# Frequently Asked Questions (FAQs)

## on Malaysia Reference Price (MRP)

*Updated as of May 2024*
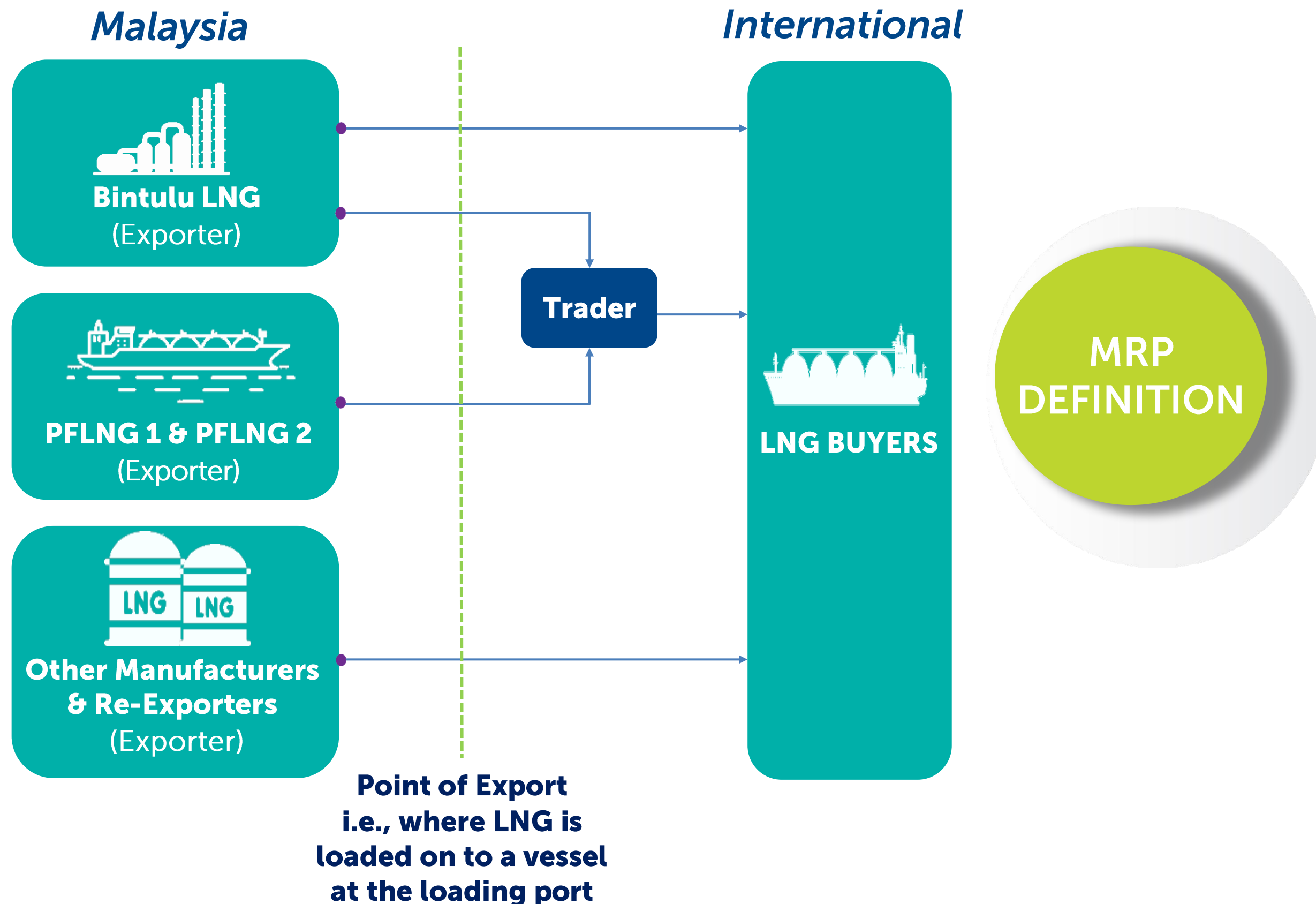
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# Frequently Asked Questions (FAQs)
## on Malaysia Reference Price (MRP)

**1** What is Malaysia Reference Price (MRP)?

**2** Why is MRP used as the gas price marker?

**3** How are the LNG export details gathered and published?

**4** How to extract data from the DOSM website to calculate MRP?

**5** Application of MRP in Upstream vs Downstream

**6** Does the movement of MRP tracks key oil markers?

**7** How to forecast MRP?

## Malaysia

**Bintulu LNG**
(Exporter)

**PFLNG 1 & PFLNG 2**
(Exporter)

**Other Manufacturers & Re-Exporters**
(Exporter)

**Point of Export i.e., where LNG is loaded on to a vessel at the loading port**

## International

**Trader**

**LNG BUYERS**

**MRP DEFINITION**

MRP is the weighted average price of LNG (Free On Board [FOB] basis) exported out of Malaysia.

MRP is calculated as follows:

$$MRP = \frac{LNG\ Export\ Value\ (FOB\ Basis)}{(LNG\ Export\ Volume\ \times\ Conversion)}$$

*Conversion = 52 MMBtu per 1 MT of LNG*

Details of LNG exports i.e., LNG export values & LNG volumes are submitted by LNG exporters to the Royal Malaysian Customs Department (Customs) and the Department of Statistics Malaysia (DOSM).

DOSM publishes the LNG export values (FOB basis) and LNG volumes on its website on a monthly basis.

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# 2 Why is MRP used as the gas price marker?

## MRP is used as the gas price marker in view of the following:

### Declining relevance of HSFO

Declining use of HSFO due to regulatory changes & transition to cleaner fuels, particularly in marine fuels, where limits on amount of sulfur is imposed.

### Price Marker Standardisation

MRP has been used as a marker to price downstream gas in Malaysia. It is now being adopted gradually in the upstream sector.

Standardizing MRP as a price marker across the value chain minimises price reference exposure.

### Relevance to Malaysia Gas Market

MRP reflects the value of gas exported out of Malaysia, where prices are driven by global market dynamic.

### Liquid & Sustainable Price Marker

MRP liquidity is demonstrated in the large volumes and number of buyers of Malaysian LNG.

MRP's sustainability lies in the longevity of supplies available from Malaysia to support its LNG export demand.

**Government Internal Process**

**LNG Exporters in Malaysia**

Export declaration forms



**Royal Malaysian Customs Department**
Custom Act 1967

Export declaration forms



**Department of Statistics Malaysia (DOSM)**
Statistics Act 1965

**DOSM Official Portal**

https://www.dosm.gov.my

LNG export values and volumes are published on DOSM website

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## Data Submission & Publication Process

### 01
LNG export details i.e., LNG export values & LNG export volumes are submitted by LNG exporters to Customs and DOSM, as required by law,
e.g., the Customs Act 1967 and the Statistics Act 1965.

### 02
Declaration to Customs is done within seven (7) days after each LNG cargo is loaded

### 03
Submission to DOSM is done at the beginning of the following month after the transaction month (i.e., data for January transactions is submitted to DOSM by the 1st week of February). The submission must adhere to Custom's guidelines.

### 04
The LNG export details submitted will be used by DOSM for publication of the **Monthly External Trade Statistics (METS)** on its website.
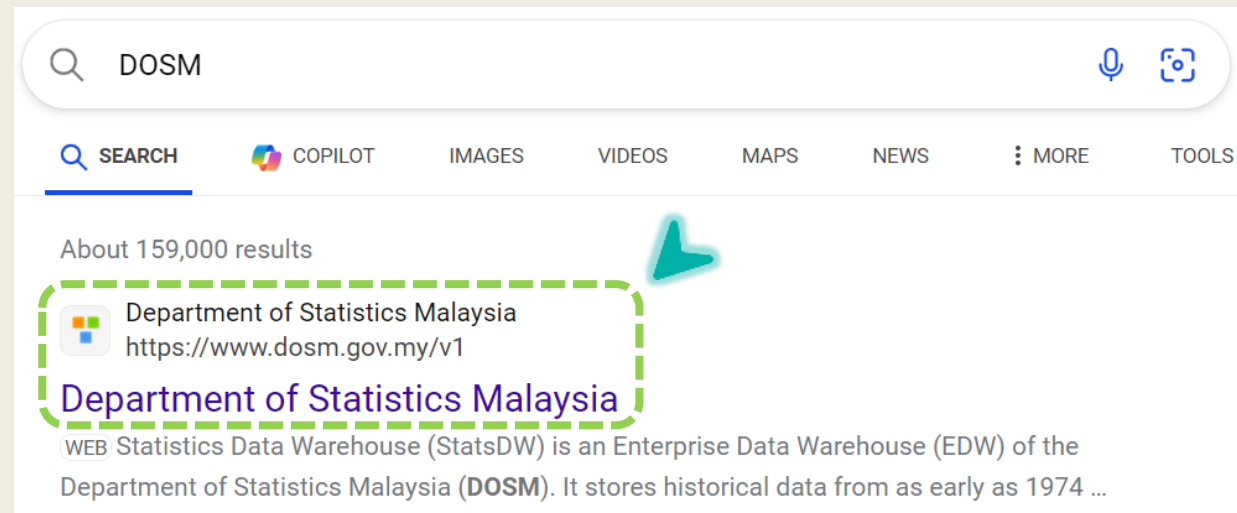
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## A step-by-step process to extract the LNG Export Value (FOB basis) and LNG Export Volume from DOSM website

**1** Search for DOSM on your browser and click the "Department of Statistics Malaysia Official Portal – DOSM" link.
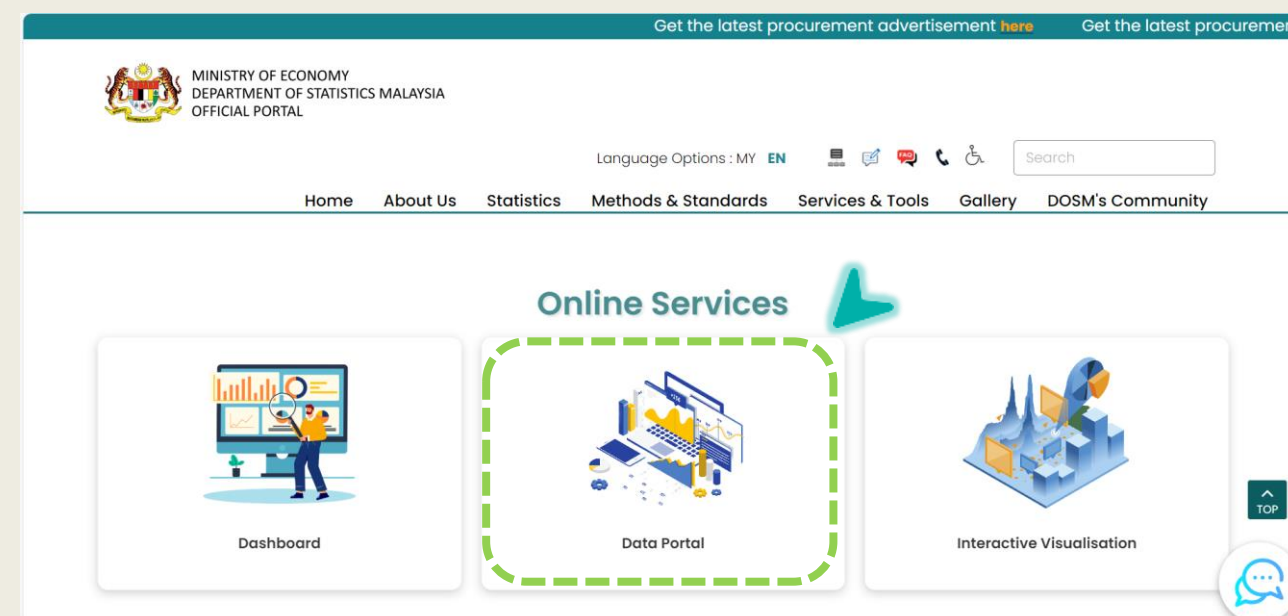
Department of Statistics Malaysia (dosm.gov.my)
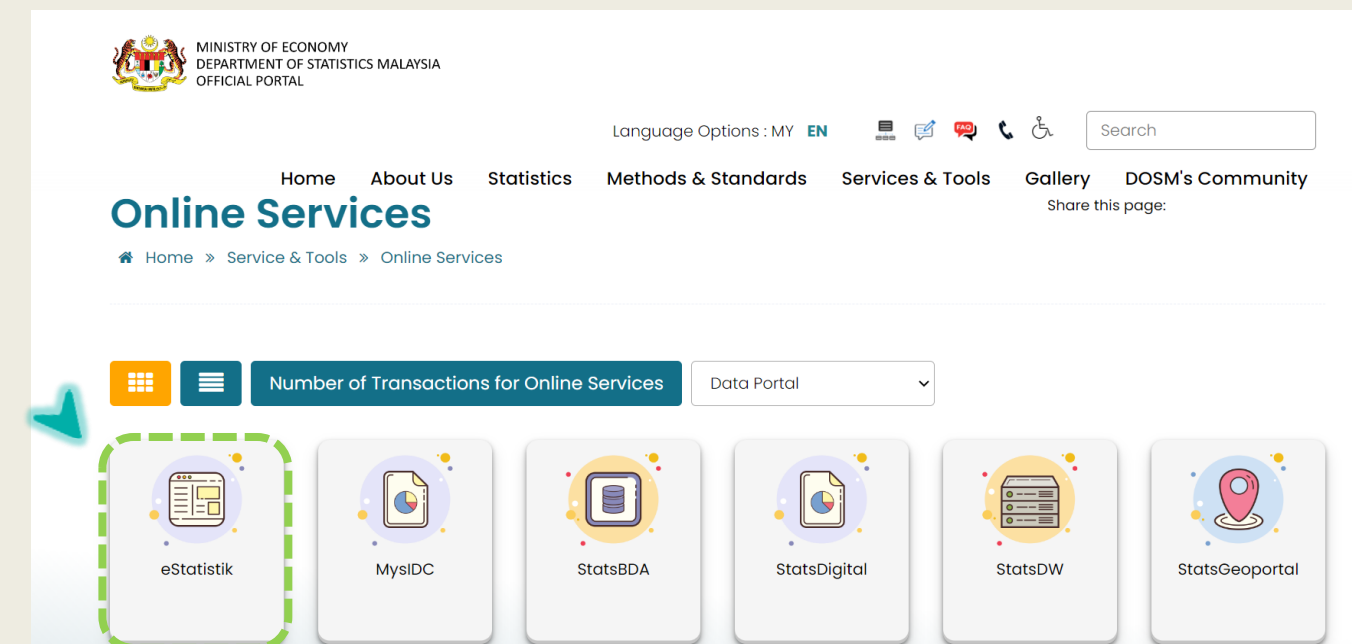


**2** Go to DOSM Official Portal and click "Visit Portal".



**3** Scroll down until you reach the Online Services section and choose "Data Portal".
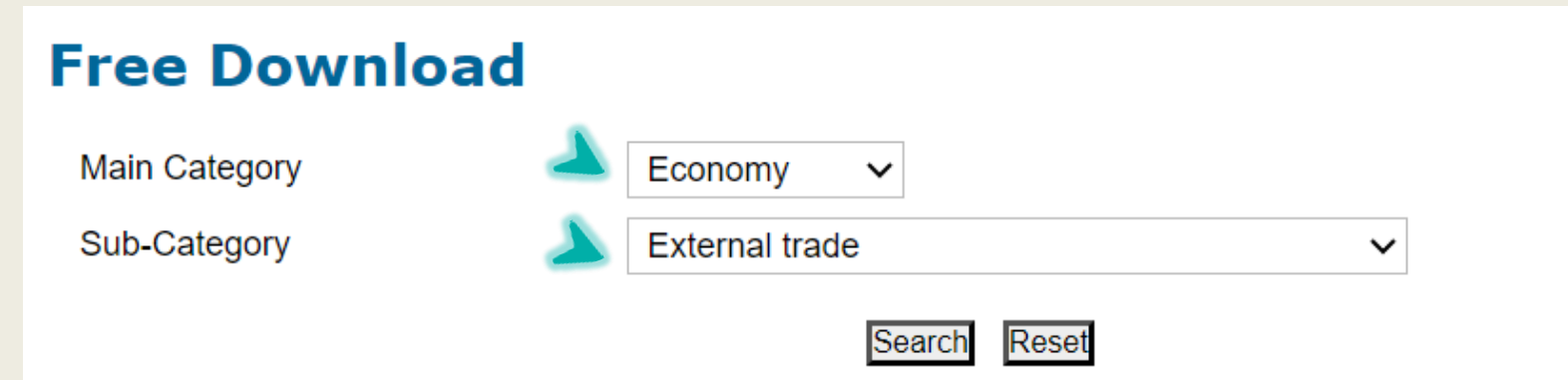


**4** Choose "eStatistik" from the list of options.

## 5
Alternatively, you can click on this link to go directly to eStatistik website & click on the "Free Download" section under Publications.

eStatistik (statistics.gov.my)



## 6
Select "Economy" for Main Category and "External Trade" as Sub-Category.



## 7
Select "Monthly External Trade Statistics, Malaysia" and refer to the Release Series section to select the desired data. Released Series February 2024 will contain information to derive the MRP for January 2024.



## 8
Under Subject, choose the subject "JADUAL_TABLES" to download the Excel file.

**9** In the Excel file, find the Table 9 (Export of Major and Selected Commodities) tab and look for "Liquified Natural Gas" under Primary Agricultural Products to retrieve the LNG export value in RM Million and LNG Export Quantity in '000 tonne. Choose the value for the month that you want to calculate.



**10** When all the information has been gathered, the MRP can be calculated using the below formula:

$$MRP = \frac{LNG\ export\ value\ (FOB\ Basis)\ (RM)}{(LNG\ export\ volume\ (tonne)\ \times\ conversion\ (MMBtu/tonne))}$$

*Conversion: 52
Whereby, 52 MMBtu equals to 1 MT of LNG

**11** Below is an example of the MRP calculation for the months of November & December 2023:

| | November | December |
|---|---|---|
| LNG Export Value (RM Mil) | 5630 | 6239 |
| LNG Export Quantity ('000 tonne) | 2537 | 2732 |
| MRP | 5630 x 1000 <br> 2537 x 52 <br> = RM 42.68 / MMBtu | 6239 x 1000 <br> 2732 x 52 <br> = RM 43.91 / MMBtu |

*52 is the conversion factor to convert LNG from MT to MMBtu

## Upstream Application

$$\alpha \times \textbf{MRP}$$

| Upstream Contract Price Formula | |
|---|---|
| $\alpha$ | $\alpha$ is negotiated between PACs & PETRONAS, usually determined by the project ROI & balanced risk reward |
| **Price Benchmark (MRP)** | Malaysia Reference Price ("MRP") was mandated by PETRONAS as standard price benchmark to be used in upstream and downstream gas contract |

## Downstream Application

$$\textbf{MRP} \times (1 + \alpha) + \text{T}$$

*For more information on Downstream application, please refer to PEGT website [here]*

| Downstream Contract Price Formula | |
|---|---|
| $\alpha$ | $\alpha$ is competitively negotiated parameter between Buyer & Seller |
| T | T is Peninsular Gas Utilisation (PGU) transportation tariff as approved and published by Suruhanjaya Tenaga (ST) |
| **Price Benchmark (MRP)** | Malaysia Reference Price ("MRP") was mandated by PETRONAS as standard price benchmark to be used in upstream and downstream gas contract |

## Upstream

- MRP is based on **3 preceeding months (n-3)** from applicable period for upstream contract.

| Applicable Period | Jan 2023 | Feb 2023 | Mar 2023 |
|---|---|---|---|
| Reference Period | Oct 2022 | Nov 2022 | Dec 2022 |
| LNG Export Value (RM Mil) | 7,256 | 6,575 | 6,406 |
| LNG Export Value Volume (kt) | 2,402 | 2,201 | 2,486 |
| Monthly MRP (RM/MMBtu) | $\frac{7256 \times 1000}{2402 \times 52} = 58$ | $\frac{6575 \times 1000}{2201 \times 58} = 57$ | $\frac{6406 \times 1000}{2486 \times 52} = 49$ |

## Downstream

- MRP is calculated **quarterly at n-4** for downstream contract.

| Applicable Period | 1Q (Jan – Mar) 2023 | | |
|---|---|---|---|
| Reference Period | Sep 2022 | Oct 2022 | Nov 2022 |
| LNG Export Value (RM Mil) | 6,525 | 7,256 | 6,575 |
| LNG Export Value Volume (kt) | 2,142 | 2,402 | 2,201 |
| Monthly MRP (RM/MMBtu) | $\frac{(6525 + 7256 + 6575) \times 1000}{(2142 + 2402 + 2201) \times 52} = 58$ | | |

➤ **Yes, the MRP movement tracks key oil markers**, namely, Brent and JCC, since large proportion of the LNG exported out of Malaysia are indexed to these markers.

➤ The observable lag in price movements between MRP and these oil markers are due to the following :

  (i) The adoption of prior months oil prices as the price index for most of Malaysia LNG sales contracts.

  (ii) The data to calculate MRP are only available on DOSM website two months after the transaction month due to requirements enforced by DOSM on submission and publication.

➤ Therefore, any movements in these oil markers will only be reflected in the MRP in the following months, typically within 4 months period.

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**Historical prices of Brent, JCC and MRP**

Oil prices
USD/Bbl

USD/MMBtu

140

120

100

80

60

40

20

0

20

18

16

14

12

10

8

6

4

2

0

Jan-17   Jan-18   Jan-19   Jan-20   Jan-21   Jan-22

— Brent (USD/bbl)      — JCC (USD/bbl)      — MRP (USD/MMBtu)
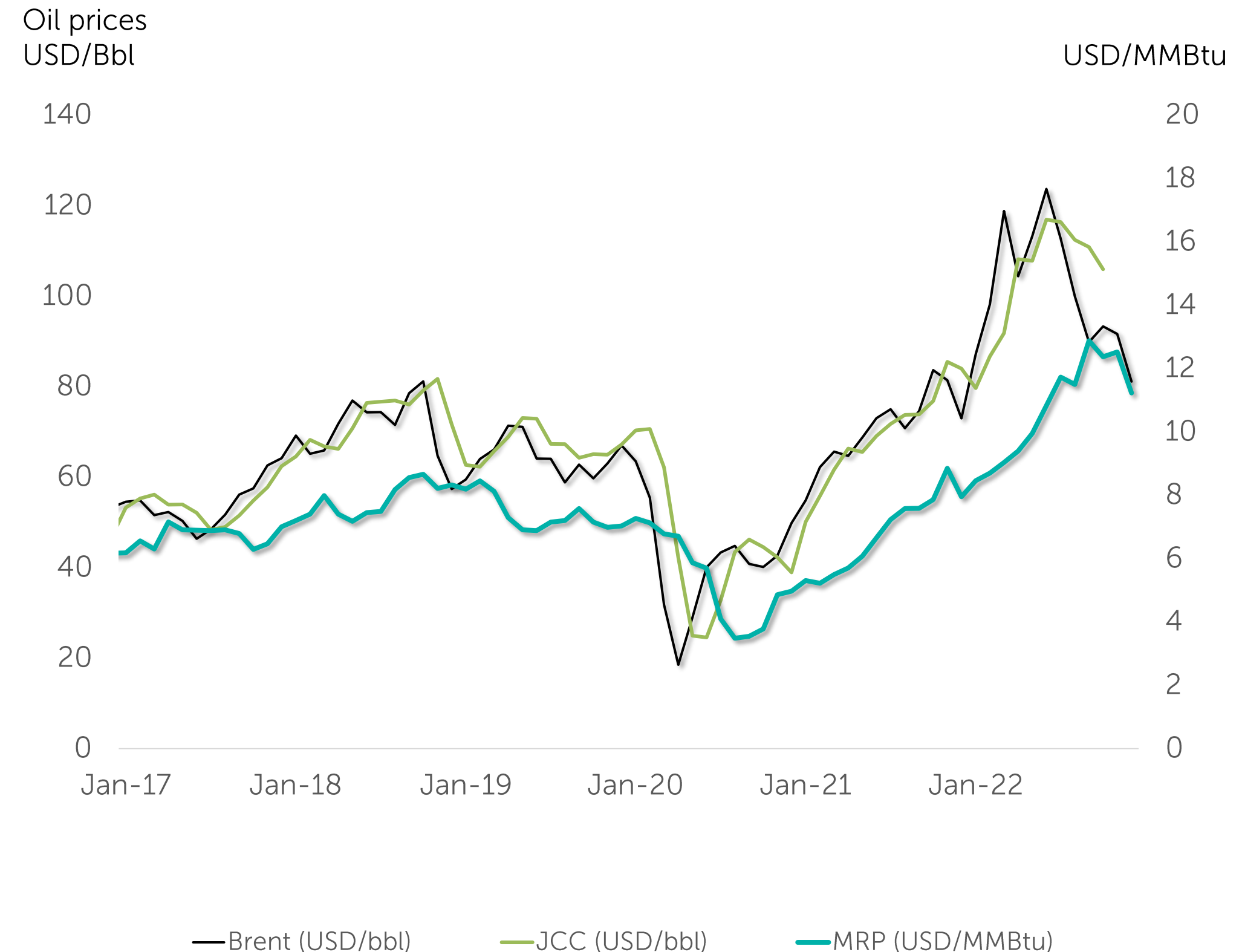
➤ MRP can be forecasted by making assumptions on the total value and volume of LNG export out of Malaysia as per formula below:

$$\text{MRP} \ (\text{USD/MMBtu}) = \frac{\text{Total Malaysia LNG Export Value (USD)}}{\text{Total Malaysia LNG Export Volume (MMBtu)}}$$

Total Malaysia LNG Export Volume
(Contracted + To Be Contracted + Spot)

Sales of Contracted Malaysia LNG Export*

Sales of To Be Contracted Malaysia LNG Export*

Malaysia LNG Export Spot Sales *

Shipping Related Cost

*Need to be subtracted with shipping related cost to arrive to a deemed FOB value

➤ Components of LNG export value and volume can be obtained by subscribing to industry consultants' database.

➤ One needs to have a view on the regional and global gas and LNG market to make sound assumptions.

➤ By repeating the above steps to a subsequent set of data, one can generate a longer term forecast monthly or annually.

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**In absence of detailed information on Malaysia LNG export data, MRP can be forecasted by considering the following:**

➤ MRP movement is **highly correlated to oil prices** as current Malaysia LNG contracts are still largely indexed to oil.

➤ MRP represents the value of LNG exported from Malaysia. Its behaviour will be influenced by the **changes in global LNG market trends** e.g., LNG supply demand, spot vs term prices, price indexation.

➤ MRP forecast must also consider the **lagging factor** of 4 months as explained in question #6.

# End