

AGH Bulletin

No. 15/2023
Published on 04 August 2023

Disclaimer: Asia Gas Hub (AGH) assumes no responsibility or liability for any errors or omissions in the content of this market report. The information contained is provided on an "as is" basis with no guarantees of completeness, accuracy, usefulness or timeliness. The forecast published in this report is for information only.

WORLD NEWS

Pakistan Is Ready For LNG Purchase Deal With Azerbaijan On Flexible Terms

1. Pakistan has signed a framework agreement with Azerbaijan for the import of low-cost LNG on flexible terms for a period of one year, which the country has described as "major milestone".
2. Under the agreement which was signed between the Pakistan LNG Limited (PLL) and Azeri firm, SOCAR, in Lahore, Azerbaijan will offer Pakistan 12 low-cost LNG cargoes per annum, however, it is not compulsory for Islamabad to buy the gas. SOCAR will offer an LNG cargo to Pakistan every month and Pakistan would decide whether to buy it at the level of price to be offered. Pakistan, will not be penalized in case it decides not to purchase the cargo.
3. Pakistan currently meets its LNG requirement through long-term supply contracts for 15 years with Qatar which was signed in 2016 for 3.75 mtpa. Another long-term contract was

AGH Commentary

This deal arrangement is a major milestone for Pakistan, as not many LNG producers and sellers are willing to agree on the similar terms.

Pakistan Is Being Priced Out Of The LNG Market Again

1. Pakistan has dropped plans to procure LNG cargoes for next year after its tender only attracted two offers that featured a 30% premium to market prices from the same supplier.
2. According to market source, the offers came from Trafigura and the delivery dates had been in January and February 2024.
3. Last year, Pakistan was essentially priced out of the market when the suspension of Russian pipeline gas deliveries turned Europe into a major buyer.
4. Early this year, ENI said it would not be able to deliver its contracted once a month LNG cargo to Pakistan under long-term contract due to circumstances outside its control, in which the price was not able to be covered by Pakistan.
5. Based on the reported premium asked by Trafigura for LNG deliveries to Pakistan next year, commodity traders' expect another strong jump in prices come heating season.

Source: OILPRICE.Com, 01 August 2023

AGH Commentary

Even though the current LNG spot price situation has come down compared to last year which allowed Pakistan to return to the LNG spot market, but latest news indicates Pakistan will not return to spot market at least until the country's financial crisis improves.

WORLD NEWS (cont'd)

India's Petronet Eyes Lower Prices Under Renewed Long Term Deal With Qatar

1. India's Petronet LNG hopes to extend its long-term gas import deal with Qatar at lower prices those offered by the world's top LNG exporter in recent deals with China and Bangladesh.
2. Indications are that the deals have been done at a slope of 12-13% to Brent. LNG contract prices are typically expressed as a slope, or percentage of Brent prices.
3. Petronet is seriously engaged with Qatar to extend its long-term deal to beyond 2028 and has until the end of the year to complete negotiations for an extension.
4. At present, the company buys 8.5 mtpa under its deals with Qatar with pricing based on a slope of about 12.67% of Brent, plus a fixed charge of about 50 cent/MMBtu.
5. The company plans to seek up additional 1 mtpa when it renews is long-term deal with Qatar.

Source: The Economic Times, 31 July 2023

AGH Commentary

A good opportunity for Petronet to get lower price for their long-term supply in line with current market sentiment.

PETRONAS To Ship More LNG To China

1. PETRONAS plans to export more LNG to China to meet the country's soaring demand for clean energy and industrial upgrade, amid a renewed push for green and innovation-led growth by the world's second-largest economy.
2. PETRONAS's natural gas production reached nearly 30 million tons in 2022, of which 7.5 million tons were exported to China, This accounted for around 10 percent of the company exports to China in 2022.
3. The company is the third-largest LNG supplier to China after energy group in Australia and Qatar. It had delivered over 1,100 LNG shipments to the country by the end of 2022, serving more than 20 receiving terminals across China.
4. PETRONAS aims to achieve annual LNG production capacity of 55 million tons by 2030 and the strategic emphasis is on expanding its supply to the Chinese market.

Source: CHINADAILY.Com.CN, 02 August 2023

AGH Commentary

China's demand for LNG is expected to gradually recover and grow further from this year onwards. The country has overtaken Japan as the largest LNG importer since last year. With the ongoing urbanization process, more people are expected to move to cities, further driving up the country's energy consumption particularly natural gas.

HOME

Gas Malaysia Inks MoU With Tokyo Gas Network

1. Gas Malaysia Berhad (Gas Malaysia) and Tokyo Gas Network Co Ltd (Tokyo Gas Network) have taken steps towards reinforcing their commitment towards innovative strategies and industry development in the gas distribution sector by signing a Memorandum of Understanding (MoU).
2. The MoU solidifies both parties' commitment to cooperate and collaborate with each other to exchange expertise and information for the purpose of an employee exchange program.
3. The program aims to facilitate the exchange of technical and non-technical employees between both companies, which will address the business needs as well as provide an opportunity to actively participate towards nation building.
4. Under the MoU, Gas Malaysia and Tokyo Gas Network intend to facilitate the exchange of

AGH Commentary

As Gas Malaysia continues its journey under a liberalized market, more collaborative efforts are expected to materialize, further propelling the company towards a resilient future.

Ace Gases To Launch New Liquid CO₂ Plant In Malaysia

1. Malaysia-based industrial gas manufacturer Ace Gases has announced the upcoming launch of its second Liquid Carbon Dioxide (LCO₂) plant which is scheduled by November this year. The plant will increase its production capacities from 160 tones per day to 350 tones per day which the company hopes will satisfy an increase demand for the gas both in South-East Asia and globally.
2. Ace Gases supplies LCO₂ for a range of industries including food and beverages, industrial gas re-fillers for the welding and construction sectors and other CO₂ consumers who rely on a steady supply of the gas.
3. The company will invest around RM22 million in the project, including the plant purchase and related operational assets.

Source: gasworld.com, 01 August 2023

AGH Commentary

The plant's commissioning marks a significant milestone to support global industries with innovative gas solutions.

HOME (cont'd)

Masdar Explores Developing 2GW Clean Energy In Malaysia Amid Asia Expansion

1. Abu Dhabi Future Energy Company PJSC- Masdar, the UAE's clean energy powerhouse, and Citaglobal Berhad, have signed a memorandum of understanding (MoU) in Malaysia, for the joint development of renewable energy projects across solar, battery energy storage system (BESS), wind and other renewable energy technologies.
2. Both companies will join forces to develop projects across the renewable energy mix in the picturesque Malaysian state of Pahang as Malaysia is targeting net-zero emissions by 2050.
3. The MoU will also facilitate the potential collaboration for both companies for technology solutions and equipment supply on Central Asia.
4. Established in 2006, Masdar is active in more than 40 countries with a total electricity generation capacity of more than 20GW, with combined value of investment of USD30 Billions. The company has ambitious growth plans to reach 100GW and 1 million tons of green hydrogen by 2030.

Source: news.masdar.ae, 31 July 2023

AGH Commentary

This collaboration could support faster progress towards national climate targets and building long term energy requirement in a responsible and cost-efficient manner.

GLOBAL HIGHLIGHTS – LNG & Natural Gas

Snapshot as of 04 August 2023

ASIA PACIFIC/INDIA

1. Asia's demand for spot LNG ticked up to the most in six months in early August but the small increase was partially offset by declining demand in Europe.
2. Spot LNG for delivery to north Asia increased slightly in the week to August 3, ending at USD11.077/MMBtu, up from USD11/MMBtu the week before as indicated by Platts.
3. However, traders indicated the actual price could be below USD11/MMBtu or at high USD10/MMBtu compared to the assessment due to weak demand from buyers.
4. In addition, sluggish demand in Europe could also contribute price sentiment in Asia.

Sources: Industry and Reuters, 04 August 2023

AGH Commentary

Demand is still weak in Asia due to high inventory and low demand from local industry of the major importers.

EUROPE

1. Gas prices at the Dutch TTF hub as at yesterday was closed at Euro30.47/MWh or USD8.22/MMBtu or RM37.48/MMBtu for front month - September delivery.
2. The spot price is hovering at the same level since last week as news report there is no changes on European's buyers demand on spot LNG. Buyers were reported weighed supply risks and uncertainty about the upcoming winter against rising storage level.
3. Stockpiles are about 86% full on average, much higher for the time of year.

AGH Commentary

LNG sellers are expected to shift their spot market to Asia due to weak demand in Europe.

Sources: Industries & Reuters, 04 August 2023

Freight Charges Selected Regions as of 04 August 2023 (RM/MMBtu)

Export Regions	Japan/Korea	Taiwan/China	Malacca
Bintulu	3.64	3.41	1.82
Singapore	4.10	3.19	0.91
M'cca	4.10	3.64	-

Charter Hire Rate as of 04 August 2023 USD50,000/Day

Source : Industry, 2023

GLOBAL HIGHLIGHTS – LNG & Natural Gas Outlook as of 04 August 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
	-	-				
Sep	▲ 11.077	50.01	8.22	37.40	▼ 2.56	11.66
Oct	▼ 12.16	54.95	▼ 9.36	42.69	▼ 2.66	12.12
Nov	▼ 14.02	63.94	▼ 11.64	53.05	▼ 3.06	13.93
Dec	▼ 15.84	72.20	▼ 12.93	58.96	▼ 3.49	15.90
Jan 24	▼ 16.92	77.14	▼ 13.33	60.75	▼ 3.72	16.95
Feb 24	▼ 17.13	78.11	▼ 12.94	59.01	▼ 3.65	16.64
Mar 24	▼ 15.40	70.19	▼ 13.28	60.56	▼ 3.38	15.39
Apr 24	▼ 15.03	68.54	▼ 12.96	59.09	▼ 3.09	14.06
May 24	▼ 14.75	67.26	▼ 12.91	58.84	▼ 3.07	14.01

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)
Aug	▲ 69.60	-	-
Sept	▲ 69.04	▲ 66.55	▲ 72.20
Oct	▲ 68.69	▲ 66.15	▲ 72.99
November	▲ 68.37	▲ 65.77	▲ 72.33
December	▲ 68.03	▲ 65.34	▲ 71.63
Jan24	▲ 67.67	▲ 64.97	▲ 71.02
Feb24	▲ 67.30	▲ 64.56	▲ 70.51
Mar24	▲ 66.97	▲ 64.06	▲ 70.07
Apr 24	▲ 66.64	▲ 63.68	▲ 69.67
May 24	▲ 66.32	▲ 63.32	▲ 69.27
June 24	▲ 65.98	▲ 63.02	▲ 68.48

Sources: CME Group Market Data, ICE Energy Report

GLOBAL HIGHLIGHTS – LNG & Natural Gas

Outlook as of 04 August 2023 (cont'd)

Regional Coal Future Index

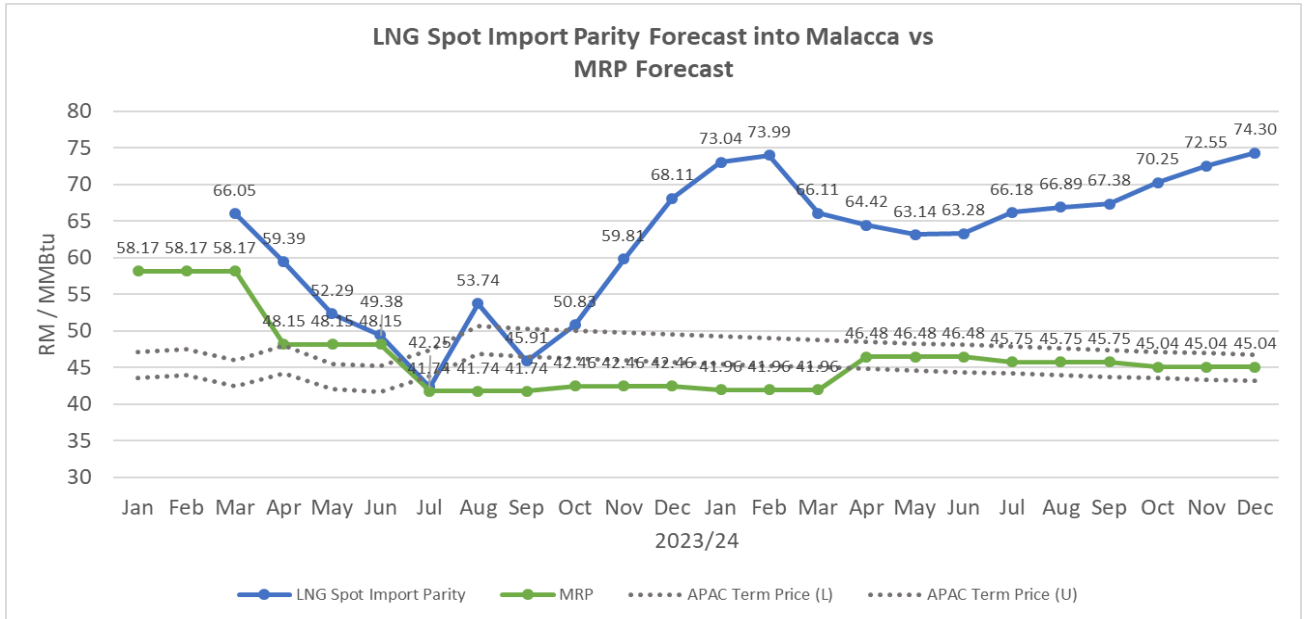
Month 2023	ICE Newcastle Coal Index	
	USD/ MMBtu	RM/ MMBtu
July	▲ 4.93	22.47
Aug	▲ 5.10	23.24
Sep	▲ 5.22	23.81
Oct	▲ 5.42	24.72
Nov	▲ 5.65	25.78
Dec	▲ 5.69	25.95
Jan 24	▲ 5.62	25.62
Feb 24	▲ 5.57	25.41
Mar 24	▲ 5.53	25.21
Apr 24	▲ 5.51	25.11
May 24	▲ 5.51	25.12

Sources: ICI, www.cmegroup.com; ICE Newcastle Coal index, www.barchart.com

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

Month 2023	Argus Propane Future Index		Mini Argus Butane Future Index	
	USD/ MMBtu	RM/ MMBtu	USD/ MMBtu	RM/ MMBtu
Sep	▲ 8.00	36.46	▲ 7.91	36.05
Oct	▲ 8.23	37.53	▲ 7.93	36.17
Nov	▲ 8.54	38.93	▲ 8.20	37.39
Dec	▲ 8.76	39.95	▲ 8.43	38.41
Jan 24	▲ 8.79	40.07	▲ 8.62	39.31
Feb 24	▲ 8.75	39.87	▲ 8.58	39.10
Mar 24	▲ 8.47	38.62	▲ 8.31	37.89
Apr 24	▲ 8.14	37.12	▲ 8.04	36.66
May 24	▲ 7.91	36.04	▲ 7.83	35.67
June 24	▲ 7.74	35.27	▲ 7.69	35.08
July 24	▲ 7.68	35.03	▲ 7.66	34.94
August 24	▲ 7.74	35.30	0	0

LOCAL HIGHLIGHTS – Domestic Forecast for MRP & LNG Import Parity as of 04 August 2023



Source: AGH Market Analysis

Month	Import Parity - MRP Spread	Change	APAC Term Ave - MRP Spread	Change
Aug-23	12.00	0.00	7.02	▲ 0.51
Sep-23	4.17	▲ 1.52	6.63	▲ 0.43
Oct-23	8.37	▼ -1.06	5.66	▲ 0.46
Nov-23	17.35	▼ -3.64	5.43	▲ 0.48
Dec-23	25.65	▼ -6.56	5.20	▲ 0.52
Jan-24	31.07	▼ -6.68	5.44	▲ 0.52
Feb-24	32.03	▼ -5.82	5.18	▲ 0.50
Mar-24	24.14	▼ -3.90	4.96	▲ 0.50
Apr-24	17.94	▼ -8.04	0.21	▼ -2.64
May-24	16.67	▼ -8.61	-0.02	▼ -2.66
Jun-24	16.80	▼ -8.34	-0.25	▼ -2.89
Jul-24	20.44	▼ -5.14	0.24	▼ -2.41
Aug-24	21.14	▼ -4.44	0.02	▼ -2.43
Sep-24	21.63	▼ -3.95	-0.20	▼ -2.45
Oct-24	25.21	▼ -0.85	0.29	▼ -2.24
Nov-24	27.51	▲ 1.45	0.09	▼ -2.27
Dec-24	29.26	▲ 3.20	-0.10	▼ -0.51

Source: AGH Market Analysis

Commentary

Due to the widening spread from September onwards between MRP and Import Parity, it is not practical to import spot LNG cargoes into the country.

MRP = Malaysia Reference Price used for domestic market

LOCAL HIGHLIGHTS – Peninsular Gas Utilities (PGU) Gas Volume Updates as of 04 August 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'gaganu	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 04 August 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	
N.Sembilan	Kapar MS	268.04	277957.48	
	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 Rumput 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	
	M'cca	Alor Gajah CG	9.25	9592.25
		Tanjung Kling MS	50.01	51860.37
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

Source: PETRONAS Gas Berhad

IBR : Incentives Based Regulation

GJ : Gigajoules

RM : Ringgit Malaysia

RGTSU : Regas Terminal Sungai Udang, Malacca

RGTP : Regas Terminal Pengerang

FUN FACTS

1 About Malaysia International Shipping Corporation (MISC) Berhad

MISC Berhad (MISC or the Group) is a global leader in delivering energy-related maritime solutions & services with more than 50 years of experience in the maritime industry. The Company's modern and diverse fleet consists of more than 100 owned and in-chartered vessels comprising of Liquefied Natural Gas (LNG) and Ethane carriers, Petroleum and Product vessels, Floating Production Systems (FPS) as well as LNG Floating Storage Units (FSU) with a combined deadweight tonnage (dwt) capacity of more than 13 million tonnes.



Source: www.MISC.com

2 ChatGPT Let's ask...

How many type of LNG vessel to transport the LNG?

There are several types of LNG (liquefied natural gas) vessels used to transport LNG across the world. The specific type of vessel chosen depends on various factors, including the volume of LNG to be transported, the distance of the journey, and the receiving terminal's capabilities. Here are the main types of LNG vessels:

- ❑ **LNG Carrier (LNGC):** This is the most common type of vessel used for transporting LNG. LNG carriers are specially designed tankers with advanced insulation and containment systems to keep the LNG in its liquid state. They come in various sizes, ranging from small-scale carriers to large-scale vessels capable of transporting hundreds of thousands of cubic meters of LNG.
- ❑ **Floating Storage and Regasification Units (FSRU):** These vessels have the dual purpose of storing and re-gasifying LNG. FSRUs are often moored at a receiving terminal, where they convert the LNG back into its gaseous state for distribution to the onshore gas grid. They are particularly useful for locations without fixed regasification infrastructure.
- ❑ **Floating Storage Units (FSU):** Similar to FSRUs, FSUs are used for temporary storage of LNG. They lack regasification capabilities and are typically deployed in areas where onshore storage is not feasible.
- ❑ **LNG Floating Production Storage and Offloading (LNG FPSO):** LNG FPSOs are used in certain cases for offshore LNG production and storage. These vessels produce, liquefy, and store LNG from offshore gas fields, making them suitable for remote locations with no access to onshore facilities.
- ❑ **Small-Scale LNG Carriers:** These vessels are designed to transport smaller quantities of LNG to regions with limited demand or lacking infrastructure for large-scale carriers. They enable the distribution of LNG to smaller, more remote markets.
- ❑ **LNG Bunkering Vessels:** These specialized vessels transport LNG to provide fuel for LNG-powered ships, often in ports or areas where LNG bunkering infrastructure is established.
- ❑ **LNG-powered Vessels:** In recent years, there has been an increase in the development of LNG-powered ships. These vessels have engines capable of burning LNG as fuel, reducing emissions compared to traditional marine fuels.



ASIA GAS HUB

BUILDING THE GAS MARKET FOR TOMORROW

www.asiagashub.com

  @AsiaGasHub