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Abbreviations

CF  Certificate of Fitness
CNG  Compressed Natural Gas
DOE  Department of Environment
DOSH  Department of Occupational Safety and Health
DSLB  Domestic Shipping Licensing Board
EC  Energy Commission
EIA  Environmental Impact Assessment
EPU  Economic Planning Unit (Unit Perancang Ekonomi)
FTPC  Fair Trade Practices Commission
FTPP  Fair Trade Practices Policy
GDL  Goods Vehicle Driving Licence
GDP  Gross Domestic Product
IPC  Integrated Petrochemical Complex
JPJ  Jabatan Pengangkutan Jalan (Road Transport Department)
JTKSM  Jabatan Tenaga Kerja Semenanjung Malaysia (Labour Department)
LNG  Liquefied Natural Gas
LPG  Liquefied Petroleum Gas
MDTCC  Ministry of Domestic Trade, Co-Operatives and Consumerism
MIDA  Malaysian Industrial Development Authority
MITI  Ministry of International Trade and Industry
MMSCF  Million Standard Cubic Feet
MNC  Multinational Corporation
MNRE  Ministry of Natural Resources and Environment
MOA  Ministry of Agriculture
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>MOHR</td>
<td>Ministry of Human Resources</td>
</tr>
<tr>
<td>MOT</td>
<td>Ministry of Transport</td>
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<tr>
<td>MPC</td>
<td>Malaysia Productivity Corporation</td>
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<td>MyCC</td>
<td>Malaysia Competition Commission</td>
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<tr>
<td>NGL</td>
<td>Natural Gas Liquid</td>
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<tr>
<td>NGV</td>
<td>Natural Gas for Vehicles</td>
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<tr>
<td>NIOSH</td>
<td>National Institute of Occupational Safety and Health</td>
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<tr>
<td>NKEA</td>
<td>National Key Economic Areas</td>
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<tr>
<td>PDAM</td>
<td>Petrol Dealers Association Malaysia</td>
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<tr>
<td>PEMANDU</td>
<td>Performance Management &amp; Delivery Unit</td>
</tr>
<tr>
<td>PEMUDAH</td>
<td>Pasukan Petugas Khas Pemudahcara Perniagaan (Special Task Force to Facilitate Business)</td>
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<td>PETRONAS</td>
<td>Petroliam Nasional Berhad</td>
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<tr>
<td>PSC</td>
<td>Production Sharing Contract</td>
</tr>
<tr>
<td>PUSPAKOM</td>
<td>Pusat Pemeriksaan Kenderaan Berkomputer</td>
</tr>
<tr>
<td>RSC</td>
<td>Risk Sharing Contract</td>
</tr>
<tr>
<td>RTD</td>
<td>Road Transport Department</td>
</tr>
<tr>
<td>SPAD</td>
<td>Suruhanjaya Pengangkutan Awam Darat (Land Public Transport Commission)</td>
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## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Appraisal well</td>
<td>a well drilled following a discovery to assess its size and commercial potential</td>
</tr>
<tr>
<td>Barrel</td>
<td>measure of crude oil equal to 159 litres</td>
</tr>
<tr>
<td>Basin</td>
<td>a dip in the earth’s crust usually filled or being filled with sediment</td>
</tr>
<tr>
<td>Commercial vehicle</td>
<td>vehicle intended for commercial purposes</td>
</tr>
<tr>
<td>Commercial vehicle licence</td>
<td>licence required to own commercial vehicle</td>
</tr>
<tr>
<td>Competent person</td>
<td>a person who holds a certificate of competency issued by any government body to perform work in accordance with the restriction, if any, stated in the certificate</td>
</tr>
<tr>
<td>Compressed natural gas</td>
<td>natural gas compressed to less than 1 percent of the volume it occupies at standard atmospheric pressure</td>
</tr>
<tr>
<td>Condensates</td>
<td>hydrocarbons, usually produced together with natural gas, which are liquid at normal pressure and temperature</td>
</tr>
<tr>
<td>Crude oil</td>
<td>liquid petroleum before undergoing refinement process</td>
</tr>
<tr>
<td>Deepwater field</td>
<td>oil field at water depth of more than 1000ft or 300m</td>
</tr>
<tr>
<td>Development</td>
<td>industry activities after exploration to facilitate production of hydrocarbon</td>
</tr>
<tr>
<td>Downstream</td>
<td>industry activities that include refinement of crude oil, processing of gas into various marketable products, marketing, trading and distribution of end products to consumers</td>
</tr>
<tr>
<td>Exploration</td>
<td>industry activities to determine the potential of hydrocarbon reserves</td>
</tr>
<tr>
<td>Federal regulations</td>
<td>acts enacted by the Parliament and are applicable throughout the country</td>
</tr>
<tr>
<td>Goods vehicle driving licence</td>
<td>licence required for driving commercial vehicles</td>
</tr>
<tr>
<td>Hydrocarbons</td>
<td>compounds containing only the elements of hydrogen and carbon which may be solid (e.g. coal), liquid (e.g. crude oil), and gas (e.g. natural gas)</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
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<td>-------------------------------------------</td>
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<tr>
<td>Local government regulations</td>
<td>by-laws specific to the area of jurisdiction of the local government with regard to assessment tax, planning and development, business licences and permits, and provision of basic amenities</td>
</tr>
<tr>
<td>Liquefaction</td>
<td>the process to transform natural gas to LNG</td>
</tr>
<tr>
<td>Liquefied natural gas</td>
<td>natural gas that has been converted to liquid form for ease of storage or transport</td>
</tr>
<tr>
<td>Liquefied petroleum gas</td>
<td>a mixture of propane and butane, for cooking and heating in homes and a source of energy in industries</td>
</tr>
<tr>
<td>Marginal field</td>
<td>oil field with reserves of less than 30 million barrels of recoverable oil or oil equivalent</td>
</tr>
<tr>
<td>Natural gas</td>
<td>a mixture of light hydrocarbons (mainly methane) found naturally in the Earth’s crust, often in association with crude oil</td>
</tr>
<tr>
<td>Natural gas for vehicle</td>
<td>compressed natural gas or liquefied natural gas used as alternative fuel for vehicles</td>
</tr>
<tr>
<td>Natural gas liquid</td>
<td>components of natural gas in the form of liquid such as propane, butane, and ethane</td>
</tr>
<tr>
<td>Natural gas reserves</td>
<td>an estimate of the amount of technically and economically recoverable natural gas</td>
</tr>
<tr>
<td>Offshore fields</td>
<td>oil fields and natural gas deposits beneath the floor of the ocean</td>
</tr>
<tr>
<td>Oil field</td>
<td>an area with an abundance of oil wells extracting petroleum from beneath the Earth’s surface</td>
</tr>
<tr>
<td>Oil reserves</td>
<td>an estimate of the amount of technically and economically recoverable oil</td>
</tr>
<tr>
<td>Petrochemicals</td>
<td>chemicals derived from crude oil and natural gas</td>
</tr>
<tr>
<td>Petroleum</td>
<td>a complex mixture of hydrocarbons that occurs naturally beneath the Earth’s surface in liquid, gaseous, solid forms, namely crude oil, natural gas, and bitumen</td>
</tr>
<tr>
<td>Petroleum products</td>
<td>products derived from refinement of crude oil and processing of natural gas such as petrol, diesel, and LPG</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------------------</td>
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</tr>
<tr>
<td>Pipeline quality natural gas</td>
<td>natural gas composed of at least 70 percent methane by volume and contains total sulphur of 0.5 grains or less per 100 standard cubic feet. It can be transported through pipeline without causing damage.</td>
</tr>
<tr>
<td>Processing of natural gas</td>
<td>industry activities to recover mixed natural gas liquids and to produce pipeline quality natural gas</td>
</tr>
<tr>
<td>Production</td>
<td>industry activities where hydrocarbons are brought up to the surface of the well from the reservoir beneath the Earth’s surface and processed and separated into gas, condensate, and oil</td>
</tr>
<tr>
<td>Production sharing contract</td>
<td>a contract by which a company is granted exploration right by PETRONAS. The company provides the financing and bears the risk of exploration, development and production activities in exchange for a share of the total production</td>
</tr>
<tr>
<td>Refining of crude oil</td>
<td>a process to transform crude oil into usable products such as petrol, diesel, and lubricants</td>
</tr>
<tr>
<td>Regasification</td>
<td>a process of converting LNG back to gas</td>
</tr>
<tr>
<td>Risk service contract</td>
<td>a performance-based agreement to develop marginal fields with PETRONAS retaining the ownership of the oil. The contractor is compensated for the exploration costs upon commercial discovery and is entitled to a share of the profits</td>
</tr>
<tr>
<td>RON 95</td>
<td>unleaded petrol with Research Octane Number rating 95</td>
</tr>
<tr>
<td>RON 97</td>
<td>unleaded petrol with Research Octane Number rating 97</td>
</tr>
<tr>
<td>Seismic survey</td>
<td>a method of determining the sub-surface features by sending sound waves into the various buried rock layers in the earth and measuring the time they take to return to the surface</td>
</tr>
<tr>
<td>Shelfal water</td>
<td>water depth of less than 200m</td>
</tr>
<tr>
<td>State regulations</td>
<td>enactments passed by the State Legislative Assembly which are only applicable in the particular state relating to matters such as land matters, public works, local government, agriculture and forestry, Islamic law and public holidays</td>
</tr>
<tr>
<td>Transportation</td>
<td>industry activities to move oil and gas and related products by way of pipelines, land, or water</td>
</tr>
<tr>
<td><strong>Upstream</strong></td>
<td>industry activities involving exploration, development and production of hydrocarbon resources</td>
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<tr>
<td><strong>Value chain</strong></td>
<td>the sequential set of activities that transforms crude oil and gas into various products for end users</td>
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OVERVIEW

Key points

• The review focuses on three business activities in the downstream sector of Malaysia’s oil and gas industry, which are:
  - petrol stations
  - distribution of liquefied petroleum gas in cylinders for the domestic market
  - petrochemicals manufacturing.

• These business activities are bound by several federal Acts on matters such as the environment, land access, occupational safety and health, sale and supplies of controlled goods, transportation and labour.

• Although land matters are subject to federal Acts, state authorities are empowered to regulate them within their respective states. The businesses must also abide by local government regulations pertaining to planning, construction, property taxes, licensing and other matters within their jurisdictions.

• The Ministry of International Trade and Industry is the regulator responsible for issuing permits for the petrochemicals manufacturing activities.

• The Ministry of Domestic Trade, Co-Operatives and Consumerism issues permits for the setting up of petrol stations and for the distribution of liquefied petroleum gas in cylinders.

Currently, problems with overlapping regulations and poor administration are the main source of unnecessary burdens in these business activities.

• Key recommendations for improving the existing regulatory arrangements include:
  - reduce regulatory burdens in relation to factories and machinery, and commercial vehicle licensing as they are prescriptive and have unclear objectives
  - reduce delays in getting approvals (particularly over extending certificates of fitness for plants and machinery, and issuing commercial vehicle licences)
About the study

The study focuses on regulatory burdens affecting two areas in the downstream segment of the value chain of the oil and gas industry. They are:

- aspects of the retail trade of petroleum products in the domestic market, namely:
  - petrol stations
  - the distribution of liquefied petroleum gas (LPG) in cylinders
- the manufacturing activity in the petrochemicals industry.

The Malaysian oil and gas industry

Malaysia is a significant producer of oil and gas. According to the 2012 Petroleum and Natural Gas Statistics report by the Department of Statistics, the petroleum and natural gas mining industry contributed 8.7 per cent of the Gross Domestic Product (GDP) in 2011 and 9.7 per cent in 2010. The total value of gross output in 2011 was RM109.2 billion, while that of 2010 was RM98.1 billion.

In 2011, Malaysia produced 207 million barrels of oil, compared to 233 millions barrels in 2010. The natural gas production in 2011 and 2010 were 2,165 million standard cubic feet (MMSCF) and 2,159 MMSCF respectively.

Malaysia exports petroleum-based products which are crude petroleum, liquefied natural gas and petroleum products. The exports of petroleum-based products in 2011 amounted to RM117.5 billion, equivalent to 16.8 per cent of total export in Malaysia. The major buyers of Malaysia’s crude oil in 2011 were Australia with a share of 31.4 percent, India (18.8 per cent), Thailand (16.6 per cent), and Japan (7.5 per cent). Japan was the leading importer of Malaysia’s liquefied natural gas in 2011 at 68.3 per cent, followed by Taiwan (15.5 per cent) and Republic of Korea (11.6 per cent).

Malaysia also imports crude petroleum and petroleum products for its domestic consumers. In 2011, the largest import commodity was petroleum product with a value of RM32.7 billion, followed by RM24.0 billion of imports of crude petroleum. Saudi Arabia and Qatar were the two primary exporter countries of crude petroleum to
Malaysia in 2011, accounting for 38.4 per cent. This was followed by Vietnam (15.1 per cent), and Gabon (12.1 per cent).

**Petrol stations**

Petrol stations are operated by dealers who are appointed by oil companies like PETRONAS, SHELL, PETRON, BHP, and CALTEX. As of August 2013, there were 3291 petrol stations and 332 mini stations. There were 200 petrol service stations selling NGV in Malaysia.

**Distribution of liquefied petroleum gas (LPG)**

LPG is normally bottled in gas cylinders for sale to domestic, commercial and industrial consumers. LPG for cooking in homes is available either in 10kg, 12kg or 14 kg cylinders. LPG in 50kg cylinders is meant for commercial and industrial users.

**Petrochemicals industry**

There are three integrated petrochemicals complexes (IPCs) established in Kerteh, Terengganu; Gebeng, Pahang, and Pasir Gudang-Tanjung Langsat, Johor. The total investment in the petroleum and petrochemicals industry stood at RM60.7 billion in 2011.

The petrochemicals industry has foreign and local investors. There are multinational corporations (MNCs) from the USA, Germany and Japan. There are also joint-ventures between local investors and MNCs. PETRONAS is the major domestic investor in the industry.

Malaysia is an exporter of major petrochemicals products within ASEAN, exporting both commodity grade polymers and petrochemical derivatives. The People’s Republic of China is the largest market for Malaysia’s export of petrochemicals products. There is considerable potential for higher value-added products such as petrochemicals derivatives.
The current legislative arrangement

The main Acts governing the oil and gas industry in Malaysia are the Petroleum Development Act 1974 (Act 144) and the Gas Supply Act 1993 (Act 501).

The purpose of the Petroleum Development Act 1974 is to regulate the oil and gas and petrochemical industries. The Act applies to all activities in the value chain of the oil and gas industry in Malaysia, except for the supply of gas through the pipelines to consumers, which is regulated by the Gas Supply Act 1993.

The Petroleum Development Act 1974 grants the national oil company, PETRONAS (Petroliam Nasional Berhad), ownership and control of the nation’s petroleum resources.

The establishment of the Petroleum Regulations 1974 (amended in 1975, 1981, and 1991) divided the upstream and downstream activities to different entities: PETRONAS; the Ministry of International Trade and Industry (MITI); and the Ministry of Domestic Trade, Co-Operatives and Consumerism (MDTCC).

As well as having a monopoly in upstream production, PETRONAS is the regulator of all upstream activities, from which companies intending to participate in such activities must obtain approval.

MITI and MDTCC are vested with powers to regulate all downstream activities. MITI is responsible for the issuance of permits for the refining of crude petroleum, the processing of natural gas and the manufacture of petroleum products and petrochemicals products from petroleum.

MDTCC issues licences for the sale and distribution of petroleum and petrochemical products, which include the setting up and operation of petrol stations and the LPG distribution business.

The Energy Commission (EC) is empowered to regulate activities related to the supply of gas through pipelines under The Gas Supply Act 1993.

The Petroleum (Safety Measures) Act 1984 (Act 302) is applicable to the transportation, and storage and utilisation of petroleum with regard to safety matters. Modes of
transportation of petroleum prescribed by the Act are water, roads, railways and pipelines.

_The Petroleum Income Tax Act 1967 (Act 543)_ imposes a tax on income derived from petroleum operation.


Land matters in the Peninsular Malaysia are governed by Acts such as the _National Land Code 1965_, and _Land Acquisition Act 1960_. Although these are federal law, state authorities are empowered to make rules for carrying out the objects and purposes of the Act within their respective states.

Matters pertaining to local regulations are bound by: _the Local Government Act 1976 (Act 171); the Town and Country Planning Act 1976 (Act 172) and the Street, Drainage and Building Act 1974 (Act 133)_. The Acts empower local governments with authority on local planning, licensing, property taxes, construction of buildings, housing and commercial, public utilities and traffic management.
Summary of issues and recommendations

**Petrochemical manufacturers**

- **Certificate of fitness**
  - The *Factories And Machinery (Notification, Certificate Of Fitness And Inspection) Regulations, 1970*, requires that a petrochemicals manufacturer has to obtain Certificates of Fitness (CF) for their machinery and plants from the Department of Occupational Safety and Health (DOSH), under the Ministry of Human Resource (MOHR).
  - The CF is valid for 15 months and must be renewed. DOSH guidelines require that petrochemicals manufacturers apply for an extension six months prior to the expiry of the existing CF.
  - The overall process from the submission of application to the approval by the highest authority may sometimes take longer than 6 months.
  - The delay in the issuance of CF to business means that there is a period when the petrochemicals manufacturing plant is forced to continue its operation without a CF. This is a serious concern as it has a direct impact on insurance coverage especially in cases of fire or fatal accidents.

**RECOMMENDATION 5.1.5**

- DOSH review and re-engineer its entire process in issuing Certificates of Fitness to speed up the process. The implementation of the Special Scheme of Inspection (SSI) will help address this issue. This should result in shorter and less frequent shutdowns, reducing costs related to direct inspection as well as costs due to loss of production.

- The provision for SSI is already incorporated into the *Factories and Machinery Act 1967* (Section 40 (5)) and has been recently approved by the Ministry of Human Resources (MOHR).
**DOSH inspection**

- The Factories And Machinery (Notification, Certificate Of Fitness And Inspection) Regulations, 1970, requires inspections of petrochemicals manufacturing facilities by DOSH officers. There is an initial inspection, followed by inspections at regular intervals so long as the plant remains in operation.

- Manufacturers complain of poor enforcement and administration of regulations due to inadequate and inexperienced resources of regulators. The high turnover of DOSH officers further contribute to the issue as new officers tend to be inexperienced.

- Poor quality of inspection may affect the safety of workplace and hence the safety of workers and others.

**RECOMMENDATION 5.2.5**

- DOSH should adopt risk-based inspections, the Special Scheme of Inspection (SSI) so that only high-risk business facilities and machinery receive frequent and stringent inspections. The provision for SSI is already incorporated into the Factories and Machinery Act 1967 (Section 40 (5)) and has been recently approved by the Ministry of Human Resources (MOHR).

- DOSH should improve the inspection and technical competencies of its workforce through qualifications, training and continuous learning programmes. This would ensure that inspection resources are competent to carry out their duties.

**Authorised gas tester**

- Authorised Gas Testers are competent persons who carry out atmosphere tests for confined space. According to the Industry Code Of Practice For Safe Working In A Confined Space 2010 (under the Occupational Safety and Health Act 1994), they have to attend a training programme on “safe working in a confined space” and pass an examination before they are allowed to work in the area. In addition, they must also be registered as a Competent Person with DOSH. Authorised Gas Testers have to undergo a
refresher course every two years using the module approved by the Director General of DOSH.

- The industry code of practice imposes an additional requirement that an authorised gas tester must have a minimum grade C for science in Sijil Pelajaran Malaysia (SPM).
- Experienced Authorised Gas Testers, who do not possess SPM grade C for science subject, are no longer allowed to carry out the job.
- It is not only a waste of resources but also a burden on businesses as they have to hire new staff and send them for training. In the meantime they have to redeploy the existing Gas Testers. This results in the increase in the operational cost of doing business.

**RECOMMENDATION 5.3.5**

- DOSH allows those without grade C in Science but have passed the examination to continue work as Authorised Gas Testers. This option is recommended as it is more practical to implement and ensure fairness to those who have passed the examination prior to this new regulation.

- **Person in charge**
  - The Factories And Machinery (Person-In-Charge) Regulation 1970 requires that a competent person be in charge of machinery.
  - The regulation unnecessarily constrains how companies use their competent people such as requiring a different competent person for each location.
  - Some big companies have several petrochemicals manufacturing set ups. Instead of having a specific team of staff for each set up, they want to use the same people as a support services unit to a number of manufacturing set ups and thus reduce costs.
  - With the advance in technology, managing the performance of the petrochemical facilities and machinery can be conducted with fewer people.
RECOMMENDATION 5.4.5

- DOSH has confirmed that companies can apply for an exemption from the requirement on a competent person. It is therefore suggested that DOSH communicate the option to companies and provide a clear guideline on how companies can qualify and apply for such exemption.

Petrol service stations

- Quota of foreign workers
  - Petrol stations in Malaysia have problems with hiring staff and experience a very high turnover of employees.
  - Hence, petrol station operators have resorted to hiring foreign workers.
  - However, petrol station operators are in the dark over the quota of foreign workers. They are unclear how many foreign workers they can hire at one time and why some stations can hire more than others. There is no clear statement or guideline from the Labour Department (JKTSM) on the number of foreign workers for petrol service stations.

RECOMMENDATION 6.1.5

- It is recommended that the Labour Department (JKTSM) look into the matter and issue a guideline on hiring foreign workers for petrol stations.

- Operational licence for controlled goods
  - Most petrol stations in Malaysia operate convenience stores that sell items which may include controlled goods such as sugar, all purpose flour and cooking oil. A single composite licence obtained from MDTCC allows the sale of petrol fuel and diesel fuel and any or several of these goods.
o Rice is another controlled item sold at petrol station convenience stores but the retail licence must be obtained from the Ministry of Agriculture (MOA) rather than MDTCC.

o Applying for retail licences from two different ministries is considered **duplication of regulations**. This causes inconvenience and unnecessary paperwork to petrol station operators.

**RECOMMENDATION 6.2.5**

- Since petrol station operators are managed by the principal oil companies such as Petronas and Shell, MOA could award licences to sell rice to the principal companies instead of individual petrol stations.

o **Subsidised diesel management**

  o Diesel is a subsidised item for vehicle consumption. MDTCC allocates a monthly quota of subsidised diesel to each oil company based on projected sales. The quota is divided among stations based on their projected sale for that month. Each dealer must manage the sale of subsidised diesel to ensure that it is within the limit of the allocated quota. The dealer must also write an appeal to MDTCC via the oil company if the allocated quota is less than the projected sale of that month.

  o Petrol stations risk running out of subsidised diesel should MDTCC reject the appeal or give a delayed response, as is often the case. This results in the affected dealer being heavily penalised by the principal oil company.

**RECOMMENDATION 6.3.5**

- MDTCC could allow appeals for additional subsidised diesel to be made through an online system and respond quickly to such requests.
Health, safety and the environment

- Petrol stations are hazardous places because they store and sell a highly flammable liquid. Safety rules must be observed when filling up fuel at petrol stations to prevent potentially fatal accidents.
- There is no standard of procedure (SOP) in dealing with customers who flout safety rules. Apart from giving them a warning and refusing to serve them, there is not much that can be done. Lack of enforcement emboldens these law breakers because they know they can get away with it.
- The health and safety of customers and employees are at risk. Employees face verbal and physical abuse when they attempt to uphold safety rules.

RECOMMENDATION 6.4.5

- It is recommended that a public awareness campaign be carried out while formulating a SOP that enables immediate action on law breaking customers as well as protect employees from harm.

Abuse of subsidised diesel

- Subsidised diesel is generally meant for domestic vehicle consumption. Commercial enterprises such as factories are not eligible for subsidised diesel and have to pay the full price.
- The significant difference between the commercial and subsidised prices can lead to abuse of subsidised diesel.
- Poor enforcement of the regulations results in some customers purchasing large amount of diesel at the subsidised price and then selling it to commercial enterprises for a profit.

RECOMMENDATION 6.5.5

- The most effective option which could be employed immediately would be to limit the amount of diesel per transaction.
MDTCC has decided on four steps to be implemented in its effort to prevent the abuse of subsidised diesel and petrol (Utusan Malaysia dated 29th June 2014). The four steps are:

- A monthly sales quota of 600,000 litres of diesel and petrol will be imposed on all petrol stations in the East Coast of Sabah. This will affect 72 petrol stations in the area between Kudat and Tawau.
- As of 1st August 2014, approval for sales quota for each petrol station will be decided by the relevant state MDTCC instead of the principal oil company.
- Beginning 1st January 2015, it will be compulsory for oil tankers carrying subsidised diesel or petrol to be painted in standard blue and have a large written sign “Minyak Subsidi” on it. These requirements will be included in the approval letter for licence, PDA3 (approval for distribution of petroleum products). This is meant to prevent attempts to smuggle or make illegal sales of subsidised diesel and petrol.
- To prevent illegal sales of subsidised diesel and petrol, a limit of 500 litres will be imposed on the second application (additional quota) for “Fleet card” holders in the public transport category (school busses, express busses, mini busses, cars for hire, taxis). Applications for additional quota must be made to the relevant state MDTCC. Currently these “Fleet card” holders enjoy unlimited additional quota.

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Unauthorised purchase of subsidised diesel by farmers

- It is a regulatory requirement that subsidised diesel must be delivered to vehicles and not be collected in containers.
- Smallholding paddy farmers use tractors to till their lands. As it is not possible to bring the tractors to the petrol stations, they want to purchase subsidised diesel in containers such as drums and barrels to take back to the farms.
Petrol stations make allowances for them as paddy farmers have no other means of getting their supply of diesel.

Preventing farmers from putting diesel in containers results in them not being able to obtain subsidised fuel for their tractors. On the other hand, allowing use of containers can result in abuse of the provision because the diesel may be sold to commercial enterprises.

**RECOMMENDATION 6.6.5**

- MDTCC should make special allowance for farmers to make non-vehicle purchase of subsidised diesel based on their needs upon getting authorisation from MDTCC.

Note:

MDTCC has verified that it has already implemented this option. However, it is likely that most farmers are not aware of such policy. Information on the policy should be accessible to the public in order for it to be effective. The followings are suggestions for the dissemination of information on the policy:

- MDTCC could make the relevant information on the policy available on its official website.
- MDTCC could seek the cooperation of relevant authorities such as the MOA and its agencies to ensure that farmers are well informed.

**Time constraint in signing dealership agreement**

- Principal oil companies such as PETRONAS, Shell, and Petron appoint dealers to operate their respective petrol stations. Upon appointment, each dealer enters into a dealership agreement with the relevant principal oil company.
- The potential dealer is not given sufficient time to study and understand the terms of the agreement. There is no opportunity for the potential dealer to seek legal advice due to the time constraint put upon by the principal oil company.
Entering into a dealership agreement without fully comprehending its legal consequences puts the dealer at a disadvantage. This is considered unfair trade practices.

**RECOMMENDATION 6.7.5**
- A standardised dealership agreement should be made available on the website of the principal oil company. It is only fair to allow potential dealers the opportunity to study and understand the terms of the dealership agreement.
- In the longer-term, the Government could consider establishing trade practices legislation which ensures fair trading.

**LPG distribution business**

- **Commercial vehicle licence**
  - Commercial vehicles, such as lorries and trailers, are the common transportations used in LPG distribution business. These vehicles require commercial vehicle licences issued by the Land Public Transport Commission (SPAD) in compliance with the *Land Public Transport Act 2010*.
  - Other regulators involved in the process of issuing a commercial vehicle licence for a new vehicle are the local government (PBT), JPJ (the Road Transport Department) and PUSPAKOM (Pusat Pemeriksaan Kendaraan Berkomputer).
  - Two issues arise in getting a commercial vehicle licence for a new vehicle:
    - delays in issuing the licence — one distributor had to wait six months for a commercial vehicle licence
    - Restriction on the number of vehicles per company.
RECOMMENDATION 7.1.5

- In issuing a commercial vehicle licence, it is recommended that all regulators re-engineer their respective processes with the objective of having faster, cheaper and fewer interactions between business and regulators.
- The Land Public Transport Commission (SPAD) lifts the restriction on the number of vehicles that a business can purchase. SPAD should not base its decision on the type of business entity, but rather on the capability of the company to finance the purchase of the vehicles and operate the business.

  **Goods delivery licence for business owner**
  - A GDL is issued to the driver of a commercial vehicle by the Road Transport Department (RTD) in accordance with the *Road Transport Act 1987*.
  - As a pre-requisite to issuing a commercial vehicle licence, SPAD requires that the business owner have a Goods Delivery Licence (GDL). The requirement has no relevance as a GDL is meant for the driver of the commercial vehicle, who is often the employee of the business.

RECOMMENDATION 7.2.5

- SPAD should remove the requirement for a business owner to have a GDL in issuing a commercial vehicle licence.

  **Routine inspection on commercial vehicles by PUSPAKOM**
  - It is mandatory for all commercial vehicles to undergo a road worthiness inspection every six months. Currently, PUSPAKOM is the only vehicle inspection company appointed by the Government to carry out inspections for commercial vehicles in the country.
A routine vehicle inspection by PUSPAKOM is time consuming as there is usually a long queue. A single vehicle takes a few hours to process, although the actual inspection does not require that long to complete.

The delay caused by PUSPAKOM inspection translates to a loss of revenue to business. A day’s loss for a trailer could be worth RM 1,000.

**RECOMMENDATION 7.3.5**

- PUSPAKOM plans its resources to match its workload.
1. About the review

Regulations have grown at an unprecedented pace in Malaysia over recent decades. There are regulations that were formulated way back even before the independence which are still being enforced. Until recently, no systematic effort has been made to review the relevance and efficacy of existing regulations, even though new regulations are being formulated. This has been a response to the needs and demands of an increasing affluent and risk-adverse society and an increasingly complex global economy. Good and well implemented regulations have brought economic, social and environmental benefits, but there are substantial costs. Some costs have been the unavoidable secondary impact of pursuing legitimate policy objectives although a significant proportion has not. In many cases the costs have exceeded the benefits. Moreover, regulations have not always been effective in addressing the objectives for which they were designed, including regulations designed to reduce risk.

The growing recognition of these costs and other deficiencies of regulations have led the government to recognise that major reforms have to be made. An early focus of such efforts was the removal of many regulations that are obsolete and no longer relevant. Further waves of reform will follow, and this review is one of such that is focussed on the regulation of key economic initiatives and regulatory compliance burdens generally.
Box 1.1 Business regulation in various forms [1]

Box 1.2 Business regulation in various forms

*Formal regulation* involves governments exerting control or influence over business conduct through legal requirements, monitoring or inspection programs and, in the case of non-compliance, punitive sanctions. This form of regulation is generally based on:

- primary legislation — which consists of Acts of Parliament that set out the regulation-making authority
- subordinate legislation — which comprises laws and rules made by authorities under the delegated powers of the legislature to spell out details of policy decisions embodied in primary legislation, as exemplified by statutory rules, ordinances, by-laws, and disallowable instruments
- administrative decisions or discretions — which are requirements imposed by public officials entrusted with the relevant powers and duties
- international treaties and agreements — which can be ratified with legislative backing.

Apart from formal regulation, governments can influence business conduct by means of *quasi-regulation*. This encompasses policies, rules, standards and other instruments that do not have the force of law but effectively impose compliance requirements on business through government involvement in their development. Examples include government-endorsed industry codes of practice, government-issued guidance notes, government–industry agreements, and national accreditation schemes. Quasi-regulation is also implicit in licensing and government procurement requirements.

Further, business conduct can be subject to *co-regulation*. This involves industry and other non-government stakeholders jointly developing and administering particular codes, standards or rules, with government providing legislative support for the enforcement of those arrangements.

Sources: Banks (2001); Commonwealth of Australia (1997); OECD (2003).

1.1 The 10th Malaysia Plan: Modernising business regulation

The government recognises that the regulatory environment has a substantial effect on the behaviour and performance of business entities. Private sector participation in the economy and innovation requires a regulatory environment that provides the necessary protections and guidelines, while promoting competition. Too often, Malaysian firms face a tangle of regulations that have accumulated over the years and now constrain growth. At the same time, regulations that would promote competition and innovation are absent or inadequate.
Based on the World Bank’s Ease of Doing Business 2014 report, Malaysia ranked 6\textsuperscript{th} among 185 countries \cite{2}. This is a significant improvement from its 12\textsuperscript{th} position in 2013. This not only enhances Malaysia’s global competitiveness, but also makes it one of the best places in Asia in which to do business. The country must therefore continuously improve its regulatory performance to maintain its ranking.

To achieve this goal, the government will begin with a comprehensive review of business regulations, starting with regulations that impact the National Key Economic Areas (NKEAs). Regulations that contribute to improved national outcomes will be retained, while redundant and outdated regulations will be eliminated. This review will be led by the Malaysia Productivity Corporation (MPC). MPC will be comprised of relevant experts from business and academia. Its work will complement the efforts of PEMUDAH, the special task force set up to facilitate business.

\section*{1.2 What the MPC has been asked to do}

The 10\textsuperscript{th} Malaysia Plan has mandated MPC to carry out regulatory review in view of making it easy to do business in Malaysia. This review process will draw on the expertise and perspectives of public sector and private sector leaders, who will help identify key issues and the appropriate solutions.

Mandated in the 10\textsuperscript{th} Malaysia Plan specifically, MPC will \cite{3}:

- Review existing regulations with a view to removing unnecessary rules and compliance costs. Regulations affecting NKEAs will be prioritised;
- Undertake a cost-benefit analysis of new policies and regulations to assess the impact on the economy;
- Provide detailed productivity statistics, at sector level, and benchmark against other relevant countries;
- Undertake relevant productivity research (e.g. the impact of regulations on growth of SMEs);
- Make recommendations to the Cabinet on policy and regulatory changes that will enhance productivity; and
- Oversee the implementation of recommendations.
1.3 The approach and rationale of this review

The government has identified 12 NKEAs to help propel Malaysia towards a high-income status. An NKEA is defined as a driver of economic activity that has the potential to directly and materially contribute a quantifiable amount of economic growth to the Malaysian economy. [4]

The NKEAs were chosen on the basis of their contribution to high income, sustainability and inclusiveness. An initial set of 12 potential NKEAs have been identified comprising 11 sectors and one geographic area - Kuala Lumpur. Kuala Lumpur was chosen because it accounts for almost one-third of Malaysia’s total GDP and urban agglomeration can be a major driver of economic growth. One of the NKEAs is oil and gas industry which is the focus of this study.

A significant portion of this study will be based on literature reviews of laws and regulations in the country, past studies made by more mature regulatory review agencies such as the Australia Productivity Commission, policy papers and reports, statistical reports and research literatures within the country and official web-sites of relevant professional bodies, NGOs, regulatory agencies and business organisations. The other portion of the study will come through direct interviews and consultations with businesses, professional bodies, associations and regulatory agencies involved in the sector.

The first part of the study will be to establish the key areas of the oil and gas industry viewed as the more burdensome. This will record the views and experiences on the regulatory burdens from which improvement options could be formulated. Further consultations will be carried out with private and public sectors in the industry. In addition to that, associations of the industry are also consulted. The consultation process will provide the necessary feedbacks for the final report.

1.4 Conduct of the study

The study started in February 2013. During the early phase of the project, the industry value chain was researched and mapped out. Economic and sector profile data were gathered from secondary data sources.
A comprehensive study of existing regulations governing the oil and gas industry and their regulators was conducted. The regulations were correlated to the value chain.

The subsequent stage of the study was to gather issues faced by businesses. Focus group engagements and one to one interviews were used in the study. Issues pertaining to regulations were selected and documented in the study report.

The investigations involved collection, review and analysis of data and information from two sources: secondary data from literature reviews and primary data from interviews with key stakeholders.

Secondary data reviewed and used as inputs for this study are from many sources and are classified as follows:

a) Research papers published by international agencies and other countries such as the World Bank, the Australian Productivity Commission.

b) Local research papers and reports commissioned by the government such as EPU commissioned reports and MITI commissioned reports. Reference to these papers will be cited in this report.

c) Laws of Malaysia, the various Acts and Regulations.

d) Statistical data relating to the industry from regulators.

e) Information from local government agencies, quasi government bodies, professional bodies, private businesses and the relevant associations on policy matters, news, reports and statistics for analysis and inputs to this study. Much of this is accessed from their web-sites and the sources will be listed in the final report.

The report is to be circulated to key stakeholders for their final comments. The inputs will be incorporated into the final report.

1.5 Structure of the report

The sector profile, value chain and economics performance of Malaysia's oil and gas industry, and focus of the study are described in chapter 2. Chapter 3 describes unnecessary regulatory burdens in general. Chapter 4 provides an overview of the
regulatory framework, including its historical background, existing legislative and institutional arrangements, and mapping of the value chain to regulations.

The next few chapters are devoted to detailed discussion on regulatory burdens in specific downstream businesses. Chapter 5 discusses regulatory burdens faced by petrochemicals manufacturers. Chapter 6 highlights regulatory burdens encountered by petroleum retailers, i.e., petrol station service providers while chapter 7 focuses on regulatory burdens experienced by LPG distributors and retailers.

1.6 References


2. Oil and gas sector

This chapter begins with an overview of the oil and gas industry in Malaysia. Description of the value chain of the industry is given in section 2.2, followed by the industry’s economic performance in section 2.3. Section 2.4 focuses on the scope of the inquiry regarding issues in the oil and gas industry.

2.1 Oil and gas industry in Malaysia

This section provides an overview of the oil and gas industry in Malaysia.

2.1.1 History

Oil and gas production have been a mainstay of Malaysia’s growth since oil was first drilled in 1910 in Miri, Sarawak. The first oil well (known as The Grand Old Lady) which was discovered by Shell, started with a production of 83 barrels per day (bbls/d) and reached a maximum of 15,000 bbls/d in 1929. There were no other drilling activities elsewhere in Borneo or Peninsular Malaya until the 1950s. [1, 2, 3]

Petroleum activities began increasing significantly in 1960s due to the discovery and development of offshore fields in Borneo. The late 1960s saw the beginning of offshore oil exploration in the east coast of Peninsular Malaysia. In the 1970s, some oil fields in Malaysia were producing 90,000 to 99,000 bbls/d. [2]

In the early days, foreign oil companies dominated the oil and gas industry in Malaysia with Shell and Esso being the two major players. This was followed by several other foreign companies such as Conoco, Mobil, Aquitaine, Oceanic and Teiseki. The national company, Petronas came on to the scene in 1974. [2]

In return for royalties and taxes, the foreign companies were given petroleum concessions by state governments, which accorded them exclusive rights to explore and produce resources. However, exploration licences of these companies ceased to have effect with the passing of the Petroleum Development Act in Parliament in
1974, which granted Petronas ownership and control of the nation’s petroleum resources. [2, 3]

Exploration and production of oil and gas have since been carried out under a Production Sharing Contract (PSC), whereby local and international companies are granted exploration rights by PETRONAS. Each contract obligates the PSC Contractor to provide all the financing and bear all the risk of exploration, development and production activities in exchange for a share of the total production. [2, 3, 4]

Currently there are more than 70 PSCs with various companies, including its Exploration & Production (E&P) subsidiary PETRONAS Carigali Sdn Bhd (PETRONAS Carigali), with 43% of Malaysia’s total production. Other dominant players are Shell with 22% and ExxonMobil with 16% of total production. [2, 3]

Beginning 2011, PETRONAS has adopted the risk sharing contracts (RSCs) approach as an alternative to the PSC regime in developing marginal fields. Marginal fields are those with reserves of less than 30 million barrels of recoverable oil or oil equivalent. In RSC, PETRONAS retains ownership and control of the reserves. The contractor bears all the exploration costs and the associated risks, and is compensated when a commercial discovery is made. The contractor is also entitled to a share of the profits and not a share of the production. [5, 6, 7]

2.1.2 Oil and gas reserves

Malaysia’s oil reserves are the fifth highest in the Asia-Pacific region after China, India, Vietnam and Indonesia and the 28th in the world. As of January 2011, Malaysia’s proven oil reserves was 4 billion barrels. Nearly all of Malaysia’s oil comes from offshore fields. [8, 9, 10]

Malaysia’s continental shelf is divided into three producing basins: [2, 3, 8, 10]

- Peninsula Malaysia: The Malay Basin,
- Sarawak: The Sarawak Basin, and
- Sabah: The Sabah Basin
Most of the country’s oil reserves are located in the Malay basin and tend to be of high quality. Malaysia’s benchmark crude oil, Tapis Blend, is of the light and sweet variety with an API gravity of 44° and sulfur content of 0.08 percent by weight. [8, 9]

With a total proven natural gas reserve of 2400 billion cubic metres, Malaysia is ranked the 13th largest in the world. Most of the country’s natural gas reserves are in its eastern areas, predominantly offshore Sarawak. [1, 9]

2.1.3 Oil and gas exploration

Malaysia has approximately 615,100 square kilometres of acreages available for oil and gas exploration, 36% (218,678 square kilometres) of which are covered by Production Sharing Contracts. [2, 10, 11]

Presently, discoveries of 163 oil fields and 216 gas fields have been made in shelfal waters and deepwater environments. The first deepwater oil discoveries bearing 440 million barrels, in Kikeh area, in offshore Sabah was made by Murphy Oil in 2002. [2, 8]

2.1.4 Oil and gas production

The performance of production of crude oil and natural gas for the period of 2001-2011 is shown in Chart 2.1. [12]

With the exception of 2007 and 2008, oil production has been gradually declining since reaching a peak of 279 million barrels in 2004. The total oil production in 2011 was approximately 207 million barrels, 10.7 per cent less than the 233 million barrels production of 2010, which in turn was a 3.1 per cent drop from that of 2009 (240 million barrels).

Production of natural gas shows a positive trend since 2001. It peaked in 2008, but showed a slight decline of 1.7 per cent in 2009. In 2010, natural gas production rose by 1.9 per cent to 2,159 million standard cubic feet (MMSCF). There was a further increase of 0.3 per cent in 2011 with a production of 2,165 MMSCF.
2.1.5 Sustaining the oil and gas industry

More than half of total Malaysian oil production currently comes from the Tapis field in the offshore Malay basin. The downward trend in oil production is due to the maturing reservoirs. [9]

Among efforts being made to sustain the production of oil are the enhancement of oil recovery in currently producing regions, and the development of marginal fields such as in deepwater areas (water depth of more than 1000ft or 300m) offshore of Sabah and Sarawak using new technology. Marginal fields are those with reserves of less than 30 million barrels of recoverable oil or oil equivalent. [9, 13]

In 2011 and 2012, PETRONAS awarded risk service contracts (RSCs) in developing marginal oil fields to SapuraKencana Petroleum Berhad, Dialog-ROC Oil and Costal Energy Co for the development of the Berantai cluster, the Balai cluster and the Kapal, Banang and Meranti cluster, respectively. In May 2013, PETRONAS invited bids for 10 marginals fields of the coast of Sarawak, Sabah and Peninsular Malaysia. [6, 7]
In the natural gas sector, gas fields with high level of contaminants (carbon dioxide and hydrogen sulfide) are being considered for production. These fields were previously deemed as not being commercially attractive because of the cost associated with production. [13]

### 2.2 Industry value chain

A value chain is the sequential set of activities performed on a raw material causing it to gain value at each consecutive activity and ultimately become a consumable product for end users. In the oil and gas industry, oil and gas are the raw material. The value chain in the oil and gas industry transforms crude oil and gas into various end products such as gasoline and natural gas. [14, 15, 16, 17]

Figure 2.1 illustrates the value chain of oil and gas sectors. The oil and gas value chain consists of activities that are divided into two segments:

- Upstream
- Downstream

Upstream activities are the exploration, development and production of hydrocarbon resources. Activities in the downstream segment include refinement of crude oil, processing of gas into various marketable products, marketing, trading and distribution of end products to consumers. Transportation and storage activities are present in both the upstream and downstream segments of the value chain.
2.2.1 Upstream

The upstream segment of the value chain involves the exploration, development, and production of hydrocarbons which can be oil or gas or the combination of both. Exploration for oil and gas is carried out in a specific exploration area or 'block' which is usually offshore. Development and production activities subsequently follow upon discovery of commercial quantities of hydrocarbon.

Exploration

Exploration activities begin with the collection, analysis and interpretation of seismic data to determine the potential of hydrocarbon reserves. Exploratory drilling will be
initiated for the actual discovery of hydrocarbon. If the discovery is commercially viable, the next course of action will be to enter into the development phase.

**Development**

The development process involves the drilling of appraisal wells to assess the size and commerciality of the discovery. This is followed by the drilling of wells for full scale production; and the establishment of infrastructure and facilities as well as the connecting network at the production and refinery or processing sites to facilitate the production, process and transport of hydrocarbon.

**Production**

Production is the operation that begins after the well is drilled. Hydrocarbons are brought to the surface from the reservoir beneath the earth’s surface and prepared for processing. In offshore production, oil and gas are produced from multiple wells and brought to the surface via platforms.

On the platforms, the hydrocarbon mixture undergoes process to remove water and contaminants and to separate gas and condensate from oil, prior to being transported onshore to storage facility, refineries or processing plants. [15]

**Transportation**

There are two phases of transportation. The first is the upstream transportation of crude oil and natural gas from the production site, and the second is the transportation of end products in the downstream segment. The mode of transportation can vary from pipelines, trucks and railways on land to barges and tankers across water.

At the production site, crude oil is transported by means of pipelines to storage facility and refinery. Tankers are the normal mode of transportation for export of crude oil to international markets. Pipelines are used to transport natural gas from the production site to the processing plant and customers.
Refined oil is transported to storage facility by pipelines. Pipelines, railways and roads are normally used to distribute end products in domestic markets, while tankers are used to reach customers in transoceanic markets.

**Storage**

Storage is necessary to balance the fluctuations between supply and demand, and to ensure stable and secure supply to energy markets at all times. Crude oil is put in storage in great quantities after production. Large amount of refined products are also stored. Storage facilities are most often located near refining facilities and are connected to pipeline systems to facilitate shipment when product demand must be met. Storage containers come in various forms, shapes and sizes. Old tankers and barges have been adapted for offshore storage use. Special tanks are used at large capacity storage sites.

2.2.2 Downstream

Downstream activities include refinement of crude oil, processing of gas, marketing, trading and distributing of end products to consumers in domestic or international markets. End products are refined products of crude oil, processed natural gas, and petrochemical products whose raw material are crude oil or natural gas.

**Oil value chain**

Activities in the downstream segment of the oil value chain are the refinement of crude oil, marketing, trading and distributing of refined products to consumers.

**Refinement operation**

Crude oil needs to undergo a refinement process in order to become refined products for end users. Crude oil is composed of mixtures or fractions of molecules. The refinement process is basically to isolate the fractions according to their boiling point range. Refined products are produced by combining fractions from the raw crude oil with those from various refinery processing units. The most important refined product is petrol, fuel for motor vehicles. Other equally important products are diesel oil, heating oil, jet fuel, and lubricants. Crude oil is also the raw material in the production of asphalt, plastics, solvents, fertilizers, pesticides and pharmaceuticals.
Table 2.1 below lists out some of the refined products of crude oil.

Table 2.1: Refined products and their uses

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<th>Refined Products</th>
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<tbody>
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</tr>
<tr>
<td></td>
<td>• to make salves, ointments, and cosmetics</td>
</tr>
<tr>
<td>asphalt</td>
<td>• to pave roads</td>
</tr>
<tr>
<td>petroleum coke</td>
<td>• to make electrodes to produce aluminium</td>
</tr>
<tr>
<td></td>
<td>• as a raw material to manufacture steel.</td>
</tr>
</tbody>
</table>

**Marketing, trading and distribution of refined products**

Refined products are exported to international markets. In domestic market, they are traded and marketed either as wholesale or retail. Refined products are moved from refineries to markets by means of various transportation modes. Tankers are used to
for transport to international markets. Products are distributed in domestic market by means of pipelines, rails and roads. Domestic consumers are industry, commercial, and residential.

Petrol and diesel are two most visible products of crude oil. In domestic market, petrol and diesel are distributed to petrol service stations which then sell them to motorists as fuels for their vehicles. Retail prices of petrol RON 95 and diesel are set lower than their market prices as the government subsidises these two products.

Petrochemicals manufacturers are end users for aromatic compounds in crude oil such as benzene, toluene and xylene. They are used as the chemical building blocks in the manufacture of petrochemical products such as plastics, agricultural chemicals, and pharmaceuticals.

**Gas value chain**
The downstream activities in the gas value chain are processing, trading, marketing and distribution of gas to customers in international and domestic markets.

At the production site, pure natural gas is moved directly on the natural gas pipeline network to consumers such as residential, commercial, industrial, and utility companies. Raw natural gas is sent on another pipeline system to natural gas processing plants for further processing.

**Processing**
Natural gas is usually produced together with crude oil. Gas and oil are separated at the production site. Raw natural gas normally contains pure natural gas (methane), mixed natural gas liquids (NGL) as well as impurities in the form of hydrogen sulfide and carbon dioxide. Pure natural gas is also referred to as pipeline quality natural gas as it can be moved on the pipeline network without causing damage. [15]

Processing of natural gas removes the mixed natural gas liquids from the pure natural gas. The mixed natural gas liquids then undergoes fractionation process,
which separates it into primary components: ethane, propane, butane, and natural gasoline.

Natural gas is used to produce electricity, and to provide the energy for heating at homes, and for various manufacturing processes in industries. Natural gas is also used as transportation fuel in the form of compressed natural gas (CNG). Natural gas liquids are used as raw materials in petrochemical plants for industrial, pharmaceutical, and agricultural products, burned for heating and cooking, and blended into vehicle fuel.

Uses of natural gas is shown in Table 2.2.

Table 2.2 : Uses of natural gas

<table>
<thead>
<tr>
<th>End Users</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>provides energy for manufacturing processes, e.g.</td>
</tr>
<tr>
<td></td>
<td>- to heat air to dry paint on cars in automobile plants</td>
</tr>
<tr>
<td></td>
<td>- to dry food products like potato chips in food manufacturing plants</td>
</tr>
<tr>
<td>Utility companies</td>
<td>production of electricity</td>
</tr>
<tr>
<td>Vehicles</td>
<td>as transportation fuel in the form of compressed natural gas (CNG)</td>
</tr>
</tbody>
</table>

**Liquefied natural gas**

Pure natural gas that has been liquified is called liquified natural gas (LNG). This is usually for the purpose of transporting natural gas in areas where there is no pipeline network. To be transported, natural gas is first liquefied in a LNG liquefaction plant. This liquefied state enables the natural gas to be shrunk to 1/600th of its original volume. It is then transported in specialised LNG carriers. At the delivery point the LNG is regasified and charged into a gas pipeline system.
**Transportation**
Natural gas products are distributed to markets by various means of transportation. Natural gas must either be compressed or liquefied for transport. Natural gas pipeline network transports pipeline quality natural gas from production sites or processing plants to consumers.

Tankers equipped with pressurised, refrigerated, and insulated tanks are used to transport natural gas liquids and liquefied natural gas (LNG). Natural gas liquids are also piped to petrochemical plants, refineries, and other natural gas liquids customers. Liquefied petroleum gas (LPG) in cylindrical containers are transported by road to customers.

**Storage**
Natural gas storage serves as a buffer between transportation and distribution. Storage is crucial in ensuring the reliability of supply to meet the demands of consumers. It also serves as insurance against any unforeseen accidents, natural disasters, or other occurrences that may affect the production or delivery of natural gas. [19]

Natural gas is usually stored underground, in large storage reservoirs. There are three main types of underground storage: depleted gas reservoirs, aquifers, and salt caverns. **Depleted gas reservoirs are used most often and comprise the majority of storage. Aquifers are water reservoirs that are conditioned to hold the gas.** In addition to underground storage, however, natural gas can be stored as liquefied natural gas (LNG). LNG allows natural gas to be shipped and stored in liquid form.

**Marketing, trading, distribution of processed natural gas**
Natural gas is exported in the form of liquefied natural gas (LNG). Domestic consumers are industry, commercial and residential. Processed products such as liquefied petroleum gas (LPG) is marketed either as wholesale or retail. LPG is usually supplied in cylindrical containers. Natural gas for vehicles (NGV) is piped to PETRONAS service stations and sold to motorists.
The main customer for natural gas liquids such as ethane, propane, and butane is the petrochemicals industry which uses them as feedstocks in the manufacture of various petrochemicals products. Table 2.3 below shows some of the petrochemical products.

Table 2.3: Petrochemicals products from natural gas liquids

<table>
<thead>
<tr>
<th>Natural Gas Liquids</th>
<th>Petrochemical Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethane</td>
<td>polyethylene (plastics)</td>
</tr>
<tr>
<td></td>
<td>- for housewares, insulation, packaging films, toys</td>
</tr>
<tr>
<td></td>
<td>ethylene glycol</td>
</tr>
<tr>
<td></td>
<td>- antifreeze for car radiators</td>
</tr>
<tr>
<td></td>
<td>polyester fibers, film and latex paint</td>
</tr>
<tr>
<td></td>
<td>polyvinyl chloride (PVC)</td>
</tr>
<tr>
<td></td>
<td>- for pipes</td>
</tr>
<tr>
<td></td>
<td>vinyl acetate</td>
</tr>
<tr>
<td></td>
<td>- for paints and adhesives.</td>
</tr>
<tr>
<td></td>
<td>resins</td>
</tr>
<tr>
<td></td>
<td>- for rubber</td>
</tr>
<tr>
<td>Ethanol</td>
<td>Propylene glycol</td>
</tr>
<tr>
<td></td>
<td>- as moisturizer in skin care lotions and cream.</td>
</tr>
<tr>
<td></td>
<td>- as industrial antifreeze</td>
</tr>
<tr>
<td></td>
<td>- as hydraulic and brake fluid.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Propane and butane</th>
<th>LPG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- for cooking and heating</td>
</tr>
<tr>
<td></td>
<td>- in transportation</td>
</tr>
<tr>
<td></td>
<td>propylene oxide</td>
</tr>
<tr>
<td></td>
<td>- for sterilizing medical and food products</td>
</tr>
<tr>
<td></td>
<td>- to manufacture surfactants.</td>
</tr>
<tr>
<td>Propylene glycol</td>
<td>- as moisturizer in skin care lotions and cream.</td>
</tr>
<tr>
<td></td>
<td>- as industrial antifreeze</td>
</tr>
<tr>
<td></td>
<td>- as hydraulic and brake fluid.</td>
</tr>
</tbody>
</table>
2.3 Industry performance

Malaysia is one of the world’s significant oil and gas producers. According to the 2012 Petroleum and Natural Gas Statistics report by the Department of Statistics, the petroleum and natural gas mining industry contributed 8.7 per cent of the Gross Domestic Product (GDP) in 2011, and 9.7 per cent in 2010. The total value of gross output in 2011 was RM109.2 billion, while that of 2010 was RM98.1 billion (refer to Table 2.4). [12]

<table>
<thead>
<tr>
<th>Variables</th>
<th>2010</th>
<th>2011</th>
<th>Annual Growth Rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross output (RM billion)</td>
<td>98.1</td>
<td>109.2</td>
<td>11.3</td>
</tr>
<tr>
<td>Intermediate input (RM billion)</td>
<td>11.1</td>
<td>16.1</td>
<td>45.1</td>
</tr>
<tr>
<td>Value added (RM billion)</td>
<td>87.0</td>
<td>93.1</td>
<td>7.0</td>
</tr>
<tr>
<td>Value of fixed assets (RM billion)</td>
<td>141.2</td>
<td>146.5</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Table 2.4 : Principal statistics of petroleum and natural gas mining industry, 2010 and 2011 [12]

The same report also stated that in 2011, Malaysia produced 207 million barrels of oil, compared to 233 million barrels in 2010. The natural gas production in 2011 and 2010 were 2,165 million standard cubic feet (MMSCF) and 2,159 MMSCF respectively (refer to Table 2.5).
Table 2.5 : Production of petroleum and natural gas, 2009, 2010 and 2011 [12]

<table>
<thead>
<tr>
<th>Product</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>annual percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude Oil (million barrel)</td>
<td>240</td>
<td>233</td>
<td>207</td>
<td>(3.1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(10.7)</td>
</tr>
<tr>
<td>Natural Gas (MMSCF)</td>
<td>2,119</td>
<td>2,159</td>
<td>2,165</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.3</td>
</tr>
</tbody>
</table>

Notes:
Total production of crude oil refers to the production of crude oil and condensate, while the total production of natural gas includes associated natural gas and non-associated natural gas.

Malaysia exports petroleum-based products which are crude petroleum, liquefied natural gas, and petroleum products. Exports of petroleum-based products in 2011 amounted to RM117.5 billion, equivalent to 16.8 per cent of total export in Malaysia (refer to Table 2.6).

Table 2.6 : Exports and imports of petroleum-based products, 2011 [12]

<table>
<thead>
<tr>
<th>Product</th>
<th>Exports (RM billion)</th>
<th>%</th>
<th>Imports (RM billion)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude petroleum</td>
<td>32.5</td>
<td>27.6</td>
<td>24.0</td>
<td>42.3</td>
</tr>
<tr>
<td>Petroleum products</td>
<td>33.0</td>
<td>28.1</td>
<td>32.7</td>
<td>57.7</td>
</tr>
<tr>
<td>Liquefied natural gas</td>
<td>52.0</td>
<td>44.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>117.5</td>
<td>100.0</td>
<td>56.7</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Major buyers of Malaysia’s crude oil in 2011 were Australia with a share of 31.4 percent, India (18.8 per cent), Thailand (16.6 per cent), and Japan (7.5 per cent) (refer to Chart 2.2).
Japan was the leading importer of Malaysia’s liquefied natural gas in 2011 at 68.3 per cent, followed by Taiwan (15.5 per cent) and Republic of Korea (11.6 per cent) (refer to Chart 2.3).

Malaysia also imports crude petroleum and petroleum products for its domestic consumers. In 2011, the largest import commodity was petroleum product with a
value of RM32.7 billion, followed by RM24.0 billion of imports of crude petroleum (refer to Chart 2.4). Saudi Arabia and Qatar were the two primary exporter countries of crude petroleum to Malaysia in 2011, accounting for 38.4 per cent. This was followed by Vietnam (15.1 per cent), and Gabon (12.1 per cent).

Chart 2.4 : Malaysia’s imports of crude petroleum by country, 2011 [12]

2.4 Scope of the study

The inquiry focuses on two areas in the downstream segment of the value chain of the oil and gas industry. They are

- the retail trade of petroleum products in the domestic market, and
- the manufacturing activity in the petrochemical industry.

2.4.1 Retailing of petroleum products

Retailing is the final step in the distribution of petroleum products in the domestic market. Two activities in the retail trade of petroleum products which have been selected as the subjects of the inquiry are

- petrol stations, and
- the distribution of liquefied petroleum gas (LPG) in cylinders

**Petrol stations**

As of August 2013, there were 3291 petrol stations and 332 mini stations operating across the country (refer to Chart 2.5 and Chart 2.6). There were 200 petrol service stations selling NGV in Malaysia (Chart 2.7). [20]

These petrol stations are operated by dealers who are appointed by oil companies like PETRONAS, SHELL, PETRON, BHP, and CALTEX. Basically, each dealer is in partnership with the oil company. The dealer provides the start-up capital for the business and the oil company is responsible for the setting up of the petrol station. Each oil company has its own terms of dealership agreement.

Chart 2.5: Number of petrol service stations by states [20]
Setting up of a petrol station is governed by the Petroleum Development Act 1974 (Act 144). Permission from the Ministry of Domestic Trade, Co-Operatives and Consumerism (MDTCC) must be obtained in accordance with section 3A (2) of the Petroleum Regulations 1974 (refer to Box 2.1).

**Box 2.1 Petroleum Regulations 1974: Section 3A(2)**

"Application for permission to commence or continue any business of marketing or distributing of petroleum or petrochemical products under section 6(3) of the Petroleum Development Act 1974 shall be made to the Secretary-General, Ministry of Domestic Trade, Co-operatives and Consumerism."
Petrol stations sell petrol namely RON 95 and RON 97, and diesel to motorists. They are declared controlled goods under the *Petroleum and Electricity (Control of Supplies) Act 1974 (Act 128)*. Controlled goods are goods which have their prices and distribution regulated by MDTCC. Petrol station operators must apply for a retail licence of controlled goods from MDTCC for retail sale and storage of RON 95 and RON 97, and diesel.

Retail prices of RON 95 and diesel are set lower than their market prices as they are subsidised by the government. Vehicle fuel has been subsidised in the country since 1983 although the price of RON97 has been allowed to float since September 2009. In 2011, 10 per cent of the government’s operating expenditure was spent on fuel subsidies. [21]

Table 2.7 shows the current prices of RON 95 and diesel.

Table 2.7: Current retail and market prices of RON 95 and diesel as of August 2013 [20]

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>RETAIL PRICE/LITRE (RM)</th>
<th>MARKET PRICE/LITRE (RM)</th>
<th>SUBSIDY (RM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RON 95</td>
<td>1.90</td>
<td>2.75</td>
<td>0.85</td>
</tr>
<tr>
<td>DIESEL</td>
<td>1.80</td>
<td>2.81</td>
<td>1.01</td>
</tr>
</tbody>
</table>

Most petrol stations in Malaysia have a convenience store. These convenience stores sell controlled goods other than petroleum products, which are so declared under the *Control of supplies Act 1961 (Act 122)* and Supplies Control Rules & Regulations. Retail sale of controlled goods such as sugar, all purpose flour, cooking oil and liquified petroleum gas (LPG) is regulated by MDTCC. A single composite licence obtained from MDTCC allows the sale of petrol and diesel and any or several of these goods. A licence from the Ministry of Agriculture (MOA) is required to sell rice which is a controlled item regulated under the *Control of Padi and Rice Act 1994 (Act 522)*. Table 2.8 shows a list of controlled goods.
Table 2.8: List of controlled goods [27]

<table>
<thead>
<tr>
<th>No</th>
<th>Controlled Goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sugar</td>
</tr>
<tr>
<td>2</td>
<td>Milk including condensed milk, powdered or dried milk and Evaporated milk</td>
</tr>
<tr>
<td>3</td>
<td>Salt</td>
</tr>
<tr>
<td>4</td>
<td>Cement and Clinker</td>
</tr>
<tr>
<td>5</td>
<td>Wheat flour (All purpose flour)</td>
</tr>
<tr>
<td>6</td>
<td>Cooking oil</td>
</tr>
<tr>
<td>7</td>
<td>Fertilisers</td>
</tr>
<tr>
<td>8</td>
<td>Pesticides</td>
</tr>
<tr>
<td>9</td>
<td>Formic acid or any other acid used for coagulating latex</td>
</tr>
<tr>
<td>10</td>
<td>Mild steel round bars</td>
</tr>
<tr>
<td>11</td>
<td>Kerosene</td>
</tr>
<tr>
<td>12</td>
<td>Prepared or preserved fish in airtight containers</td>
</tr>
<tr>
<td>13</td>
<td>All types of rice (State of Sabah Only)</td>
</tr>
<tr>
<td>14</td>
<td>Paddy (State of Sabah only)</td>
</tr>
<tr>
<td>15</td>
<td>Petrol motor spirit and Motor gasoline at all grades</td>
</tr>
<tr>
<td>16</td>
<td>Diesel fuel</td>
</tr>
<tr>
<td>17</td>
<td>Liquefied petroleum gas (LPG)</td>
</tr>
<tr>
<td>18</td>
<td>All types of bread</td>
</tr>
<tr>
<td>19</td>
<td>Fuel oil</td>
</tr>
<tr>
<td>20</td>
<td>Chicken</td>
</tr>
<tr>
<td>21</td>
<td>Rubber wood</td>
</tr>
<tr>
<td>22</td>
<td>Facemask (1-ply, 2-ply, N95)</td>
</tr>
</tbody>
</table>
Distribution of liquefied petroleum gas (LPG)

Liquefied Petroleum Gas (LPG) is a mixture of propane and butane and has many commercial applications. It is often used for cooking and heating in homes and commercials, and an important source of energy in industries. LPG is also used as vehicle fuel. [22]

LPG is normally bottled in gas cylinders for sale to domestic, commercial and industrial consumers. LPG for cooking purposes in homes is available either in 10kg, 12kg or 14 kg cylinders. LPG in 50kg cylinders is meant for commercial and industrial users.

Marketing and distribution of bottled LPG is regulated by MDTCC under the Petroleum Development Act 1974. LPG dealers are authorised by MDTCC in accordance with section 3A (2) of the Petroleum Regulations 1974. The retail price of bottled LPG is also regulated by MDTCC under the Petroleum and Electricity (Control of Supplies) Act 1974 as LPG is controlled goods.

The sale of bottled LPG as cooking gas to domestic consumers is subsidised by the government. Currently, consumers pay RM19 for a 10 kg bottled LPG eventhough its market price is RM37.70. Figure 2.2 and Chart 2.8 show the pricing for bottled LPG. [20, 21]
Figure 2.2: Actual and subsidised prices of bottled LPG [20]

Chart 2.8: Actual and Subsidised prices of LPG from Jan 2007 to August 2013 [20]
2.4.2 Petrochemicals industry

The petroleum and petrochemicals industry is one of the leading industries in Malaysia. The industry covers petroleum products, natural gas and petrochemicals. The total investment in the petroleum and petrochemicals industry stood at RM60.7 billion in 2011. Malaysia is today an exporter of major petrochemicals products within the ASEAN region, exporting both commodity grade polymers, as well as petrochemical derivatives. [23, 24, 25, 26]

Natural gas, natural gas liquids, and petroleum refinery products are used as feedstock in the production of petrochemicals products. Among petrochemicals products produced in Malaysia are: [24]

- commodity grade plastic resins, such as polyethylene (PE) resins, polypropylene (PP) resins, polyvinyl chloride (PVC) resins and polystyrene (PS) resins;
- engineering grade plastic resins, such as acrylonitrile-butadiene (ABS), polyoxymethylene (POM) resins and polyester co-polymer (PETG) resins;
- petrochemical derivatives, such as ethylene oxide (EO), butanols and acetic acid; and
- specialised and fine chemicals, such as food additives and raw materials for pharmaceuticals.

The development of petrochemicals industry has been in great progress since the early 1990s. There are three integrated petrochemicals complexes (IPCs) established in Kerteh, Terengganu; Gebeng, Pahang, and Pasir Gudang-Tanjung Langsat, Johor. Aromatic plants in Kerteh use condensates as the raw material to produce paraxylene and benzene. Ethylene-based products are also produced in Kerteh. Propane is used as the raw material for the propane dehydrogenation plant in Gebeng. Naphtha obtained from petroleum refining provides feedstock for plants in Pasir Gudang-Tanjung Langsat. Other petrochemicals plants are located in Bintulu, Sarawak; Gurun, Kedah; Penang, Labuan and Kluang, Johor. Table 2.9 shows the petrochemicals zones in Malaysia, while Table 2.10 shows the producers of petrochemicals feedstocks. [23, 24, 26]
Table 2.9: Petrochemicals zones in Malaysia

<table>
<thead>
<tr>
<th>Petrochemical Zones</th>
<th>Facilities &amp; Infrastructures</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerith, Terengganu</td>
<td>• Gas processing plants&lt;br&gt;• Peninsular Gas Utilisation (PGU) project&lt;br&gt;• Centralised utility facilities&lt;br&gt;• Institute Technology Petroleum&lt;br&gt;• Kerith Port&lt;br&gt;• Kuantan Port</td>
<td>• Propylene&lt;br&gt;• Benzene&lt;br&gt;• Ammonia&lt;br&gt;• Acetic Acid&lt;br&gt;• Ethylene&lt;br&gt;• Polyethylene&lt;br&gt;• Ethanolamines&lt;br&gt;• Ethoxylates&lt;br&gt;• Glycol Ethers&lt;br&gt;• Butanol&lt;br&gt;• Butyl Acetate&lt;br&gt;• Ethylene Oxide&lt;br&gt;• Ethylene Glycol&lt;br&gt;• Low Density Polyethylene&lt;br&gt;• Vinyl Chloride Monomer&lt;br&gt;• Polyvinyl Chloride</td>
</tr>
<tr>
<td>Gebeng, Pahang</td>
<td>• Peninsular Gas Utilisation (PGU) project&lt;br&gt;• Centralized utility facilities&lt;br&gt;• Kuantan Port&lt;br&gt;• Environment Technology Park&lt;br&gt;• East Coast Highway</td>
<td>• Acrylic Acid and Esters&lt;br&gt;• Syngas&lt;br&gt;• Butyl Acrylate&lt;br&gt;• Oxo-alcohols&lt;br&gt;• Phthalic Anhydride and Plasticizers&lt;br&gt;• Butanediol&lt;br&gt;• Tetrahydrofuran&lt;br&gt;• Gamma-butyrolactone&lt;br&gt;• Polyester Copolymers&lt;br&gt;• Polypropylene&lt;br&gt;• Polyethylene Terephthalate (PBT)</td>
</tr>
<tr>
<td>Pasir Gudang - Tanjung Langsat, Johor</td>
<td>• Peninsular Gas Utilisation (PGU) project&lt;br&gt;• Tank farms developed for storage of petrochemical liquid&lt;br&gt;• Johor Port&lt;br&gt;• Tanjong Pelepas Port&lt;br&gt;• Tanjung Langsat Port</td>
<td>• Ethylene&lt;br&gt;• Propylene&lt;br&gt;• BTX&lt;br&gt;• Polyethylene&lt;br&gt;• Polypropylene&lt;br&gt;• High Impact Polystyrene&lt;br&gt;• Ethylbenzene&lt;br&gt;• Styrene Monomer&lt;br&gt;• Expandable Polystyrene&lt;br&gt;• Ethylene Vinyl Acetate</td>
</tr>
<tr>
<td>Bintulu, Sarawak</td>
<td>• Bintulu Port&lt;br&gt;• Bintulu Airport</td>
<td>• Ammonia&lt;br&gt;• Urea&lt;br&gt;• LNG&lt;br&gt;• Synthetic Gas Oil&lt;br&gt;• Synthetic Kerosene&lt;br&gt;• Synthetic Naphtha&lt;br&gt;• Synthetic Solvents&lt;br&gt;• Synthetic Detergent Feedstock&lt;br&gt;• Synthtic Paraffin Wax / Waxy Ratlinate</td>
</tr>
</tbody>
</table>

(Source: MIDA)
Factors contributing to the rapid development of the industry include the availability of resources in hydrocarbon feedstock from oil and gas, good infrastructure and supporting industries, cost competitiveness as well as strategic location in ASEAN. [24, 26]
Malaysia holds the world’s 28th largest crude oil reserves with proven oil reserves of 4 billion barrels. Malaysia is also the world’s 13th largest natural gas reserves with a capacity of 2400 billion cubic meters. The PETRONAS LNG Complex in Bintulu, Sarawak is the world’s largest production facility at a single location of liquified natural gas (LNG) with production capacity of 23 million metric tonnes per year. Petrochemical zones in Kerteh, Terengganu and Gebeng, Pahang receive feedstocks from gas processing plants in Terengganu through the Peninsular Gas Utilisation (PGU) system. [23, 25]

Downstream petrochemicals activities also contribute to the growth of petrochemicals industry in Malaysia. At least 60 per cent of the plastic resins and polymers consumed by the domestic market are sourced locally. They are used in producing plastic parts and components, and packaging material which have applications in other industries such as the electrical and electronics, construction, medical devices, automotive, furniture, agriculture industries and household consumer products. Fertilisers made from petrochemicals, such as urea and ammonia are used by the agriculture industry. Specialty and fine chemicals derived from petrochemicals are used as food additives, flavours and preservatives, as well as in the manufacture of pharmaceuticals, cosmetics and paints. [24]

The petrochemicals industry has foreign and local investors. The source of foreign investment is multinational corporations (MNCs) from the USA, Germany and Japan. There are also joint-venture set-ups between local investors and MNCs. PETRONAS is the major domestic investor in the industry. PETRONAS has contributed significantly to the development of support infrastructure, dedicated utilities and services to the petrochemicals zones in Kerteh and Gebeng. PETRONAS has also established joint-ventures with various MNCs, which include BASF, BP Chemicals, Eastman Chemical, Idemitsu Petrochemical, Mitsui, DSM and Dow Chemical Company. The significant investments by PETRONAS and MNCs have made the local petrochemicals industry well diversified with the availability of a wide range of products. [23, 24, 25, 26]
The People’s Republic of China is expected to remain the largest market for Malaysia’s export of petrochemicals products with considerable potential for higher value-added products such as petrochemicals derivatives. Demand for commodity-type petrochemicals from ASEAN countries, especially Cambodia, Lao PDR, Myanmar and Vietnam, is expected to increase, as well as demand for higher value-added products such as fine and specialty chemicals, from Thailand, Indonesia and the Philippines. [24]

Malaysia also imports petrochemicals which are not locally produced to be used as raw material for the production of other downstream petrochemical products. For example, ethylene dichloride is imported for the production of vinyl chloride and subsequent production of polyvinyl chloride resins. [24]

Malaysian petrochemicals companies face competition to gain greater access to the ASEAN market as there are other ASEAN countries such as Singapore, Thailand and Indonesia developing their own petrochemicals industries. Malaysia will need to increase the volume of production and provide a more conducive environment to promote investments in a wider range of high value-added products to capture the ASEAN market. [24]

Although Malaysia continues to attract foreign investment, the industry is facing competition from other petrochemical producers in ASEAN. However, the local downstream industry gives Malaysia an advantage as it becomes the domestic market for petrochemicals products. Malaysia will therefore need to further develop the downstream industries, thereby increasing the demand for locally produced petrochemicals. [24]

2.5 References


[16] *In-depth introduction to the international oil and gas industry.* Retrieved from Petroleum Online website: http://www.petroleumonline.com/


[27] List of controlled goods. Retrieved from MDTCC website: 
3. What is an unnecessary regulatory burden?

This chapter discusses what constitutes an unnecessary regulatory burden, and how such burdens can be prevented. The content of this chapter is taken from the research report by the Productivity Commission of the Australian Government. [1]

3.1 Sources of potential unnecessary regulatory burdens

The potential for unnecessary regulatory burdens arises from a number of sources. However, they can typically be categorised under three broad headings:

(1) problems with regulations themselves;
(2) poor enforcement and administration; and
(3) unnecessary duplication and inconsistency.

3.1.1 Problems with regulations themselves

Regulations can unnecessarily increase regulatory burdens in several ways:

• **Unclear or questionable objectives**: a lack of clarity provides uncertainty about what is expected of both those being regulated and those regulating. Moreover, it increases the potential for regulators to use their own discretion in determining the intent and priorities of legislators and can lead to inconsistency between regulators interpreting the same piece of legislation. Regulatory uncertainty acts as a disincentive to invest, as well as potentially increasing compliance costs.

• **Conflicting objectives**: sometimes regulations (possibly enforced by different regulators) can have objectives that are conflicting. Examples might include safety considerations, that suggest generous spacing, and environmental regulations that seek to minimise a facility’s ‘footprint’ and hence its environmental impact.
• **Overly complex regulation**: complex laws are likely to require legal interpretation and therefore compliance is more costly and more time consuming. They also make it harder to determine the expectations of regulators.

• **Excessively prescriptive regulation**: prescriptive regulation is typically more complex and onerous than objective- or performance-based regulation, is less flexible, can stifle innovation, and may not allow businesses to deliver the policy outcome at least cost.

• **Redundant regulation**: regulation may remain in force despite being overtaken by changed circumstances. While providing no benefits, such regulation will still involve compliance costs and could overlap with more recent legislation, causing regulatory confusion.

• **Regulatory creep**: regulations that influence more areas and activities than were originally intended or warranted. This can stem from the use of subordinate legislation, and regulatory guidelines.

### 3.1.2 Poor enforcement and administration

Poor enforcement and administration of regulation can arise from a number of sources:

• **Excessive reporting or recording requirements**: requirements beyond the minimum required to enforce a regulation unnecessarily increase compliance costs.

• **Inadequate resourcing of regulators (including inexperience or lack of expertise)**: can delay the time taken for approvals, and potentially lead to poor regulatory decisions. It can also prompt regulators to seek additional, and potentially spurious, information because of a lack of experience or expertise, or to circumvent statutory time limits (where such limits exist).
• **Overzealous regulation**: can increase compliance costs and represents a disincentive to investment. Inadequate resourcing of regulators can lead to problems, but over-resourcing can also, if it results in imposing excessive regulation or micro-management of regulated businesses.

• **Regulatory bias or capture**: regulators may be ‘captured’ by particular interests that they deal with on a regular basis, and therefore make decisions favourable to those interests. Such interests could include the businesses being regulated (or a particular business or businesses), or lobby groups such as environmental or community groups.

3.1.3 **Unnecessary duplication and inconsistency**

Regulatory duplication and inconsistency between jurisdictions is not inherently bad. It may stem from different circumstances between jurisdictions and, from a competitive federalism perspective, can lead to better overall outcomes. However, duplication and inconsistency can impose some costs:

• **Duplication of regulation**: the need to provide information to multiple regulators and go through multiple processes can add unnecessarily to compliance costs. The existence of multiple regulators also creates incentives for ‘forum shopping’, where participants may seek the forum in which they are most likely to obtain a favourable outcome. Further, it can create uncertainties regarding the boundaries of responsibility for each regulator. On the other hand, regulatory duplication can also be seen as a desirable outcome of intergovernmental competition.

• **Inconsistency of regulation**: regulatory inconsistencies can occur within or across jurisdictions, and increase regulatory burdens. Inconsistency is likely to present particular problems for businesses operating in multiple jurisdictions.

• **Variation in definitions and reporting requirements**: variation can occur between regulators within jurisdictions, although it is typically a more significant problem for businesses operating in multiple jurisdictions. Such variation can increase compliance costs.
3.2 What is best practice regulation?

The overarching objective of regulation should be to achieve desired outcomes more efficiently than would be achieved by alternatives, including no regulation (PC 2002). In promoting government objectives, most regulation will also impose costs. The focus of this study is on unnecessary burdens. Best practice regulation imposes the least burden necessary to achieve the underlying policy goals, bringing the greatest possible net benefit to the community.

Box 3.1 Principles of good regulatory practice

Six principles of good regulatory practice were:

- Governments should not act to address ‘problems’ through regulation unless a case for action has been clearly established. This should include evaluating and explaining why existing measures are not sufficient to deal with an issue.

- A range of feasible policy options — including self-regulatory and co-regulatory approaches — needs to be assessed within a benefit–cost framework, including analysis of compliance costs and, where relevant, risk.

- Only the option that generates the greatest net benefit for the community, taking into account all the effects, should be adopted.

- Effective guidance should be provided to regulators and regulated parties to ensure that the policy intent of the regulation is clear, as well as what is needed to be compliant.

- Mechanisms such as sunset clauses or periodic reviews need to be built in to legislation to ensure that regulation remains relevant and effective over time.

- There needs to be effective consultation with regulated parties at the key stages of regulation-making and administration.

Source: Regulation Taskforce (2006), Australia Productivity Commission
3.2.1 Good regulatory design

Good design of regulations is important to minimise unnecessary burdens on business and the community. Elements of good regulatory design relate to:
• clarifying objectives
• simplifying regulation
• reducing levels of prescription (unless this is necessary to clarify requirements or provide certainty about compliance, thereby potentially reducing unnecessary burdens)
• minimising reference to subordinate legislation
• minimising unnecessary inconsistencies between jurisdictions
• including review mechanisms
• completing regulatory impact statements (RISs)
• including sunset clauses — a sunset clause is likely to trigger a review or termination of a regulation, which may reduce unnecessary burdens.

3.2.2 Regulatory impact statements and ‘good’ process

The RIS process is designed to bring together key elements of good regulatory practice. The RIS should cover the problem or issue being dealt with, the objective of government in dealing with the issue, and a range of feasible options. There should be benefit–cost (box 3.2), impact and risk analyses for each option, together with justification for the preferred option. The RIS should also summarise the consultation process and feedback received, and address how the regulation will be implemented and what review mechanisms are in place (Regulatory Taskforce 2006).
Box 3.2  Importance of benefit-cost analysis

The use of benefit–cost analysis is an important part of the regulatory impact statement process. A proper benefit–cost analysis should account for all the effects of a regulatory proposal on the community and economy (not just direct or easily quantifiable effects). Benefit–cost analysis involves valuing the gains and losses relating to a regulatory proposal in monetary terms. Where the benefits exceed the costs, this suggests the regulatory proposal would bring net benefits to the community.

Benefit–cost analysis is an important part of the regulatory assessment process because it:

• provides decision makers with quantitative information about the likely effects of a regulatory proposal

• encourages decision makers to take account of all the positive and negative effects of a regulatory proposal, and discourages them from making decisions based only on the impact on a single group within the community

• quantifies the impact of regulatory proposals in a standard manner, thereby promoting comparability, and encouraging consistent decision making

• captures the various links between the regulatory proposal and other sectors of the economy

• helps discover cost-effective solutions to policy problems by identifying and measuring all costs

• makes clear and transparent the assumptions and judgments made in those instances where it is difficult to quantify some costs or benefits with precision

(Australian Government 2007).
Good regulatory design is important to minimise unnecessary burdens on business and the community. Unnecessary regulatory burdens can potentially arise from problems with regulations themselves, poor enforcement or administration, and unnecessary duplication and inconsistency. Best practice regulation imposes the least burden necessary to achieve the policy goals underlying the regulation, bringing the greatest possible net benefit to the community.

3.3 Costs of regulation

The major costs associated with regulation can be categorised as compliance costs (including the administrative costs to government); lobbying or ‘gaming’ costs; the costs of price distortions leading to consumption and production losses; and the related costs associated with potentially ‘lost’, delayed or suboptimal investment (figure 3.1).

3.3.1 Compliance costs

The costs of complying with (and administering) regulation are potentially significant. The compliance costs of regulation to businesses potentially include:

• management and staff time (including diversion of management attention from core business, and hiring of additional staff)
• payments to regulators
• purchase and maintenance of specially modified IT systems
• hiring of external expertise (such as consultants and lawyers)
• training costs.

The burden of these compliance costs falls initially on businesses, potentially reducing returns on investment and, therefore, possibly investment levels (in turn generating lower tax revenue). To the extent that higher costs are passed on to consumers in the form of higher prices or restricted consumer choice, the burden of increased compliance costs falls on consumers. Governments also incur significant
costs in designing and enforcing regulation. Compliance costs are minimised when good regulatory practices are followed.

### 3.3.2 Lobbying costs

A further potential inefficiency stemming from regulation — particularly when regulatory outcomes are uncertain — is the diversion of resources into lobbying activity, both by businesses seeking to invest and other interested parties. The greater the discretion given to regulators, the greater the potential for lobbying activity to be employed in an effort to influence regulatory outcomes.
3.3.3 Production and consumption losses

Regulation can potentially lead to price distortions resulting in production or consumption levels deviating from those that would occur in the absence of regulation.
3.3.4 Delays and the potential for ‘lost’ investment

The compliance costs and regulatory uncertainty associated with prospective projects can reduce investor returns and increase risk, potentially threatening their commercial viability. Delays result in out-of-pocket expenses and implicit costs associated with deferred or cancelled projects, such as forgone earnings, lost market opportunities, the costs of standby financing facilities, and the costs of the funds already invested. These losses are compounded if capital costs are rapidly increasing.

Unnecessary compliance costs and delays can act as a deterrent to the entry of small- to medium-sized businesses, which already face high barriers to entry.

3.4 References

4. **Regulatory overview**

This chapter describes the legislations governing the activities in the value chain of the oil and gas industry in Malaysia. It includes a discussion of the historical development of the existing framework and an overview of current legislative arrangements and regulators.

4.1 **Historical development of the existing framework**

Prior to 1974, the oil and gas industry in Malaysia was governed by the *Petroleum Mining Act 1966 (Act 95)*, under which, it adopted the concessions system for its upstream activities. Concessionaires which were mainly multinational corporations (MNCs) such as Shell and Exxon enjoyed exclusive rights to explore and produce resources in return for payment of royalty and taxes to the government. Other acts relevant to the oil and gas industry were the *Continental Shelf Act 1966 (Act 83)*, *Petroleum (Income Tax) Act 1967 (Act 543)* and *Petroleum Mining Rules 1968*.

Recognising the importance of having national control over the oil and gas industry, the Malaysian Government enacted the *Petroleum Development Act in 1974*, and established its national oil company, PETRONAS. The Act came into force on 1 October 1974.

*The Petroleum Development Act 1974* gives PETRONAS exclusive ownership right to the oil and gas resources in Malaysia, and makes it the main regulatory body for upstream oil and gas activities. Under *the Petroleum Development Act 1974*, upstream activities, which are exploration, development and production of resources, are carried out through the production sharing contract (PSC). MNCs which were previously concessionaires have now become contractors of PETRONAS. PETRONAS dictates the terms of the PSC. Each contract obligates the PSC Contractor to provide all the financing and bear all the risk of exploration, development and production activities in exchange for a share of the total production. PSC gives the government a better advantage compared to the previous concessions system.
PETRONAS has also adopted the risk sharing contract (RSC) approach for the development of marginal oil fields. PETRONAS retains ownership of the oil. Exploration costs borne by RSC contractors will be reimbursed upon discovery of commercial fields. RSC contractors are also entitled to a share of the profit. [1, 2]

4.2 Current legislative arrangements

The main Acts governing the oil and gas industry in Malaysia are the Petroleum Development Act 1974 and the Gas Supply Act 1993 (Act 501). [1]

The purpose of the Petroleum Development Act 1974 is to regulate the oil and gas and petrochemical industries. The act applies to all activities in the value chain of the oil and gas industry in Malaysia, except for the supply of gas through the pipelines to consumers, which is regulated by the Gas Supply Act 1993.

4.2.1 Petroleum Development Act 1974

The Petroleum Development Act 1974 is an act to provide for the exploration and exploitation of oil and gas resources by PETRONAS. PETRONAS is vested with the entire ownership in and the exclusive rights, powers, liberties and privileges in respect of the said resources, and to control the carrying on of downstream activities and development relating to oil and gas and their products (sections 2(1), 3A(1), 6(4), and 6(3) as shown in Box 4.1).

The establishment of the Petroleum Regulations 1974 (amended in 1975, 1981, and 1991) divided the upstream, and downstream activities to different entities. While PETRONAS is responsible for the planning, investment and regulation of all up-stream activities, the Ministry of International Trade and Industry (MITI) and the Ministry of Domestic Trade, Co-Operatives and Consumerism (MDTCC) are vested with powers to regulate all downstream activities. [1]
Upstream licensing

As owner of the oil and gas resources in Malaysia, PETRONAS enters into Production Sharing Contracts with other petroleum companies, which explore, develop, and produce the resources.

PETRONAS is also the regulator of all upstream activities. Section 3 of the Petroleum Regulations 1974 requires that companies intending to participate in such activities to obtain approval from PETRONAS (Box 4.2). [3]

Downstream licensing

MITI is responsible for the issuance of permits for the refining of crude petroleum, the processing of natural gas and the manufacture of petroleum products and petrochemical products from petroleum under section 6(1) of the Petroleum Development Act 1974. Permission from MITI must be obtained in order to conduct any such business in accordance with section 3A(1) of the Petroleum Regulations 1974 (Box 4.2). [4, 5]

MDTCC issues licences for the marketing and distribution of petroleum and petrochemicals products under section 6(3) of the Petroleum Development Act 1974. Section 3A(2) of the Petroleum Regulations 1974 requires one to seek permission from MDTCC for such business activity (Box 4.2). [6]

Box 4.1  Petroleum Development Act 1974

Sections 2(1) AND 3A(1)state that PETRONAS has full ownership and exclusive rights to the oil and gas resource in Malaysia, as well as powers and privileges on upstream activities

2. (1) The entire ownership in, and the exclusive rights, powers, liberties and privileges of exploring, exploiting, winning and obtaining petroleum whether onshore or offshore of Malaysia shall be vested in a Corporation to be incorporated under the Companies Act 1965 or under the law relating to incorporation of companies.

3A. (1) In addition to all the powers of the Corporation as prescribed in its memorandum and Articles of Association, the Corporation shall have the power to take over or acquire by agreement, assignment, purchase or by any other means the whole or any part of any commercial undertaking, business or enterprise of whatever form of any person or body of persons (corporate or unincorporate) and
carry out or enter into any activity, whether mentioned in this Act or not, which prior to such taking over or acquisition was carried out by, and for the purpose of, that undertaking, business or enterprise.

Sections 6(1) and 6(3) state that the downstream activities are governed by the PDA 1974, except for supply of gas through the pipelines to consumers.

6. (1) Notwithstanding the provisions of any other written law, no business of processing or refining of petroleum or manufacturing of petro-chemical products from petroleum, may be carried out by any person other than PETRONAS unless there is in respect of any such business a permission given by the Prime Minister.

(3) Subsection (1) shall apply to any business of marketing or distributing of petroleum or petro-chemical products; and any person who on the commencement of this subsection is carrying on any such business may continue to do so but shall, not later than six months from the date of commencement of this subsection, apply in writing to the Prime Minister for his permission referred to in subsection (1).

*(3A) Subsection (3) shall not apply to any person who is licensed under the Gas Supply Act 1993 [Act 501] to supply gas to consumer through pipelines.

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**Box 4.2 Petroleum Regulation 1974**

Section 3: Upstream licensing by PETRONAS

3. Application made to PETRONAS

The following applications for a licence shall be made to the President of PETRONAS:

(a) a licence to commence or continue any business or service, onshore or offshore relating to the exploration, exploitation, winning and obtaining of petroleum and, in particular involving the supply and use of rigs, derricks, ocean tankers and barges;

(b) a licence to commence or continue any business or service involving the supply of equipment and facilities and services required in connection with the exploration, exploitation, winning and obtaining of petroleum including the following:

(i) survey and exploration services;

(ii) all engineering, technical and consultancy services involved in exploration, drilling and production of crude oil and natural gas;

(iii) all engineering, construction and maintenance works connected with upstream activities;
(iv) **rigs and drilling** services;

(v) **supplies of all exploration, drilling and production materials, equipments, platforms, derricks, tools and installations, pipe and pipe-laying services, barges and tankers**;

(iv) **supply of general services** connected with upstream operations.

**Section 3A: Downstream licensing by MITI and MDTCC**

3A. Applications permission to **process or refine, to manufacture, to market or distribute petroleum or petrochemical products**.

(1) Application for permission to commence or continue any business of **processing or refining of petroleum or manufacture** of petrochemical products from petroleum under section 6(1) of the Act shall be made to the Secretary-General, **Ministry of International Trade and Industry**.

(2) Application for permission to commence or continue any business of **marketing or distributing** of petroleum or petrochemical products under section 6(3) of the Act shall be made to the Secretary-General, **Ministry of Internal Trade and Consumer Affairs**.

**4.2.2 Gas Supply Act 1993**

*The Gas Supply Act 1993* was gazetted on 4 February 1993 for the purpose of safeguarding the interest of consumers who receive the supply of gas through pipelines. Consumers are commercial and industrial outlets as well as residential.

The act provides for the licensing of the supply of gas to consumers through pipelines and related matters, the supply of gas at reasonable prices, the control of gas supply pipelines, installations and appliances with respect to matters relating to safety of persons and for purposes connected therewith (section 1(3) as shown in Box 4.3).

As such, the relevant sections in *the Petroleum Development Act 1974* pertaining to the supply of gas through pipelines have been amended to avoid duplications (section 6(3A) of the *Petroleum Development Act 1974*).

All activities related to supply of gas through pipelines are conducted in accordance with the Gas Supply Regulations 1997 which came into effect on 17 July 1997. The
Regulations describe procedures for the issuance of licences for such activities, certification and registration of competent persons to undertake relevant work, and safety measures to be observed.

The Department of Gas Supply which was formed in 1993 under the Prime Minister’s Department became the regulator for the gas distribution industry. In 2001, the Gas Supply Act 1993 was further amended to empower the Energy Commission to regulate activities related to the supply of gas through pipelines. The Department of Gas Supply had since been dissolved. [7]

Box 4.3 Gas Supply Act 1993

1. (3) This Act shall apply to the supply of gas to consumers through pipelines—
(a) downstream of the last flange of the city gate station; or
(b) from the filling connection of a storage tank or cylinder specifically used for reticulation or delivery of gas to any apparatus in any premises.

4.2.3 Petroleum (Safety Measures) Act 1984

The Petroleum (Safety Measures) Act 1984 (Act 302) is applicable to the transportation, and storage and utilisation of petroleum with regard to safety matters. Modes of transportation of petroleum prescribed by the act are water, road, railway and pipelines. The enforcement of the act is carried out by several government agencies. Sections 16 and 17 under the act, which are provisions relating to transportation of petroleum using pipelines are enforced by the Department of Occupational Safety and Health (DOSH) of the Ministry of Human Resources (MOHR). Licences for transportation and storage of petroleum are issued by the Ministry of Domestic Trade, Co-operatives and Consumerism (MDTCC). However, safety matters in the transportation of gas by pipelines for the purpose of supplying it to consumers are governed by the Gas Supply Act 1993. [8, 9]
4.2.4 Petroleum Income Tax Act 1967

The Petroleum Income Tax Act 1967 (Act 543) is another act specific to the oil and gas industry in Malaysia. It is an act to impose a tax upon income derived from petroleum operation. The Inland Revenue Board is responsible for the enforcement of the act.

4.2.5 Other regulations

The oil and gas industry is also bound by other acts at the Federal, State and Local Government levels.

Federal regulations

The upstream segment of the oil and gas industry is also regulated through the Continental Shelf Act 1966 by the Ministry of Natural Resources and Environment (MNRE). It is an act relating to the continental shelf of Malaysia, the exploration thereof and the exploitation of its natural resources such as petroleum and related matters. Related matters include those concerning the environment namely marine pollution.

The Environmental Quality Act 1974 relates to the prevention, abatement, control of pollution and enhancement of the environment, and for purposes connected therewith. Licences are required from the Department of Environment (DOE), MNRE, for activities that give rise to pollutions, such as emission of noise, emission or disposal of wastes into the atmosphere, water, or land. It is compulsory to conduct
an Environmental Impact Assessment (EIA) for any proposed project to assess its potential impact on the environment, and subsequently propose measures to control such impact. A list of Environmental Quality regulations relevant to the oil and gas industry is available in Appendix A.

The Occupational Safety and Health Act 1994 is an act to make further provisions for securing the safety, health and welfare of persons at work, for protecting others against risks to safety or health in connection with the activities of persons at work, to establish the National Council for Occupational Safety and Health, and for matters connected therewith. The Act is enforced by the Department of Occupational Safety and Health (DOSH), under the Ministry of Human Resources (MOHR). The Act is applicable throughout Malaysia to the industries specified in the first schedule. The oil and gas industry which includes the petrochemical manufacturing falls under the category. Occupational Safety and Health regulations relevant to the industry are listed in Appendix B.

The oil and gas industry must abide by the Factories and Machinery Act 1967, which provides for the control of factories with respect to matters relating to the safety, health and welfare of person therein, the registration and inspection of machinery and for matters connected therewith. Refineries, gas processing plants and petrochemical manufacturing factories must be registered with DOSH. DOSH carries out inspection, certification and registration of all machinery prior to their installation. Regulations under the Factories and Machinery Act 1967 relevant to the oil and gas industry are listed in Appendix C.

The Marine Department of the Ministry of Transport (MOT) is responsible for matters relating to the shipping industry in Malaysia in accordance with the Merchant Shipping Ordinance 1952 which regulates the registration of Malaysian ships and provides for a Malaysian international ship registry. The shipment of petroleum and petrochemical products is bound by the Cabotage policy which reserves the transportation of goods in domestic trades to Malaysian registered ships. The Domestic Shipping Licensing Board (DSLB) regulates and controls the licensing of ships engaged in domestic shipping between any ports in Malaysia.
The Land Public Transport Commission (SPAD) enforces the Land Public Transport Act 2010 in regulating all land-based public transport such as busses, taxies and trains as well as road and rail-based freight transport. SPAD issues commercial vehicle licences to prime-movers which transport petroleum products.

The Road Transport Department (RTD) under MOT is in charge of the registration and licensing of drivers and all motor vehicles and trailers and the enforcement of the Road Transport Act 1987 which provides for the regulation of motor vehicles and of traffic on roads and other related matters.

Petroleum refining, gas processing and petrochemical manufacturing companies with shareholders’ funds of RM2.5 million and above or engaging 75 or more full-time paid employees require a Manufacturing Licence from MITI under the Industrial Coordination Act 1975. The act provides for the co-ordination and orderly development of manufacturing activities in Malaysia, for the establishment of an Industrial Advisory Council and for other matters connected therewith or incidental thereto.

Petroleum products are dutiable goods which are subject to excise duty under the Excise Act 1976. Export or import of petroleum and petrochemical products are regulated through the Customs Act 1967. Both acts are enforced by the Customs Department.

Petroleum products such as petrol, diesel, kerosene and liquefied petroleum gas (LPG) are listed as controlled goods which require licensing from MDTCC for their sale under the Petroleum and Electricity (Control of Supplies) Act 1974. The act provides for the control and rationing of the supply, distribution and use of petroleum products.

The Employment Act 1955 is applicable to all employees in the Peninsular Malaysia and the Federal Territory of Labuan whose monthly wages do not exceed RM2,000 and all manual labourers irrespective of their wages. The Labour Ordinance (Sabah Cap. 67) and the Labour Ordinance (Sarawak Cap. 76) regulate the administration of labour Laws in their respective states. [8]

Under the Minimum Retirement Age Act 2012, the retirement age for oil palm plantation workers is 60. They also enjoy a minimum wage of RM900 a month in the Peninsular Malaysia and RM800 in Sabah and Sarawak under the Minimum Wages Order 2012.

Employment of foreign workers by petrol stations involves immigration procedures under the Immigration Act 1959/1963. Applications for foreign workers are submitted to the One Stop Centre, the Ministry of Home Affairs (MOHA).

The Workment’s Compensation Act 1952 provides for the payment of compensation for injuries in accidents during employment and imposes an obligation on the employers to insure workers. The Foreign Workers’ Compensation Scheme (Insurance) Order 2005 issued under the Act requires every employer employing foreign workers to insure with the panel of insurance companies appointed under this order and to effect payment of compensation for injuries sustained from accidents during and outside working hours. [8]

State regulations
Land matters in the Peninsular Malaysia are governed by Acts such as the National Land Code 1965, and Land Acquisition Act 1960 (Box 4.4). Although these are federal law, state authorities are empowered to make rules for carrying out the objects and purposes of the Act within their respective states.
Box 4.4  Land Acquisition Act 1960

Section 3 of the Land Acquisition Act 1960 provides that the State Authority may acquire any (privately owned) land which is needed:

a) For any public purpose;

b) By any person or corporation for any purpose which in the opinion of the State Authority is beneficial to the economic development of Malaysia or any part thereof or to the public generally or any class of the public; or

c) For the purpose of mining or for residential, agricultural, commercial, industrial or recreational purposes or any combination of such purposes.

In Sabah and Sarawak, the main legislations with regard to land matters are the Sabah Land Ordinance, and the Sarawak Land Code respectively.

Matters related to supply of water are also within the jurisdiction of each state government.

Local Government regulations

Local governments are generally within the administration of the respective state governments. However, the Ministry of Housing and Local Government plays a role in coordinating and standardising the practices of local governments across the country. There are currently three types of local governments; City Hall or City Council (e.g. Kuala Lumpur City Hall), Municipal Council (e.g. Batu Pahat Municipal Council), District Council (e.g. Hulu Selangor District Council). There are 149 local authorities, consisting of 12 City Halls/Councils, 39 Municipal Councils and 98 District Councils. There are other bodies empowered by state governments to execute the functions of local authority such as Kulim Hi-Tech Local Authority and Putrajaya Corporation. [10]

City Council or City Hall is a local authority which has been upgraded from municipal council status after having successfully achieved certain criteria which include the total population exceeding 500,000 people and an annual revenue exceeding RM100 million. Municipal Council is a local authority in urban or town centre which has a total population exceeding 150,000 people and an annual revenue exceeding RM20 million. District Council is a local authority in rural area. The criteria stipulated
for a District Council status is having a total population not exceeding 150,000 people and annual revenue less than RM20 million. [10]


### 4.3 Regulators and other relevant bodies

Table 4.1 shows the main regulatory bodies for oil and gas industry in Malaysia.

Table 4.1: The main regulatory bodies for oil and gas industry in Malaysia.

#### 4.3.1 PETRONAS

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<tr>
<th>VALUE CHAIN</th>
<th>UPSTREAM</th>
<th>DOWNSTREAM</th>
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<tbody>
<tr>
<td>ACTIVITY</td>
<td>exploration, development, production</td>
<td>processing of natural gas, refining of crude petroleum, manufacture of petrochemical products</td>
</tr>
<tr>
<td>REGULATOR</td>
<td>PETRONAS</td>
<td>MITI</td>
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<tr>
<td>ACT</td>
<td>Petroleum Development Act 1974 (Act 144)</td>
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<td>Gas Supply Act 1993 (Act 501)</td>
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<td>- Gas Supply Regulations 1997</td>
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</table>
4.3.1 PETRONAS

PETRONAS, the national oil company has exclusive ownership right to the oil and gas resources in Malaysia under the Petroleum Development Act 1974, and is thus vested with the power to regulate all upstream activities. PETRONAS is responsible for all licensing procedures in the upstream segment. [12, 13, 14, 15]

Exploration and production of oil and gas in Malaysia are carried out through Production Sharing Contract (PSC), whereby local and international companies are granted exploration rights by PETRONAS. Its E&P subsidiary, PETRONAS Carigali Sdn Bhd participates in PSC with a number of petroleum multinational corporations such as Shell, ExxonMobil, Murphy Oil, Talisman, Petrofac, and Newfield. [13, 14, 15]

PETRONAS Carigali Sdn Bhd has incorporated a new wholly-owned subsidiary, VESTIGO Petroleum Sdn Bhd, to focus on marginal and oil fields through Risk Sharing Contract (RSC). [16, 17]

PETRONAS dominates the midstream and downstream segments of the oil and gas industry in Malaysia. It is involved in the oil sector from refining to marketing, trading and retail operations. Its subsidiaries, PETRONAS Penapisan (Terengganu) Sdn. Bhd., and PETRONAS Penapisan (Melaka) Sdn. Bhd. operate refineries in Kerteh, Terengganu, and Sungai Udang, Melaka, respectively. [12, 13, 14]

PETRONAS involvement in the gas industry covers the whole range of activities; processing and liquefaction, transmission pipeline operations, marketing and trading. PETRONAS Gas Berhad (PGB) is responsible for the gas processing and transmission operation and wholesale activities. It owns and operates the Peninsular gas Utilisation (PGU) system that delivers gas to the power and non-poser sectors in Peninsular Malaysia as well as the power industry in Singapore. PETRONAS LNG Complex in Bintulu, Sarawak, is one of the largest LNG production facilities at a single location with a combined capacity of about 23 million tonnes per annum. [1, 12, 13, 14, 15]
PETRONAS has also ventured into the petrochemical industry, partnering with foreign multinational companies, BASF, BP Chemicals, Eastman Chemical, Idemitsu Petrochemical, Mitsui, DSM and Dow Chemical Company. PETRONAS has contributed significantly to the development of support infrastructure, dedicated utilities and services to the petrochemical zones in Kerteh, Terengganu and Gebeng, Pahang, where there are ethylene-based and propylene-based petrochemical plants respectively. [18]

PETRONAS shipping subsidiary, MISC Berhad, provides transport and logistics support for its petroleum and LNG business in the international markets, while its wholly owned subsidiary, MISC Integrated Logistics Sdn Bhd (MILS) serves the upstream and downstream logistics requirements of PETRONAS and the global energy industry. [1, 14, 19]

The marketing of liquefied petroleum gas (LPG) and other petroleum products are undertaken by its subsidiary, PETRONAS Trading Corporation Sdn Bhd’s LPG & Petroleum Products Group. These activities include the trading of LPG and petroleum products, supplying LPG and petroleum products to meet domestic requirements and PETRONAS overseas marketing ventures, and marketing of LPG and petroleum products produced by PETRONAS gas-processing plants and refineries.[20]

PETRONAS Dagangan Bhd is the subsidiary responsible for PETRONAS domestic retailing business. Currently PETRONAS has over 1000 petrol stations in the country. PETRONAS operates the only Natural Gas for vehicles (NGV) service stations in Malaysia. [12, 21]

4.3.2 MITI

Established in April 1956, it was then known as the Ministry of Commerce. It was renamed the Ministry of Trade and Industry in February 1972. In October 1990, the ministry was separated into two ministries; the Ministry of International Trade and Industry (MITI), and the Ministry of Domestic Trade and Consumer Affairs (MDTCA). [22]
MITI's main functions include planning, formulating and implementing policies on industrial development, international trade and investments, encouraging foreign and domestic investment, as well as promoting exports of manufacturing products and services.

Agencies under MITI are the Malaysian Industrial Development Authority (MIDA), Malaysian Industrial Development Finance (MIDF), Malaysia External Trade Development Corporation (MATRADE), Malaysia Productivity Corporation (MPC) and Small and Medium Industries Development Corporation (SMIDEC).

MIDA is responsible for the evaluation of applications for permits for the refining of crude petroleum, processing of natural gas and the manufacture of petroleum products and petrochemical products from petroleum. Approval of licences for the manufacture of petroleum products and petrochemical product is also under the purview of MIDA. [5]

MIDA is the government's principal agency for the promotion of the manufacturing and services sectors in Malaysia. MIDA evaluates applications for licenses, tax incentives, expatriate posts, and duty exemptions on raw materials, components, machinery and equipment for projects in the manufacturing and related services sectors. MIDA assists companies which intend to invest in the manufacturing and services sectors, as well as facilitates the implementation of their projects. To further enhance MIDA's role in assisting investors, senior representatives from key government agencies are stationed at MIDA's headquarters in Kuala Lumpur to advise investors on government policies and procedures. These representatives include officials from the Department of Labour, Immigration Department, Royal Malaysian Customs, Department of Environment, Tenaga Nasional Berhad and Telekom Malaysia Berhad. [23]
4.3.3 MDTCC

The ministry was established in October 1990 as the Ministry of Domestic Trade, Cooperative and Consumer Affairs (MDTCA) with the purpose of promoting the growth of ethical domestic trade and protecting the interest of consumers. In 2009, the ministry was renamed the Ministry of Domestic Trade, Co-Operatives and Consumerism (MDTCC). The roles and functions of the ministry were expanded to cover the franchise and co-operatives sectors. MDTCC formulates policies, strategies and reviews matters related to the development of domestic trade and consumerism. [24]

In the petroleum and petrochemical industry, the ministry co-ordinates policies, regulations and activities related to the safety of the industry, and issues licenses for the sale and distribution of the products. [6, 25]

In domestic trade, the ministry is responsible for determining and monitoring the prices of essential goods and the issuance of licences for the sale and distribution of such goods. The ministry issues licenses for direct selling trade, and implements regulations on metric weight and measures, regulates matters pertaining to companies and businesses based on related acts. The ministry is also responsible for developing and administering the intellectual property protection system. It is the ministry’s role to encourage good corporate governance practices.

In matters concerning consumerism, the ministry carries out consumer education programmes, enhances programmes on consumer awareness and consumer protection, and encourages and assists consumer movements.

4.3.4 The Energy Commission

The Energy Commission of Malaysia (EC) was established in May 2001 under the Energy Commission Act 2001 as a new regulator for the energy industry particularly the electricity supply and piped gas supply industries in Peninsular Malaysia and Sabah. The Commission became fully operational in January 2002 and assumed all responsibilities of the Department of Electricity and Gas Supply that was dissolved at
the same time. The Commission was established to ensure that the energy industry is developed in an efficient manner so that Malaysia is ready to meet the new challenges of globalization and liberalization, particularly in the energy supply industry. [26]


The main roles and responsibilities of the Energy Commission are economic regulations, tariff, technical regulation, safety regulation and consumer protection. Economic regulation promotes efficiency and economy in the generation, production, transmission, distribution, supply and the use of electricity and in the supply and use of gas through pipelines; promotes and safeguards competition; enables fair and efficient market conduct or, in the absence of a competitive market, prevents the misuse of monopoly or market power in the electricity and piped gas industries. It also includes licensing, enforcement of license conditions for licensee and application providers and ensuring compliance to rules and performance/service quality.

The Commission ensures that the supply of electricity and piped gas to consumers is secure, reliable, safe and reflects fair pricing. The Commission serves to protect the public from dangers arising from the generation, transmission, distribution and supply and use of electricity and the supply and use of piped gas.

The Commission ensures that consumers are protected in areas such as dispute resolution, affordability of services as well as quality supply and services from electricity and piped gas utilities.

### 4.4 Impact of regulations on value chain

All activities across the value chain of the oil and gas industry are governed by various acts at federal, state and local government levels. Permissions and licences
must be obtained from relevant regulators for businesses related to the industry.

Regulations for activities across the value chain of the oil, gas and petrochemical industries are shown in Tables 4.2, 4.3, 4.4, 4.5 respectively.

Table 4.2: Regulations for upstream activities in oil and gas industry

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Town and Country Planning Act 1976 (Act 172)

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**Environmental Quality Act 1974**

**Environmental Quality Act (Scheduled Wastes) Regulations 2005**

**Immigration Act 1959**

**Employment Act 1955**

**Minimum Retirement Age Act 2012**

**Minimum Wages Order 2012**

**Workmen’s Compensation Act 1952**

**REFINEMENT**

construction of refinery refining activity wastes management labour/workforce

| Petroleum Development Act 1974 (Act 144) |
| Petroleum Regulations 1974 |
| Industrial Co-ordination Act 1975 (Act 156) |
| Environmental Quality Act 1974 (Act 127) |
| Environmental Quality Act (Scheduled Wastes) Regulations 2005 |
| Occupational Safety and Health Act 1993 (Act 514) |

**National Land Code 1965**

**Local Government Act 1976 (Act 171)**

**Town and Country Planning Act 1976 (Act 172)**

**The Street, Drainage and Building Act 1974 (Act 133)**
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(Utility of Equipment/Appliances) Regulations
(Storage and Handling of Petroleum) Regulations |
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Table 4.4: Regulations for downstream activities in gas industry

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| wastes management | Environmental Quality Act (Scheduled Wastes) Regulations 2005 | | |</p>
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| SUPPLY OF GAS TO CUSTOMERS THROUGH PIPELINES | Gas Supply Act 1993 (Act 501) |
|                                             | Environmental Quality Act 1974 (Act 127) |
|                                             | Immigration Act 1959 |
|                                             | Employment Act 1955 |
|                                             | Minimum Retirement Age Act 2012 |
|                                             | Minimum Wages Order 2012 |
|                                             | Workmen’s Compensation Act 1952 |

|                           | National Land Code 1965 |
|                           | Local Government Act 1976 (Act 171) |
|                           | Town and Country Planning Act 1976 (Act 172) |
|                           | The Street, Drainage and Building Act 1974 (Act 133) |
**MARKETING, TRADING, DISTRIBUTION**

- Wholesale marketing of petroleum products
  - Natural gas
  - Liquid petroleum gas (LPG)
  - Natural gas liquid
  - Natural gas for vehicles (NGV)
- Retail sale of refined petroleum products
  - Retail sale of LPG in cylinders
  - Retail sale of natural gas for vehicles (NGV) at petrol stations

**labour/workforce**

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**Table 4.5: Regulations in petrochemicals industry**

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<tr>
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<td>The Street, Drainage and Building Act 1974 (Act 133)</td>
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<td>storage and handling of feedstock</td>
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<td>(Utilization of Equipment/Appliances) Regulations</td>
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<td>transportation of petrochemicals products by road</td>
<td>(Transportation of Petroleum by Road) Regulations</td>
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<td>transportation of petrochemicals products by rail</td>
<td>(Transportation of Petroleum by Railway) Regulations</td>
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5. **Unnecessary regulatory burdens on petrochemicals manufacturers**

5.1 **Certificate of Fitness**

A petrochemicals manufacturer has to obtain Certificate of Fitness (CF) for their machinery and plants from DOSH. The Factories And Machinery (Notification, Certificate Of Fitness And Inspection) Regulations, 1970 states such requirements:

- Part I - Notification of operation of factory, use of machinery, accidents and industrial diseases
- Part II - Certificate of fitness
- Part III - Inspection
- Part IV - Inspection fees

The CF is valid for 15 months and must be renewed. Application for an extension of CF is a two stage approval process. DOSH guidelines require that petrochemicals manufacturers apply for an extension six months prior to the expiry of the existing CF. The application has to be made at the state DOSH office.

The state DOSH officers carry out inspection at the site to verify the current integrity of equipment as claimed in the report submitted by petrochemicals manufacturers as part of the justification for the application. Once the inspection report is prepared, the application is sent to DOSH headquarter in Putrajaya.

DOSH Putrajaya will review the report, and if necessary, carry out inspection at the site. The report is then submitted to the Director of Major Hazard Division for endorsement prior to approval by the Director General of DOSH. The state DOSH then issues the CF to the petrochemicals manufacturer.
Box 5.1

The Factories and Machinery (Notification, Certificate of Fitness And Inspection) Regulations, 1970

**Regulation 10. Machinery requiring certificate of fitness.**

(1) The owner of every steam boiler, unfired pressure vessel or hoisting machine other than a hoisting machine driven by manual power shall hold a valid certificate of fitness in respect thereof so long as such machinery remains in service.

(2) A certificate of fitness for every steam boiler, unfired pressure vessel and hoisting machine shall be as Forms A, B and C in the Sixth Schedule to these regulations.

(3) The period of validity of every certificate of fitness shall ordinarily be fifteen calendar months from the date of inspection or such longer period not exceeding three years as the Chief Inspector in his discretion may consider appropriate:

Provided where any steam boiler, unfired pressure vessel or hoisting machine is out of service for a long period immediately subsequent to an inspection by reason of dismantling or repair of any defect the Inspector may issue a certificate effective from the date when such machinery is replaced in service.

(4) Where the components of any combination of unfired pressure vessel, hoisting machine are so interconnected that it would be unreasonable to issue certificates of fitness for each component the Chief Inspector may direct that one certificate of fitness be issued to cover the combination of components.

(5) The certificate shall be in the form prescribed for that component of the combination which, in the opinion of the Chief Inspector, is the most appropriate and the inspection fee shall be charged accordingly.

**Regulation 25. Issue of certificate of fitness.**

Following the inspection of every steam boiler, unfired pressure vessel and hoisting machine other than a hoisting machine driven by manual power and on payment of the prescribed fee the Inspector shall where he is satisfied that such machinery complies with the provisions of the Act and the regulations relating thereto, issue the appropriate certificate of fitness:

Provided that where any steam boiler, unfired pressure vessel or hoisting machine is out of service for a prolonged period immediately subsequent to an inspection by reason of dismantling or repair of any defect, the Inspector may issue a certificate operative from the date when such machinery is replaced in service.
Regulation 27. Machinery or factory not complying with the Regulations.

Pursuant to sub-section (3) of section 39 and sub-section (4) of section 40 of the Act where the Inspector is of the opinion that such factory or machinery does not comply with any of the provisions of the Act or any regulations made thereunder, he shall issue to the occupier or owner a notice as Form A in the Eighth Schedule to these regulations requiring him to make good or remove any defect or otherwise cause the factory or machinery to comply with such requirements of the Act or any regulations made thereunder within such period as he shall specify therein:

Provided that where the defect is, in his opinion, likely to cause immediate danger to life or property he shall issue to the owner or occupier a notice to cease operation forthwith as Form A in the Eight Schedule to these regulations.

Regulation 28. Machinery operated without certificate.

Where an Inspector finds that there is no current certificate of fitness in respect of any machinery for which a certificate of fitness is prescribed, he shall give a notice in pursuance to section 19 (2) of the Act prohibiting the use of such machinery to the owner. Such notice shall be in Form B in the Eighth Schedule to these regulations.

5.1.1 Issues

Poor administration of the regulations proved to be burdensome to business. There is sometimes delay in approving the application for an extension of CF even though they comply with the application requirements.

The overall process from the submission of application to the approval by the highest authority may sometimes take longer than 6 months.

5.1.2 The objective of Certificate of Fitness

The main objective of the regulation is to ensure that the workplace is safe for workers in accordance with the Factories and Machinery Act 1967.

5.1.3 What are the impacts of these regulatory arrangements?

The main implication of the delay in the issuance of CF to business is that there is a period when the petrochemicals manufacturing plant is forced to continue its
operation without a CF. This is a serious concern as it has a direct impact on insurance coverage especially in cases of fire or fatal accidents.

5.1.4 Options to resolve the issues

The following options are put forward to resolve the issue of delay in the issuance of CF

1. Maintain the current approval process

2. DOSH review and re-engineer its entire process in issuing Certificates of Fitness to speed up the process. The implementation of the Special Scheme of Inspection (SSI) will help address this issue. The provision for SSI is already incorporated into the *Factories and Machinery Act 1967* (Section 40 (5)) (Box 5.2) and has been recently approved by the Ministry of Human resources (MOHR).

3. Smart collaboration between petrochemicals manufacturers and DOSH to simplify and speed up the process without sacrificing safety issues. Regular meetings between them could be held to solve issues related to both parties with regard to issuance of CF.

4. Designating a competent staff of the petrochemicals manufacturer as the representative of DOSH at the plant is another possibility that could be considered.

5. DOSH could establish a database on petrochemical manufacturers as reference material for its officers.

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**Box 5.2**

*The Factories and Machinery Act 1967 (Revised-1974)*

"special scheme of inspection" means an inspection system approved by the Chief Inspector pertaining to periodical inspections for certain classes of machinery and its auxiliary;
Section 40. Periodical inspections

(5) Any factory owner or occupier may apply to the Chief Inspector for approval for a special scheme of inspection.

(6) The Chief Inspector may approve the application under subsection (5) if he is satisfied that the prescribed requirements in respect of the machinery in question in relation to the special scheme of inspection have been fulfilled.

(7) Upon the approval under subsection (6), the inspection of the machinery shall be conducted according to the special scheme of inspection.

5.1.5 Recommendations

Option 2 would result in shorter and less frequent shutdowns, reducing costs related to direct inspection as well as costs due to loss of production.
5.2 DOSH inspection

Part III of the Factories And Machinery (Notification, Certificate Of Fitness And Inspection) Regulations, 1970, requires inspections of petrochemicals manufacturing facilities by DOSH officers. DOSH carries out an initial inspection of the petrochemicals manufacturing facilities. This is followed by inspections at regular intervals so long as the plant remains in operation.

Box 5.3 The Factories And Machinery (Notification, Certificate of Fitness and Inspection) Regulations, 1970: Part III- Inspection

Regulation 13. Initial inspection.
An initial inspection of every factory or machinery shall be conducted by an Inspector.

Regulation 14. Regular inspection.

(1) After an initial inspection every factory and every machinery shall be inspected at regular intervals by an Inspector so long as such factory remains in operation or such machinery remains in use.

(2) The regular interval shall ordinarily be fifteen months subject to such extension not exceeding thirty-six months in any particular case as may be authorised by the Chief Inspector in his discretion, and the regular inspection shall ordinarily be carried out during the fifteen months following the month in which the last inspection was made or where the interval has been extended by the Chief Inspector during the month following the expiry of the extended interval.

Regulation 17. Preparation for regular inspection.
The occupier of any factory or owner of any machinery, if not the occupier, shall upon receipt of a notice of intended regular inspection ensure at the due date that such factory or machinery is prepared for inspection in accordance with the following:

(a) In respect of any steam boiler-

   (i) that such steam boiler including any economiser and superheater connected thereto is empty, cool and dry and has been thoroughly cleaned inside and outside;

   (ii) that all firebars and firebridges have been removed;

   (iii) that all smoke-tubes, exterior of water-tubes, furnaces, smoke-boxes an external flues have been thoroughly cleaned;

   (iv) that all manhole, handhole and sighthole doors and cleaning plugs have been removed;
(v) that all caps in the headers and mud-drums of water-tube steam boilers have been removed;

(vi) that all cocks and valves have been dismantled, cleaned and ground where necessary;

(vii) that the steam boiler has been effectively disconnected from any other steam boiler and source of steam or hot water in the manner prescribed therefor; and

(viii) that any special requirements which the Inspector may have specified, in writing on the notice of inspection have been complied with. Such special requirements may be in respect of the drilling of any plates, the removal of any lagging, brick-work or masonry, the preparations for a hydrostatic test of the steam boiler, or its mountings and associated piping, the withdrawal of tubes, the verification of the pressure gauge, and the dismantling for inspection of any part of any associated steam engine.

(b) In respect of any unfired pressure vessel, that the preparations as for steam boilers and contained in sub-paragraphs (i), (iv), (vi), (vii) and (viii) of paragraph (a) of this regulation are complied with so far as is appropriate.

(c) In respect of any hoisting machine, that arrangements have been made to enable such hoisting machine to be tested under conditions of maximum safe working load and so as to cause all safety devices to function.

(d) In respect of any other machinery, that arrangements have been made, so far as practicable, to operate any driven machinery under maximum load and to have all safety devices in proper working order.

(e) In respect of factory premises that arrangements have been made, so far as practicable, to have such premises clean and tidy, and have a readiness all such means and appliances for safe access, as requested by an Inspector, as to facilitate good and proper inspection in accordance with the provisions of the Act and the appropriate regulations made thereunder.

Regulation 19. Supplementary inspection- steam boilers and unfired pressure vessels.

(1) In addition to the initial and regular inspection prescribed an Inspector shall make a supplementary inspection of every steam boiler and unfired pressure vessel within a period of three months subsequent to the date of the initial and of every regular inspection, except that in the case of any unfired pressure vessel not under pressure of steam such supplementary inspection may be made as and when the Chief Inspector may direct.

(2) The owner of every steam boiler or unfired pressure vessel shall ensure, during any supplementary inspection, that conditions of maximum working pressure are maintained.

(3) An Inspector shall give reasonable notice to an owner, in writing, of his intention to make a supplementary inspection, in Form B set out in the Seventh Schedule to these regulations.

(4) No fee shall be charged for a supplementary inspection.
5.2.1 Issues

Manufacturers complain that there is poor enforcement and administration of regulations due to inadequate and inexperienced resources of regulators. There are only ten state DOSH officers who are certified to carry out inspection of manufacturing facilities. These same officers also carry out inspection of all manufacturing plants and industrial workplaces in the state.

Businesses also complain of high turnover of DOSH officers. New officers are usually inexperienced, which is a matter of concern.

5.2.2 The objective of DOSH inspection

The main objective of the regulation is to ensure that the workplace is safe for workers in accordance with the *Factories and Machinery Act 1967*.

5.2.3 What are the impacts of these regulatory arrangements?

Inexperienced officers and inadequate resources contribute to poor quality of inspection which may affect the safety of workplace and hence the safety of workers and others.

5.2.4 Options to resolve the issues

The following options are recommended as solutions for the issue of DOSH inspection

1. DOSH studies the needs and workloads of its workforce

2. DOSH adopts risk-based inspections, the Special Scheme of Inspection (SSI) so that only high risk business facilities and machinery receive the frequent and stringent inspections. The provision for SSI is already incorporated into the *Factories and Machinery Act 1967* (Section 40 (5)) (Box 5.2) and has recently been approved by the Ministry of Human Resources (MOHR).
3. DOSH improves inspection and technical competencies of its workforce through qualifications, training and continuous learning programme.

5.2.5 Recommendations

Option 2 would provide the basis for allocating inspection resources by prioritising inspections so that potentially high risk areas undergo more effective and more comprehensive inspection, while low risk areas are inspected accordingly. The overall cost of inspection would also be reduced.

Option 3 would ensure that inspection resources are competent to carry out their duties.
5.3 Authorised Gas Tester

The Industry Code Of Practice For Safe Working In A Confined Space 2010 was issued by DOSH. The governing act is the Occupational Safety and Health Act 1994. The main objective of the industry code is to provide guidance for the safety and health of all persons who need to enter or work in confined spaces.

Box 5.4 Industry Code of Practice

“This industry code of practice is intended to provide guidance for the safety and health of all persons who need to enter or work in confined spaces by preventing exposure to hazards which may otherwise be experienced when working in a confined space, and thereby prevent collapse, injury, illness or death arising from exposure to those hazards.”

This industry code of practice shall apply to works in a confined space.

- This industry code of practice shall not apply to underground mining or works in a space at other than atmospheric pressure.
- For the purpose of this industry code of practice, a person whose head or upper body is within a confined space is considered to have entered the confined space

‘Confined space’ is defined as an enclosed or partially enclosed space that is at atmospheric pressure during occupancy and is not intended or designed primarily as a place of work, and

a) is liable at any time to –

(i) have an atmosphere which contains potentially harmful levels of
contaminants;
(ii) have an oxygen deficiency or excess; or
(iii) cause engulfment; and
b) could have restricted means for entry and exit.

The following are some examples of confined spaces –
   a) storage tanks, tankers, boilers, silos and other tank like compartment usually
      having a manhole for entry;
   b) open-topped spaces such as pits or degreasers;
   c) pipes, sewers, tunnels, shafts, ducts and similar structures; and
   d) any shipboard spaces entered through a small manhole, cargo tanks, cellular
      double bottom tanks, duct keels, ballasts and oil tanks.

The following are some examples of the activities in a confined space –
   a) cleaning of sludge and other waste materials;
   b) inspection of the physical integrity of process equipment;
   c) maintenance, including abrasive blasting and application of surface coatings;
   d) repair, including welding, modification and adjustments to mechanical
      equipment;
   e) rescue of workers who are injured or overcome inside the confined space; and
   f) construction purposes;

According to the industry code of practice, workers working in a confined space need
to undergo a training programme on “safe working in a confined space” and pass an
examination before they are allowed to work in the area. Currently the training
programme is provided either by the National Institute of Occupational Safety and
Health (NIOSH) or approved training providers.

Authorised Gas Testers are competent persons who carry out atmosphere tests for
confined space. As such, they have to attend the training programme and pass the
examination. In addition, they must also be registered as a Competent Person with
DOSH. Authorised Gas Testers have to undergo a refresher course every two years
using the module approved by the Director General of DOSH.
Box 5.5  **Training’s objectives and admission requirements**

*Authorised Gas Tester And Entry Supervisor*

1. **Objectives**

   *The test is conducted to test the candidate’s level of understanding of working in a confined space, understand the methods of the correct use of breathing apparatus and be able to test gas.*

2. **Admission.**

   a. Must be able to read and write in Malay or English language; and

   b. Has attended Authorised Entrant and Standby Person courses conducted by NIOSH or other training provider recognized by DOSH and passed the prescribed examination (conducted by NIOSH); and

   c. Has attended Authorised Gas Tester and Entry Supervisor courses conducted by NIOSH or other training provider recognized by DOSH; and

   d. Have at least SPM or equivalent qualifications and credits in science or at least a grade C in science subjects; and

   e. Have at least 5 years work experience related to the confined space

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**5.3.1 Issues**

Prior to the introduction of the industry code of practice in 2010, experienced staff could be enrolled into the training programme conducted by NIOSH to become an Authorised Gas Tester. However the new requirement imposes a minimum grade C for science in Sijil Pelajaran Malaysia (SPM) on existing and potential Authorised Gas Testers.
5.3.2 The objective of these regulatory arrangements

It is likely that the requirement of grade C for science in SPM is to ensure that the personnel have the appropriate intelligence and sufficient basic knowledge to deal with gas works.

5.3.3 What are the impacts of these regulatory arrangements?

Experienced Authorised Gas Testers, who do not possess SPM grade C for science subject, are no longer allowed to carry out the job. It is not only a waste of resources but also a burden on businesses as they have to hire new staff and send them for training. In the meantime they have to redeploy the existing Gas Testers. This results in the increase in the operational cost of doing business.

5.3.4 Options to resolve the issues

The following options are suggested as means to resolve the issue of Authorised Gas Tester

1. DOSH studies on the new requirement of SPM grade C for Science existing Authorised Gas Testers. One suggestion is to incorporate a study on the correlation between the occurrence of accidents and Authorised Gas Testers without grade C in the science subject.

2. DOSH allows those without grade C in Science but have passed the examination to continue work as Authorised Gas Testers.

3. Maintain the current practice

5.3.5 Recommendations

Option 2 is recommended as it is more practical to implement and ensure fairness to those who have passed the examination prior to this new regulation.
5.4 Person in charge

The Factories And Machinery (Person-In-Charge) Regulation 1970 requires that a competent person be in charge of machinery.

Box 5.6 The Factories And Machinery (Person-In-Charge) Regulation 1970

Part I - machinery required to be in charge of persons holdings certificates of competency

Regulation 3. Machinery requiring certificated person in charge. Pursuant to section 29 (2) of the Act, a person in charge of any steam boiler, steam engine, internal combustion engine or dredge shall, except as provided hereafter, hold an appropriate certificate of competency prescribed by these Regulations.

Regulation 5. Steam boilers and engines not a dredge.

(1) This regulation shall apply to steam boilers and steam engines not installed on a dredge and in this regulation-
"driver" means the holder of a driver's certificate of competency for steam boilers and steam engines;
"engineer" means the holder of an engineer's certificate of competency for steam boilers and steam engines;
"heating surface" means, in respect of any steam boiler, the total surface of all plates and tubes exposed to heat on one side and in contact with water on the other, measured on the water or fire side, whichever is the greater, and excluding the heating surface of any economiser and super heater connected thereto;
"visiting engineer" means the holder of an engineer's certificate of competency for steam boilers and steam engines who is employed by an owner to make periodical visits to and inspections of, his machinery.

(2) (i) Where the heating surface of a steam boiler, or the aggregate heating surface of steam boilers connected to a common range, is five hundred square feet or less, a first or second grade driver shall be in charge of such boiler or boilers during each shift; and
(ii) Where more than one steam boiler is connected to a common range or there is more than one associated steam engine, the driver in charge shall be assisted during each shift by other first or second grade drivers sufficient to ensure that including the driver in charge there shall not be more than two steam boilers or two steam engines or one combined steam boiler and steam engine to each driver.

(3) Where the heating surface of a steam boiler, or the aggregate heating surface of steam boilers connected to a common range, is greater than five hundred square feet but not greater than two thousand square feet, a first grade driver shall be in charge of such boiler or boilers during each shift, and the provisions of paragraph (2) (ii) shall apply.

(4) Where the heating surface of a steam boiler, or the aggregate heating surface of steam boilers connected to a common range is greater than two thousand square feet but not greater than five thousand square feet, a first grade driver shall be in charge of such boiler or boilers during each shift, and the provisions of paragraph (2) (ii) shall apply. In addition the owner shall employ a first or second grade visiting engineer who shall comply with the provisions of regulations 10, 11 and 12.

(5) (i) Where the heating surface of a steam boiler or the aggregate heating surface of steam boilers connected to a common range, is greater than five thousand square feet but not greater than ten thousand square feet, a first or second grade engineer shall be in charge of such boiler or boilers; and

(ii) where more than one steam boiler is connected to a common range or there is more than one associated steam engine, the engineer in charge shall be assisted during each shift by such first grade drivers as shall be sufficient to ensure that there shall not be more than two steam boilers or two steam engines or one combined steam boiler and steam engine to each driver.
5.4.1 Issues

The Factories And Machinery (Person-In-Charge) Regulation 1970 unnecessarily constrains how companies use their competent persons. For example, it specifically indicates that competent persons carry out specific roles based on specific heating surface of and quantity of steam boilers.

Some big companies have several petrochemicals manufacturing set ups. Instead of having a specific team of staff for each set up, they want to use the same people as a support services unit to a number of manufacturing set ups and thus reduce costs.

Furthermore, with the advance in technology, managing the performance of the petrochemical facilities and machinery can be conducted with fewer people.

5.4.2 The objective of person in charge

The main objective of the regulation is to guarantee a safe working environment by ensuring that business has adequate number of competent persons to manage the facilities and machinery, and thus ensure safety.

5.4.3 What are the impacts of these regulatory arrangements?

The regulatory arrangements constrain business from reducing the cost of business. Business wants to employ proven techniques in managing their facilities and machinery to both ensure safety and maintain their competitiveness.

5.4.4 Options to resolve the issues

The following options are recommended as means to resolve the issue of person in-charge

1. DOSH studies the regulation with regard to the requirement of specific competent persons for each manufacturing set-up by taking into consideration "performance-based" and/or “risk-based approach”.
2. DOSH carries out comparative studies with the objective of determining best practices.

3. DOSH allow companies to apply for an exemption from the requirement on a competent person.

5.4.5 Recommendations

DOSH has confirmed that there is already a provision for Option 3. It is suggested that DOSH communicate the option to companies and provide a clear guideline on how companies can qualify and apply for such exemption.
6. Unnecessary regulatory burdens on petrol service stations

6.1 Quota of foreign workers

There are about 3291 petrol stations operating throughout the country. Depending on the size, petrol stations employ between 10-30 workers. Working at petrol stations is not just about manning the gas pump. In fact, most petrol stations in Malaysia practise self-service policy where motorists refuel their own vehicles. Apart from dedicated personnel at the payment counter and the NGV station, there are merchandising, toilet and general cleaning duties and maintenance work. As petrol stations are open everyday for twenty-four hours, the workers work on three eight-hour shifts.

Petrol stations in Malaysia have problems with hiring staff and experience a very high turn over of employees. There are more temporary than permanent staff. Temporary staff are usually students waiting for their SPM results and those on semester break. They are only available at certain times and only for short periods of at most a few months. Even permanent staff regard working at petrol stations as a stepping stone to something better.

The high turn over of staff causes administrative problems especially with regard to the Employee Providence Funds (EPF), the Social Security (SOCSO), the Income Tax Department (LHDN). As part of the employment requirement, they must be notified of any new hiring or termination.

Petrol station operators have resorted to hiring foreign workers, as it is difficult to attract local job seekers. Foreign workers are hired on a five year contract which is renewable. This solves the issue of high staff turn over.
6.1.1 Issues

Petrol station operators are in the dark over the quota of foreign workers. They are unclear how many foreign workers they can hire at one time and why some stations can hire more than others. There is no clear statement or guideline from the Labour Department (JKTSM) on the number of foreign workers for petrol service stations.

Few locals consider working at petrol stations on permanent basis. They do not find the renumeration very attractive even with the recently implemented minimum wage of RM900 in Peninsular Malaysia and RM800 in Sabah and Sarawak. They find the jobs rather physically taxing as they must be on their feet at all times. They are also selective in their duties preferring to work indoor as cashiers or supervisors. Petrol station operators have to depend on foreign workers to take up cleaning and maintenance duties and out door jobs such as manning the NGV station.

6.1.2 The objective of quota on foreign worker intake

Petrol station operators are encouraged to employ local workers. Therefore, imposing a quota on hiring foreign workers means job opportunity for local workers.

6.1.3 What are the impacts of these regulatory arrangements?

Petrol stations experience shortage of workers and have to make do with temporary staff. This is a burden to business since they have to continuously train new employees. Furthermore, the situation does not provide operational stability for the business.

6.1.4 Options to resolve the issues

1. Petrol station operators propose that the number of foreign workers be increased to at least 50% of the total workforce in order to provide stability to their daily operation.

2. Petrol service station operators also require a clear guideline from JKTSM on hiring foreign workers.
6.1.5 Recommendations

It is recommended that the Labour Department (JKTSM) look into the matter and issue a guideline on hiring foreign workers for petrol stations.
6.2 Operational licence for controlled goods

Approval for operating a petrol station is under the purview of the Ministry of Domestic Trade, Co-operatives and Consumerism (MDTCC) as stated in section 3A (2) of the Petroleum Regulations 1974.

Petrol station operators must also apply for a retail licence of controlled goods from MDTCC for selling petrol fuel; RON 95, RON 97 and diesel fuel as these items are declared controlled goods under the Petroleum and Electricity (Control of Supplies) Act 1974.

Most petrol stations in Malaysia operate convenience stores that sell items which may include controlled goods declared under the Control of supplies Act 1961 and Supplies Control Rules & Regulations, such as sugar, all purpose flour, and cooking oil. A single composite licence obtained from MDTCC allows the sale of petrol fuel and diesel fuel and any or several of these goods.

6.2.1 Issues

Rice is another controlled item sold at petrol station convenience stores but the retail licence must be obtained from the Ministry of Agriculture (MOA) rather than MDTCC.

6.2.2 The objective of retail licence for rice

The main objective for requiring retailers to obtain a licence to sell rice is to enable MOA to regulate the marketing of rice in accordance with the Control of Padi and Rice Act 1994.

6.2.3 What are the impacts of these regulatory arrangements?

Applying for retail licences from two different ministries is considered duplication of regulations. This causes inconvenience and unnecessary paperwork to petrol station operators.
6.2.4 Options to resolve the issues

1. The sale of rice is included in the composite licence issued by MDTCC.

2. Since petrol station operators are managed by the principal oil companies such as Petronas and Shell, MOA could award licences to sell rice to the principal companies instead of individual petrol stations.

6.2.5 Recommendations

The second option is preferred as it reduces tremendously the effort of managing the licensing.
6.3 Subsidised diesel management

Diesel is a subsidised item for vehicle consumption. Currently consumers pay RM2.00 per litre of diesel, while the Government tops up the difference between the market price and the consumer paying price. The Government spends about RM 24.8 billion in fuel subsidies annually. The majority of subsidies is for diesel rather than for RON 95. Currently the Government is subsidising RM0.80 for each litre of diesel.

6.3.1 Issues

MDTCC allocates a monthly quota of subsidised diesel to each oil company based on projected sales. The quota is divided among stations under the oil company based on their projected sale for that month. Each dealer must manage the sale of subsidised diesel to ensure that it is within the limit of the allocated quota. The dealer must also write an appeal to MDTCC via the oil company if the allocated quota is less than the projected sale of that month.

6.3.2 The objective of monthly quota of subsidised diesel

The reason for the quota allocation is to regulate and prevent abuse of subsidised diesel by consumers. Examples of such consumers are factories which are not eligible for subsidised diesel, those who buy diesel in unapproved containers and motorists who modified the fuel tanks of their vehicles to accommodate larger volume of diesel.

6.3.3 What are the impacts of these regulatory arrangements?

The current approach to regulating subsidised diesel is overzealous and not practical. Writing monthly appeals to MDTCC adds paperwork to petrol station dealers.

It must also be difficult for MDTCC to deal efficiently with the monthly written appeals from the many petrol stations as there are over 3000 petrol stations in Malaysia.
Petrol stations risk running out of subsidised diesel should MDTCC reject the appeal or give delayed response, as is often the case. This results in the affected dealer being heavily penalised by the principal oil company.

The logistics industry will be most affected in cases of diesel shortage (dry tank) at petrol stations. Trailers, and other logistics transports won’t be able to reach their destinations on schedule. This will lead to huge losses to the businesses that depend on the logistics industry. Ultimately, the country’s economy will suffer.

6.3.4 Options to resolve the issues

1. Maintain the current practice

2. MDTCC could allow appeals for additional subsidised diesel to be made through an online system and respond quickly to such requests.

6.3.5 Recommendations

To enable effective action, option 2 is preferred.
6.4 Health, safety and the environment

Petrol stations are hazardous places because they store and sell a highly flammable liquid. Safety rules must be observed when filling up fuel at petrol stations to prevent potentially fatal accidents. Notices on safety such as “No Smoking”, “Switch-off Engine”, “Turn-off Handphone” signs are clearly displayed.

6.4.1 Issues

Many customers tend to flout safety rules at petrol stations, such as by smoking or leaving the vehicle’s engine switched on when refueling. It may be due to ignorance in some cases, but poor enforcement of the regulations also encourages these customers not to adhere to safety rules. Some of them become aggressive when advised by employees. Sometimes employees suffer physical abuse by these customers when service is refused.

There is no standard of procedure (SOP) in dealing with customers who flout safety rules. Apart from giving them a warning and refusing to serve them, there is not much that can be done. Lack of enforcement emboldens these law breakers because they know they can get away with it.

6.4.2 The objective of safety rules

The main objective is to protect the health and safety of people at the petrol stations especially during refueling, and potentially those living or working nearby.

6.4.3 What are the impacts of these regulatory arrangements?

The health and safety of customers and employees are at risk. Employees face verbal and physical abuse when they attempt to uphold safety rules.

It is a difficult situation for petrol station dealers. The onus is on them when customers flout safety rules. However, the well-being of the employees are also uppermost.
6.4.4 Options to resolve the issues

The followings are options to resolve the issues:

1. SOP that enables immediate action on law breaking customers as well as protect the employees from harm.

2. Enforcement of the law by the police through random inspection.

3. Public awareness campaign through the media.

6.4.5 Recommendations

It is recommended that option 3 be carried out while formulating option 1.
6.5 Abuse of subsidised diesel

Subsidised diesel is generally meant for domestic vehicle consumption. Land transportation companies are eligible for further subsidy of diesel for their commercial vehicles. Motorists must bring their vehicles to the station to be filled up. Customers are not allowed to purchase diesel by filling up containers such as barrels or drums.

Commercial enterprises such as factories are not eligible for subsidised diesel and have to pay the full price. The significant difference between the commercial and subsidised prices can lead to abuse of subsidised diesel. Examples include some enterprises trying to buy diesel at the subsidised price from petrol stations. Smuggling of illegally purchased subsidised diesel to neighbouring countries where the prices are significantly higher have also been reported.

6.5.1 Issues

Poor enforcement of the regulations results in some customers purchasing large amount of diesel at the subsidised price and then selling it to commercial enterprises for a profit. There are several ways this is done:

1. The vehicle’s fuel tank is modified to accommodate larger volume of diesel

2. Additional container is used to purchase diesel

These customers can use intimidation to force petrol station employees into allowing them get away with the purchase.

6.5.2 The objective of these regulatory arrangements

The main objective of the policy is to minimise Government’s loss via subsidy of diesel to unauthorised recipients.
6.5.3 What are the impacts of these regulatory arrangements?

- There is a substantial loss of Government’s money because diesel is heavily subsidised.
- Employees fear for their safety if they refuse the customers’ demand.
- Petrol station dealers risk being penalised by their principal oil companies and facing criminal charges for not preventing such transaction.

6.5.4 Options to resolve the issues

The following options are suggested as means to resolve the issue:

1. SOP that enables immediate action on law breaking customers as well as protect the employees from harm.

2. Swift enforcement by MDTCC. MDTCC enforcement officers could be stationed at selected petrol stations which record suspiciously high consumption of diesel.

3. Swift enforcement by police.

4. Limit the amount of diesel per transaction.

6.5.5 Recommendations

Option 4 is recommended as it is most effective and could be immediately employed.

Note: Response from MDTCC

MDTCC has decided on four steps to be implemented in its effort to prevent the abuse of subsidised diesel and petrol (Utusan Malaysia dated 29th June 2014) . The four steps are:

- A monthly sales quota of 600,000 litres of diesel and petrol will be imposed on all petrol stations in the East Coast of Sabah. This will affect 72 petrol stations in the area between Kudat and Tawau.
• As of 1\textsuperscript{st} August 2014, approval for sales quota for each petrol station will be decided by the relevant state MDTCC instead of the principal oil company.

• Beginning 1\textsuperscript{st} January 2015, it will be compulsory for oil tankers carrying subsidised diesel or petrol to be painted in standard blue and have a large written sign “Minyak Subsidi” on it. These requirements will be included in the approval letter for licence, PDA3 (approval for distribution of petroleum products). This is meant to prevent attempts to smuggle or make illegal sales of subsidised diesel and petrol.

• To prevent illegal sales of subsidised diesel and petrol, a limit of 500 litres will be imposed on the second application (additional quota) for “Fleet card” holders in the public transport category (school busses, express busses, mini busses, cars for hire, taxis). Applications for additional quota must be made to the relevant state MDTCC. Currently these “Fleet card” holders enjoy unlimited additional quota.
6.6 Unauthorised purchase of subsidised diesel by farmers

It is a regulatory requirement that subsidised diesel must be delivered to vehicles and not be collected in containers.

Smallholding paddy farmers use tractors to till their lands. As it is not possible to bring the tractors to the petrol stations, they want to purchase subsidised diesel in containers such as drums and barrels to take back to the farms.

6.6.1 Issues

Petrol stations make allowances for paddy farmers as they have no other means of getting their supply of diesel.

Preventing farmers from putting diesel in containers results in them not being able to obtain subsidised diesel for their tractors. On the other hand, allowing use of containers can result in abuse of the provision because the diesel may be sold to commercial enterprises.

Poor enforcement of the regulations is the main reason for the situation to continue.

6.6.2 The objective of these regulatory arrangements

The main objective in prohibiting the sale of fuel in containers is to prevent abuse of subsidised diesel.

6.6.3 What are the impact of these regulatory arrangements?

Petrol station dealers risk being penalised by their principal oil companies and facing criminal charges for allowing unauthorised purchase of subsidised diesel.

6.6.4 Options to resolve the issues

1. Maintain the current practice
2. MDTCC makes special allowances for farmers to make non-vehicle purchase of subsidised diesel based on their needs upon getting authorisation from MDTCC.

6.6.5 Recommendations

Adopting option 2 would be most practical. Farmers would not face any hardship and petrol stations operators would not be flouting the law.

Note:
MDTCC has verified that it has already implemented this option. However, it is likely that most farmers are not aware of such policy. Information on the policy should be accessible to the public in order for it to be effective. The followings are suggestions for the dissemination of information on the policy:

- MDTCC could make the relevant information on the policy available on its official website.
- MDTCC could seek the cooperation of relevant authorities such as the MOA and its agencies to ensure that farmers are well informed.
6.7 Time constraint in signing dealership agreement

The Fair Trade Practices Policy (FTPP) which was approved on 26 October 2005 contained elements to address unfair trade practices (box 6.1). The Fair Trade Practices Commission (FTPC) was set up to implement the policy. However, FTPP was modified in 2009 and became the *Competition Act 2010* which addresses only competition issues. FTPC is now known as the Malaysia Competition Commission (MyCC). The major change in the new policy is that there are no more provision to address unfair trade practices.[1]

Principal oil companies such as PETRONAS, Shell, and Petron appoint dealers to operate their respective petrol stations. Upon appointment, each dealer enters into a dealership agreement with the relevant principal oil company.

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**Box 6.1 The Fair Trade Practices Policy (FTPP), 2005**

Objectives:

1. promote and protect competition in the market;
2. create dynamic and competitive entrepreneurs;
3. provide fair and competitive market opportunities for businesses;
4. prohibit anti-competitive practices including those originating from outside the Malaysian territory and affecting the domestic territory;
5. prohibit unfair trade practices in the economy;
6. promote rights of SMEs to participate in the market place;
7. promote consumer welfare; and
8. encourage socio-economic growth, generate efficiency and equity.
6.7.1 Issues

The principal oil company dictates the terms of the dealership agreement. The dealership agreement is made available to the potential dealer prior to signing. However, the potential dealer is not given sufficient time to study and understand the terms of the agreement. There is no opportunity for the potential dealer to seek legal advice due to the time constraint put upon by the principal oil company.

6.7.2 The objective of the dealership agreement

The objective of the dealership agreement is to legally bind the business arrangement between the dealer and the principal oil company.

6.7.3 What are the impacts of these regulatory arrangement?

Entering into a dealership agreement without fully comprehending its legal consequences puts the dealer at a disadvantage. This is considered unfair trade practices.

6.7.4 Options to resolve the issues

The following options are put forward to resolve the issue

1. Principal oil company allows the potential dealer access to the dealership agreement at least 48 hours prior to signing.

2. A standardised dealership agreement should be made available on the website of the principal oil company.

3. The government could re establish the Fair Trade Practices Policy to address unfair trade practices.
6.7.5 Recommendations

Option 2 is preferred as it is only fair to allow potential dealers the opportunity to study and understand the terms of the dealership agreement.

In the longer term, the Government could consider establishing trade practices legislation which ensures fair trading.

6.8 References

7. **Unnecessary regulatory burdens on LPG distribution business**

There are two types of LPG products in Malaysia (Figure 7.1). Subsidised LPG is sold in smaller cylinders (10kg, 12kg, and 14kg) and is meant for domestic use as cooking gas. Industrial LPG is supplied in larger cylinders (50kg) and sold at market price. Domestic LPG can only be sold to households. Businesses are required to purchase industrial LPG.

![Figure 7.1. Domestic and Industrial LPG cylinders](image)

MDTCC regulates the marketing and distribution of LPG under the *Petroleum Development Act 1974*. As distribution of LPG involves transportation, it is also bound by regulations such as the *Land Public Transport Act 2010*, and the *Road Transport Act 1987*.

### 7.1 Commercial vehicle licence

Commercial vehicles such as lorries and trailers are the common transportations used in LPG distribution business. These vehicles require commercial vehicle licences issued by the Land Public Transport Commission (SPAD) in compliance with the *Land Public Transport Act 2010*. Commercial vehicle licences are issued to businesses and individuals subject to their proof of funds and business plan or contracts.
As shown in Figure 7.2, a number of other regulators are involved directly in the process of issuing a commercial vehicle licence for a new vehicle:

- The local government (PBT) issues a support letter for parking facility.
- JPJ (The Road Transport Department (RTD)) approves new vehicle design, registers and issues road tax for the vehicle.
- PUSPAKOM, which is the vehicle inspection centre, carries out the initial road worthiness inspection on the vehicle.

Figure 7.2: The current process of commercial vehicle licensing

7.1.1 Issues

Two issues arise in getting a commercial vehicle licence for a new vehicle:

1. Delays in issuing the licence
   One distributor had to wait six months for a commercial vehicle licence.

2. Restriction on the number of vehicles per company
   SPAD decides on the number of vehicles that a company can purchase during the evaluation of the application for a commercial vehicle licence.
7.1.2 The objective of commercial vehicle licence

The objective of the regulation is to ensure only vehicles which adhere to the standards and safety rules set by the regulators are used for commercial purposes.

7.1.3 What are the impacts of these regulatory arrangements?

Delay in getting the commercial vehicle licence means a loss of revenue opportunity and an increased cost of doing business.

Restricting the number of vehicles per company which impedes their business growth, implies that SPAD has direct control on distribution businesses.

7.1.4 Options to resolve the issues

1. Maintain the current practice

2. In issuing a commercial vehicle licence, it is recommended that all regulators re-engineer their respective processes with the objective of having faster, cheaper and fewer interactions between business and regulators.

3. SPAD lifts the restriction on the number of vehicles that a business can purchase. SPAD should not base its decision on the type of business entity. It should instead consider the capability of the company to finance the purchase of the vehicles and operate the business.
7.1.5 Recommendations

Option 2 would reduce the delay in issuing the commercial vehicle licence.

Option 3 would remove the issue of restriction on the number of vehicles per company.
7.2 Goods delivery licence for business owner

LPG distribution business owners have employees to drive their commercial vehicles. Drivers of commercial vehicles must possess Goods Delivery Licences (GDLs). A GDL is issued by the Road Transport Department (RTD) in accordance with the Road Transport Act 1987.

7.2.1 Issues

As a pre-requisite to issuing a commercial vehicle licence, SPAD requires that the business owner have a GDL. The requirement has no relevance as a GDL is meant for the driver of the commercial vehicle, who is often the employee of the business. Not all business owners are capable of driving commercial vehicles, as was the case of a sixty year old lady business owner interviewed in the study.

7.2.2 The objective of these regulatory arrangements

The objective of these regulatory arrangements is unclear as such requirement is not stated in the Road Transport Act 1987 for the application of a GDL or in the Land Public Transport Act 2010 for the application of a commercial vehicle licence (Box 7.1).

Box 7.1 The Land Public Transport Act 2010

Requirement for operator’s licence

51 (2) For the purposes of this Chapter, a person is deemed to be operating or providing a goods vehicle service if he—

(a) uses or drives a goods vehicle of a class of goods vehicles himself; or

(b) employs one or more persons to use or drive a goods vehicle of a class of goods vehicles,

to operate or provide a goods vehicle service, and—

(A) he owns the said goods vehicle; or
7.2.3 What are the impacts of these regulatory arrangements?

The main impact of the regulation is that SPAD has a direct control of the distribution business set up. SPAD expects that in a small distribution business set-up, the business owner is also the driver of the commercial vehicle.

7.2.4 Options to resolve the issues

1. SPAD maintains the current practice

2. SPAD removes the requirement for a business owner to have a GDL in issuing a commercial vehicle licence.

7.2.5 Recommendations

Option 2 is preferred as being the most practical.
7.3 Routine inspection on commercial vehicles by PUSPAKOM

It is mandatory for all commercial vehicles to undergo a road worthiness inspections every six months. Currently, PUSPAKOM (Pusat Pemeriksaan Kendaraan Berkomputer) is the only vehicle inspection company appointed by the Government to carry out inspections for commercial vehicles in the country. PUSPAKOM has 55 inspection centres and 28 inspection sites around the country. There are more than 2000 vehicle examiners, accredited by RTD, to conduct the inspection of vehicles. PUSPAKOM carries out 3 million inspections annually. [1]

7.3.1 Issues

The main issue is that a routine vehicle inspection by PUSPAKOM is time consuming as there is usually a long queue. A single vehicle takes a few hours to process although the actual inspection does not require that long to complete. This is repeated every six months. Inadequate resourcing may be the reason for the delay.

7.3.2 The objective of a routine inspection on a commercial vehicle

The main objective of the routine inspection regulation is to ensure the road worthiness of a commercial vehicle.

7.3.3 What are the impacts of these regulatory arrangements?

The delay caused by PUSPAKOM inspection translates to a loss of revenue to business. A day’s loss for a trailer could be worth RM1,000.

7.3.4 Options to resolve the issues

The followings are measures that could be considered to resolve the issue of delay in routine inspection on commercial vehicles:
1. PUSPAKOM maintains the current practice
2. PUSPAKOM conducts an emperical study on its inspection capacity and whether it should be increased.
3. PUSPAKOM carries out a qualitative and quantitative studies on the experiences of business owners and individuals going through the process of inspection.
4. PUSPAKOM could plan its resources to match its workload.
5. PUSPAKOM provides alternative inspection mechanisms.
6. PUSPAKOM reduces the required frequency of inspections if this would not decrease safety.

7.3.5 Recommendations

Option 4 would be easier to adopt

7.4 References