



# AGH Bulletin

**No. 19/2023**  
**Published on 29 September 2023**

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## WORLD NEWS

### **Saudi Aramco Enters International LNG Market**

1. Saudi Aramco is entering the global LNG business by signing the definitive agreement to buy a minority stake in LNG company MidOcean Energy for USD500 million, which is in the process of acquiring interests in four Australian LNG projects.
2. MidOcean Energy is formed and managed by EIG, an institutional investor in the global energy and infrastructure sectors, with which Aramco signed in 2021 a deal to sell a 49% stake in Aramco Oil Pipelines Company.
3. The LNG stake agreement includes an option for Aramco to raise its shareholding and associated rights in MidOcean in the future.
4. Aramco has been looking for months to tap the global gas and LNG business and was rumored to have been in early talks with developer aiming to secure stake in a project in the United States or Asia.
5. Going into LNG trading would be another lucrative business for Aramco, considering that LNG demand is only set to grow in the coming years as Europe ditches Russian gas and Asia looks to use more natural gas instead of coal.

#### **AGH Commentary**

This is an important step in Aramco's strategy to become a leading global LNG player, hence, to play major role as main LNG supplier to Asia region.

### **Concern Rises Over Japan LNG's Inventories**

1. Japan's LNG inventories dropped to the lowest level in over a year and a half and could push the nation's utilities to buy more fuel ahead of winter.
2. Storage held by Japan's power supplies fell to 1.62 million tons as of September 17, according to data compiled by the trade ministry. That's the least since March 2022.
3. The country's utilities have already started to stock up on gas ahead of winter with some LNG purchases from the spot market over the last few weeks.
4. Lingering hot weather has helped drain Japan's stores of natural gas. The country's Meteorological Agency forecasts temperatures to be warmer-than-normal across most areas through Oct 15.

Sources: Japan Times, 20

September 2023; Bloomberg, 21 September 2023

#### **AGH Commentary**

Any more prolonged effort to buy additional cargoes would help tighten the global market and shall likely send the prices higher.

## WORLD NEWS (cont'd)

### **Indonesia's President Launches Carbon Emissions Credit Trading**

1. Indonesia is one of the world's top greenhouse gas emitters, has set a target of reaching carbon neutrality by 2060.
2. On 26th September, the country launched its first carbon emission credit trading, with the aim of creating a market to fund cuts in greenhouse gas emissions and become a major participants in the global carbon trade.
3. In its initial stage, trading will be on voluntary, but the government is working to put a plan for further national regulations on pollution, which will include carbon tax.
4. Besides that, the government would also put a cap on emission levels for four other sectors: forestry, processes and product use, agriculture and waste management.
5. In February 2023, Indonesia had launched carbon trading mechanism for local power plant, and some of the country's biggest coal power plant have begun trading emission allowances since then.
6. Indonesia will also adopt international standards and accelerate work to get mutual recognition from markets abroad to be able to offer its carbon credits to foreign buyers.

Source:

Reute

#### **AGH Commentary**

Indonesia can become the world's carbon market axis if concrete steps are taken consistently and collectively by stakeholders.

### **Qatar Energy Places USD3.9 Billion Order For 17 NG Carriers At Korean Shipyard**

1. The shipbuilding contract is said to mark the second phase of QatarEnergy's LNG ship acquisition program, which will support its North Field LNG expansion and Golden Pass LNG export projects along with its long-term fleet replacement requirements.
2. In the first phase of the program, a total of 60 ships were ordered at Korean and Chinese shipyards. The new order brings the total number of confirmed new LNG vessels to be delivered to QatarEnergy and its affiliates to 77, with more to follow.

Source:

OFFSHOREENERGY , 27 September 2023

#### **AGH Commentary**

This shipbuilding program by QatarEnergy is the largest of its kind in history of the LNG industry.

## HOME

### **Malaysian Experts Working On Tool To Measure Methane Emissions**

1. A team comprising experts from USM and UKM is developing a tool to measure methane emissions in tropical regions like in Malaysia – a potent greenhouse said to be responsible for over 25% of the current global warming.
2. The tool, which is expected to be completed in 2024, could assist policymakers in making informed decisions on methane reduction investment by providing a range of cost-effective options in the future.
3. All efforts with internet of things, low-cost sensors and drones are incorporating to boost cost-effectiveness in methane measurement.
4. The tool was crucial as there was a significant discrepancy in the data from publicly available sources such as Malaysia government and International Energy Agency (EIA).
5. Malaysia is a participant in the Global Methane Pledge which aims to reduce methane emissions by 30% by 2030 but still lacks a specific plan to reduce methane emissions.
6. Many believes the oil and gas industry plays an important role in tackling methane emissions, which any formulation of a national reduction plan could accelerate Malaysia's decarbonization effort.

#### **AGH Commentary**

The work of local researchers, data sharing and collaborative efforts between all stakeholders is critical to realize global climate change mitigation efforts.

### **PETRONAS, Mitsui OSK Lines (MOL), MISC To Jointly Develop LCO2 Carriers For CCS Projects In Malaysia**

1. A term sheet have been signed for the potential incorporation of a joint venture entity to invest in developing and monetizing liquefied carbon dioxide (LCO2) carriers for carbon capture and storage (CCS) in Malaysia.
2. LCO2 carriers are integral part to the CCS value chain to connect customers to carbon capture sites and storage locations.
3. The signed term sheet marked another milestone for the positioning of CCS as a key lever in Petronas' net zero carbon emissions by 2050 ambition. In February 2022, MoU were signed with MOL and the four approvals in principle for the conceptual design in June 2023.

#### **AGH Commentary**

This collaboration reinforces further commitment towards establishing Malaysia's potential as a prominent regional hub for CCS.

## HOME (cont'd)

### **BNM: National Energy Transition Roadmap (NETR), New Industrial Master Plan (NIMP) To Boost Malaysia's Investment Opportunities**

1. Bank Negara Malaysia (BNM) and Securities Commission Malaysia are focusing efforts on laying down relevant building blocks for a conducive green finance ecosystem to facilitate the acceleration of the country's transition and open-up large investment opportunities.
2. The central bank has developed frameworks and practical tools such as the climate change and principle-based taxonomy, sectoral guides, and climate risk management and scenario analysis document as guidance for the industry in building its climate resilience as well as capability in contributing towards transition.
3. BNM's mandate reaffirms its commitment to promote monetary and financial stability conducive growth of the Malaysian economy and the growth will continue to be driven by resilient domestic expenditure underpinned by continued employment and wage growth.
4. Investment activity will be supported by the continued progress of multi-year infrastructure projects and implementation of catalytic initiatives under the recently announced national master plans.
5. On the Ringgit, the local unit and several regional currencies have strengthened against the US dollar since July 1, 2023. The Ringgit has been appreciated against most major trade partners recently.
6. The value of Ringgit is market-determined and presence in the foreign exchange market is

#### **AGH Commentary**

Strategic financial plan execution by BNM is crucial to accelerate the implementation of NETR & NIMP.

27 September 2023

Source: The Edge,

### **Japan, PETRONAS To Discuss Storing Japanese Carbon Dioxide In Malaysian Sites**

1. Both parties agreed to discuss how to export carbon dioxide (CO<sub>2</sub>) emitted in Japan to storage in Malaysia as part of efforts to tackle climate change.
2. Japan's Ministry of Economy, Trade & Industry (Meti), the state-owned Japan Organization for Metals & Energy Security (JOGMEC) and PETRONAS signed a memorandum of cooperation (MoC) on Carbon Capture Storage (CCS) on 27th September 2023 with the aim of shipping CO<sub>2</sub> from Japan as early as 2028. However, the Meti have not set any numerical targets for how much CO<sub>2</sub> to be transported.
3. Early this year, Japan set a target of annual CO<sub>2</sub> storage capacity of 6-12 million tons by 2030 under a long-term roadmap for CCS.

#### **AGH Commentary**

A regulatory framework is needed for investment on CCS, which removes CO<sub>2</sub> emissions from the atmosphere and stores them underground. This may apply to private firms.

# GLOBAL HIGHLIGHTS – LNG & Natural Gas

## Snapshot as of 29 September 2023

### ASIA PACIFIC/INDIA

1. LNG spot price to North Asia is hovering at USD14.70/MMBtu this week for front month – November delivery. For December's delivery it was up to USD15.12/MMBtu.
2. Demand is likely to pick up as winter approaching from some Asian buyers along with reports from the Japanese government over concern on low gas inventory level that shall require the importation of spot LNG to fill up the storage.

#### AGH Commentary

The LNG market can breathe a sigh of relief following the end of negotiations between Chevron and the union last week. A strike by the union at the LNG facilities in Australia will not materialize.

Sources: Industry and Reuters, 29 September 2023

### EUROPE

1. Dutch wholesale gas price rose on Thursday morning amid some fresh delays and rescheduling of outages at Norwegian gas infrastructure.
2. The Dutch TTF October contract gained 1.65 euros at Euros 41.10/MWh or USD13.87/MMBtu or RM65.14/MMBtu, while November contract was Euros 1.15 higher at Euros 44.60/MWh or USD15.06/MMBtu or RM70.69/MMBtu.
3. Piped Norwegian exports are nominated at 232 million cubic metres on Wednesday, down 1 mcm from Tuesday.
4. The expiry of the October contract on the ICE exchange may also inject intraday volatility on the price curve on Thursday.

#### AGH Commentary.

Europe still has high gas inventory level at 92.5%. Price volatility is subject to daily technical reports.

Sources: Industries & Reuters, 29 September 2023

### Freight Charges Selected Regions as of 29 September 2023 (RM/MMBtu)

| Export Regions | Japan/Korea | Taiwan/China | Malacca |
|----------------|-------------|--------------|---------|
| Bintulu        | 3.76        | 3.52         | 1.88    |
| Singapore      | 4.23        | 3.29         | 0.94    |
| M'cca          | 4.23        | 3.76         | -       |

Charter Hire Rate as of 29 September 2023; USD50,000-55,000/Day

Source : Industry, 2023

# GLOBAL HIGHLIGHTS – LNG & Natural Gas

## Outlook as of 29 September 2023 (cont'd)

### Regional Coal Future Index

| Month 2023 | ICE Newcastle Coal Index |              |
|------------|--------------------------|--------------|
|            | USD/<br>MMBtu            | RM/<br>MMBtu |
| Sep        | ▼ 5.75                   | 27.02        |
| Oct        | ▼ 5.81                   | 27.27        |
| Nov        | ▼ 5.91                   | 27.74        |
| Dec        | ▼ 5.98                   | 28.06        |
| Jan 24     | ▼ 6.13                   | 28.80        |
| Feb 24     | ▼ 6.13                   | 28.78        |
| Mar 24     | ▼ 6.08                   | 28.53        |
| Apr 24     | ▼ 6.02                   | 28.29        |
| May 24     | ▼ 5.99                   | 28.12        |
| June 24    | ▼ 6.00                   | 28.18        |
| July 24    | ▼ 6.07                   | 28.50        |
| Aug 24     | ▼ 6.10                   | 28.64        |

Sources: ICI, [www.cmegroup.com](http://www.cmegroup.com); ICE Newcastle Coal index, [www.barchart.com](http://www.barchart.com)

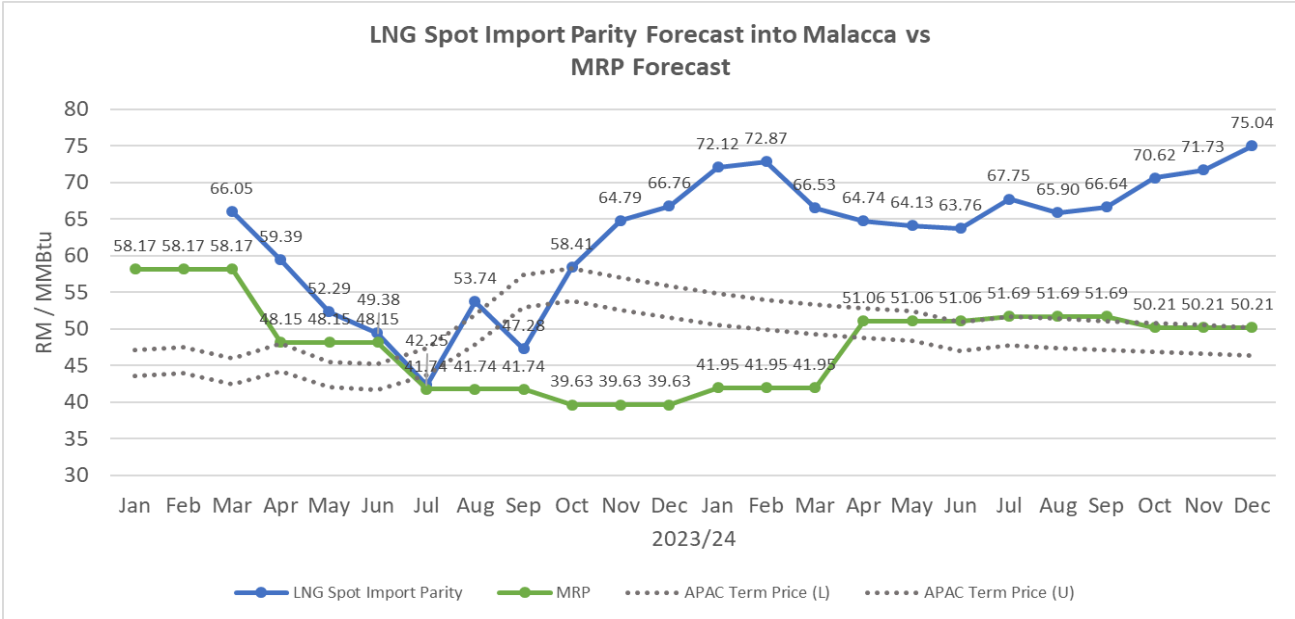
### Liquid Petroleum Gas (LPG) Future Index (Saudi Aramco)

| Month 2023 | Argus Propane Future Index |              | Mini Argus Butane Future Index |              |
|------------|----------------------------|--------------|--------------------------------|--------------|
|            | USD/<br>MMBtu              | RM/<br>MMBtu | USD/<br>MMBtu                  | RM/<br>MMBtu |
| Oct        | ▲ 9.15                     | 42.94        | ▲ 8.95                         | 42.02        |
| Nov        | ▲ 9.21                     | 43.24        | ▲ 9.09                         | 42.67        |
| Dec        | ▼ 9.33                     | 43.78        | ▼ 9.19                         | 43.13        |
| Jan 24     | ▼ 9.36                     | 43.95        | ▼ 9.25                         | 43.41        |
| Feb 24     | ▼ 9.25                     | 43.41        | ▼ 9.12                         | 42.80        |
| Mar 24     | ▼ 8.93                     | 41.93        | ▼ 8.79                         | 41.25        |
| Apr 24     | ▼ 8.55                     | 40.16        | ▼ 8.39                         | 39.39        |
| May 24     | ▼ 8.28                     | 38.87        | ▼ 8.12                         | 38.12        |
| June 24    | ▼ 8.10                     | 38.02        | ▼ 7.93                         | 37.25        |
| July 24    | ▼ 8.00                     | 37.56        | ▼ 7.85                         | 36.87        |
| August 24  | ▼ 8.06                     | 37.82        | ▼ 7.94                         | 37.27        |
| Sept 24    | ▼ 8.15                     | 38.28        | ▼ 8.04                         | 37.74        |

# LOCAL HIGHLIGHTS – Domestic Forecast for MRP & LNG Import Parity as of 29 September 2023



ASIA GAS HUB



Source: AGH Market Analysis

| Month  | Import Parity - MRP Spread | Change | APAC Term Ave - MRP Spread | Change |
|--------|----------------------------|--------|----------------------------|--------|
| Aug-23 | 12.00                      | 0.00   | 8.16                       | 0.00   |
| Sep-23 | 5.54                       | 0.10   | 13.38                      | 0.36   |
| Oct-23 | 18.78                      | 2.48   | 16.46                      | 3.59   |
| Nov-23 | 25.16                      | 4.22   | 15.17                      | 2.79   |
| Dec-23 | 27.14                      | -3.18  | 14.09                      | 2.23   |
| Jan-24 | 30.16                      | -6.88  | 10.72                      | -0.63  |
| Feb-24 | 30.91                      | -7.07  | 9.98                       | -0.86  |
| Mar-24 | 24.58                      | -6.80  | 9.36                       | -0.96  |
| Apr-24 | 13.69                      | -5.30  | -0.27                      | -1.05  |
| May-24 | 13.08                      | -6.20  | -0.63                      | -1.00  |
| Jun-24 | 12.70                      | -6.20  | -2.13                      | -2.12  |
| Jul-24 | 16.06                      | -5.93  | -2.01                      | -0.93  |
| Aug-24 | 14.21                      | -6.05  | -2.30                      | -0.87  |
| Sep-24 | 14.95                      | -6.00  | -2.56                      | -0.80  |
| Oct-24 | 20.41                      | -9.22  | -1.35                      | -0.69  |
| Nov-24 | 21.53                      | -8.95  | -1.66                      | -0.68  |
| Dec-24 | 24.83                      | -7.62  | -1.96                      | -0.67  |

Source: AGH Market Analysis

AGH Commentary

April 2024 onwards will be a suitable time to bring in LNG cargoes to Malaysia with long term supply agreement of 12% & 13% of Brent.

MRP = Malaysia Reference Price used for domestic market

# GLOBAL HIGHLIGHTS – LNG & Natural Gas Outlook as of 29 September 2023

## Global Gas Future Index

| Month 2023 | JKM Platts Future |           | TTF Natural Gas Future |           | CME HH Future |           |
|------------|-------------------|-----------|------------------------|-----------|---------------|-----------|
|            | USD/ MMBtu        | RM/ MMBtu | USD/ MMBtu             | RM/ MMBtu | USD/ MMBtu    | RM/ MMBtu |
| Oct        | 0.00              | 0.00      | ▲ 13.29                | 62.41     | 0.00          | 0.00      |
| Nov        | ▲ 14.70           | 69.02     | ▼ 14.55                | 68.29     | ▼ 2.95        | 13.83     |
| Dec        | ▼ 15.12           | 71.00     | ▼ 16.31                | 76.57     | ▼ 3.34        | 15.68     |
| Jan 24     | ▼ 16.26           | 76.34     | ▼ 16.19                | 76.01     | ▼ 3.59        | 16.87     |
| Feb 24     | ▼ 16.42           | 77.11     | ▼ 16.34                | 76.72     | ▼ 3.52        | 16.54     |
| Mar 24     | ▼ 15.05           | 70.77     | ▼ 16.16                | 75.85     | ▼ 3.25        | 15.25     |
| Apr 24     | ▼ 14.69           | 68.97     | ▼ 15.71                | 73.76     | ▼ 3.01        | 14.15     |
| May 24     | ▼ 14.56           | 68.35     | ▼ 15.61                | 73.28     | ▼ 3.03        | 14.23     |
| June 24    | ▼ 14.48           | 68.00     | ▼ 15.63                | 73.37     | ▼ 3.16        | 14.83     |
| July 24    | ▼ 15.33           | 71.97     | ▼ 15.65                | 73.49     | ▲ 3.29        | 15.44     |

Sources: ICE Energy Report , CME Group Market Data

## Global Crude Future Benchmark Snapshots in RM per MMBtu

| Month 2023 | Brent (ICE) | WTI (NYMEX) | JCC (ICE) |
|------------|-------------|-------------|-----------|
| Sept       | ▲ 78.74     | -           | -         |
| Oct        | ▲ 80.12     | 0.00        | ▼ 80.28   |
| November   | ▲ 78.29     | ▲ 76.98     | ▼ 81.93   |
| December   | ▼ 76.74     | ▲ 75.35     | ▼ 80.85   |
| Jan24      | ▼ 75.25     | ▼ 73.86     | ▼ 79.39   |
| Feb24      | ▼ 74.18     | ▼ 72.42     | ▼ 78.18   |
| Mar24      | ▼ 73.30     | ▼ 71.24     | ▼ 77.17   |
| Apr 24     | ▼ 72.56     | ▼ 70.33     | ▼ 76.34   |
| May 24     | ▼ 72.05     | ▼ 69.53     | ▼ 75.62   |
| June 24    | ▼ 69.89     | ▼ 68.80     | ▼ 74.97   |
| Jul 24     | ▼ 70.97     | ▼ 67.90     | ▼ 74.37   |
| Aug 24     | ▼ 70.56     | ▼ 66.86     | ▼ 73.83   |

Sources: CME Group Market Data, ICE Energy Report

# LOCAL HIGHLIGHTS – Peninsular Gas Utilities (PGU)

## Gas Volume Updates as of 29 September 2023

There is no change in available capacity from last week

| Northern Region |                                           |                    |           |
|-----------------|-------------------------------------------|--------------------|-----------|
| State           | Exit CITY GATE (CG)/Metering Station (MS) | Available Capacity |           |
|                 |                                           | MMscf/d            | MMBtu/d   |
| Perlis          | Tambun Tulang CG                          | 10.97              | 11375.89  |
|                 | Ayer Puteh CG                             | 30.92              | 32064.04  |
|                 | TTPC MS                                   | 55.86              | 57926.82  |
| Kedah           | Pondok Labu CG                            | 19.21              | 19920.77  |
|                 | Kulim Hi Tech CG                          | 75.18              | 77961.66  |
|                 | Sungai Petani CG                          | 20.44              | 21196.28  |
|                 | Pokok Sena CG                             | 20.86              | 21631.82  |
|                 | PFK MS                                    | 16.25              | 16851.25  |
|                 | NUR MS                                    | 200.97             | 208405.89 |
|                 | Prai CG                                   | 24.97              | 25893.89  |
| Penang          | TNB Prai MS                               | 98.28              | 101916.36 |
|                 | TNB Gelugor MS                            | 23.35              | 24213.95  |
|                 | Prai Power MS                             | 110.22             | 114298.14 |

| Eastern Region |                                           |                    |           |
|----------------|-------------------------------------------|--------------------|-----------|
| State          | Exit CITY GATE (CG)/Metering Station (MS) | Available Capacity |           |
|                |                                           | MMscf/d            | MMBtu/d   |
| T'gganu        | Kerteh CG                                 | 0.89               | 922.93    |
|                | Teluk Kalong CG                           | 8.68               | 9001.16   |
|                | Kerteh 3 CG                               | 96.3               | 99863.1   |
|                | Kerteh 2 CG                               | 3.79               | 3930.23   |
|                | TNB Paka MS                               | 208                | 215696    |
|                | YTL Paka MS                               | 139.16             | 144308.92 |
|                | CUF Kerteh MS                             | 105.52             | 109424.24 |
| Pahang         | CUF Gebeng MS                             | 125.84             | 130496.08 |
|                | Gambang CG                                | 0.49               | 508.13    |
|                | Gebeng CG                                 | 29.51              | 30601.87  |
|                | Gebeng 2 CG                               | 68.6               | 71138.2   |
|                | PCMSB MS                                  | 8.46               | 8773.02   |
|                | PCASB MS                                  | 7                  | 7259      |
|                | Aromatic KR2 MS                           | 3.3                | 3422.1    |
|                | PCOGD MS                                  | 50.51              | 52378.87  |
|                | PERWAJA MS                                | 50.88              | 52762.56  |
|                | MTBE NG MS                                | 11.6               | 12029.2   |
|                | PDH MS                                    | 8.4                | 8710.8    |
|                | BASF Fuel                                 | 8.29               | 8596.73   |
|                | BASF Feedstock                            | 2.1                | 2177.7    |
|                | Idemitsu MS                               | 9.83               | 10193.71  |
|                | Titan MS                                  | 37.78              | 39177.86  |
|                | Genting Sayen MS                          | 47.95              | 49724.15  |

Source: PETRONAS Gas Berhad



### IBR Base Average Tariff of GMD Natural Gas Distribution System

| Year             | 2023  | 2024  | 2025  |
|------------------|-------|-------|-------|
| Rebate RM/GJ/Day | 0.038 | N/A   | N/A   |
| RM/GJ/Day        | 1.535 | 1,573 | 1.573 |

IBR : Incentives Based Regulation

GMD : Gas Malaysia Distribution (owner & operator of gas distribution line)

GJ : Gigajoules

RM : Ringgit Malaysia

# LOCAL HIGHLIGHTS – Peninsular Gas Utilities (PGU)

## Gas Volume Updates as of 29 September 2023 (cont'd)



There is no change in available capacity from last week

| Central Region |                                           |                    |            |
|----------------|-------------------------------------------|--------------------|------------|
| State          | Exit CITY GATE (CG)/Metering Station (MS) | Available Capacity |            |
|                |                                           | MMscf/d            | MMBtu/d    |
| Klang Valley   | KLIA CG                                   | 0.06               | 62.22      |
|                | Dengkil CG                                | 71.6666            | 74318.2642 |
|                | Puchong CG                                | 14.64              | 15181.68   |
|                | Batu Tiga CG                              | 37.76              | 39157.12   |
|                | GB3 MS                                    | 93.48              | 96938.76   |
|                | Connaught Bridge MS                       | 186.77             | 193680.49  |
|                | GDC KLIA MS                               | 1.9                | 1970.3     |
|                | PNGV KLIA 1                               | 0.47               | 487.39     |
|                | PNGV KLIA 2                               | 0.7                | 725.9      |
|                | PNGV KLIA 3                               | 0.41               | 425.17     |
|                | Venator MS                                | 7.6                | 7881.2     |
| S'gor          | Serdang CG                                | 76.4               | 79226.8    |
|                | Shah Alam CG                              | 80.37              | 83343.69   |
|                | Kapar CG                                  | 9.07               | 9405.59    |
|                | Meru CG                                   | 95.42              | 98950.54   |
|                | Bestari Jaya CG                           | 8.74               | 9063.38    |
|                | Kuala Langat Power Plant MS               | 50.35              | 52212.95   |
|                | Serdang MS                                | 174.67             | 181132.79  |
|                | Kapar MS                                  | 268.04             | 277957.48  |
| N.Sembilan     | Seremban CG                               | 15.91              | 16498.67   |
|                | Seremban 2 CG                             | 10.29              | 10670.73   |
|                | Bandar Baru Nilai CG                      | 10.66              | 11054.42   |
|                | Tebong CG                                 | 25.23              | 26163.51   |
|                | Port Dickson MS                           | 230                | 238510     |

| Western Region |                                           |                    |           |
|----------------|-------------------------------------------|--------------------|-----------|
| State          | Exit CITY GATE (CG)/Metering Station (MS) | Available Capacity |           |
|                |                                           | MMscf/d            | MMBtu/d   |
| Perak          | Kamunting CG                              | 20.96              | 21735.52  |
|                | Parit Buntar CG                           | 18.47              | 19153.39  |
|                | Ayer Tawar CG                             | 16.19              | 16789.03  |
|                | Hutan Melintang CG                        | 47.86              | 49630.82  |
|                | Merbau CG                                 | 78.5               | 81404.5   |
|                | Tronoh CG                                 | 4                  | 4148      |
|                | SEV Lumut MS                              | 180.42             | 187095.54 |

| Southern Region |                                           |                    |           |
|-----------------|-------------------------------------------|--------------------|-----------|
| State           | Exit CITY GATE (CG)/Metering Station (MS) | Available Capacity |           |
|                 |                                           | MMscf/d            | MMBtu/d   |
| Johor           | Kluang CG                                 | 39.24              | 40691.88  |
|                 | Kulai CG                                  | 18.2               | 18873.4   |
|                 | Senai CG                                  | 114.96             | 119213.52 |
|                 | Pasir Gudang CG                           | 237                | 245769    |
|                 | Plentong CG                               | 74.2               | 76945.4   |
|                 | Tg Langsat CG                             | 17.66              | 18313.42  |
|                 | Paya Rumpit CG                            | 14.11              | 14632.07  |
|                 | TNB Pasir Gudang MS                       | 279.57             | 289914.09 |
|                 | Pengerang COGEN Power MS                  | 111.61             | 115739.57 |
|                 | Southern Power Generation MS              | 20                 | 20740     |
|                 | Plentong (Senoko) MS                      | 145                | 150365    |
|                 | Plentong 2 (Keppel) MS                    | 118                | 122366    |
|                 | Alor Gajah CG                             | 9.25               | 9592.25   |
|                 | Tanjung Kling MS                          | 50.01              | 51860.37  |
| M'cca           | Tanjung Gemok MS                          | 38.93              | 40370.41  |
|                 | Teluk Gong MS                             | 111                | 115107    |
|                 | Panglima MS                               | 25.31              | 26246.47  |
|                 | EDRA Energy Sdn Bhd                       | 210.21             | 217987.77 |
|                 | Tangga Batu Refinery MS                   | 32.66              | 33868.42  |
|                 | Tangga Baru Cogen MS                      | 12.34              | 12796.58  |

### IBR Tariff for Peninsular Gas Utilization

| Year      | 2023  | 2024  | 2025  |
|-----------|-------|-------|-------|
| RM/GJ/Day | 1.061 | 1.063 | 1.063 |

### IBR Tariff for Regassification Facilities

| Facilities | RGTSU | RGTP  |
|------------|-------|-------|
| RM/GJ/Day  | 3.455 | 3.165 |

IBR : Incentives Based Regulation  
 GJ : Gigajoules  
 RM : Ringgit Malaysia  
 RGTSU : Regas Terminal Sungai Udang, Malacca  
 RGTP : Regas Terminal Pengerang

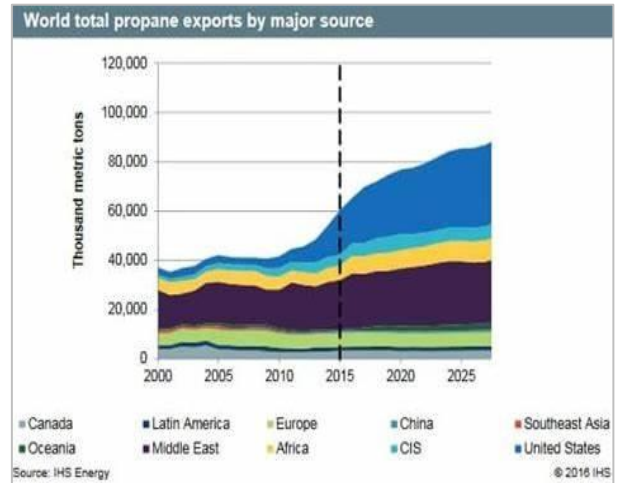
Source: PETRONAS Gas Berhad

# FUN FACTS

## 1 Which Country Is The Largest Producer, Exporter & Consumer Of LPG?

The United States is the largest producer, exporter and consumer of LPG (liquefied petroleum gas) globally. The United States has a significant production capacity for LPG, thanks to its extensive oil and natural gas industry. LPG is widely used in the country for various applications, including residential, commercial, industrial, and agricultural purposes, making it the leading consumer as well.

Source: S&P 2022



## 2 ChatGPT Let's ask...

### How Many Type Of Midsize LNG Carriers?

Midsize LNG carriers, also known as mid-scale LNG carriers, typically fall in between smaller LNG carriers designed for short-sea or regional transport and the large-scale LNG carriers used for long-distance international transportation. The specific categorization of midsize LNG carriers may vary, but there are several types of vessels that can be considered as midsize LNG carriers:

- ❑ **LNG Carriers with Moss-type Tanks:** These vessels use the Moss containment system, which consists of spherical tanks. Midsize LNG carriers with Moss-type tanks can have a range of capacities and are often used for regional or coastal transport.
- ❑ **LNG Carriers with Membrane Tanks:** Some midsize LNG carriers use advanced membrane containment systems, which provide flexibility in terms of capacity and are suitable for various routes.
- ❑ **LNG Carriers with Type-C Tanks:** Type-C tanks are another containment option used in midsize LNG carriers. These tanks are cylindrical and are designed to store LNG.
- ❑ **Small-Scale Floating Storage and Regasification Units (FSRUs):** While not traditional carriers, FSRUs are floating facilities that can receive, store, and regasify LNG. They are often used in midsize LNG import projects to supply natural gas to onshore infrastructure.
- ❑ **LNG Bunker Vessels:** Some midsize LNG carriers are designed to serve as bunkering vessels, supplying LNG as fuel to ships in ports or coastal areas.
- ❑ **LNG ATBs (Articulated Tug-Barge Units):** Similar to smaller ATBs, midsize ATBs consist of a tugboat and a barge and are used for LNG transport over shorter distances, such as coastal routes.

Source: ChatGPT



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