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The LNG industry

# GIIGNL Annual Report



# 2024

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# Profile

GIIGNL is a non-profit organisation whose objective is to promote the development of activities related to LNG: purchasing, importing, processing, transportation, handling, regasification and its various uses.

The Group constitutes a forum for exchange of information and experience among its 94 members to enhance the safety, reliability, efficiency and sustainability of LNG import activities and especially, the operation of LNG import terminals.



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# The LNG industry in 2023



Jean Abiteboul  
President

## Navigating the New LNG Landscape: Challenges and Opportunities in the Post-Crisis Era

LNG has experienced considerable turbulence in 2022. 2023, in contrast, seems to have brought a semblance of calm after the storm, with the global net imports reaching 401 MT, a 2.1% growth compared to 2022. However, the outlook is not completely clear, and potential obstacles still lurk beneath the surface. Market conditions remain volatile and could quickly tighten. Among the clouds that are currently obscuring the horizon, drought conditions in Panama affect canal operations and thus global shipping routes. Daily transits which fell from 36 to 24 vessels in 2023 came back up to 31 in May 2024. The attacks on vessels in the Red Sea add another layer of complexity to managing global LNG logistics, with the number of LNG carriers passing through the Suez Canal dropping sharply early 2024 compared to early 2023.

Far from playing the lighthouse role one could expect, the United States' energy policy characterized by the recent adjustments concerning LNG exports has dropped a veil of fog on the LNG global market. The temporary pause on DOE Non-FTA application decisions might respond to domestic energy and environmental concerns, but it has impacts on global LNG market considering the role of first exporter taken by the US in 2023. The final quantitative effect of this pause will depend on how long the economic and environmental studies launched by the DOE will take and their findings. As China rebounds from health crises, its increasing energy needs could significantly affect the global LNG market, despite the ongoing concerns on trade disputes. China already became the first LNG importer in 2023. China taking over from Europe the role of buffer for the

global LNG market was heavily commented last year. Considering their respective prospects on gas, one might assume that the cushioning role might come back to the old continent.

While Europe has proven able to develop swiftly new regasification capacities to diversify its gas supply, LNG imports have stabilized in 2023 after the surge of 2022. Questions remain about the necessity of these capabilities given the political agenda of reducing gas consumption. However, with decreasing local gas production and dramatic reduction of pipe gas imports from Russia, LNG remains crucial, especially for power generation as a flexible complement to growing renewable sources.

Elsewhere in the world, the potential of LNG as a sustainable energy source is undisputed. In 2022, 73% of the world GHG emissions related to electricity and heat generation came from coal power plants. Switching from coal to gas offers a significant opportunity for emission reductions, economically feasible in the short to medium-term. The increase by 50% of renewable capacity addition in 2023 underscores the ongoing need for flexible gas-fired generation assets.

LNG is also pivotal in decarbonizing maritime transport. If today, unconventional fuels, LNG being the main one, represent less than 7% of the gross tonnage of the existing fleet, they reach almost 50% in the order books. Due to its intrinsic properties —energy density, availability, lower CO<sub>2</sub> content and almost no other emissions (sulfur, nitrogen oxides, particles), affordability compared to other low carbon options— LNG is today the best alternative fuel to meet existing

and future maritime regulation (from IMO or European Union) and to help transporters in reducing their GHG emissions.

The LNG industry is actively pursuing lower GHG emissions through various initiatives, including electrification and the introduction of Carbon Capture & Storage at liquefaction plants. At COP28, the Oil and Gas Decarbonization Charter was launched, with commitments from companies representing over 40% of global oil production to eliminate methane emissions, end routine flaring by 2030, and adhere to industry best practices for emissions reduction.

The carbon intensity of LNG will be lowered through bio-LNG. In 2023, several significant projects currently in development or in construction in Europe tend to demonstrate the potential of the bio-LNG sector. Progressively, e-LNG should complete bio-LNG to abate CO<sub>2</sub> content, allowing an efficient transition using existing infrastructures.

Like the navigators who, between the 15<sup>th</sup> and the 17<sup>th</sup> century, discovered new sea routes, the LNG industry is sailing through economic and regulatory challenges, steadfastly moving towards a future of secure, sustainable, and affordable energy.

# Executive summary

The global LNG market in 2023 marked a pivotal phase characterized by modest growth and dynamic shifts due to geopolitical and economic changes. The number of importing countries rose to 48, while the number of exporting countries remained steady at 20. The market saw a modest growth of 2.1%, reaching 401 million tons, a slowdown from the 5.6%\* growth in 2022. This growth was driven by Asia (+7 MT) and the Americas (+1.2 MT) whereas Europe's demand remained stable at 121 MT.

In Asia, trends varied significantly: Japan's LNG imports decreased notably (-7 MT), whereas China's imports surged (+7.2 MT). Price-sensitive importers like India saw a rise in imports due to lower market prices. South Korea's imports dropped to 45.2 MT due to decreased gas consumption in power generation. Taiwan's imports remained stable at 20.2 MT. Thailand's imports rose to 11.6 MT due to increased electricity sector demand.

Europe's LNG imports stabilized with notable trends such as Germany and the Netherlands enhancing their regasification capacities, leading to significant import increases. However, other European nations that had increased imports in 2022 due to the drop in Russian pipeline gas saw a decline in 2023. The Netherlands imported 16.3 MT, mainly from the U.S. Italy increased imports to 11.8 MT with new FSRU-based terminals. Finland's imports rose due to its first large-scale FSRU terminal. Türkiye's imports slightly declined due to falling residential gas consumption and economic impacts from an earthquake.

The Americas saw an 11% growth in imports, driven by Colombia, which increased imports to 0.8 MT due to hydropower shortfalls. Brazil's imports declined due to increased renewable energy generation. Chile and Argentina remained the largest regional importers, with stable imports at 2.5 MT and 1.8 MT, respectively.

Global regasification capacity reached 1,143 MTPA, with 17 new terminals adding 68 MTPA of capacity. Asia led the capacity growth with new terminals in China and India. Europe enhanced capacity with new FSRU-based terminals in Germany, France, Finland, Italy, and Türkiye. In the Americas, new facilities in Brazil highlighted the responsive expansion strategy. The United States emerged as the top LNG exporter, contributing 84.5 million tons, with significant volumes delivered to Asia and Europe. The U.S. significantly ramped up production with facilities like Calcasieu Pass and Freeport LNG adding 8.9 MT to the market.

Compared to 2022, Algeria added nearly 3 MT to the supply, benefiting mainly Spain, Italy, and Türkiye. Mozambique's Coral South FLNG added 2.6 MT, with Thailand, China, and South Korea as primary destinations. Norway added 1.6 MT through Hammerfest LNG. Russia's Portovaya LNG operated at full capacity, adding 1.2 MT to global supply.

In the Pacific, Indonesian supply increased by 1.6 MT primarily from the Tangguh project, while Australia added 0.6 MT despite Darwin LNG's shutdown. Oman's debottlenecking program increased capacity by 0.2 MT. Significant declines in supply were observed in Egypt (-3.2 MT), Russia (-1 MT), and Nigeria (-1.5 MT) due to various operational and geopolitical issues.

\* Compared with 393 MT in 2022 LNG imports resulting of methodological adjustment in our data treatment (389 MT published in our 2023 Annual report)

# Key figures

**401 MT**

imported vs. 393 MT in 2022

**+2.1%**

growth vs. 2022

**20**

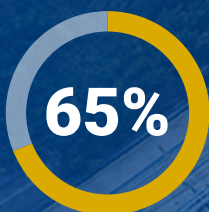
exporting  
countries

**48**

importing  
markets

**17**

new LNG regasification  
terminals



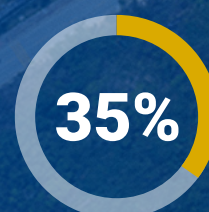
of global LNG  
demand in Asia

**1,143 MTPA**  
total regasification capacity\*



of global LNG volumes  
supplied from the  
Atlantic Basin

**481 MTPA**  
total liquefaction capacity\*



of total trade imported  
on a spot basis

**141 MT**

\*At the end of 2023

# LNG trade in 2023

The year 2023 marked a pivotal phase in the evolution of the global LNG market, characterized by modest growth and the entry of new importers, reflecting the dynamic shifts and stabilization brought about by changing geopolitical and economic conditions. The number of importing markets rose to 48, with four new entrants (Germany, Hong Kong, Philippines and Vietnam). Conversely, the number of exporting countries held steady at 20, with a limited increase in liquefaction capacity.

The global LNG market experienced a modest increase, reaching 401 million tons, a growth rate of 2.1%. This growth, although representing a slowdown from the 5.6% expansion of 2022<sup>1</sup>, signals a phase of market stabilization.

In Asia, divergent trends were observed: Japan experienced a notable decrease in LNG imports, whereas China's imports surged, alongside increased uptake in emerging markets such as Thailand and Singapore. Price-sensitive importers, like India, saw a rise in imports tied to the downturn in market prices.

Europe's LNG imports stabilized, but noticeable trends emerged within the continent: Germany and the Netherlands, having enhanced their regasification capacities, witnessed significant upticks in imports. In contrast, other European nations that had utilized their regasification facilities in 2022 to secure emergency LNG supplies in response to the dramatic decrease in Russian pipeline gas imports saw a decline in their LNG imports in 2023.

A shift in dominance occurred in the export landscape, with the United States becoming the top LNG exporter, contributing 84.5 million tons. Incremental U.S. volumes were mainly delivered to Asia and Europe but exports to the Americas were also up. Algeria increased its LNG production to the benefit of European importers, while Egyptian LNG exports decreased, as the domestic demand for natural gas increased.

**After the crisis, the global LNG market experienced a temporary easing despite limited incremental supply.**

**In the United States, the ramp-up of production from the Calcasieu Pass plant, which started-up in 2022, together with resumed production at Freeport LNG, added 8.9 MT of LNG supply to the market.** Of this US production increase, just over 8 MT was split between Asia (39%) and Europe (61%), with the remainder going to markets in the Americas. Exports to the Middle East were down by 0.35 MT compared with 2022. The additional US LNG supply represents an increase of 10.5% compared to the previous year.

**Algeria significantly contributed to LNG supply growth in 2023, adding nearly 3 MT,** thanks to the start-up of 3 new upstream projects, which allowed the country to boost natural gas production and feedgas supply to its liquefaction plants. The increase in Algerian LNG exports has mainly benefitted Spain, Italy and Türkiye. In Mozambique, output from the Coral South FLNG, commissioned at the end of 2022, ramped up in 2023, with production of around 80% of its nominal annual capacity, adding 2.6 MT to the market. Thailand, China and South Korea were the main destinations for its output. Norway also contributed to the increase in supply in 2023, adding 1.6 MT, as Hammerfest LNG operated at its full capacity after resuming its production mid-2022. North European countries, including the Netherlands, Lithuania and Finland, were the main destinations for the incremental LNG, but cargoes were also delivered to countries in the south, including Türkiye or Spain. Launched in the fall of 2022, Portovaya LNG in Russia operated at full capacity in 2023, adding 1.2 MT to global LNG supply.

**In the Pacific basin, Indonesian supply increased by 1.6 MT, with the increase largely coming from the Tangguh project in Indonesia,** where the 3.8 MTPA third train loaded its first cargo in mid-October 2023. In Australia, a stronger output from Prelude FLNG, compared to the previous year, allowed the country to slightly increase its LNG supply, adding 0.3 MT to the market, despite the shut-down of Darwin LNG after the depletion of Bayu-Undan natural gas field. In the Middle East, Oman LNG's debottlenecking program led to an increase in capacity and an addition to the market of 0.1 MT in 2023.

**In 2023, the largest decline in LNG supply was from Egypt (-3.2 MT) as the country suspended LNG production mid-2023** for several months because of the shutdown of Israel's Tamar gas field on

<sup>1</sup> Compared with 393 MT in 2022 LNG imports resulting of methodological adjustment in our data treatment (389 MT published in our 2023 Annual report).

which Egypt relied to meet sustained domestic demand growth. Extended maintenance at the Sakhalin LNG plant in Russia was the reason for a 1 MT drop in LNG exports compared to the previous year. The 1.5 MT decrease in LNG production in Nigeria in 2023 was due to feedstock gas issues.

The Atlantic basin showed the strongest year-on-year growth with an 8.3 MT increase in 2023, mainly because of the expansion of US LNG supply, but also the boost in Algerian production and Portovaya LNG ramp-ups. **For the first time in LNG history, the Atlantic basin overtook the Pacific basin supplying 156 MT of LNG in 2023**, or 39% of the global total. Pacific basin supply slightly increased by 1.9 MT and its share of the total remained at 38%. The Pacific basin supplied 151 MT of LNG in 2023. The Middle East provided 94.7 MT to the market in 2023, a market share of 24%, down from 96.5 MT and a market share of 25% in 2022.

**For the first time, the United States took the lead as the world's largest LNG supplier**, providing 84.5 MT to the market in 2023, a 12% increase compared to 2022. The US accounted for 21% of global LNG supply. **Europe welcomed two thirds of LNG exports from the US** with the Netherlands (14%), France (12%) and the United Kingdom (10%) being the main receiving countries. 25% of US exports were delivered to Asia, notably Japan (7%), South Korea (6%), China (4%) and India (4%). The USA overtook Australia and Qatar, which supplied 80 MT and 78 MT respectively in 2023, representing 20% and 19% market shares. For the fourth consecutive year, the big three LNG exporters together accounted for 60% of global LNG supply. Australian volumes were almost all dedicated to Asia, Qatar slightly increased the volume of LNG sent to Asia, which represented 75% of its exports in 2023. Japan remained the main destination for Australian LNG. The fourth and fifth place among the largest LNG suppliers were still taken respectively by Russia, with production of around 31.4 MT, down by 1.1 MT, and Malaysia, with nearly 27 MT produced in 2023. Russian LNG volumes sent to Europe decreased by 1.6 MT to 14.4 MT in 2023 representing 11.5% of European LNG imports (vs 12.8% in 2022).

### Behind the modest growth in LNG imports in 2023 lie significant inter and intra-regional changes.

Compared to the previous year, global LNG import grew by 2.1%, to reach 401 MT in 2023. **Asian region demand was the driver of market growth in absolute terms (+7 MT or +2.8%)**, the American region led in terms of the percentage increase (+10.6% or +1.2 MT). The Middle East showed a 3.4% increase (+0.2 MT). LNG demand in Europe was stable at 121 MT in 2022 and 2023. The post-energy crisis

LNG market seems to have achieved a new regime characterized by steady need from Europe, a renewed appetite for LNG in China and emerging demand from new markets that have developed regasification infrastructures.

Asia, which is still the largest LNG consuming region, received 261 MT of LNG in 2023 up from 254 MT the previous year. **China has taken the lead from Japan as the largest LNG importer**, with 71 MT of LNG imported against 66 MT imported by Japan. Last year, China recorded the largest increase in LNG demand (+7.2 MT) among LNG importers globally, while the largest decline (-7 MT) was in LNG imports by Japan, which brought LNG demand in the country to historic lows.

The strong rebound in China's LNG imports reflected the country's economic recovery following the ending of COVID restrictions in Q4 2022 and weather-related spikes in energy demand in 2023. Lower LNG market prices have also boosted spot LNG purchases. In addition, LNG imports growth was supported by the start-up of new long-term contracts and the commissioning of 4 new LNG receiving terminals. There were no major changes in the sources of China's LNG supply: Australia remained the largest source (34%), followed by Qatar (23%), Malaysia and Russia (respectively 9% and 11%), while Indonesia accounted for 6% of China's LNG supply.

**With 66 MT of LNG imported in 2023, Japan's demand was down by 10%, continuing the decline from peak of 89 MT in 2014.** The reasons for the fall are found both in the electricity generation and in the end-use sectors. With Takahama 1 and 2 nuclear reactors restarted in 2023 and the return to service of other reactors that were in maintenance, Japan reached 12 operating nuclear reactors in 2023. Electricity demand continued to slow as a result of an increase in the business sector offset by a sharp decrease in the household sector, mainly due to the adoption of energy-efficient practices and technologies. Modest manufacturing and industrial activity, combined with a mild winter, has led to a weak non-power natural gas demand. No major changes occurred in the sources of Japan's LNG supply: Australia remained the main source (41%). Malaysia's market share slightly decreased to reach 16%. Russia and US market shares were respectively 9% and 8%.

Relatively warm weather also led to weaker residential demand for gas in South Korea. In addition, decreasing gas consumption in power generation and lower industrial activity have had **a negative impact on LNG imports by South Korea: 45 MT in 2023 down from 47 MT in the previous year.** The sources of Korea's LNG supply did not change significantly in 2023: 24% from Australia, 30% from Middle East (Qatar and Oman) and 21% from Indonesia and Malaysia, 11%

from the US.

**In Thailand, LNG imports increased by 2.8 MT, reaching 11.6 MT in 2023.** Softened spot LNG prices drove an increase in spot purchases to offset declining natural gas domestic production and pipeline imports from Myanmar. Natural gas demand growth is being driven mainly by the electricity sector, where demand has been on a sustained upward trend. Thai policy makers encourage market competition and facilitate the entry of newcomers to Thailand's LNG market. Thailand's LNG supply mainly came from Australia (24%), Qatar (24%), Malaysia (16%), and the United States (9%) in 2023.

Taiwan's LNG imports were almost unchanged with 20.2 MT of LNG in 2023 against 20.4 MT in 2022. This stability is the result of the shift of power generation mix towards more renewables but also less coal and the phase out of nuclear power generation planned for 2025. The 985 MW Kuosheng-2 reactor was decommissioned in March 2023. The market shares of Taiwan's major LNG suppliers were largely unchanged: 40% for Australia, 28% for Qatar and 10% for the US.

**The affordability of spot LNG in 2023 revived LNG demand in price sensitive countries, including India, Pakistan and Bangladesh, which, imported 22 MT (+2), 7.1 MT (+0.2) and 5.2 MT (+0.8) respectively.** In India, a rebound in industrial production, driven by reduced energy costs, thanks to lower LNG market prices, contributed to the increase in LNG imports. A new 5 MTPA onshore receiving terminal, Dhamra LNG, the first located on the Indian East Coast, started operations in 2023 unlocking additional demand for LNG. The main supplier of these three countries remained Qatar (61% in 2023 vs 65% in 2022). US LNG has increased its share, reaching 10% in 2023 against 8% in 2022.

Among other Asian markets, **Singapore recorded a 1.1 MT increase in LNG imports totaling 4.8 MT in 2023**, following the start-up of a new LNG contract with Qatar for 1.8 MTPA and a portfolio contract with Chevron for 0.5 MTPA. The extension into 2023 of the charter of an LNG carrier for floating storage, as a crisis measure for energy security, allowed Singapore to absorb additional volumes. In addition, the start of Pavilion Energy's 0.5 MTPA contract for deliveries to China increased the quantity of reloaded LNG. Indonesia boosted LNG receiving activity by 0.8 MT, taking it to 4 MT in 2023.

**3 out of the 4 new LNG importers in 2023 were in the Asian region: the Philippines, Hong Kong and Vietnam, which together created 1 MT of new LNG demand in 2023.** Two new LNG receiving terminals with a total regasification capacity of around 8 MTPA started operations in the Philippines, both located in the Province of Batangas:

<sup>1</sup> Compared with 393 MT in 2022 LNG imports resulting of methodological adjustment in our data treatment (389 MT published in our 2023 Annual report).

one onshore including a floating storage unit (FSU), PHLNG, which was commissioned in April, and one FSRU-based, FGEN, which started in October. The 4 MTPA FSRU-based, Hong Kong LNG terminal came online in May 2023. Vietnam's first onshore terminal, the 1MTPA capacity Thi Vai LNG received its commissioning cargo in July.

Overall, Europe's LNG demand was steady in 2023 at 121 MT. **Security of supply concerns triggered the development of LNG terminals in Germany** to cope with the disruption resulting from the loss of Russian pipeline natural gas supply. **The country joined the ranks of LNG importers with 3 FSRU-based projects commissioned in 2023, which together have a capacity of 13.3 MTPA.** Imports of 5.1 MT of LNG came mainly from the United States.

**The second largest LNG demand increase last year among European importers was recorded by the Netherlands (+4.5 MT). The country boosted its LNG imports to 16.3 MT** in the context of the reduction and eventual termination of production from the Groningen field, and thanks to the second LNG terminal Eemshaven LNG, which has been in service since September 2022. The US supplied 70% of the LNG imported by the Netherlands. Africa (Algeria, Egypt, Nigeria, Equatorial Guinea and Angola) accounted for 9% of the Dutch imports.

**Similarly, LNG imports grew in Italy (+1.5 MT) to 11.8 MT in 2023.** A new FSRU-based terminal in Piombino started commercial operations in July 2023. The share of Qatar in the Italian LNG supply has slightly decreased from 46% to 41%. On the other hand, Italy has benefitted from the increased LNG exports from Algeria, which share reached 14% in 2023. The United State accounted for 33% of Italian supply.

**In Finland, where LNG imports increased by 1.1 MT, the country's first large-scale FSRU-based terminal at Inkoo (capacity 5 MTPA) entered service at the beginning of 2023.** The terminal also supplies regasified LNG by pipeline to Estonia. For the 1.3 MT imported in 2023, the US have been the main supplier of Finland (54%) followed by Norway (21%) and Russia (11%).

**In Türkiye LNG imports slightly declined by 0.6 MT, despite the start-up of a new FSRU terminal in Saros, amounting to 10.1 MT in 2023.** Falling residential gas consumption resulted from mild winter temperatures, the impact of the major earthquake in February and slowing economic growth. The increase in imports from Algeria was more than offset by the decrease in imports from Egypt. In 2023, Algeria accounted for 42% of the Turkish LNG imports against 9% for Egypt. The US was the second largest LNG supplier in 2023, although its market share fell from 37% in 2022 to 28%. Russia's market share increased from 3% to 11%.

With their existing LNG infrastructures and pipeline connections, France, the UK and, to a lesser extent, Spain, allowed LNG to flow into the rest of Europe after the Russian pipeline gas supply disruptions in 2022. As Germany and Netherlands have developed their own regasification capacity, these three countries experienced slumps in LNG imports. **Thus, last year France recorded a drop in LNG imports of 3.1 MT to 21.8 MT, despite the start-up of its fifth LNG receiving, and its first FSRU-based, terminal, at Le Havre.** The United States remained the main LNG supplier for France with a market share of 46%, compared with 45% in 2022. The share of Russian LNG decreased to 16% whereas the Algerian share grew up from 12% to 15% thanks to its natural gas production rebound.

**Spain showed a similar picture, despite the start of operations at El Musel LNG terminal, LNG imports fell in 2023 by 2.7 MT to 16.8 MT in the context of lower gas demand for power generation.** Even though its market share in Spanish LNG supply decreased from 40% to 29%, the US remained Spain's main LNG supplier. The share of supply from Russia increased from 17% in 2022 to 26%. Despite feedgas issues, Nigeria retained its 20% market share.

**The largest decline (-4.3 MT) amongst European countries was recorded by the United Kingdom, where LNG imports declined to 14.5 MT in 2023,** because of a drop in local natural gas demand for power generation and residential natural gas consumption. Almost three quarters of the LNG imported by the UK came from the Americas, mainly from the US (61%), with the remainder from Peru. LNG cargoes from Qatar fell from 5.6 MT to 2 MT, leading to Qatar's market share decreasing from 30% to 14%.

**Imports into the Americas region in 2023 showed a nearly 11% year-on-year growth,** up from 11 MT to 12.2 MT. **The largest increase on the continent was in Colombia, where LNG imports jumped almost tenfold to 0.8 MT in 2023** to compensate for a shortfall in hydropower output, following reduced rainfall levels due to the El Niño phenomenon. On the other hand, **Brazil registered the largest decline in LNG imports among American countries, down from 1.9 MT to 0.7 MT in 2023,** due to increased hydroelectric generation, along with higher availability of wind and solar power and stable Bolivian pipeline natural gas supply. **Chile and Argentina remain the largest regional LNG importers with 2.5 MT and 1.8 MT respectively in 2023.** LNG imports by Chile were steady, as lower coal use for power generation was compensated by other sources of energy, including natural gas. Lower than expected heating demand in winter along with

availability of domestic gas supply triggered only a slight annual growth in Argentina (+0.2 MT). El Salvador and Panama increased their LNG imports (by a total of 0.4 MT) due to lower hydropower output and thanks to favorable LNG prices. The competitiveness of LNG over fuel oil contributed to a 0.7 MT rebound in LNG demand in Puerto Rico, supported by the start-up of a 150 MW gas-fired power plant in June 2023. The replacement of fuel oil with natural gas in the power sector drove the increase in LNG imports in Mexico (+0.2 MT) in 2023. Most of the supply to the Americas region came from the USA (46%) and Trinidad & Tobago (25%).

**A 4% (0.23 MT) LNG demand increase in 2023 in the Middle East was driven by Kuwait (+0.14 MT) due to strong natural gas demand for power generation** caused by extremely high temperatures in summer. Almost two third of the LNG supply is intra-regional, mostly from Qatar. Nigeria accounted for 12% of the LNG imports in the Middle East, and the US for 11%.





# LNG imports in 2023 (net of re-exports)

Market	10 <sup>6</sup> T	Global Share	Var. 2023/2022* Mt	Var. 2023/2022* %
<b>ASIA</b>	<b>260.8</b>	<b>65.0%</b>	<b>7.0</b>	<b>2.8%</b>
China	70.8	17.6%	7.2	11.4%
Japan	66.1	16.5%	-7.0	-9.5%
South Korea	45.2	11.3%	-1.6	-3.5%
India	22.0	5.5%	1.9	9.7%
Taiwan	20.2	5.0%	-0.3	-1.3%
Thailand	11.6	2.9%	2.8	32.5%
Pakistan	7.1	1.8%	0.2	3.1%
Bangladesh	5.2	1.3%	0.8	17.3%
Singapore	4.8	1.2%	1.1	30.1%
Indonesia	4.2	1.0%	0.9	25.6%
Malaysia	2.6	0.6%	-0.1	-4.0%
Philippines	0.6	0.2%		
Hong Kong	0.4	0.1%		
Vietnam	0.1	0.0%		
<b>EUROPE</b>	<b>121.4</b>	<b>30.2%</b>	<b>0.0</b>	<b>0.0%</b>
France	21.8	5.4%	-3.1	-12.4%
Spain	16.8	4.2%	-2.7	-13.7%
Netherlands	16.3	4.1%	4.5	37.6%
United Kingdom	14.5	3.6%	-4.3	-23.0%
Italy	11.8	3.0%	1.5	14.0%
Turkey	10.1	2.5%	-0.6	-6.0%
Belgium	8.3	2.1%	-0.3	-3.7%
Germany	5.1	1.3%		
Poland	4.6	1.2%	0.2	5.1%
Portugal	3.5	0.9%	-0.8	-18.2%
Lithuania	2.1	0.5%	0.0	-1.7%
Greece	2.1	0.5%	-0.7	-24.9%

Source: GIIGNL, Kpler

Market	10 <sup>6</sup> T	Global Share	Var. 2023/2022* Mt	Var. 2023/2022* %
Croatia	2.0	0.5%	0.2	8.4%
Finland	1.4	0.3%	1.1	x5
Malta	0.3	0.1%	0.0	-3.5%
Sweden	0.3	0.1%	0.1	27.2%
Norway	0.2	0.1%	0.0	14.4%
<b>AMERICAS</b>	<b>12.2</b>	<b>3.0%</b>	<b>1.2</b>	<b>10.6%</b>
Chile	2.5	0.6%	-0.1	-2.3%
Argentina	1.8	0.5%	0.2	11.1%
Puerto Rico	1.7	0.4%	0.7	67.8%
Dominican Republic	1.7	0.4%	0.2	13.5%
Jamaica	1.1	0.3%	0.5	70.8%
Colombia	0.8	0.2%	0.7	x8
Brazil	0.7	0.2%	-1.3	-65.6%
Mexico	0.6	0.2%	0.2	58.1%
El Salvador	0.5	0.1%	0.2	70.0%
Panama	0.4	0.1%	0.2	56.7%
United States	0.3	0.1%	-0.2	-47.4%
Canada	0.2	0.0%	-0.1	-29.4%
<b>MIDDLE EAST &amp; AFRICA</b>	<b>7.0</b>	<b>1.7%</b>	<b>0.2</b>	<b>3.4%</b>
Kuwait	6.1	1.5%	0.1	2.4%
United Arab Emirates	0.7	0.2%	0.0	7.1%
Jordan	0.1	0.0%	0.1	x2
Egypt	0.0	0.0%	0.0	-68.7%
<b>TOTAL</b>	<b>401.4</b>	<b>100.0%</b>	<b>8.4</b>	<b>2.1%</b>

\*Due to the methodology change in 2023, the 2022 numbers have been revised to allow comparison

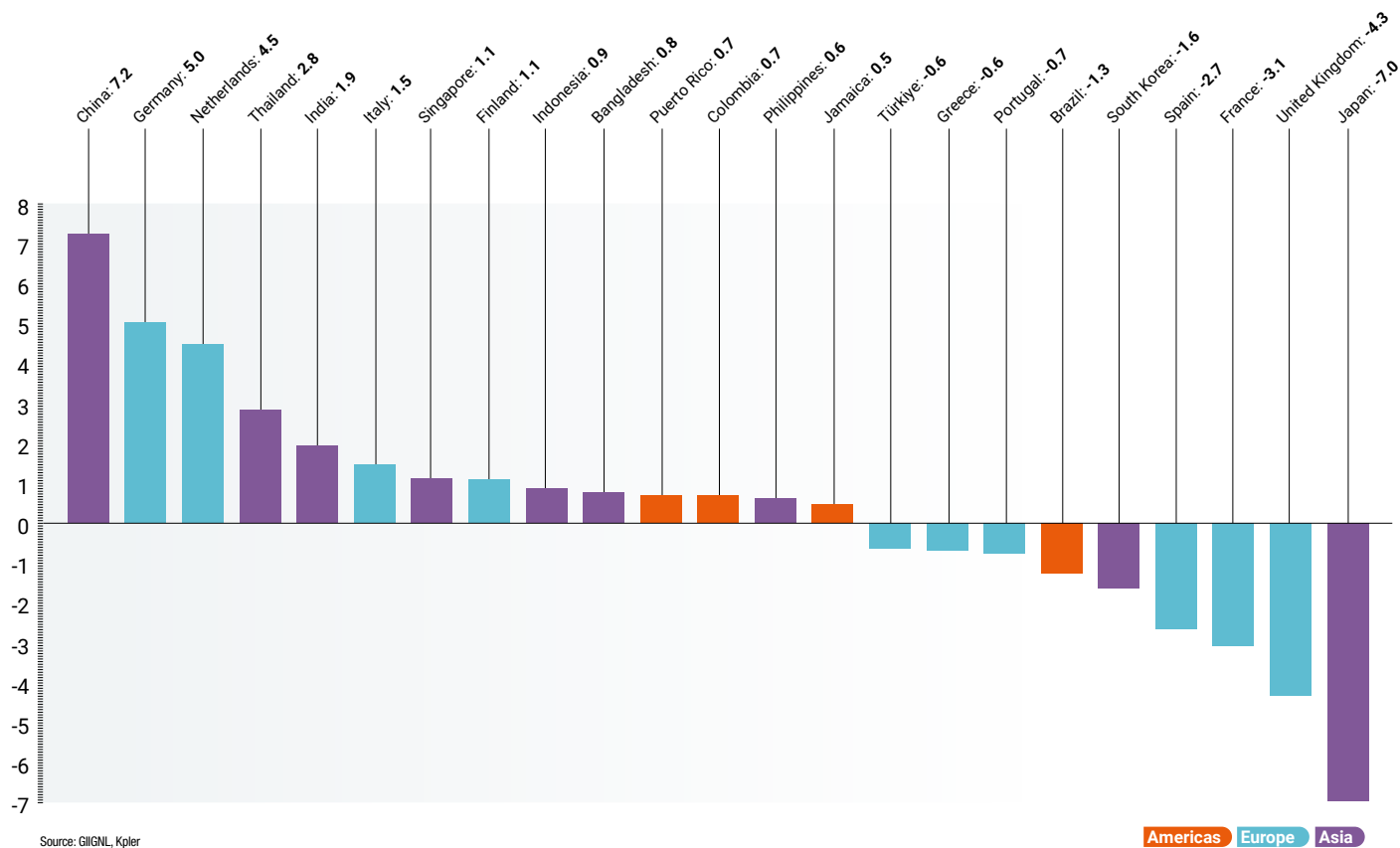
## Source of LNG imports in 2023

Country	10 <sup>6</sup> T	Global Share	Var. 2023/2022 Mt	Var. 2023/2022 %
<b>ATLANTIC BASIN</b>	<b>155.7</b>	<b>38.8%</b>	<b>8.3</b>	<b>5.6%</b>
United States	84.5	21.1%	8.9	11.8%
Russia Europe	21.5	5.3%	0.2	1.1%
Nigeria	13.0	3.2%	-1.5	-10.7%
Algeria	13.0	3.2%	2.9	28.4%
Trinidad and Tobago	7.7	1.9%	-0.3	-3.9%
Norway	4.4	1.1%	1.6	57.3%
Angola	3.7	0.9%	0.5	14.9%
Egypt	3.6	0.9%	-3.4	-48.8%
Equatorial Guinea	2.8	0.7%	-0.8	-22.6%
Cameroon	1.5	0.4%	0.3	27.0%
<b>MIDDLE EAST</b>	<b>94.7</b>	<b>23.6%</b>	<b>-1.8</b>	<b>-1.9%</b>
Qatar	78.22	19.5%	-1.4	-1.8%
Oman	11.43	2.8%	0.1	1.2%
United Arab Emirates	5.04	1.3%	-0.6	-10.0%

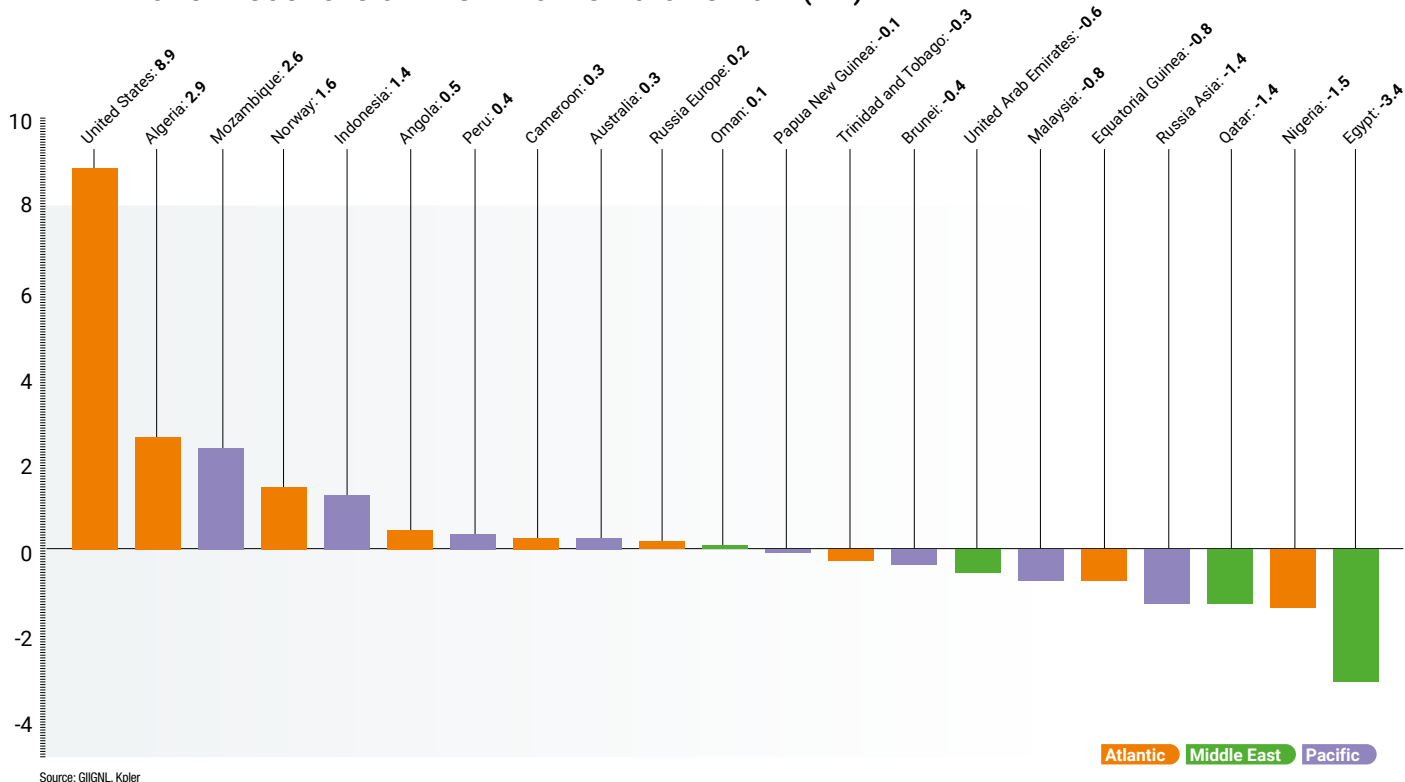
Source: GIIGNL, Kpler

Country	10 <sup>6</sup> T	Global Share	Var. 2023/2022 Mt	Var. 2023/2022 %
<b>PACIFIC BASIN</b>	<b>151.0</b>	<b>37.6%</b>	<b>1.9</b>	<b>1.3%</b>
Australia	79.6	19.8%	0.3	0.4%
Malaysia	26.8	6.7%	-0.8	-2.9%
Indonesia	15.6	3.9%	1.4	9.6%
Russia Asia	9.9	2.5%	-1.4	-12.1%
Papua New Guinea	8.4	2.1%	-0.1	-1.3%
Brunei	4.6	1.1%	-0.4	-8.5%
Peru	3.7	0.9%	0.4	10.6%
Mozambique	2.7	0.7%	2.6	x75
<b>TOTAL</b>	<b>401.4</b>	<b>100.0%</b>	<b>8.4</b>	<b>2.1%</b>

### MAIN VARIATIONS IN LNG IMPORTS: 2023 VS. 2022 (MT)



### VARIATIONS IN SOURCES OF LNG IMPORTS: 2023 VS. 2022 (MT)



## Quantities (in MT) received in 2023

Markets <sup>3</sup>	Atlantic Basin <sup>1</sup>	United States	Russia Europe	Nigeria	Algeria	Trinidad and Tobago	Norway	Angola	Egypt	Equatorial Guinea	Cameroon	Middle East <sup>1</sup>
<b>ASIA</b>	38.6	21.1	7.0	4.0	1.2	1.2	0.0	0.9	1.1	1.5	0.5	74.4
China	11.2	3.17	5.65	1.14	0.35	0.40	-	-	0.27	0.14	0.07	18.3
Japan	6.4	5.63	0.13	0.26	0.06	0.06	-	-	0.14	0.13	-	5.8
South Korea	6.6	5.15	0.07	0.63	0.13	-	-	-	0.28	0.34	-	14.1
India	6.5	3.09	0.49	0.73	0.34	0.28	-	0.73	0.18	0.31	0.39	14.6
Taiwan	3.0	1.96	0.56	0.33	-	-	-	-	0.07	-	0.07	6.1
Thailand	1.9	1.05	-	0.27	0.08	0.21	-	-	-	0.27	-	3.4
Pakistan	0.5	-	-	0.38	-	0.07	-	-	0.07	-	-	6.4
Bangladesh	1.2	0.40	-	0.21	0.13	0.06	-	0.20	0.14	0.07	-	3.7
Singapore Republic	0.8	0.38	0.07	-	-	0.11	-	-	-	0.21	-	1.4
Indonesia	0.1	0.13	-	0.01	-	-	-	-	-	-	-	-
Malaysia	-	-	-	-	-	-	-	-	-	-	-	-
Philippines	0.2	0.14	-	-	0.07	-	-	-	-	-	-	0.2
Hong Kong	0.1	-	-	0.07	-	-	-	-	-	0.06	-	0.2
Vietnam	-	-	-	-	-	-	-	-	-	-	-	-
<b>EUROPE</b>	103.8	56.6	14.4	6.9	11.7	3.1	4.3	2.8	2.3	0.7	1.0	15.6
France	19.8	10.06	3.47	0.45	3.20	0.25	0.89	0.67	0.21	-	0.64	1.7
Spain	16.6	5.32	4.83	3.59	1.43	0.38	0.25	0.20	0.20	0.14	0.28	1.2
Netherlands	15.8	11.97	0.72	0.20	0.19	0.69	0.87	0.74	0.13	0.28	-	0.6
United Kingdom	11.0	8.81	-	0.34	0.34	0.40	0.31	0.61	0.21	-	-	2.0
Italy	6.3	3.86	0.12	0.22	1.71	-	-	-	0.22	0.13	-	4.8
Türkiye	10.0	2.84	1.16	0.36	4.29	0.17	0.19	-	0.93	-	0.08	0.1
Belgium	5.1	1.71	2.82	0.06	0.14	-	0.07	0.20	0.08	0.07	-	3.2
Germany	4.9	4.14	-	-	-	0.20	0.20	0.34	0.05	-	-	0.1
Poland	2.9	2.69	-	-	-	0.07	0.07	-	-	0.07	-	1.7
Portugal	3.5	1.48	0.29	1.51	-	0.19	-	-	-	-	-	-
Lithuania	2.2	1.08	-	0.07	0.06	0.09	0.91	-	-	-	-	-
Greece	2.0	0.78	0.59	0.06	0.29	-	0.07	-	0.23	-	-	-
Croatia	1.5	1.10	-	0.06	-	0.39	-	-	-	-	-	0.2
Finland	1.3	0.74	0.15	-	0.07	-	0.29	-	-	-	-	0.0
<b>AMERICAS</b>	11.3	6.1	0.1	1.1	0.1	3.2	0.1	0.0	0.1	0.6	0.0	0.1
Chile	2.5	0.62	-	-	-	1.41	-	-	0.03	0.42	-	-
Argentina	1.7	1.40	-	0.06	0.04	0.10	-	-	0.04	0.07	-	0.1
Puerto Rico	0.8	-	-	0.30	-	0.49	-	-	-	-	-	-
Dominican Republic	1.7	1.51	-	-	-	0.14	-	-	-	-	-	-
Jamaica	1.4	0.27	-	0.76	-	0.34	0.04	-	0.04	-	-	-
Colombia	0.8	0.70	-	-	-	0.07	-	-	-	-	-	-
Brazil	0.7	0.62	0.06	-	0.04	0.02	-	-	-	-	-	-
Mexico	0.3	0.32	-	-	-	-	-	-	-	-	-	-
El Salvador	0.3	0.03	-	-	-	0.24	-	-	-	0.06	-	-
Panama	0.4	0.43	-	-	-	-	-	-	-	-	-	-
<b>MIDDLE EAST</b>	2.0	0.7	0.1	0.9	0.1	0.1	0.0	0.0	0.1	0.1	0.0	4.6
Kuwait	1.9	0.68	0.07	0.87	0.08	0.13	-	-	-	0.07	-	3.8
United Arab Emirates	-	-	-	-	-	-	-	-	-	-	-	0.7
<b>GLOBAL NET IMPORTS</b>	155.7	84.5	21.5	13.0	13.0	7.7	4.4	3.7	3.6	2.8	1.5	94.7

Qatar	Oman	United Arab Emirates	Pacific Basin <sup>1</sup>	Australia	Malaysia	Indonesia	Russia Asia	Papua New Guinea	Brunei	Mozambique	Peru	Net Reloads <sup>2</sup> received	Net LNG Imports
59.0	10.5	4.9	147.7	79.4	26.6	15.3	9.9	8.4	4.6	2.2	1.4	0.2	260.8
16.53	1.08	0.67	41.8	24.34	6.79	4.06	2.50	2.54	0.79	0.66	0.15	-0.5	70.8
2.83	2.19	0.78	53.2	27.61	10.43	2.69	5.82	3.80	2.43	0.14	0.25	0.7	66.1
8.67	5.08	0.37	23.8	10.74	6.19	2.96	1.58	0.60	0.54	0.37	0.83	0.6	45.2
10.92	0.88	2.85	0.7	0.36	-	-	-	-	-	0.37	-	0.0	22.0
5.55	0.41	0.12	11.0	8.14	0.65	0.44	-	1.40	0.26	-	0.14	0.1	20.2
2.82	0.63	-	6.1	2.81	1.83	0.45	-	-	0.33	0.65	-	0.2	11.6
6.32	0.07	-	0.2	-	-	0.25	-	-	-	-	-	0.0	7.1
3.75	-	-	0.1	-	0.07	0.06	-	-	-	-	-	0.1	5.2
1.41	-	-	3.0	2.71	0.06	0.23	-	-	-	-	-	-0.4	4.8
-	-	-	4.6	0.53	-	4.04	-	-	-	-	-	-0.5	4.2
-	-	-	2.8	2.15	0.44	-	-	-	0.20	-	-	-0.2	2.6
-	0.14	0.06	0.2	0.06	0.14	-	-	-	-	-	-	0.0	0.6
0.22	-	-	-	-	-	-	-	-	-	-	-	0.0	0.4
-	-	-	0.1	-	-	0.08	-	-	-	-	-	0.0	0.1
15.0	0.5	0.1	2.4	0.0	0.0	0.1	0.0	0.0	0.0	0.3	2.1	-0.4	121.4
1.65	0.07	-	0.3	-	-	-	-	-	-	-	0.28	0.0	21.8
0.96	0.19	-	0.3	-	-	-	-	-	-	-	0.33	-1.3	16.8
0.57	-	-	0.1	-	-	-	-	-	-	-	0.07	-0.1	16.3
2.04	-	-	1.4	-	-	-	-	-	-	-	1.38	0.1	14.5
4.82	-	-	0.1	-	-	-	-	-	-	0.12	-	0.6	11.8
-	0.06	-	0.1	-	-	-	-	-	-	0.07	-	-0.1	10.1
3.20	-	-	-	-	-	-	-	-	-	-	-	-0.1	8.3
-	-	0.06	-	-	-	-	-	-	-	-	-	0.1	5.1
1.74	-	-	-	-	-	-	-	-	-	-	-	0.0	4.6
-	-	-	-	-	-	-	-	-	-	-	-	0.0	3.5
-	-	-	-	-	-	-	-	-	-	-	-	-0.1	2.1
-	-	-	-	-	-	-	-	-	-	-	-	0.0	2.1
-	0.23	-	-	-	-	0.07	-	-	-	0.12	-	0.0	2.0
-	-	-	-	-	-	-	-	-	-	-	-	0.1	1.4
0.1	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.3	0.2	12.2
-	-	-	-	-	-	-	-	-	-	-	-	0.0	2.5
0.14	-	-	-	-	-	-	-	-	-	-	-	0.0	1.8
-	-	-	-	-	-	-	-	-	-	-	-	0.9	1.7
-	-	-	-	-	-	-	-	-	-	-	-	0.0	1.7
-	-	-	-	-	-	-	-	-	-	-	-	-0.3	1.1
-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.8
-	-	-	-	-	-	-	-	-	-	-	-	-0.1	0.7
-	-	-	0.3	-	-	0.25	-	-	-	-	0.06	0.0	0.6
-	-	-	0.2	0.04	-	-	-	-	-	-	0.13	0.0	0.5
-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.4
4.1	0.4	0.1	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	7.0
3.41	0.34	0.06	0.4	0.07	0.14	-	-	-	-	0.15	-	0.1	6.1
0.66	-	0.07	-	-	-	-	-	-	-	-	-	0.0	0.7
78.22	11.43	5.04	151.0	79.6	26.8	15.6	9.9	8.4	4.6	2.7	3.7	0.0	401.4

<sup>1</sup>Gross LNG import from - <sup>2</sup>Net re-export if negative - <sup>3</sup>Of which main importing countries, full Matrix available on GIIGNL website - Source: GIIGNL, Kpler

## Spot and short-term quantities\* (in MT) received in 2023

Markets <sup>3</sup>	Atlantic Basin <sup>1</sup>	United States	Russia Europe	Nigeria	Algeria	Trinidad and Tobago	Norway	Angola	Egypt	Equatorial Guinea	Cameroon	Middle East <sup>1</sup>
<b>ASIA</b>	18.1	9.5	1.7	3.1	1.1	0.5	0.0	0.5	0.7	0.9	0.1	15.3
China	4.9	1.87	1.31	1.00	0.35	0.06	-	-	0.13	0.14	0.07	2.6
Japan	3.0	2.54	-	0.26	0.06	-	-	-	0.06	0.06	-	2.3
South Korea	3.6	2.44	0.07	0.58	0.13	-	-	-	0.21	0.13	-	2.7
India	2.6	0.78	0.21	0.53	0.27	0.20	-	0.33	0.06	0.24	-	4.7
Taiwan	0.2	0.13	-	-	-	-	-	-	-	-	0.07	0.6
Thailand	1.4	1.02	-	0.15	0.08	-	-	-	-	0.21	-	1.3
Pakistan	0.5	-	-	0.38	-	0.07	-	-	0.07	-	-	0.1
Bangladesh	1.1	0.33	-	0.14	0.13	0.06	-	0.20	0.14	0.07	-	-
Singapore Republic	0.4	0.18	0.07	-	-	0.06	-	-	-	0.07	-	0.6
Indonesia	0.1	0.06	-	-	-	-	-	-	-	-	-	-
Malaysia	-	-	-	-	-	-	-	-	-	-	-	-
Philippines	0.2	0.14	-	-	0.07	-	-	-	-	-	-	0.1
Hong Kong	0.1	-	-	0.07	-	-	-	-	-	-	-	0.2
Vietnam	-	-	-	-	-	-	-	-	-	-	-	-
<b>EUROPE</b>	63.0	37.6	6.8	1.6	6.4	1.7	3.1	2.7	1.7	0.5	1.0	1.6
France	12.7	7.07	2.03	0.14	1.71	0.12	0.20	0.61	0.14	-	0.64	0.1
Spain	7.8	2.88	1.82	0.50	1.43	0.32	0.25	0.20	0.06	0.06	0.28	0.3
Netherlands	10.6	7.61	0.72	0.14	0.19	-	0.87	0.74	0.13	0.20	-	-
United Kingdom	5.2	4.29	-	0.08	-	0.07	0.06	0.61	0.06	-	-	-
Italy	6.1	3.65	0.12	0.22	1.71	-	-	-	0.22	0.13	-	0.1
Türkiye	6.4	2.51	1.16	0.36	1.02	0.17	0.19	-	0.93	-	0.08	0.1
Belgium	1.7	1.27	-	-	0.14	-	-	0.20	-	0.07	-	0.8
Poland	1.4	1.25	-	-	-	0.07	0.07	-	-	0.07	-	-
Germany	4.1	3.47	-	-	-	0.06	0.20	0.34	0.05	-	-	0.1
Portugal	1.0	0.77	-	-	-	0.19	-	-	-	-	-	-
Lithuania	1.9	0.82	-	0.07	0.06	0.09	0.91	-	-	-	-	-
Greece	1.1	0.36	0.59	-	0.08	-	-	-	0.07	-	-	-
Croatia	1.5	1.03	-	0.06	-	0.39	-	-	-	-	-	0.2
Finland	1.1	0.57	0.15	-	0.07	-	0.27	-	-	-	-	-
<b>AMERICAS</b>	7.4	4.5	0.1	1.0	0.1	1.3	0.1	0.0	0.1	0.2	0.0	0.1
Chile	1.0	0.35	-	-	-	0.46	-	-	0.03	0.14	-	-
Argentina	1.5	1.24	-	0.06	0.04	0.10	-	-	0.04	0.07	-	0.1
Puerto Rico	0.3	-	-	0.18	-	0.15	-	-	-	-	-	-
Dominican Republic	0.7	0.67	-	-	-	-	-	-	-	-	-	-
Jamaica	1.2	0.24	-	0.76	-	0.14	0.04	-	0.04	-	-	-
Colombia	0.8	0.70	-	-	-	0.07	-	-	-	-	-	-
Brazil	0.7	0.59	0.06	-	0.04	0.02	-	-	-	-	-	-
Mexico	0.3	0.32	-	-	-	-	-	-	-	-	-	-
Panama	0.2	0.25	-	-	-	-	-	-	-	-	-	-
<b>MIDDLE EAST</b>	1.7	0.6	0.1	0.9	0.1	0.0	0.0	0.0	0.1	0.0	0.0	1.3
Kuwait	1.6	0.54	0.07	0.87	0.08	-	-	-	-	-	-	0.5
United Arab Emirates	-	-	-	-	-	-	-	-	-	-	-	0.7
<b>GLOBAL NET IMPORTS</b>	90.2	52.2	8.6	6.6	7.6	3.5	3.2	3.2	2.5	1.7	1.1	18.3

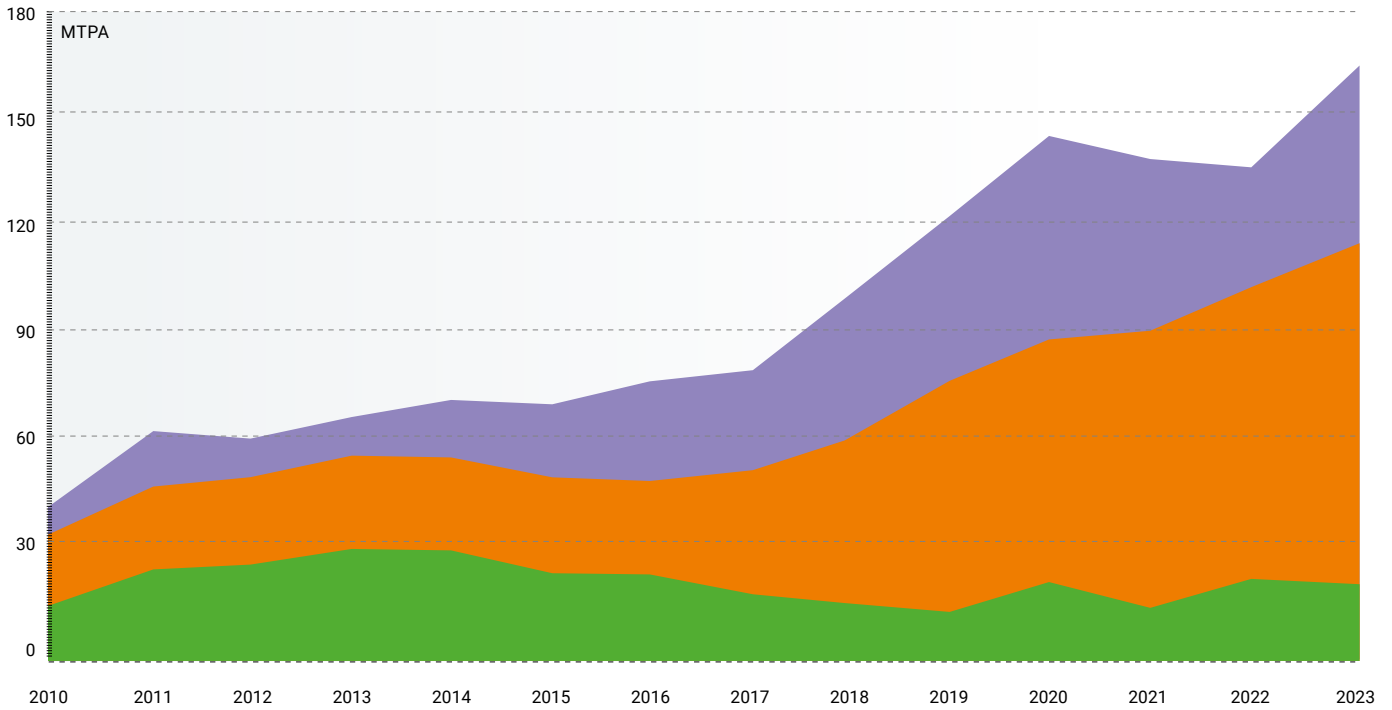
Qatar	Oman	United Arab Emirates	Pacific Basin <sup>1</sup>	Australia	Malaysia	Indonesia	Russia Asia	Papua New Guinea	Brunei	Mozambique	Peru	Net Reloads <sup>2</sup> received	Net LNG Imports
6.3	5.4	3.6	46.6	25.8	6.9	4.4	3.7	2.8	1.9	0.9	0.3	0.2	80.2
1.21	1.01	0.36	15.5	7.42	2.20	1.09	2.50	1.36	0.79	0.11	-	-0.4	22.5
0.92	0.56	0.78	10.4	6.98	1.43	0.57	0.65	0.46	0.11	-	0.18	0.3	16.0
0.48	1.87	0.37	9.4	4.40	2.05	0.84	0.57	0.60	0.54	0.37	0.07	0.6	16.4
1.87	0.88	1.97	0.4	-	-	-	-	-	-	0.37	-	0.0	7.8
0.12	0.33	0.12	4.6	3.37	0.32	0.24	-	0.36	0.19	-	0.07	0.0	5.3
0.80	0.50	-	3.4	2.32	0.57	0.18	-	-	0.27	0.07	-	0.2	6.4
0.06	0.07	-	0.2	-	-	0.25	-	-	-	-	-	0.0	0.9
-	-	-	0.1	-	0.07	0.06	-	-	-	-	-	0.1	1.3
0.63	-	-	0.6	0.49	0.06	0.08	-	-	-	-	-	-0.2	1.4
-	-	-	1.4	0.42	-	0.97	-	-	-	-	-	-0.2	1.2
-	-	-	0.3	0.30	-	-	-	-	-	-	-	-0.2	0.1
-	0.14	-	0.2	0.06	0.14	-	-	-	-	-	-	0.0	0.5
0.22	-	-	-	-	-	-	-	-	-	-	-	0.0	0.3
-	-	-	0.1	-	-	0.08	-	-	-	-	-	0.0	0.1
1.2	0.4	0.1	0.6	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.4	-0.2	65.0
-	0.07	-	0.1	-	-	-	-	-	-	-	0.07	0.0	12.7
0.31	-	-	0.2	-	-	-	-	-	-	-	0.22	-0.6	7.7
-	-	-	0.0	-	-	-	-	-	-	-	-	-0.1	10.5
-	-	-	0.1	-	-	-	-	-	-	-	0.07	0.0	5.3
0.12	-	-	-	-	-	-	-	-	-	-	-	0.2	6.3
-	0.06	-	0.1	-	-	-	-	-	-	0.07	-	-0.1	6.5
0.76	-	-	-	-	-	-	-	-	-	-	-	-0.1	2.3
-	-	-	-	-	-	-	-	-	-	-	-	0.0	1.4
-	-	0.06	-	-	-	-	-	-	-	-	-	0.1	4.3
-	-	-	-	-	-	-	-	-	-	-	-	0.0	1.0
-	-	-	-	-	-	-	-	-	-	-	-	-0.1	1.9
-	-	-	-	-	-	-	-	-	-	-	-	0.0	1.1
-	0.23	-	0.2	-	-	0.07	-	-	-	0.12	-	0.0	1.9
-	-	-	-	-	-	-	-	-	-	-	-	0.1	1.2
0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	7.7
-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.9
0.14	-	-	-	-	-	-	-	-	-	-	-	0.0	1.7
-	-	-	-	-	-	-	-	-	-	-	-	0.4	0.7
-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.7
-	-	-	-	-	-	-	-	-	-	-	-	0.0	1.2
-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.8
-	-	-	-	-	-	-	-	-	-	-	-	-0.1	0.6
-	-	-	0.1	-	-	-	-	-	-	-	0.06	0.0	0.4
-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.2
0.7	0.4	0.1	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	3.3
0.08	0.34	0.06	0.4	0.07	0.14	-	-	-	-	0.15	-	0.1	2.5
0.66	-	0.07	-	-	-	-	-	-	-	-	-	0.0	0.7
8.37	6.11	3.79	47.7	25.8	7.0	4.4	3.7	2.8	1.9	1.3	0.8	0.0	156.2

\* Quantities delivered under contracts of a duration of 4 years or less

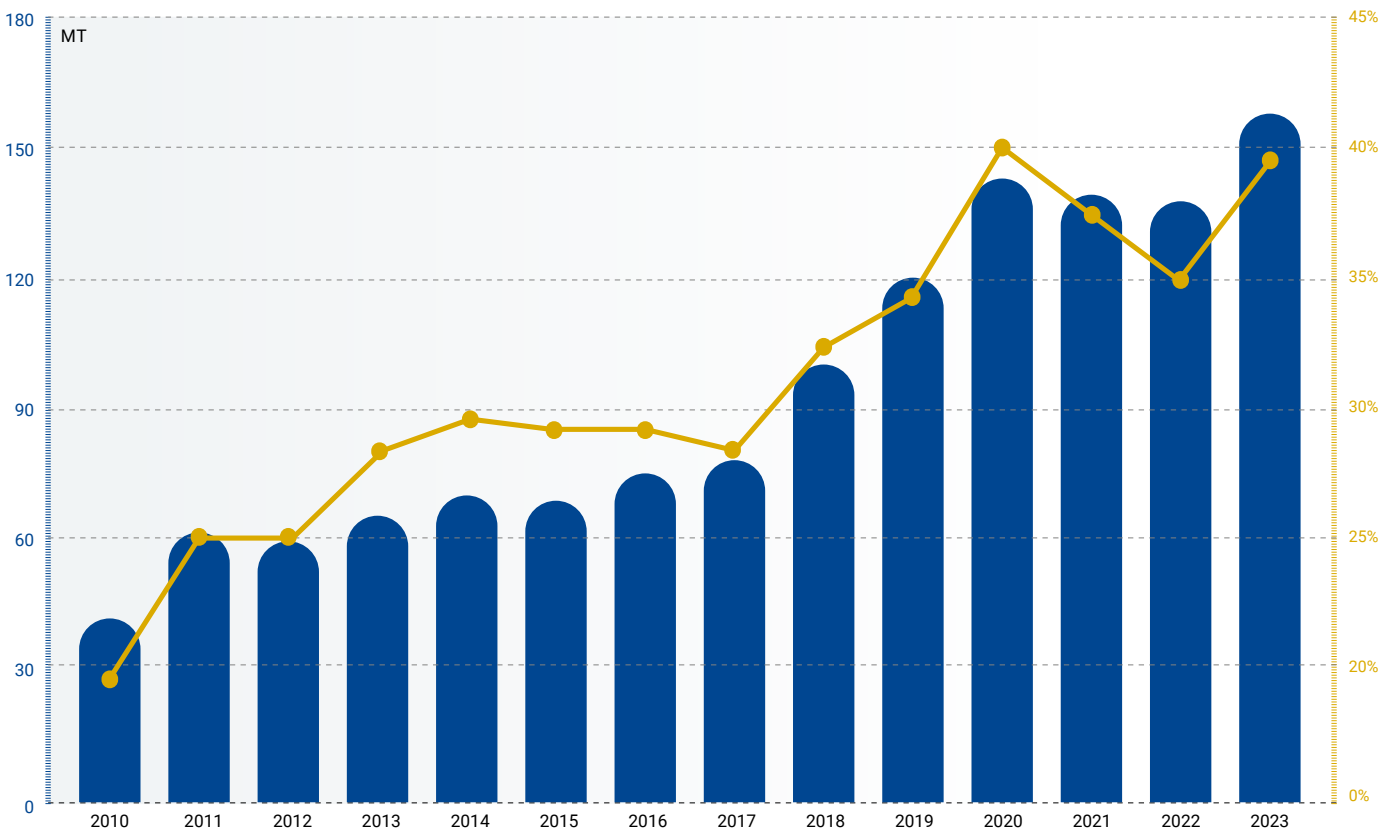
<sup>1</sup> Gross LNG import from - <sup>2</sup> Net re-export if negative - <sup>3</sup> Of which main importing countries, full Matrix available on GIIGNL website - Source: GIIGNL, Kpler

**SPOT & SHORT-TERM FLOWS BY EXPORTING REGION (MTPA)**

Atlantic Pacific Middle East

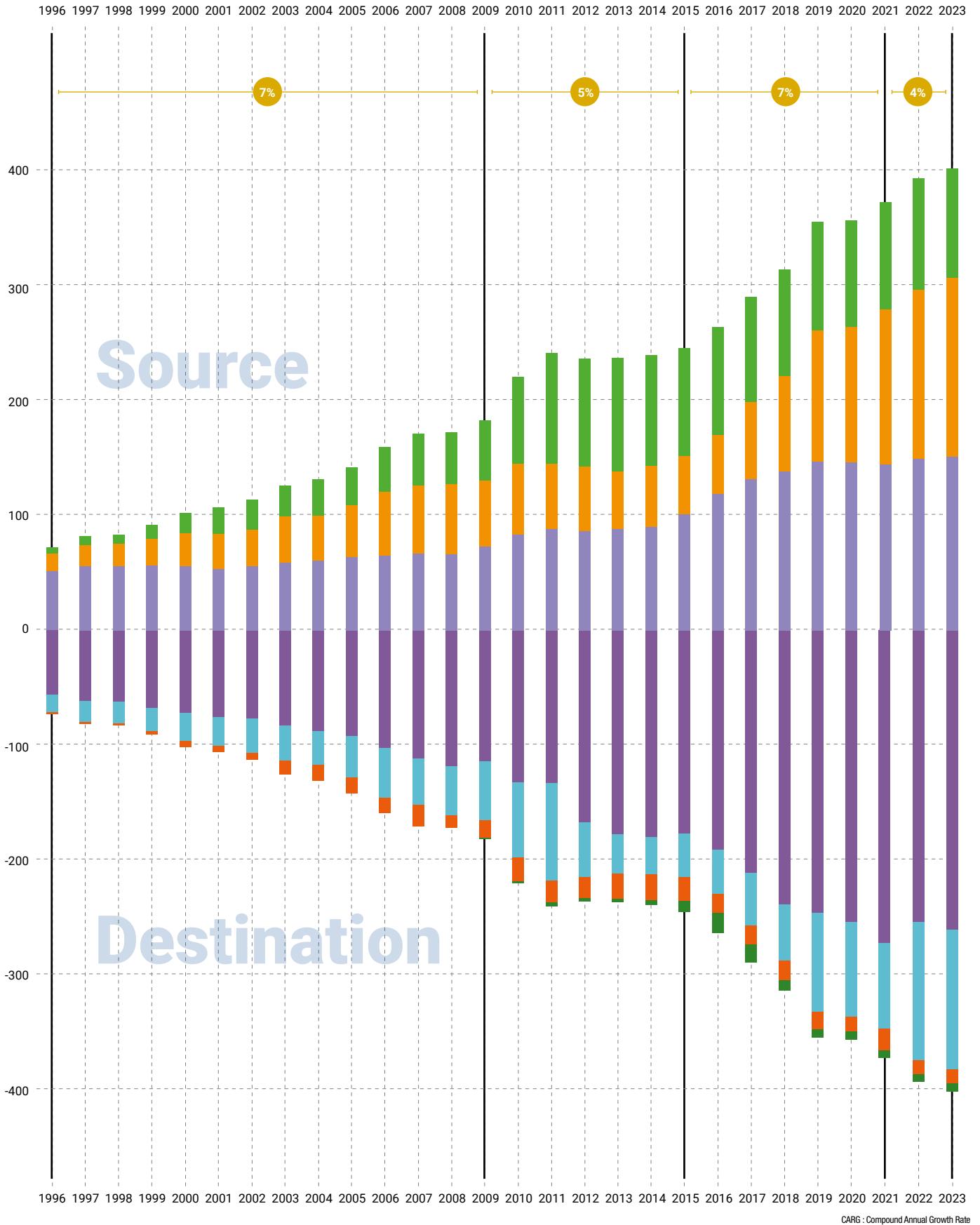


**SHARE OF SPOT & SHORT-TERM VS. TOTAL LNG TRADE (MTPA/%)**





IMPORTS BY SOURCE AND DESTINATION (MT, CAGR)



CAGR : Compound Annual Growth Rate

# Re-exports (in MT)

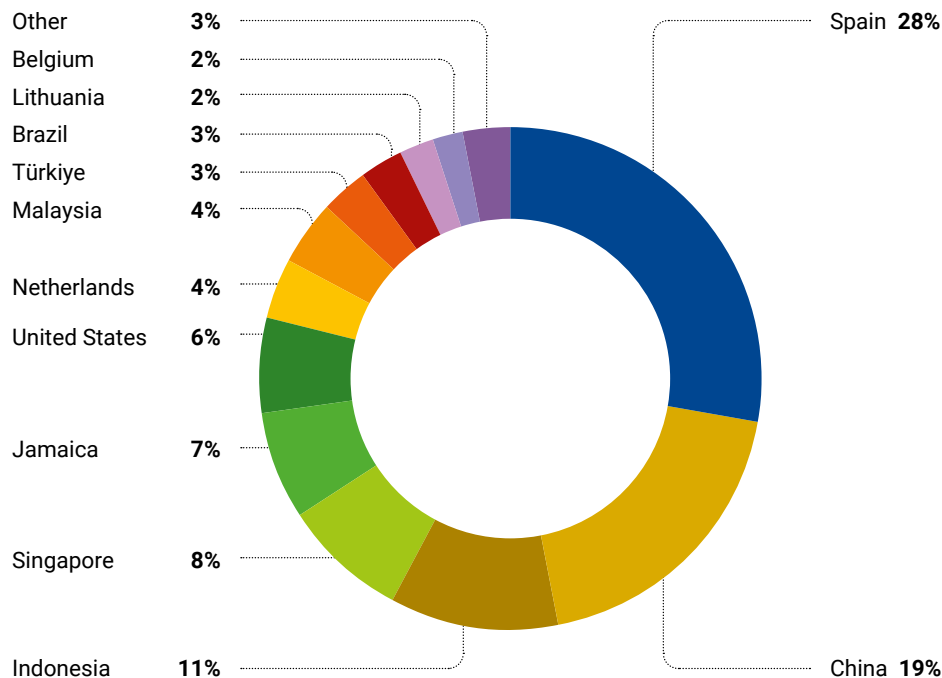
(Based on cargoes received in 2023)

From	To	Belgium	Brazil	Chile	China	Egypt	France	Indonesia	Jamaica	Lithuania	Malaysia	Netherlands	Singapore Republic	Spain	Türkiye	United States Virgin Islands	Total
<b>AMERICAS</b>									0.36					0.36		0.30	1.02
Brazil														0.05			0.05
Jamaica													0.00	0.01			0.01
Puerto Rico									0.33					0.30		0.30	0.93
United States									0.03				0.00				0.03
<b>ASIA</b>					0.86			0.55			0.19		0.38	0.13	0.15		2.25
Bangladesh					0.06			0.06									0.12
China								0.01			0.11		0.25		0.07		0.44
India					0.03								0.02				0.05
Indonesia															0.02		0.02
Japan					0.33			0.35							0.06		0.74
South Korea					0.24			0.06			0.07		0.11	0.13			0.62
Taiwan								0.06									0.06
Thailand					0.19												0.19
<b>EUROPE</b>		0.09	0.13	0.04	0.00	0.05	0.07			0.10		0.19		0.91			1.57
Finland		0.01					+			0.03		0.05		0.02			0.11
France												+		0.03			0.03
Germany		0.01					+			+		0.01		0.09			0.10
Gibraltar		+									+	0.01		0.04			0.04
Greece														0.04			0.04
Italy								0.05			+			0.58			0.63
Lithuania		+		0.04										+			0.04
Netherlands		0.03						0.01						0.07			0.11
Norway		0.01								0.01		0.02		0.01			0.05
Spain		0.00	0.06			0.05							0.00				0.11
Sweden		0.03						+		0.06		0.07		+			0.16
Türkiye			0.07														0.07
United Kingdom												0.03		0.03			0.07
<b>MIDDLE EAST</b>					0.08												0.08
Kuwait					0.08												0.08
<b>GRAND TOTAL</b>		0.10	0.13	0.04	0.93	0.05	0.07	0.55	0.36	0.10	0.19	0.20	0.38	1.41	0.15	0.30	4.97

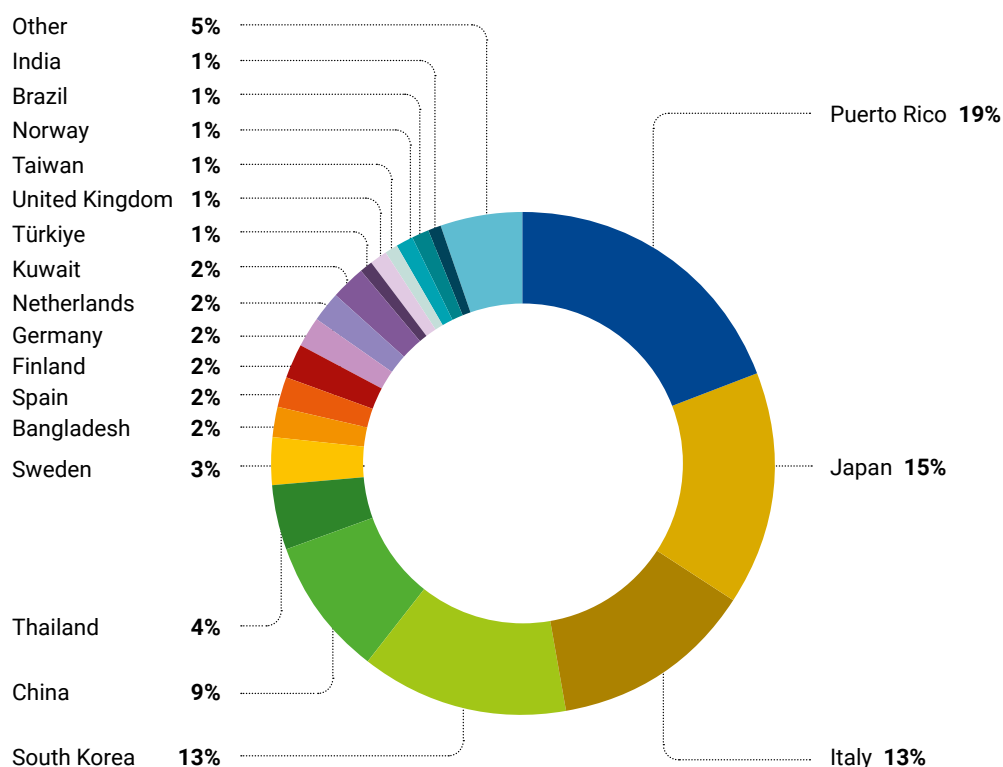
Source: GIIGNL, Kpler

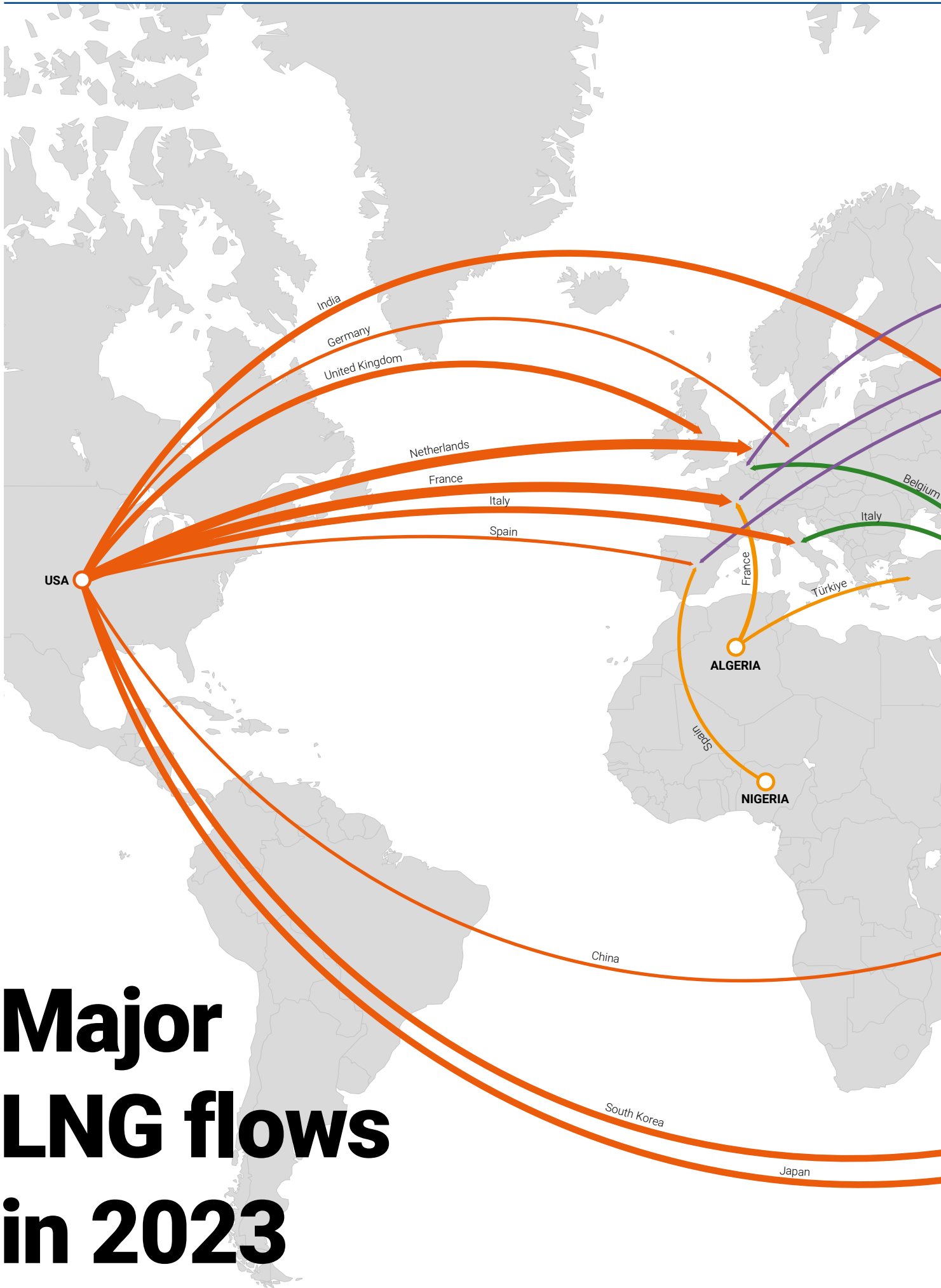
+ < 0,01

## Re-exports loaded in 2023

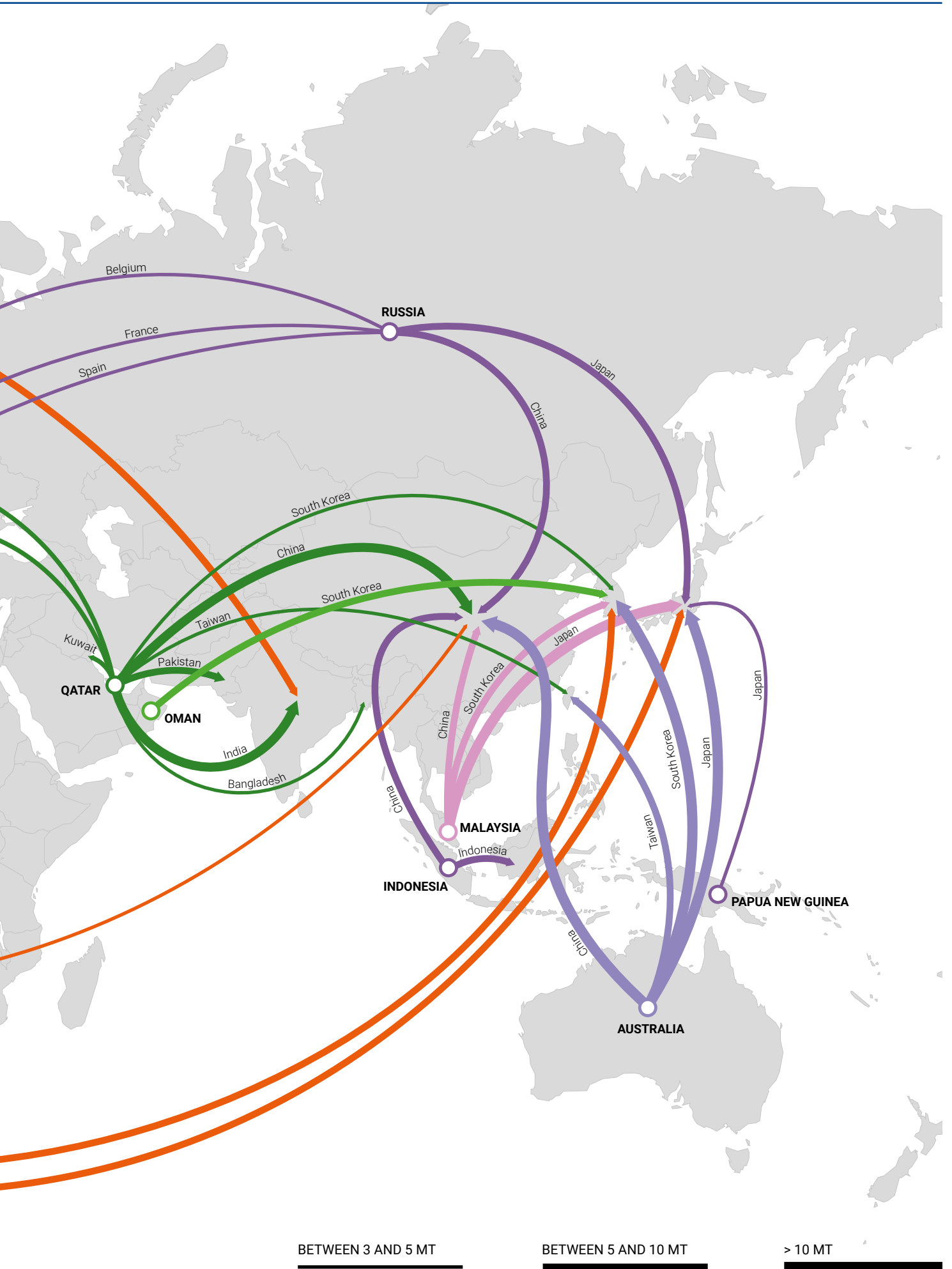


## Re-exports received in 2023





# Major LNG flows in 2023



BETWEEN 3 AND 5 MT

BETWEEN 5 AND 10 MT

> 10 MT

# Contracts signed in 2023

Export Country	Import market	Seller	Buyer	ACQ (MTPA)	Start date	Duration	Delivery Format	Comments
<b>LONG-TERM &amp; MEDIUM-TERM CONTRACTS (&gt; 4 YEARS)</b>								
ADNOC Portfolio	India	ADNOC Gas	Indian Oil	1.2	2026	14	DES	
ADNOC Portfolio	Japan	ADNOC Gas	JAPEX			5	DES	
BP Portfolio	Netherlands	BP	OMV	1	2026	10	DES	
Canada/Woodfibre LNG	Multiple	Woodfibre LNG	BP	0.45	2027	15	FOB	
Cheniere Portfolio/Sabine Pass	Multiple	Cheniere	BASF	0.8	2026	16	FOB	Deliveries start in mid-2026 and, subject to FID on T7 of the SPL Expansion, will increase to 0.8 MTPA upon the start of commercial operations of T7
Cheniere Portfolio/Sabine Pass	China	Cheniere	ENN	1.8	2026	20	FOB	Start mid-2026 ramping up to 0.9 MTPA in 2027. 0.9 MTPA subject to FID on T7 of the SPL Expansion and will start with commercial operations of T7. The term extends until the 20th anniversary of COD of T7
Cheniere Portfolio/Sabine Pass	Multiple	Cheniere	Equinor	1.75	2027	15	FOB	Delivery of half of the volume subject to FID on T1 of the SPL Expansion and will start at the end of this decade
Cheniere Portfolio/Sabine Pass	China	Cheniere	Foran Energy	0.9		20	FOB	Subject to FID on T8 of the SPL Expansion, start with commercial operations of T8
Cheniere Portfolio/Sabine Pass	Multiple	Cheniere	KOSPO (Korea Southern Power Co)	0.4	2027	20	DES	The volumes from 2028 through 2046 are subject to FID on T1 SPL Expansion
Cheniere Portfolio/Sabine Pass	Netherlands	Cheniere	OMV	0.85	2029		DES	Up to 12 cargoes per year. Delivered to Gate LNG terminal
Equatorial Guinea/Punta Europa	Portfolio	Marathon Oil	Glencore		2024	5		For LNG produced from natural gas coming from the Alba Field
Excelerate Portfolio/Ras Laffan	Bangladesh	Excelerate Energy	Petrobangla	1	2026	15	DES	0.85 MTPA in 2026 and 2027 and 1 MTPA from 2028 to 2040
Gunvor Portfolio	Thailand	Gunvor	Hin Kong Power	0.5	2024		DES	
Hartree Partners Portfolio	Japan	Hartree Partners	Kansai Electric					
Mexico/Saguaro Energia LNG	Multiple	Mexico Pacific	ConocoPhillips	2.2	2029	20	FOB	
Mexico/Saguaro Energia LNG	Portfolio	Mexico Pacific	ExxonMobil	2	2029	20	FOB	2 SPAs from 2 trains. Start date assumed. Option for 1 MTPA from Train 3
Mexico/Saguaro Energia LNG	Portfolio	Mexico Pacific	Shell	1.1	2029	20	FOB	Start date assumed
Mexico/Saguaro Energia LNG	Portfolio	Mexico Pacific	Woodside	1.3	2029	20	FOB	
Mexico/Saguaro Energia LNG	China	Mexico Pacific	Zhejiang Energy	1	2029	20	FOB	Start date assumed
Oman/Qalhat	Türkiye	Oman LNG	BOTAŞ	1	2025	10	DES	Binding KTS
Oman/Qalhat	Portfolio	Oman LNG	Shell	0.8	2025	10	DES	
Oman/Qalhat	Portfolio	Oman LNG	Shell	0.8	2025	10	FOB	
Oman/Qalhat	Europe/Asia	Oman LNG	TotalEnergies	0.8	2025	10	DES	
OQ Portfolio	Bangladesh	OQ Trading	Petrobangla	1.5	2026	10	DES	0.25-1.5 MTPA
Petronas portfolio	China	PETRONAS	PetroChina	0.8	2023	9	DES/FOB	Up to 0.8 MTPA
Qatar/NFE	Italy	Qatar Energy	ENI	1	2026	27	DES	Delivered to FSRU Italia in Piombino
Qatar/NFS	China	Qatar Energy	Sinopec	3	2028	27	DES	
Qatar/NFE	Bangladesh	QatarEnergy	Petrobangla	1.8	2026	15	DES	Loading point assumed
Qatar/NFE	China	QatarEnergy	PetroChina	4	2026	27	DES	

Export Country	Import market	Seller	Buyer	ACQ (MTPA)	Start date	Duration	Delivery Format	Comments
Qatar/NFE	Netherlands	QatarEnergy	Shell	2	2026	27	DES	Delivered to Gate LNG terminal
Qatar/NFS	Netherlands	QatarEnergy	Shell	1.5	2028	27	DES	Delivered to Gate LNG terminal
Qatar/NFE	France	QatarEnergy	TotalEnergies	2	2026	27	DES	Delivered to Fos Cavaou LNG terminal
Qatar/NFS	France	QatarEnergy	TotalEnergies	1.5	2028	27	DES	Delivered to Fos Cavaou LNG terminal
Shell Portfolio	Spain/Morocco	Shell	ONEE	0.37		12	DES	Delivered to Morocco through Spanish regas terminals initially
United States/Delfin LNG	Multiple	Delfin LNG	Centrica	1	2027	15	FOB	
United States/Delfin LNG	Portfolio	Delfin LNG	Gunvor	1	2027	15	FOB	0.5-1 MTPA
United States/Delfin LNG	Multiple	Delfin LNG	Hartree Partners LP	0.6	2027	20	FOB	Start date assumed
United States/Rio Grande LNG	Japan	Rio Grande LNG	Itochu	1	2027	15	FOB	
United States/Rio Grande LNG	Europe/Asia	Rio Grande LNG	TotalEnergies	5.4	2027	20	FOB	
United States/Port Arthur	Multiple	Sempra Infrastructure - PALNG	ORLEN	1	2027	20	FOB	
United States/Plaquemines LNG	China	Venture Global	China Gas	1	2027	20	FOB	Start date assumed
United States/CP2	China	Venture Global	China Gas	1	2028	20	FOB	Start date assumed
United States/Plaquemines LNG	Portfolio	Venture Global	Excelerate Energy	0.7	2027	20	FOB	From Plaquemines Phase 2
United States/CP2	Japan	Venture Global	JERA	1	2028	20	FOB	Start with commercial operations
United States/CP2	Germany	Venture Global	Securing Energy for Europe (SEFE)	2.25	2028	20	FOB	Start date assumed
<b>SHORT-TERM CONTRACTS (≤ 4 YEARS)</b>								
Indonesia	Portfolio	Merakes LNG Sellers	Vitol	0.55	2024	3	FOB	Possible 1 year extension
Oman/Qalhat	Multiple	Oman LNG	OQ Trading	0.75	2026	4	FOB	Binding term-sheet agreement
Oman/Qalhat	Germany	Oman LNG	SEFE	0.4	2026	4	FOB	Binding term-sheet agreement
Oman/Qalhat	China	Oman LNG	Unipet	1	2025	4	DES	Binding term-sheet agreement
UAE/ADNOC Portfolio	China	ADNOC Gas	CNOOC	0.4	2024	2	DES	12 cargoes over 2 years
UAE/ADNOC Portfolio	Portfolio	ADNOC Gas	JERA		2024			LNG supplied from Das Island
UAE/ADNOC Portfolio	Multiple	ADNOC Gas	PetroChina	0.4	2024	2	DES	
UAE/ADNOC Portfolio	Multiple	ADNOC Gas	TotalEnergies		2023	3		
<b>HEADS OF AGREEMENT</b>								
Oman/Qalhat	Thailand	Oman LNG	PTT	0.8	2026	9	DES	
Chesapeake Portfolio	Portfolio	Chesapeake	Gunvor	2	2027	15		
Chesapeake Portfolio	Portfolio	Chesapeake	Vitol	1	2028	15		Sourced from the US
Indonesia	Indonesia	PT Pertamina (Persero)	PT Amman Mineral Nusa Tenggara (AMNT)		2024			
TotalEnergies Portfolio	India	TotalEnergies	Indian Oil	0.8	2026	10		
United States/Commonwealth LNG	Portfolio	Commonwealth LNG	EQT	1		15		Tolling agreement
United States/Commonwealth LNG		Commonwealth LNG	Kimmeridge	2		20		Pause on export-permit
United States/Commonwealth LNG	Portfolio	Commonwealth LNG	MET	1		20		

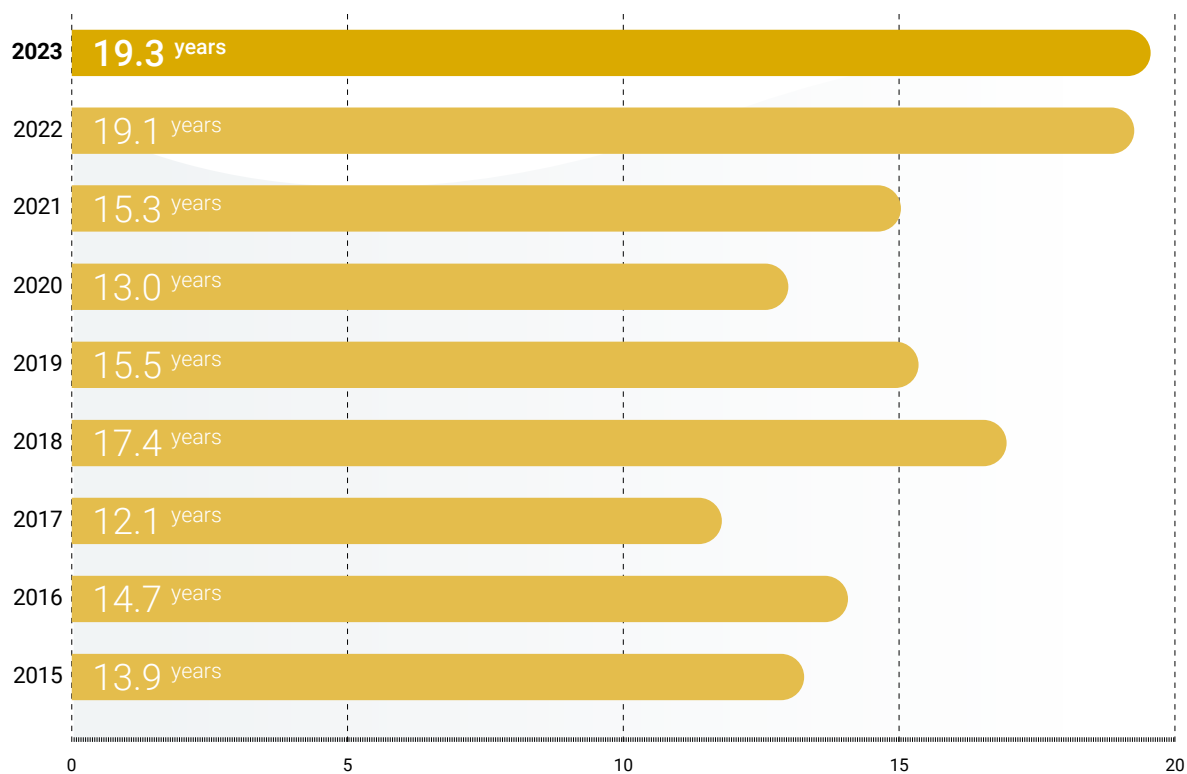
Export Country	Import market	Seller	Buyer	ACQ (MTPA)	Start date	Duration	Delivery Format	Comments
United States/Commonwealth LNG	Portfolio	Energy Transfer	Japanese Consortium	1.6		20		Subject to an option to convert the offtake agreement to an equity participation
United States/Commonwealth LNG	Portfolio	Energy Transfer	EQT	1		20		Tolling agreement
<b>MEMORANDUMS OF UNDERSTANDING</b>								
Australia/Northern Territory LNG		Tamboran Resources	BP	2.2		20		SPA expected in 2025
Australia/Northern Territory LNG		Tamboran Resources	Shell	2.2		20		SPA expected in 2025
Canada/Cedar LNG		Cedar LNG	ARC Resources	1.5		20		Tolling agreement
Nigeria/Riverside LNG		Riverside LNG	Johannes Schuetze Energy Import	0.85	2026			With potential to increase to 1.2 MTPA
<b>TERMINAL CAPACITY</b>								
Germany/Stade	Germany	Hanseatic Energy Hub	EnBW	4.4	2027	25		Capacity at Gate LNG terminal
Germany/Stade	Germany	Hanseatic Energy Hub	CEZ	1.5	2027	15		Capacity at Gate LNG terminal
Germany/Stade	Germany	Hanseatic Energy Hub	SEFE	2.9	2027	20		Capacity at Stade LNG terminal
France/Dunkerque	France	Dunkerque LNG	SEFE	2.6				Capacity at Dunkerque LNG terminal
Netherlands/Gate	Netherlands	Gate	BP	1.5	2026	20		Capacity at Gate LNG terminal
Netherlands/Gate	Netherlands	Gate	PetroChina	1.5		20		Capacity at Gate LNG terminal
Netherlands/Gate	Netherlands	Gate	ConocoPhillips	1.5	2031	15		Capacity at Gate LNG terminal
Netherlands/Gate	Netherlands	Gate	Uniper	0.7	2027	4		Capacity at Gate LNG terminal
Poland/Gdańsk	Poland	Gaz-System	Orlen	4.5	2027	15		Capacity at FSRU Terminal in the Gulf of Gdańsk

LONG-TERM AND MEDIUM-TERM CONTRACTS IN FORCE IN 2023 IS AVAILABLE ON GIIGNL WEBSITE (GIIGNL.ORG).

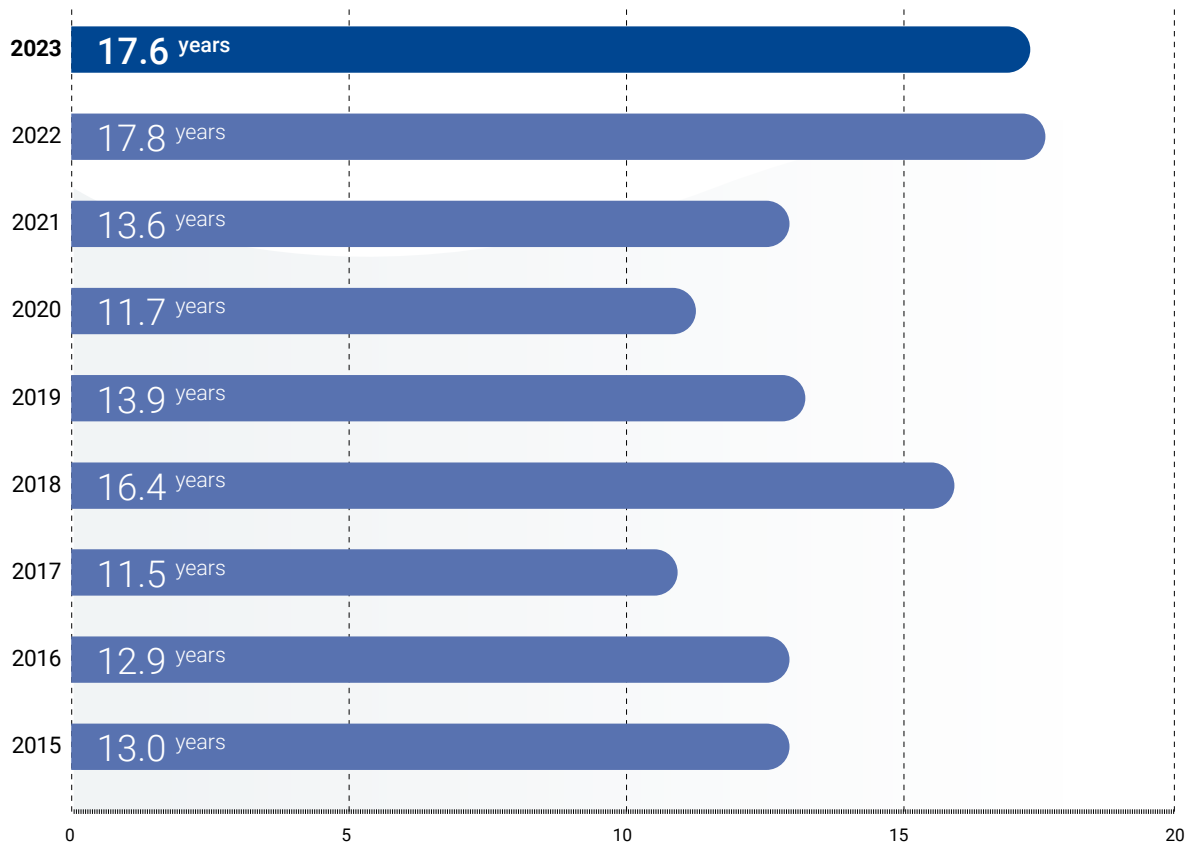




**VOLUME WEIGHTED AVERAGE DURATION OF MEDIUM-TERM AND LONG-TERM CONTRACTS**



**AVERAGE DURATION OF MEDIUM-TERM AND LONG-TERM CONTRACTS**



# LNG shipping

**772**  
vessels at the  
end of 2023

The total LNG tanker fleet consisted of **772 vessels** at the end of 2023. It included 51 FSRUs and 79 vessels (53 LNGBVs + 26 Small Scale LNG carriers) of equal or less than 30 000 cubic meters. Total cargo capacity at the end of 2023 stood at 114 million cubic meters. Total operational capacity (vessels known to be in service) amounted to 113 million cubic meters.

In 2023, the average spot charter rate for a 160,000 cubic meters TFDE LNG carrier stood at around \$97,100/day, compared to an average of around \$131,500/day in 2022.

A total of 41 vessels were delivered in 2023, compared to 35 vessels in 2022. The number of new orders reached a total of 66 units, compared to 178 new orders in 2022. At the end of 2023, the orderbook consisted of 341 units (58 million cubic meters) including 3 FSRUs and 9 LNGBVs. The orderbook represented 51% of existing fleet capacity. 89 units on order were scheduled for delivery in 2024. It included 2 FSRUs and 6 LNGBVs.

## LNG CARRIERS DELIVERED IN 2023

41 ships were delivered during the year, including 8 ships (8 LNGBVs) of less than 30,000 cubic meters. The average capacity of vessels delivered (excluding ships of equal or less than 30,000 cubic meters) amounted to 170,255 cubic meters.

Built	Vessel Name	IMO Number	Type	Capacity (m <sup>3</sup> )	CCS*	Owner	Builder	Manager
2023	Amore Mio I	9943841	LNG Carrier	174,000	Membrane	Capital Gas	Hyundai HI (Ulsan)	Capital Gas
2023	Asterix I	9892298	LNG Carrier	174,000	Membrane	Capital Gas	Hyundai HI (Ulsan)	Capital Gas SM
2023	Celsius Geneva	9945435	LNG Carrier	180,000	Membrane	Celsius Tankers	Samsung HI	Celsius Tankers
2023	Celsius Giza	9945447	LNG Carrier	180,000	Membrane	Celsius Tankers	Samsung HI	Celsius Tankers
2023	Clean Destiny	9943487	LNG Carrier	200,000	Membrane	Dynagas Ltd	Hyundai HI (Ulsan)	Dynagas Ltd
2023	Clean Resolution	9943475	LNG Carrier	200,000	Membrane	Dynagas Ltd	Hyundai HI (Ulsan)	Dynagas Ltd
2023	Dapeng Princess	9937907	LNG Carrier	79,960	Membrane	Shenzhen Gas	Hudong Zhonghua	Shenzhen Gas
2023	Emei	9958640	LNG Carrier	174,199	Membrane	United Liquefied Gas	Hudong Zhonghua	COSCO Shanghai LNG
2023	Energy Fidelity	9540089	LNG Carrier	174,000	Membrane	Alpha Gas	Hyundai Samho HI	Alpha Gas
2023	Extremadura Knutsen	9918157	LNG Carrier	174,000	Membrane	Knutsen OAS Shipping	Hyundai Samho HI	Knutsen OAS Shipping
2023	Ferrol Knutsen	9918145	LNG Carrier	174,000	Membrane	Knutsen OAS Shipping	Hyundai Samho HI	Knutsen OAS Shipping
2023	GAIL Urja	9949027	LNG Carrier	174,000	Membrane	Mitsui OSK Lines	Hanwha Ocean	Mitsui OSK Lines
2023	Gordon Waters Knutsen	9946374	LNG Carrier	174,000	Membrane	Knutsen OAS Shipping	Hyundai Samho HI	Knutsen OAS Shipping
2023	Grazyna Gesicka	9922988	LNG Carrier	174,000	Membrane	Knutsen OAS Shipping	Hyundai HI (Ulsan)	Knutsen OAS Shipping
2023	Ignacy Lukasiewicz	9946398	LNG Carrier	174,000	Membrane	Knutsen OAS Shipping	Hyundai Samho HI	Knutsen OAS Shipping
2023	Kunlun	9915911	LNG Carrier	174,089	Membrane	United Liquefied Gas	Hudong Zhonghua	COSCO Shanghai LNG
2023	Lagenda Setia	9952816	LNG Carrier	79,960	Membrane	K-Line	Hudong Zhonghua	K Marine SM
2023	LNG Geneva	9892133	LNG Carrier	174,000	Membrane	CSSC Leasing	Hudong Zhonghua	B. Schulte (Hellas)
2023	LNG Harmony	9917555	LNG Carrier	174,000	Membrane	Oceanix Services Ltd	Hyundai HI (Ulsan)	
2023	LNG Prosperity	9902938	LNG Carrier	174,000	Membrane	Oceanix Services Ltd	Hyundai HI (Ulsan)	
2023	Maran Gas Marseille	9924869	LNG Carrier	174,000	Membrane	Maran Gas Maritime	Samsung HI	Maran Gas Maritime
2023	New Apex	9929106	LNG Carrier	174,101	Membrane	Pan Ocean	Samsung HI	POS SM Co Ltd
2023	North Air	9953509	LNG Carrier	174,000	Membrane	Nippon Yusen Kaisha	Samsung HI	NYK Shipmngt. Pte.
2023	North Mountain	9953511	LNG Carrier	174,000	Membrane	Nippon Yusen Kaisha	Samsung HI	Nippon Yusen Kaisha
2023	Orion Jessica	9917543	LNG Carrier	174,000	Membrane	Orion Global	Hyundai HI (Ulsan)	B. Schulte (Hellas)
2023	Paris Knutsen	9946350	LNG Carrier	174,000	Membrane	Knutsen OAS Shipping	Hyundai Samho HI	Knutsen OAS Shipping
2023	Saint Barbara	9946386	LNG Carrier	174,000	Membrane	Knutsen OAS Shipping	Hyundai Samho HI	Knutsen OAS Shipping
2023	Seri Damai	9896440	LNG Carrier	174,000	Membrane	MISC	Samsung HI	EagleStar Shipmngmt
2023	Seri Daya	9896452	LNG Carrier	174,000	Membrane	MISC	Samsung HI	EagleStar Shipmngmt
2023	SM Golden Eagle	9917567	LNG Carrier	174,000	Membrane	Korea Line LNG	Hyundai HI (Ulsan)	Korea Line LNG
2023	SM Kestrel	9917579	LNG Carrier	174,000	Membrane	Korea Line LNG	Hyundai HI (Ulsan)	Korea Line LNG
2023	Vivit Africa LNG	9950105	LNG Carrier	174,103	Membrane	H-Line Shipping	Hyundai Samho HI	H-Line Shipping
2023	Wen Cheng	9892121	LNG Carrier	174,000	Membrane	CSSC Leasing	Hudong Zhonghua	
2023	Alice Cosulich	9938767	LNGBV	8,471	Other	Fratelli Cosulich SG	Nantong CIMC SOE	Fratelli Cosulich SG

Source: Clarksons Research, GIIGNL

Built	Vessel Name	IMO Number	Type	Capacity (m <sup>3</sup> )	CCS*	Owner	Builder	Manager
2023	Blue Whale	9932323	LNGBV	7,495	Membrane	Hyundai LNG Shipping	Hyundai HI (Ulsan)	Hyundai LNG Shipping
2023	Brassavola	9880764	LNGBV	12,000	Membrane	Mitsui OSK Lines	Sembcorp Boulevard	MOL LNG Europe
2023	Ecobunker Tokyo Bay	9894416	LNGBV	2,500	Other	Ecobunker Shipping	Fukuoka SB	Uyeno Transtech
2023	Fuelng Venosa	9937115	LNGBV	18,137	Other	Korea Line LNG	Hyundai Mipo	Korea Line LNG
2023	Hong Peng	9958573	LNGBV	9,534	Other	Southwest Maritime	Huangpu Wenchong	Southwest Maritime
2023	Levante LNG	9942524	LNGBV	12,500	Other	Scale Gas	Hyundai Mipo	B. Schulte (Deutsch)
2023	New Frontier 2	9936288	LNGBV	18,127	Other	Pan Ocean	Hyundai Mipo	WSM Malaysia

### LNG VESSELS SCRAPPED IN 2023

7 ships were demolished during the year:

Built	Vessel Name	IMO Number	Type	Capacity (m <sup>3</sup> )	CCS*	Owner	Builder	Manager
1977	Gandria	7361934	LNG Carrier	125,000	Moss	Golar LNG	Keppel Shipyard	Golar Management
1981	Golar Spirit	7373327	FSRU	129,000	Moss	New Fortress	Keppel Shipyard	New Fortress
1983	Adriatic Energy	8110203	LNG Carrier	125,568	Moss	Sinokor Merchant	MHI	Synergy Maritime
1988	Kayoh Maru	8704248	LNG Carrier	1,517	Other	Tosoh Logistics	Imamura Zosen.	Koun Marine Corp
1989	Grace Energy	8702941	LNG Carrier	127,590	Moss	Sinokor Merchant	MHI	WSM Singapore
1993	Artica (ex Seapeak Arctic, Arctic Spirit)	9001784	LNG Carrier	89,880	Other	Seapeak	I.H.I.	Teekay Shipping
1993	Lara (ex. Seapeak Polar, Polar Spirit)	9001772	LNG Carrier	89,880	Other	Seapeak	I.H.I.	Seapeak Maritime

### LNG CARRIERS LAID-UP, IDLE OR OTHERWISE OUT OF SERVICE AT THE END OF 2023

7 vessels were laid-up, idle or otherwise out of service at the end of the year:

Built	Vessel Name	IMO Number	Type	Capacity (m <sup>3</sup> )	CCS*	Owner	Builder	Manager
1977	LNG Aquarius	7390181	LNG Carrier	126,300	Moss	Hanochem Shpg	General Dynamics	Humolco LNG
1978	Gulf Energy	7390143	LNG Carrier	126,300	Moss	Sinokor Merchant	General Dynamics	Sinokor Ship Mngt
1978	LNG Capricorn	7390208	LNG Carrier	126,300	Moss	Nova Shpg & Log	General Dynamics	Nova Carriers
1978	Bering Energy	7390155	LNG Carrier	126,400	Moss	Sinokor Merchant	General Dynamics	Sinokor-Thome
1979	LNG Taurus	7390167	LNG Carrier	126,300	Moss	Nova Shpg & Log	General Dynamics	Nova Carriers
1979	Coral Energy (ex LNG Virgo)	7390179	LNG Carrier	126,400	Moss	Sinokor Merchant	General Dynamics	Sinokor Ship Mngt
2000	Golar Mazo	9165011	LNG Carrier	136,867	Moss	New Fortress	MHI	CoolCo

Source: Clarksons Research, GIIGNL

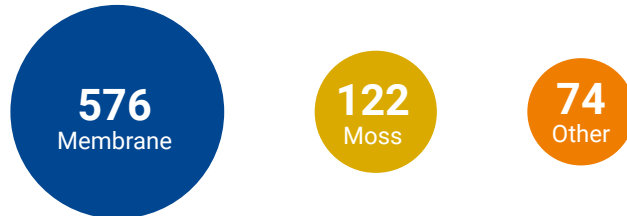
LNG CARRIER FLEET TABLE IS AVAILABLE ON GIIGNL WEBSITE (GIIGNL.ORG).



# LNG fleet statistics

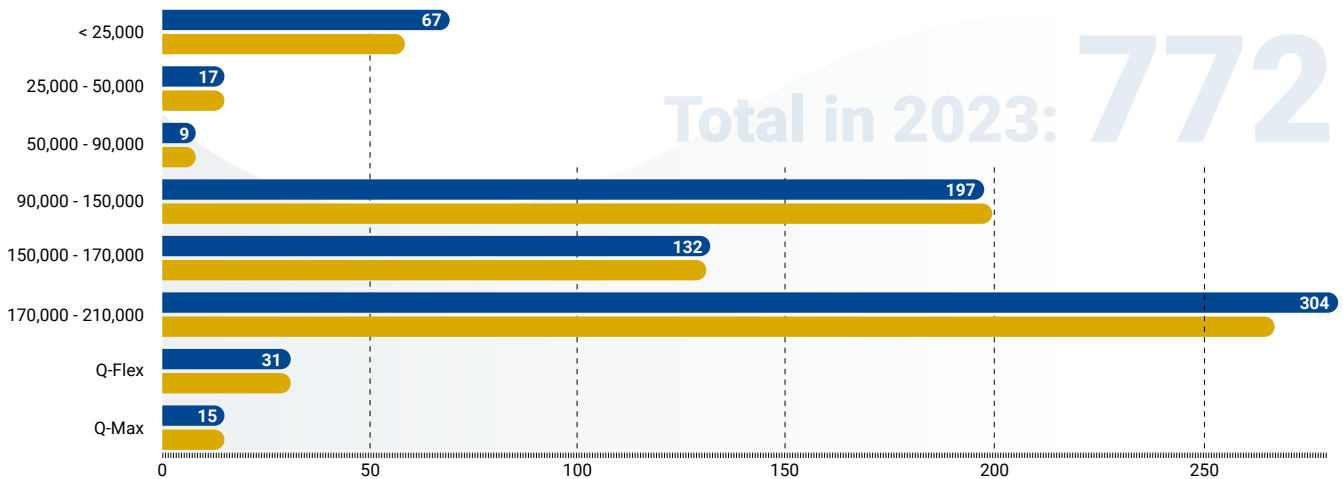
At the end of 2023, the fleet could be classified as follows:

## CONTAINMENT SYSTEM



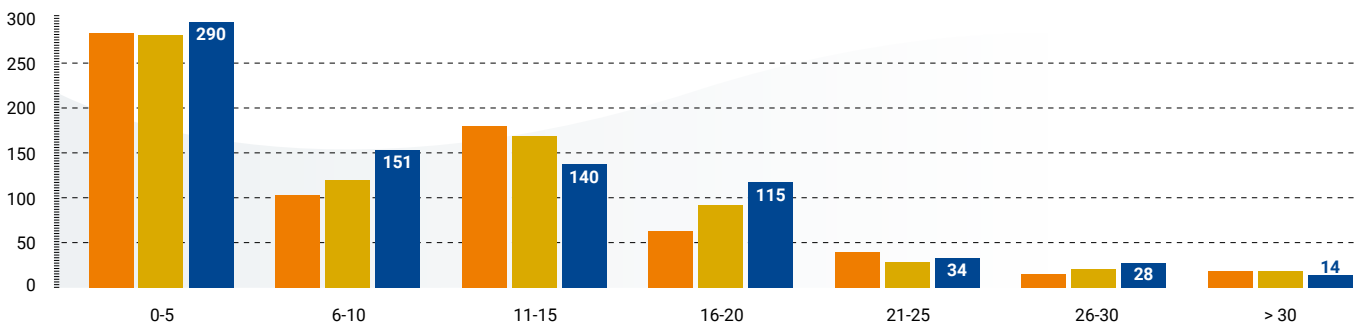
## CARGO CAPACITY (m³)

2022 2023

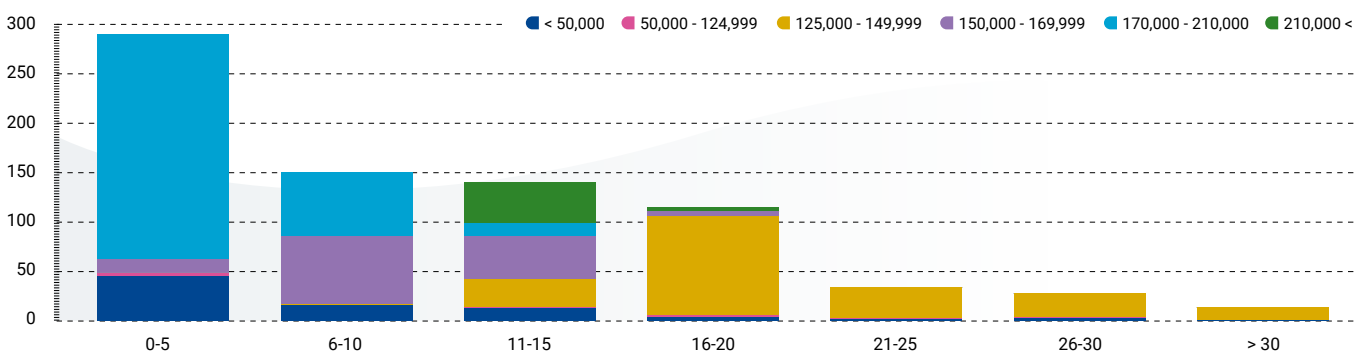


## AGE OF THE EXISTING LNG FLEET (years)

2021 2022 2023



## CARGO CAPACITY (in m³) AND AGE (years)



Source: Clarksons Research, GIIGNL

# FSRU fleet

The total FSRU fleet consisted of **51 units** at the end of 2023. Total FSRU cargo capacity at the end of 2023 stood at around 7.6 million cubic meters.

The orderbook comprised 3 FSRUs including 1 vessel under conversion. 2 FSRUs are scheduled for 2024 delivery.

## FSRU FLEET AT THE END OF 2023

Built/ Converted	Vessel Name	Storage Capacity (m <sup>3</sup> )	CCS <sup>1</sup>	Nominal Send-out Capacity (MTPA)	Owner	Builder	Location
1977/2010	Energos Freeze (ex Golar Freeze)	125,000	Moss	3.6	Energos Inf.	Keppel Shipyard	Laid up
1977/2012	Nusantara Regas Satu (ex Khannur)	125,000	Moss	3.0	Energos Inf.	Jurong Shipyard	Nusantara, Indonesia
1991/2022	KARMOL LNGT Powership Asia (ex Northwest Shearwater)	127,500	Moss	2.7	KARMOL	Sembcorp	Sepetiba, Brazil
1994/2021	KARMOL LNGT Powership Africa (ex Dwiputra)	127,386	Moss	1.0	KARMOL	Sembcorp	Senegal
1994/2023	KARMOL LNGT Powership Europe (ex LNG Vesta)	127,547	Moss		Mitsui OSK Lines	Keppel Shipyard	(Mozambique)
2002/2021	BW Tatiana (ex Gallina)	137,001	Moss	2.0	BW LNG	Keppel Shipyard	El Salvador
2003/2013	FSRU Toscana	137,500	Moss	2.8	OLT Offshore	Drydocks World Dubai	Toscana, Italy
2004/2009	Energos Winter (ex Golar Winter)	138,000	Membrane	3.8	Energos Inf.	Keppel Shipyard	Santa Catarina, Brazil
2005	Excellence	138,000	Membrane	3.8	Excelsior Energy	DSME	Moheshkhali, Bangladesh
2005	Excelsior	138,000	Membrane	3.5	Excelsior Energy	DSME	(Wilhelmshaven, Germany)
2005/2020	LNG Croatia (ex Golar Viking)	140,208	Membrane	2.1	LNG Croatia	Huarun Dadong	Kirk, Croatia
2006	Summit LNG (ex Excelsior)	138,000	Membrane	3.8	Excelsior Energy	DSME	Summit LNG, Bangladesh
2008	Explorer	150,900	Membrane	6.0	Excelsior Energy	DSME	Jebel Ali, Dubai, UAE
2009/2019	BW Batangas (ex BW Paris)	162,500	Membrane	4.2	BW LNG	Keppel Shipyard	Batangas, Philippines
2009	Express	151,000	Membrane	3.8	Excelsior Energy	DSME	LNGC
2009	Exquisite	150,900	Membrane	4.8	Excelsior Energy	DSME	Port Qasim Karachi, Pakistan
2009	Neptune (ex GDF Suez Neptune)	145,130	Membrane	3.8	Hoegh LNG Partners	SHI	Lubmin, Germany
2010/2023	Alexandroupolis (ex Gaslog Chelsea)	153,000	Membrane	4.0	GasLog	Keppel Shipyard	Alexandroupolis, Greece
2010	Cape Ann (ex GDF Suez Cape Ann)	145,130	Membrane	3.7	Hoegh LNG Partners	SHI	Le Havre, France
2010	Exemplar	150,900	Membrane	4.8	Excelsior Energy	DSME	Inkoo, Finland
2010	Expedient	150,900	Membrane	5.2	Excelsior Energy	DSME	GNL Escobar, Argentina
2013/2023	Energos Celsius (ex Golar Celsius)	160,000	Membrane	6.0	Energos Inf.	SHI	Barcarena, Brazil
2014	Energos Eskimo (ex Golar Eskimo)	160,000	Membrane	3.8	Energos Inf.	SHI	Aqaba, Jordan
2014	Energos Igloo (ex Golar Igloo)	170,000	Membrane	5.8	Energos Inf.	SHI	Eemshaven, Netherlands
2014	Experience	173,400	Membrane	6.0	Excelsior Energy	DSME	Guanabara Bay, Brazil
2014	Höegh Gallant	170,000	Membrane	2.8	Hoegh LNG	HHI	Old Harbour, Jamaica
2014	Independence	170,000	Membrane	2.9	Hoegh LNG	HHI	Klaipeda, Lithuania
2014	PGN FSRU Lampung	170,000	Membrane	2.7	Hoegh LNG Partners	HHI	Lampung LNG, Indonesia
2015	BW Singapore	170,000	Membrane	5.7	SNAM SpA	SHI	(Ravenna, Italy)
2015	Golar Tundra	170,000	Membrane	5.5	SNAM SpA	SHI	Piombino, Italy
2016	Höegh Grace	170,000	Membrane	2.8	Hoegh LNG Partners	HHI	Cartagena, Colombia
2016/2020	Hua Xiang (ex Hua Xiang 8)	14,000	Other	0.1	Zhejiang Huaxiang	Fengshun Ship Hvy	Maleo, Indonesia
2017	Bauhinia Spirit (ex MOL FSRU Challenger)	263,000	Membrane	4.1	Mitsui OSK Lines	DSME	Hong Kong
2017	BW Integrity	170,000	Membrane	5.0	BW LNG	SHI	Port Qasim GasPort, Pakistan
2017	Eemshaven LNG (ex S188)	25,000	Other	4.6	Exmar Offshore	Wilson Zhoushan	Eemshaven, Netherlands
2017	Höegh Giant	170,000	Membrane	3.7	Hoegh LNG	HHI	Santos, Brazil
2018	Energos Nanook (ex Golar Nanook)	170,000	Membrane	5.5	Energos Inf.	SHI	Sergipe, Brazil
2018	Höegh Esperanza	170,000	Membrane	3.8	Hoegh LNG	HHI	Wilhelmshaven, Germany
2018	Höegh Gannet	170,000	Membrane	5.7	Hoegh LNG	HHI	Brunsbüttel, Germany
2018	Karunia Dewata	26,000	Other	0.4	Jaya Samudra	PaxOcean Zhoushan	Benoa, Indonesia
2018	Marshal Vasilievskiy	174,100	Membrane	2.0	Gazprom	HHI	Kaliningrad, Russia
2019	BW Magna	173,400	Membrane	5.7	BW LNG	DSME	Port Açu, Brazil
2019	Höegh Galleon	170,000	Membrane	3.7	Hoegh LNG	SHI	LNGC
2019	Turquoise P	170,000	Membrane	5.7	Pardus Energy	HHI	Etki, Türkiye
2020	Excelsior Sequoia	173,400	Membrane	5.6	Excelsior Energy	DSME	Bahia, Brazil
2020	Torman	28,000	Other	2.0	Access LNG	Jiangnan SY Group	Tema LNG, Ghana
2020	Vasant 1	180,000	Membrane	5.0	Swan Energy	HHI	Saros, Türkiye
2021	Energos Force (ex Transgas Force)	174,000	Membrane		Energos Infrastructure	HZ	Stade, Germany
2021	Energos Power (ex Transgas Power)	174,000	Membrane		Energos Infrastructure	HZ	LNGC
2021	Ertugrul Gazi	170,000	Membrane	4.1	BOTAS	HHI	Dürtyol, Türkiye
2021	Jawa Satu	170,000	Membrane	2.4	PT Jawa Satu Regas	SHI	Java, Indonesia

## FSRU ORDERBOOK AT THE END OF 2023

Built	Vessel Name	Storage Capacity (m <sup>3</sup> )	CCS <sup>1</sup>	Nominal Send-out Capacity (MTPA)	Owner	Builder	Location
2002/2024	Etyfa Prometheas (ex Galea)	136,967	Moss		DEFA	COSCO HI (Shanghai)	Cyprus
2024	Shanghai Electric Wison FSRP	170,000	Membrane		Wilson Offshore	Wilson (Nantong)	
2026	N/B Hyundai HI (Ulsan) Ulsan 3407	170,000	Membrane		Excelsior Energy	HHI (Ulsan)	

# LNG bunkering vessel (LNGBV) fleet

The total LNGBV fleet consisted of **53 vessels** at the end of 2023.

The orderbook comprised 9 LNGBVs, 6 of which were scheduled for 2024 delivery.

## LNGBV FLEET AT THE END OF 2023

Built	Vessel Name	Storage Capacity (m <sup>3</sup> )	CCS*	Type	Owner	Builder	Manager	Location
1974	Seagas	167	Other	LNGBV	Linde Europe North	Fiskerstrand Verft	Sirius Shipping	Stockholm, Sweden
2004	Pioneer Knutsen	1,100	Other	LNGBV/LNGC	Knutsen OAS Shipping	Veka SY Lemmer	Knutsen OAS Shipping	Norway
2009	Coral Methane	7,500	Other	LNGBV/LNGC	Anthony Veder	Remontowa Repair	Anthony Veder	Northwest Europe
2009	Oizmendi	600	Other	LNGBV	Itsas Gas Bunker	Astilleros Murueta	Naviera Ulises Ltd.	Huelva, Spain
2010	Bergen LNG	850	Other	LNGBV	Bergen Tankers A/S	Westcon Shipyards	Bergen Tankers A/S	Norway
2010	Coral Favia	10,030	Other	LNGBV/LNGC	Anthony Veder	Taizhou Skaugen	Anthony Veder	Florida, USA
2010	Coral Fraseri	10,030	Other	LNGBV/LNGC	Anthony Veder	Taizhou Skaugen	Anthony Veder	LNGC
2011	Coral Fungia	10,030	Other	LNGBV/LNGC	Anthony Veder	Taizhou Skaugen	Anthony Veder	LNGC
2011	Coral Furcata	10,030	Other	LNGBV/LNGC	Anthony Veder	Taizhou Skaugen	Anthony Veder	LNGC
2012	Coral Energy	15,600	Other	LNGBV/LNGC	Anthony Veder	Neptun Werft	Anthony Veder	LNGC
2013	Coral Antheia	6,500	Other	LNGBV/LNGC	Anthony Veder	AVIC Dingheng SB	Anthony Veder	LNGC
2015	Hai Yang Shi You 301	30,000	Other	LNGBV/LNGC	CenerTech	Jiangnan SY Group	CenerTech	LNGC
2017	Coralius	5,800	Other	LNGBV	Anthony Veder	Royal Bodewes SY	Sirius Shipping	Northwest Europe
2017	Green Zeebrugge	5,100	Other	LNGBV	Nippon Yusen Kaisha	HHIC	NYK LNG Shipmngt.	Zeebrugge, Belgium
2017	New Frontier 1 (ex Cardissa)	6,469	Other	LNGBV	Pan Ocean	STX SB (Jinhae)	WSM Malaysia	Northwest Europe
2018	Bunker Breeze	1,200	Other	LNGBV	Grupo Suardiaz	Ast. Zamakona	Flota Suardiaz SL	Barcelona, Spain
2018	Clean Jacksonville	2,200	Membrane	Bunker barge (pushed by tug)	Seaside LNG	Conrad Shipyard	Harvey Gulf	New York, USA
2018	Coral Enerגיע	18,000	Other	LNGBV/LNGC	Anthony Veder	Neptun Werft	Anthony Veder	Northwest Europe
2018	Kairos	7,500	Other	LNGBV	Schulte Group	Hyundai Mipo	B. Schulte (Deutsch)	Northwest Europe
2019	FlexFueler 001	1,480	Other	Bunker barge (pushed by tug)	Titan LNG	Kooiman Marine Group	Titan LNG	ARA region
2019	LNG London	3,000	Other	LNGBV	LNG Shipping		LNG Shipping	ARA region
2019	SM Jeju LNG1	7,654	Membrane	LNGBV/LNGC	Korea Line LNG	SHI	KLC SM	LNGC
2020	Avenir Advantage	7,500	Other	LNGBV/LNGC	Future Horizon	Keppel Nantong	EagleStar Shipmngmt	Malaysia
2020	FlexFueler 002	1,480	Other	Bunker barge (pushed by tug)	Titan LNG	Kooiman Marine Group	Titan LNG	ARA region
2020	Gas Agility	18,600	Membrane	LNGBV	Mitsui OSK Lines	HZ	V. Ships (France)	ARA region
2020	Jmu Ariake	2,500		LNGBV				Japan
2020	Kaguya	3,500	Other	LNGBV	Central LNG Shipping	KHI	Central LNG Shipping	Chubu region, Japan
2020	Marine Vicky	10,803		LNGBV				Singapore
2020	Q Ocean Service	4,000	Other	LNGBV	Q-LNG	VT Halter Marine	Harvey Gulf	Florida, USA
2020	SM Jeju LNG2	7,500	Membrane	LNGBV/LNGC	Korea Line LNG	SHI	KLC SM	South Korea
2021	Avenir Accolade	7,500	Other	LNGBV/LNGC	Avenir LNG	Keppel Nantong	Avenir LNG	LNGC
2021	Avenir Aspiration	7,500	Other	LNGBV/LNGC	Avenir LNG	CIMC SOE	WSM Malaysia	Northwest Europe
2021	Clean Canaveral (Polaris)	5,500	Other	Bunker barge (pushed by tug)	Polaris New Energy	Fincantieri Bay	Polaris New Energy	Florida, USA
2021	Dmitry Mendeleev	5,800	Other	LNGBV	Gazpromneft Shpg	Keppel Nantong	Gazpromneft Shpg	Gulf of Finland
2021	FueLNG Bellina	7,500	Other	LNGBV	FueLNG	Keppel Nantong	K Marine SM	Singapore
2021	Gas Vitality	18,600	Membrane	LNGBV	Mitsui OSK Lines	HZ	V. Ships (France)	Marseille, France
2021	Hai Gang Wei Lai (ex Avenir Allegiance)	20,000	Other	LNGBV/LNGC	SIPG Energy SSES	CIMC SOE	Wah Kwong Shipmngt	Shanghai, China
2021	Optimus	6,000	Other	LNGBV	Infortar	Damen Yichang	LNG Shipmngt OU	Northwest Europe
2022	Avenir Achievement	20,000	Other	LNGBV/LNGC	Avenir LNG	CIMC SOE	WSM Malaysia	Florida, USA
2022	Avenir Ascension	7,500	Other	LNGBV/LNGC	Avenir LNG	CIMC SOE	WSM Malaysia	Baltic Sea
2022	Coral Nordic	30,000	Other	LNGBV/LNGC	Anthony Veder	Jiangnan SY Group	Anthony Veder	LNGC
2022	Haugesund Knutsen	5,000	Other	LNGBV	Knutsen OAS Shipping	Armon (Gijon)	Knutsen OAS Shipping	Barcelona, Spain
2022	K. LNG Dream	500	Other	LNGBV	S Korea Fisheries	EK Heavy Industries	S Korea Fisheries	
2022	K. Lotus	18,000	Other	LNGBV	Korea Line LNG	Hyundai Mipo	KLC SM	ARA region
2022	Xin Ao Pu Tuo Hao	8,500	Other	LNGBV	XinAo Energy Shpg	Dalian Shipbuilding	Southwest Maritime	Yantian, China
2023	Alice Cosulich	8,471	Other	LNGBV	Fratelli Cosulich SG	Nantong CIMC SOE	Fratelli Cosulich SG	ARA region
2023	Blue Whale	7,495	Membrane	LNGBV	Hyundai LNG Shipping	Hyundai HI (Ulsan)	Hyundai LNG Shipping	South Korea
2023	Brassavola	12,000	Membrane	LNGBV	Mitsui OSK Lines	Sembcorp Boulevard	MOL LNG Europe	Singapore
2023	Ecobunker Tokyo Bay	2,500	Other	LNGBV	Ecobunker Shipping	Fukuoka SB	Uyeno Transtech	Japan
2023	Fueling Venosa	18,137	Other	LNGBV	Korea Line LNG	Hyundai Mipo	Korea Line LNG	Singapore
2023	Hong Peng	9,534	Other	LNGBV	Southwest Maritime	Huangpu Wenchong	Southwest Maritime	East China Sea
2023	Levante LNG	12,500	Other	LNGBV	Scale Gas	Hyundai Mipo	B. Schulte (Deutsch)	Gibraltar
2023	New Frontier 2	18,127	Other	LNGBV	Pan Ocean	Hyundai Mipo	WSM Malaysia	Jamaica

## LNGV ORDERBOOK AT THE END OF 2023

Built	Vessel Name	Storage Capacity (m <sup>3</sup> )	CCS*	Type	Owner	Builder	Manager
2024	Hai Yang Shi You 302	12,000	Other	LNGBV	CenerTech	Nantong CIMC SOE	CenerTech
2024	Keys Azalea	3,500	Other	LNGBV	KEYS Bunkering Japan	MHI Shimonoseki	KEYS Bunkering Japan
2024	N/B Hudong Zhonghua Shanghai H1871A	14,000	Other	LNGBV	Wuhu LNG	Hudong Zhonghua	Wuhu LNG
2024	N/B Nantong CIMC SOE Qidong, Nantong S1062	7,600	Other	LNGBV	Seaspan Marine	Nantong CIMC SOE	Seaspan Marine
2024	Paolina Cosulich	8,471	Other	LNGBV	Fratelli Cosulich SG	Nantong CIMC SOE	Fratelli Cosulich SG
2024	Seaspan Garibaldi	7,600	Other	LNGBV	Seaspan Marine	Nantong CIMC SOE	Seaspan Marine
2025	N/B Nantong CIMC SOE Qidong, Nantong S1067	7,600	Other	LNGBV	Seaspan Marine	Nantong CIMC SOE	Seaspan Marine
2025	N/B San Giorgio Genoa SG118	7,500	Other	LNGBV	Gas & Heat S.p.a.	San Giorgio	Gas & Heat S.p.a.
2026	N/B Nantong CIMC SOE	12,500	Other	LNGBV	Scale Gas	Nantong CIMC SOE	Scale Gas

Source: Clarksons Research, GIIGNL



# Liquefaction plants

Global liquefaction capacity reached **481 MTPA** in 2023, including 12 MTPA of floating liquefaction units (FLNG). One new liquefaction train, the 3.8 MTPA Tangguh T3 in Indonesia, started operations in 2023. The Republic of the Congo and Mexico joined the ranks of LNG exporters in 2024 with start-up of a 0.7 MTPA FLNG project in Congo, which uses the Tango FLNG barge, and of the 1.4 MTPA Altamira Fast LNG facility in Mexico.

FIDs were taken on four liquefaction projects in 2023, with a total capacity of around 38 MTPA: 3 projects in the United States including the 6.7 MTPA Plaquemines LNG Phase II, the 13 MTPA Port Arthur T1-2, and the 17.5 MTPA Rio Grande LNG Phase I plus one small scale liquefaction project in Gabon, the 0.7 MTPA Cap Lopez LNG.

In addition, in 2023 QatarEnergy awarded the EPC contract for the 16 MTPA North Field South (NFS) expansion.

## Pacific Basin

### Australia

In November 2023, exports from **APLNG** were suspended for a week after a loaded vessel, Cesi Qingdao, lost power while moored at the plant. The vessel prevented other LNG carriers from docking at the terminal, as the facility can berth only one ship at a time. APLNG resumed production and loading of cargoes a week after the departure of the Cesi Qingdao.

In November 2023, the final LNG shipment from the 3.7 MTPA **Darwin LNG** facility produced from feedgas coming from the Bayu-Undan gas field was exported. The field has supplied the liquefaction plant since 2006. First gas supply to the plant from the Barossa project, which is currently under development by Santos, is expected in Q3 2025. In December 2023, Australia's offshore regulator accepted the Barossa development drilling and completions environment plan.

In December 2023, the 3.6 MTPA **Prelude FLNG** resumed operations after an extensive maintenance, which commenced in August 2023.

In June 2023, KUFPEC and Woodside announced FID on the third phase of the Julimar-Brunello Development Project (JDP) to help maintain production at **Wheatstone LNG**.

In February 2024, the first three modules, out of a total of 51, for the 5 MTPA **Pluto Train 2** LNG project, arrived onsite in Karratha, Western Australia. The modules were built by Bechtel in Indonesia and weigh a total of more than 4,000 tonnes. The remaining modules are planned to be received on site throughout 2024. Pluto Train 2 will process gas from the offshore Scarborough Energy Project, which will also supply feedgas to support the production of 3 MTPA at the existing Pluto Train 1 following modifications to accommodate Scarborough's lean gas. First cargo from the Scarborough Energy Project is targeted for 2026. Also in February, Woodside executed a binding SPA with JERA and in August 2023 with LNG Japan for the sale of a 15.1% and 10% non-operating participating interest respectively in the Scarborough joint venture. Following completion of these SPAs, which is expected in the second half of 2024, Woodside will hold a 74.9% interest in the Scarborough JV and remain as operator.

### Canada

As of December 2023, the **LNG Canada** liquefaction project was more than 85% complete with all the 215

large modules required for LNG production installed. In 2023, HaiSea Marine, a Haisla-led joint venture, which will operate and maintain low and zero-emissions tugboats for the project's shipping operations, took possession of several of its new vessels. The Coastal GasLink pipeline project, which will deliver natural gas to the liquefaction facility, is mechanically complete, ahead of schedule. The start-up of the project is expected in late-2024 and commercial operations are expected to start in 2025.

As of February 2024, site preparation and early construction works, performed by construction sub-contractor, LBLNG, were continuing at the **Woodfibre LNG** site. The works include tree clearing and grubbing, grading, and preparations for fill to create the base for construction to begin in 2024. Shoreline works are in preparation for future marine infrastructure, which will include LNG carriers as floating storage. The pre-construction stage of the project was completed in 2023, and the site was handed over to prime contractor McDermott International. In November 2023, the amendment to the Project's environmental assessment certificate was approved by the Environmental Assessment Office (EAO) to allow the use of a temporary floating worker accommodation, the Floatel. All LNG output from the 2.1 MTPA export project is committed for sale to BP, of which 1.95 MTPA is contracted for 15 years on a FOB basis and the remainder on a flexible offtake basis.

As of February 2024, the planned 3 MTPA planned **Cedar LNG** project, developed by the Haisla Nation and Pembina Pipeline, has obtained material regulatory approvals, advanced inter-project agreements with Coastal GasLink and LNG Canada, signed an HoA with Samsung Heavy Industries and Black & Veatch, and executed a lump sum EPC agreement. In July 2023, the project received its LNG facility permit from the BC Energy Regulator. FID is expected by mid-2024.

Co-developed by the Nisga'a Nation, Rockies LNG, and Western LNG, the planned 12 MTPA **Ksi Lisims LNG** project located in British Columbia, will include two floating LNG production and storage facilities, and will be powered by renewable hydroelectricity. Startup is expected by 2030. In January 2024, Ksi Lisims LNG and Shell signed a 20-year LNG SPA for Shell to purchase 2 MTPA of LNG from the project on an FOB basis. This is the first LNG offtake agreement executed by Ksi Lisims LNG.



## Indonesia

In November 2023, the official inauguration ceremony of newly-built train 3 took place at **Tangguh LNG**, located in Teluk Bintuni Regency, Papua Barat Province. Commercial operations at the 3.8 MTPA Tangguh LNG Train 3 started in October 2023. First LNG cargo was delivered to Perusahaan Listrik Negara (PLN) at the Arun receiving terminal in Sumatra. PLN and Kansai Electric are the offtakers of LNG produced by train 3. BP Berau Ltd. is the operator of the Tangguh project and holds a 40.22% stake. Other partners are MI Berau (16.3%), CNOOC Muturi (13.9%), Nippon Oil Exploration (Berau) (12.23%), KG Berau Petroleum and KG Wiriagar Petroleum (10%) and Indonesia Natural Gas Resources Muturi (7.35%). With train 3 fully operational, the total capacity of Tangguh LNG project is 11.4 MTPA.



## Malaysia

In February 2024, Petronas, Petroleum Sarawak Berhad (Petros), JAPEX, JGC and "K" LINE signed a storage site agreement (SSA) for the depleted M3 gas field offshore Sarawak that previously supplied the **Bintulu LNG** plant and will now be used as part of a carbon-capture and storage project. The SSA enables the feasibility studies of the CO<sub>2</sub> storage sites; planning of relevant CO<sub>2</sub> storage site development, including onshore terminals and transportation pipelines, and assessment of its techno-commercial feasibility. In June 2023, Petronas, TotalEnergies and Mitsui signed a development agreement to jointly pursue a CCS project in Malaysia. The scope of the agreement covers all aspects of CCS development; from evaluation of maturing depleted field and saline aquifers for storage, to identification of potential customers and establishment of the necessary commercial and legal frameworks.

A third FLNG project, **ZFLNG**, with a 2 MTPA liquefaction capacity, located nearshore Sabah, is under development. In February 2024, Straatman, an EPCC sub-contractor, secured a contract to supply a ship-to-shore link system for the project. The system is aimed at facilitating communication between the ZFLNG facility and LNG carriers. In January 2023, an EPCC contract for the project was concluded with a consortium of JGC and Samsung Heavy Industries (SHI). JGC will cover the engineering, procurement, and commissioning work for the FLNG and the associated onshore facilities, and the management of the project, while SHI will carry out the FLNG full EPC work and the modular fabrication of the FLNG topside. The project is expected to be completed in 2027.

## Mexico

**Energía Costa Azul LNG** Phase 1 is expected to start commercial operations in 2025. The proposed phase 2 is under development.

In April 2024, the 1.4 MTPA **Altamira Fast LNG** facility started LNG production. In January 2024, New Fortress Energy (NFE) received a US customs ruling for its project, which enables NFE to sell and deliver LNG produced by the facility to US locations, including Puerto Rico. In September 2023, the third and final rig of FLNG 1, Pioneer II, departed the Kiewit shipyard in Texas for final installation and commissioning. In June 2023, NFE received an export permit for its FLNG facility from Mexico's Ministry of Energy to export up to a total of 7.8 MT through April 2028.

**Saguaro Energia** LNG project is under development at Puerto Libertad in Sonora State. In November 2023, Mexico Pacific executed an EPC contract with GDI Sicim Pipelines and Bonatti for the 500-mile Sierra Madre pipeline project, which will transport up to 2.8 Bcf/d natural gas from the US border to the first phase of the project. The project has its sales contracting and permits in place across the terminal and pipeline and targets FID for the initial 2 trains for 2024.

The **Vista Pacifico** LNG (VPLNG) export project is under development in Topolobampo on the Pacific coast of Mexico. The project will use existing pipelines to deliver natural gas from the Waha/Permian basins to the proposed facility. VPLNG has obtained FTA and Non-FTA export authorizations from the DOE for up to 4 MTPA. VPLNG is currently advancing permitting and scoping/engineering of project facilities.

## Mozambique

As of February 2024, the 13 MTPA **Mozambique LNG** export project is in Force Majeure, following terrorist attacks in the North of Cabo Delgado, close to the plant site, in 2021. Government forces, supported by other countries, have deployed a security apparatus in Cabo Delgado which allowed populations to come back. TotalEnergies has made necessary arrangements with contractors to restart in 2024. The restart decision will

depend on the evolution of the security situation. The partners of the project are TotalEnergies 26.5%, Mitsui 20%, Mozambique's Empresa Nacional de Hidrocarbonetos (ENH) 15%, Thailand's PTTEP 8.5%, India's ONGC 10%, BPRL 10% and Oil India 10%.

## PNG

In February 2024, Santos and Papua New Guinea company Kumul Petroleum Holdings partially completed the sale and purchase of a 2.6% shareholding in **PNG LNG**. Once the transaction completed the shareholding of Kumul Petroleum will be 19.4% and Santos' share will be 39.9%. Kumul Petroleum has an option to acquire a further 2.4%.

FEED for the **Papua LNG** project, launched by TotalEnergies in March 2023, is ongoing. The project will consist of 4 new electrical LNG trains with a total capacity of 4 MTPA, built within the existing PNG LNG plant, plus 2 MTPA of liquefaction capacity that will come from the existing PNG LNG facility. FID is targeted in 2024 with start of commercial operations expected by 2028. CO<sub>2</sub> from Elk and Antelope fields, which will be the sources of feedgas for project, is planned to be reinjected. CO<sub>2</sub> from Elk will be injected in Antelope during the first years of production, and once depleted Elk will be used to store CO<sub>2</sub> produced from Antelope.

## Atlantic Basin

### Algeria

In September 2023, Sonatrach inaugurated the Hassi Bahamou gas field, which will produce around 4.5 mcmd of natural gas. Earlier in 2023, two other fields were commissioned, the Hassi Tejgeran field, with a capacity of 4 mcmd, and the Tinrhert field, with a capacity of 4 mcmd. These additions will support Algeria's LNG production.

### Congo

In February 2024, the Republic of the Congo joined the ranks of LNG exporters. The country's first LNG cargo was shipped from **Tango FLNG** barge previously used in Argentina and now owned and operated by ENI. The project took only 1 year from FID to first LNG. The FLNG is moored alongside the Excalibur FSU, using an innovative configuration "split mooring", implemented for the first time in a floating LNG terminal. Tango FLNG is part of a larger liquefaction project, situated within the Marine XII block, which will achieve a plateau capacity of approximately 4.5 BCMA and will target zero routine gas flaring. A second FLNG facility with a capacity of about 3.5 BCMA is currently under construction and is expected to start production in 2025.

### Egypt

In May and July 2023 respectively, **Damietta** and **Idku** liquefaction plants halted production due to strong domestic demand for gas in Egypt, which reduced feedgas supply to the plants. Idku restarted loadings in October 2023 and Damietta in January 2024.

### Gabon

In February 2023, Perenco announced FID on **Cap Lopez LNG** facility. Currently functioning as an oil terminal, the facility will be upgraded to enable production of up to 0.7 MTPA of LNG. The construction is expected to take about 3 years.

### Mauritania/Senegal

In January 2024, the FLNG Gimi owned by Golar LNG arrived onsite off the coast of Mauritania and Senegal. The 126,277 m<sup>3</sup> vessel is a Moss LNG carrier converted to an FLNG unit at Singapore's Keppel Shipyard. It will be used for the 2.5 MTPA **Greater Tortue Ahmeyim** (GTA) LNG project for 20 years. Start-up is expected in 2024. The second phase of the project, which will add between 2.5-3.0 MTPA of liquefaction capacity, is also under development using a gravity-based structure. According to the Ministry of Petroleum, Energy, and Mines of Mauritania construction of phase 2 is planned to start in 2025 with completion expected in 2027.

### Nigeria

As of November 2023, construction of **Nigeria LNG** Train 7 was 52% complete. The gas supply concerns for Train 7 are expected to be resolved thanks to the development of Nigerian deepwater natural gas fields.

### Norway

In August 2023, the Norwegian government approved the Snøhvit Future project, which extends operation of Snøhvit and **Hammerfest LNG** until 2050. The approval entails onshore compression from 2028, and electrification of the plant from 2030. Onshore gas

compression is required to ensure sufficient flow of the gas to the plant as the pressure drops in the reservoirs. Electrification of the plant consists in replacement of gas turbines with electricity from the grid. Three large modules will be installed at the plant: a compressor, new receiving station for power from shore and electric steam boilers. In February 2023, Aibel has been awarded an EPCI contract to carry out onshore compression, electrification and integration works at the plant.

### Russia

In January 2024, Gazprom sold a 50% interest in the **Portovaya LNG** project to Gazprombank. Portovaya LNG is now operated by JV Portovaya, in which Gazprom's Invest RGK subsidiary and Status LLC, a wholly owned subsidiary of Gazprombank, each have a 50% stake.

In September 2023, Novatek announced that production capacity at the **Cryogas-Vysotsk LNG** plant will rise from 0.6 MTPA to 0.9 MTPA in the first quarter of 2024 after commissioning of a boosting compressor unit. The option to build a second liquefaction train at the facility has been suspended.

In January 2024, **Arctic LNG 2** project started production from Train 1. The production was suspended in April 2024 due to sanctions and lack of LNG carriers. In January, TotalEnergies declared Force Majeure on the project due to US sanctions which were imposed in November 2023. No LNG offtake from Arctic LNG 2 by TotalEnergies is planned for 2024. The 640,000 tonnes first 6.6 MTPA liquefaction train for the project was installed at the terminal on the Gydan Peninsula in August 2023. The train consists of topside modules with the equipment to produce and offload LNG and stable gas condensate, installed on a concrete gravity-based structure, which accommodates LNG and condensate storage tanks. According to Novatek, the Arctic LNG 2 project's second train is at an advanced stage of construction. The work started on the third train's GBS.

In June 2023, Novatek obtained a Russian patent for its proprietary technology Arctic Mix for large-scale natural gas liquefaction using mixed refrigerants. This LNG process will be implemented on gravity-based structures with a production capacity of more than 6 MTPA.

In August 2023, the second LNG vessel Koryak FSU, with a capacity of 361 600 m<sup>3</sup>, built at Hanwha Ocean shipyard (formerly DSME) in South Korea, arrived in Bechevinskaya Bay, east of the Russian Kamchatka Peninsula, and was secured in place using 32 anchor mooring ties. The FSU will be used to transship LNG produced in Arctic LNG 2 liquefaction project from ice-class tankers to conventional LNG carriers. The FSU will be able to handle the transfer of around 20 MTPA of LNG. China Communications and Construction Company is

carrying out the construction works for the anchorage in Bechevinskaya Bay. The works include the dredging of a 6.6 km approach channel, erection of several lighthouses and buoys, coastal berths for support vessels, and preparation of the anchorage site.

In June 2023, its sister ship, Saam FSU arrived from Okpo in Ura Bay, off the coast of Murmansk, to be deployed as the western transshipment hub.

In January 2024, a fire broke out at **Ust-Luga** gas processing complex on the Baltic Sea due to a drone attack. A large natural gas storage facility was damaged. In 2023, Ust-Luga LNG plant, which is under development by Gazprom, was suffering additional delays due to issues with contracts to build a pipeline to receive feedstock gas. In December 2023, the US administration imposed new sanctions on Russian companies contracted to provide equipment for the Ust-Luga gas processing plant and LNG project: Northern Technologies LLC, Kazan Compressor Machinery Plant JSC, and Gazprom Linde Engineering LLC. Operations at Phases I and II of the Ust-Luga gas processing and chemical complex should begin in 2026 and 2027.

### USA

In January 2024, the Biden administration announced a temporary pause on pending approvals of US LNG exports. The decision aims at allowing time for the DOE to update the underlying analysis on which its approval process is based. The current economic and environmental studies used by DOE to grant LNG export authorizations to non-FTA countries do not factor in the latest information on energy cost increases for American gas users and the latest greenhouse gas emissions data.

Some of the main projects without DOE authorizations impacted by the decision represent around 90 MTPA.

The list below is not exhaustive:

- Calcasieu Pass 2 (CP2): 20 MTPA
- Port Arthur LNG Phase 2 (T3-4): 13.5 MTPA
- Corpus Christi T8-9: 3 MTPA
- Sabine Pass Stage 5 Expansion (T7-8 + debottlenecking): 19.5 MTPA
- Commonwealth LNG: 9.3 MTPA
- Lake Charles LNG: 16.5 MTPA
- Saguaro Energia (Mexico) T3: 5 MTPA

These projects were scheduled to start operations between 2027 and 2032.

In February 2023, Cheniere initiated the pre-filing review process with the FERC for the **Sabine Pass** Liquefaction (SPL) Expansion Project, with a potential production capacity of up to approximately 20 MTPA of LNG, inclusive of debottlenecking. In April 2023, Cheniere executed a contract with Bechtel Energy to conduct FEED work on the project. As part of the SPL Expansion Project, Cheniere is evaluating the development of a carbon capture and sequestration solution at

Sabine Pass, which is included in the FEED contract with Bechtel Energy and the pre-filing with FERC.

In March 2023, Cheniere requested FERC authorization for the **Corpus Christi** Liquefaction (CCL) Midscale Trains 8 & 9 Project, which is being developed to include two additional midscale trains adjacent to the CCL Stage 3 Project with expected production capacity of approximately 3 MTPA of LNG. In April 2023, Cheniere filed an application with the DOE requesting authorization to export LNG to FTA and non-FTA countries in relation to the project. As of December 2023, the CCL Stage 3 Project was 50% complete, representing engineering of 83.7%, procurement of 72.2%, subcontract work of 66.9% and construction of 11.1%. CCL Stage 3 first LNG is expected by end of 2024.

In November 2023, **Freeport LNG** received regulatory approval to return to Dock 2 back to full service at its liquefaction facility and resumed ship loadings from dock. In summer 2023, Freeport LNG started up the first of two planned debottlenecking phases, the second phase is anticipated for completion in summer 2024. While not yet sanctioned, a fourth 5 MTPA liquefaction train is under development.

As of March 2024, **Calcasieu Pass** LNG export project remains in the commissioning phase. Venture Global states that the facility is experiencing equipment failures and other wearing-in issues that must be resolved before starting commercial operations, currently expected towards the end of 2024.

In December 2023, ExxonMobil said that the mechanical completion of train 1 of **Golden Pass** LNG is expected by end 2024 with first LNG in the first half of 2025. The project includes 3 liquefaction trains with a total production capacity around 18 MTPA of LNG, 5 LNG storage tanks of a 155,000 m<sup>3</sup> capacity each, and 2 berths. Golden Pass and its contractors progressed installation of piping and steel in process and utilities areas, continued piping and vessels insulation activities, and progressed brownfield tie-ins and LNG tank tops modifications. The works also progressed on cable tray installations and cable pulling activities.

In April 2023, Venture Global LNG announced the successful raising of the roof of the second 200,000 m<sup>3</sup> LNG storage tank at the **Plaquemines LNG** export facility, which was completed ahead of schedule and came seven weeks after the roof raising for the first tank. The tank will have an inner tank made from 9% nickel alloy and outer wall and outer roof made from concrete. Venture Global plans to start LNG production at Plaquemines Phase 1 in August 2024.

**Port Arthur** LNG Phase 1 project, which is currently under construction, will include two natural gas liquefaction trains, two LNG storage tanks, one berth and associated facilities capable of producing around 13 MTPA of LNG. Commercial operations are expected to start in 2027-2028. In September 2023, Sempra

Infrastructure completed the sale of a 42% indirect, non-controlling interest in the Port Arthur LNG Phase 1 project to the global investment firm, KKR. After the transaction, Sempra Infrastructure retains a controlling 28% indirect interest in Phase 1 and ConocoPhillips owns the remaining 30% interest. The same month, Port Arthur LNG Phase 2 expansion project, which is under development, received FERC authorization. The two-train Phase 2 will increase the total liquefaction capacity to 26 MTPA. Phase 2 includes an additional LNG storage tank and marine berth. It will benefit from some of the common facilities currently under construction that were approved as part of the Port Arthur LNG Phase 1 permitting process. FEED for Phase 2 was completed in 2023.

In March 2023, Cameron LNG received the amended FERC order for the **Cameron LNG Phase 2 (T4)** expansion project, which includes the implementation of several design modifications and enhancements to the LNG train to increase production capacity and reduce overall greenhouse gas emissions, including the conversion of refrigerant compressors from gas turbine drives to electric drives. In September 2023, Cameron LNG received the Louisiana Department of Environmental Quality (LDEQ) Title V air permit which was modified to include the planned construction and operation of the additional LNG train. Cameron LNG has selected Bechtel to continue value engineering work to optimize the design, reduce the construction cost and project risk.

In July 2023, NextDecade and its partners (TotalEnergies, GIP, GIC and Mubadala), took FID to develop Phase 1 of the **Rio Grande LNG** liquefaction project. This first phase comprises 3 liquefaction trains with a total capacity of 17.5 MTPA. Start-up of the facility is expected in 2027. In June 2023, TotalEnergies and NextDecade signed an agreement, according to which TotalEnergies will acquire a 16.67% stake in the first phase of the project. In addition, TotalEnergies will off-take 5.4 MTPA of LNG from this phase for 20 years and acquire a 17.5% stake in NextDecade. TotalEnergies will also have a right to participate in further phases of the project and in a carbon capture and storage (CCS) project planned by NextDecade aimed at reducing the emissions generated by the project.

## Middle East

### Oman

In October 2023, **Oman LNG** signed shareholder and gas supply agreements to extend the production activity of the liquefaction complex beyond 2024. According to the agreement, Oman LNG's shareholding structure will remain as follows: Oman Investment Authority 51%, Shell 30%, TotalEnergies 5.5%, Korea LNG 5%, Mitsui 2.8%, Mitsubishi Corporation 2.8%, PTT Exploration and Production 2%, and Itochu Corporation 0.9%. The gas supply agreement with Oman's Integrated Gas Company extends the supply of feedgas to Oman LNG until 2033 to support around 11.4 MTPA of LNG production capacity.

### Qatar

In February 2024, QatarEnergy announced a new **North Field West (NFW)** LNG expansion project with a 16 MTPA liquefaction capacity, which will be supplied with feedgas, from an extension of Qatar's North Field towards the west resulting from appraisal drilling and testing. The North Field East, South and West expansions will raise Qatar's LNG production capacity to 142 MTPA by 2030, an increase of almost 85% from current production levels.

In November 2023, Sinopec joined QatarEnergy as partner in the **North Field South (NFS)** expansion project by buying 5% interest in the JV that owns the equivalent of 6 MTPA of LNG production capacity in NFS. In June 2023, CNPC joined QatarEnergy as partner in the **North Field East (NFE)** expansion project by acquiring a 5% interest in the equivalent of 1 NFE train with a capacity of 8 MTPA.

QatarEnergy and its partners (TotalEnergies, Shell, ConocoPhillips, ExxonMobil, Eni, Sinopec, and CNPC) continue development of the North Field East (NFE) and North Field South (NFS) projects. The North Field expansion project's groundbreaking took place at Ras Laffan in October 2023. In May 2023, QatarEnergy awarded the EPC contract for NFS project to a JV of Technip Energies and Consolidated Contractors Company (CCC).

In order to transport LNG produced by these and other QatarEnergy projects, the company has signed a series of time charter parties for the long-term charter and operation of 117 LNG ships, each with a capacity of 174,000 m<sup>3</sup>, and 8 Q-max ships, each with a capacity of 271,000 m<sup>3</sup>, which will be built in Korean and Chinese shipyards.

# Liquefaction plants

Country	Name	Liquefaction		Storage		Owner(s)	Operator	MT - LT Buyer(s)	Start-up date
		Number of trains	Nominal capacity (MTPA)	Number of tanks	Total capacity (liq m <sup>3</sup> )				
<b>▼ ATLANTIC BASIN</b>									
Algeria	Arzew GL1Z T1 - T6	6	7.9	3	300,000	Sonatrach	Sonatrach	Botaş, TotalEnergies	1978
	Arzew GL2Z T1 - T6	6	8.2	3	300,000				1981
	Arzew GL3Z	1	4.7	2	320,000				2014
	Skikda GL1K	1	4.5	1	150,000				2013
Angola	Angola LNG	1	5.2	1	360,000	Angola LNG (Chevron 36.4%, Sonangol 22.8%, BP 13.6%, ENI 13.6%, TotalEnergies 13.6%)	Angola LNG		2013
Argentina	Tango (stopped; no vessel chartered) (FLNG)								2019, Stopped in 2020
Cameroon	Kribi (FLNG)	4	2.4	1	125,000	Golar LNG 89%, Keppel Corporation Ltd 10%, Black & Veatch 1%	Golar LNG	Gazprom	2018
Congo	Tango (FLNG)	1	0.7	3	16,000	ENI	ENI	ENI	2024
Egypt	Damietta	1	5	2	300,000	Damietta LNG (ENI 50%, EGAS 40%, EGPC 10%)	Damietta LNG	EGAS, ENI	2005
	Idku T1	1	3.6	2	280,000	Egyptian LNG (Shell 35.5%, Petronas 35.5%, EGPC 12%, EGAS 12%, TotalEnergies 5%)	Egyptian LNG	TotalEnergies	2005
	Idku T2	1	3.6						Shell
Equatorial Guinea	EG LNG	1	3.7	2	272,000	EG LNG (Marathon 60%, Sonagas 25%, Mitsui 8.5%, Marubeni 6.5%)	EG LNG	Shell, Glencore	2007
Nigeria	NLNG T1 - T2	2	6.6	4	336,800	Nigeria LNG (NNPC 49%, Shell 25.6%, TotalEnergies 15%, ENI 10.4%)	NLNG	ENI, Galp, Naturgy, TotalEnergies, Vitol	T1: 1999 T2: 2000
	NLNG T3	1	3.3					ENI, Galp, Naturgy	2002
	NLNG T4 - T5	2	8.2					Endesa, ENI, Galp, Pavilion Energy, Shell, TotalEnergies	2006
	NLNG T6	1	4.1					Shell, TotalEnergies	2008
Norway	Snøhvit	1	4.2	2	250,000	Equinor 36.8%, Petoro 30%, TotalEnergies 18.4%, Neptune Energy 12%, DEA 2.8%	Equinor	Equinor, Pavilion Energy, RWE Supply & Trading, TotalEnergies	2007
	Stavanger	1	0.33	1	30,000	North Sea Midstream Partners	PX Group	Gasum	2010
Russia	Portovaya LNG (+ Portovyy FSU)	2	1.5	2	180,000	JV Portovaya (Invest RGK 50%, Status LLC 50%)	JV Portovaya		2022
	Vysotsk LNG	1	0.90	1	42,000	Novatek 51%, Gazprombank 49%	CryoGAS Vysotsk		2019
	Yamal T1 - T4	4	17.4	4	640,000	Yamal LNG (Novatek 50.1%, CNPC 20%, TotalEnergies 20%, Silk Road Fund 9.9%)	Yamal LNG	CNPC, Gazprom Marketing & Trading, Naturgy, Novatek, TotalEnergies	T1: 2017 T2: 2018 T3: 2018 T4: 2021
Trinidad & Tobago	Atlantic LNG T1 (Mothballed)	1	3.0	1	102,000	Shell 46%, BP 34%, CIC 10%, NGC Trinidad 10%			1999
	Atlantic LNG T2 - T3	2	6.6	2	262,000	Shell 57.5%, BP 42.5%	Atlantic LNG	ENGIE, Naturgas Energia, Naturgy, Shell	T2: 2002 T3: 2003
	Atlantic LNG T4	1	5.2	1	160,000	Shell 51.1%, BP 37.8%, NGC Trinidad 11.1%		BP, Shell	2006
USA	Calcasieu Pass	18	10	2	400,000	Venture Global Calcasieu Pass	Venture Global Calcasieu Pass	BP, Edison, Galp, Orlen, Repsol, Shell	2022
	Cameron LNG T1	1	4.5	3	480,000	Sempra 50.2%, TotalEnergies 16.6%, Mitsui 16.6%, Japan LNG Investment (a joint venture between Mitsubishi and NYK) 16.6%	Cameron LNG	Mitsubishi, Mitsui & Co, TotalEnergies	2019
	Cameron LNG T2	1	4.5						2020
	Cameron LNG T3	1	4.5						2020
	Corpus Christi T1	1	5.0	3	480,000	Corpus Christi Liquefaction (Cheniere 100%)	Cheniere	Cheniere Marketing, CNPC, EDF, EDP, Endesa, ENGIE, Iberdrola, Naturgy, Pertamina, Woodside	2018
	Corpus Christi T2	1	5.0						2019
	Corpus Christi T3	1	5.0						2020

Country	Name	Liquefaction		Storage		Owner(s)	Operator	MT - LT Buyer(s)	Start-up date					
		Number of trains	Nominal capacity (MTPA)	Number of tanks	Total capacity (liq m <sup>3</sup> )									
USA	Cove Point	1	5.25	7	700,000	Berkshire Hathaway 75%, Brookfield Infrastructure Partners 25%	Cove Point LNG, LP	Gail, Kansai Electric, Sumitomo Corp., Tokyo Gas	2018					
	Elba Island	10	2.5	5	550,000	Blackstone Credit 49%, Kinder Morgan 51%	Southern LNG	Shell	2019					
	Freeport LNG T1	1	5.0	3	480,000	Freeport LNG Liquefaction, LLC	Freeport LNG	JERA, Osaka Gas	2019					
	Freeport LNG T2	1	5.0					Freeport LNG Liquefaction 2, LLC	BP	2020				
	Freeport LNG T3	1	5.0					Freeport LNG Liquefaction 3, LLC	SK E&S, TotalEnergies	2020				
	Sabine Pass T1	1	5.0	5	800,000	Sabine Pass Liquefaction (Cheniere 100%)	Cheniere	Centrica, Cheniere Marketing, GAIL, KOGAS, Naturgy, Shell, TotalEnergies	2016					
	Sabine Pass T2	1	5.0						2016					
	Sabine Pass T3	1	5.0						2017					
	Sabine Pass T4	1	5.0						2017					
	Sabine Pass T5	1	5.0						2018					
	Sabine Pass T6	1	5.0						2021					
<b>ATLANTIC BASIN TOTAL</b>			<b>202.08</b>		<b>8,315,800</b>									
<b>▼ MIDDLE EAST</b>														
Oman	Oman T1 - T2	2	7.6	2	240,000	Government of Oman 51%, Shell 30%, TotalEnergies 5.5%, Korea LNG 5%, Mitsubishi 2.8%, Mitsui 2.8%, PTTEP 2%, Itochu 0.9%	Oman LNG	BP, Itochu, KOGAS, Osaka Gas	2000					
	Qalhat	1	3.8						Government of Oman 47%, Oman LNG 37%, Mitsubishi 3%, Itochu 3%	Osaka Gas, Naturgy	2005			
Qatar	QatarEnergy LNG N(1) T1-T3	3	9.5	8	1,160,000	Qatar Energy (100%)	QatarEnergy LNG	CPC, Naturgy, Shell	T1:1996 T2: 1997 T3: 1998					
	QatarEnergy LNG N(2) T4	1	7.8						Qatar Energy 70%, ExxonMobil 30%	QatarEnergy LNG	ExxonMobil, Pakistan State Oil, Petrochina	2009		
	QatarEnergy LNG N(2) T5	1	7.8						Qatar Energy 65%,ExxonMobil 18.3%, TotalEnergies 16.7%	QatarEnergy LNG	ExxonMobil, Petrochina, TotalEnergies	2009		
	QatarEnergy LNG N(3) T6	1	7.8						Qatar Energy 68.5%, ConocoPhillips 30%, Mitsui 1.5%	QatarEnergy LNG	CNOOC, JERA, Kansai Electric, Orlen, PTT, RWE Supply & Trading, Tohoku Electric	2010		
	QatarEnergy LNG N(4) T7	1	7.8						Qatar Energy 70%, Shell 30%	QatarEnergy LNG	Centrica, CNPC, KPC, OMV, Petronas, Shell	2011		
	QatarEnergy LNG S(1) T1-T2	2	6.6						Qatar Energy 63%, ExxonMobil 25%, KOGAS 5%, Itochu 4%, LNG Japan 3%	QatarEnergy LNG	KOGAS	T1: 1999 T2: 2000		
	QatarEnergy LNG S(2) T3	1	4.7						6	840,000	Qatar Energy 67%, ExxonMobil 31%, OPIC 2%	QatarEnergy LNG	Petronet	2004
	QatarEnergy LNG S(2) T4	1	4.7										Edison	2005
	QatarEnergy LNG S(2) T5	1	4.7										CPC, EDF Trading, ENI	2007
	QatarEnergy LNG S(3) T6	1	7.8										EDF Trading, ExxonMobil, KOGAS, Petronet	2009
QatarEnergy LNG S(3) T7	1	7.8	Qatar Energy 70%, ExxonMobil 30%	QatarEnergy LNG	CPC, KOGAS, Petrobangla, Petronet	2010								
UAE	Das Island T1 - T3	3	5.8	3	240,000	ADNOC LNG (ADNOC 70%, Mitsui 15%, BP 10%, TotalEnergies 5%)	ADNOC LNG	BP, Vitol, TotalEnergies	T1: 1977 T2: 1977 T3: 1994					
Yemen	Balhaf T1 - T2 (stopped)	2	7.2	2	280,000	Yemen LNG (TotalEnergies 39.6%, Hunt Oil Co. 17.2%, SK Innovation 9.6%, KOGAS 6%, Yemen Gas 16.7%, Hyundai 5.9%, GASSP 5%)	Yemen LNG	TotalEnergies	T1: 2009 T2: 2010					
<b>MIDDLE EAST TOTAL</b>			<b>101.4</b>		<b>3,100,000</b>									

## Liquefaction plants

Country	Name	Liquefaction		Storage		Owner(s)	Operator	MT - LT Buyer(s)	Start-up date
		Number of trains	Nominal capacity (MTPA)	Number of tanks	Total capacity (liq m <sup>3</sup> )				
▼ PACIFIC BASIN									
Australia	NWS T1 - T5	5	16.9	4	260,000	BHP, BP, Chevron, Woodside (16.7% each), Shell 16.7%, Mitsubishi, Mitsui (8.3% each)	Woodside	GDLNG, JERA, Kansai Electric, Kyushu Electric, Osaka Gas, Shizuoka Gas, Toho Gas, Tokyo Gas	T1: 1989 T2: 1989 T3: 1992 T4: 2004 T5: 2008
	Darwin	1	3.7	1	188,000	Santos 43.4%, SK E&S 25%, INPEX 11.4%, Eni 11%, JERA 6.1%, Tokyo Gas 3.1%	Santos		2006
	Pluto T1	1	4.9	2	240,000	Woodside 90%, Kansai Electric 5%, Tokyo Gas 5%	Woodside	Kansai Electric, Tokyo Gas	2012
	QCLNG T1	1	4.25	2	280,000	Shell 50%, CNOOC 50%	Shell	CNOOC, Shell	2015
	QCLNG T2	1	4.25						
	GLNG T1 - T2	2	7.8	2	280,000	Santos 30%, Petronas 27.5%, TotalEnergies 27.5%, KOGAS 15%	Santos	KOGAS, Petronas	T1: 2015 T2: 2016
	APLNG T1	1	4.5	2	320,000	ConocoPhillips 47.5%, Origin Energy 27.5%, Sinopec Group 25%	Australia Pacific LNG	Sinopec	2016
	APLNG T2	1	4.5						
	Gorgon T1 - T3	3	15.6	2	360,000	Chevron 47.3%, ExxonMobil 25%, Shell 25%, Osaka Gas 1.3%, Tokyo Gas 1%, JERA 0.4%	Chevron	BP, Chevron, ENEOS Corp., ExxonMobil, GS Caltex, JERA, Kyushu Electric, Osaka Gas, PetroChina, Petronet, Shell, SK E&S, Tokyo Gas	T1: 2016 T2: 2016 T3: 2017
	Wheatstone T1 - T2	2	8.9	2	300,000	Chevron 64.1%, KUFPEC 13.4%, Woodside 13%, JOGMEC 3.4%, Mitsubishi 3.2%, Kyushu Electric 1.5%, NYK 0.8%, JERA 0.6%	Chevron	Chevron, JERA, KUFPEC, Kyushu Electric, Tohoku Electric, Woodside	T1: 2017 T2: 2018
	Ichthys T1 - T2	2	8.9	2	330,000	INPEX 66.3%, TotalEnergies 26%, CPC 2.6%, Tokyo Gas 1.6%, Kansai Electric 1.2%, Osaka Gas 1.2%, JERA 0.7%, Toho Gas 0.4%	INPEX	CPC, INPEX, JERA, Kansai Electric, Kyushu Electric, Osaka Gas, Toho Gas, Tokyo Gas, TotalEnergies	2018
	Prelude (FLNG)	1	3.6	1	220,000	Shell 67.5%, INPEX Corporation 17.5%, KOGAS 10%, CPC 5%	Shell	CPC, INPEX, KOGAS, Shell	2019
	Brunei	Brunei T1 - T5	5	7.2	3	195,000	Brunei Government 50%, Shell 25%, Mitsubishi 25%	Brunei LNG	JERA, Osaka Gas, Petronas, Shell, Tokyo Gas
Indonesia	Bontang	4	11.5	6	630,000	Government of Indonesia	PT Badak NGL (Pertamina 55%, PHSS 20%, PNA 15%, TotalEnergies 10%)	ENI, Pertamina, PPT ETS	Train E: 1990 Train F: 1994 Train G: 1998 Train H: 1998
	Tangguh T1 - T2	2	7.6	2	340,000	Tangguh LNG (BP Berau 40.22%, MI (Mitsubishi, Inpex) Berau 16.30%, CNOOC Muturi 13.90%, Nippon Oil Exploration (Berau) 12.23%, KG Berau 8.56%, Indonesia Natural Gas Resources Muturi 7.35%, KG Wiriagar 1.44%)	Tangguh LNG	CNOOC, Kansai Electric, PLN, Posco, Semptra LNG, SK E&S, Tohoku Electric	2009
	Tangguh T3	1	3.8					Perusahaan Listrik Negara (PLN), Kansai Electric	2023
	Donggi-Senoro	1	2.0	1	170,000	PT Donggi-Senoro LNG (Mitsubishi 45%, Pertamina 29%, KOGAS 15%, Medco 11%)	PT Donggi-Senoro LNG	JERA, KOGAS, Kyushu Electric	2015
Malaysia	MLNG 1 Satu	3	8.4			Petronas 90%, Mitsubishi 5% Sarawak state government 5%		JOVO, Hiroshima Gas, PTT, Saibu Gas, Shikoku Electric, S-Oil, Tokyo Gas	1983
	MLNG 2 Dua	3	9.6	6	390,000	Petronas 80%, Mitsubishi 10% Sarawak state government 10%	Petronas	ENEOS Corp., JERA, Osaka Gas, Sendai City Gas, Shizuoka Gas, Tohoku Electric, Tokyo Gas	1995
	MLNG 3 Tiga	2	7.7					CNOOC, JAPEX, KOGAS, Osaka Gas, Toho Gas, Tohoku Electric, Tokyo Gas	2003
	MLNG T9	1	3.6			Petronas 70%, ENEOS Corporation 10%, PTT 10%, Sarawak state government 10%		Hokkaido Electric, Hokuriku Electric	2016

Country	Name	Liquefaction		Storage		Owner(s)	Operator	MT - LT Buyer(s)	Start-up date
		Number of trains	Nominal capacity (MTPA)	Number of tanks	Total capacity (liq m <sup>3</sup> )				
Malaysia	PFLNG Dua (FLNG)	1	1.5		177,000	Petronas	Petronas	KEPCO, Petronas, PTT	2021
	PFLNG Satu (FLNG)	1	1.2	1	180,000	Petronas	Petronas	KEPCO, PTT	2017
Mexico	Altamira Fast LNG (FLNG)	1	1.4			New Fortress Energy	New Fortress Energy		2024
Mozambique	Coral South (FLNG)	1	3.4		230,000	Coral South LNG (CNPC 20%, Eni 25%, ExxonMobil 25%, ENH 10%, Galp 10%, KOGAS 10%)	Eni	BP	2022
Papua New Guinea	PNG LNG T1 - T2	2	8.3	2	320,000	PNG LNG (Santos 39.9%, Exxon Mobil 33.2%, Kumul Petroleum 19.4%, Nippon Papua New Guinea LNG LLC 4.7%, MRDC 2.8%)	PNG LNG	BP, CPC, JERA, Osaka Gas, Sinopec	2014
Peru	Peru	1	4.5	2	260,000	Hunt Oil 50%, Shell 20%, SK Innovation 20%, Marubeni 10%	Hunt Oil	Shell	2010
Russia	Sakhalin-2 T1 - T2	2	10.8	2	200,000	Sakhalin Energy LLC (Gazprom 77.5%, Mitsui 12.5%, Mitsubishi 10%)	Sakhalin Energy LLC	Gazprom, Hiroshima Gas, JERA, KOGAS, Kyushu Electric, Osaka Gas, Saibu Gas, Toho Gas, Tohoku Electric, Tokyo Gas	2009
<b>PACIFIC BASIN TOTAL</b>			180.28		5,870,000				
<b>TOTAL</b>			483.76		17,285,800				



# Regasification terminals

Global regasification capacity reached 1143 MTPA with 17 new terminals commissioned in 2023, which added 68 MTPA of new receiving capacity. The global landscape of regasification capacity has seen significant developments across the regions in the past year.

Asia continues to dominate in capacity growth, with substantial increases in China (4 new terminals and one extension) and India (one new terminal on the West Coast). FSRUs have been used to open new markets in Hong Kong, Vietnam and the Philippines (2 terminals).

Europe has focused on enhancing capacity through new facilities using FSRUs, in Germany (3 new terminals), France (1) Finland (1), Italy (1) and Türkiye (1) but also through expansion in Belgium and the activation of an onshore terminal in Spain.

## Asia - Pacific

### Australia

In March 2024, **Port Kembla LNG Terminal's** construction had reached 90% completion. It will be Australia's first LNG import terminal. Squadron Energy, the terminal's owner, secured the 170,000 m<sup>3</sup> *Hoegh Galleon FSRU*, which is expected to arrive in 2026. At the end of 2023, a gas pipeline connecting the terminal to the New South Wales natural gas grid was completed.

### Bangladesh

Between November 2<sup>nd</sup>, 2023, and January 8, 2024, the 138,000 m<sup>3</sup> *Excellence FSRU*, left the **Moheshkhali Terminal** for Singapore for maintenance and an upgrade in capacity from 3.8 MTPA to 4.5 MTPA. Shortly after the Excellence FSRU, the 138,000 m<sup>3</sup> *Summit LNG FSRU* also went to Singapore for maintenance from January 2<sup>nd</sup>, 2024 to April 2<sup>nd</sup>, 2024.

### China

In June 2023, Hebei Construction and Investment Group and its subsidiary Suntien inaugurated the 5 MTPA **Tangshan LNG Terminal** in Caofeidian. The terminal has four 200,000 m<sup>3</sup> storage tanks and one jetty. The terminal is linked to a 288-km pipeline from Caofeidian to Yongqin. It is expected to be developed in three phases to reach a regasification capacity of 12 MTPA. The 263,000 m<sup>3</sup> *Lijmiliya* delivered the terminal's first cargo. Phase 2 of the project includes eight additional storage tanks and a second jetty. By the end of September 2023, all eight storage tanks had completed roof lifting. Phase 2 is expected to be completed gradually between 2024 and 2026.

In August 2023, Guangzhou Gas' **Nansha LNG Terminal** was commissioned in Guangzhou in the Guangdong province. The 1 MTPA terminal includes two 160,000 m<sup>3</sup> storage tanks, a berth for LNG ships up to 147,000 m<sup>3</sup>, eight truck loaders, four vaporizers, and an 8-km pipeline linked to the city gas grid. On August 8, the LNG carrier *Maran Gas Coronis* delivered the terminal's first cargo.

In August 2023, Zhejiang Energy inaugurated the 3 MTPA **Wenzhou LNG Terminal** in Zhejiang. The terminal has four 200,000 m<sup>3</sup> storage tanks, a berth for ships of up to 266,000 m<sup>3</sup> capacity, and a 25-km pipeline linked to the grid. Zhejiang Energy holds a 51% stake in the project, while Sinopec, who originally proposed the project, holds a 41% stake. In August,

160,000 m<sup>3</sup> *Yari LNG* delivered Wenzhou LNG terminal's first cargo.

In September 2023, Beijing Gas' **Tianjin Nangang LNG Terminal** was commissioned. The 5 MTPA terminal includes one LNG berth that can receive LNG vessels of up to 266,000 m<sup>3</sup>, four storage tanks and is connected to a 229-km transmission pipeline extending from Tianjin to Beijing.

In November 2023, Sinopec completed an expansion program at its **Qingdao LNG** receiving terminal. The expansion included construction of a 270,000 m<sup>3</sup> storage tank and an increase of 4 MTPA in the terminal's capacity.

The same month, the construction of Phase II of Sinopec's **Tianjin LNG** receiving terminal was completed, which included three additional 220,000 m<sup>3</sup> storage tanks. The terminal's capacity has been expanded by 4.8 MTPA.

In December 2023, the jetty construction was completed at **Guangdong Chaozhou LNG Terminal (Huaying)**. The 6 MTPA terminal is being built in two phases with three 200,000 m<sup>3</sup> storage tanks and a berth to accommodate vessels up to 217,000 m<sup>3</sup>. It is expected to come online in 2024.

In December 2023, Guanghai Energy announced it had completed the construction of a 200,000 m<sup>3</sup> storage tank at its **Qidong Terminal**, marking the close of the fifth phase of development. In the long term, Guanghai Energy intends to reach a regasification capacity of 10 MTPA, building a seventh tank and a second jetty.

In April 2024, the perlite filling of the tanks at the **Jiangsu Binhai LNG Terminal** was finalized, marking the completion of the main construction for the 3 MTPA second phase consisting of the addition of six 270,000 m<sup>3</sup> storage tanks. The start up of Phase 2 is expected in June 2024.

The second phase of the **Guangxi Beihai LNG Terminal** is expected to come online in 2024. This second phase will result in added regasification and storage capacity, with the addition of two 200,000 m<sup>3</sup> storage tanks. In September 2023, PipeChina completed lifting the roofs on the two storage tanks.

In 2016, LPG distributor Huafeng proposed an LPG-to-LNG terminal conversion in Chaozhou. Construction of the **Guangdong Chaozhou (Huafeng and Sinoenergy)** 1 MTPA LNG terminal started in January 2016, however, due to delay in approval of the jetty, commissioning of the facility is expected in 2025.





In September 2018, Guangdong Energy and Exxon Mobil agreed to cooperate on the 4 MTPA **Guangdong Huizhou LNG Terminal**, a terminal with three 200,000 m<sup>3</sup> storage tanks and a jetty capable of receiving vessels up to 266,000 m<sup>3</sup>. Significant construction milestones have been achieved and the project is expected to be operational in 2024. A second phase has been proposed to reach a 6.5 MTPA capacity.

PipeChina's **Fujian Zhangzhou Terminal's** construction is in the final stage and the facility is expected to start operations in 2024, after some delay. The terminal will feature three 160,000 m<sup>3</sup> tanks and will be able to receive Q-Max tankers.

The second phase of the **Zhuhai LNG Terminal** is expected to be completed in 2024. The second phase consists in the addition of five 270,000 m<sup>3</sup> tanks and would increase the terminal's capacity to 7 MTPA.

The 2.8 MTPA **Yangjiang LNG Terminal**, the result of a collaboration between Guangdong Energy and Pacific Energy, is expected to be commissioned by the end of 2024. The terminal will feature two 160,000 m<sup>3</sup> storage tanks.

PipeChina's **Shenzhen Diefubei Terminal** is expected to come online in 2024, the terminal will include two 200,000 m<sup>3</sup> underground storage tanks and will be able to receive LNG vessels up to 266,000 m<sup>3</sup>.

The 5 MTPA **Shandong Longkou Terminal (PipeChina)** is expected to be commissioned in

2024. The terminal will include six 220,000 m<sup>3</sup> storage tanks, two 270,000 m<sup>3</sup> tanks and one jetty.

The 6 MTPA **Shandong Longkou Terminal (Sinopec)** is expected to come online in 2025. It will have four 220,000 m<sup>3</sup> storage tanks. In following phases, Sinopec plans to expand the Longkou terminal to 12 MTPA with two jetties and ten storage tanks.

The **Yantai LNG terminal**, owned by GCL and China Urban & Rural Energy (CURE), is a 5 MTPA terminal under construction at Yantai, Shandong. The facility is expected to include five 200,000 m<sup>3</sup> storage tanks, a berth for ships up to 266,000 m<sup>3</sup> and a loading berth for ships up to 50,000 m<sup>3</sup>. Due to delays, the facility is expected to be commissioned in 2026, instead of 2023.

Phase III of the ENN **Zhoushan LNG terminal** is under construction. The expansion is expected to be completed by the end of 2025 and will increase the terminal's total send-out capacity to 10 MTPA.

### Hong Kong

In May 2023, **Hong Kong LNG Terminal**, which uses the 263,000 m<sup>3</sup> *Bauhinia Spirit* FSRU (ex. Challenger) owned by MOL FSRU Terminal (Hong Kong) Limited, received its first LNG cargo and started commissioning. The FSRU is operating under a long-term charter to Hong Kong LNG Terminal Limited, which was jointly established by CLP Power and HK Electric. The FSRU supplies regasified LNG via two subsea pipelines to CLP Power's Black Point Power Station and HK Elec-

tric's Lamma Power Station. MOL FSRU Terminal (Hong Kong) Limited provides FSRU's and jetty operation and maintenance services, as well as port-related services.

### India

The 5 MTPA **Dhamra LNG terminal**, developed by Adani Total Private Limited (ATPL), started commercial operations in May 2023, after receiving its commissioning cargo in April 2023. The capacity of the terminal could be expanded to 10 MTPA.

The expansion of **Dahej LNG terminal** from 17.5 MTPA to 22.5 MTPA, conducted in two phases, is underway. Groundbreaking for the expansion project was carried out in December 2023.

In April 2024, the 160,000 m<sup>3</sup> LNG carrier *Maran Gas Mystras* arrived to the 5 MTPA **Chhara LNG terminal**, developed by Hindustan Petroleum Corp Ltd (HPCL) in Gujarat state, with the commissioning cargo on-board. However, the commissioning was delayed due to a fender failure, which caused problems in berthing the LNG carrier. The cargo was put up for auction for discharge at other Indian LNG terminals. Commissioning of the terminal has been delayed since September 2022 owing to pipeline issues. The terminal includes a 1.2-km-long jetty, two 200,000 m<sup>3</sup> above ground LNG storage tanks, and a truck loading facility. Construction of a 4 MTPA FSRU-based LNG terminal at **Jaigarh** port and its connection to pipelines have been completed. The terminal is expected to start operations in April 2025.

## Indonesia

In April 2024, commercial operations began at the Jawa 1 PLTGU power project in West Java. The *Jawa Satu FSRU* supplies regasified LNG to the 1.76GW Jawa Satu power plant located in Cilamaya, West Java. Electricity generated at the plant is being supplied to PT Pertamina, the state electricity company, under a 25-year contract.

## Japan

In 2023, 8 BOG compressors were added at **Sodegaura** LNG terminal.

In October 2023, Kyushu Electric started LNG bunkering to its LNG-fueled large coal carrier at the port of **Tobata**. The bunkering was conducted via shore-to-ship: LNG was supplied directly from the terminal to the vessel. This was the first shore-to-ship bunkering for an oceangoing LNG-fueled vessel in Japan.

## Malaysia

In October 2023, Malaysia's MISC came to an agreement with Petronas to convert the 137,500 m<sup>3</sup> LNG carrier, *Puteri Delima Satu*, into a floating storage unit for the **Pengerang LNG Terminal** located in Johor. The FSU is expected to be operational in the first half of 2025 for a 20-year term.

## Philippines

AG&P's operated **Philippines LNG** terminal, which uses the 137,500 m<sup>3</sup> FSU *Ish* started operations in late April 2023. The regasified LNG is used for San Miguel Corporation's 1,200 MW Ilijan gas-fired power plant to serve the region of Luzon, which restarted in May 2023. In September 2023, the **Interim Offshore LNG Terminal** in Batangas, developed by First Gen, through its subsidiary FGEN LNG, started commissioning. The terminal uses the 162,400 m<sup>3</sup> FSRU *BW Batangas* chartered from BW LNG for 5 years. The FSRU arrived onsite in July 2023 and received its first LNG cargo late September. In October 2023, the FSRU was connected to onshore facilities to regasify LNG. The terminal is the first phase of the Batangas LNG terminal at the First Gen Clean Energy Complex City. Regasified LNG is used for 4 First Gen gas-fired power plants at its Clean Energy Complex in Batangas City.

## Singapore

Following the announcement of Singapore Deputy Prime Minister and Minister for Finance in October 2023, SLNG will be developing and eventually operating the second LNG terminal in Singapore. **SLNG** is studying an FSRU concept for the second terminal. A planned 5 MTPA FSRU-based terminal will be connected to Singapore's gas grid via an onshore gas pipeline. Start-up is planned for the end of this decade.

## South Korea

In May 2023, POSCO and LX International revealed their intention to build a terminal in **Dangjin**. The 3.5 MTPA terminal is expected to be operational in 2027 and will feature two 270,000 m<sup>3</sup> storage tanks and one jetty.

In April 2024, **Ulsan LNG** terminal, developed by Korea Energy Terminal, a subsidiary of SK Gas, received its first LNG cargo and started commissioning with two LNG storage tanks operational, each of 215,000 m<sup>3</sup> capacity and able to handle 1.2 MTPA of LNG. Commercial operations are expected to start in Q2 2024. Two more tanks are under construction and scheduled to start operations by H2 2026. SK Gas plans to build 6 tanks in total for a total handling capacity of 7.2 MTPA. The terminal will supply two power plants: Ulsan Gas & Power Solution and SK Multi Utility, which are scheduled to start operations in Q3 2024 and H2 2025 respectively.

In the course of 2024, an additional tank with a capacity of 200,000 m<sup>3</sup> is expected to be commissioned at the **Gwangyang LNG Terminal**, followed by two more in 2025. In February 2024, POSCO, the terminal's owner, revealed its intention to establish hydrogen production at the Gwangyang Terminal in the coming years.

## Taiwan

Construction is ongoing for the expansion of the CPC **Taichung LNG** receiving terminal. Two additional tanks of 180,000 m<sup>3</sup> capacity each are scheduled for completion by end 2026, 4 more tanks of the same size are scheduled for completion by end 2028. Feasibility studies are underway for 2 additional tanks at the **Yung-An LNG** terminal.

In March 2023, JFE Engineering Corporation was awarded an EPCC contract from CPC for the construction of marine facilities for a new LNG terminal in **Taoyuan**. The facilities to be constructed will be installed on a concrete caisson jetty and consist of an LNG unloading facility, seawater intake facility, and auxiliary facilities such as cryogenic piping. The contractor will apply a technology of modular construction and targets completion by May 2025.

## Vietnam

In October 2023, PetroVietnam Gas Corporation (PV Gas) inaugurated the **Thi Vai LNG terminal**, located in Cai Mep Industrial Zone, Ba Ria-Vung Tau. The 1 MTPA Phase I of the terminal, constructed by the Consortium of Samsung C&T and PTSC, includes an LNG storage tank with a capacity of 180,000 m<sup>3</sup> and a truck loading station. The terminal is connected to Thi Vai-Phu My pipeline and Thi Vai Low-pressure Gas Distribution Station. The planned Phase II of the project will bring the total

capacity to 3 MTPA. Regasified LNG supplies the country's power plants and households.

## Europe

### Belgium

Since January 2024 the send-out capacity at **Zeebrugge LNG** terminal increased by 4.7 MTPA to 11.3 MTPA thanks to the installation of three new open rack vaporizers. On top of this, 1.3 MTPA of additional send-out capacity is planned to become available by January 2026. The total additional regasification capacity was subscribed during an Open Season held in 2022. This expansion aligns with the Go4Net0 project aiming at reducing GHG emissions of the terminal towards carbon neutrality by 2035. Construction of four truck loading bays is ongoing with completion scheduled for 2024.

### Croatia

In August 2022, a decision was made by the Croatian government to expand the capacity of the **Krk Terminal** to 4.5 MTPA (from an original capacity of 1.9 MTPA). Part of the construction has been completed and the expansion phase is expected to be completed by October 2025.

### Cyprus

In January 2024, Cosco Shipping Heavy Industry in Shanghai delivered the 137,000 m<sup>3</sup> *Etyfa Prometheus*, a converted FSRU, to ETYFA. The FSRU will operate from the **Cyprus LNG Terminal** in Vasilikos, the country's first LNG import terminal. In March 2024, the Energy Minister of Cyprus announced that construction of the terminal should be completed by the end of the year.

### Estonia

The **Paldiski Terminal** is on the verge of completion and the terminal will be able to receive FSRUs. However, none has been secured. The Estonian Stockpiling Agency, the owner of the terminal, announced that it made no sense to rent an FSRU, as of the end of 2023, given their limited supply as well as the country's available supply of gas.

### Finland

The 4.8 MTPA FSRU-based LNG terminal **Inko** started operations in early 2023 and secured supply to meet Finland's natural gas demand during the 2023/2024 winter season, since the Balticconnector gas pipeline between Finland and Estonia suffered a rupture and was shut down for repairs from October 2023 until April 2024.

## France

In 2023, technical and scheduling optimization in Montoir-de-Bretagne, Fos Cavaou, and Fos Tonkin allowed the terminals' operator Elengy to propose prompt additional regasification capacity. In September 2023, French Energy Regulation Commission allowed Elengy to organize auction process for additional short-term capacities on an experimental basis, for the period from October 2023 to December 2025.

In December 2023, two new truck loading bays entered service at **Fos Cavaou** LNG terminal, which doubled the terminal's loading capacity to 16,000 slots per year. An additional loading bay was also commissioned at **Montoir-de-Bretagne** LNG terminal.

In September 2023, the **Fos Tonkin** LNG terminal performed its first loading of a small-scale LNG carrier. In February 2023, Elengy and Delta Rail, a transport solutions operator, launched a new LNG container loading service from multimodal platforms near the Elengy operated LNG terminals in Fos-sur-Mer. The containers will be stored and loaded at the terminals before being handed over to customers in France or Germany. The country's fifth and first FSRU-based 5 BCMA LNG terminal **Le Havre** started operations in September 2023. The terminal uses the 142,500 m<sup>3</sup> *FSRU Cape Ann*, chartered by TotalEnergies until 2028. The same month, Elengy signed a service agreement with TotalEnergies LNG Service France (TELSF) to provide operation management and scheduling services to the terminal for the entire duration of its operation.

## Germany

In April 2024, Deutsche ReGas received an operating permit under German federal and state laws for the Phase II of its **Deutsche Ostsee** floating LNG import terminal to be located at Mukran on Rügen Island. The terminal will initially use the 174,000 m<sup>3</sup> *FSRU Energos Power FSRU*. The FSRU arrived on site in February 2024 for trial operation and start of the commissioning process. A second FSRU, *Neptune*, will arrive at Mukran in phase II later in 2024, once it finishes its service at Lubmin, where it was moored for Phase I of the project. Regasified LNG will be injected to the German gas transmission network in Lubmin through the 50-km pipeline Ostsee Anbindungsleitung (OAL), which was completed in February 2024.

In the beginning of 2024, KN Energies won the public tender for the two-year commercial management of four state-controlled German LNG terminals on the North Sea coast, operated by Deutsche Energy Terminal GmbH (DET): Brunsbüttel and Stade LNG terminals and 2 LNG terminals in Wilhelmshaven.

In October 2023, Tree Energy Solutions (TES) and Engie completed the shore-side connection pipeline for commissioning of the second FSRU in **Wilhelmshaven**, the FSRU *Excelsior*. In September 2023, the

FSRU *Excelsior* arrived at the Navantia yard in Spain for a planned technical stop ahead of the start of its operations in Wilhelmshaven. The 5 BCMA offshore terminal is being developed by E.ON, TES, and Engie and will be operated by DET with commissioning scheduled for 2024. TES is planning to build an onshore terminal for green gases, such as hydrogen and ammonia, the **German North Sea LNG**, as part of its Wilhelmshaven Green Energy Hub. The onshore terminal will have 6 berths and 10 onsite tanks.

In July 2023, the European Commission approved a €40M state aid for the construction and operation of a new land-based **German LNG** terminal in Brunsbüttel. The 10 BCMA LNG terminal is expected to start operations at the end of 2026. The total investment cost of the project is approximately €1.3B. The shareholders of the project are the German government (through the investment and development bank KfW) with a 50% share, Gasunie with a 40% share and RWE with a 10% share. Gasunie will be the terminal operator. The terminal will be ready to import hydrogen from the beginning of its operation. The new land-based terminal will replace the current FSRU-based one, using the *FSRU Höegh Gannet* which started operations in the beginning of 2023.

In March 2024, the 174,000 m<sup>3</sup> *FSRU Energos Force* arrived at the industrial port of Bützfleth, the site of a new floating based 5 BCMA LNG terminal in **Stade**. The FSRU is owned by Energos Infrastructure and chartered by the German federal government. Energos Infrastructure will be responsible for the regasification, while coordination of LNG carrier berthing, gas flows and reporting will be managed by KN Energies on behalf of Deutsche Energy Terminal GmbH (DET). According to DET, test operations and commissioning will take several weeks. The terminal is expected to start operations in 2024. The new jetty for the FSRU was completed at the end of 2023. The floating LNG terminal will operate until the land-based terminal Hanseatic Energy Hub is completed.

In March 2024, **Hanseatic Energy Hub** (HEH) GmbH took FID to construct Germany's first land-based 13.3 BCMA terminal for liquefied gases at the Stade Industrial Park. The shareholders of the project are Partners Group, Enagás, Dow and the Buss Group. Industrial partner and a shareholder since June 2023, Enagás increased its share from 10% to 15%. The company will provide technical direction for the construction and will also be terminal operator. The permitting- and commercial phase was concluded in December 2023. 90% of the terminal capacity is booked long-term by EnBW, SEFE and ČEZ. The remaining capacity is reserved for short-term bookings. Long-term contracts include the option to switch to hydrogen-based energy carriers in the future. The terminal will be an emission-free and has been certified as ammonia-ready.

Técnicas Reunidas and its partners, FCC and Enka, have been awarded the EPC contract for the terminal. The terminal will use a flexible modular system for LNG, bio-LNG and Synthetic LNG and green gases, including hydrogen in the future. The facility is scheduled to start operations in 2027. Once the HEH enters into service, the FSRU *Energos Force* will leave Stade.

## Greece

In February 2024, Greece's first FSRU-based LNG terminal **Alexandroupolis FSRU** received its first LNG cargo onboard *GasLog Hong Kong* LNG carrier and started commissioning. The conversion of the *GasLog Chelsea* LNG carrier into an FSRU was completed in November 2023 at the Seatrium shipyard in Singapore. In December 2023, the FSRU arrived in Greece where the vessel was anchored through a 12-point mooring system. It has four storage tanks with a combined capacity of 153,600 m<sup>3</sup>, 3 regasification trains, capable of both open and closed loop operations, each with a regasification capacity of 267 MMscfd. In October 2023, the European Commission approved a €106M state aid to support the completion of the construction of the LNG terminal. The terminal is planned to deliver natural gas to the Greek Transmission System (NNGTS) as well as to Bulgaria, Romania, North Macedonia, Serbia, Moldova, Ukraine, Hungary and Slovakia through the high-pressure subsea and onshore gas transmission pipeline.

## Italy

In July 2023, a new 5 BCMA FSRU-based LNG terminal in **Piombino**, which uses the 170,000 m<sup>3</sup> *FSRU Golar Tundra* owned by SNAM, started commercial operations. The terminal received its first LNG cargo in May 2023, loaded at Egypt's Damietta liquefaction plant. KN Energies cooperated with SNAM in the start-up of the terminal.

In December 2023, SNAM completed purchase of the 170,000 m<sup>3</sup> *FSRU BW Singapore* from BW LNG, to be located off the coast of **Ravenna** around 8 km from the Punta Marina area. Onshore and offshore works on the 5 BCMA floating-based LNG terminal are expected to be completed by the end of 2024. Commercial operations are scheduled to start in 2025.

A plant modernization program is being carried out at **Panigaglia** LNG terminal. The modernization concerns most components of the terminal including vaporizers, berths, arms, and BOG compressors. In 2023, the terminal obtained authorization to handle additional services, including truck loading and vessel reloading. The FSRU **Toscana** terminal undergoes a planned extraordinary maintenance from March 1<sup>st</sup>, 2024 to October 31<sup>st</sup>, 2024. The company is replacing the bearing in the terminal's anchoring system, which is designed to ensure the rotation of the terminal around the geos-

tationary turret, which is permanently anchored to the sea floor. During the maintenance period the regasification service is interrupted.

### Lithuania

The operator of **Klaipėda** LNG terminal KN Energies, formerly Klaipėdos Nafta, plans an inspection of the underwater section of the FSRU *Independence* and repair in the dry dock, before the company takes over the ownership of the vessel in December 2024. Given the large size of the vessel and a limited dry dock capacity in Klaipėda and neighboring ports, the inspection takes place at a Danish shipyard. Once KN Energies becomes owner of the FSRU, Hoegh LNG Klaipėda will serve as its technical operator for a minimum of 5 years. KN decided to postpone the terminal capacity expansion project.

### Netherlands

In August 2023, Gate terminal and its shareholders Gasunie and Vopak, took FID to expand **Gate** terminal's storage and regasification capacity. The expansion consists of a new LNG storage tank of 180,000 m<sup>3</sup> and additional regasification capacity of 4 BCM per year. The new capacity is expected to be operational by the second half of 2026. Once the expansion completed, the terminal will have a total send-out capacity of 20 BCMA. In September 2023, VINCI was selected to execute the work on design and construction of the 4<sup>th</sup> tank, Sener to increase the plant's natural gas send out capacity and Sacyr Proyecta for engineering services. In December 2023, Vopak and Gasunie completed the acquisition by Vopak of a 50% share in **EemsEnergy-Terminal**. The partners are working to increase the send-out capacity of the terminal from 8 BCMA to 10 BCMA.

### Poland

Stage 2 of the expansion project at the **Świnoujście** LNG terminal is ongoing, which includes construction of a third 180,000 m<sup>3</sup> LNG storage tank and a new jetty with capabilities of unloading, loading and bunkering. The expansion program is scheduled for completion in 2024. In 2023, GAZ-SYSTEM undertook operational and technical measures to offer additional truck loading capacity, taking the total to 0.24 MTPA, which was fully subscribed for 2024.

The project for a new 6.1 BCMA FSRU-based LNG terminal in the area of **Gdańsk** is under development by GAZ-SYSTEM with targeted start-up in 2027/2028. The FSRU will be berthed at a mooring platform approximately 3 km from the shore. In July 2023, GAZ-SYSTEM completed the process of obtaining administrative decisions for all onshore pipelines to be built for the terminal connection. In August 2023, in an open season procedure, full regasification capacity of the FSRU Terminal was booked for a

period of 15 years. The same month, GAZ-SYSTEM and ORLEN signed an agreement for the provision of regasification services. In October 2023, GAZ-SYSTEM signed agreements with the Maritime Office in Gdynia and with the Port of Gdańsk authority on cooperation in the implementation of the FSRU project. In January 2024, GAZ-SYSTEM selected Mitsui O.S.K. Lines for the provision and operation of an FSRU unit for the project. In February 2024, GAZ-SYSTEM obtained environmental permit for the FSRU terminal, including offshore gas pipeline to be built within the basin of the Port of Gdańsk.

### Spain

In July 2023, **El Musel** (Gijón) LNG receiving terminal, which was mothballed on completion of construction in 2012 because of low demand, started operations following the arrival of two commissioning cargoes earlier in the month on board the 174,000 m<sup>3</sup> LNG carriers *Cool Racer* and *Dorado LNG*. Endesa was awarded the contract for the terminal's logistics services, following the results of the open season carried out earlier in 2023. In September 2023, Enagás and Reganosa completed the transaction according to which Reganosa acquired 25% of the El Musel terminal and Enagás acquired Reganosa's 130-km gas pipeline network.

In February 2023, Enagás subsidiary Scale Gas and Norwegian shipowner Knutsen presented the first LNG bunkering vessel built in Spain at the **Barcelona** LNG terminal. The vessel *Haugesund Knutsen*, chartered by Shell Spain and built by Astilleros Armón Gijón, will be based at the Port of Barcelona.

### Türkiye

In February 2023, the **Saros Terminal**, owned by the state company Botaş, received the 180,000 m<sup>3</sup> *Vasant 1 FSRU* on a one-year charter from India's Swan Energy. In April 2023, the terminal started commercial operations.

In September 2023, a re-export cargo was loaded from the **Marmara Ereğlisi Terminal** for the second time in the terminal's history, the cargo was delivered to Indonesia and Japan. Marmara Ereğlisi is the only Turkish LNG terminal able to conduct re-exports.

### United Kingdom

The expansion of **Grain LNG** terminal is ongoing, which will increase its storage capacity to 1.2 million m<sup>3</sup>, and its regasification capacity to 23 MTPA from July 2025. Following competitive auction process for 9 MTPA of existing regasification capacity, launched in September 2023, National Grid's Grain LNG signed in January 2024 a 10-year agreement with Sonatrach extending the long-term storage and redelivery capacity of Sonatrach at the terminal from

January 2029. In February 2024, Grain LNG and Venture Global executed a binding long-term terminal use agreement (TUA) under which Venture Global will access 3 MTPA of LNG storage and regasification capacity at the terminal for 16 years starting in 2029.

## Americas

### Argentina

Between May and August 2023, 138,000 m<sup>3</sup> *FSRU Excelsior*, owned and operated by Excelerate Energy, provided regasification services in **Bahia Blanca** GasPort terminal under a short-term seasonal contract. After this contract the vessel will be deployed in Germany as the second FSRU-based facility in Wilhelmshaven. In January 2024, YPF extended its current contract with Excelerate Energy for the 150,900 m<sup>3</sup> *Expedient FSRU* at the **Escobar Terminal** to the end of 2024. Regarding 2025, the company issued a request for information to charter a new FSRU for five to ten years at the terminal. In March 2024, 10 cargoes were tendered by Energia Argentina, they will be delivered to the Escobar terminal.

### Brazil

In October 2023, Excelerate Energy signed a 10-year contract with Petrobras to charter the 173,400 m<sup>3</sup> *FSRU Excelerate Sequoia*, which provides regasification services at the **Bahia** regasification terminal in Brazil. The charter contract started in January 2024. In April 2023, Excelerate Energy completed the purchase of the FSRU from Anemoesa Marine Inc. In 2023, KN Energies, the operator of the **Açu** LNG terminal, was invited to contribute to the development of the Açu trucked LNG station project, in cooperation with BP. The planned project involves construction of an LNG truck loading station at the Port of Açu, allowing gas to be delivered to consumers that are not connected to the gas pipeline network in the southeast region of Brazil.

In February 2024, New Fortress Energy declared its **Barcarena LNG** terminal, located in Pará, operational and started the commissioning process. The terminal consists of an offshore terminal and FSRU *Energos Celsius*, chartered by NFE from Energos Infrastructure. The FSRU arrived on-site after its conversion from an LNG carrier to FSRU was completed in Singapore. The terminal will supply natural gas to several industrial customers, including Norsk Hydro's Alunorte refinery and NFE's 630 MW power plant. As of February 2024, the power plant was approximately 50% complete and is scheduled to start operations in Q3 2025.

In March 2024, New Fortress Energy started operations at its 3.8 MTPA **Terminal Gas Sul** (TGS) in Santa Catarina. The terminal includes the 138,000 m<sup>3</sup>

FSRU *Energos Winter* and a 33-km, 20-inch pipeline, connecting the facility to the Transportadora Brasileira Gasoduto Bolívia-Brasil (TBG) pipeline. The FSRU *Energos Winter* is sub-chartered by NFE through the remaining term of the Petrobras charter with Energos infrastructure since November 2023. Once the current charter ends, the FSRU will be directly chartered by NFE on a long-term basis with Energos.

The 3.7 MTPA LNG Terminal de Regaseificação de São Paulo (TRSP), located in the Port of **Santos**, is expected to be operational in 2024. In September 2023, 170,000 m<sup>3</sup> *Hoegh Giant* FSRU loaded a commissioning cargo at the Cameron LNG terminal in the United States.

### Colombia

As of January 2024, Hoegh LNG to extend charter & FSRU services contract for *Hoegh Grace* with SPEC LNG for 5 years, until 2031.

### Dominican Republic

In November 2023, the expansion of the **AES Andres Terminal** was completed, increasing the terminal's capacity from 0.7 MTPA to 1.7 MTPA. In December 2023, AES Corporation, the terminal's owner, completed the sale of 20 percent of its business in the Dominican Republic to AFI Popular, Grupo Linda and Grupo Estrella.

### Nicaragua

In October 2023, New Fortress Energy announced that commercial operations at its LNG-to-Power project in Nicaragua, which includes the **Puerto Sandino FSRU Terminal**, remained scheduled for 2024.

### Panama

In October 2023, AES Corporation partnered with Canadian company Seaspan to provide bunkering services from the **Costa Norte LNG terminal**. AES is expanding the LNG terminal with a new ship loading facility, which will allow the sale of LNG as fuel starting in the second half of 2024. In December 2023, AES completed the sale of 35% ownership interest in the Costa Norte Terminal to Grupo Linda and Grupo Estrella, reducing its ownership interest to 65%.

## Middle East

### Egypt

In November 2023, the *BW Singapore FSRU* left the **Sumed Terminal** to serve SNAM's Ravenna terminal in Italy. Egypt came to an agreement with Jordan for the use of the FSRU in Aqaba and imported a cargo through Jordan in April 2024. In the same month, EGAS chartered the *Hoegh Gallon FSRU* for 19-20 months.

### Jordan

In 2023, Jordan and Egypt agreed to collaborate regarding gas. The agreement includes the transportation of LNG from Egypt to the **Aqaba Terminal** where the *Energos Eskimo FSRU* operates, with Jordan also committing to redistributing some of the volumes if demand arises. The Ministry of Energy and Mineral Resources of Jordan has chartered the 160,000 m<sup>3</sup> *Energos Eskimo FSRU* until 2025.

## Africa

### Ghana

The **Tema LNG Terminal** is located at the Port of Tema in the eastern part of Ghana. Although, the facility had an expected start date in March 2021, it experienced important delays and is yet to be completed. In February 2024, the country's oil regulator announced that completion of the project should be expected by the end of the year and that the government of Ghana had secured LNG supply from Equatorial Guinea.



# Regasification terminals

Market	Site	Concept	Storage		Send-out		Owner	Operator	Third Party Access	Additional Services offered	Start-up date
			Number of tanks	Total capacity (liq m <sup>3</sup> )	Number of vaporizers	Nominal capacity (MTPA)					
<b>AMERICAS</b>											
Argentina	Bahia Blanca <i>No vessel chartered</i>	Offshore	4	151,000	6	3.7	Owner: Excelerate Energy Charterer: YPF	FSRU: Excelerate Energy Terminal: YPF	No		2008
	Escobar <i>Excelerate Expedient (FSRU)</i>	Offshore	4	150,900	6	6.1	Owner: Excelerate Energy Charterer: UTE Escobar (50% Enarsa, 50% YPF)	FSRU: Excelerate Energy Terminal: YPF	No		2011
Brazil	Bahia <i>Excelerate Sequoia (FSRU)</i>	Offshore	4	173,400	6	5.6	Owner: Excelerate Energy Charterer: Petrobras	Excelerate Energy	Yes		2013
	Guanabara Bay <i>Excelerate Experience (FSRU)</i>	Offshore	4	173,400	6	6.0	Owner: Excelerate Energy Charterer: Petrobras	FSRU: Excelerate Energy Terminal: Petrobras	No	Reloading	2009
	Barcarena Energos Celsius (FSRU)	Offshore	4	160,000		6.0	FSRU: Energos Infrastructure Terminal: NFE	FSRU: Energos Infrastructure Terminal: NFE			2024
	Pecem <i>No vessel chartered</i>	Offshore	4	138,000		3.8	Owner: Energos Infrastructure Charterer: Petrobras	FSRU: Energos Infrastructure Terminal: Petrobras	No		2009
	Port of Açú <i>BW Magna (FSRU)</i>	Offshore	4	173,400		5.6	Owner: BW Charterer: Gas Natural Açú (Prumo Logística, BP, Siemens)	FSRU: BW Terminal: KN Energies			2021
	Sepetiba LNG <i>LNGt Powership Asia (FSRU)</i>	Offshore	4	127,500		2.7	KARMOL	Karpowership			2022
	Sergipe <i>Energos Nanook (FSRU)</i>	Offshore	4	170,000		5.6	Owner: Energos Infrastructure Charterer: CELSE	Energos Infrastructure		Reloading	2020
TGS Santa Catarina <i>Energos Winter (FSRU)</i>	Offshore	4	138,000		3.8	FSRU: Energos Infrastructure Terminal: NFE	FSRU: Energos Infrastructure Terminal: NFE			2024	
Canada	Saint John, New Brunswick	Onshore	3	480,000	8	7.4	Repsol	Canaport LNG	Yes		2009
Chile	Mejillones	Onshore	1	187,000	3	1.5	ENGIE (63%), Ameris Capital (37%)	GNL Mejillones	Yes	Transshipment, Truck loading	2010
	Quintero	Onshore	3	334,000	4	3.8	GNLQ: Consortium led by EIG and Fluxys (80%), ENAP (20%)	GNL Quintero	Yes	Reloading, Truck loading	2009
Colombia	Cartagena SPEC LNG <i>Höegh Grace (FSRU)</i>	Offshore	4	170,000	4	3.7	Owner: Höegh LNG Charterer: Sociedad Portuaria El Cayao (SPEC LNG)	FSRU: Höegh LNG Terminal: SPEC LNG	No	Reloading, Transshipment	2016
Dominican Republic	Andrés	Onshore	1	160,000	3	1.7	AES	AES	No	Reloading, Truck loading	2003
El Salvador	Acajutla <i>BW Tatiana (FSRU)</i>	Offshore	5	137,000		2.0	Energía del Pacífico (Invenergy, Quantum Energy, Grupo Calleja, VC Energy de Centroamerica)	Invenergy, BW LNG			2022
Jamaica	Montego Bay	Onshore	7	7,000		0.5	New Fortress Energy	New Fortress Energy		Truck loading	2016
	Old Harbour <i>Höegh Gallant (FSRU)</i>	Offshore	4	170,000	4	2.8	Owner: Höegh LNG Charterer: New Fortress Energy	New Fortress Energy			2019
Mexico	Altamira	Onshore	2	300,000	5	5.7	Terminal de LNG de Altamira (Vopak 60%, Enagas 40%)	Terminal de LNG de Altamira	Yes		2006
	Energía Costa Azul	Onshore	2	320,000	6	7.6	INova (Sempra)	INova (Sempra)	Yes	Reloading	2008
	Manzanillo	Onshore	2	300,000		3.8	Mitsui (37.5%), Samsung (37.5%), KOGAS (25%)	Terminal KMS			2012
	Pichilingue, La Paz	Onshore	3			0.8	New Fortress Energy	New Fortress Energy		Truck loading	2021

Market	Site	Concept	Storage		Send-out		Owner	Operator	Third Party Access	Additional Services offered	Start-up date
			Number of tanks	Total capacity (liq m <sup>3</sup> )	Number of vaporizers	Nominal capacity (MTPA)					
Panama	Costa Norte	Onshore	1	180,000		1.5	AES	AES		Bunkering, Truck loading	2018
	San Juan	Onshore				1.1	New Fortress Energy	New Fortress Energy		Truck loading	2020
Puerto Rico	Peñuelas	Onshore	1	160,000	4	2.0	Naturgy (47.5%), ENGIE (35%), Mitsui (15%), OCO Partners (2.5%)	Eco Eléctrica		Truck loading	2000
	Cameron	Onshore	3	480,000	10	11.4	Sempra (50.2%), TotalEnergies (16.6%), Mitsubishi (16.6%), Mitsui (16.6%)	Cameron LNG	Yes	Reloading	2009
USA	Cove Point	Onshore	7	700,000	25	13.7	Cove Point LNG, LP (Berkshire 75%, Brookfield 25%)	Cove Point LNG, LP			1978
	Elba Island	Onshore	5	535,000	11	12.0	Kinder Morgan	Southern LNG	Yes		1978
	Everett	Onshore	2	155,000	4	5.1	Constellation LNG	Constellation LNG	Yes	Truck loading	1971
	Freeport	Onshore	3	480,000	7	13.2	Freeport LNG Development, L.P.	Freeport LNG Development	Yes		2008
	Golden Pass	Onshore	5	775,000	8	15.7	QP (70%), ExxonMobil (30%)	Golden Pass LNG	No		2010
	Gulf LNG	Onshore	2	320,000		8.8	Kinder Morgan (50%), GE (40%), AES (10%)	Gulf LNG Energy	No		2011
	Lake Charles	Onshore	4	425,000	14	17.9	Lake Charles LNG	Lake Charles LNG	Yes		1982
	Northeast Gateway <i>No vessel chartered</i>	Offshore	4	151,000	6	3.8	Excelerate Energy	Excelerate Energy			2008
	Sabine Pass	Onshore	5	800,000	24	30.4	Sabine Pass LNG	Cheniere	Yes	Reloading	2008
	<b>AMERICAS TOTAL</b>				<b>9,281,600</b>		<b>226.88</b>				
<b>ASIA</b>											
Bangladesh	Moheshkhali <i>Excelerate Excellence (FSRU)</i>	Offshore	4	138,000	6	3.8	Owner: Excelerate Energy Charterer: Petrobangla	Excelerate Energy			2018
	Summit LNG <i>Summit LNG (FSRU)</i>	Offshore	4	138,000	6	3.8	Owner: Excelerate Energy Charterer: Summit Power International	FSRU: Excelerate Energy Terminal: Summit			2019
China	Beihai, Guangxi	Onshore	4	640,000		6.0	PipeChina (80%), Guangxi Beibu Gulf International (20%)	PipeChina	Yes	Truck loading	2016
	Binhai, Jiangsu	Onshore	4	880,000	6	3.0	CNOOC (76%), Huainan Ming Group (24%)	CNOOC			2022
	Caofeidian (Tangshan), Hebei	Onshore	8	1,280,000		10.0	Petrochina (51%), Beijing Gas Blue Sky Holdings Ltd. (29%), Hebei Natural Gas (20%)	Petrochina	Yes	Truck loading	2013
	Dalian, Liaoning	Onshore	3	480,000	3	6.0	PipeChina (75%), Dalian Port Company Limited (20%), Dalian Construction Investment (5%)	PipeChina	Yes	Reloading, Truck loading	2011
	Dapeng, Shenzhen	Onshore	4	640,000	7	6.8	CNOOC (33%), Guangdong Province Consortium (31%), BP (30%), HK & China Gas (3%), Hong Kong Electric (3%)	GDLNG	Limited	Truck loading	2006
	Dongguan, Guangdong	Onshore	2	160,000	4	1.5	Jovo Group	Jovo	No	Truck loading	2012
	Diefu, Shenzhen	Onshore	4	640,000		4.0	PipeChina (70%), Shenzhen Energy Group (30%)	PipeChina	Yes	Truck loading	2018
	Fangchenggang, Guangxi	Onshore	2	60,000		0.6	PipeChina (51%), Fangchenggang Port Group Co. LTD (49%)	PipeChina	Yes	Truck loading	2019

## Regasification terminals

Market	Site	Concept	Storage		Send-out		Owner	Operator	Third Party Access	Additional Services offered	Start-up date
			Number of tanks	Total capacity (liq m <sup>3</sup> )	Number of vaporizers	Nominal capacity (MTPA)					
China	Hua'an, Guangdong	Onshore	1	80,000		0.8	Shenzhen Gas	Shenzhen Gas		Truck loading	2019
	Jiaxing, Zhejiang	Onshore	2	200,000		1.0	Hangzhou Gas (49%), Jiaxing Gas (51%)	GCL			2022
	Nansha, Guangzhou	Onshore	2	320,000		1.1	Guangzhou Gas	Guangzhou Gas			2023
	Ningbo, Zhejiang	Onshore	6	960,000		6.0	CNOOC (51%), Zhejiang Energy Group Co Ltd (29%), Ningbo Development & Investment Group (20%)	CNOOC	No	Truck loading	2013
	Putian, Fujian	Onshore	6	960,000		6.3	Fujian LNG (CNOOC 60%, Fujian Inv. & Dev. Co. 40%)	CNOOC	No	Truck loading	2008
	Qidong, Jiangsu	Onshore	5	620,000		4.0	Guanghui Energy	Guanghui Energy		Truck loading	2017
	Qingdao, Shandong	Onshore	7	1,230,000		11.0	Sinopec (99%), Qingdao Port Group (1%)	Sinopec	No	Truck loading	2014
	Rudong, Jiangsu	Onshore	5	1,080,000	3	10.0	Petrochina (55%), Pacific Oil & Gas (35%), Jiangsu Guoxin Investment Group (10%)	Petrochina	Yes	Truck loading	2011
	Tianjin	Onshore	7	397,000	3	6.0	PipeChina (46%), Tianjin Govt (40%), Tianjin Gas (9%), Tianjin Hengrongda Investment (5%)	PipeChina	No	Truck loading	2013
	Tianjin LNG	Onshore	7	1,300,000		10.8	Sinopec (98%), Tianjin Nangang Industrial Zone Development Co., Ltd. (2%)	Sinopec		Truck loading	2018
	Tianjin Nangang	Onshore	10	2,200,000		5.0	Beijing Gas Group	Beijing Gas Group			2023
	Shennan, Hainan	Onshore	2	40,000		0.6	Petrochina (90%), Beijing Gas Bluesky (10%)	Petrochina	No		2014
	Suntien, Tangshan	Onshore	4	800,000		5.0	China Sintien Green Energy	China Sintien Green Energy			2023
	Wenzhou, Zhejiang	Onshore	2	320,000		3.2	Wenzhou LNG (Sinopec 51%, Zhejiang Energy 41%)	Wenzhou LNG			2023
	Wuhaogou, Shanghai	Onshore	5	320,000		1.5	Shanghai Gas (Shenergy 100%)	Shenergy Group	No		2008
	Yangshan, Shanghai	Onshore	5	895,000		3.0	Shanghai LNG (CNOOC 45%, Shenergy Group Ltd 55%)	Shenergy Group	No	Truck loading	2009
	Yangpu, Hainan	Onshore	2	320,000		3.0	PipeChina (65%), Guodian Haikong New Energy (35%)	PipeChina	Yes	Truck loading	2014
	Yuedong, Guangdong	Onshore	3	480,000		4.2	PipeChina	PipeChina	Yes	Truck loading	2017
	Zhoushan, Zhejiang	Onshore	4	640,000	5	5.0	ENN Group (90%), SK E&S (10%)	ENN	Yes	Truck loading	2018
	Zhuhai, Guangdong	Onshore	3	480,000		3.5	CNOOC (30%), Guangdong Energy (25%), Guangzhou Gas Group (25%), Guangdong Yuegang (8%), Zhuhai Electric Development (3%), Zhongshan Zhonghui Investment Group (3%), Jiangmen City (3%), Foshan Gas (3%)	CNOOC		Reloading, Truck loading	2013
Hong Kong	Hong Kong LNG Bauhinia Spirit (FSRU)	Offshore		263,000		4.0	Owner: MOL Charterer: Hong Kong LNG Terminal (Capco 50%, HK Electric 50%)	Hong Kong LNG Terminal			2023



Market	Site	Concept	Storage		Send-out		Owner	Operator	Third Party Access	Additional Services offered	Start-up date
			Number of tanks	Total capacity (liq m <sup>3</sup> )	Number of vaporizers	Nominal capacity (MTPA)					
India	Dabhol	Onshore	3	480,000	6	5.0	Konkan LNG Ltd.	Gail	Yes		2013
	Dahej	Onshore	6	932,000	21	17.5	Petronet LNG	Petronet LNG	Yes	Truck loading	2004
	Dhamra	Onshore	2	360,000		5.0	Adani Total Private Limited	ATPL		Reloading, Truck loading	2023
	Ennore	Onshore	2	360,000		5.0	Indian Oil Corporation (90%), Tamil Nadu Industrial Development Corporation (10%)	Indian Oil Corporation			2019
	Hazira	Onshore	2	320,000	5	5.2	Shell Energy India Private Ltd. (Shell 100%)	Shell Energy India Private Ltd.	Negotiated	Truck loading	2005
	Kochi	Onshore	2	368,000	5	5.0	Petronet LNG	Petronet LNG	Yes	Bunkering, Cool-down, Gassing-up, Reloading, Truck loading	2013
	Mundra	Onshore	2	320,000	5	5.0	GSPC LNG Limited - Government of Gujarat and its entities including GSPC holding (95%), Adani Group (5%)	GSPC LNG Limited		Truck loading, Reloading	2020
Indonesia	Amurang <i>No vessel chartered</i>	Offshore									2020
	Arun Regas	Onshore	4	508,000		3.0	PT Perta Arun Gas (Pertamina 70%, Government of Aceh 30%)	PT Perta Arun Gas	Yes (2 tanks)	Bunkering, Cool-down, Reloading, Truck loading	2015
	Tanjung Benoa, Bali <i>FSRU Karunia Dewata</i>	Offshore		26,000		0.4	Owner: JSK Group (50%), PT Pelindo III (50%) Charterer: PLN	PT Pelindo Energi Logistik (PEL)			2016
	Cilamaya, West Java <i>Jawa Satu (FSRU)</i>	Offshore	4	170,000	4	2.4	Jawa Satu Regas (Pertamina, Sojitz, Marubeni)	Jawa Satu Regas			2021
	Lampung, Sumatra <i>PGN FSRU Lampung</i>	Offshore	4	170,000	3	2.7	Owner: Höegh LNG Charterer: PGN (subsidiary of Pertamina)	FSRU: Höegh LNG Terminal: PGN	No		2014
	Nusantara, West Java <i>Nusantara Regas Satu (FSRU)</i>	Offshore	6	125,000	6	3.0	Owner: New Fortress Energy Charterer: PT Nusantara Regas	PT Nusantara Regas (Pertamina 60%, PGN 40%)	No		2012
	Maleo, Gorontalo <i>Hua Xiang (FSRU)</i>	Offshore		14,000		0.2	Owner: Zhejiang Huaxiang Charterer: PT Sulawesi Satu (PLN GG, Humpuss)	PT GTS Internasional Tbk			2022
Japan	Chita	Onshore	7	640,000	11	10.9	Chita LNG	Chita LNG	Yes	Truck loading	1983
	Chita Kyodo	Onshore	4	300,000	14	7.5	Toho Gas / JERA	Toho Gas	Yes		1978
	Chita-Midorihama Works	Onshore	3	620,000	8	7.7	Toho Gas	Toho Gas	Yes	Truck loading	2001
	Futtsu	Onshore	12	1,360,000	13	22.9	JERA	JERA	Yes	Truck loading	1985
	Hachinohe	Onshore	2	280,000	5	1.0	ENEOS Corporatoin	ENEOS LNG Service Corporatoin	Yes	Reloading, Truck loading	2015
	Hatsukaichi	Onshore	2	170,000	4	0.8	Hiroshima Gas	Hiroshima Gas	No	Truck loading	1996
	Hibiki	Onshore	2	360,000	5	2.4	Hibiki LNG (Saibu Gas 90%, Kyushu Electric 10%)	Hibiki LNG	Yes	Cool-down, Gas test services, Truck loading	2014
	Higashi-Ongshima	Onshore	9	540,000	9	13.2	JERA	JERA	Yes		1984
	Himeji	Onshore	8	740,000	5	5.5	Osaka Gas	Osaka Gas	Yes	Reloading, Truck loading	1979
	Himeji LNG	Onshore	7	520,000	7	8.1	Kansai Electric	Kansai Electric	Yes	Truck loading	1979
Hitachi	Onshore	2	460,000	5	5.3	Tokyo Gas	Tokyo Gas	Yes	Reloading, Truck loading	2016	

## Regasification terminals

Market	Site	Concept	Storage		Send-out		Owner	Operator	Third Party Access	Additional Services offered	Start-up date
			Number of tanks	Total capacity (liq m <sup>3</sup> )	Number of vaporizers	Nominal capacity (MTPA)					
Japan	Ishikari	Onshore	4	840,000	7	4.6	Hokkaido Gas / Hokkaido Electric	Hokkaido Gas	Yes (No.1,2 tank) No (No.3,4 tank)	Reloading, Truck loading	2012
	Joetsu	Onshore	3	540,000	8	3.2	JERA	JERA	No	Truck loading	2011
	Kagoshima	Onshore	2	86,000	4	0.2	Nippon Gas	Nippon Gas	No	Truck loading	1996
	Kawagoe	Onshore	6	840,000	7	8.7	JERA	JERA	Yes	Bunkering, Truck loading	1997
	Minato	Onshore	1	80,000	3	0.3	Gas Bureau, City of Sendai	Gas Bureau, City of Sendai	No	Truck loading	1997
	Mizushima	Onshore	2	320,000	6	4.3	Mizushima LNG	Mizushima LNG	Yes	Truck loading	2006
	Naoetsu	Onshore	2	360,000	4	2.1	INPEX Corporation	INPEX Corporation	Yes		2013
	Negishi	Onshore	11	905,000	13	10.8	Tokyo Gas / JERA	Tokyo Gas	Yes	Truck loading	1969
	Niigata	Onshore	8	720,000	12	8.5	Nihonkai LNG	Nihonkai LNG	Yes	Truck loading	1984
	Niihama	Onshore	1	230,000	3	1.0	Niihama LNG (Tokyo Gas 50.1%, Shikoku Electric 30%, Shikoku Gas 5%, Sumitomo 14.9%)	Niihama LNG	No		2022
	Ohgishima	Onshore	4	850,000	12	10.2	Tokyo Gas	Tokyo Gas	Yes		1998
	Oita	Onshore	5	460,000	7	5.4	Oita LNG	Oita LNG	Yes	Truck loading	1990
	Sakai	Onshore	4	560,000	6	6.4	Kansai Electric	Kansai Electric	Yes	Truck loading	2006
	Sakaide	Onshore	1	180,000	3	1.2	Sakaide LNG	Sakaide LNG	No	Truck loading	2010
	Senboku I	Onshore	1	230,000	5	1.9	Osaka Gas	Osaka Gas	Yes	Truck loading	1972
	Senboku II	Onshore	16	1,435,000	12	10.0	Osaka Gas	Osaka Gas	Yes	Truck loading	1977
	Shin-Sendai	Onshore	2	320,000	3	1.7	Tohoku Electric	Tohoku Electric	No	Truck loading	2015
	Sodegaura	Onshore	32	2,480,000	36	32.7	Tokyo Gas / JERA	Tokyo Gas	Yes	Reloading, Truck loading	1973
	Sodeshi	Onshore	3	337,200	8	2.9	Shimizu LNG (Shizuoka Gas 65%, ENEOS Corporation 35%)	Shimizu LNG	Yes	Reloading, Truck loading	1996
	Soma	Onshore	2	460,000		1.5	Japex/Fukushima Gas Power (JAPEX 33%, Mitsui 29%, Osaka Gas 20%, Mitsubishi Gas Chemical 9%, Hokkaido Electric Power 9%)	Japex		Truck loading	2018
Tobata	Onshore	8	480,000	9	7.6	Kita Kyushu LNG	Kita Kyushu LNG	Yes	Reloading, Truck loading	1977	
Toyama Shinko	Onshore	1	180,000	4	1.8	Hokuriku Electric	Hokuriku Electric	No	Truck loading	2018	
Yanai	Onshore	6	480,000	5	2.3	Chugoku Electric	Chugoku Electric	No	Truck loading	1990	
Yokkaichi LNG Center	Onshore	4	320,000	8	6.4	JERA	JERA	Yes		1987	
Yokkaichi Works	Onshore	2	160,000	6	2.1	Toho Gas	Toho Gas	Yes	Truck loading	1991	
Yoshinoura	Onshore	2	280,000	3	0.8	Okinawa Electric	Okinawa Electric	Yes	Truck loading	2012	
Malaysia	Melaka Tenaga Empat (FSU) and Tenaga Satu (FSU)	Offshore	8	260,000	3	3.8	Owner: MISC Charterer: Petronas Gas	Petronas Gas	Yes	Reloading	2013
	Pengerang	Onshore	2	400,000		3.5	Petronas Gas (65%), Dialog Group (25%) and Johor State (10%)	Petronas Gas		Bunkering, Cool-down, Gassing-up, Reloading, Truck loading	2017
Myanmar	Thanlyin, Yangon CNTIC VPower Energy (FSU)	Onshore + FSU	4	127,500		0.5	CNTIC Vpower (China National Technical Import Corporation, Vpower Global)	CNTIC Vpower			2020

Market	Site	Concept	Storage		Send-out		Owner	Operator	Third Party Access	Additional Services offered	Start-up date
			Number of tanks	Total capacity (liq m <sup>3</sup> )	Number of vaporizers	Nominal capacity (MTPA)					
Pakistan	Port Qasim Karachi <i>Excelerate Exquisite (FSRU)</i>	Offshore	4	150,900	6	4.8	Owner: Excelerate Energy Charterer: ETPL (Engro 51%, Vopak 49%)	FSRU: Excelerate Energy Terminal: Engro	No		2015
	Port Qasim GasPort <i>BW Integrity (FSRU)</i>	Offshore	4	170,000		5.0	Owner: BW Charterer: Pakistan GasPort	FSRU: BW Terminal: Pakistan GasPort Consortium			2017
Philippines	PHLNG, Batangas <i>Ish (FSU)</i>	Onshore + FSU		137,000		3.0	Owner: ADNOC L&S Charterer: AG&P (Atlantic, Gulf & Pacific)	FSU: ADNOC L&S Terminal: AG&P Industrial			2023
	FGEN Batangas <i>BW Batangas (FSRU)</i>	Offshore		162,400		5.3	Owner: BW LNG Charterer: FGEN LNG (First Gen 80%, Tokyo Gas 20%)	FSU: BW LNG Terminal: FGEN LNG			2023
Singapore	Jurong	Onshore	4	800,000	5	9.0	SLNG	SLNG	Yes	Cool-down, Gassing-up, Reloading, Storage, Transshipment, Truck loading, Wobbe Index Correction	2013
South Korea	Boryeong	Onshore	6	1,200,000	7	10.8	GS Energy (50%), SK E&S (50%)	Boryeong LNG		Reloading	2016
	Gwangyang	Onshore	5	730,000	5	7.1	POSCO	POSCO	No	Reloading	2005
	Incheon	Onshore	23	3,480,000	52	54.4	KOGAS	KOGAS	No		1996
	Jeju	Onshore	2	90,000	5	1.1	KOGAS	KOGAS	No		2019
	Pyeong-Taek	Onshore	23	3,360,000	38	41.0	KOGAS	KOGAS	No	Truck loading	1986
	Samcheok	Onshore	12	2,610,000	8	11.6	KOGAS	KOGAS	No		2014
	Tong-Yeong	Onshore	17	2,620,000	20	26.5	KOGAS	KOGAS	No	Reloading Truck loading	2002
Taiwan	Ulsan	Onshore	2	430,000	3	2.4	Korea National Oil Company 52.5%, SK Gas 47.5%	KET (Korea Energy Terminal)			2024
	Taichung	Onshore	6	960,000	10	6.0	CPC	CPC	No		2009
	Yung-An	Onshore	6	690,000	18	10.5	CPC	CPC	No		1990
Thailand	LNG Map Ta Phut Terminal 1	Onshore	4	640,000	9	11.5	PTT LNG	PTT LNG	Yes	Reloading, Truck loading	2011
	LNG Map Ta Phut Terminal 2	Onshore	2	500,000	5	7.5	PTT LNG	PTT LNG	Yes		2022
Vietnam	Thi Vai	Onshore	1	180,000		1.1	LNG Vietnam (PetroVietnam 51%, Bitexco 39%, Tokyo Gas 10%)	LNG Vietnam			2023
ASIA TOTAL				62,935,000		649.9					
▼ EUROPE											
Belgium	Zeebrugge	Onshore	5	566,000	12	11.3	Fluxys LNG	Fluxys LNG	Yes	Bunkering, Cool-down, Reloading, Transshipment, Truck loading	1987
Croatia	Krk <i>LNG Croatia (FSRU)</i>	Offshore	4	140,206		2.1	LNG Hrvatska (HEP, Plinacro)	FSRU: Golar LNG Terminal: LNG Croatia		Bunkering, Truck loading	2021
	Hamina	Onshore		30,000		0.2	Hamina Energy, Wartsila, Alexela	Hamina Energy		Bunkering, Truck loading	2022
Finland	Inkoo <i>Excelerate Exemplar (FSRU)</i>	Offshore	4	150,900	6	4.8	Owner: Excelerate Energy Charterer: Gasum Oy (Gasgrid Finland/Elering)	FSRU: Excelerate Energy Terminal: Gasgrid Finland/Elering			2023
	Pori	Onshore	1	28,500		0.1	Gasum	Gasum	Yes	Bunkering, Truck loading	2016
	Tornio Manga	Onshore	1	50,000		0.4	Manga LNG (Gasum, Outokumpu, SSAB and EPV Energy)	Manga LNG		Bunkering, Truck loading	2018

## Regasification terminals

Market	Site	Concept	Storage		Send-out		Owner	Operator	Third Party Access	Additional Services offered	Start-up date
			Number of tanks	Total capacity (liq m <sup>3</sup> )	Number of vaporizers	Nominal capacity (MTPA)					
France	Dunkerque LNG	Onshore	3	600,000	10	9.6	Dunkerque LNG - Consortium led by Fluxys with AXA Investment Managers & Crédit Agricole Assurances (60.76%) - Korean investors consortium led by IPM Group in cooperation with Samsung Asset Management (39.24%)	Gaz-Opale (Dunkerque LNG, Fluxys)	Yes	Bunkering, Cool-down, Reloading, Truck loading	2016
	Fos Cavaou	Onshore	3	330,000	4	8.0	Fosmax LNG (Elengy 100%)	Elengy	Yes	Bunkering, Cool-down, Reloading, Transshipment, Truck loading	2009
	Fos Tonkin	Onshore	1	80,000	6	1.2	Elengy	Elengy	Yes	Bunkering, Cool-down, Reloading, Truck loading	1972
	Le Havre Cape Ann (FSRU)	Offshore	4	142,500	4	3.7	TotalEnergies	Owner: Höegh LNG (50%), MOL (48.5%), Tokyo LNG Tanker Co. Ltd (1.5%) Charterer: TotalEnergies	Yes		2023
	Montoir-de-Bretagne	Onshore	3	360,000	11	8.0	Elengy	Elengy	Yes	Bunkering, Cool-down, Reloading, Transshipment, Truck loading	1980
Germany	Brunsbüttel Höegh Gannet (FSRU)	Offshore	4	170,000	4	5.7	Owner: Höegh LNG Charterer: The Federal Republic of Germany	FSRU: Höegh LNG Terminal: Deutsche Energy Terminal GmbH (DET)	No (until Q2 2024)		2023
	Lubmin (Deutsche Ostsee) Neptune (FSRU)	Offshore	4	145,000	3	3.7	Owner: Höegh LNG (50%), MOL (48.5%), Tokyo LNG Tanker Co. Ltd (1.5%) Charterer: TotalEnergies Sub-charterer: Deutsche ReGas	FSRU: Höegh LNG Terminal: Deutsche ReGas			2023
	Wilhelmshaven Höegh Esperanza (FSRU)	Offshore	4	170,000	3	3.7	Owner: Höegh LNG Charterer: The Federal Republic of Germany	FSRU: Höegh LNG Terminal: Deutsche Energy Terminal GmbH (DET)	No (until Q2 2024)		2023
Gibraltar	Gibraltar	Onshore	5	5,000	3	0.1	Shell (51%), Government of Gibraltar (49%)	Gasnor			2019
Greece	Alexandroupolis (FSRU)	Offshore	4	153,600	3	4.0	Gastrade (GasLog, DEPA, DESFA, Elmina Copelouzou, Bulgartransgaz)	Gastrade			2024
	Revithoussa	Onshore	3	225,000	6	5.1	DESFA S.A (Snam, Enagas, Fluxys, Govnt)	DESFA S.A.	Yes		2000
Italy	Oristano, Sardinia	Onshore	6	10,800		0.2	HIGAS: Avenir LNG (80%), CPL Concordia (10%), Gas and Heat (10%)	HIGAS	Yes	Truck loading	2021
	Toscana FSRU Toscana	Offshore	4	137,500	3	2.8	OLT (First State Investments 48.24%, SNAM 49.07%, Golar 2.69%)	OLT Offshore LNG Toscana	Yes		2013
	Panigaglia	Onshore	2	85,000	4	2.5	GNL Italia (Snam)	GNL Italia (Snam)	Yes		1969
	Piombino Golar Tundra (FSRU)	Offshore	4	170,000	6	3.7	FSRU Italia (Snam)	FSRU Italia (Snam)	Yes		2023
	Ravenna	Onshore	2	20,000		0.7	Depositi Italiani GNL	Depositi Italiani GNL			2021
Rovigo (Gravity-Based Structure)	Offshore	2	250,000	5	6.6	Adriatic LNG (ExxonMobil (70.7%), Qatar Petroleum (22%), SNAM (7.3%))	Adriatic LNG	Yes		2009	

Market	Site	Concept	Storage		Send-out		Owner	Operator	Third Party Access	Additional Services offered	Start-up date
			Number of tanks	Total capacity (liq m <sup>3</sup> )	Number of vaporizers	Nominal capacity (MTPA)					
Lithuania	Klaipeda Höegh Independence (FSRU)	Offshore	4	170,000	4	2.9	Owner: Höegh LNG Charterer: KN Energies	Höegh LNG	Yes	Reloading	2014
	KN LNG Reloading Station	Onshore	5	5,000			KN Energies	KN Energies		Bunkering, Reloading, Truck cool-down, Truck loading	2017
Malta	Delimara Armada LNG Mediterranea (FSU)	Offshore	4	125,000		0.5	Owner: BumiArmada Charterer: Electrogas Malta (GEM Holdings Limited (33.34%), Siemens (33.33%), SOCAR (33.33%))	Reganosa			2017
Netherlands	Eemshaven Eemshaven LNG (FSRU)	Offshore	2	25,000	6		Owner: Exmar Charterer: Gasunie	EemsEnergyTerminal (Gasunie 50%, Vopak 50%)	Yes		2022
	Energos Igloo (FSRU)	Offshore	4	170,000	8	5.9	Owner: Energos Infrastructure Charterer: Gasunie				
Norway	Gate	Onshore	3	540,000	8	9.9	Gasunie (50%), Vopak (50%)	Gate Terminal	Yes	Bunkering, Cool-down, Reloading, Transshipment, Truck loading	2011
	Fredrikstad	Onshore	9	5,900		0.1	Gasum	Gasum	Yes	Bunkering, Truck loading	2011
	Mosjøen	Onshore	8	6,500	4	0.4	Gasnor	Gasnor	Partly	Truck loading	2007
Poland	Świnoujście	Onshore	2	320,000	7	4.6	GAZ-SYSTEM S.A.	GAZ-SYSTEM S.A.	Yes	Truck loading	2016
Portugal	Sines	Onshore	3	390,000	7	5.6	Ren Atlântico	Ren Atlântico	Yes	Cool-down, Reloading, Truck loading	2004
Russia	Kaliningrad Marshal Vasilevskiy (FSRU)	Offshore		174,100		2.0	Gazprom	Gazprom			2019
Spain	Barcelona	Onshore	6	760,000	13	12.6	Enagás	Enagás	Yes	Bunkering, Cool-down, Reloading, Transshipment, Truck loading	1969
	Bilbao	Onshore	3	450,000	4	5.1	Enagás (50%), EVE (50%)	Bahia de Bizkaia Gas, SL (BBG)	Yes	Bunkering, Cool-down, Reloading, Truck loading	2003
	Cartagena	Onshore	5	587,000	9	8.7	Enagás	Enagás	Yes	Bunkering, Cool-down, Reloading, Transshipment, Truck loading	1989
	El Musel	Onshore	2	300,000	5	5.1	Enagás (75%), Reganosa (25%)	Enagás	Yes	Reloading, Truck loading, Cool-down	2023
	Huelva	Onshore	5	619,500	9	8.7	Enagás	Enagás	Yes	Bunkering, Cool-down, Reloading, Truck loading	1988
	Mugardos	Onshore	2	300,000	3	2.6	Tojeiro Group (59,64%), Xunta Galicia (28,60%), Sonatrach (11,76%)	Reganosa	Yes	Bunkering, Cool-down, Gassing up, Reloading, Truck loading	2007
Sweden	Sagunto	Onshore	4	600,000	5	6.4	Infraestructuras de Gas [Enagas and Oman Oil Company S.A.O.C.] (50%), Iniciativas de Gas [Enagás and Osaka Gas] (50%)	Saggas	Yes	Cool-down, Reloading, Truck loading	2006
	Lysekil	Onshore	1	30,000		0.2	Gasum	Gasum		Bunkering, Truck loading	2014
	Nynashamn	Onshore	1	20,000		0.4	AGA Gas	AGA Gas		Bunkering, Truck loading	2011

## Regasification terminals

Market	Site	Concept	Storage		Send-out		Owner	Operator	Third Party Access	Additional Services offered	Start-up date
			Number of tanks	Total capacity (liq m <sup>3</sup> )	Number of vaporizers	Nominal capacity (MTPA)					
Türkiye	Dörtöyl <i>FSRU Ertuğrul Gazi</i>	Offshore		170,000		4.1	Owner: Botas Charterer: Botas	FSRU: Botas Terminal: Botas			2018
	Etki <i>FSRU Turquoise</i>	Offshore		170,000		5.7	Owner: Pardus Energy Charterer: Etki Terminal	Pardus Energy		Bunkering, Reloading	2016
	Izmir Aliaga	Onshore	2	280,000	11	10.7	EgeGaz	EgeGaz	Yes	Bunkering, Reloading, Truck loading	2006
	Marmara Ereğlisi	Onshore	3	255,000	7	4.6	Botas	Botas	No	Truck loading	1994
	Saros LNG <i>Vasant 1 (FSRU)</i>	Offshore		180,000		5.0	Owner: Swan Energy Charterer: Botas	Botas			2023
UK	Dragon	Onshore	2	320,000	6	5.6	Shell (50%), Ancala (50%)	Dragon LNG	Yes		2009
	Grain	Onshore	8	1,000,000	14	14.3	National Grid	Grain LNG	Yes	Cool-down, Reloading, Transshipment, Truck loading	2005
	South Hook LNG	Onshore	5	775,000	15	15.6	QatarEnergy (67.5%), Exxon Mobil (24.15%), TotalEnergies (8.35%)	South Hook LNG Terminal Company Ltd	Yes		2009
	Teesside GasPort Awaiting recommissioning	Onshore					Trafigura				2007
EUROPE TOTAL				12,768,006		235.4					
▼ MIDDLE EAST											
Bahrain	Hidd <i>No vessel chartered</i>	Onshore + FSU					Bahrain LNG: Nogaholding (30%), Seapeak (30%), Gulf Inv. Corp. (24%), Samsung C&T (16%)	Bahrain LNG			2020
Egypt	Sumed <i>No vessel chartered</i>	Offshore	4	170,000	4	5.7	Owner: BW Charterer: Egas	BW	No		2015
Israel	Hadera <i>No vessel chartered</i>	Offshore	4	138,000	6	3.8	Owner: Excelsior Energy Charterer: INGL	FSRU: Excelsior Energy Terminal: IEC	No		2013
Jordan	Aqaba Energos Eskimo (FSRU)	Offshore		160,000		3.8	Owner: New Fortress Energy Charterer: MEMR (Jordan Ministry of Energy and Mineral Resources)	Golar	No		2015
	Al Zour	Onshore	8	1,800,000		24.0	Kuwait Petroleum	KIPIC	No		2021
Kuwait	Mina Al Ahmadi <i>No vessel chartered</i>	Offshore		170,000		5.8	Owner: New Fortress Energy Charterer: KPC (Kuwait National Petroleum Company)	Golar	No		2014
UAE	Jebel Ali, Dubai <i>Excelsior Explorer (FSRU)</i>	Offshore	4	150,900	6	6.0	Owner: Excelsior Energy Charterer: DUSUP (Dubai Supply Authority)	FSRU: Excelsior Energy Terminal: DUSUP	No		2010
	Ruwais, Abu Dhabi <i>Excelsior Express (FSRU)</i>	Offshore	4	150,900	6	3.8	Owner: Excelsior Energy Charterer: ADNOC	Excelsior Energy	No		2016
MIDDLE EAST TOTAL				2,739,800		52.9					
TOTAL				87,724,406		1 165.07					

# Retail LNG in 2023

## SMALL-SCALE\* LNG CARGOES LOADED FROM RECEIVING TERMINALS IN 2023

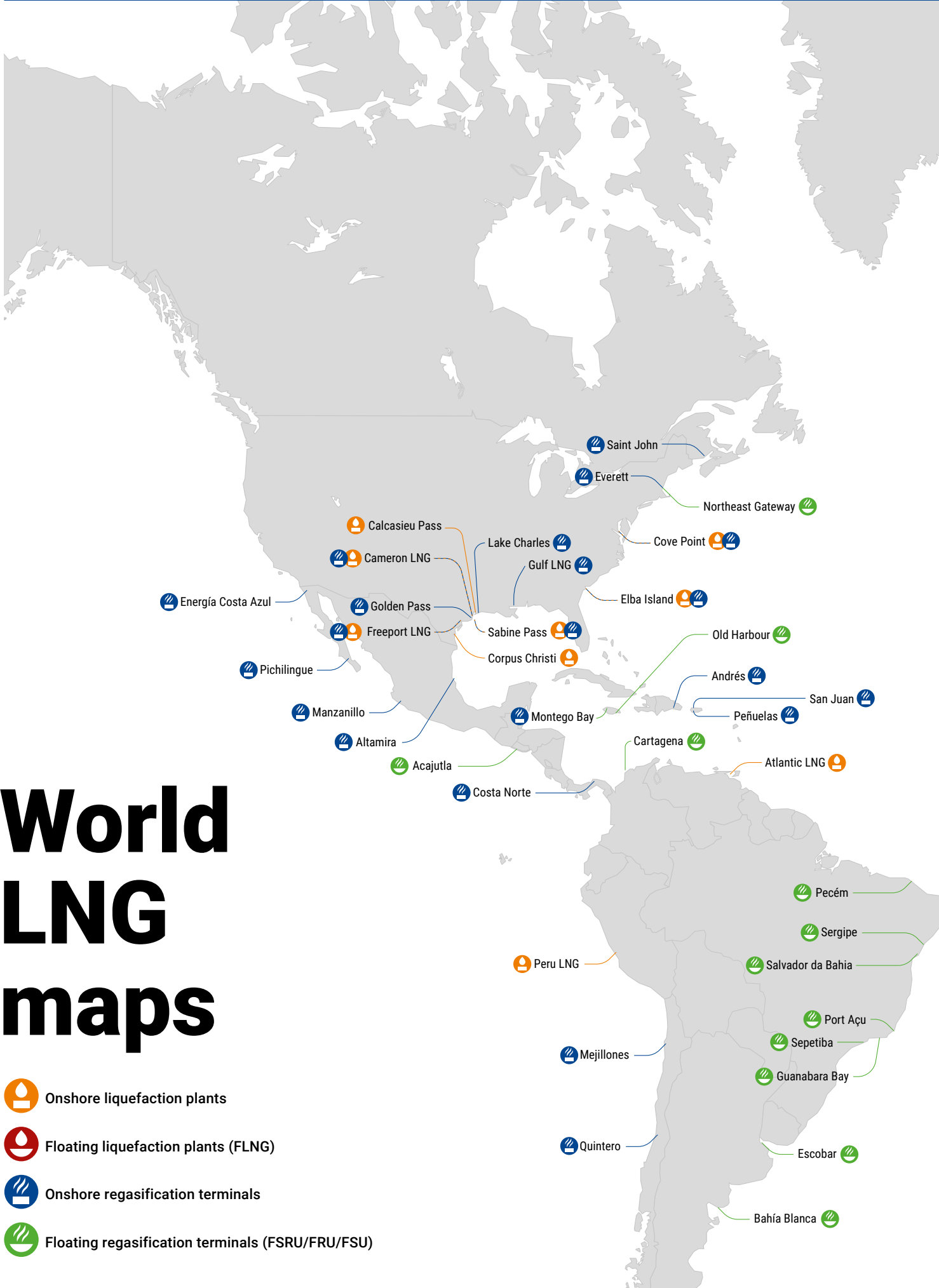
Country	2023 M³ LNG	2022 M³ LNG	Var. 2023/2022
BELGIUM	234,403	355,210	-34%
FRANCE	404,702	249,489	62%
ITALY	240,000	0	N/A
JAPAN	680,199	731,505	-7%
THE NETHERLANDS	600,257	446,807	34%
SINGAPORE	26,492	17,943	48%
SPAIN	614,960	433,281	42%

\* Less than 30,000 liq m³





## TRUCK-LOADING OF LNG FROM RECEIVING TERMINALS IN 2023

Country	2023 M³ LNG	2022 M³ LNG	Var. 2023/2022
<b>AMERICAS</b>	<b>1,016,708</b>	<b>1,184,512</b>	<b>-14%</b>
CHILE	534,031	579,767	-8%
DOMINICAN REPUBLIC	286,833	461,546	-38%
PANAMA	23,258	22,749	2%
PUERTO RICO	152,712	70,195	118%
USA	19,875	50,255	-60%
<b>ASIA</b>	<b>32,814,313</b>	<b>24,282,091</b>	<b>35%</b>
CHINA	28,233,781	19,547,085	44%
INDIA	427,028	274,055	56%
INDONESIA	2,523	73,740	-97%
JAPAN	3,611,694	3,731,430	-3%
SINGAPORE	25,118	22,907	10%
SOUTH KOREA	430,726	446,350	-4%
THAILAND	83,445	186,523	-55%
<b>EUROPE</b>	<b>4,500,255</b>	<b>4,156,727</b>	<b>8%</b>
BELGIUM	270,276	274,354	-1%
FRANCE	523,061	598,377	-13%
ITALY	25,082	11,000	128%
LITHUANIA	44,591	27,780	61%
NETHERLANDS	365,942	366,551	0%
POLAND	345,096	219,949	57%
PORTUGAL	301,229	290,267	4%
SPAIN	1,731,661	1,567,558	10%
TÜRKIYE	718,996	655,085	10%
UNITED KINGDOM	174,322	145,807	20%



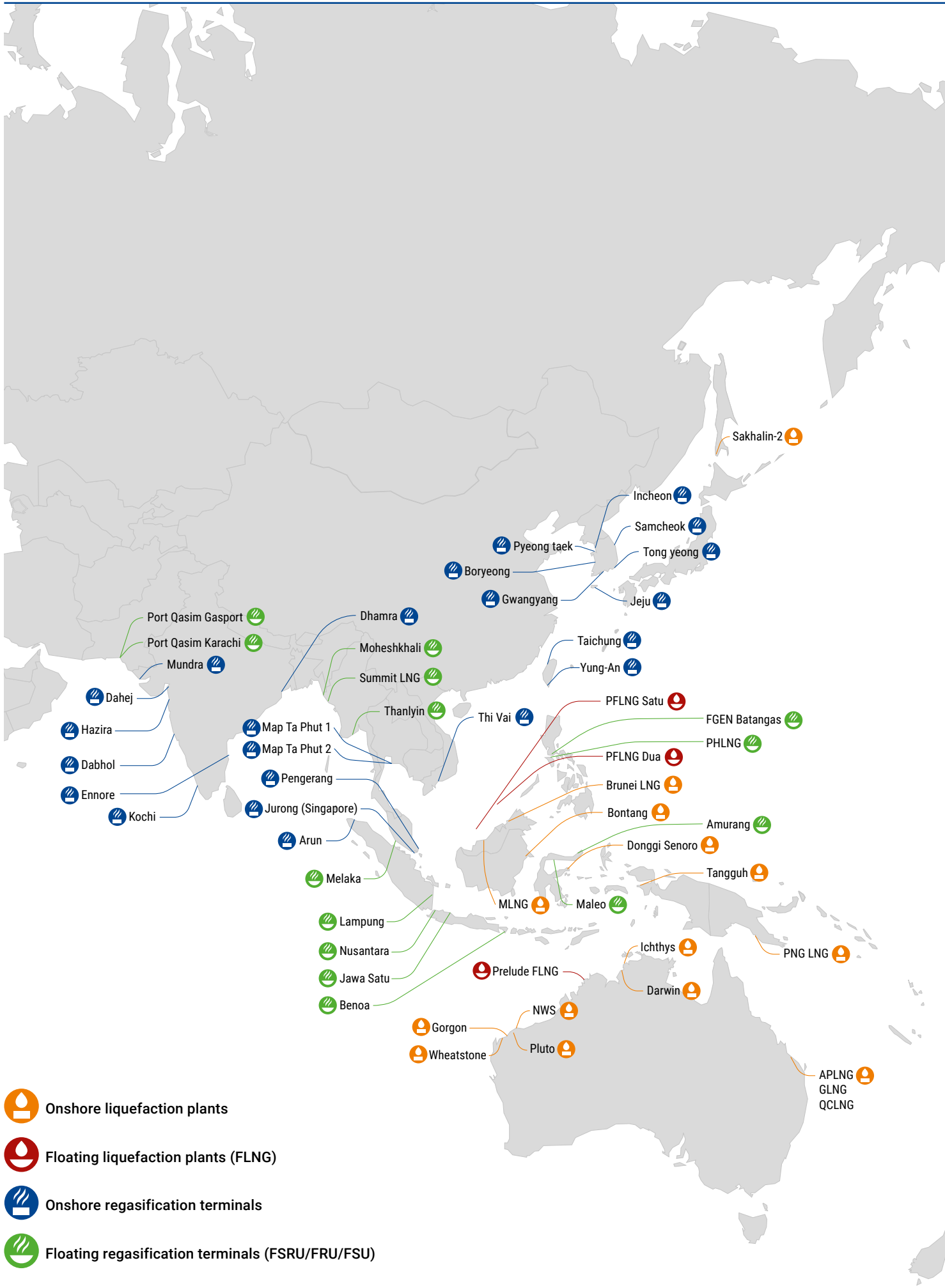


# World LNG maps

-  Onshore liquefaction plants
-  Floating liquefaction plants (FLNG)
-  Onshore regasification terminals
-  Floating regasification terminals (FSRU/FRU/FSU)

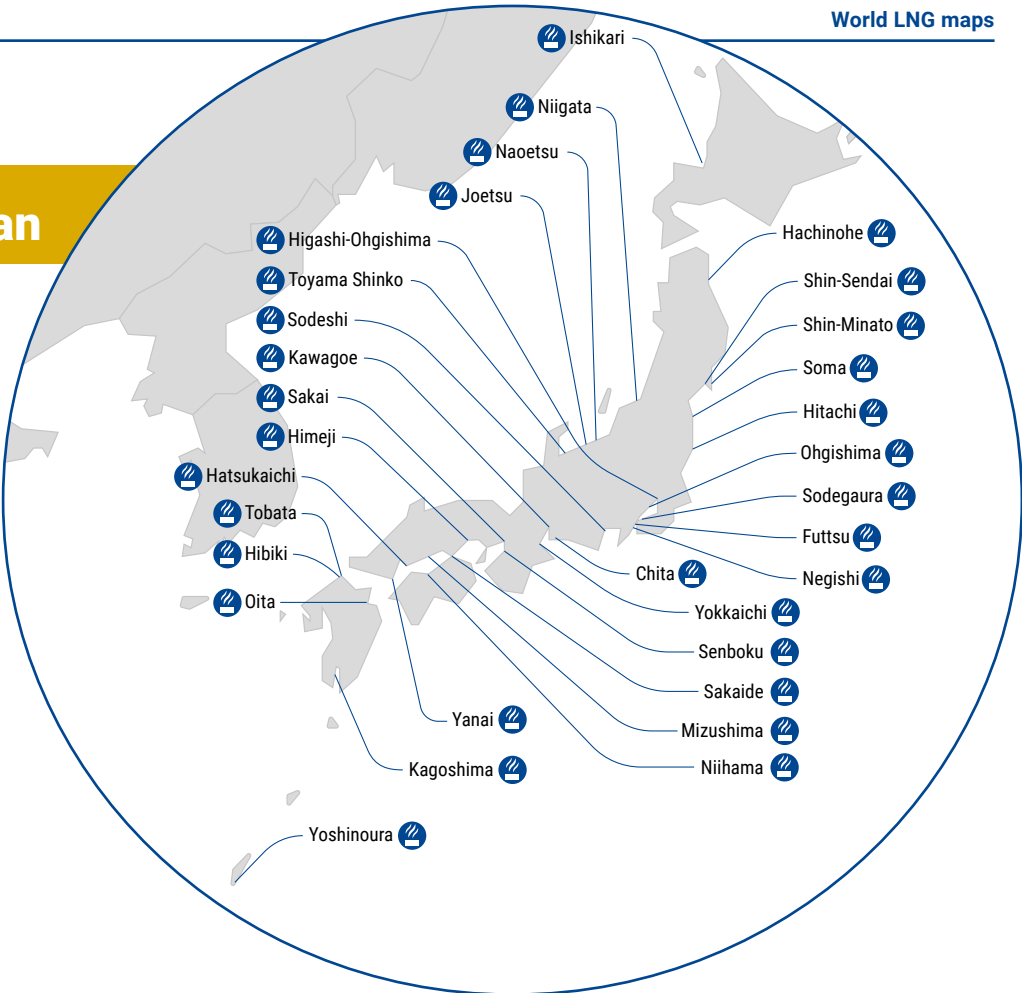






ZOOM

# Japan



ZOOM

# China



# About GIIGNL

**GIIGNL is the international association of LNG importers.**

This unique group for sharing experiences and best practices enables members to improve safety, reliability, efficiency and sustainability of LNG import activities.

GIIGNL is a non-profit organization registered under the French law of 1901 and its resources only come from the membership fees.

## Governance

The Association is composed of two main governing bodies: the General Assembly and the Executive Committee.

**The General Assembly** gathers the official representatives of each member during an annual meeting in autumn.

**The Executive Committee** is composed of **15 member companies**. Executive Committee members are elected by the General Assembly for a 2-year term and meet at least once a year. The Executive Committee elects the Bureau composed of the President and of 3 regional Vice-Presidents to assist him.

The Executive Committee steers two **Standing Study Groups** within which leaders from the LNG industry offer their commercial and technical expertise to strengthen efficiency and safety along the midstream LNG value chain.

GIIGNL's day-to-day activities are coordinated by the **General Delegate**, in charge of the Central Office located in Paris.



### GIIGNL Staff



General Delegate  
**L. David**



LNG Analyst  
**E. Dukhanina**



LNG Analyst & Communications Officer  
**M. Renard**

# GIIGNL officers

## Bureau



President  
**J. Abiteboul**



VP for Americas  
**A. Feygin**  
Cheniere



VP for Asia  
**T. Uchida**  
Tokyo Gas



VP for Europe  
**I. Azzimonti**  
Eni

## Executive Committee

### AMERICAS



**A. Walker**  
Cheniere



**A. Bacigalupo**  
GNL Quintero



**M. Hupka**  
Sempra Infrastructure



**M. Chennoufi**  
Shell

### ASIA



**Y. Zhu**  
CNOOC



**S.C. Lee**  
CPC



**R. Tsugaru**  
Jera



**M.H. Lee**  
Kogas



**M. Fujiwara**  
Osaka Gas



**A.K. Singh**  
Petronet LNG



**Y. Yao**  
Tokyo Gas

### EUROPE



**E. Neviaski**  
Engie



**C. Signoretto**  
Eni



**J. Ganuza**  
Naturgy



**G. Joffroy**  
TotalEnergies

## Study Groups

Commercial Study  
Group Chair



**A. Salokhe**  
Shell



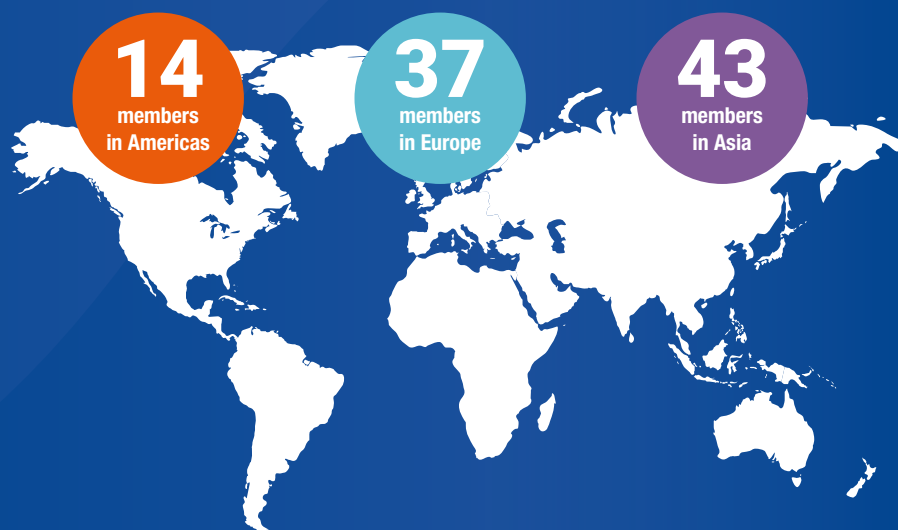
**P.E. Decroès**  
Engie

Technical Study  
Group Chair

# 94 member companies

Founded in 1971, GIIGNL gathers 94 companies from **29 markets**.

GIIGNL membership covers nearly all LNG importers, regasification terminals owners and operators around the world.



## FULL MEMBERS

BP Global LNG  
 Centrica LNG Company Ltd.  
 Cheniere Energy, Inc.  
 CNOOC Gas & Power Trading & Marketing Ltd.  
 Constellation LNG  
 Cove Point LNG, LP  
 CPC Corporation, Taiwan  
 Dunkerque LNG SAS  
 Edison S.p.A.  
 EDP - Energias de Portugal, S.A.  
 Ege Gaz A.S  
 Elengy S.A.  
 Enagás S.A.  
 Enel Trade S.p.A.  
 ENEOS Corporation  
 ENGIE  
 Eni S.p.A.  
 Equinor ASA  
 Excelerate Energy L.P.  
 ExxonMobil LNG Market Development  
 Fluxys LNG SA  
 Freeport LNG Development, L.P.  
 Gail (India), Ltd.  
 Gate Terminal B.V.  
 GNL Italia S.p.A. (SNAM)  
 GNL Quintero S.A.  
 Guangdong Dapeng LNG Company, Ltd.  
 Hiroshima Gas Co., Ltd.  
 Höegh LNG A.S  
 Hokkaido Gas Co., Ltd.  
 Hokuriku Electric Power Company  
 Iberdrola Generación España, S.A.U.  
 Itochu Corporation  
 JERA Co., Inc.  
 Kuwait Integrated Petroleum Industries Company  
 Korea Gas Corporation  
 Kyushu Electric Power Co., Inc.

LNG Japan Corporation  
 Marubeni Corporation  
 MET International AG  
 Mitsubishi Corporation  
 Mitsui & Co., Ltd.  
 Mitsui O.S.K. Lines, Ltd.  
 N.V. Nederlandse Gasunie  
 National Grid Grain LNG, Ltd.  
 Naturgy Energy Group S.A.  
 Nippon Gas Co., Ltd.  
 Osaka Gas Co., Ltd.  
 Pavilion Energy  
 PetroChina International Co., Ltd.  
 Petronet LNG Ltd.  
 PTT Public Company Ltd.  
 Ren Atlántico – Terminal de GNL, S.A.  
 Saibu Gas Co., Ltd.  
 Sempra LNG  
 Shell Energy India Private, Ltd.  
 Shell Energy North America, L.P.  
 Shikoku Electric Power Co., Inc.  
 Shizuoka Gas Co., Inc.  
 Singapore LNG Corporation  
 South Hook LNG Terminal Company, Ltd.  
 Southern LNG Company, L.L.C.  
 Sumitomo Corporation  
 The Chugoku Electric Power Co., Inc.  
 The Kansai Electric Power Co., Inc.  
 Toho Gas Co., Ltd.  
 Tohoku Electric Power Co., Inc.  
 Tokyo Gas Co., Ltd.  
 TotalEnergies  
 Trafigura  
 Uniper Global Commodities SE  
 Vitol  
 Vopak LNG Holding B.V.

## ASSOCIATE MEMBERS

Axpo Solutions AG.  
 Chevron USA, Inc.  
 Compass Comercialização S.A  
 Conoco Phillips Marketing & Trading Ltd.  
 ENN LNG Trading Company Ltd.  
 GasLog, Ltd.  
 Gas System Operator GAZ-SYSTEM S.A.  
 Glencore Energy UK, Ltd.  
 GSPC LNG Ltd.  
 HE Terminals Pvt. Ltd.  
 INPEX Corporation  
 Japan Petroleum Exploration Co., Ltd.  
 Mytilineos S.A.  
 Novatek Gas & Power Asia Pte Ltd.  
 PT Pertamina (Persero)  
 RWE Supply & Trading GmbH  
 Sefe Marketing & Trading  
 SK Gas Co. Ltd.  
 Sonatrach Gas Marketing UK Ltd.  
 Spec LNG  
 YPF S.A.



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INTERNATIONAL GROUP  
OF LIQUEFIED NATURAL  
GAS IMPORTERS



GRUPE INTERNATIONAL  
DES IMPORTATEURS DE  
GAZ NATUREL LIQUÉFIÉ



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