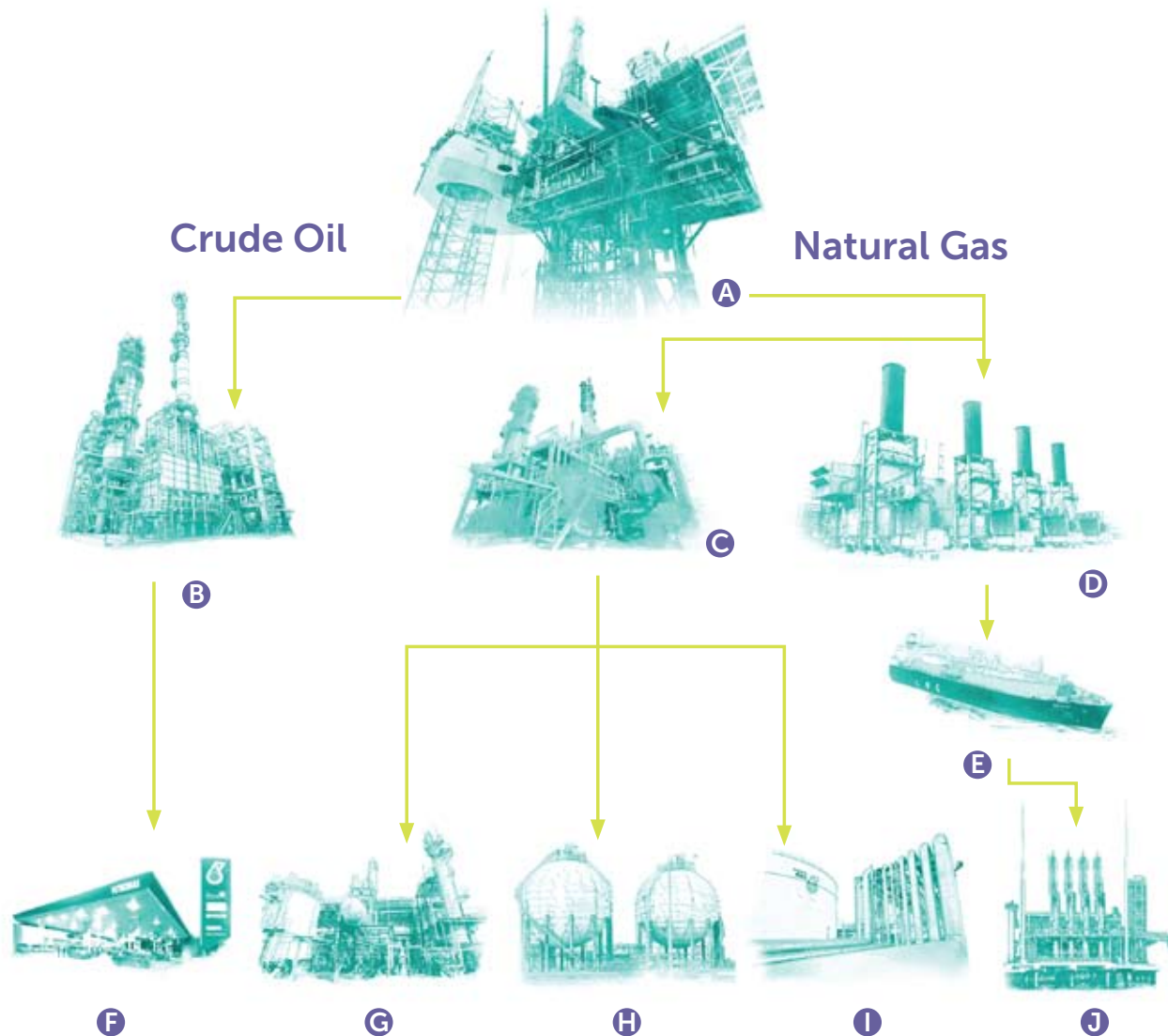




# Sustainability Report 2012

reimagining energy™

# OUR BUSINESS



**A** Exploration, Development and Production

**B** Refining

**C** Processing

**D** Liquefaction

**E** Liquefied Natural Gas (LNG)

**F** Petroleum Products

**G** Petrochemical Plant

**H** Liquefied Petroleum Gas (LPG)

**I** Processed Gas / Peninsular Utilisation (PGU) System

**J** Regasification Terminal

• Transportation Sector  
- Diesel, Gasoline, Jet Fuel and Lubricants

• Industrial Sector  
- Ethylene, Methanol, MTBE, Polyethylene, Propylene, Urea and VCM

• Residential; and Commercial Sectors

• Power Sector  
• Industrial Sector

• Export Sector

# OUR PRESENCE



## Exploration & Production (E&P)

- Africa**
  - **Algeria** – Development • **Cameroon** – Exploration & Development • **Chad** – Development & Production
  - **Egypt** – Exploration, Development & Production • **Mauritania** – Exploration & Production • **Mozambique** – Exploration
  - **Republic of South Sudan** – Exploration, Development & Production • **Republic of Sudan** – Exploration, Development & Production
  - **Sierra Leone** – Exploration
- Asia Pacific**
  - **Australia** – Exploration, Development & Production • **Brunei** – Exploration • **Indonesia** – Exploration, Development & Production
  - **Malaysia** – Exploration, Development & Production • **Malaysia-Thailand Joint Development Area** – Exploration, Development & Production
  - **Myanmar** – Exploration, Development & Production • **Vietnam** – Exploration, Development & Production
- Central Asia**
  - **Turkmenistan** – Exploration, Development & Production • **Uzbekistan** – Exploration, Development & Production
- Latin America**
  - **Cuba** – Exploration • **Venezuela** – Development
- Middle East**
  - **Iraq** – Exploration, Development & Production • **Oman** – Exploration & Development
- North America**
  - **Canada** – Development & Production

## Gas & Power

- Africa**
  - **Egypt** – LNG
- Asia Pacific**
  - **Australia** – LNG • **Indonesia** – Infrastructure • **Malaysia** – LNG, Infrastructure, Utilities & Power, Trading
  - **Singapore** – Power • **Thailand** – Infrastructure
- Central Asia**
  - **Uzbekistan** – Gas-to-Liquid
- Europe**
  - **Ireland** – Infrastructure • **United Kingdom** – Infrastructure, Utilities & Trading
- North America**
  - **Canada** – LNG

## Downstream\*

- Africa**
  - **Botswana** – Oil Business • **Burundi** – Oil Business • **Democratic Republic of the Congo** – Oil Business • **Gabon** – Oil Business
  - **Ghana** – Oil Business • **Guinea Bissau** – Oil Business • **Kenya** – Oil Business • **Lesotho** – Oil Business • **Malawi** – Oil Business
  - **Mauritius** – Oil Business • **Mozambique** – Oil Business • **Namibia** – Oil Business • **Réunion** – Oil Business
  - **Rwanda** – Oil Business • **Swaziland** – Oil Business • **South Africa** – Oil Business • **Republic of South Sudan** – Lubricants & Oil Businesses
  - **Republic of Sudan** – Lubricants & Oil Businesses • **Tanzania** – Oil Business • **Zambia** – Oil Business • **Zimbabwe** – Oil Business
- Asia Pacific**
  - **China** – Lubricants & Petrochemical Businesses • **India** – Lubricants & Petrochemical Businesses
  - **Indonesia** – Lubricants, Oil & Petrochemical Businesses • **Malaysia** – Lubricants, Oil & Petrochemical Businesses
  - **Philippines** – Lubricants, Oil & Petrochemical Businesses • **Thailand** – Lubricants, Oil & Petrochemical Businesses
  - **Vietnam** – Lubricants, Oil & Petrochemical Businesses
- Europe**
  - **Austria** – Lubricants • **Belgium** – Lubricants • **Denmark** – Lubricants • **France** – Lubricants • **Germany** – Lubricants
  - **Italy** – Lubricants • **Netherlands** – Lubricants • **Poland** – Lubricants • **Portugal** – Lubricants • **Spain** – Lubricants
  - **Turkey** – Lubricants • **United Kingdom** – Lubricants
- Latin America**
  - **Argentina** – Lubricants • **Brazil** – Lubricants
- North America**
  - **United States of America** – Lubricants

\*Includes Engen subsidiaries and marketing and trading offices.

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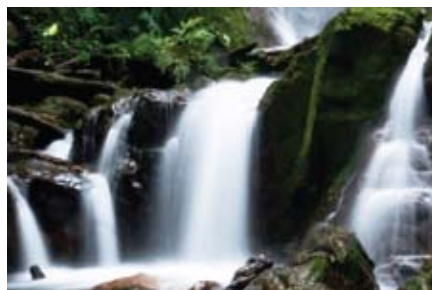
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# VISION

# TO BE A LEADING OIL AND GAS MULTINATIONAL OF CHOICE

## Mission

We are a business entity

Petroleum is our core business

Our primary responsibility is to develop and add value to this national resource

Our objective is to contribute to the well-being of the people and the nation

## Shared Values

### Loyalty

Loyal to the nation and corporation

### Integrity

Honest and upright

### Professionalism

Committed, innovative and proactive and always striving for excellence

### Cohesiveness

United in purpose and fellowship

# COMPANY PROFILE

Petroleum Nasional Berhad is Malaysia's National Petroleum Corporation wholly-owned by the Malaysian Government. Established in 1974, PETRONAS is now ranked among the largest companies in the world with a proven track record in integrated oil and gas operations spanning the entire hydrocarbon value chain.

PETRONAS' business activities include (i) the exploration, development and production of crude oil and natural gas in Malaysia and overseas; (ii) the liquefaction, sale and transportation of Liquefied Natural Gas (LNG); (iii) the processing and transmission of natural gas, including power generation, and the sale of natural gas products; (iv) the refining and marketing of petroleum products; (v) the manufacturing and selling

of petrochemical products; (vi) the trading of crude oil, petroleum, gas and LNG products and petrochemical products; and (vii) shipping and logistics relating to LNG, crude oil and petroleum products. Committed to ensuring business sustainability, PETRONAS also strives to responsibly manage natural resources in a way that contributes holistically to the well-being of the people and nations wherever it operates.

## Exploration & Production

PETRONAS Exploration & Production (E&P) aims for Safe and Profitable Growth through effective domestic resource management and highgrading and acquiring assets/ventures across the exploration, development and production value chain.

The Petroleum Management Unit of PETRONAS manages domestic oil and gas assets, by pioneering innovative solutions to drive business growth in the Malaysian oil and gas industry. This includes Enhanced Oil Recovery, small field development and intensifying exploration activities.

Its E&P subsidiary, PETRONAS Carigali Sdn Bhd (PCSB) is a hands-on operator with an established track record of successful oil and gas developments. Actively strengthening the nation's upstream resource base and production, PCSB works alongside a number of petroleum multinational companies through Production Sharing Contracts to explore, develop and produce oil and gas in Malaysia. Abroad, PETRONAS continues to build on its E&P portfolio, securing new acreages while undertaking various



development projects. These include deepwater and unconventional resources.

PETRONAS continues to harness and implement new technologies to reap the benefits of every hydrocarbon molecule recovered in its vision to become a leading global E&P player.

## Gas & Power



PETRONAS is positioning itself to be a leading gas, Liquefied Natural Gas (LNG) and power player through two major portfolios under its Gas & Power business; Global LNG business and Infrastructure & Utilities business.

PETRONAS' Global LNG business commands a significant international market share; owing to three decades of experiences and proven capability along the LNG value chain. PETRONAS is committed to continue strengthening its market position and preserve its reputation as a preferred LNG supplier distinctive for its quality and reliability through strategic expansion projects, venturing into unconventional plays in Australia and Canada, as well as growing its international LNG trading portfolio.

The Infrastructure, Utilities & Power business is focused on ensuring long-term security, sustainability, and utilisation of natural gas in Malaysia while continuing to expand its portfolio of infrastructure and power in various international markets. This encompasses gas processing, transportation, regasification as well as equity participation in power generation.

Since the 1980's, the Peninsular Gas Utilisation pipeline system has been delivering gas to the power and non-power sectors in Peninsular Malaysia as well as to the power industry in Singapore. In addition, gas processing has also spurred Malaysia's petrochemical industry. PETRONAS is committed to continue growing its infrastructure and power business including renewables power business.

## Downstream Business

PETRONAS' ambitious downstream expansion through its integrated operations in refining & trading, marketing & retailing as well as in the petrochemicals sector plays a strategic role to increase the value of every molecule extracted through its exploration activities.

PETRONAS owns and operates three refineries in Malaysia, two in Melaka and another in Kertih. The PETRONAS refining portfolio is also complemented by its refining presence in Africa through its 80% owned subsidiary, Engen Petroleum Limited, a leading African refining and marketing company which owns and operates a refinery in Durban, South Africa.

In the Malaysian market, PETRONAS Dagangan Berhad manages all domestic marketing and retailing activities for a wide range of petroleum products. PETRONAS also operates service stations in various international markets such as South Africa and Sudan. PETRONAS Lubricants International Sdn Bhd (PLI) is the global

lubricants manufacturing and marketing arm of PETRONAS, with presence in more than 50 countries and five continents. PLI is responsible in setting PETRONAS global lubricant strategic direction and growth with a product range that includes lubricants and functional fluids for both the automotive and industrial markets as well as a range of car care products.

The integrated development of Malaysia's petrochemical industry is expected to promote the development of the country's industrial base, especially the plastics and chemical based component manufacturing industry. The Company's consolidated petrochemical business under the PETRONAS Chemicals Group Berhad is the largest integrated petrochemical producer in Malaysia and among the largest in South East Asia.

PETRONAS' robust development of its downstream portfolio is expected to further enhance Malaysia's economic, industrial and knowledge base. In the long-term, this augurs well to support Malaysia's growth agenda and the Company's integrated plan to become a key downstream player in the region.



# Key Sustainability Indicators

|                            | 2012 | PE2011* | 2011 |
|----------------------------|------|---------|------|
| Lost Time Injury Frequency | 0.39 | 0.32    | 0.40 |

▶ Refer to page 21

|                     | 2012 | PE2011* | 2011 |
|---------------------|------|---------|------|
| Fatal Accident Rate | 3.91 | 2.86    | 2.58 |

▶ Refer to page 21

|                             | 2012            | PE2011*         | 2011            |
|-----------------------------|-----------------|-----------------|-----------------|
| Loss of Primary Containment | 33<br>Incidents | 23<br>Incidents | 38<br>Incidents |

▶ Refer to page 21

| PETRONAS Domestic Greenhouse Gas Emissions | 2012                                | PE2011*                             | 2011                                |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
|  | 43.99<br>million tCO <sub>2</sub> e | 31.48<br>million tCO <sub>2</sub> e | 40.52<br>million tCO <sub>2</sub> e |

▶ Refer to page 27

| Percentage of Women Employees | 2012 | PE2011* | 2011 |
|-------------------------------|------|---------|------|
|                               | 27%  | 27%     | 27%  |

▶ Refer to page 34

| Dividend Payment to the Malaysian Government | 2012             | PE2011*          | 2011             |
|--|------------------|------------------|------------------|
|  | 28<br>RM billion | 30<br>RM billion | 30<br>RM billion |

\* **Note:** PE2011 covers a period of nine months from 1 April 2011 to 31 December 2011. 2011 covers a period of 12 months from 1 April 2010 to 31 March 2011.

## Five-Year Group Financial Highlights

### PETRONAS' KEY FINANCIAL INDICATORS

In RM billion

|  | FY2012 | +/- (%) | CY2011* | PE2011** | FY2011*** | FY2010 | FY2009 |
|--|--------|---------|---------|----------|-----------|--------|--------|
| Revenue  | 291.0  | 0.9%    | 288.5   | 222.8    | 241.2     | 210.8  | 264.2  |
| EBITDA   | 119.9  | -2.5%   | 123.0   | 95.7     | 107.9     | 83.3   | 105.7  |
| Profit Before Taxation                           | 89.1   | -14.2%  | 103.8   | 83.0     | 90.5      | 67.3   | 89.1   |
| Net Profit Attributable to PETRONAS Shareholders | 49.4   | -17.3%  | 59.7    | 49.1     | 54.8      | 40.3   | 52.5   |
| Total Assets                                     | 488.3  | 2.8%    | 475.1   | 475.1    | 436.3     | 410.9  | 389.8  |
| Equity Attributable to PETRONAS Shareholders     | 303.8  | 5.9%    | 286.9   | 286.9    | 262.3     | 242.9  | 232.1  |

### PETRONAS' Key Financial Ratio

|   | FY2012 | PE2011 | FY2011 | FY2010 | FY2009 |
|---|--------|--------|--------|--------|--------|
| Return on Revenue                               | 30.6%  | 37.1%  | 37.5%  | 31.9%  | 33.7%  |
| Return on Total Assets                          | 18.2%  | 23.0%  | 20.7%  | 16.4%  | 23.0%  |
| Return on Average Capital Employed              | 17.2%  | 21.9%  | 17.6%  | 15.9%  | 22.0%  |
| Debt/Assets Ratio                               | 0.09x  | 0.11x  | 0.11x  | 0.13x  | 0.11x  |
| Gearing Ratio                                   | 12.2%  | 15.5%  | 15.4%  | 17.6%  | 15.9%  |
| Dividend Payout Ratio                           | 55.6%  | 61.3%  | 54.7%  | 74.4%  | 57.1%  |
| Overall Resource Replenishment Ratio (ORRR)**** | 2.0x   | 1.7x   | 2.5x   | 1.1x   | 1.8x   |

\* Calendar Year (CY) 2011 - unaudited twelve-month period from 1 January 2011 to 31 December 2011. Included for comparative purpose.

\*\* Audited nine-month period from 1 April 2011 to 31 December 2011. Total Assets and Equity Attributable to PETRONAS Shareholders have been restated due to adoption of Malaysian Financial Reporting Standards (MFRS). Corresponding ratios have also been restated. Ratios were calculated based on annualised figures, where applicable.

\*\*\* Certain financial information has been restated due to the adoption of MFRS. Corresponding ratios have also been restated.

\*\*\*\* ORRR FY2012 excludes Progress Energy Resources Corp.





**TAN SRI DATO' SHAMSUL AZHAR ABBAS**  
President & Group CEO

I am delighted to disclose PETRONAS' Sustainability Report which highlights our sustainability focus and performance in the Financial Year ending 2012. We embarked on this journey in 2005 following the launch of PETRONAS' Corporate Sustainability Framework. Then on, we strived to gradually progress our sustainability practices Groupwide in accordance with globally accepted industry best practices.

### **AN EXTERNAL HINDSIGHT**

In 2012, the global financial recession deepened social disparity as businesses continued to grapple for recovery. The geopolitical unrests in natural resource rich countries resulted in operational disruptions and heightened security risks. Measures such as tightening of international legislation inadvertently suppressed business growth. The expanding world population whereas implies that demand for raw materials and energy will rise in tandem. For us, this translated into a higher quest for hydrocarbon resources and investments in cleaner technologies. Namely, to dutifully and responsibly revitalise production rates.

While it was a challenging year, we scrutinised our sustainability performance in various business aspects with gap closure activities following suit. A key highlight was working towards identifying carbon and water commitments for PETRONAS.

## CONSEQUENTIAL REALITIES

The increasing inter-dependencies among the financial, human, natural, social and technological elements call for more pragmatic and ingenious solutions. Addressing this complex matrix in a time when energy security is fundamental for sustained socioeconomic prosperity is a tough balancing act.

Low hanging fruits are replaced by hydrocarbon resources that are technically challenging and geologically complex. Monetising such resources requires operational competence and a foresight of future trends affecting the industry. Leading on is talent crunch with energy players competing for skilled personnel.

In a nutshell, these issues facing the global energy industry are of equal concern to us. As a commercial entity, PETRONAS is committed to maximise shareholder value by pursuing operational sustainability that balances environmental and societal well-being.

## RETROSPECTIVE VIEW ON DEFYING THE ODDS

As a responsible and versatile energy multinational, PETRONAS endeavors to ensure long term commercial viability of hydrocarbon resources. The complexities, if strategically managed, present opportunities that prolong business growth. Our second lease of life thus entailed us to venture into newer business fronts. This included foraying into unconventional resources such as shale gas in Canada as well as developing deep-water and marginal fields in Malaysia, whilst implementing techniques such as Enhanced Oil Recovery (EOR), where feasible. PETRONAS' other significant undertakings in the year included large petrochemical investments; the Refinery and Petrochemicals Integrated Development (RAPID) project and Sabah Ammonia Urea (SAMUR), including construction of the Sabah Oil and Gas Terminal in addition to Malaysia's first regasification terminal as well as two Floating Liquefied Natural Gas projects.

In the Sustainability Report for period ending 2011, I expressed PETRONAS' motive to strengthen our sustainability governance, likewise footprint management, namely in the areas of greenhouse gas emissions and fresh water conservation. Echoing this focus, in this document, we talked about the roll-out of the HSE Mandatory Control Framework across the Group. Supporting the PETRONAS Corporate Enhancement Programme, the period under review also saw enforcement of the revised PETRONAS Code of Conduct and Business Ethics as well as Policies such as No Gift and Whistleblowing to achieve the highest standards of integrity in the conduct of our businesses and operations.

While it was challenging year, we scrutinised our sustainability performance in various business aspects with gap closure activities following suit.

Our intent for commercial viability is a prerequisite for sustained business growth. Nevertheless, we strive to heed expectations and needs of host governments, local communities and our business partners at large. Among our major stakeholders, our personnel, are our strongest pillars of support for whom we strive to provide an enriching working experience.

We acknowledge that in attaining the desired results to champion our sustainable development agenda, we still have much left to do. As such, a key step for us was to identify strategic carbon and water commitments for PETRONAS, among others.

Addressing the issue of aging facilities and operational efficiency, process safety measures were monitored and improved to intensify asset integrity, infrastructure maintenance and reservoir management.

What we do and how we do it is important to us. We choose to shape our future by developing and deploying technologies, among others. Aligned to this focus, we established an E&P Technology Centre to institutionalise capabilities in EOR and high carbon dioxide management technologies.

## IN THE QUEST FOR EXCELLENCE

We believe that in today's highly interconnected society, HSE and Sustainable operations are no longer ticket at play; but are passport to exist.

Undoubtedly, the leadership and guidance of the Corporate Sustainability Council is vital in fortifying our business practices on all fronts.

Our intent for commercial viability is a prerequisite for sustained business growth. Nevertheless, we strive to heed expectations and needs of host governments, local communities and our business partners at large. Among our major stakeholders, our personnel, are our strongest pillars of support for whom we strive to provide an enriching working experience.

## THE JOURNEY CONTINUES

The next chapter of growth will be tougher, but exciting as the energy sector faces greater pressure to fulfill the incredible demand for hydrocarbon resources.

Embodying the spirit of reimagining energy™, we are determined to push our performance boundaries to continuously upscale our sustainability practices.

This includes to reduce flaring at all facilities where operationally and economically feasible, as well as designing new facilities for Zero continuous flaring.

Simultaneously, we aim for better stakeholder inclusiveness and cooperation to remain a competitive and reliable business partner. As such, to improve our Sustainability Reporting through enhanced clarity in addressing concerns of our various stakeholders.

At PETRONAS, we are determined to take control of our destiny, and in that, striving for excellence on all fronts.

Thank You.



**TAN SRI DATO' SHAMSUL AZHAR ABBAS**  
President and Group CEO

# ABOUT THIS REPORT

PETRONAS has been reporting voluntarily since 2007, and this report represents an ongoing commitment to conduct our business in a safe, responsible and ethical manner.

The content of our report is shaped by the Seven Result Areas of the PETRONAS Corporate Sustainability Framework, representing issues material to our stakeholders and the Company. It focuses on three core themes; Safety and Health, Environment and Society.

This Report features PETRONAS' key sustainability initiatives and performance achieved in the financial year ending 2012. It also makes reference to initiatives that began before or just after the period under review, where applicable.

## **Stakeholders and Materiality**

As a global Company, PETRONAS' various stakeholders include host governments, financial institutions, investors, communities in areas of operations, employees and the media. In 2012, PETRONAS held engagements on Health, Safety and Environment (HSE) as well as related matters of mutual interest. This contributed towards the development of improved policies and guidelines, including strengthened working relationships with stakeholders such as Regulatory authorities.

Stakeholder engagements and feedback channels enabled PETRONAS to receive, analyse and address concerns which are reflected in this Report. This was complemented by our internal assessment to define material issues and priorities.

## **Scope and Data Collection**

The scope of data covers outfits where PETRONAS has operational control in our Businesses of oil and gas production, unless otherwise stated, in Malaysia and abroad. The Company is continually improving our information collection procedure to accurately reflect PETRONAS' sustainability performance. Our sustainability data is collated through a centralised web-based system.

The PETRONAS Group Sustainability Report for 2012 was prepared in accordance with the International Petroleum Industry Environmental Conservation Association (IPIECA) and the Global Reporting Initiative (GRI) guidelines (GRI G3.1).

## Contact

This Report is accessible on PETRONAS corporate website at [www.petronas.com.my](http://www.petronas.com.my).

For further comments or queries, please write to us at:

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

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## ELEVATING SUSTAINABILITY REPORTING PRACTICES

We focus our efforts on strengthening Governance mechanisms Groupwide in the realisation of PETRONAS' Sustainability Agenda. Relevant measures for improved sustainability performance and enhanced operational sustainability as well as stakeholder stewardship are being identified.

Established working groups thoroughly reviewed PETRONAS' processes and practices in categories material to our stakeholders and the Company. Key focus areas included carbon and water management, as well as product stewardship. Findings and mitigation plans were deliberated at the top level, corresponding to the HSE Mandatory Control Framework and relevant standards which were established and rolled out Groupwide.

In the period under review, we streamlined accounting procedures for better data robustness and baselining. Concurrently, initiated the development of relevant skills and capabilities among our personnel. In this report, we also provide clearer description pertaining to Disclosure on Management Approach for identified aspects from an industry standpoint, embedding internal and external considerations.

# SUSTAINABILITY & PETRONAS



Sustainability to PETRONAS means carrying out our business in a socially responsible and holistic manner. This is to ensure continued growth as well as success for the benefit of present and future generations where we operate.

PETRONAS is committed to strengthening our sustainability agenda in line with industry and stakeholder expectations. We embrace responsible management and operational practices, policies and procedures that complement as well as accelerate business performance and delivery. Essentially, this is to create business value by effectively managing risks.

Our focus in the short to medium term is to strengthen PETRONAS' operational excellence by:

- Managing carbon emissions in upstream operations and promoting efficient use of energy in downstream plants. Designing new facilities for zero continuous venting and flaring.
- Encouraging prudent use of water in our operations. Integrating the concept of 3R (Reduce, Reuse and Recycle) in the model of new capital projects.
- Strengthening product stewardship practices in the Company.

## PETRONAS Corporate Sustainability Framework

We focus on the following seven key areas:

|   |  |
|---|--|
| <b>Shareholder Value</b>                | Sustaining the Company's profitability through value creation, efficient extraction and manufacturing processes.   |
| <b>Natural Resource Use</b>             | Promoting efficient use of hydrocarbons and water, and supporting the use of renewable energy.   |
| <b>Climate Change</b>                   | Limiting emissions of greenhouse gases into the atmosphere.  |
| <b>Biodiversity</b>                     | Ensuring projects and operations do not have significant effect on the diversity of animals and plants.  |
| <b>Health, Safety &amp; Environment</b> | Preventing and eliminating injuries, health hazards and damage to property and communities, including conserving the environment.  |
| <b>Product Stewardship</b>              | Ensuring that products conform to quality and HSE standards throughout the product lifecycle and meet the needs of society.  |
| <b>Societal Needs</b>                   | Safeguarding human rights within our sphere of influence, contributing to community needs, investing in training and education, promoting arts and sports and conducting our business in a transparent manner. |

### Collectively Promoting Industry Growth

PETRONAS is a member of several industry associations that collectively deliberate on best practices and experiences in response to business needs. This includes the ASEAN Council on Petroleum (ASCOPE), International Gas Union (IGU), International Petroleum Industry Environmental Conservation Association (IPIECA), Malaysian Gas Union (MGA), Malaysia Oil & Gas Services Council (MOGSC) and Petroleum Industry of Malaysia Mutual Aid Group (PIMMAG). Furthermore, we are a Subscribing Member of the Oil Spill Response Limited (OSRL).

We also support events to encourage capability and capacity development of the oil and gas industry. In 2012, PETRONAS hosted the 25<sup>th</sup> World Gas Conference (WGC) in Kuala Lumpur, Malaysia, themed *Gas: Sustaining Future Global Growth*. Our participation also extended to support the inaugural WGC Youth Conference.

In addition, we co-sponsored the 9<sup>th</sup> International Occupational Hygiene Association (IOHA) Conference themed *Growing the Seeds of Occupational Hygiene* which was held in Malaysia.



# Sustainability Leadership

In 2012, PETRONAS fortified our governance practices across the management and operational fronts.

PETRONAS' senior management personnel through relevant Councils guide and closely monitor the implementation of Sustainable Development (SD) oriented policies and framework in the Company.

The involvement of PETRONAS' top management is a critical factor in driving the desired implementation of relevant sustainability skewed initiatives Groupwide.

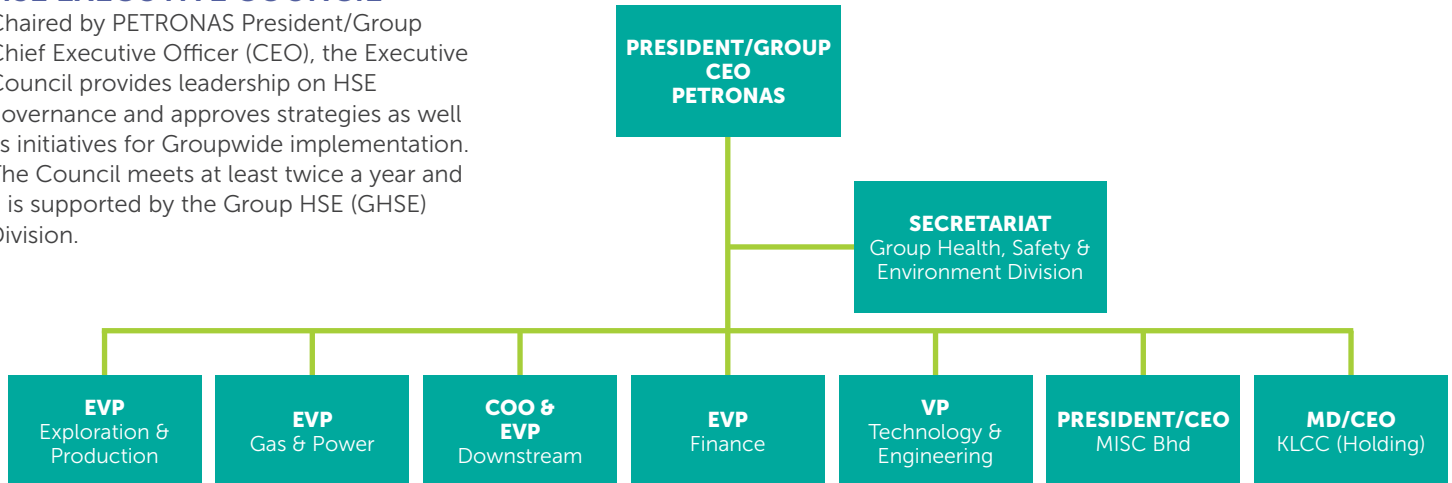
The leadership, direction as well as oversight of the Health, Safety and Environmental (HSE) Executive Council and PETRONAS' Corporate Sustainability Council (CSC) has elevated the standard of SD in PETRONAS.

The diverse business representation of PETRONAS' senior leadership in the HSE Executive Council and CSC enable insightful and in-depth discourses. This extends to advising on recommended SD strategies and identifying potential opportunities for business growth locally, regionally and internationally. The support and commitment of top management also raises the bar for our employees and business alliances to uphold HSE and SD excellence in all that we do.



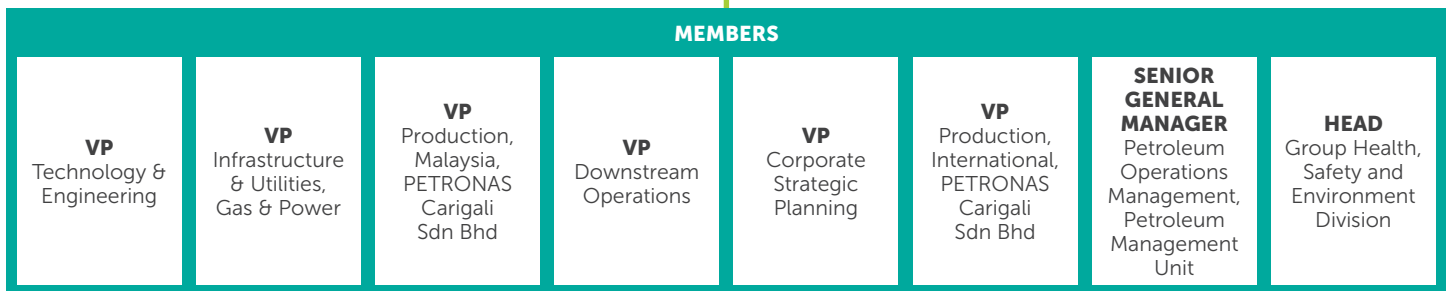
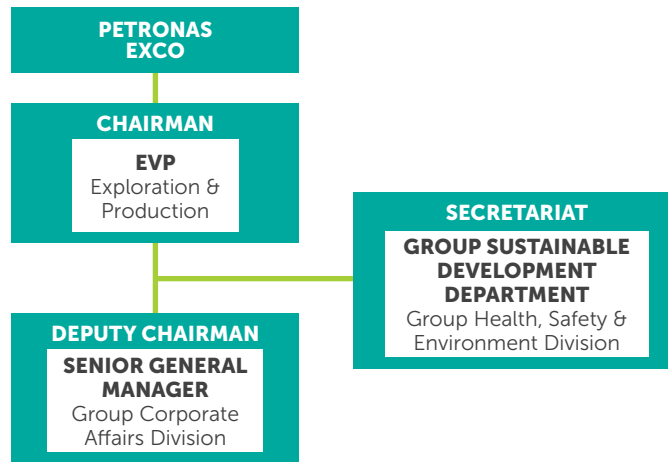
## HSE EXECUTIVE COUNCIL

Chaired by PETRONAS President/Group Chief Executive Officer (CEO), the Executive Council provides leadership on HSE governance and approves strategies as well as initiatives for Groupwide implementation. The Council meets at least twice a year and it is supported by the Group HSE (GHSE) Division.



## CORPORATE SUSTAINABILITY COUNCIL

Chaired by the Executive Vice President (EVP) of Exploration and Production, the Council meets every quarterly and is represented by the Head of respective businesses. The Council serves as a governance and deliberation platform to spearhead, operationalise and monitor sustainability strategies. The CSC is supported by the Group Sustainable Development Department.



## Governance in HSE

Mechanisms were put in place to focus on strengthening operational measures and risk management practices Groupwide. The roll out of the HSE Mandatory Control Framework (MCF) was vital to enhance systematic implementation and assurance of HSE practices throughout PETRONAS' operations.

In 2012, frequent engagement sessions were held to spur better understanding in driving the successful implementation of the HSE MCF framework across the Company. This in turn enabled proactive identification and execution of effective control plans.

Our HSE policy further demonstrates our commitment to HSE excellence in all our business activities where we operate.



# Safety & Health

In ensuring safety and health at the workplace, PETRONAS stipulates stringent requirements in our operations and projects to reduce and address potential risks. Safeguarding our employees, stakeholders and assets is imperative in the continuous pursuit of creating tangible and intangible business value. Our business and operational decision making focuses on:

- **Process Safety**
- **Occupational Health & Industrial Hygiene**
- **Product Stewardship**

## HSE and Technical Governance

Our efforts strive to continuously strengthen technical and operational integrity in identified risk areas. These include Capability Building in Health, Safety and Environment (HSE), Process Safety and HSE Controls in projects.

The implementation of the PETRONAS HSE Mandatory Control Framework (MCF) in 2011 fortifies governance on safety and health in the Company. In the period under review, our Operating Units undertook gap assessment activities, which is scheduled for completion in 2015.

Enforcement of PETRONAS' Zero Tolerance (ZeTo) Rules was also tightened to ensure all activities are carried out safely always, with a strong emphasis on high risk tasks. In 2012, we enhanced the implementation of ZeTo Rules through the development of an interactive learning courseware as well as a smartphone application. In addition, an electronic Permit to Work (e-PTW) system has been implemented at the PETRONAS LNG Complex in Bintulu, Sarawak, Malaysia.

PETRONAS developed several other tools to improve the management and implementation of safety measures at our facilities. These include an Independent Asset Integrity Review (i-AIR); PETRONAS Risk-Based Inspection (P-RBI™) and PETRONAS Instrumented Protective Function (P-IPF).

The i-AIR system which provides holistic assessment on Technical Integrity of assets was developed to manage our upstream facilities more effectively. Intervention programmes are being established and deployed to assure the integrity of these assets.

The P-RBI™ software for plant maintenance and inspection was rolled out at domestic upstream and downstream facilities, and will be implemented at our international facilities. A significant highlight is the introduction of an online approval module of PRBI™ for the Department of Safety and Health (DOSH) in Malaysia. This enables virtual approval and issuance of certificate of fitness (CF) for DOSH-registered equipment at our Downstream plants. The online module, which is a key element of DOSH's Specific Scheme of Inspection in Malaysia, shortens the CF approval process from six months to several weeks. The PRBI™ was also adopted in developing the Offshore Self Regulation (OSR) programme. The OSR would eventually allow DOSH to provide surveillance of equipment at our offshore facilities in Malaysia.

The P-IPF is an engineering solution that ensures that our facilities' automatic protective functions are correctly designed, operated and maintained to prevent excursions beyond safe operating limits. The P-IPF is being applied across the Upstream and Downstream businesses' existing facilities as well as in new projects such as the PETRONAS Floating LNG 1 (PFLNG1), PFLNG2 and Sabah Ammonia Urea Project (SAMUR).

## HSE Controls in Projects

PETRONAS published a new technical standard on Project HSE Management. It outlines the mandatory requirements to safely manage HSE risks throughout the lifecycle of a project. Assurance exercises have been conducted at different stages of projects to identify and address gaps through relevant interventions. Projects leveraging on this standard include Sabah Oil and Gas Terminal (SOGT), SAMUR as well as the Refinery and Petrochemical Integrated Development (RAPID) Project.



## PROCESS SAFETY

Technical governance is PETRONAS' priority in managing major hazards associated with our business and operational activities. Process safety leadership at all levels is critical to ensure that business operations and activities are carried out safely and consistently.

### Driving Process Safety Leadership & Culture

The 'Process Safety Leadership Field Guide' was developed for improving site engagement and inspection activities to nurture a desired HSE culture and mindset in the Company.

In addition, leaflets were produced on the following:

- **Process Safety Information** - Outlines requirements on process safety information in phases such as design, construction, exploration and drilling, commissioning and start-up, operations, maintenance as well as decommissioning and abandonment.
- **Management of Change** - Identifies and evaluates potential risks, introduced by an intended change to people, environment, assets and Company reputation.
- **Operating Procedures** - Defines desired actions and limits in operating our facilities.
- **Mechanical Integrity** - Ensures risks arising from accidental release of highly hazardous chemicals and energy is prevented or minimised through testing, inspection, maintenance and operation programmes, as well as procedures.

Regular management safety walkabouts has proactively identified and addressed HSE concerns in the day-to-day working environment, across the Exploration and Production (E&P), Gas and Power (G&P), as well as Downstream Businesses.

Safety Stand Down was implemented to fortify operational discipline and promote a proactive learning culture in PETRONAS. It involves immediate actions to resolve safety issues and timely sharing of lessons learnt post an incident, within a period of two working days. PETRONAS Chemicals Group Berhad (PCG) has initiated this through its Safety Pause programme.

Other efforts included Downstream Business' Felt Leadership and Process Safety workshops which are held since 2011 to promote ownership and accountability at all levels. Furthermore, PCG's Strive for Zero campaign initiated since 2011 reinforces efforts aimed at shaping a safety culture and mindset that strives for zero incidents at all times.

Similar Process Safety efforts were also rolled out at our international operations. For example, in Myanmar, a Process Safety Management awareness session was conducted to raise awareness among staff.

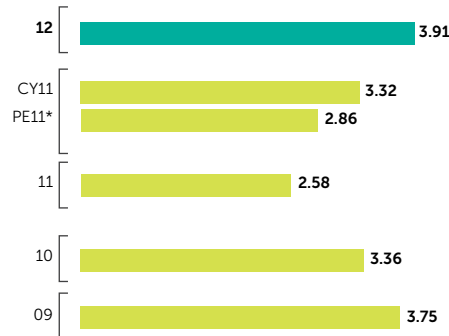


## Safety & Health Performance

Regrettably in 2012, we recorded 12 fatalities in project construction and fire incidents. PETRONAS continues to strengthen our HSE management controls and crisis management practices.

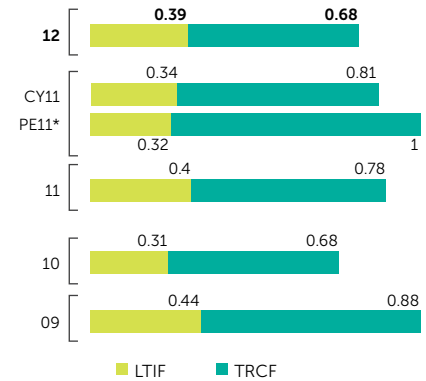
### Fatal Accident Rate

Reportable Fatalities per 100 million man hours



### LTIF and TRCF for the Group

No of cases per one million man hours



**\* Note:** PE2011 covers a period of nine months from 1 April 2011 to 31 December 2011. 2011 covers a period of 12 months from 1 April 2010 to 31 March 2011.

### Major LOPCs and Fire incidents for the Group

|                                     | 09 | 10 | 11 | *PE11 | 12        |
|-------------------------------------|----|----|----|-------|-----------|
| Loss of Primary Containment (LOPCs) | 37 | 46 | 38 | 23    | <b>33</b> |
| Fires                               | 5  | 12 | 7  | 6     | <b>7</b>  |

## Building Capability

Training and development programmes were implemented across PETRONAS to equip our personnel with the required levels of competency and knowledge to perform their respective functions. Namely, in the areas of process, risk management, operations, maintenance, safety practices and crisis management. These include the Hazard and Operability Study (HAZOP) Leader Certification Programme and Instrumented Protective Systems Study Facilitator Certification Programme, among others. Overall, the implementation of these efforts nurtured better understanding among our personnel on process safety requirements to prevent potential incidents.

Our Downstream Business also conducted a series of leadership training programmes that encourage a safety culture and mindset. The intent was to provide clearer understanding and practical guidance on desired safety as well as leadership behaviours through programmes, such as:

- Felt leadership for Plant Leadership Team (PLT)/Managers
- Process Safety Leadership for PLT/Managers
- Process Safety Leadership for First Line Supervisors and Front Liners

These initiatives were implemented at several Downstream operating units in Malaysia, as well as the Engen Refinery in Durban, South Africa.

In addition, a workshop on 'Recognising Catastrophic Incident Warning Signs in the Process Industries' was organised for Senior Plant Management to promote a more proactive approach in managing process safety.

HSE elements are also incorporated in the training modules for new entrants during their early stages of employment.

## Emergency Preparedness & Response

PETRONAS engaged with Government authorities including the National Security Council of Malaysia to enhance emergency preparedness and response for land as well as sea based oil spill exercises, among others.

In East Malaysia, PETRONAS Sabah Operations (SBO) conducted a Shoreline Clean-Up Technique (SCAT) Assessment Workshop for the Sabah Gas Terminal to enhance capabilities in responding to oil spill emergencies. The session was facilitated by Petroleum Industry of Malaysia Mutual Aid Group (PIMMAG) and PETRONAS. Those who attended the event included SBO's Emergency Response Team (ERT) members and staff, with participation of representatives from Sabah's Environment Protection Department and Department of Environment (DOE), respectively.

A similar SCAT programme was also conducted by our Sarawak Operations (SKO). The State's DOE representatives, including members of the Natural Resources and Environment Board, alongside individuals from the local community and SKO's ERT personnel participated in this effort.

At our Downstream Business, PETRONAS Dagangan Berhad (PDB), held a total of six exercises to assess and improve the readiness of its ERT in managing crisis relating to Liquefied Petroleum Gas operations.

## OCCUPATIONAL HEALTH & INDUSTRIAL HYGIENE

We have put in place stringent occupational health and safety processes, guidelines and requirements which are in line with internationally accepted standards. We also took appropriate actions to ensure optimum fitness levels of our personnel working in different businesses and facilities.

### Addressing Health Risks

We embarked on efforts to intensify and elevate our employees' awareness on the importance of health, fitness and well-being.

|                                     |   |
|-------------------------------------|---|
| <b>Health Risk Assessment (HRA)</b> | A structured and consistent assessment of Health Risks at the Workplace had identified chemicals, ergonomics and noise as key health risks. Targeted interventions were developed to address these risks; Hearing Conservation, Management of Hazardous Chemicals at the workplace and Indoor Air Quality Assessment.   |
| <b>Fitness to Work</b>              | Initiatives implemented were Fitness assessments for specific workgroups such as the Emergency Response Team (ERT) personnel across our businesses.   |
| <b>Substance Misuse</b>             | We focused on reducing risks of accident/injury/illness caused by impaired performance due to potential misuse of drugs and alcohol.  |
| <b>Health Promotions</b>            | <p>We continued efforts to elevate staff's personal health and fitness levels to control the prevalence of lifestyle illness such as hypertension, diabetes mellitus and high cholesterol. This included talks and workshops on topics of concern such as healthy lifestyle, stress management and fitness enhancement programmes.</p> <p>Employee health and fitness assessments were also held across the businesses.</p> <p>PETRONAS also aligned our health practices to international standards for effectively managing health issues such as HIV/AIDS management and prevention.</p> |

## PRODUCT STEWARDSHIP

PETRONAS continuously identifies, assesses, controls and communicates HSE risks throughout our products' life cycle. The development of an internal product stewardship framework allows for better compliance with internationally accepted regulatory requirements. We remain focused to minimise product risks by reviewing product performance across its value chain. Relevant mitigation plans were implemented to maintain product safety while concurrently managing environmental impacts.

### Product Risk Assessment

We enhanced efforts aimed at addressing, adopting and implementing Product Stewardship activities in our Downstream Business, namely, petrochemicals. Preliminary product risk assessments were conducted to identify and prioritise products based on its varying compositions. This resulted in further evaluations of highly complex products.



### Product Safety

The PETRONAS Safety Datasheet (SDS) Guidelines were strengthened by streamlining internal processes and procedures on managing chemical products. The SDS was revised for greater compliance with the Globally Harmonised System of Classification and Labeling Chemicals (GHS). We also synergised internal operational mechanisms for greater consistency, effectiveness and efficiency. Our product stewardship and SDS review teams comprising Industrial Hygiene, Occupational HSE and Toxicology experts collectively deliberated to improve product safety levels.

### External Certification

In the period under review, our polymers and chemicals products were certified HALAL by Malaysia's Department of Islamic Development. This signifies compliance by our product offerings to Islamic regulations.

### Product Safety Communication

Our Downstream Business, through PCG, held engagement sessions with internal employees, key customers and end users to raise awareness on product handling and application to ensure adherence to safety protocols.

### Capability Building

We boosted our personnel's expertise in Product Life Cycle Assessment to elevate the competitiveness and knowledge of PETRONAS' product stewards. This aimed to review and improve internal practices to reduce product risks.



# Environment

PETRONAS strives to protect the environment and use natural resources more effectively. We had strengthened our focus in 2012 to strategically pursue footprint reduction through better operational excellence Groupwide, at plants and other facilities which we operate. Our areas of interest included:

- **Climate Change**
- **Water**
- **Biodiversity**
- **Waste Minimisation**



## Strengthening Governance and Strategy

In the period under review, we put in place measures to strengthen environmental governance across our various businesses.

Extensive deliberation sessions were also undertaken with the Corporate Sustainability Council (CSC) to identify and endorse strategic carbon commitments for the Group in areas such as flaring, venting, energy efficiency and water conservation efforts.

We revised the PETRONAS Technical Standards (PTS) on Greenhouse Gas (GHG) Monitoring, Reporting and Verification Standard to enhance data quality and reliability.

The PTS redefined organisational and operational boundaries according to IPIECA's GHG Accounting & Reporting Guidelines. Furthermore, organisational changes were introduced to govern carbon management practices and climate change mitigation activities.

We also enhanced water specific-initiatives following the issuance of a PTS on Water Conservation Guidelines for Onshore Facilities. Efforts were centered on the development of site specific water conservation programme for existing operations and new projects. This included improving water management practices for on-shore sites.

In the area of waste minimisation, we shifted our focus from conventional end-of-pipe approach to front-end management at planning and design stages.



## CLIMATE CHANGE

We strive to lower carbon dioxide (CO<sub>2</sub>) emissions across our various operational facilities. This is achieved by maximising equipment capacity and improving reliability as well as energy efficiency.

### Enhanced GHG Emission Accounting and Reporting Mechanism

We improved the monitoring, reporting and verification of GHG emissions in line with IPIECA's reporting standards. The revised accounting and tracking methodology aimed for better data consistency, reliability and comprehensiveness in measuring our performance levels throughout PETRONAS. Training sessions were held across the various Operating Units (OPUs) and Business Units (BUs) to create awareness on the streamlined data calculation technique. We also established the GHG and Energy Data Management work processes as well as GHG Reference Manuals for the Exploration and Production (E&P), Gas and Power (G&P) and Downstream Businesses, respectively.

### Managing CO<sub>2</sub> in Upstream Business

PETRONAS' Exploration and Production Technology Centre (EPTC) established in 2011 integrates Research & Development, Field Development Planning and technology deployment to manage high CO<sub>2</sub> gas fields. PETRONAS has also been engaging with relevant Government Authorities to address climate change.

### Flare Reduction and Recovery in Gas & Power Business

In 2012, the PETRONAS LNG Complex in Bintulu, Sarawak, Malaysia spearheaded Flare Reduction and Recovery initiatives that resulted in total flared gas reduction of 109,760 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e), accumulatively since 2010.

We are also pursuing a Flare Gas Recovery Unit Project at a selected Gas Processing Plant to reuse flared gas.

### Improving Energy Efficiency

Operations at selected Centralised Utility Facilities (CUF) in Peninsular Malaysia achieved combined energy savings of 916,562 Gigajoule (GJ).

Several efforts were also undertaken at the PETRONAS Refinery in Melaka and these achieved total energy savings of 269,955 GJ in the period under review.

### Ban and Control of Environmental Hazardous Substance (EHS)

Following the implementation of the Guideline on EHS, the use of selected Ozone Depleting Substances (ODS) were banned in PETRONAS' operations. These include ODS that were used as refrigerants, fire retardants, industrial chemicals and propellants.

In addition, prudent oversight and management of several Persistent Organic Pollutants (POPs) were mandated under the guidelines to minimise its use wherever possible.



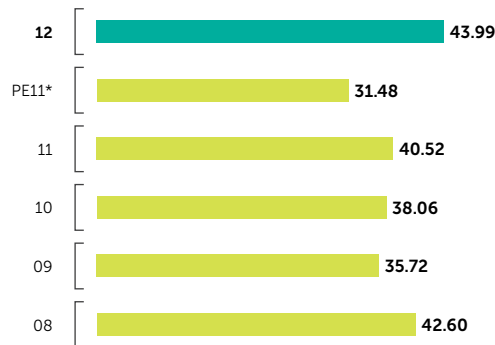
## GHG Emissions

In 2012, PETRONAS' total GHG emission from operations in Malaysia was 44 million tonnes of CO<sub>2</sub>e.

We incorporated emissions data from PETRONAS Carigali-operated blocks (COB) to improve reporting on our footprint for operations outside Malaysia. Collectively, emissions from COBs in Myanmar, Mauritania, Turkmenistan and Vietnam stood at 2.56 million tonnes of CO<sub>2</sub>e.

## Total (Group) GHG Emissions

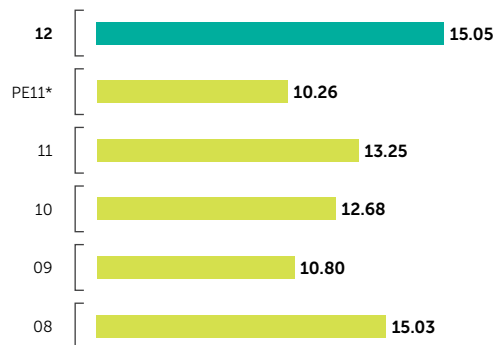
million tonnes of CO<sub>2</sub>e



*\* Note: PE2011 covers a period of nine months from 1 April 2011 to 31 December 2011. 2011 covers a period of 12 months from 1 April 2010 to 31 March 2011.*

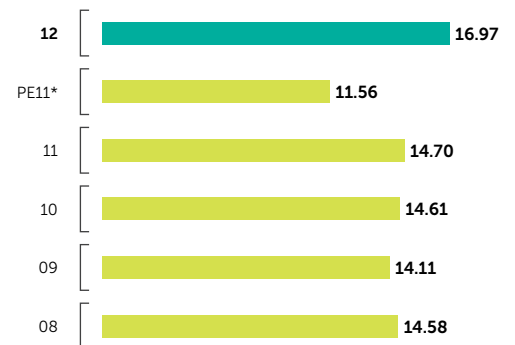
## E&P Business Emissions

million tonnes of CO<sub>2</sub>e



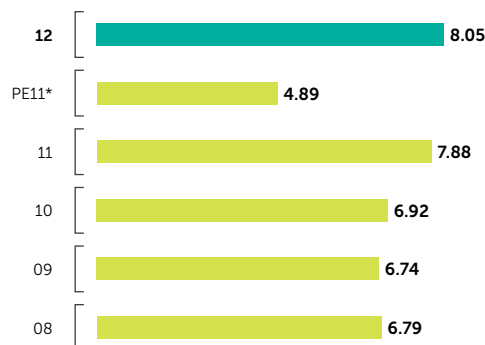
## Gas & Power Business Emissions

million tonnes of CO<sub>2</sub>e



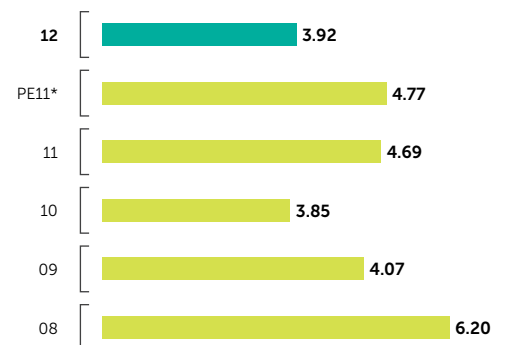
## Downstream Business Emissions

million tonnes of CO<sub>2</sub>e



## MISC Bhd

million tonnes of CO<sub>2</sub>e



## WATER

Fresh water is extensively utilised across the oil and gas value chain. At PETRONAS, we constantly monitor water usage in our business activities. This is to reduce potential economic and social risks that could result in water scarcity in high risk areas by identifying conservation and recycling opportunities.

### Improved Water Accounting Methodology

In the period under review, PETRONAS streamlined our water accounting methodology in line with internationally accepted standards. The revised calculation technique incorporated information on fresh water withdrawn, including the percentage of fresh water recycled and reused in our operations. In promoting effective utilisation of water, PETRONAS also conducted an international water availability risk assessment for selected operations.

### Fresh Water Reduction

PETRONAS Gas Berhad achieved a two percent reduction in fresh water consumption at selected production and operational sites. Workshops, audits and feasibility studies were conducted to assess supply and consumption patterns. Additionally, a reverse osmosis membrane improvement initiative was undertaken at selected CUF plants to improve water recovery and this reduced water consumption by 518,400 million cubic metres (m<sup>3</sup>).

### Embedding Water Conservation Practices in New Projects

Efforts were identified to reduce water consumption and wastewater generation from the Refinery and Petrochemical Integrated Development (RAPID) Project using the 3R concept of Reduce, Reuse and Recycle. These efforts aim to address water sustainability risks at the early stages of project implementation and throughout its lifecycle.

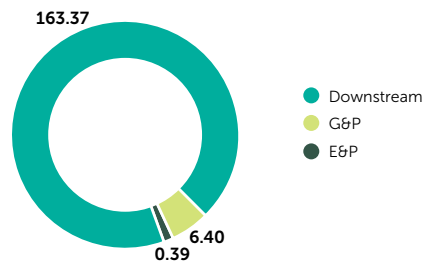
We pursued proactive assessments and identification of relevant action plans that include necessary processes, technology and infrastructure into project design. This is to uphold elements outlined in the PETRONAS Project HSE Management.

### Fresh Water Withdrawal

In 2012, total fresh water withdrawn in our operations was approximately 170 million m<sup>3</sup>.

### Total Fresh Water Withdrawal by Business

million cubic meter per year



## BIODIVERSITY

PETRONAS recognises that conserving biodiversity is a key issue globally. We support and partner with others on initiatives with a long term objective to conserve the natural heritage for the benefit of present and future generations.

### Mangrove Conservation

The ecoCare programme is PETRONAS Chemicals Group Berhad's (PCG) long standing and signature initiative carried out together with the Malaysian Nature Society (MNS), alongside involvement from the local community. It focuses on reforestation and rehabilitation of ecologically sensitive mangrove habitat along the Kertih River, which is located closely to PCG's facilities in Terengganu, Malaysia. Since its inception in 2005, more than 11,000 square metres of mangrove forest have been replanted with over 6,600 mangrove seedlings.

The rehabilitated mangrove area supports a thriving fish population, which presents local fishermen with opportunities to generate increased levels of income.

An Environmental Education Centre, scheduled for launch at the end of 2013, would be the first of its kind in the East Coast of Malaysia to provide integrated environmental education awareness for the local communities. It is also expected to open up new job opportunities for individuals living in the surrounding area.



## FOREST CONSERVATION

In June 2011, PETRONAS launched a conservation partnership with Yayasan Sabah for the Imbak Canyon Conservation Area. PETRONAS' contribution of RM6 million over a three-year period is aimed to help conserve the unique biodiversity in Imbak Canyon while promoting public awareness, environmental education and community outreach. In 2012, the partnership witnessed the establishment of Imbak Canyon's Information Centre for visitors to obtain information on conservation efforts of the rich biodiversity species at this Class 1 Forest Reserve.

This involved building the Imbak Village Jetty to benefit individuals residing along the river who also use boats as mode of transportation. A Porter and Guide Association was also formed as a means to provide job opportunities for members of the local communities. Relevant capability building training sessions were provided to identified persons.

Alongside the local authorities and universities, PETRONAS also embarked on an ethno-botanical survey to catalogue the use of traditional medicine with the aim of preserving the knowledge and practices of local communities.

## WASTE MINIMISATION

We are striving to strengthen waste minimisation practices at the front-end by enhancing and strengthening our assessment of waste management options in the Environmental Impact Assessment (EIA) as well as in the design and engineering stages.

Waste minimisation practices were rolled out at our various operating units' (OPUs) facilities in Malaysia since 2010. It resulted in the reduction of hazardous material disposal through efforts that enable reuse, recycle and recovery of waste.



### Renewable Energy: Solar Photovoltaic (PV) Technologies

In 2012, we officially launched our first solar venture which marked Malaysia's single largest rooftop solar PV system at Suria KLCC's shopping mall. The collaborative effort is a 685 kilowatt peak Solar PV system utilising six different technologies. The solar panels produced more than 600 megawatt-hours of solar energy annually and supplied about 30 per cent of Suria KLCC's power requirements. The clean energy generated from the system mitigates GHG release by approximately 360 tonnes of CO<sub>2</sub> per year.

Subsequently, solar PVs were also installed at our first-of-its-kind twin service stations in Malaysia, namely, PETRONAS Solaris Putra and PETRONAS Solaris Serdang. These stations adopt four key energy efficient features, namely, Solar PV panels, LED light fittings, Energy Management System and rain water harvesting system.

The combined energy generated by these locations amounted to 830 megawatt-hours of solar energy annually. The clean energy generated also reduces GHG emissions by 500 tonnes of CO<sub>2</sub> annually.

The LED lighting provides better illumination at night and reduces electricity consumption. Other key differentiator included a nitrogen tyre inflator, which is an environmental-friendly alternative that helps to increase fuel economy and tyre life.

Simultaneously, we are pursuing a Solar Independent Power Plant (Solar IPP) at Gebeng, Malaysia with an expected capacity of 10.02 megawatt peak is scheduled for completion at the end of 2013. The Solar IPP is estimated to produce about 12 gigawatt-hours of energy annually, which can power up to 4,500 households. The system will contribute to a reduction of GHG footprint amounting to about 8,000 tonnes of CO<sub>2</sub> annually.



# Society

PETRONAS places importance on balancing business and societal needs in contributing to the wellbeing of local communities where we operate. This includes channeling the value created through our business activities to spur socioeconomic developments. The strategic growth of our multinational workforce is another area of importance through which we offer distinctiveness in thought, experience and knowledge. We responsibly assess and implement societal efforts in the following areas:

- **Corporate Governance**
- **Talent Management**
- **Capability Development & Local Content**
- **Community Investments**

## CORPORATE GOVERNANCE

PETRONAS is committed to the highest standards of integrity, openness and accountability throughout our businesses and operations. In the period under review, policies governing businesses were enhanced in line with global best practices. We strive to conduct our undertakings in an ethical and responsible manner through the following policies, among others:

- PETRONAS Code of Conduct and Business Ethics (CoBE)
- Whistleblowing Policy and Procedure
- Competition Law Compliance Programmes
- PETRONAS Anti-Bribery and Corruption Compliance Programme

For more information on these policies, please refer to our 2012 Annual Report available at

[www.petronas.com](http://www.petronas.com)

## SOCIAL PERFORMANCE

As a responsible multinational, we strive to elevate the standards of our societal performance in adherence to internationally accepted standards. In 2012, the PETRONAS Project Health, Safety and Environment (HSE) Management Standard was enhanced to include components of social performance at various phases of project development and execution, for example, cultural heritage, indigenous people, labour conditions and ecosystem services.

We also developed guidelines on Environmental, Social and Health Impact Assessment (ESHIA) that clearly outlined measures for embedding Sustainable Development practices in PETRONAS.

## TALENT MANAGEMENT

We inculcate and strengthen a high performing culture based on the principles of competency, merit and performance. This is to continuously develop and ensure the availability of a talent pool that is equipped to meet the challenges and needs of the energy industry.

We bolstered our leadership management by classifying talents for business growth. In addition, enhancements were made in the recruitment process to ensure talent strength by assessing past performances, soft skills and leadership potential.

### Enhanced Promotion Policy

This policy aims to support meritocracy in all aspects of talent management, including in the selection process, while supporting employees' career development plans.

### Compensation and Benefits

A new grade structure was introduced to reinforce the tenets of differentiation, following which, staff is remunerated based on their specific accountability, capability and contribution demonstrated. This new structure focuses on performance and deliverables instead of job grades, hence, nurturing a High Performance culture.

The annual leave entitlement and leave without pay criteria were enhanced during the period under review.



## STAFF ENGAGEMENT

Engagement sessions were held across the Group to keep staff abreast of PETRONAS' growth aspirations. These sessions were a platform for staff to have direct and meaningful interaction with the Company's senior leadership team on various issues and concerns. PETRONAS' President and Group Chief Executive Officer cascaded the Management's direction for sustainable business operations, strategies and targets for the Group at the Company's annual Management Townhall. Similar townhall sessions were also held across the various businesses led by the respective Executive Vice Presidents, including listed entities such as PETRONAS Chemicals Group Berhad and PETRONAS Gas Berhad, to communicate key messages deliberated at the Management Townhall.



## CAPABILITY BUILDING AND LOCAL CONTENT

Our human capital development efforts follows a structured framework focusing on technical, leadership and management programmes, whilst promoting a culture of continuous learning. We aim to nurture staff with the right knowledge, skills and capabilities that encourage career growth. In turn, developing a pool of motivated and empowered individuals for PETRONAS, our partners, host nations and communities where we operate.

### Staff Training and Development Programmes

We continue to leverage on collaborations with global multinationals for staff exchange and attachment programmes. This allows for on-the-job training and capability building efforts focusing on sharing of best practices and knowledge exchange.

We made significant investments in staff training programmes, both internally and externally, that focus on specific technical as well as leadership and management skill sets. Internal training programmes are offered via our learning institutions such as the PETRONAS Leadership Centre (PLC) and Institut Petroleum PETRONAS (INSTEP).

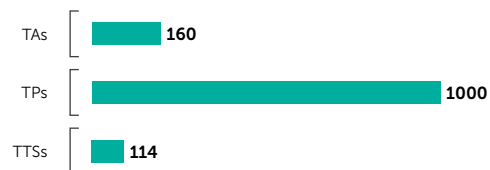
Technical capability building is ongoing in PETRONAS to ensure the availability of competent personnel locally and internationally. Our ongoing structured programmes include:

- Accelerated Capability Development (ACD) for junior technical executives
- Technical Professional Career Progression (TPCP) for technical professionals (TP)
- PETRONAS Competency Assessment System (PECAS)
- Technical Trade Specialist (TTS)

The Technical Authority (TA) implementation framework was adopted to ensure the integrity of PETRONAS' engineering designs and operations.

### Technical Capability Building

No of appointed staff to date





## International Workforce Resources

The Global Workforce and Leadership Mobility (GWLM) initiative was launched to facilitate international expansion through efficient allocation of manpower resources in areas of our operations. This effort allowed for the roll out of more leadership products at our operational locations abroad.



## Developing Talent in Areas of Operations

The establishment of PETRONAS' Garraf operations positively contributed towards socioeconomic growth in Iraq by offering employment opportunities to local talents and businesses.

More than 2,800 jobs were allocated to members of the local communities, of which, over 2,200 jobs were filled by locals living within the Garraf Operations area. This also included PETRONAS' local workforce that consisted 135 Iraqis in technical and

non-technical positions, including 88 Production Operation Technicians (POT). The Iraqi POTs underwent about one and a half years of training at PLC and INSTEP in Malaysia.

Furthermore, since 2010, more than 260 personnel from the Iraqi Ministry of Oil and South Oil Company received training in the areas of leadership, management and energy development in Malaysia. The identified personnel were also trained on basic English communications, people management and personal development.

## Local Content Development

In Sabah, we facilitated the licensing and registration of over 180 local vendors to support the burgeoning growth of the State's oil and gas industry. At a session held, local companies enquired and clarified matters on PETRONAS' licensing and registration process as well as marketing and distribution of fuel and Liquefied Petroleum Gas.

PETRONAS' upstream and shore development projects in Sabah include the development of Gumusut-Kakap, Kinabalu NAG and Keabangan fields. Our other undertakings include the Sabah Oil & Gas Terminal (SOGT), Kimanis Petroleum Training Centre (KTC), Kimanis Power Plant (KPP), Sabah Ammonia Urea (SAMUR) and the Sabah-Sarawak Gas Pipeline (SSGP) that connects the SOGT to the PETRONAS LNG Complex in Bintulu, Sarawak.

These projects are expected to create spin-off effects in the areas of construction, engineering, services, procurement, downstream manufacturing, logistics and transportation.

## WORKFORCE

In 2012, PETRONAS' total workforce consisted 46,145 employees at both our domestic and international operations. This represents an increase of 6.7% compared to 2011.

### Total Number of Employees

# 46,145

### Malaysian & Non-Malaysian Employees

**79%**  
Malaysian

**21%**  
Non-Malaysian

### Gender Distribution

**73%**  
Male

**27%**  
Female

### Employees Above and Below Age of 35

**48%**  
Above 35

**52%**  
Below 35

| Percentage (%) of Malaysian and Host Country Nationals (HCN) in Selected Countries |       |            |                 | No of Employees |
|--|-------|------------|-----------------|-----------------|
| Country  | HCN   | Malaysians | Other Nationals |                 |
| Egypt  | 33.33 | 66.67      | -               | 24              |
| Indonesia  | 84.11 | 14.95      | 0.93            | 107             |
| Myanmar  | 85.52 | 11.72      | 2.76            | 290             |
| Sudan  | 30.76 | 30.26      | 38.16           | 608             |
| Turkmenistan   | 77.86 | 19.39      | 2.75            | 691             |
| Malaysia   | 99.60 | -          | 0.36            | 36,849          |

|  |               |
|--|---------------|
| Number of Staff Under Collective Bargaining Agreements in FY2012 | <b>10,260</b> |
|--|---------------|

## New Hires

A total of 5,428 new permanent and contract direct hires were recruited in 2012, including by third party agencies, compared to 2,166 in 2011.

| New Hires       | 2012         |
|-----------------|--------------|
| Malaysians      | 4,864        |
| Other Nationals | 564          |
| <b>Total</b>    | <b>5,428</b> |



## COMMUNITY INVESTMENTS

Empowering individuals with the right knowledge and skills is fundamental for realising one's potential. We choose to evoke thought creativity that nurtures self-development through education sponsorships. Similarly, we pursue strategic community programmes that address the needs of those residing within our sphere of operations.

### PETRONAS Scholarship Programme

Every year, PETRONAS provides educational sponsorships to deserving students locally and internationally. In 2012, PETRONAS awarded scholarships to 318 students, of which 79 scholarships were for international universities and 239 scholarships for Malaysian universities. These scholarships covered various disciplines that catered to PETRONAS' business needs and that of the industry.

In the period under review, 563 students graduated under PETRONAS scholarship programme.

| Scholarships Awarded       | 2012 |
|----------------------------|------|
| International Universities | 25%  |
| Malaysian Universities     | 75%  |

### Spurring Education Excellence

In Malaysia, the Program Bakti Pendidikan PETRONAS (PBPP) is one of our signature educational initiatives held in partnership with selected schools nationwide. Established in 2002, this outreach programme provides education assistance to underprivileged and academically-weak students.

In 2012, schools adopted under PBPP recorded a 7% improvement in the number of borderline students scoring 3As to 5As in their UPSR exams. SK Wangsa Maju, a PBPP adopted school, obtained 100% passes in English, Mathematics and Science.

In the period under review, 53 primary schools participated in this programme benefiting over 3,000 Year 4 to Year 6 pupils. Over 1,000 academic and fun learning sessions were conducted at identified schools throughout Malaysia. Over 700 PETRONAS staff volunteers collectively participated in this programme, alongside professional teachers to provide coaching activities.

| Recruitment of PETRONAS Scholars | 2012  |
|----------------------------------|-------|
| Recruited by PETRONAS            | 62.9% |
| Recruited by Others              | 37.1% |

Abroad, in Republic of the Sudan, more than 600 students received PETRONAS' Top 100 Achievers awards for exceptional performance in the Sudan Secondary School Certificate Examinations. Additionally, the PETRONAS Debate and Quiz Trophy (PDQT) Competition assisted in improving public speaking skills of more than 400 secondary school students.

More than 1000 students also benefited from the refurbishment works at the Kuajok Secondary School, located in the capital state of Warrap in the Republic of South Sudan. School bags and library books were also contributed to more than 900 school children at two schools in Juba. In addition, PETRONAS donated a bus to the University of Juba.

In Mauritania, renovation works of primary schools had enabled 400 students to resume classes. Similarly, in Mozambique, approximately 300 underprivileged children from the Anglican Primary School of Nacala received assistance in the form of stationaries and books. Whereas in Egypt, PETRONAS sponsored school fees for over 800 less fortunate children and orphans.



## PETRONAS STREETSMART ROAD SAFETY PROGRAMME

Delving into the science behind road safety, the PETRONAS StreetSmart is an interactive travelling exhibition that has touched over one million lives in Malaysia since 2001. This exhibition has travelled to every state in Malaysia, including to remote locations. It had encouraged children and youth to become advocates of road safety by empowering them to influence those within their reach in becoming more respectful, responsible and courteous road users. In 2012, the PETRONAS StreetSmart was held in Petrosains, located at Suria KLCC, Kuala Lumpur from January to June and in Malacca from September – December, reaching out to approximately 180,011 individuals. A variety of additional programs such as PETRONAS StreetSmart Camp, PETRONAS StreetSmart Challenge, PETRONAS StreetSmart Sketch Competition, PETRONAS StreetSmart Visit to School and PETRONAS StreetSmart-Formula One (F1) Event were also held, providing an enriching experience to close than 230,783 visitors, namely, students.

The key highlight of the PETRONAS StreetSmart was the F1 Road Safety workshop held in collaboration with PETRONAS Motorsports during the PETRONAS Malaysian Grand Prix 2012. The session included MERCEDES AMG PETRONAS Formula One Team drivers such as Nico Rosberg. Close to 500 participating students, including adults had the opportunity to meet and gather first hand insights from the internationally renowned drivers on the importance of road safety.

# Awards & Recognitions

PETRONAS Group was recognised for its accomplishments and continuous pursuit of excellence with numerous awards and recognitions received in 2012.



## Royal Society for the Prevention of Accidents (RoSPA) Awards

RoSPA, which is based in United Kingdom, organises its prestigious national award scheme to recognise excellence in work-related health and safety performance by private and public sector organisations. The scheme is based on the assessment of a broad portfolio of evidences about the level of development and performance of an entrant's occupational health and safety management system, and also takes into account the entrant's reportable accident rate and enforcement experience.

### Sector Awards

#### Gold Award

- PETRONAS Chemicals Ammonia Sdn Bhd
- PETRONAS Chemicals Fertiliser Kedah Sdn Bhd

#### Occupational Health & Safety (OHS)

##### Oil & Gas Commendation Award

- PETRONAS Penapisan (Melaka) Sdn Bhd



## Malaysian Society for Occupational Safety and Health (MSOSH) Awards

The MSOSH Awards are presented annually to companies in Malaysia that have outstanding Occupational Safety and Health (OSH) performance. Identified companies are subjected to stringent document and site verification audits from the MSOSH Panel of Auditors in order to be considered for the awards. The panel members comprise representatives from the Department of Occupational Safety and Health (DOSH), Social Security Organisation (SOCISO), National Institute of Occupational Safety and Health (NIOSH), Standards and Industrial Research Institute of Malaysia (SIRIM) Berhad, QAS International and Federation of Malaysian Manufacturers (FMM).

#### Grand Award

- BP PETRONAS Acetyls Sdn Bhd
- Kertih Terminals Sdn Bhd
- PETRONAS Chemicals Methanol Sdn Bhd
- PETRONAS Chemicals MTBE Sdn Bhd
- PETRONAS Gas Berhad, Export Terminal

#### Gold Merit

- PETRONAS Carigali Sdn Bhd (Sabah Operations), Sabah Gas Terminal (SBGAST)
- PETRONAS Carigali Sdn Bhd – Peninsular Malaysia (Terengganu Crude Oil Terminal (TCOT))
- PETRONAS Chemicals Ethylene Sdn Bhd
- PETRONAS Gas Berhad – Pusat Operasi Penyaluran Gas & Segamat Regional Office
- PETRONAS Penapisan (Melaka) Sdn Bhd

### Gold Class I

- ASEAN Bintulu Fertilizer Sdn Bhd
- BASF PETRONAS Chemicals Sdn Bhd (BDO Complex)
- PETRONAS Carigali Sdn Bhd – Peninsular Malaysia (Onshore Gas Terminal (OGT))
- PETRONAS Carigali Sdn Bhd (Sabah Operations), Labuan Gas Terminal (LGAST)
- PETRONAS Chemicals Ammonia Sdn Bhd
- PETRONAS Chemicals Derivatives Sdn Bhd
- PETRONAS Gas Berhad – Kuantan Regional Office
- PETRONAS Gas Berhad – Seremban Regional Office
- PETRONAS Gas Berhad – Shah Alam Regional Office
- PETRONAS Chemicals Polypropylene Sdn Bhd

### Gold Class II

- PETRONAS Chemicals Polypropylene Sdn Bhd



Responsible Care is one of CICM's flagship activities, launched by the Council in 1994. More than 100 signatories or chemical companies have pledged their commitment to Responsible Care. The CICM Responsible Care Committee and its Regional Committees, namely the Central, Eastern, Northern and Southern Zone Committees, have been established to further enhance the promotion and implementation of Responsible Care among the chemical industry players in Malaysia.

### Category – Petrochemicals

#### Gold Award

##### Community Awareness and Emergency Response Code

- PETRONAS Chemicals Fertilizer Kedah Sdn Bhd

##### Employee Health and Safety Code

- PETRONAS Chemicals Fertilizer Kedah Sdn Bhd

### Silver Award

#### Process Safety Code

- PETRONAS Chemicals Derivatives Sdn Bhd
- PETRONAS Chemicals Fertilizer Kedah Sdn Bhd

#### Distribution Code

- PETRONAS Chemicals LDPE Sdn Bhd

#### Product Stewardship

- PETRONAS Chemicals LDPE Sdn Bhd

#### Community Awareness and Emergency Response Code

- PETRONAS Penapisan (Melaka) Sdn Bhd

#### Pollution Prevention Code

- PETRONAS Penapisan (Melaka) Sdn Bhd

#### Employee Health and Safety Code

- PETRONAS Penapisan (Melaka) Sdn Bhd

### Merit Award

#### Community Awareness and Emergency Response Code

- PETRONAS Chemicals Ammonia Sdn Bhd
- PETRONAS Chemicals Derivatives Sdn Bhd
- PETRONAS Chemicals LDPE Sdn Bhd

#### Pollution Prevention Code

- PETRONAS Chemicals Aromatics Sdn Bhd
- PETRONAS Chemicals Derivatives Sdn Bhd
- PETRONAS Chemicals LDPE Sdn Bhd
- PETRONAS Penapisan (Terengganu) Sdn Bhd

#### Process Safety Code

- PETRONAS Chemicals Ammonia Sdn Bhd
- PETRONAS Chemicals LDPE Sdn Bhd
- PETRONAS Penapisan (Melaka) Sdn Bhd

#### Employee Health and Safety Code

- PETRONAS Chemicals Ammonia Sdn Bhd
- PETRONAS Chemicals Derivatives Sdn Bhd
- PETRONAS Chemicals LDPE Sdn Bhd



## National Council for Occupational Safety and Health (NCOSH) Excellence Award

The National Occupational Safety and Health Excellence Award is an initiative by the National Council of Occupational Safety and Health, Ministry of Human Resources. It is intended to give credit and acknowledgement to organisations, employers and employees in various sectors in the industry that have achieved excellence in managing safety and health systems in their workplace.

### Petroleum/Gas/Chemicals Category

- PETRONAS Penapisan (Melaka) Sdn Bhd

### Gas Facility Category

- PETRONAS Gas Berhad Gurun Regional Operations Office

### Storage Category

- Kertih Terminals Sdn Bhd

## British Safety Council International Safety Awards

The British Safety Council International Safety Awards recognise commitment to good health and safety management. Only companies that achieve accident incidence rates, which are better than the industry average for their sector, are eligible to apply. Winners must also demonstrate board level commitment to health and safety as well as details of significant health and safety advances for the qualifying year. The British Safety Council has led the way in promoting health, safety and environmental best practice in society for more than 50 years.

### Occupational Health & Safety (OHS) Oil & Gas

#### Merit Award

- PETRONAS Penapisan (Melaka) Sdn Bhd

## Sarawak Chief Minister's Environmental Award (CMEA)

Sarawak Chief Minister's Environmental Award (CMEA) The CMEA is presented to exemplary organisations that have made tremendous effort to improve environmental performances in its organisation with a view to boosting sustainable development in the state. It is jointly organised by the Natural Resources and Environment Board (NREB) Sarawak and the Sarawak Chamber of Commerce and Industry. The Award is one of the incentives given to business and industries to encourage stewardship in environmental protection and management in the state. It also aims at providing organisations with the opportunity of an independent evaluation for their environmental commitment. The award is also organised to stimulate business and industry initiatives in assuming a proactive role in environmental protection throughout the state, by taking the winning participants of this award as their example.

### Large Enterprise: Oil and Gas

#### Gold

- Asean Bintulu Fertilizer Sdn. Bhd.
- PETRONAS Carigali Sdn. Bhd.

### Small Enterprise: Gas/Petrol Station

- PETRONAS Service Station Samarahan Expressway



## Institut Kimia Malaysia Laboratory Excellence Award

Institut Kimia Malaysia (IKM) Laboratory Excellence Award is organised by Malaysian Institute of Chemistry, a professional body which regulates the Chemists Act 1975. It was designed to ensure the laboratory's commitment to achieve excellence in providing quality and competent testing services pertaining to local legislation especially in the fields of health, safety and the environment.

In addition to the needs of analytical laboratories to operate a quality system according to the requirements as stipulated in MS ISO/IEC 17025, the award also requires laboratories to operate with safety and health features in the workplace.

### Area of Testing

#### Gas

- ASEAN Bintulu Fertilizer Sdn Bhd
- PETRONAS Chemicals Methanol Sdn Bhd
- PETRONAS Gas Berhad (Laboratory GPPA)
- PETRONAS Gas Berhad (Laboratory GPPB)
- PETRONAS Penapisan (Terengganu) Sdn Bhd

#### Water

- ASEAN Bintulu Fertilizer Sdn Bhd
- PETRONAS Chemicals Group (Centralized Laboratory Services)
- PETRONAS Chemicals Methanol Sdn Bhd
- PETRONAS Chemicals MTBE (M) Sdn Bhd / Polypropylene (M) Sdn Bhd
- PETRONAS Gas Berhad (Laboratory GPPA)
- PETRONAS Gas Berhad (Laboratory GPPB)
- PETRONAS Penapisan (Melaka) Sdn Bhd

#### Wasterwater

- ASEAN Bintulu Fertilizer Sdn Bhd
- PETRONAS Chemicals Group (Centralized Laboratory Services)
- PETRONAS Gas Berhad (Laboratory GPPB)
- PETRONAS Penapisan (Terengganu) Sdn Bhd
- PETRONAS Research Sdn Bhd

#### Etylene

- PETRONAS Chemicals Group (Centralized Laboratory Services)

#### Polyethylene

- PETRONAS Chemicals Group (Centralized Laboratory Services)

#### Methanol

- PETRONAS Chemicals Methanol Sdn Bhd

#### Environmental Samples

- PETRONAS Chemicals Methanol Sdn Bhd

#### Polypropylene

- PETRONAS Chemicals MTBE (M) Sdn Bhd / Polypropylene (M) Sdn Bhd

#### MTBE and Propylene

- PETRONAS Chemicals MTBE (M) Sdn Bhd / Polypropylene (M) Sdn Bhd

#### Catalyst

- PETRONAS Chemicals MTBE (M) Sdn Bhd / Polypropylene (M) Sdn Bhd

#### Petroleum

- PETRONAS Penapisan (Melaka) Sdn Bhd
- PETRONAS Penapisan (Terengganu) Sdn Bhd

#### Petroleum Products

- PETRONAS Penapisan (Terengganu) Sdn Bhd

#### Aromatics-Benzene and p-Xylene

- PETRONAS Penapisan (Terengganu) Sdn Bhd

#### Utilities (Water)

- PETRONAS Penapisan (Terengganu) Sdn Bhd

#### Natural Gas

- PETRONAS Research Sdn Bhd

#### Formation water and Drinking water

- PETRONAS Research Sdn Bhd

#### Crude Oil, Fuel and Polyol Ester

- PETRONAS Research Sdn Bhd

#### Urea

- ASEAN Bintulu Fertilizer Sdn Bhd





## Prime Minister's Hibiscus Award

The Prime Minister's Hibiscus Award has been the premier national environmental award in Malaysia, aims to recognize business and industry which portray excellent environmental commitment in reducing impact of their operations to the Environment.

### Notable Award

- PETRONAS Penapisan (Melaka) Sdn. Bhd.
- Malaysian Refining Company Sdn. Bhd.

### Melaka State Award

- PETRONAS Penapisan (Melaka) Sdn. Bhd.
- Malaysian Refining Company Sdn. Bhd.

# Our Approach To Reporting

Our sustainability reporting is guided by the International Petroleum Industry Environmental Conservation Association/American Petroleum Institute (IPIECA/API) Oil and Gas Industry Guidance on Voluntary Sustainability Reporting 2nd Edition, 2010. This index is also cross-referenced with the Global Reporting Initiative (GRI) indicators defined in the Sustainability Reporting Guidelines, Version 3.1.

## PETRONAS SUSTAINABILITY REPORT: IPIECA/API AND GRI INDEX

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