to control this entity as voting requires unanimous approval of the shareholders or their representatives.

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# NOTES TO THE FINANCIAL STATEMENTS

- 31 December 2016

(continued)

#### 45. KEY JOINT VENTURES AND ACTIVITIES

	Percentag 2016 %	2015 %	Country of Incorporation	Principal Activities
BP PETRONAS Acetyls Sdn. Bhd.	19.3	19.3	Malaysia	Manufacture, sell and distribute acetic acid
Dragon LNG Group Limited	50.0	50.0	United Kingdom	Operate LNG import and storage terminal
Trans Thai-Malaysia (Thailand) Ltd.	50.0	50.0	Thailand	Gas pipeline transportation and gas separation services
Trans Thai-Malaysia (Malaysia) Sdn. Bhd.	50.0	50.0	Malaysia	Transporting and delivering gas products
Indianoil PETRONAS Private Limited	50.0	50.0	India	Manufacture and bottling services of Liquid Petroleum Gas ("LPG")
Kimanis Power Sdn. Bhd.	36.4	36.4	Malaysia	Generation and sale of electricity
Taninthayi Pipeline Co. LLC	40.9	40.9	Cayman Islands	Transportation of gas
Malaysia Deepwater Floating Terminal (Kikeh) Ltd.	31.8	31.8	Malaysia	Floating production storage and off-loading ("FPSO") owner
Guangxi Nanning Yuchai Lube Co., Ltd.	50.0	50.0	China	Manufacturing and marketing of lubricant products
Guangxi Beihai Yuchai High Quality Lube Co., Ltd.	50.0	50.0	China	Manufacturing and marketing of lubricant products
Pengerang Terminals (Two) Sdn. Bhd.	40.0	40.0	Malaysia	Undertake activities related to terminal storage facilities for petroleum and petrochemical products

<sup>∞</sup> Companies incorporated under the Labuan Companies Act 1990.

# INDEPENDENT AUDITORS' REPORT to the members of Petroliam Nasional Berhad

#### REPORT ON THE AUDIT OF FINANCIAL STATEMENTS

#### OPINION

We have audited the financial statements of Petroliam Nasional Berhad, which comprise the statements of financial position as at 31 December 2016 of the Group and of the Company, and the statements of profit or loss and other comprehensive income, statements of changes in equity and statements of cash flows of the Group and of the Company for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, as set out on pages 122 to 236.

In our opinion, the accompanying financial statements give a true and fair view of the financial position of the Group and of the Company as at 31 December 2016, and of their financial performance and their cash flows for the year then ended in accordance with Malaysian Financial Reporting Standards, International Financial Reporting Standards and the requirements of the Companies Act, 1965 in Malaysia.

#### **BASIS FOR OPINION**

We conducted our audit in accordance with approved standards on auditing in Malaysia and International Standards on Auditing. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our auditors' report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

# INDEPENDENCE AND OTHER ETHICAL RESPONSIBILITIES

We are independent of the Group and of the Company in accordance with the *By-Laws (on Professional Ethics, Conduct and Practice)* of the Malaysian Institute of Accountants ("By-Laws") and the International Ethics Standards Board for Accountants' *Code of Ethics for Professional Accountants* ("IESBA Code"), and we have fulfilled our other ethical responsibilities in accordance with the By-Laws and the IESBA Code.

# **KEY AUDIT MATTERS**

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the Group and of the Company for the current year. These matters were addressed in the context of our audit of the financial statements of the Group and of the Company as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

INDEPENDENT AUDITORS' REPORT to the members of Petroliam Nasional Berhad (continued)

#### **KEY AUDIT MATTERS (CONTINUED)**

#### Refer Note 3 and Note 10 to the Financial Statements

#### The key audit matter

affected by the fluctuations in oil and gas prices. This gives rise included, amongst others: to a risk that the carrying amounts of the Group's property, plant and equipment ("PPE") and intangible assets, especially in i) upstream operating segment, might exceed their recoverable amounts and therefore the carrying amounts needs to be impaired.

The Group has estimated the recoverable amount for each | ii) cash generating unit ("CGU") by forecasting and discounting future cash flows relevant to the CGU. As a result, a net impairment loss of RM8,775 million and RM2,692 million for PPE and intangible assets, respectively, (refer Note 27) was recognised in the current financial year.

We have identified the carrying amount of the Group's PPE and intangible assets of RM333,977 million (refer Note 3) and RM25,552 million (refer Note 10) respectively at 31 December 2016 as a key audit matter because:

- it is material in the consolidated financial statements which in aggregate represents 60% of Group's total assets; and
- the estimation of recoverable amounts involved a significant degree of judgment exercised and assumptions iii) made by the Group. Key judgmental aspects include assumptions of oil and gas prices, expenditures, production profile and the use of an appropriate discount rate.

#### How the matter was addressed in our audit

The Group operates in the oil and gas sector which has been Our audit procedures in addressing this key audit matter

- We considered the appropriateness of Group's determination of CGUs based on our knowledge of the Group's business, its internal reporting and our knowledge of oil and gas sector.
- We evaluated the following key assumptions used in the estimation of recoverable amounts, among others:
  - production profile compared to the Group's approved petroleum resources report to assess whether the production profile is within the field/
  - long term outlook of prices compared to information published by external analysts;
  - expenditures compared to information included in the Group's approved budget; and
  - discount rate involved our valuation specialist in challenging the appropriateness of the discount rate used.
- We have also considered the adequacy of the Group's disclosures about those assumptions to which the outcome of the impairment assessment is most sensitive.

Based on the above procedures, the impairment of PPE and intangible assets are appropriate.

# INDEPENDENT AUDITORS' REPORT

to the members of Petroliam Nasional Berhad (continued)

#### **KEY AUDIT MATTERS (CONTINUED)**

### Measurement of provision for decommissioning, dismantling, removal and restoration ("DDRR")

#### Refer Note 24 to the Financial Statements The key audit matter How the matter was addressed in our audit

Company amounts to RM21,491 million and RM14,531 million included, amongst others: (refer Note 24) respectively as at the end of current financial year, which represents 20% and 25% of the Group's and i) Company's non - current liabilities.

The estimation of DDRR provision, especially for assets under | ii) upstream operating segment ("upstream assets"), involves high level of judgment, complex calculations and estimation.

Furthermore, DDRR activity of the Group and the Company especially on upstream assets are rather preliminary in nature given that majority of the assets are still in production stage. As such, there is limited historical precedent which the Group and the Company can benchmark against to determine the iii) expected future costs. These factors increase the degree of complexity and judgement in estimating the DDRR provision.

Group reviews the DDRR provision on annual basis, which for DDRR of the Group and the Company are appropriate. includes the interest rate, inflation rate and expected future costs.

The provision outstanding for DDRR of the Group and the Our audit procedures in addressing this key audit matter

- We agreed the data used in the calculation of the DDRR provision to the originating source.
- We evaluated the following key assumptions used in the DDRR provision calculation, among others:
- interest and inflation rates compared to information from external sources; and
- expected future costs compared to costs incurred on a recent similar transaction.
- We re-performed the calculation of the DDRR provision to determine mathematical accuracy.

Based on the above procedures, the measurement of provision

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INDEPENDENT AUDITORS' REPORT to the members of Petroliam Nasional Berhad (continued)

#### INFORMATION OTHER THAN THE FINANCIAL STATEMENTS AND AUDITORS' REPORT THEREON

The Directors of the Company are responsible for the other information. The other information comprises the information included in the Directors' Report, but does not include the financial statements of the Group and of the Company and our auditors' report thereon.

Our opinion on the financial statements of the Group and of the Company does not cover the Directors' Report and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements of the Group and of the Company, our responsibility is to read the Directors' Report and, in doing so, consider whether the Directors' Report is materially inconsistent with the financial statements of the Group and of the Company or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of the Directors' Report, we are required to report that fact. We have nothing to report in this regard.

#### RESPONSIBILITIES OF THE DIRECTORS FOR THE FINANCIAL STATEMENTS

The Directors of the Company are responsible for the preparation of financial statements of the Group and of the Company that give a true and fair view in accordance with Malaysian Financial Reporting Standards, International Financial Reporting Standards and the requirements of the Companies Act, 1965 in Malaysia. The Directors are also responsible for such internal control as the Directors determine is necessary to enable the preparation of financial statements of the Group and of the Company that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements of the Group and of the Company, the Directors are responsible for assessing the ability of the Group and of the Company to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the Group or the Company or to cease operations, or have no realistic alternative but to do so.

#### AUDITORS' RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the financial statements of the Group and of the Company as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with approved standards on auditing in Malaysia and International Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

# INDEPENDENT AUDITORS' REPORT

to the members of Petroliam Nasional Berhad (continued)

#### AUDITORS' RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS (CONTINUED)

As part of an audit in accordance with approved standards on auditing in Malaysia and International Standards on Auditing, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements of the Group and of the Company, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control of the Group and of the Company.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Directors.
- Conclude on the appropriateness of the Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the ability of the Group or of the Company to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements of the Group and of the Company or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group or the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements of the Group and of the Company, including the disclosures, and whether the financial statements of the Group and of the Company represent the underlying transactions and events in a manner that gives a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the financial statements of the Group. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

INDEPENDENT AUDITORS' REPORT to the members of Petroliam Nasional Berhad (continued)

#### REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

In accordance with the requirements of the Companies Act, 1965 in Malaysia, we also report the following:

- (a) In our opinion, the accounting and other records and the registers required by the Act to be kept by the Company and its subsidiaries of which we have acted as auditors have been properly kept in accordance with the provisions of the Act.
- We have considered the accounts and the auditors' reports of all the subsidiaries of which we have not acted as auditors. which are indicated in Appendix I to the financial statements, being accounts that have been included in the consolidated accounts.
- We are satisfied that the accounts of the subsidiaries that have been consolidated with the Company's financial statements are in form and content appropriate and proper for the purposes of the preparation of the financial statements of the Group and we have received satisfactory information and explanations required by us for those purposes.
- (d) The audit reports on the accounts of the subsidiaries did not contain any material qualification or any adverse comment made under Section 174(3) of the Act.

### **OTHER MATTERS**

This report is made solely to the members of the Company, as a body, in accordance with Section 174 of the Companies Act, 1965 in Malaysia and for no other purpose. We do not assume responsibility to any other person for the content of this report.

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

Petaling Jaya, Malaysia

Date: 27 February 2017

**Datuk Johan Idris** Approval Number: 02585/10/2018 J Chartered Accountant

# **APPENDIX I**

#### SUBSIDIARIES AUDITED BY OTHER FIRMS OF ACCOUNTANTS

#### KLCC (Holdings) Sdn. Bhd. and its subsidiaries:

- Putrajaya Homes Sdn. Bhd.
- Convex Malaysia Sdn. Bhd.
- Gas District Cooling (M) Sdn. Bhd.
- Gilang Cendana Sdn. Bhd.
- Hasrat Intisari (M) Sdn. Bhd.
- Putraiava Bina Sdn. Bhd.
- Midciti Sukuk Berhad
- Kenyalang Murni Sdn. Bhd.
- KLCC Projeks Sdn. Bhd.
- KLCC Real Estate Management Sdn. Bhd.
- KLCC Projeks Services Sdn. Bhd.
- Kuala Lumpur City Park Berhad
- Layar Intan Sdn. Bhd.
- Menara Putrajaya Sdn. Bhd.
- Purnama Sepi Sdn. Bhd.
- Putrajaya Development Sdn. Bhd.
- Putrajaya Group Sdn. Bhd.
- Putrajaya Projects Sdn. Bhd.
- Putrajaya Resources Sdn. Bhd.
- Senandung Asli Sdn. Bhd.
- Tapak Senja Sdn. Bhd.
- Gas District Cooling (KLIA) Sdn. Bhd.
- Arah Moden Sdn. Bhd.
- Quantum Panorama Sdn Bhd
- Arena Johan Sdn Bhd
- Asas Klasik Sdn. Bhd.
- KLCC Parking Management Sdn. Bhd.
- Kompleks Dayabumi Sdn. Bhd.
- Midciti Resources Sdn. Bhd.
- KLCC REIT Management Sdn. Bhd.

- City Centre Convention Centre Sdn. Bhd.
- Gagasan Ria Sdn. Bhd.
- Gas District Cooling (Putrajaya) Sdn. Bhd.
- Heritage Lane Sdn. Bhd.
- Ilham Merpati Sdn. Bhd.
- Idaman Putraiava Sdn. Bhd.
- Impian Moden Sdn. Bhd.
- Kelana Perkasa Sdn. Bhd.
- KLCC Convention Centre Sdn. Bhd.
- KLCC Properties Sdn. Bhd.
- Komponen Abadi Sdn. Bhd.
- Kuala Lumpur City Centre Holdings Sdn. Bhd.
- Kuala Lumpur Convention Centre Sdn. Bhd.
- Lembah Putrajaya Sdn. Bhd.
- Metro Kemasik Sdn. Bhd.
- Pedoman Semarak Sdn. Bhd.
- Putrajaya Holdings Sdn. Bhd.
- Putrajaya Management Sdn. Bhd.
- Putrajaya Properties Sdn. Bhd.
- Putrajaya Ventures Sdn. Bhd.
- Serba Harapan (M) Sdn. Bhd.
- Gas District Cooling (Holdings) Sdn. Bhd.
- Gas District Cooling (UTP) Sdn. Bhd.
- Indah Putrajaya Sdn. Bhd.
- Suria KLCC Sdn. Bhd.
- Arena Merdu Sdn. Bhd.
- Impian Cemerlang Sdn. Bhd.
- KLCC Urusharta Sdn. Bhd.
- KLCC Property Holdings Bhd. (@)
- KLCC Real Estate Investment Trust (@)

# Marmel Incorporated and its subsidiaries:

- Darton Ltd.
- Sparknight, LLC
- Paterson, LLC
- GCB Associates, LLC

WG Parcel B. LLC

- Grabhorn Properties, LLC
- World Gateway Investments, Inc.

Darton U.S. Holdings, Inc.

- World Gateway Property Owners Association

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APPENDIX I (continued)

#### SUBSIDIARIES AUDITED BY OTHER FIRMS OF ACCOUNTANTS (CONTINUED)

### MISC Berhad and its subsidiaries:

- AET Agencies Inc.
- AET Inc. Limited
- AET Offshore Services Inc.
- AET Shipmanagement (India) Pte. Ltd.
- AET Shipmanagement (Singapore) Pte. Ltd.
- AET Tanker Holdings Sdn. Bhd.
- Asia LNG Transport Sdn. Bhd.
- MISC Nigeria Ltd.
- Malaysian Maritime Academy Sdn. Bhd.
- MISC Offshore Floating Terminals Dua (L) Ltd.
- Misan Logistics B.V.
- MISC Agencies India Pvt. Ltd.
- MISC Agencies (U.K.) Ltd.
- MISC Capital (L) Ltd.
- MISC Ferry Services Sdn. Bhd.
- MISC Haulage Services Sdn. Bhd.
- MISC International (L) Ltd.
- MISC Offshore Holdings (Brazil) Sdn. Bhd.
- MISC Ship Management Sdn. Bhd.
- MISC Tanker Holdings (Bermuda) Limited
- MTTI Sdn. Bhd.
- Malaysia Marine and Heavy Engineering
- Holdings Berhad (@)
- Puteri Delima Satu (L) Pte. Ltd.
- Puteri Firus Satu (L) Pte. Ltd.
- Puteri Intan Satu (L) Pte. Ltd.Puteri Nilam Satu (L) Pte. Ltd.
- Puteri Zamrud Satu (L) Pte. Ltd.
- Puteri Zamrud Sdn. Bhd.
- Malaysia Marine and Heavy Engineering (Turkmenistan) Sdn. Bhd.
- AET Tankers Kazakhstan LLP
- AET Shipmanagement (USA) LLC
- AET Tankers (Suezmax) Pte. Ltd.
- AET Shuttle Tankers Sdn. Bhd.
- AET MCV Alpha L.L.C.
- AET MCV Gamma L.L.C.
- AET Brasil Servicos Maritamos Ltda
- AET MCV Beta Pte. Ltd.
- AET Holdings (L) Pte. Ltd.
- Seri Camellia (L) Private Limited
- Seri Cempaka (L) Private Limited
- Seri Cenderawasih (L) Private Limited
- Seri Cemara (L) Private LimitedSeri Camar (L) Private Limited
- Seri Carnar (L) Private Limite
- Gumusut-Kakap Semi-Floating Production System (L) Limited
- Paramount Tankers Corporation
- Atenea Services S.A.
- Twyford International Business Corp.

- AET Lightering Services LLC
- AET Petroleum Tanker (M) Sdn. Bhd.
- AET Shipmanagement (Malaysia) Sdn. Bhd.
- AET Azerbaijan Limited
- AET Tankers India Pte. Ltd.
- AFT UK I td
- AET Tankers Pte. Ltd.
- FPSO Ventures Sdn. Bhd.
- Malaysia Marine and Heavy Engineering Sdn. Bhd.
- MILS Cold Chain Logistics Sdn. Bhd.
- MILS Cold Hub Sdn. Bhd.
- MISC Agencies Sdn. Bhd.
- MISC Enterprises Holdings Sdn. Bhd.
- MISC Offshore Mobile Production (Labuan) Ltd.
- MISC Offshore Floating Terminals (L) Ltd.
- MISC Properties Sdn. Bhd.
- MISC Tanker Holdings Sdn. Bhd.
- MMHE-SHI LNG Sdn. Bhd.
- MISC Trucking and Warehousing Services Sdn. Bhd.
- Gas Asia Terminal (L) Private Ltd.
- MISC Tankers Sdn. Bhd.
- Puteri Delima Sdn. Bhd.
- Puteri Firus Sdn. Bhd.
- Puteri Intan Sdn. Bhd.
- Puteri Mutiara Satu (L) Pte. Ltd.
- Puteri Nilam Sdn. Bhd.
- Techno Indah Sdn. Bhd.
- MISC PNG Shipping Ltd.
- AET Sea Shuttle AS
- AET MCV Delta Sdn. Bhd.
- AET MCV Beta L.L.C.
- AET MCV Alpha Pte. Ltd.
- AET Brasil Servicos STS Ltda
- GK O & M (L) Limited
- MISC Agencies (Japan) Ltd.
- PETRONAS Maritime Services Sdn. Bhd.
- Sungai Udang Port Sdn. Bhd.
- AET Tanker Kazakhtan LLP
- FPSO Ventures Sdn. Bhd.
- MISC Agencies (Sarawak) Sdn. Bhd.
- AET Product Tankers Sdn. Bhd.
- Hendham Enterprises Ltd.
- AMI Manning Services Private Limited
- Odley Worldwide Inc
- Oldson Ventures Ltd.
- Zangwill Business Corp.

# APPENDIX I (continued)

#### SUBSIDIARIES AUDITED BY OTHER FIRMS OF ACCOUNTANTS (CONTINUED)

### PETRONAS Carigali Sdn. Bhd. and its subsidiaries:

- Doba Pipeline Investment Inc.
- PC Gulf Ltd.
- PC (SE Palung Aru) Ltd.
- PETRONAS Carigali (Australia) Pty. Ltd.
- PETRONAS Carigali (Chad EP) Inc.
- PETRONAS Carigali (Ketapang) Ltd.
- PETRONAS Carigali (Surumana) Ltd.
- E&P O&M Services Sdn. Bhd.
- PETRONAS Chad Marketing Inc.
   PC Algeria Ltd. (ř)
- PETRONAS Carigali Niger Exploration & Production Ltd.
- PETRONAS Carigali White Nile (5B) Ltd.
- PC ( North East Madura IV) Ltd
- PETRONAS Carigali (Mandar) Ltd.
- PETRONAS Carigali (Oman) Ltd.
- PETRONAS Iraq Garraf Ltd.
- PETRONAS Carigali Iraq (Halfaya) Ltd.
- PETRONAS Carigali Iraq Holding B.V.
- PETRONAS Carigali Iraq (Badra) Ltd.
- PC Equitorial Guinea LtdPetronas Carigali (Urga) Operating Company LLC

- E&P Malaysia Venture Sdn. Bhd.
- PC Lampung II Ltd.
- PC Randugunting Ltd.
- PC (South Pars 11) Ltd.
- PC Venezuela Ltd.
- PETRONAS Carigali (Karapan) Ltd.
- PC Ketapang II Ltd.
- PETRONAS Carigali Chad Exploration & Production Inc.
- PETRONAS Carigali International Sdn. Bhd.
- PETRONAS Carigali Mozambigue E&P Ltd.
- PETRONAS Carigali Nigeria Limited
- PETRONAS Carigali Overseas Sdn. Bhd.
- PC Mozambique (Rovuma Basin) Ltd.PETRONAS Carigali Cameroon Ltd.
- PETRONAS Carigali (Baisun) Ltd.
- PETRONAS Carigali (West Glagah Kambuna) Ltd.
- PETRONAS Carigali Iraq (Majnoon) Ltd.
   E&P Venture Solutions Co. Sdn. Bhd.
- Vestigo Petroleum Sdn. Bhd.
- PC Timor Sea LtdPetronas Carigali (Urga) Ltd

**APPENDIX I** (continued)

#### SUBSIDIARIES AUDITED BY OTHER FIRMS OF ACCOUNTANTS (CONTINUED)

# PETRONAS International Corporation Ltd. and its subsidiaries:

- Azania Petroleum (Pty.) Ltd.
- Citycat Properties (Pty.) Ltd.
- Chemico (Pty.) Ltd.
- Engen Gabon S.A.
- Engen Group Funding Trust
- Engen Holdings (Ghana) Ltd.
- Engen International Holdings (Mauritius) Ltd.
- Engen Lesotho (Pty.) Ltd.
- Engen Marketing Botswana (Pty.) Ltd.
- Engen (Nigeria) Ltd. (ã)
- Engen Offshore Holdings (Mauritius) Ltd.
- Engen Swaziland (Pty.) Ltd.
- Engen Rwanda Ltd.
- Engen Petroleum Zimbabwe (PVT) Ltd.
- Engen Petroleum (Mozambique) Ltd.
- Engen Petroleum Zambia Ltd.
- Enpet Insurance Ltd.
- Federico Trading (Pty.) Ltd.
- Ivory Properties (Pty.) Ltd.
- Imtrasel (Pty.) Ltd.
- Labuan Energy Corporation Limited
- New Jack Trading (Pty.) Ltd.
- PAPL (Upstream) Ptv Ltd.
- PC JDA I td
- PC Muriah Ltd.
- PC Myanmar (Hong Kong) Limited
- PAPL Services Pty Limited
- PAPL (Upstream II) Pty Ltd.
- Petroleum Investment Holding Ltd.
- PETRONAS Energy Trading Limited
- PETRONAS Carigali Myanmar Inc.
- PETRONAS Carigali Nile Ltd.
- PETRONAS Carigali (Greenland) Holding Ltd.
- PETRONAS Carigali Myanmar III Inc.
- PETRONAS Philippines Inc. (ã) (ř)
- PETRONAS Carigali (Urga) Ltd.
- Argentinean Pipeline Holding Company S.A. (ã) (ř)
- PETRONAS Thailand Co. Ltd. (ã)
- PETRONAS International Power Corporation BV (ã)
- Japan Malaysia LNG Co. Ltd.
- PICL Siri Company Limited (ã)
- Kabuye Depot Holding Company Rwanda Ltd.
- PETRONAS Carigali Canada B.V.

- PETRONAS LNG Ltd.
- BGI Properties Ltd.
- Cavallo Engineering & Construction (Pty.) Ltd.
- Engen African Holdings
- Engen Botswana Limited (B)
- Engen Ghana Ltd.
- Engen Holdings (Pty.) Ltd.
- Engen Holdings Zimbabwe (PVT) Ltd.
- Engen Kenya Ltd.
- Engen Limited
- Engen Marketing Ltd.
- Engen Marketing Zimbabwe Ltd.
- Engen Namibia (Pty.) Ltd.
- Engen Producing (Nigeria) Ltd. (ã)
- Oil Tanking Ltd.
- Engen Petroleum (Burundi) Ltd.
- Engen Petroleum (DRC) Ltd.
- Engen Petroleum Limited
- Engen Petroleum Tanzania Ltd.
- Enpet Africa Insurance Ltd.
- MITCO Labuan Co. Limited
- Myanmar PETRONAS Trading Co. Ltd.
- LEC Ireland Employment Ltd.
- Nada Properties Company Ltd.
- Natuna 1 B.V.
- Engen Petroleum (Mauritius) Ltd.
- Pakenzyl (Pty.) Ltd.
- Parsi International Ltd.
- PC Madura Ltd.
- PAPL (Downstream) Pty Ltd.
- PC (Myanmar) Holdings Limited (ř)
- PC Vietnam Ltd.
- Petrarch Petroleum (Pty.) Ltd.
- PETRONAS Australia Pty. Ltd.
- PETRONAS Carigali (Jabung) Ltd.
- PETRONAS Carigali (Turkmenistan) Sdn. Bhd.
- PETRONAS Carigali (Urga) Operating Company LLC (ř)
- Engen Reunion SA
- PETRONAS (E&P) Overseas Ventures Sdn. Bhd.
- PETRONAS Brasil E&P Limitada
- PETRONAS Sierra Leone E&P Ltd.
- Progress Energy Canada Ltd. (ã) PETRONAS Myanmar Limited

#### SUBSIDIARIES AUDITED BY OTHER FIRMS OF ACCOUNTANTS (CONTINUED)

### PETRONAS International Corporation Ltd. and its subsidiaries (continued):

- PSE Kinsale Energy Limited
- Petal Petroleum Limited
- PETRONAS Carigali Brunei Co. Ltd.
- PETRONAS LNG Sdn. Bhd.
- PETRONAS LNG (UK) Limited
- Quickstep 285 (Pty.) Ltd.
- Renaissance Petroleum (Pty.) Ltd.
- SEP Burundi

**APPFNDIX I** 

(continued)

- Trek Petroleum (Pty.) Ltd.
- Zenex Oil (Ptv.) Ltd.
- Engen Oil Lesotho (Pty.) Ltd.
- Engen DRC SARL
- Overseas Gas Storage Limited
- Humbly Grove Energy Services Ltd
- PETRONAS Carigali International E&P B.V.
- PICL (Egypt) Corporation Ltd.
- PSE Ireland Limited
- PSE Seven Head Limited
- Quickstep 284 (Pty.) Ltd.
- Quickstep 286 (Pty.) Ltd.
- Rockyhill Properties (Pty.) Ltd.
- PNW LNG Marketing Sdn Bhd Sirri International Ltd.
- Engen Producing (Nigeria) Ltd
- PC Carigali Mexico Oil and Gas Holding S.A. de C.V.
- PC Kuala Kurun Ltd
- PETRONAS E&P Argentina S.A.

- Engen Ltd. (Malawi)
- Valais Investments (Pty.) Ltd.
- Ximex Energy Holdings (PVT) Ltd.
- Societe de Transport Mace SA
- Engen Company (Mauritius) Ltd. Engen Properties (Pty.) Ltd.
- Engen Marketing Tanzania Ltd.
- Engen Oil Zimbabwe (PVT) Ltd.
- Gas Storage Limited
- Humbly Grove Energy Ltd.
- PETRONAS Suriname E&P B.V.
- PETRONAS Angola E&P Ltd.
- South African Oil Refinery (Pty.) Ltd. PETRONAS China Energy Ltd.
- PETRONAS Azerbaijan Upstream Sdn. Bhd.
- PETRONAS South Caucasus S.a.r.l
- PETRONAS Azerbaijan Shah Deniz S.a.r.l
- PETRONAS LNG Carriers Ltd.
- PETRONAS Power Sdn. Bhd. Voltage Renewables Sdn. Bhd.
- PETRONAS International Power Corporation (Mauritius) Ltd.
- Power & Energy Resources Sdn. Bhd.
- Pengerang Power Sdn. Bhd.
- PICL Marketing Thailand Ltd.
- LNG Investments Europe Limited PC Carigali Mexico Operations S.A. de C.V.
- PC Gabon Upstream S.A
- PC North Madura II Ltd

# PETRONAS Assets Sdn. Bhd. and its subsidiaries:

- PETRONAS ICT Sdn. Bhd.
- Virtus iP Sdn. Bhd.

# PETRONAS Hartabina Sdn. Bhd. and its subsidiary:

Prince Court Medical Centre Sdn. Bhd.

Petrofibre Network (M) Sdn. Bhd.

#### **APPENDIX I** (continued)

#### SUBSIDIARIES AUDITED BY OTHER FIRMS OF ACCOUNTANTS (CONTINUED)

#### PETRONAS Lubricants International Sdn. Bhd.'s subsidiaries:

- PETRONAS Lubricants Italy S.p.A (ã)
- PETRONAS Lubrificantes Brasil S.A. (ã)
- PETRONAS Lubricants France S.a.s. (ã)
- PETRONAS Lubricants Netherlands B.V. (ã)
- PETRONAS Madeni Yaglar TIC LTD STI (ã)
- PETRONAS Lubricants Spain S.L.U. (ã)
- PETRONAS Lubricants Portugal Lda (ã)
- PETRONAS Lubricants China Company Limited (ã)
- PLI (Netherlands) B.V.
- PETRONAS Base Oil (M) Sdn. Bhd.
- PETRONAS Lubricants Africa Ltd. (ã)
- PETRONAS Marketing China Company Limited (ã)
- PETRONAS Lubricants Belgium N.V. (ã)
- Viscosity Oil Co.

# PETRONAS Trading Corporation Sdn. Bhd.'s subsidiaries:

- PETCO Trading (UK) Limited (ã)
- PT PETRONAS Niaga Indonesia
- PETRONAS Technical Services Sdn. Bhd.'s subsidiary:
- PTSSB JLT

#### PETRONAS Chemicals Group Berhad's subsidiaries:

- Kertih Port Sdn. Bhd. (ř)
- PETRONAS Chemicals Ammonia Sdn. Bhd. (ř)
- PETRONAS Chemicals Glycols Sdn. Bhd. (ř)
- Vinyl Chloride (Malaysia) Sdn. Bhd. (ř)
- PETRONAS Chemicals LDPE Sdn. Bhd. (ř)
- Subsidiaries held directly by the Company:
- Energas Insurance (L) Limited
- PETRONAS Management Training Sdn. Bhd.
- PETRONAS South Africa (Pty.) Ltd. (ã)
- PETRONAS NGV Sdn. Bhd.

- PETRONAS e-Learning Solutions Sdn. Bhd.
- PETRONAS Technical Training Sdn. Bhd.
- PETRONAS Capital Limited
- Audited by affiliates of KPMG.
- The shares of this subsidiary are quoted on the Main Market of Bursa Malaysia Securities Berhad. a
- Consolidated based on management financial statements.
- The shares of this subsidiary are quoted on the Botswana Stock Exchange.

- PETRONAS Lubricants Argentina S.A.
- PETRONAS Lubricants Great Britain LTD (ã)
- PETRONAS Lubricants Deutschland Gmbh (ã)

PETRONAS Lubricants Poland Sp. Zo.o (ã)

- FL Nominees Ltd.
- PETRONAS Lubricants (India) Private Limited (ř)
- PETRONAS Lubricants Shandong Company Limited (ã)
- PL Russia LLC
- PLAL Egypt LLC
- PLI Australia Pty. Limited
- PL NA Mexico S de RL de CV (ã)
- PLAL DMCC (ã)
- PT PLI Indonesia

# • PETCO Trading DMCC (ã)

- PETRONAS Chemicals Fertiliser (Kedah) Sdn. Bhd. (ř)
- PETRONAS Chemicals Derivatives Sdn. Bhd.(ř)
- PETRONAS Chemicals Olefins Sdn. Bhd. (ř)
- PCM Chemical India Private Limited
- PCM (Thailand) Company Limited (ř)

### Institute of Technology PETRONAS Sdn. Bhd.

**GLOSSARY** 

**Additives** 

**Barrel** 

**Base Oil** 

barrel contains 159 litres of oil.

**Barrels of Oil Equivalent (boe)** 

premium quality lubricants.

**INDUSTRY TERMS AS GENERALLY UNDERSTOOD** 

Chemicals added in small quantities to fuel or lubricants to

A standard unit of measurement for oil production. One

A unit of measurement to quantify the amount of crude

converted to barrels on the basis of energy content.

oil, condensates and natural gas. Natural gas volumes are

An oil to which other oils or additives are added to produce

A low-lying area beneath the Earth's surface filled with thick

layers of sediment, often a source of valuable hydrocarbons.

The benchmark crude oil price in Europe, as traded on the

International Petroleum Exchange in London. Brent crude

refers to a particular grade of crude oil, which is slightly

heavier than WTI crude. See WTI price.

a lubricant. This includes Group III base oil that has been

subjected to the highest level of refining of the base oil

groups, offering very high viscosity index to produce

control engine deposits and improve lubricating performance.

Liquid hydrocarbons produced with natural gas, separated by cooling and other means.

Carbon dioxide, one of the primary greenhouse gases. Coal

Bed Methane A form of natural gas extracted from coal beds,

as opposed to the conventional natural gas found in reservoirs.



CO<sub>2</sub>

#### **Deadweight Tonne (dwt)**

A ship's maximum carrying capacity in tonnes of cargo, including passengers, crew, stores, ballast and fuel.

#### Deepwater

In Malaysia offshore exploration, deepwater is demarcated at water depths exceeding 200 m. Unique methods are required to produce the oil and gas from the ocean bed at such depths. See Floating Production Unit.



### **Development**

Drilling, construction and related activities following discovery that are necessary to begin production and transportation of crude oil and natural gas.

### **Dividend Payout Ratio**

Dividend paid during the year as a percentage of previous year's net profit attributable to PETRONAS shareholders.

#### **Downstream**

All segments of a value chain that add value to the crude oil and natural gas produced, for example, oil refining, gas processing, gas liquefaction, petrochemical manufacturing, marketing of petroleum and petrochemical products, storage and transportation.



# Earnings Before Interest, Tax, Depreciation and **Amortisation (EBITDA)**

Profit before taxation and non-controlling interests with the addition of amounts previously deducted for depreciation, amortisation and net impairment loss on property, plant and equipment and intangible assets and financing costs and the exclusion of interest income.

# **Energy Loss Management (ELM)**

An initiative to improve energy efficiency and reduce Greenhouse Gas (GHG) emissions.

### **Enhanced Oil Recovery (EOR)**

Any method(s) applied to productive reservoirs in order to increase production rates and to improve the overall recovery factor.

# **Exploration**

The search for crude oil and/or natural gas by geological and topographical studies, geophysical and seismic surveys, and drilling of wells.



# Feed-in-Tariff (FiT)

Malaysia's FiT system is a policy mechanism designed to accelerate investment in renewable energy technologies. It requires Distribution Licensees (DLs) to buy electricity produced from renewable resources from Feed-in Approval Holders (FIAHs) and sets the rate. The DLs will pay for renewable energy supplied to the electricity grid for a specific duration. The goal of FiT is to offer cost-based compensation to renewable energy producers, providing the price certainty and long-term contracts that help finance renewable energy investments.

#### Annual Report 2016 Petroliam Nasional Berhad (PETRONAS)

**GLOSSARY** 



#### **Field**

A geographical area overlying a hydrocarbon reservoir.

#### Floating Liquefied Natural Gas (FLNG)

Either a ship or barge that can sail or be towed to offshore gas fields, extract gas, freeze it to Liquefied Natural Gas (LNG) and offload the LNG to carriers for shipping.

#### Floating Production Unit (FPU)

Floating structures of various designs used in offshore production. These 'floaters' replace traditional fixed platforms and they are moored to the ocean bed. FPU is more commonly used in deepwater. See **Deepwater**.

#### Floating Production, Storage and Offloading (FPSO)

A converted or custom-built ship-like structure, with modular facilities to process oil and gas and for temporary storage of the oil prior to transfer to carriers/tankers.

#### Floating, Storage and Offloading (FSO)

A converted or custom-built ship-like structure for temporary storage of the oil prior to transfer to tankers. Floating Storage Unit (FSU) A converted or custom-built ship-like structure to receive and store LNG.



#### **Gas Processing**

An activity to turn streams of natural gas into commercial products, in addition to treating gas deposits.

### **Gas-to-Liquids (GTL)**

A refinery process to convert natural gas or other gaseous hydrocarbons into longer chain hydrocarbons, such as gasoline or diesel fuel. It is used predominantly in the creation of high-quality transportation fuels.

#### **Gearing Ratio**

Total adjusted debt expressed as a percentage of adjusted debt and total equity. Total adjusted debt is the total debt including provision for decommissioning of assets.

# **Greenhouse Gases (GHG)**

Gases that trap heat in the Earth's atmosphere, e.g. carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.



#### **Heavy Oil/Bitumen**

Unlike conventional crude oil that can be pumped without being heated or diluted, heavy oil is oil that cannot be extracted in its natural state via a well and conventional production methods. This definition is also applicable to bitumen.

#### **High Pressure High Temperature Well**

Well with a surface shut-in pressure greater than 10,000 psi and a bottomhole temperature greater than 150°C.

## **Heads of Agreement (HOA)**

A non-binding document outlining the main issues relevant to a tentative partnership agreement. HOA represents the first step on the path to a full legally binding agreement or contract, and serves as a guideline for the roles and responsibilities of the parties involved in a potential partnership before any binding documents are drawn up.



#### **Integrated Oil and Gas Company**

A company that engages in all aspects of the oil and gas industry - exploring for and producing crude oil and natural gas (upstream); refining, marketing and transporting crude oil, natural gas and refined products (downstream); as well as manufacturing and distributing petrochemicals.

#### lonic Liquids

Liquids that comprise entirely of positive and negatively charged ions. Ionic liquids are being explored for an array of applications, e.g. as environmentally friendly substitutes for volatile organic compounds in the oil and gas industry.

#### **Improved Oil Recovery (IOR)**

Improved Oil Recovery that is commonly used to describe any process, or combination of processes, that may be applied to economically increase the cumulative volume of oil that is ultimately recovered from the reservoir at an accelerated rate. IOR may include chemical, mechanical, physical, or procedural processes.

#### **Improved Gas Recovery (IGR)**

Refers to the recovery of gas by injection of fluids beyond the normal recovery through conventional methods. In recent times, carbon dioxide is used as a lubricant fluid to recover additional gas from the reservoir and thereby provides an avenue for storing the captured carbon dioxide.



#### **Joint-Venture**

A partnership between two or more companies to undertake a specific project and share the resulting profit and loss.



**GLOSSARY** 

#### **Liquefied Natural Gas (LNG)**

Natural gas that is liquefied under extremely cold temperatures of about minus 260 degrees Fahrenheit to facilitate storage or transportation in specially designed vessels.

#### **Liquefied Petroleum Gas (LPG)**

Light gases, such as butane and propane, that can be maintained as liquids while under pressure.

# **Lost Time Injury (LTI)**

This is defined as an occurrence that results in a fatality, permanent total disabilities, permanent partial disabilities or time lost from work including days off, off shift, weekends or public holidays.

#### **Lost Time Injury Frequency (LTIF)**

This refers to the total LTI cases per million exposure hours worked during the period.

#### Lubricant

A substance to reduce friction and wear among moving surfaces, resulting in improved efficiency. It contains about 90 per cent base oil and about 10 per cent additives.



### Million Metric British Thermal Unit (mmBtu)

It measures the energy content in fuel and is used in the power, steam generation, heating and air conditioning industries.

### Million Metric Standard Cubic Feet per Day (mmscfd)

It is a unit of measurement for natural gas. Liquefied Petroleum Gas (LPG), compressed natural gas and other gases that are extracted, processed or transported in high quantities.

#### **Mobile Offshore Production Unit (MOPU)**

It is a self-installing and re-usable production jack-ups.

### Million Tonnes per Annum (mtpa)

It is a standard measurement of output for the year.



#### **Natural Gas**

A clean-burning, odourless, colourless, highly compressible mixture of hydrocarbons found occurring naturally in gaseous form. Natural gas is made up of methane but may also include ethane, propane and butane.

#### Naphtha

Usually an intermediate product between gasoline and benzene, naphtha is a colourless and volatile petroleum distillate used as a solvent or fuel.



#### Original Equipment Manufacturer (OEM)

Refers to a company that acquires a product or component, then reuses or incorporates it into a new product with its own brand name.

#### Olefins

A class of unsaturated open-chain hydrocarbons such as ethylene, having the general formula CnH2n; an alkene with only one carbon-carbon double bond.

## **Operational Performance Improvement (OPI)**

A set of tools and methodologies that emphasise on instilling operational discipline, with the aim of improving operational excellence of PETRONAS' producing assets.



#### Peninsular Gas Utilisation System (PGU)

The PGU system was developed to spearhead the use of natural gas in Malaysia. The natural gas produced from offshore Terengganu is processed in six Gas Processing Plants in Kertih and are then fed into a 2,505 km pipeline system that delivers natural gas to the power, industrial, petrochemical and other sectors throughout Peninsular Malaysia and Singapore.

# Petrochemicals

Organic and inorganic compounds and mixtures derived from petroleum, used principally to manufacture chemicals, plastics and resins, synthetic fibres, detergents, adhesives and synthetic motor oils.

# **Production Sharing Contract (PSC)**

A contractual agreement between a company and a host government, whereby the company bears all exploration, development and production costs in return for an agreed-upon share of production.

#### **PAT Margin**

Profit after tax expressed as a percentage of total revenue.



### Regasification Terminal (RGT)

RGT, also known as a receiving terminal, is usually a coastal plant that accepts deliveries of LNG and processes it back into gaseous form for injection into a pipeline system.

#### Refining

A purification process for natural resources which includes hydrocarbons, using distillation, cooling and/or compression.

**GLOSSARY** 



#### **Return on Average Capital Employed**

Adjusted profit after taxation expressed as a percentage of average total equity and long-term debt during the year.

#### **Return on Total Assets**

Earnings before interest expense, interest income and tax expressed as a percentage of total assets.

# **Renewable Energy**

Energy derived from natural sources that are replaceable.

#### Reserves

Hydrocarbons which are anticipated to be recovered from known accumulations of hydrocarbons.

#### Reservoir

Any porous and permeable rock (usually sandstone or limestone/chalk and occasionally a normally impermeable rock which has been heavily fractured), thus providing interconnecting spaces through which oil/gas can flow.

#### **Resources**

Resources are defined as the total estimated quantities of petroleum at a specific date to be contained in, or that have been produced from known accumulations of hydrocarbon.

# Resource Replenishment Ratio

Figures reported are calculated based on a formula of (Difference of Resource Base of current year and previous year + Production Volume of previous year)/(Production Volume of previous year).

#### **Risk Service Contract (RSC)**

In the context of this report, RSC refers to a petroleum arrangement between PETRONAS and any other company for the appraisal, development and/or production of petroleum in a contract area on behalf of PETRONAS whereby the PA Contractors are remunerated based on achieved Key Performance Indicators consisting of the agreed Cost, Schedule and Production level.

# S

#### **Seismic Data**

The collection of stratigraphic data obtained by creating shockwaves through the rock layers. Reflection of these waves from anomalies within the rock layers are electronically recorded at surface. These recordings are then analysed to produce a stratigraphic representation of the surveyed area, which helps to deduce the structure of the underlying rock layers.

#### hale Gas

Natural gas found in shale rock derived from underground shale deposits that are broken up by hydraulic fracturing. The process is needed to produce gas in commercial quantities as shale has low matrix permeability.



#### **Throughput**

The amount of output produced by a system, e.g. a refinery, plant, or pipeline, in a given period of time.

### **Total Recordable Case (TRC)**

The sum of injuries resulting in fatalities, permanent total disabilities, permanent partial disabilities, lost work day cases, restricted work cases and medical treatment cases, but excluding first aid cases.

#### **Total Recordable Case Frequency (TRCF)**

This refers to the number of total recordable cases per million exposure hours worked during the period.



# **Unconventional Oil and Gas**

Oil and gas that cannot be produced or extracted using conventional methods.

# Upstream

The segment of value chain pertaining to finding, developing and producing crude oil and natural gas. These include oil and gas exploration, development and production operations; also known as Exploration & Production (E&P).



#### **WTI Price**

Stands for West Texas Intermediate, the benchmark crude oil price in the US measured in USD per barrel, which refers to a type of high quality light crude oil.