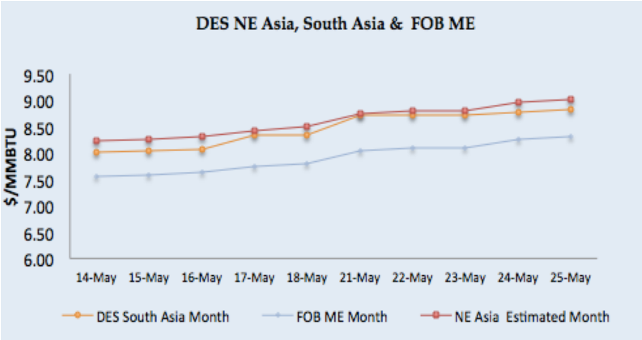
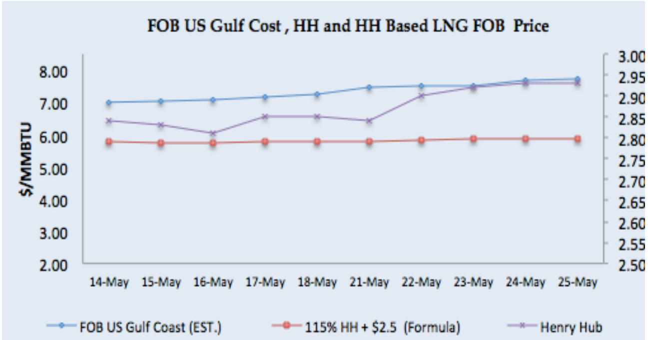
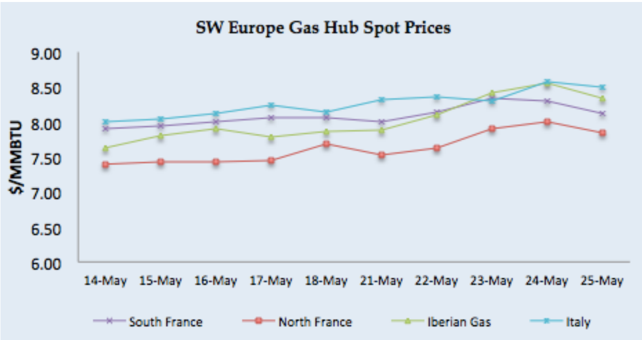
LNG Market Analysis

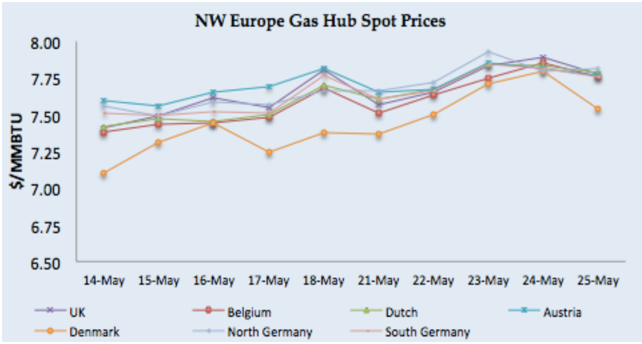
Volume: 25th May 2018

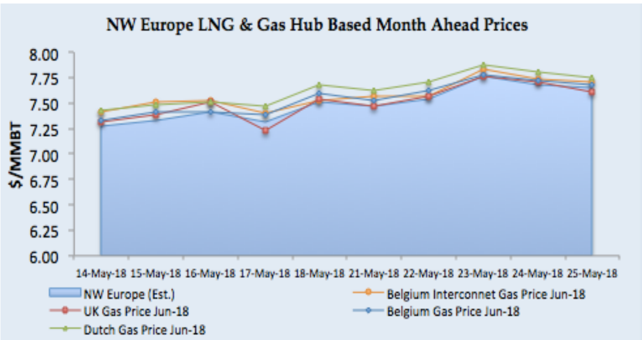
LNG and Natural Gas Price Assessment 14th – 25th May 2018

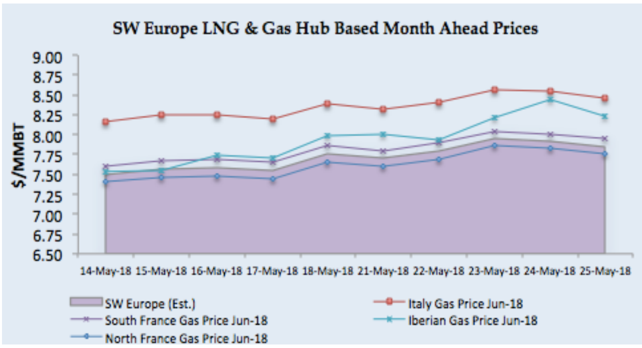












LNG Analysis

- LNG prices had a bullish run during the week due to demand from South Korea, China, India and European region due to summer based demand, supported by higher crude prices and lower LNG inventory across Europe.
- Japan demand is regular, however there are concern on reduction in demand as nuclear power generation mix is resuming, Chugoku Electric also applied for pre-startup inspection.
- Demand is picking up in China, as domestic prices remained stable with weather warming up along with extreme hot weather started in South Asia.
- As per internal projection models, 95 vessels are expected to load cargoes during 25th- 31st period, whereas 96 laden vessels will be discharging during the same period.
- Asian price closures on Friday; NE Asia for June closed at $9.02/MMBTU, whereas July prices closed at $9.41/MMBTU, while long-term contract prices are in the range of $8.24/MMBTU-$9.88/MMBTU.
- Product receipt during last week, Japan received 1.33MMT (21 vessels), South Korea 0.46MMT (6 vessels), China 0.67MMT (9 vessels) and Taiwan 0.24MMT (4 vessels) during the week, NEA region represent 53.7% of a global trade this week.
- MT May receipt: Japan 4.73MMT (76 vessels), South Korea 2.31MMT (32 vessels), China at 2.84MMT (40 vessels) & Taiwan 1.16MMT (18 vessels).
- DES South Asia is calculated around $8.82/MMBTU for June & $9.16/MMBTU for July, whereas FOB ME estimated at $8.30/MMBTU & $8.68/MMBTU for June & July 2018 respectively. Brent based contract price

is around $8.74/MMBTU on average for Pakistan and Henry Hub based prices for India at $7.17/MMBTU, which makes US cargoes more attractive for South Asian buyers.

- India imported 0.44MMT (6 vessels), MTD 1.55MMT (22 vessels), while Pakistan received 0.06MMT (1vessels) during the week, with MTD 0.34MMT (5 vessels).
- North West Europe LNG prices remained bullish due to higher crude prices along with expected maintenance at Norwegian gas system and warm weather outlook.
- NW Europe LNG price closure at $7.65/MMBTU for June and $7.96/MMBTU level for July.
- Seven vessels are due to reach UK, Netherlands and Belgium during next one week.
- Prices remained bullish for South West Europe region also due to summer demand, low inventory level and bullish crude prices.
- SW Europe LNG price closure for the week is estimated at $7.85/MMBTU for June and $8.22/MMBTU level for July.
- Prices for Mediterranean region are around $9.03/MMBTU for June and $9.41/MMBTU for July due to higher Asian prices.
- Nine vessels are due to reach France, Spain and Italy during next one week.
- Five vessels left from Russian projects with three from Sakhalin project & one from Yamal project, while Four cargoes left from Sabine Pass export terminal during the week.
- Spain received 4, France 3, Belgium 2, Italy, Netherlands & Lithuania 1 vessel each during the week, while Turkey received one cargo.
- Argentina & Mexico received 2 cargoes while Chile received one cargo during the week.
- One reload cargo from Spain to Turkey left during the week.
- Arbitrage window for European reloads opening now for South Asian destinations, as reload prices coming around as for UK $7.90/MMBTU, France $8.08/MMBTU, & Spain $8.04/MMBTU, along with better netback for Egyptian, Turkish and other Mediterranean destinations.
- US Henry Hub based price is $5.87/MMBTU for US based liquefaction companies, which translate into margin of $1.84/MMBTU for NE Asia & $1.65/MMBTU for South Asia, whereas $1.14/MMBTU for NW Europe and $1.39/MMBTU for SW Europe, making Henry Hub based LNG attractive through out the year.
- NEA May price around $9.02/MMBTU level is estimated to be 13.25% of Brent 3-0-1 basis.

Author's Conclusion

- Crude prices started showing bearish run based after market absorbing the initial excitement of Venezuela and Iran issue as overall crude supply is not been an issue, next critical news for crude is expected from OPEC production cut gradual decrease which has potential of keeping crude price bearish, with minimal impact on LNG prices as Brent based prices already higher than spot prices which is governed by summer based buying.
- US gas prices still bringing positive margin for liquefaction companies due to lower price level and higher prices in Asian, North East Asia and European markets. European markets remained stable due to warm weather and lower inventory level, a phenomenon post Rough storage facility closure, however higher Asian prices has resulted in opening up reload opportunities for South Asian & other locations.
- LNG prices bullish run expected to continue as summer based demand is back in the market along with reduced supply in July due to maintenance at Angola LNG beside delayed start-up of Ichthys LNG project. This year higher prices has also supported US LNG investments as Henry Hub based pricing are becoming more attractive for buyers.

Market Analysis

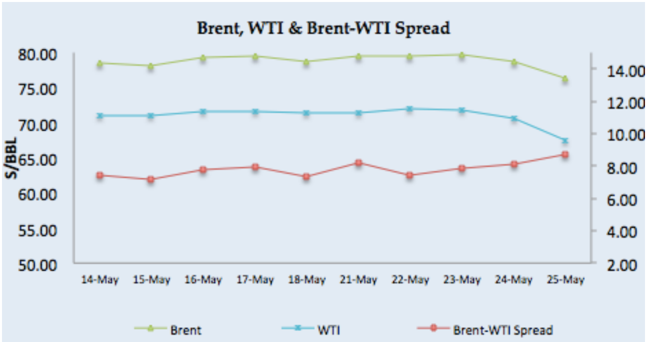
- North West Europe: Warm weather with 2-3 degrees above seasonal limit outlook.
- South West Europe: Within seasonal limit warm weather outlook.
- South America: Mild to cold weather outlook.
- Middle East: Hot summers in Middle East.
- South Asia: Extreme hot weather.
- North East Asia: Summer arrived in North East Asia.
- South East Asia: Hot weather outlook.
- North America: Summer in Mexico. US weather; Mild weather outlook for Northwest & Northern Rockies, while warm weather for the rest of US.

Crude Oil

- Crude oil started bullish on reduced supply concerns from Venezuela and Iran, however had a bearish run from mid of the week due to rise in US along with news of OPEC and Russia considering increase in production to fill in the gap from Venezuela and Iran.
- US Inventory data with unexpected inventory buildup also supported the bearish run.

Million Barrels (MBbl)	18-May-2018	11-May-2018	04-May-2018	27-Apr-2018
Production (MBbl/D)	10.725	10.723	10.703	10.619
Exports (MBbl/D)	1.75	2.566	1.877	2.148
Crude Inventory	438.1	432.4	433.8	436.0
Gasoline Inventory	233.9	232.0	235.8	238.0

- EIA reported 5.88 million barrels buildup against expectation of 1.57 million barrels drawdown, while gasoline inventory reported an increase by 1.88 million against market expectation of 1.38 million barrels buildup.
- US production touched 10.72 million barrels/Day, increased by 2,000 barrels from last week.
- US weekly export at 1.75 million barrels/day, while imports at 8.15 million barrels per day.
- Brent prices closed at $76.26/BBL, while WTI closed at $67.52/BBL, with Brent-WTI spread at $8.74/BBL on Friday.
- Future market closure on Friday for Brent front month at $76.23/BBL, with $75.88/BBL for September & $75.47/BBL for October, whereas WTI at $67.50/BBL for July with $67.42/BBL & $67.09/BBL for August & September respectively.
- Over supply conditions govern by US production increase and news reduction on OPEC led production cut driving long-term backwardation.
- Baker Hughes oil-rig count increased by 15 with total count at 859.



Supply Outlook (25th -31st May 2018)

- As per forecast model, supply seems adequate with 95 vessels expected to load cargoes.

Project Name	Cargoes	Project Name	Cargoes	Project Name	Cargoes	Project Name	Cargoes
ADNOC LNG	2	Cove Point LNG	4	Oman LNG	3	Snohvit LNG	1
Angola LNG	1	Damietta LNG	1	Papua New Guinea LNG	1	Tangguh LNG	1
AP LNG	1	Donggi Senoro LNG	2	Peru LNG	1	WheatStone LNG	2
Arzew Terminal	6	Equatorial Guinea LNG	2	Petronas Bintulu Complex	7	Yamal LNG	2
Atlantic LNG	5	Gladstone LNG	1	Pluto LNG	2		
Bontang LNG	4	Gorgon LNG	4	Qatar Gas	19		
Brunei LNG	1	Nigeria LNG	5	Queens Land Curtis LNG	4		
Cheniere LNG	3	North West Shelf LNG	6	Sakhalin LNG	4		

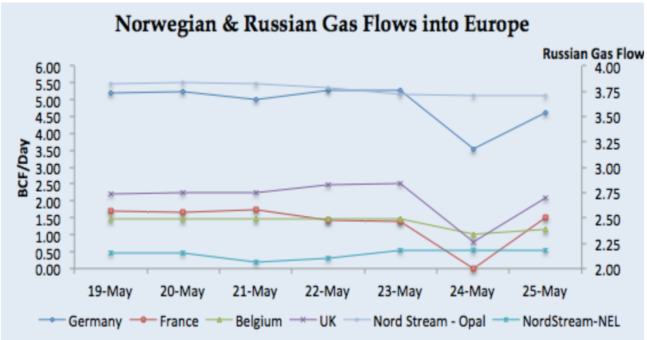
Demand Outlook (25th -31st May 2018)

- As per forecast model, outlook for at least 96 vessels to arrive at different demand centers.

Country	Cargoes	Country	Cargoes	Country	Cargoes	Country	Cargoes	Country	Cargoes
Argentina	3	France	5	Netherlands	1	Taiwan	5		
Belgium	3	India	10	Norway	1	Thailand	1		
Brazil	2	Israel	1	Pakistan	1	Turkey	1		
China	14	Italy	3	Singapore	1	UK	3		
Dominican Republic	1	Japan	25	South Korea	11	US	1		
Egypt	2	Lithuania	1	Spain	1	Chile	1		

Natural Gas

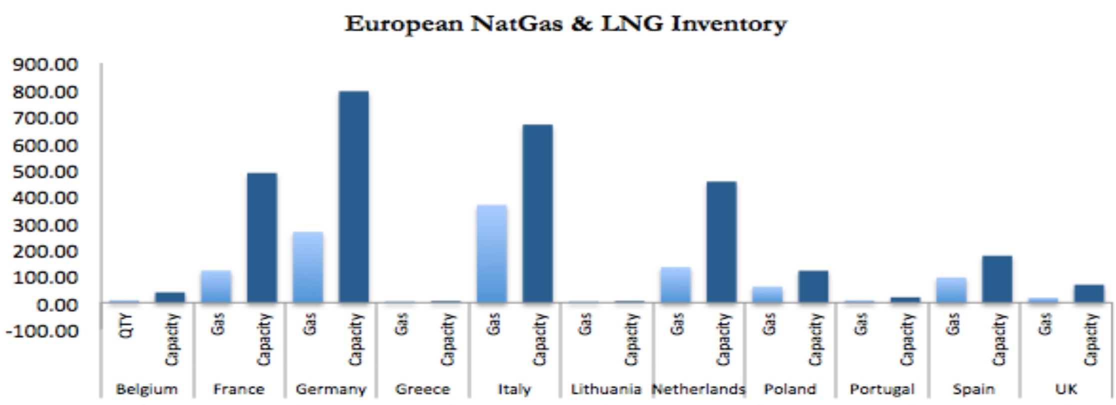
- US Natural gas prices had a bullish run due to warmer than seasonal norms weather outlook for major parts of US.
- EIA reported working gas in storage is 1,629 BCF as of Friday, 18th May 2018, net increase of 91 BCF; in-line with the expectations of 92 BCF build-up.
- Supply remained flat and stood at 86.0 BCF/Day, with demand decreased during the week from 71.9 BCF/Day from 70.2 BCF/Day.
- Demand from power sector decreased by 0.7 BCD/Day, however expected to increase due to warmer weather outlook.
- Baker Hughes reported decrease by 2 in gas rigs and total number stands at 198.
- Henry Hub closed at $2.93/MMBTU, with forward market at $2.96/MMBTU for July.
- North West European gas hub Day Ahead prices has a bullish run majority of the week due to planned and unplanned outages in Norwegian gas supply system along with warm weather outlook, however prices eased on Friday on resolution of unplanned outages. Curve market followed the crude oil trend and remained bullish till mid of the week and then moved down.



- Gas flow from Norway reduced due to planned and unplanned outages at Dunkerque, Easington & St. Fergus Terminal along with annual maintenance at Karsto and Kollsnes and unplanned outages at Kristin, Kvitebjorn and Nyhamna.
- Gas inventory level improving in NW Europe with Belgium at 24%, Germany 33%, Netherlands at 29% & UK at 28% of storage capacity.
- UK Spot gas price closed at $7.78/MMBTU(58.45P/Thm) on Friday, with front month at $7.61/MMBTU(57.18P/Thm).
- Dutch Spot price closed at $7.78/MMBTU(€22.77/MWH), whereas front month price closed at $7.76/MMBTU (€22.70/MWH).
- SW Europe Day Ahead prices followed the same trend as NW gas prices and remained bullish to stable through out the week on reduced Norwegian supply to France along with warm weather. Forward prices remained stable as demand is increasing along with lower LNG inventory level in Italy and France.
- France gas inventory at 25% of total capacity along with Spain hydro-based electricity generation increased to 11.95 TWH from 11.93 TWH last week, last year the number was at 8.20 TWH.
- French Day Ahead prices: Northern France gas prices closed at $7.84/MMBTU (€22.96/MWH) whereas Southern France gas prices closed at $8.12/MMBTU (€23.76/MWH). Italian gas prices closed at $8.49/MMBTU (€24.86/MWH) and Iberian Gas Day Ahead price at $8.34/MMBTU (€24.41/MWH).
- Front month Northern France closure at $7.76/MMBTU (€22.72/MWH), while Southern France closed at $7.95/MMBTU (€23.26/MWH), Italian gas curve prices closed at $8.46/MMBTU (€24.77/MWH), whereas Iberian gas forward price at $8.23/MMBTU (€24.09/MWH).

Weekly European Gas and LNG Inventory Update on 25th May 2018

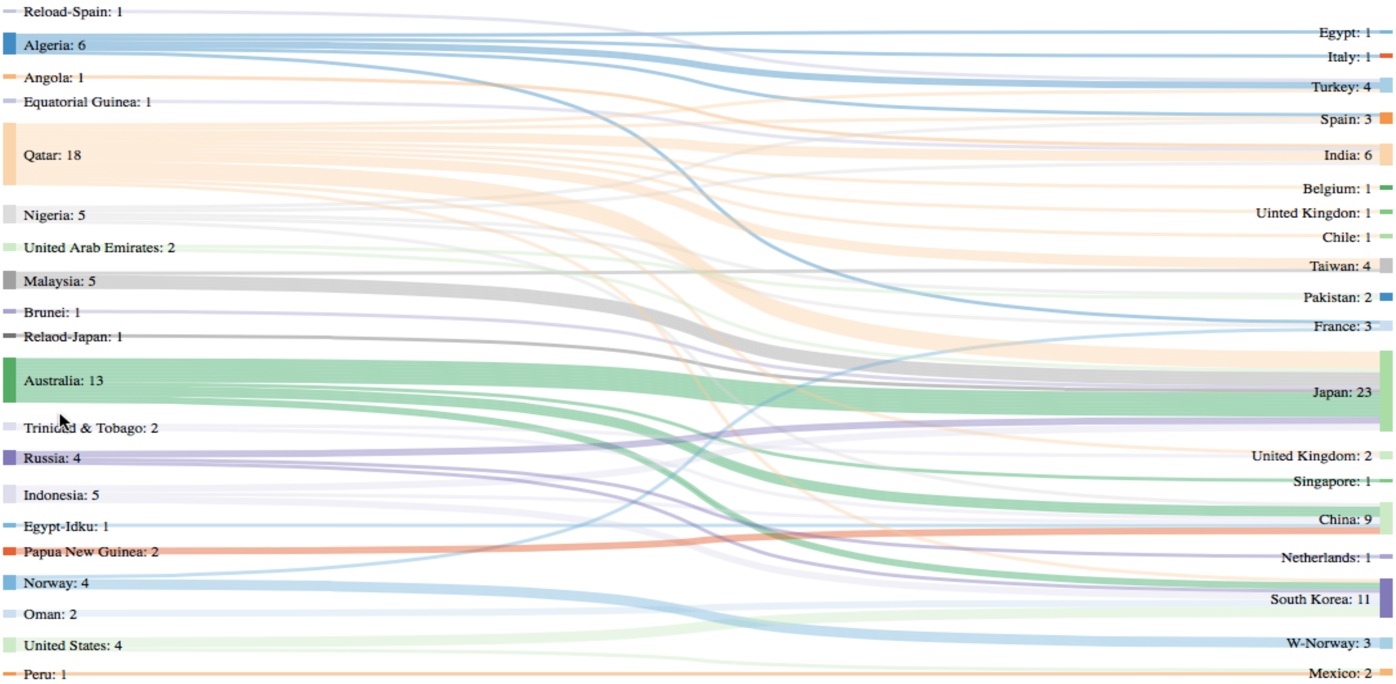
One standard size Vessel of 150,000 m³ equals to 3.42 BCF.



LNG Trade Flows 19th – 25th May 2018 *(Developed in collaboration with Clipper Data LLC)*

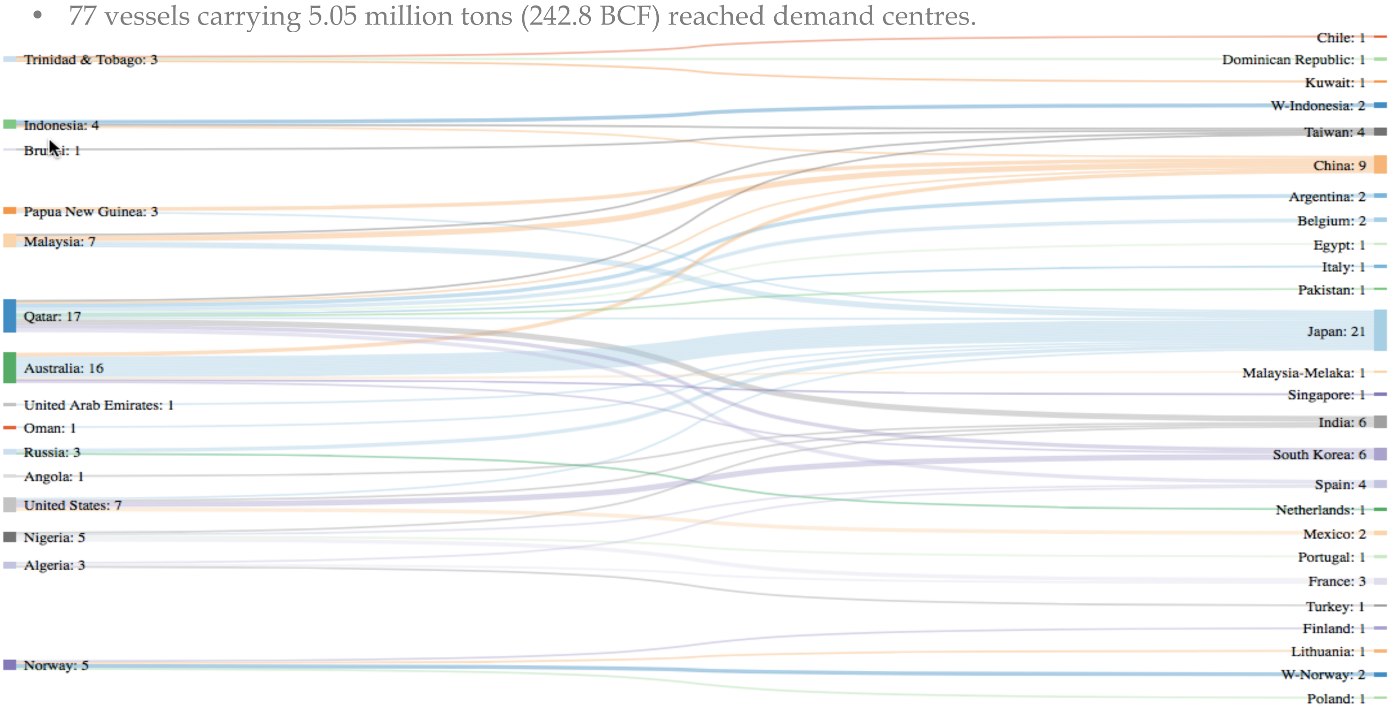
Supply – Trade Flows

- 79 vessels carrying 5.10 million tons (245.32 BCF) left supply terminal centres.



Demand – Trade Flows

- 77 vessels carrying 5.05 million tons (242.8 BCF) reached demand centres.



W-Country- within same country delivery & TBC – To Be Communicated

Disclaimer: This is a personal analysis based upon public information and should not be used for buying and selling of commodities.
Source: EIA, REE & GIE.