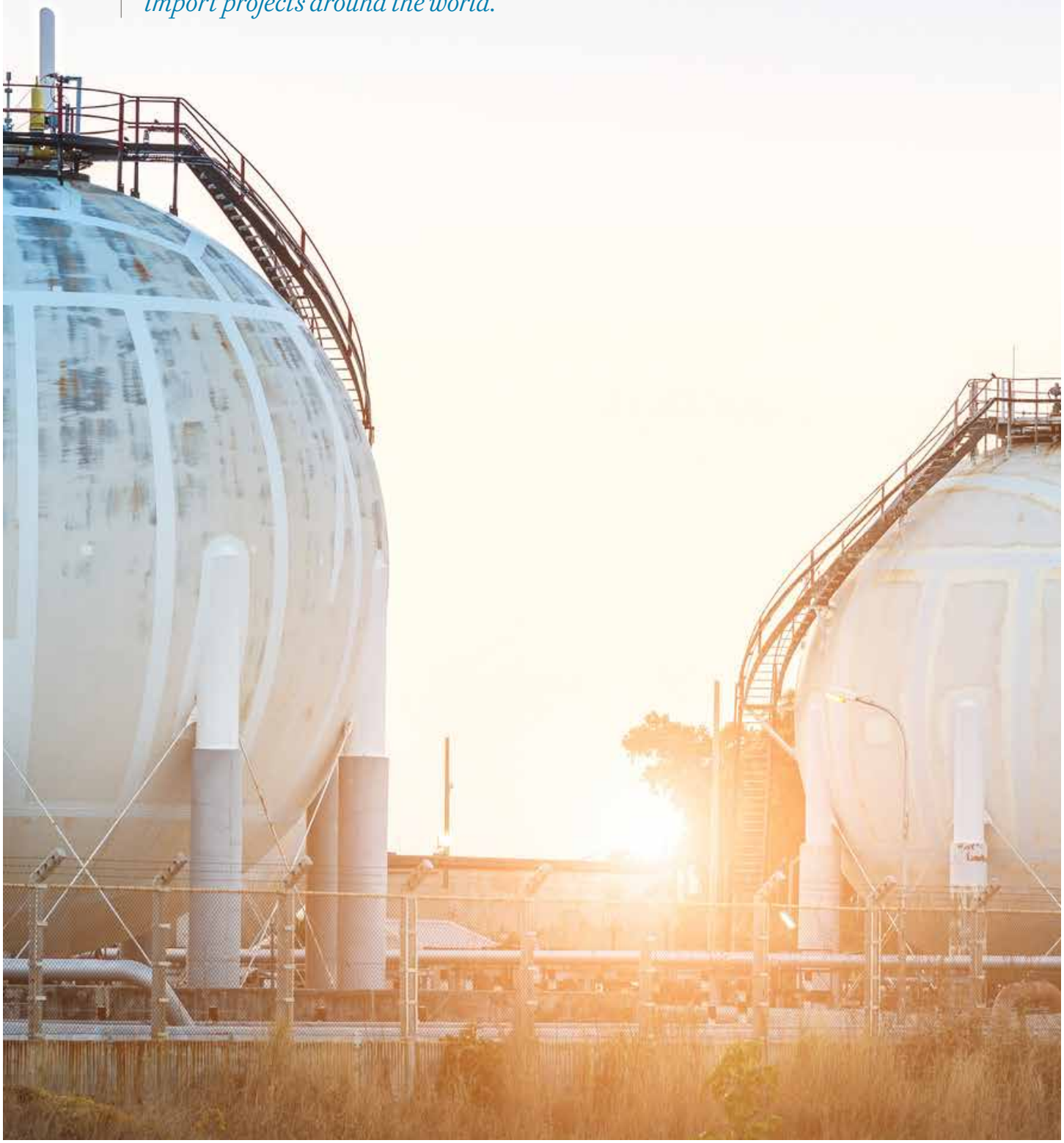
King & Spalding

LNG IN EUROPE 2018

An Overview of LNG Import Terminals in Europe

King & Spalding has been involved in projects accounting for more than half of the new global LNG supply expected to come to the market by 2020.

We have acted for project owners and developers on some of the world's largest onshore regasification terminal projects and on more than 20 floating import projects around the world.



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LNG in Europe 2018: An Overview of Import Terminals in Europe

Overview of LNG in Europe

Gas is a key source of energy supply to Europe and plays a fundamental role in Europe's energy supply mix.

Europe is a net importer of gas, which enters in one of two ways: either as natural gas transported via pipeline or as liquefied natural gas (LNG) which is regasified in an LNG import (or regasification) terminal. This report provides an overview of the large-scale LNG import terminals in Europe today – existing, under construction and planned – and the services provided at Europe's existing LNG import terminals.

EUROPE'S EXISTING LNG REGASIFICATION CAPACITY

All of Europe's LNG terminals are import facilities, with the exception of (non-EU) Norway and Russia which export LNG. There are currently 28 large-scale LNG import terminals in Europe (including non-EU Turkey). There are also 8 small-scale LNG facilities in Europe (in Finland, Sweden, Germany, Norway and Gibraltar). Of the 28 large-scale LNG import terminals, 24 are in EU countries (and therefore subject to EU regulation) and 4 are in Turkey, 23 are land-based import terminals, and 4 are floating storage and regasification units (FSRUs), and the one import facility in Malta comprises a Floating Storage Unit (FSU) and onshore regasification facilities.

Three new import terminals came into operation in 2017: two FSRUs in Turkey and the Delimara LNG project in Malta. Europe's regasification terminals show a balanced distribution along Europe's coastline, with most of them situated in North West and South West Europe. The current LNG receiving countries in Europe are Belgium, France, Greece, Italy, Lithuania, Malta, the Netherlands, Poland, Portugal, Spain, Turkey and the UK.

By the end of 2017 total regasification capacity in Europe's 28 large-scale LNG terminals was 227 billion cubic metres (of gas) (bcm), which is sufficient to cover approximately 40% of Europe's gas demand. Two new European LNG import terminals are currently under construction in Spain (Tenerife and Gran Canaria). With the addition of these import terminals, Europe's total regasification capacity will reach 230 bcm. Europe's regasification capacity will also grow quite significantly by 2021 as a result of expansions which are under way or planned at some of Europe's existing LNG import terminals.

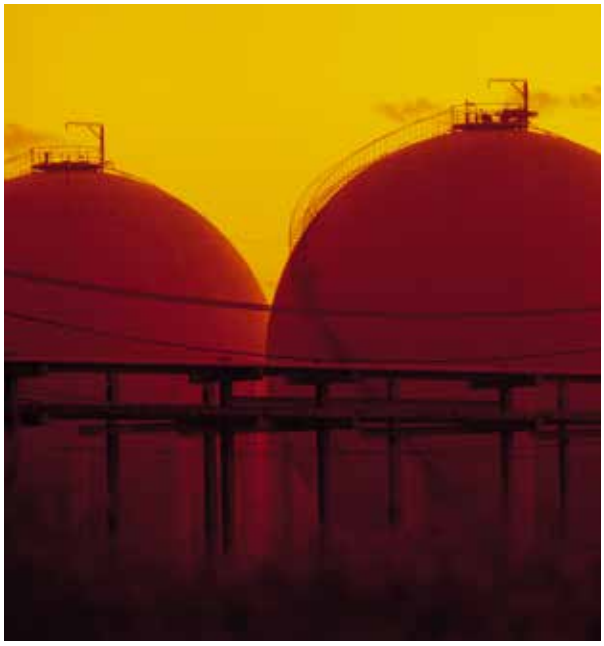
In 2017 Spain's LNG terminals accounted for the highest regasification capacity in Europe (6 operational terminals with a total combined capacity of 61.9 bcm/year, and a further terminal in hibernation with a capacity of 7 bcm/year), followed by the UK (3 operational terminals with a total combined capacity of 42.7 bcm/year) and France (4 operational terminals with a total combined capacity of 34.65 bcm/year).

USE OF EUROPE'S LNG TERMINALS IN 2017

Between 2008 and 2014 European LNG terminals experienced low utilisation rates, some below 20%. 2016 saw an average utilisation rate of 20%, with the EU Commission stating that year that the LNG infrastructure in the EU was under-utilised and not optimally distributed. However, during 2017 the average utilisation rate increased to 25%, reflecting more buoyant market conditions for gas.

PLANNED EUROPEAN LNG IMPORT TERMINALS

There are currently in the region of 22 large-scale LNG import terminals being considered or planned in Europe, all of which would be located within the EU, except the planned terminals in Ukraine (Odessa FSRU LNG), Russia (Kaliningrad LNG), Albania (Eagle LNG) – Albania being a candidate for EU membership – and Turkey (FSRU Iskenderun and FSRU Gulf of Saros). Many of these planned import terminals are in countries with existing regasification capacity, including Greece (where one additional import terminal is planned – Alexandroupolis), Italy (which is considering or planning two additional terminals – Porto Empedocle in Sicily and Gioia Tauro LNG in Calabria), Poland (FSRU Polish Baltic Sea Coast), Turkey (two FSRUs) and the UK (which is planning the



Port Meridian FSRU LNG project and UK Trafigura Teesside LNG). Twelve of the planned terminals will represent the first large-scale LNG import terminal for each of Albania (Eagle LNG), Croatia (Krk Island), Cyprus (Vassiliko FSRU), Estonia (Muuga (Tallinn) LNG and Padalski LNG), Germany (Brunsbüttel LNG), Ireland (Shannon LNG and Cork LNG), Latvia (Riga LNG), Romania (Constanta LNG), Russia (Kaliningrad LNG) and Ukraine (Odessa). Nine of the planned terminals are FSRUs: Albania, Croatia, Cyprus, Greece, Ireland, Poland, Russia, Ukraine and the UK. In addition, there are numerous plans for expansion of existing terminals or terminals currently under construction, including in Belgium, France, Greece, Italy, the Netherlands, Poland, Spain, Turkey and the UK.

SERVICES PROVIDED AT THE EU 24 LARGE-SCALE* LNG IMPORT TERMINALS

The table below shows the additional LNG services offered at the EU's operational LNG terminals in 2017 (in addition to regasification).

COUNTRY	LNG TERMINAL	RELOADING	TRANS-SHIPMENT	LOADING OF BUNKERING SHIPS	TRUCK LOADING	RAIL LOADING
Belgium	Zeebrugge	•	•	•	•	
France	Fos Tonkin	•		•	•	under study
	Montoir	•	•	•	•	under study
	Fos Cavaou	•	•	•		
	Dunkerque	•		•	•	
Greece	Revithoussa	under study		under study	•	
Italy	Panigaglia	under study		under study	under study	
	Rovigo/Adriatic	under study				
	OLT Toscana					
Lithuania	Klaipėda	•		•		
Malta	Delimara			•		
Netherlands	Gate	under study	•	•	•	under study
Poland	Świnoujście	under study	under study	under study	•	under study
Portugal	Sines	•			•	under study
Spain	Barcelona	•		under development	•	under study
	Cartagena	•	•	•	•	
	Huelva	•	•	under study	•	
	Bilbao	•			•	under study
	Mugardos	•	under study	•	•	
	El Musel	•	under study	under study	•	
	Sagunto	•		under study	•	
United Kingdom	Grain	•	•	under study	•	
	South Hook					
	Dragon					

** Turkey is not an EU member state and therefore its 4 LNG import terminals are not included in this list.*

EVOLVING USE OF EUROPE'S LNG TERMINALS AND SMALL-SCALE ACTIVITIES

All of Europe's existing LNG import terminals were developed as traditional import terminals where LNG is regasified and put into the national gas supply network. Largely as a result of oversupply and low margins, many of Europe's LNG import terminals have sought to create new demand opportunities by introducing new services at traditional LNG import facilities. Many European import terminals have adapted, or are adapting, their facilities to provide new services to customers which increases the flexibility of LNG. These new services often allow LNG to be moved to other markets, and include: (i) ship reloading – the transfer of LNG from the terminal into a vessel (including smaller ships); (ii) trans-shipment – the direct transfer of LNG from one vessel to another; (iii) bunkering – the loading of LNG onto bunkering ships for supply to LNG-fuelled ships; (iv) truck loading – the loading of LNG onto tank trucks which transport LNG in smaller quantities; and (v) a cooling down and gassing up service – making use of LNG to cool down and gas up ships. Rail loading (i.e. the loading of LNG onto railcars) is not yet offered in Europe but is being considered at a number of Europe's LNG import terminals.

EUROPEAN COMMISSION SUPPORT FOR LNG

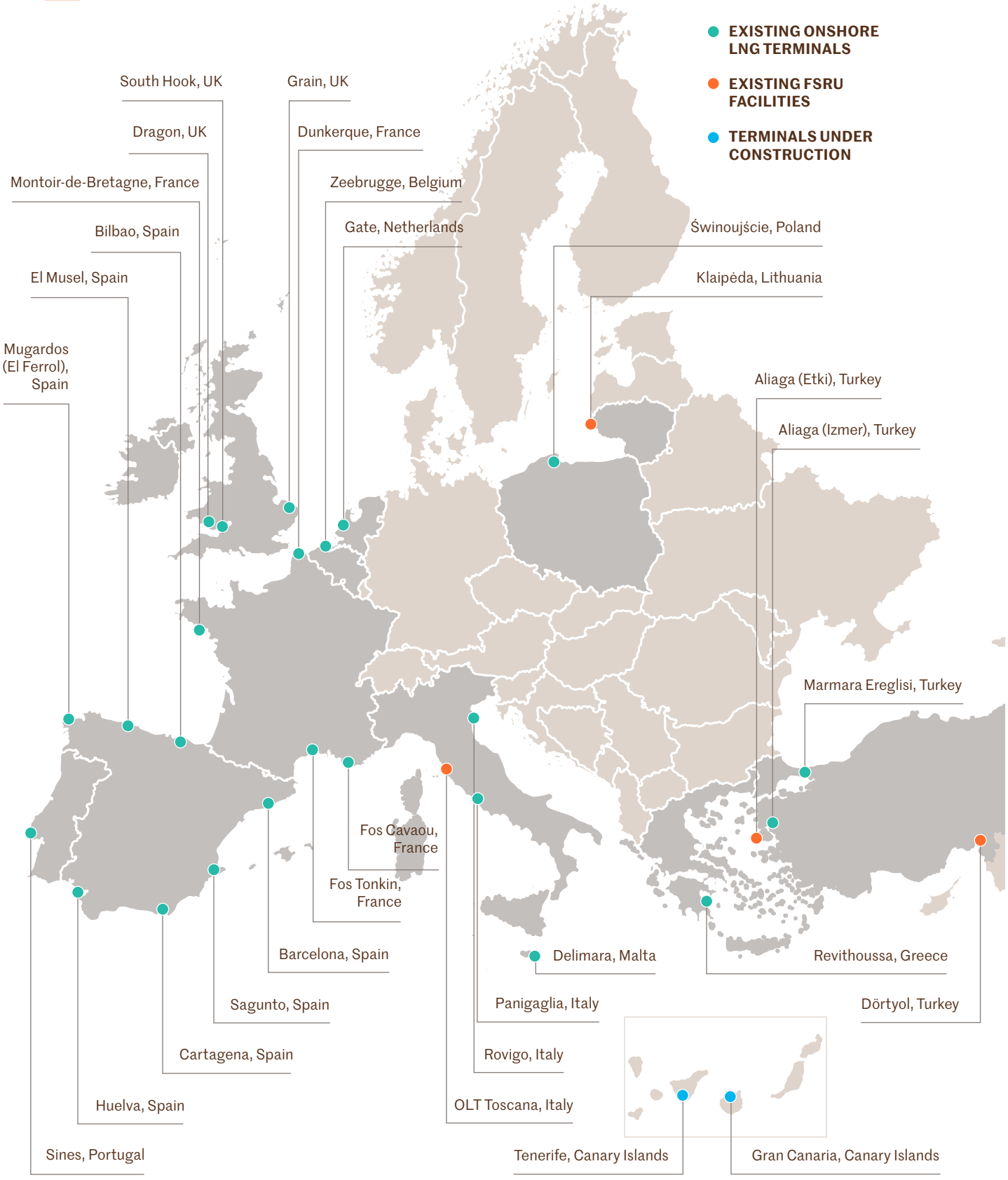
The Commission (the EU's executive body) sees the import of LNG as essential in achieving its objective of diversifying sources of energy supply to its member states, and as an important part of the EU's future energy mix, and has commenced implementation of a strategy to make sure all EU Member States have access to LNG. The Commission is also encouraging the use of LNG as a maritime fuel because of its more environmentally friendly properties. The Connecting Europe Facility is currently supporting infrastructure projects for the two EU member states of Cyprus and Croatia. Cyprus will see an introduction of natural gas through the CyprusGas2EU project, which has received €101 million in EU funding. Croatia received €101.4 million from the EU for the construction of an FSRU off Krk Island.

REGULATION OF EUROPEAN IMPORT TERMINALS

The European Commission has introduced three successive directives designed to facilitate competition, create a single EU-wide gas market, and provide a clear and stable regulatory environment for Europe's gas sector. In Directive 2009/73/EC of the European Parliament and of the Council (the "Third Gas Directive"), the Commission introduced further measures requiring member states to provide open access to gas infrastructure (including LNG terminals) on fair, transparent and non-discriminatory terms. The conditions and tariffs of third-party access (TPA) to regulated LNG terminals must be published by terminal operators, as well as approved by the national regulator.

Like its predecessor, the Third Gas Directive anticipates a system of regulated third-party access to LNG receiving terminals, and requires LNG terminals in the EU to provide transparent and non-discriminatory access arrangements. Developers of new import facilities and existing import facilities for which new capacity is being developed may obtain an exemption to such TPA requirements from the national regulator if the project satisfies certain criteria. So far, exemptions to the regulated TPA regime have been granted to six of the EU's operating LNG regasification terminals: three in the United Kingdom (Grain LNG, Dragon LNG and South Hook LNG), one in France (Dunkerque), one in Italy (Rovigo) and one in the Netherlands (Gate). Where a TPA exemption has been granted, the owner of the LNG terminal can negotiate contracts directly with its primary shippers/customers, however, the national regulator monitors anti-hoarding mechanisms and ensures that shippers have access to a sufficiently transparent secondary market. The number of active LNG shippers is higher in terminals subject to regulated TPA than in TPA-exempt terminals.

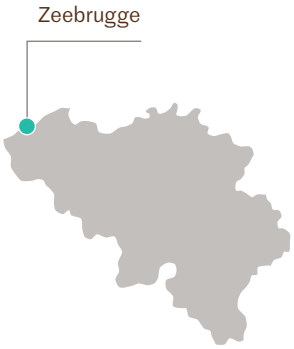
LNG Import Terminals in Europe



The following pages describe the large-scale LNG import terminals which are either currently operating or under construction in Belgium, France, Greece, Italy, Lithuania, Malta, the Netherlands, Poland, Portugal, Spain, Turkey and the United Kingdom.

Belgium

Belgium does not produce any natural gas and relies entirely on imports to supply its gas needs.



In 2017 Belgium imported 1.11 bcm of LNG (net of re-exports) – an increase of 11.7% from 2016 – and was Europe's ninth largest importer of LNG.

Gas imports into Belgium are fairly diversified by origin and type of supply: the Netherlands and Norway are the principal pipeline suppliers, each providing about a third of total gas imports. The Zeepipe, which brings piped gas from Norway, and the Interconnector gas pipeline between Belgium and the UK, both land at Zeebrugge. LNG is imported into Belgium through its sole LNG terminal in Zeebrugge.

Due to its geographical location between the sources of European gas to its north and west and their primary markets to the south and east of Belgium, and its developed infrastructure, Belgium is a major hub for gas supply in Europe, with some 80 bcm transiting the country each year, compared with domestic consumption of just over 17 bcm/year. It has a robust transport network that is well integrated with other countries through 18 entry points.

ZEEBRUGGE TERMINAL

The Zeebrugge LNG terminal is located along the northern part of the Belgian coastline and is built on a man-made island. It is owned and operated by Fluxys LNG SA. The terminal came into operation in 1987, initially having a single jetty, three storage tanks and send-out facilities. Between 2004 and 2007 the terminal was expanded to include a fourth storage tank and increased send-out capacity. Testing and commissioning of a second jetty were completed at the end of 2016. The second jetty can accommodate both small and large LNG carriers. The terminal is one of the few in the world that can accept all types of LNG carriers, from the smallest bunker ships to Q-Flex and Q-Max types.

LNG unloaded at the terminal can be regasified to be traded or consumed as natural gas within Belgium, or supplied to other end consumer markets in any direction (the UK, the Netherlands, Germany, Luxembourg, France and Southern Europe), or traded on the Zeebrugge hub.

Between 1987 and 2007 all the capacity in the terminal was contracted by Distrigas (now a subsidiary of Eni) and all LNG was supplied from Algeria by Sonatrach under a 20-year supply contract. In 2004, in anticipation of the termination of the Sonatrach contract, Fluxys LNG concluded 20-year capacity reservation agreements with three terminal users for a combined annual throughput capacity of about 9 bcm/year, for the period 2007 to 2027: (i) Qatar Petroleum and Qatar Terminal Limited (a subsidiary of ExxonMobil) for 4.5 bcm/year; (ii) Distrigas for 2.75 bcm/year; and (iii) Tractebel Global LNG (a Suez subsidiary) for 1.8 bcm/year. Although the terminal's entire capacity is sold on a long-term basis, the terminal operates an active and well-functioning secondary market.

The Zeebrugge LNG terminal is increasingly active in small-scale LNG. LNG loading services started at the terminal in 2008 and LNG truck loading in 2010. The terminal's truck loading facility is being expanded to enhance its capacity from its current 4,000 loadings per year to 8,000. Since January 2015 smaller ships have been loaded to supply remote industrial end users and to supply LNG as a fuel for ships and trucks. At present, the majority of LNG used as a fuel for shipping and road haulage in north-western Europe is loaded at Zeebrugge. In late 2016 Engie started operating its 5,100 m^3 bunkering vessel at Zeebrugge. Engie's LNG bunkering operations out of Zeebrugge will be the basis of a joint venture with Gas4Sea (a joint venture between NYK Line and Mitsubishi) that will market LNG as marine fuel. Fluxys is considering building a third jetty for small-scale needs as a result of its booming small-scale business (when compared with cargo imports and reloads). Fluxys is currently building a fifth storage facility at the terminal with a capacity of 180,000 m^3.

EXISTING TERMINAL	ZEEBRUGGE
Start-Up Date	1987
Owner/Operator	Fluxys LNG
Vessel Size	266,000 m^3
Storage Capacity	Current: 380,000 m^3, by 2019: 560,000 m^3
Send-Out Capacity	Current: 9 bcm/year, by 2019: 12 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, reloading, trans-shipment, loading of bunkering ships, truck loading, small ship loading, cooling down and gassing up

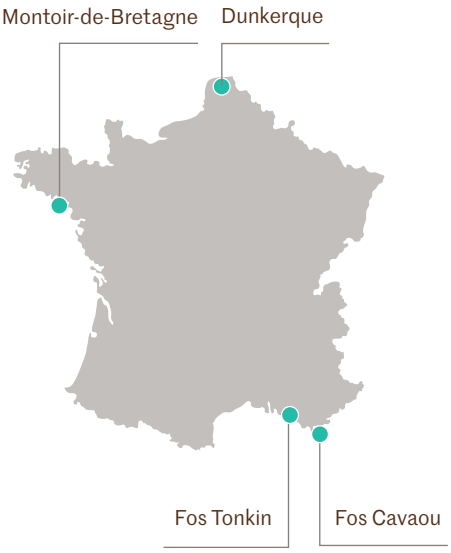
France

France produces about 1% of the gas it consumes, and almost all gas consumed in France is imported.

In 2017 France imported 9.3 bcm of LNG (net of re-exports) – an increase of 32.4% from 2016 – and was Europe's third largest importer of LNG (after Spain and Turkey).

France's total natural gas imports are relatively well diversified, with significant imports from Norway, the Netherlands, Russia and Algeria. About 72% of the entry capacity to the French gas network is for cross-border gas pipelines, and the remaining entry capacity (about 28%) is for gas from France's four existing LNG import terminals. France has historically been Europe's second largest importer of LNG (after Spain). Algeria is the main source of supply of LNG to France.

France has four operational large-scale onshore LNG import terminals: Fos Cavaou and Fos Tonkin near Marseille, and Montoir-de-Bretagne on the Atlantic coast, which are operated by Elengy (a subsidiary of Engie) under a common set of rules, and Dunkerque (in north-west France), which started up in late 2015 and is owned and operated by Dunkerque LNG (a company owned 65% by EDF, 25% by Fluxys and 10% by Total).



DUNKERQUE

The Dunkerque LNG terminal received its first cargo of LNG in July 2016 for commissioning, and came into commercial operation at the end of September 2016. The terminal has a jetty large enough to enable the unloading/reloading of the largest LNG carriers (267,000 m^3) and three storage tanks, each capable of storing 190,000 m^3 of LNG. The terminal is operated by Gaz-Opale, a company owned 51% by Dunkerque LNG and 49% by Fluxys.

The Dunkerque terminal has a full exemption from regulated third-party access for 20 years. The exemption is subject to a number of conditions surrounding capacity allocations, including that EDF and its subsidiaries are not allowed to subscribe more than 8 bcm/year of long-term regasification capacity. The plant's capacity is contracted by EDF (60%) and Total. EDF has contracted with Cheniere Energy to supply LNG from its Sabine Pass liquefaction complex in the US.

The terminal is connected to both the French and Belgian gas distribution networks, and is capable of meeting about 20% of the two countries' annual gas demand. This link between Dunkerque and the Zeebrugge area contributes to the diversification of supply sources in North West Europe. The terminal offers regasification, reloading, loading of bunkering ships and truck loading services.

EXISTING TERMINAL	DUNKERQUE
Start-Up Date	2016
Owner	Dunkerque LNG (65% EDF, 25% Fluxys, 10% Total)
Operator	Gaz-Opale (51% Dunkerque LNG, 49% Fluxys)
Vessel Size	From 15,000 m^3 to 267,000 m^3
Storage Capacity	600,000 m^3
Send-Out Capacity	13 bcm/year
TPA Regime	Exempted
Services	Regasification, reloading, loading of bunkering ships and truck loading

FOS CAVAOU TERMINAL (FOS-SUR-MER)

The Fos Cavaou (Fos II) LNG terminal opened in 2010. It is located on France's south coast along the main LNG transport routes, and can easily receive gas from countries such as Egypt, Algeria and the Middle East. The terminal is owned by Fosmax LNG, which is a joint venture between Elengy (71.99%) and Total (28.01%), and is operated by Elengy. Its regasification capacity of 8.25 bcm/year is equivalent to about one-sixth of France's annual gas consumption.

90% of the terminal's capacity is subscribed for on a long-term basis, and the remaining 10% of capacity is available for subscription on the basis of short-term contracts. Long-term customers include EDF, GDF Suez (now Engie) and Total. Shippers with long-term contracted capacity at the terminal may (on application to Fosmax LNG) assign all or part of their contracted capacity to the secondary market. The terminal offers truck loading services and plans to increase the load to up to 20 trucks by 2019. The terminal will offer LNG bunkering from 2019.

The Fos Cavaou terminal has offered reloading services since 2012. It has also offered a trans-shipment service since December 2015.

EXISTING TERMINAL	FOS CAVAOU
Start-Up Date	2010
Owner	Fosmax LNG
Operator	Elengy
Vessel Size	From 15,000 m^3 to 267,000 m^3
Storage Capacity	Current: 330,000 m^3, by 2020: 550,000 m^3
Send-Out Capacity	Current: 8.25 bcm/year, by 2020: 16.5 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, reloading, ship loading, small ship loading, trans-shipment, truck loading, cooling down and gassing up

FOS TONKIN TERMINAL

The Fos Tonkin terminal is located 50 km west of Marseille. It started commercial operations in 1972, and was one of the first LNG terminals in Europe. Since then it has received over 5,500 ships. The terminal has send-out capacity of 3.4 bcm/year – which has been reduced to 3 bcm/year since April 2015.

Numerous shippers have signed LNG Terminal Access Contracts for access to Elengy's Fos Tonkin and Montoir-de-Bretagne terminals. Elengy offers different regasification services to shippers depending on their subscription and/or their requirements.

Since June 2015 the Fos Tonkin terminal has offered LNG truck loading services for up to 4 trucks a day, increased to 8 trucks per day from July 2016 and 11 trucks per day from 2017.

EXISTING TERMINAL	FOS TONKIN
Start-Up Date	1972
Operator	Elengy
Vessel Size	From 7,500 m^3 to 75,000 m^3
Storage Capacity	155,000 m^3
Send-Out Capacity	3.4 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, reloading, truck loading, small ship loading, and cooling and gassing up; rail loading is being considered

MONTOIR-DE-BRETAGNE TERMINAL

The Montoir-de-Bretagne LNG terminal is located on France's Atlantic coast and was commissioned in 1980. Until 2005 it was the largest import terminal in Europe with a regasification capacity of 10 bcm/year. It has a storage capacity of 360,000 m^3 and handles around 100 tanker shipments a year.

Since 2013 the terminal has been active in trans-shipment, and in September 2015 FID was taken to develop upgraded trans-shipment services.

The terminal has provided LNG truck loading services, and since September 2017 the terminal has been able to load 18 LNG trucks each day. Like Fos Tonkin, the Montoir-de-Bretagne terminal is considering the introduction of rail loading services as a railway is available.

EXISTING TERMINAL	MONTOIR-DE-BRETAGNE
Start-Up Date	1980
Operator	Elengy
Vessel Size	From 65,000 m^3 (Medmax) to 267,000 m^3 (Q-Max)
Storage Capacity	360,000 m^3, by 2023: 550,000 m^3
Send-Out Capacity	10 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, reloading/ship loading, trans-shipment, loading of bunkering ships, truck loading, cooling and gassing up; rail loading is being considered

Greece

Greece produces only a small amount of gas, and demand for natural gas is steadily increasing.

In 2017 Greece imported 1.62 bcm of LNG (net of re-exports) – an increase of 139.3% from 2016 – and was Europe's seventh largest importer of LNG (jointly with Poland).

Between 2014 and 2017 there was a 68% increase in gas consumption in Greece, with a 21% increase in 2017 compared with 2016. Natural gas accounts for approximately 14% of Greece's total primary energy supply, of which approximately one-quarter is LNG which is imported into Greece's only LNG terminal at Revithoussa. The remaining part is imported from Russia by pipeline.

THE REVITHOUSSA TERMINAL

The Revithoussa LNG terminal is located on the islet of Revithoussa, west of Athens. It came into operation in 2000 and today has a capacity of 7 bcm/year. The combined storage capacity of its two LNG tanks is 130,000 m^3. The second expansion project at Revithoussa – the construction of a third tank of 95,000 m^3, and facilities for reloading small and medium-sized ships – commenced in May 2014 and was expected to be completed in 2017; however, the expansion project is ongoing. When completed, Revithoussa's storage capacity will have increased by 73% to 225,000 m^3 and the terminal will be able to handle fully laden Q-flex vessels.

In February 2000 the LNG terminal started importing 0.69 bcm/year of LNG from Skikda in Algeria pursuant to an LNG sale and purchase agreement with Sonatrach. DEPA still has a contract for the supply of 0.5 bcm/year of natural gas with Sonatrach, which expires in 2019.

The terminal currently offers regasification and truck loading services. Reloading services are being considered, with a target date of end 2018, and loading of bunkering ships is also under consideration for vessels as small as 1,000 m^3.

EXISTING TERMINAL	REVITHOUSSA
Start-Up Date	2000
Owner/Operator	DESFA (Public Gas Corporation)
Vessel Size	Current: 135,000 m^3, by 2018: 260,000 m^3
Storage Capacity	Current: 130,000 m^3, by 2018: 225,000 m^3
Send-Out Capacity	Current: 5.2 bcm/year, by 2018: 8.25 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, truck loading storage as unbundled service, cooling down and gassing up; reloading and loading of bunkering ships are under study

PLANNED LNG TERMINAL IN GREECE

PLANNED TERMINAL	ALEXANDROUPOLIS
Developer	Gastrade
Send-Out Capacity	6.1 bcm/year
Start-Up Date	2020

Italy

Although Italy produces significant volumes of indigenous gas, it is one of Europe's largest gas consumers at around 78 bcm/year and imports about 90% of the gas it consumes.

In 2017 Italy imported 7.55 bcm of LNG (net of re-exports) – an increase of 30.1% from 2016 – and was Europe's fourth largest importer of LNG.

60% of Italy's imported natural gas is made up by just two countries – Algeria and Russia. Libya, Qatar, the Netherlands and Norway are also significant sources of natural gas imports for Italy. Most of the country's gas is imported by pipeline. LNG, which is imported into Italy's three existing operational LNG import terminals at La Spezia (Panigaglia), Porto Levante (Adriatic LNG – offshore) and Toscana (offshore), until 2014 accounted for only around 11% of the total volume of gas imported into the country. In 2015, however, LNG imports to Italy increased by almost 32% to around 4.3 bcm, largely due to supply from Qatar to the Adriatic LNG terminal (at Porto Levante). 2017 saw a further increase of 32% of LNG imports to Italy, representing 15% of the EU's total LNG imports that year.

Italy is planning three additional LNG import terminals – the Falconara Marittima, which is an FSRU, and two large-scale onshore terminals – Porto Empedocle in Sicily and Gioia Tauro LNG in Calabria.

PANIGAGLIA TERMINAL (LA SPEZIA)

The Panigaglia LNG import terminal, located in the municipality of Porto Venere in the western part of the Gulf of La Spezia, started operations in 1971 and is one of the oldest LNG import terminals in Europe. It is owned and operated by GNL Italia, part of the Snam group.

The Panigaglia terminal currently has capacity of 3.4 bcm/year. An expansion project is planned which includes increasing the terminal's send-out capacity to 8 bcm/year, storage capacity to 240,000 m3, the capability to unload ships of up to 140,000 m^3, an update to the terminal's storage tanks and equipment, and installation of a 32 MW cogeneration plant for the production of gas-fired electricity.

EXISTING TERMINAL	LA SPEZIA (PANIGAGLIA)
Start-Up Date	1971
Owner/Operator	GNL Italia S.p.A.
Maximum Vessel Size	Current: 70,000 m^3, by 2022: 140,000 m^3
Storage Capacity	Current: 100,000 m^3, by 2022: 240,000 m^3
Send-Out Capacity	current: 3.5 bcm/year, by 2022: 8 bcm/year
TPA Regime	Regulated TPA
Services	Regasification; reloading, bunkering and truck loading are under study

ISOLA DI PORTO LEVANTE (ROVIGO) LNG TERMINAL (ADRIATIC LNG)

The Isola di Porto Levante (Rovigo) LNG terminal (also known as "Adriatic LNG") is located in the northern Adriatic 9 miles (14 km) offshore of Porto Viro, in Porto Levante, near Rovigo. The terminal received its first cargo of LNG in August 2009 and was officially inaugurated in October 2009. The Porto Levante terminal is the first ever offshore Gravity Based structure (GBS) for the unloading, storage and regasification of LNG.

The terminal has a regasification capacity of 8 bcm/year, which accounts for approximately 10% of Italy's natural gas requirements. It was granted an exemption from third-party access for 80% of its capacity for 25 years. Edison has the right to 80% of the terminal's capacity to regasify LNG imported from Qatar's North Field under a supply agreement with RasGas II. Of the remaining 20%, 12% has been assigned to another gas supplier for 10 years (until 2019). The remaining capacity of the terminal (approximately 600 bcm or about 6 LNG carriers per year), together with any capacity not consumed by its users, is offered on the market through capacity subscription procedures.

EXISTING TERMINAL	PORTO LEVANTE (ROVIGO)
Start-Up Date	2009
Owner/Operator	Terminale GNL Adriatico Srl.
Maximum Vessel Size	152,000 m^3
Storage Capacity	250,000 m^3
Send-Out Capacity	8 bcm/year
TPA Regime	80% TPA exemption for 25 years
Services	Regasification

FSRU OLT OFFSHORE LNG TOSCANA

The OLT Offshore LNG Toscana project converted the Golar Frost LNG carrier into a floating storage and regasification unit, which is permanently anchored about 22 km off the Italian coast between Livorno and Pisa. The terminal became fully operational on 20 December 2013. The Toscana LNG terminal's regasification capacity is 3.75 bcm/year, which is around 4% of Italy's gas requirements. Its storage capacity is 135,000 m^3.

EXISTING TERMINAL	OLT OFFSHORE LNG TOSCANA
Start-Up Date	2013
Owner/Operator	ECOS (Exmar, Fratelli Cosulich)
Storage Capacity	135,000 m^3
Send-Out Capacity	3.75 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, storage bundle

PLANNED LNG TERMINALS IN ITALY

PLANNED TERMINAL	GIOIA TAURO (CALABRIA)	PORTO EMPEDOCLE (SICILY)
Start-Up Date	2022	2021
Developer	LNG MedGas Terminal	Gascan
Send-Out Capacity	150,000 m^3	8 bcm/year

Lithuania

Lithuania has no domestic gas production, and historically has relied on Russia for 100% of its gas supply.

In 2017 Lithuania imported 1.10 bcm of LNG – a decrease of 15.3% from 2016 – and was Europe's tenth largest importer of LNG.

In December 2014 the first commercial cargo of LNG was delivered at Lithuania's first LNG import terminal – FSRU Klaipėda LNG – marking the start of the country's diversification of gas supply.

In its first full operational year (2015) the Klaipėda LNG terminal operated primarily as a political tool to ensure security of supply to countries that traditionally have relied on imported gas from Russia, and imported only 0.32 bcm of LNG. In 2016, however, the terminal established its commercial viability. In the first three quarters of 2016 imports increased significantly, with an average utilisation rate of 40% compared with 14% in 2015. However, in 2017 LNG imports declined to 0.85 bcm of LNG, a 13.4% drop compared with 2016.

KLAIPĖDA LNG FSRU TERMINAL

The Klaipėda LNG FSRU is situated in the port of Klaipėda, Lithuania. It is the most northerly of all FSRU units in the world.

The new-build FSRU vessel 'Independence' was developed by Hyundai Heavy Industries at a cost of approximately US$128 million and is 294 metres long, 46 metres wide and 47 metres high. It has four storage tanks with a total capacity of 170,000 m^3, and has a send-out capacity of 4 bcm/year. Capacity initially will be limited due to insufficient pipeline capacity in Lithuania and underground storage in Latvia as well as a closed gas market in Latvia.

Lithuanian company Klaipėdos Nafta (70.63% of its shares are state-owned) has a 10-year lease with Norway's Höegh LNG for use of the FSRU at a cost of US$189,000 a day, with an option for Klaipėdos Nafta to acquire it after 10 years. Norway's Statoil contracted to supply Lithuania with LNG for five years, initially with 540 million cubic metres (mcm) a year, to be increased to 4 bcm/year.

The terminal now offers LNG bunkering services through new small-scale LNG facilities.

From 2018 the terminal's operator, Klaipėdos Nafta, expects small-scale capacity holders using the terminal to bolster utilisation rates. The terminal has amended its regasification and capacity rights to accommodate small-scale users.

EXISTING TERMINAL	KLAIPĖDOS
Start-Up Date	2014
Owner/Operator	Höegh LNG/ Klaipėdos Nafta
Maximum Vessel Size	160,000 m^3
Storage Capacity	170,000 m^3
Send-Out Capacity	4 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, bunkering

Malta

Malta has no domestic production of oil or gas and no gas distribution network.

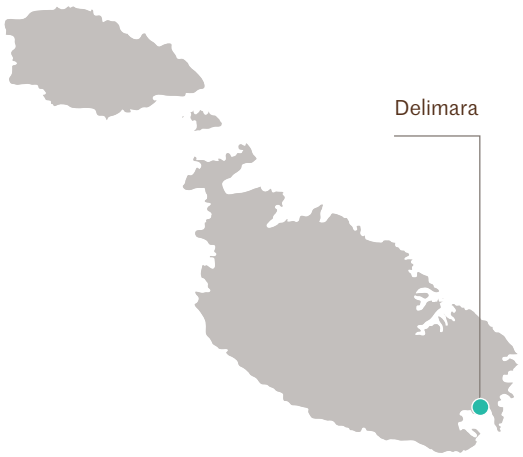
In 2017 Malta become Europe's latest importer of LNG. In its first year Malta imported 0.32 bcm of LNG.

Recently, Malta has been dependent on heavy oil as its main source of energy production. In 2013, ElectroGas Malta (a consortium of Siemens Project Ventures, Socar Trading and GEM Holdings) launched an initiative to introduce LNG supply to Malta for power generation. This initiative led to Malta's LNG-to-power project. The project, which was completed in 2017, comprises an FSU, the Armada LNG Mediterrana; onshore regasification facilities; and the construction of a combined cycle gas turbine (CCGT) plant, Delimara 4, alongside the existing Delimara 3.

At the beginning of 2017, Malta received its first ever shipment of LNG at the Delimara terminal. Malta had acquired its current FSU only a few months before the arrival of its first LNG import. The FSU was constructed under a US$300 million contract and is capable of storing 125,000 m^3 of LNG. Malta's new capabilities to import LNG will allow it to deviate from its dependence on heavy crude oil and to supply energy to the country in a cleaner fashion.

DELIMARA LNG TERMINAL

The Delimara LNG terminal is located in Marsaxlokk, in the south-eastern region of Malta. It consists of an FSU and an onshore regasification facility. Its main purpose is to supply regasified natural gas to both the Delimara 4 CCGT (215 MW) and the Delimara 3 (149 MW) power plants, via a connecting gas pipeline.



The Delimara FSU, Armada LNG Mediterrana, was originally built in 1985. The FSU was converted from the former LNG carrier Wakabu Mar and is permanently moored by jetty near the Delimara Power Station. It was constructed in Singapore and delivered in October 2016. The vessel is owned and operated by the Malaysian company Bumi Armada. It acts as an incoming storage facility for imported LNG and delivers it to the onshore regasification facility to be vaporised and delivered to the power plants.

The FSU has a capacity of 125,000 m^3 and is being leased for 18 years by ElectroGas Malta, which operates the Delimara LNG terminal and constructed the Delimara 4 CCGT.

EXISTING TERMINAL	DELIMARA
Start-Up Date	2017
Owner/Operator	ElectroGas Malta
Storage Capacity	125,000 m^3
TPA Regime	Regulated TPA
Services	Regasification, bunkering

The Netherlands

The Netherlands is the biggest producer of gas in the EU, but domestic supply is decreasing, and in 2017 the Netherlands became a net importer of gas.

In 2017 the Netherlands imported 0.98 bcm of LNG – an increase of 108.3% from 2016 – and was Europe's eleventh largest importer of LNG.

The Groningen gas field in the north-eastern part of the Netherlands is the largest natural gas field in Europe and the tenth largest in the world. Recently it has accounted for approximately 50% of natural gas production in the Netherlands and has been projected to last for another 50 years. However, in response to earthquakes in the region, the Dutch government has capped production from the Groningen field for the foreseeable future, and Dutch gas production is forecast to decline significantly by 2020. In 2017 the Netherlands became a net importer of gas.

LNG is imported into the Netherlands' only LNG import terminal – the Gate terminal – in the Port of Rotterdam.

GATE TERMINAL

The Gate (Gas Access to Europe) terminal was officially opened in September 2011. It is located on the Maasvlakte in Rotterdam, and consists of three storage tanks, three jetties (the third having been added in 2016) and a regasification process area. The terminal was developed by Gate terminal B.V., a joint venture between Gasunie and Vopak, to address the rising demand for gas in North West Europe due to declining gas production in that region.

The terminal has an initial capacity of 12 bcm/year (which can be increased to 16 bcm/year with the addition of a fourth LNG tank) and delivers gas into the Dutch gas transport network, for which can

be transported to North West European markets, including Germany, Austria and Hungary.

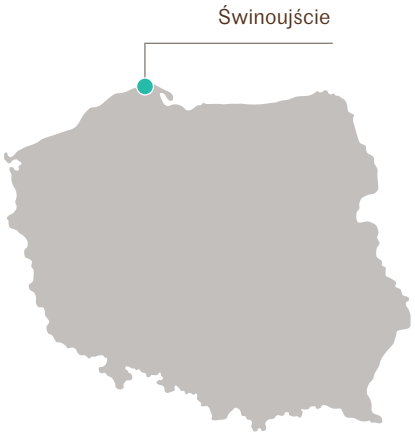
The terminal was granted an exemption from third-party access requirements for a period of 20 years and for a capacity of 16 bcm. Its initial capacity was contracted by five major European energy suppliers (Dong Energy, EconGas, Eneco, E.ON Ruhrgas and RWE) under long-term throughput agreements for a combined throughput of 12 bcm/year (which represents the terminal's initial capacity). Gate terminal B.V. has been marketing the 1 bcm of capacity which was returned before the terminal's start-up in 2011. In February 2015 RWE sold its capacity in the terminal to Shell. Gate operates a 'use-it-or-lose-it' system in which unused capacity is released for sale on the secondary market.

Since August 2016 the Gate terminal has operated a third berth and specialised new infrastructure for the loading of small LNG vessels, which strengthens Gate's role as a hub terminal in North West Europe. The terminal added two truck loading facilities in 2017.

EXISTING TERMINAL	GATE
Start-Up Date	September 2011
Owner/Operator	Gate terminal B.V. (Vopak and Gasunie)
Maximum Vessel Size	266,000 m^3
Storage Capacity	Current: 540,000 m^3, by 2018: 720,000 m^3
Send-Out Capacity	Current 12 bcm/year, by 2018: 16 bcm/year
TPA Regime	TPA exemption for 16 bcm for 20 years
Services	Regasification, ship loading, small ship loading, cooling down and gassing up

Poland

Although Poland has significant (but declining) domestic gas production, it is a net importer of gas – primarily from Russia.



In 2017 Poland imported 1.61 bcm of LNG (net of re-exports) – an increase of 50.6% from 2016 – and was Europe's seventh largest importer of LNG (jointly with Greece).

Poland remains heavily dependent on coal as a primary energy source, and the vast majority of electricity generation in Poland is coal-based. Poland is seeking to diversify its energy mix, with natural gas and other energy sources becoming a strategic priority. Natural gas is the third most important energy source consumed in Poland (after coal and crude oil), accounting for approximately 14.1% of consumption. The first commercial cargo of LNG was delivered to Poland's only LNG import terminal – the Świnoujście terminal in north-west Poland – in July 2016.

ŚWINOUJŚCIE TERMINAL

The Świnoujście LNG terminal is Poland's flagship project to diversify gas supplies and reduce dependence on gas pipeline imports from Russia. It is operated by Polskie LNG (owned by the state-owned GAZ-SYSTEM S.A.). The terminal is able to receive, regasify and deliver 5 bcm of gas per annum into the Polish national grid. It consists of a 3 km long breakwater, a jetty that is able to unload carriers with the capacity ranging from 120,000 m^3 to 217,000 m^3, two 160,000 m^3 LNG storage tanks, regasification facilities and an 85 km pipeline connecting the facility to the Polish gas grid. The terminal (via PGNiG) has a 20-year contract with Qatargas to deliver 1 million tons of LNG per annum. GAZ-SYSTEM is considering expanding the terminal to include a third LNG tank and a second berth.

EXISTING TERMINAL	ŚWINOUJŚCIE LNG
Start-Up Date	July 2016
Owner/Operator	Polskie LNG
Maximum Vessel Size	216,000 m^3
Storage capacity	Current: 320.000 m^3, by 2020: 480.000 m^3
Send-Out capacity	Current: 5 bcm/year, by 2020: 7.5 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, truck loading

PLANNED TERMINAL	FSRU POLISH BALTIC SEA COAST
Start-Up Date	2023
Developer	GAZ-SYSTEM
Location	Bay of Gdansk

Portugal

Portugal does not produce any natural gas and is dependent on imports for 100% of its gas requirements of about 4 bcm/year.

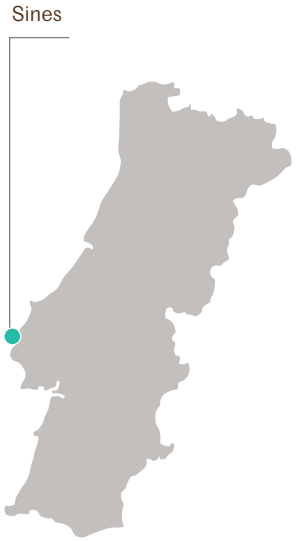
In 2017 Portugal imported 3.4 bcm of LNG (net of re-exports) – an increase of 107.3% from 2016 – and was Europe's sixth largest importer of LNG.

Natural gas is imported into Portugal via the Maghreb-Europe Gas Pipeline from Algeria and Portugal's only LNG terminal – Sines LNG. In 2015 net LNG imports to Portugal grew to 1.12 bcm, representing a 16.2% increase from 2014. In 2017 Portugal imported 2.71 bcm of LNG, marking an increase of 107.3 % in comparison with 2016.

SINES TERMINAL

The Sines LNG terminal is located on Portugal's Atlantic coast, in the Sines port about 120 km to the south of Lisbon. It is owned by REN Atlântico, a wholly owned subsidiary of REN. The terminal started operations on 26 October 2003 and now consists of a docking station for ships with capacity from 40,000 m^3 to 216,000 m^3, three storage tanks with a combined capacity of 390,000 m^3 and seven open-rack vaporisers for LNG regasification. More than 230 LNG carriers have called at the facility since operations began, with the majority supplying LNG from Nigeria under a long-term 2 bcm/year supply deal. The concept of contracted capacity was introduced at the Sines terminal in 2013. Until then, payment was made according to usage.

Due to its strategic location, the Sines terminal has become active in trans-shipment activities. The terminal also provides on average about six "cooling" operations a year.



EXISTING TERMINAL	SINES – REN ATLÂNTICO
Start-Up Date	2003
Owner/Operator	Ren Atlântico
Send-Out Capacity	7.6 bcm/year
Storage Capacity	390,000 m^3
Vessel Size	40,000 m^3 to 216,000 m^3
TPA Regime	Regulated TPA
Services	Regasification, ship loading, truck loading, cooling down and gassing up

Spain

Spain has one of the highest levels of natural gas consumption in Europe and produces less than 0.5% of the gas it consumes.

Spain is Europe's largest importer of LNG. In 2017 it imported 15.39 bcm of LNG (net of re-exports) – an increase of 19% from 2016.

With six LNG import terminals currently in operation, Spain has more regasification capacity than any other European country. A seventh terminal, El Musel, has been in hibernation since it was completed in 2013. Spain's six operating LNG terminals have a regasification capacity of 60 bcm/year. New LNG import terminals on the Spanish islands of Tenerife and Gran Canaria will come into operation in 2021 and 2022, respectively. Both terminals will have a nominal capacity of 1.3 bcm/year, with plans to increase capacity to 2 bcm/year in the future.

Due to a decline in gas demand between 2009 and 2014, Spain had high levels of unused capacity in its terminals and a significant volume of reloads. However, in 2015 Spain was Europe's second largest LNG buyer (with Huelva, Barcelona and Sagunto receiving the lion's share of delivered LNG cargoes). This increase in LNG imports continued in 2016 and 2017, and Spain reestablished itself as Europe's largest importer of LNG in 2017.

BARCELONA LNG TERMINAL

The Barcelona LNG terminal is one of three Spanish import terminals owned by Enagas. The other two are Cartagena and Huelva.

The Barcelona terminal was opened in 1969 and is the oldest regasification terminal in Spain. The initial facilities consisted of two storage tanks with a combined capacity of 80,000 m³. Between 1975 and 1976, the plant was enlarged, and a third tank

(capacity 80,000 m³) was added. A fourth tank (also 80,000 m³) was added between 1978 and 1981. In 2005, LNG storage capacity was increased with a fifth 150,000 m³ tank, and another similar tank was added in 2006. In 2010 and 2011, storage capacity was expanded again with the construction of two tanks of 150,000 m³ each. The seventh tank was finished in October 2010 and the eighth tank in the first quarter of 2011. The first two tanks (of 40,000 m³ each) have been dismantled. The terminal's send-out capacity was increased at the same time and now stands at 17.1 bcm/year. Since December 2010 the terminal can receive LNG vessels of up to 266,000 m³. The terminal provides capacity on an open-access basis. It provides truck loading services for up to 50 trucks a day. Loading of bunkering of ships services are being developed at the terminal, and rail loading services are being considered.

EXISTING TERMINAL	BARCELONA
Start-Up Date	1969
Operator	Enagas S.A.
Maximum Vessel Size	266,000 m³
Storage Capacity	840,000 m³
Send-Out Capacity	17.1 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, truck loading, cooling down and gassing up; loading of bunkering ships is being developed

CARTAGENA LNG TERMINAL

The Cartagena LNG terminal is located in Murcia's Escombreras Dock in southern Spain. The terminal started operation in 1989 and originally consisted of a single storage tank, send-out facilities and a single container berth of 40,000 m^3. The terminal was linked up to the basic gas pipeline network in 1997, when the send-out capacity was increased. In 2000 a new container berth was opened for vessels of up to 130,000 m^3. In 2002 a second storage tank of 105,000 m^3 came into operation and the third of 127,000 m^3 entered into service in 2005. In September 2008 and October 2010 a fourth and fifth tank of 150,000 m^3 each entered into operation. The send-out capacity also increased over this period and now stands at 11.8 bcm/year. Since 2009 the terminal has been capable of receiving vessels of up to 266,000 m^3.

The terminal offers LNG truck loading for up to 50 trucks a days, as well as trans-shipment services for small and large vessels, and cooling down and gassing up services. The loading of bunkering ships was completed in mid-2017.

EXISTING TERMINAL	CARTAGENA
Start-Up Date	1989
Owner/Operator	Enagas S.A.
Maximum Vessel Size	266,000 m^3
Storage Capacity	619,500 m^3
Send-Out Capacity	11.8 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, ship loading, truck loading, small ship loading, cooling down and gassing up, trans-shipment and loading of bunkering ships

HUELVA LNG TERMINAL

The Huelva LNG plant is located at the mouth of the rivers Tinto and Odiel in Andalusia, southern Spain. In June 1988 the first LNG vessel was unloaded at the terminal. Initially the terminal had a single storage tank with a capacity of 60,000 m^3 and sufficient capacity to supply gas to Huelva, Palos and their industrial areas, as well as Seville, where it was linked via a 20" gas pipeline. The terminal underwent its first expansion when the Seville-Madrid gas network pipeline was built. Subsequent expansions were carried out in 1992, 2004 and 2007, and the terminal's storage capacity is now 619,500 m^3 and its send-out capacity is 11.8 bcm/year. The terminal can receive ships with a capacity of up to 173,400 m^3.

The terminal offers ship loading and cooling down and gassing up services for ships between 29,500 m^3 and 173,400 m^3 as well as truck loading services for approximately 50 trucks per day. Loading of bunkering ships is being considered.

EXISTING TERMINAL	HUELVA
Start-Up Date	1988
Owner/Operator	Enagas S.A.
Maximum Vessel Size	173,400 m^3
Storage Capacity	619,500 m^3
Send-Out Capacity	11.8 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, ship loading, truck loading, small ship loading, trans-shipment, cooling down and gassing up; loading of bunkering ships is being considered

BILBAO BAHÍA DE BIZKAIA TERMINAL

The Bahía de Bizkaia LNG terminal is located near Bilbao and operated by Bahía de Bizkaia Gas (BBG). It started commercial operations in 2003 and underwent an expansion in early 2015 with the addition of a third 150,000 m^3 tank, which increased the terminal's storage capacity to 450,000 m^3. The terminal supplies gas for domestic, commercial and industrial consumption and also for producing electricity in the Bahía de Bizkaia Electricidad (BBE) 800 MW combined cycle electric power plant, which sits adjacent to the terminal. BBG plans to increase send-out capacity over the coming years. Since November 2015 the terminal has provided truck loading services. The terminal completed the adaption of its jetty, which is now compatible with large-scale and small-scale reloading/bunkering operations.

EXISTING TERMINAL	BILBAO BAHÍA DE BIZKAIA
Start-Up Date	2003
Operator	Bahía de Bizkaia Gas (BBG)
Maximum Vessel Size	270,000 m^3
Storage Capacity	450,000 m^3
Send-Out Capacity	8.8 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, truck loading, cooling down and gassing up, loading of bunkering ships

SAGUNTO TERMINAL

The Sagunto terminal is located in the Port of Sagunto in Valencia. It is operated and maintained by SAGGAS. The first LNG carrier, from Algeria's Sonatrach, unloaded its cargo at the Sagunto terminal on 15 February 2006. The plant came onstream two months later in April 2006, initially comprising a jetty, a regasification facility and two 150,000 m^3 storage tanks, but with expansion plans already in place. A third tank was started in September 2006, bringing LNG storage capacity at Sagunto up to 450,000 m^3 by the beginning of 2009. A fourth tank has since been added, and the terminal now consists of four 150,000 m^3 storage tanks, six vaporisers and all the infrastructure required for unloading methane tankers, storage, regasification of LNG and consignment of natural gas to the network, as well as a tanker-truck loading facility. The terminal satisfies up to 25% of the gas demand throughout Spain, and its location is ideal for both the LNG-producing countries of North Africa and the Persian Gulf and the energy consumers in the Mediterranean Arc.

Since 2011 the terminal has offered truck loading services, and since 2013 it has offered ship reloading and cooling down and gassing up services.

EXISTING TERMINAL	SAGUNTO
Start-Up Date	2006
Operator	SAGGAS
Maximum Vessel Size	267,000 m^3
Storage Capacity	600,000 m^3
Send-Out Capacity	8.8 bcm/year
TPA Regime	Regulated TPA
Services	Regasification, truck loading, ship reloading, cooling down and gassing up; loading of bunkering ships is under study

MUGARDOS (EL FERROL) TERMINAL

The Mugardos LNG terminal is located at Ferrol port on the north-western coast of Spain in the Galicia region. It is owned and operated by Regasificacion del Noroeste S.A. (Reganosa) on an open-access basis whereby third parties can contract to use the terminal's facilities. The terminal received its first cargo in May 2007 and went into operation in November of that year, becoming Spain's sixth receiving LNG terminal. The majority of the gas generated at the terminal is consumed by gas-fired power plants located nearby and owned by Endesa and Union Fenosa. The former was a shareholder but sold its stake in 2010. There are plans to add two more 150,000 m^3 storage tanks and to increase capacity to 7.2 bcm/year over the next decade.

EXISTING TERMINAL	MUGARDOS EL FERROL (GALICIA)
Start-Up Date	November 2007
Owner/Operator	Regasificacion del Noroeste, S.A. (Reganosa)
Maximum Vessel Size	266,000 m^3
Storage Capacity	Current: 300,000 m^3, by 2023: 500,000 m^3
Send-Out Capacity	Current: 3.6 bcm/year, by 2023: 7.2 bcm/year
TPA Regime	Regulated TPA (open access)
Services	Regasification, ship loading, truck loading, cooling down and gassing up, loading of bunkering ships; trans-shipment is under study

EL MUSEL TERMINAL

Located in Gijon (Asturias) on the northern coast, the El Musel terminal is owned by Enagas. The plant was completed in 2013 but was immediately mothballed, and under Spain's Royal Decree 13/2012, El Musel will remain in "hibernation" until gas demand rises. The site was designed for expansion, with plans to install an additional two tanks in the second phase of the project, taking total storage capacity up to 600,000 m^3. Enagas is exploring alternative options to utilise the terminal.

EXISTING TERMINAL	EL MUSEL – GIJON (ASTURIAS)
Start-Up Date	In hibernation
Owner/Operator	Enagas S.A.
Maximum Vessel Size	266,000 m^3
Storage Capacity	Current: 300,000 m^3, future: 600,000 m^3
Send-Out Capacity	Current: 7 bcm/year, by 2021; 8.8 bcm/year
Services:	Regasification, reloading, truck loading; trans-shipment and bunkering are under study

LNG TERMINALS UNDER CONSTRUCTION: CANARY ISLANDS (SPAIN)

TERMINAL	LAS PALMAS DE GRAN CANARIA	SANTA CRUZ DE TENERIFE
Start-Up Date	2022	2021
Developer	Gascan	Gascan
Storage Capacity	150,000 m^3	150,000 m^3
Send-Out Capacity	1.3 bcm/year	1.3 bcm/year

Turkey

Turkey produces about 2% of the gas it consumes, and the balance (98%) of its gas requirements is imported.

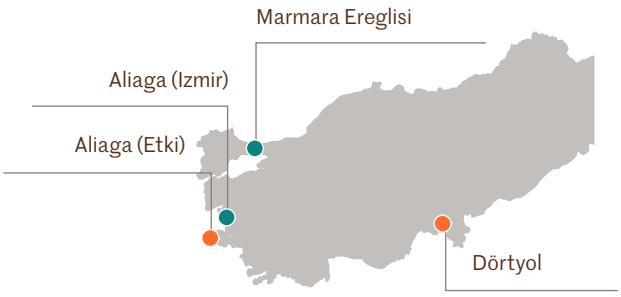
In 2017 Turkey imported 9.36 bcm of LNG – an increase of 34% from 2016 – and became Europe's second largest importer of LNG (just ahead of France).

Turkey has one of the fastest-growing power markets in the world and uses gas for more than 50% of its electricity generation. The state gas company, BOTAS, forecasts that Turkey's gas demand will almost double from 45 bcm in 2012 to 81 bcm by 2030. Turkey continues to rely heavily on Russian pipeline gas. In 2017 two new LNG import terminals came into operation in Turkey, allowing it to increase its LNG imports.

MARMARA EREGLISI TERMINAL

The Marmara Ereglisi terminal is located 100 km west of Istanbul and is owned and operated by BOTAS. Imports to Turkey via the terminal started in 1994. LNG deliveries are made pursuant to long-term sale and purchase agreements with Algeria's Sonatrach, Nigeria LNG and Iran's NIGC. Spot cargoes from Qatar, Australia and Abu Dhabi are also imported to the Marmara Ereglisi terminal. The terminal provides truck loading services for up to 75 trucks a day.

EXISTING TERMINAL	MARMARA EREGLISI
Start-Up Date	1994
Owner/Operator	Botas Petroleum Pipeline Corporation
Maximum Vessel Size	130,000 m^3
Storage Capacity	255,000 m^3
Send-Out Capacity	6.2 bcm/year
TPA Regime	–
Services	Regasification, truck loading



ALIAGA IZMIR LNG TERMINAL

The Aliaga Izmir LNG terminal is located at Izmir-Aliaga on the Aegean Sea. It came into operation in December 2006 and received its first LNG cargo in 2009. Since then it has mainly been used as a backup facility to meet peak consumption during winter months and to offset interruptions or reductions to supply from the Trans-Balkan Gas Pipeline. The terminal's regasification and send-out capacity is 6 bcm/year.

The terminal started providing truck loading services in May 2009.

EXISTING TERMINAL	ALIAGA (IZMIR)
Start-Up Date	2006
Owner/Operator	EgeGaz LNG
Maximum Vessel Size	265,000 m^3
Storage Capacity	280,000 m^3
Send-Out Capacity	6.2 bcm/year
TPA Regime	–
Services	Regasification, truck loading

ALIAGA ETKI LNG TERMINAL

The Aliaga Etki LNG terminal is located in the Aliaga industrial area, adjacent to Cakmaklı village, in the south-western part of Candarlı Bay, Izmir, Turkey. The terminal saw the arrival of Turkey's first FSRU, the FSRU Neptune. The FSRU is owned by Höegh LNG Partners (50%), MOL (48.5%) and Tokyo LNG Tanker (1.5%). It can regasify and discharge natural gas directly into the national gas system, with an expected supply of 5.3 bcm/year.

EXISTING TERMINAL	ALIAGA (ETKI)
Start-Up Date	December 2016
Owner/Operator	Etkiliman
Maximum Vessel Size	217,000 m^3
Storage Capacity	145,130 m^3
Send-Out Capacity	5.3 bcm/year
TPA Regime	–
Services	Regasification

DÖRTYOL FSRU TERMINAL

The terminal is located near Hatay (south-east Turkey), the second most populous region after the north-west. The project was announced in late 2016 and was originally scheduled to start in November 2017. Although the FSRU (Challenger) arrived as planned in November 2017 ongoing infrastructure work at the terminal delayed start-up. The terminal opened on 7 February 2018 and introduced Turkey's second FSRU, the MOL Challenger. BOTAS has chartered the vessel from MOL. The FSRU is the largest in the world, with a storage capacity of 263,000 m^3 and the ability to regasify 11,000 tonnes of LNG per day.

EXISTING TERMINAL	DÖRTYOL
Start-Up Date	2018
Owner/Operator	BOTAS
Maximum Vessel Size	–
Storage Capacity	263,000 m^3
Send-Out Capacity	540 mcm^3 per day
TPA Regime	–
Services	Regasification

PLANNED LNG IMPORT TERMINAL IN TURKEY

PLANNED TERMINAL	FSRU ISKENDERUN	GULF OF SAROS, FSRU
Start-Up Date	2019	2019
Developer	BOTAS	BOTAS
Send-Out Capacity	7.3 bcm/year	7.3 bcm/year

United Kingdom

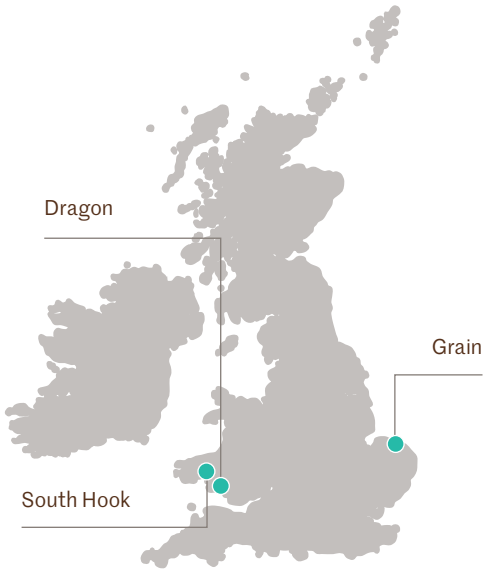
The UK (along with the Netherlands) remains one of the two major gas-producing nations in the EU.

In 2017 the UK imported 6.17 bcm of LNG (net of re-exports) – a decrease of 34.7% from 2016 – and was Europe's fifth largest importer of LNG.

Production of gas in the UK has been in decline since 2009, and since 2004 the UK has been a net importer of gas. The UK imports natural gas by pipeline from Norway, Belgium and the Netherlands, and by LNG to its three operational large-scale LNG terminals – Grain LNG, Dragon LNG and South Hook LNG.

The Grain LNG terminal came into operation in 2002. In 2009 two new terminals at Milford Haven, Wales (Dragon and South Hook), increased the UK's regasification capacity by 147%. By 2014 the UK's LNG imports had declined by 45% from their 2011 peak; however, 2014 saw a 21% increase in LNG imports, driven in part by weaker than expected prices in Asia. In 2015 net LNG imports grew a further 12.4% to 9.43 bcm, making the UK the largest importer of LNG in Europe. In 2017, UK LNG imports fell by approximately 34.7% compared with 2016 and the UK dropped to being the fifth largest importer of LNG in Europe.

All three existing LNG import terminals in the UK benefit from an exemption from the EU's requirements on regulated third-party access. To comply with the requirements of the national regulator (OFGEM), the UK terminals are required to have a 'use-it-or-lose-it' mechanism, which means that the primary holder of regasification capacity must either use its capacity or offer it to the secondary market.



GRAIN LNG TERMINAL

The Grain LNG terminal is located on the Isle of Grain on the River Medway, Kent, 30 km east of London. The first commercial cargo of LNG arrived at Grain in September 2005. The first tranche of capacity was acquired by BP and Sonatrach in October 2003 under a contract to import 4.4 bcm of LNG per year for 20 years. The terminal was expanded in December 2008 to accommodate an additional 9.3 bcm per year under supply contracts with Centrica, GDF Suez (now Engie) and Sonatrach. The most recent expansion was in 2010 when a further 6.9 bcm per year of capacity was contracted to Centrica, E.ON and Iberdrola. Grain LNG is planning a fourth-phase expansion which will make capacity available on an open-season basis. This expansion will increase the terminal's capacity from 19.5 bcm/year to up to 27.5 bcm/year in 2019-2020 and will make it the largest import terminal in Europe.

The Grain LNG terminal offers cooling down and ship reloading services, and road tanker loading services. There are also plans to offer break bulk services through an open-season mechanism. It is the first facility in the UK to offer reloading and is also looking to offer small-scale ship reloading facilities (SSLNG).

EXISTING TERMINAL	GRAIN LNG
Start-Up Date	July 2005
Operator	National Grid
Maximum Vessel Size	265,000 m^3
Storage Capacity	1,000,000 m^3
Send-Out Capacity	Current: 19.5 bcm/year, by 2020: 27.5 bcm/year
TPA Regime	TPA exemption for 100% for 20 years
Services	Regasification, ship reloading, trans-shipment, truck loading, rail loading, cooling down and gassing up; loading of bunkering ships will be available from 2019

DRAGON LNG

The Dragon LNG terminal located at Milford Haven in west Wales came into operation in 2009 and is owned by Dragon LNG (a 50/50 joint venture between Shell and Petronas). The terminal has a maximum gas send-out rate of 7.6 bcm/year. BG Group/Shell and Petronas have each entered into a 20-year terminal use agreement for a 50% share of the terminal's capacity. As primary shippers, BG Group/Shell and Petronas have the right to sell or sublet their capacity to the secondary market.

EXISTING TERMINAL	DRAGON LNG
Start-Up Date	2009
Owner/Operator	Dragon LNG (Shell and Petronas)
Maximum Vessel Size	217,000 m^3
Storage Capacity	320,000 m^3
Send-Out Capacity	7.6 bcm/year
TPA Regime	TPA exemption for 100% for 25 years
Services	Regasification

SOUTH HOOK LNG

South Hook, also located at Milford Haven, was commissioned in 2009. The terminal is owned by South Hook LNG, which is jointly owned by Qatar Petroleum International (67.5%), Exxon Mobil Corporation (24.15%) and Total (8.35%). The capacity of the terminal is 21 bcm/year, making it the largest LNG receiving terminal in Europe. The terminal was granted an exemption from regulated TPA for 25 years from its start of commercial operations, which enabled South Hook LNG to purchase 100% of the terminal's capacity. The terminal now has an active secondary market.

EXISTING TERMINAL	SOUTH HOOK LNG
Start-Up Date	2009
Operator	South Hook Terminal Company Ltd
Maximum Vessel Size	250,000 m^3
Storage Capacity	775,000 m^3
Send-Out Capacity	21 bcm/year
TPA Regime	TPA exemption for 100% for 25 years
Services	Regasification

PLANNED LNG TERMINALS IN THE UK

PLANNED TERMINAL	TRAFIGURA TEESSIDE LNG	PORT MERIDIAN FSRU
Start-Up Date	2018	2019
Developer	Trafigura	Port Meridian Energy
Location	Port Clarence, Middlesbrough	Morecambe Bay

Planned LNG Import Terminals in Europe

The following is a list of planned LNG import terminals in European countries that do not have an existing large-scale LNG import terminal.

COUNTRY	PROPOSED TERMINAL	DEVELOPER	INITIAL CAPACITY	POSSIBLE START-UP YEAR
Albania	Eagle LNG FSRU	Gruppo Falcone	8 bcm/year	-
Croatia	Krk Island FSRU	LNG Croatia	2 bcm/year	2019
Cyprus	Vassiliko FSRU	OceanFinance	–	2019
Estonia	Padalski LNG	Balti Gas	2.5 bcm/year	2020
Estonia	Muuga (Tallinn) LNG	Vopak	4 bcm/year	2019
Germany	Brunsbüttel LNG	Oiltanking, Vopak, Gasunie	5 bcm/year	2022
Ireland	Shannon LNG	Shannon LNG	2.7 bcm/year	–
Ireland	Cork LNG Terminal	NextDecade	–	–
Latvia	Riga LNG Terminal	AS "Skulte LNG Terminal"	5 bcm/year	2019
Romania	Constanta LNG	AGRI LNG	8 bcm/year	2025
Russia	Kaliningrad LNG	Gazprom	–	2019
Ukraine	Odessa LNG	KOLIN	5 bcm/year	–

King & Spalding: Lawyers to the LNG Industry

OUR LNG PRACTICE AND TEAM

King & Spalding's LNG practice is one of the most active and experienced in the world. Our team is deep, with more than 100 lawyers who regularly handle LNG matters, and we have been counselling clients on LNG projects, transactions and disputes globally from the early 1990s through the industry's recent unprecedented growth. In addition, many of our team members have served in key in-house roles at leading global energy companies and as leaders of energy industry trade groups, providing us with more than two decades of unique insight into the commercial aspects of the LNG business.

King & Spalding has expertise in every aspect of the LNG field, from upstream projects and liquefaction to construction, financing, shipping, LNG sales, import projects (land-based and FSRUs) and downstream gas marketing. We are also extremely active in the evolving LNG-to-power sector, and have significant experience advising on a number of current LNG FSRU projects and transactions, acting both for FSRU owners/operators and for charterers/customers.

Chambers Asia Pacific said of us:
"They have first-class LNG industry experience and are extremely knowledgeable in their respective fields. They focus on understanding their clients' needs, and on providing strong negotiation support."

Chambers Global ranks King & Spalding among the top firms for energy and projects globally, as well as in regions and countries including Africa, Asia Pacific, Latin America, the Middle East, Russia, Singapore, India, Indonesia, the United Arab Emirates, the UK and the US. Chambers Global said of us: *"Impressive reputation for cross-border energy transactions... Frequently handles a range of complex high-value transactions, including LNG marketing and power offtake arrangements, as well as cross-border investment."*

IMPORT TERMINAL EXPERIENCE

The King & Spalding LNG team has significant expertise in LNG import terminal development. Our lawyers have advised a range of clients on key aspects of LNG import terminal projects, in particular:

- commercialisation of terminal capacity;
- time charter parties for FSRUs;
- port liability and risk allocation;
- regulatory approvals and permits;
- arrangements for the engineering, procurement and construction;
- secondary markets and anti-hoarding; and
- project financing.

Our recent LNG import experience (including FSRUs) includes:

- Representing German LNG Terminal (a joint venture between Gasunie, Royal Vopak and Oil Tanking) on the development of an onshore LNG terminal at Brunsbüttel port in north-west Germany.
- Representing **Gate terminal B.V.** on LNG supply and transportation arrangements for the commissioning of the first LNG import terminal in the Netherlands.
- Representing the **Singapore government** on all aspects of the first multi-user, multi-use LNG import terminal to be built in Singapore, from the EPC agreement and related construction issues to LNG purchases, terminal use agreements and downstream gas sales agreements.
- Advising **Ghana National Petroleum Corporation** (as national gas aggregator) in connection with two proposed regasification terminals (offshore Tema and in Takoradi port) in Ghana, including the related FSRU terminal use agreement, LNG purchase agreements and gas sales agreements.

- Advising **Hawaii Gas** on all aspects of the development of the first LNG import terminal infrastructure in Hawaii's history (including the services of an LNG FSRU), including procurement of LNG.
- Advising **Summit Corporation** on its development of a new LNG import (FSRU) terminal in Bangladesh, under long-term charter from Excelerate Energy.
- Advising a joint venture between **two Uruguayan government entities** on the development of a floating LNG import terminal.
- Advising **Antillean Gas Ltd** on the development of an LNG import project in the Dominican Republic.

OTHER RECENT LNG EXPERIENCE

Other recent LNG experience includes:

- Advising **Noble Energy** on the proposed LNG export project in Cyprus, which would be the first LNG export project in the EU. Our work was groundbreaking in advising on the following EU law issues for the first time in the context of an LNG export project: (i) public procurement; (ii) state aid; (iii) merger control; (iv) third-party access under the Third Gas Directive; and (v) joint selling.
- Representing **Anadarko** with respect to the development, sales, construction and shipping arrangements for a world-scale LNG export project in Mozambique, one of the largest infrastructure developments in Africa.
- Representing **Progress Energy/Petronas** in connection with its LNG export project under development in British Columbia, Canada.
- Representing Pacific LNG Operations in connection with the development and US$900 million-plus sale of its interest in the **Interoil LNG** export project in Papua New Guinea.
- Representing **Freeport LNG** on the three-train liquefaction project in Freeport, Texas, including negotiation of tolling agreements with Osaka Gas, Chubu Electric, BP, SK and Toshiba.
- Representing **Cheniere Energy** in the drafting and negotiation of the multibillion-dollar EPC agreement and LNG licence for liquefaction facilities at Sabine Pass LNG.
- Representing **Union Fenosa Gas** on its arbitrations related to the loss of gas supply to the Damietta LNG project in Egypt.
- Representing **Angola LNG** in relation to commencement of commercial operations of its LNG export project.
- Advising **NextDecade** in connection with the drafting and negotiation of the FEED and EPC agreements for its Rio Grande LNG liquefaction facility in Texas.

Ranked among the top firms for energy and projects globally, as well as in every region of the world by Chambers Global.

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