

LNG Fuelling

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Uniper, Meyer Logistik open Berlin's first LNG fuelling station

German energy company Uniper and food industry service provider Meyer Logistik have partnered to launch the first publically accessible LNG fuelling station in Berlin.

Eckhardt Rümmler, Chief Operating Officer of Uniper sees the creation of LNG fuelling stations as “a major step” in the establishment of LNG as fuel for heavy duty transport and adds that “We want to create a demand-driven LNG fuelling station network through further partnerships in Germany and selected neighboring countries over the coming years. In that way, we will be making a major contribution to the improvement of environmental compatibility and noise reduction in road traffic.”

Expanding EU Blue Corridor network

The new facility is located in Grünheide on the east Berlin Ring (A10) and will provide LNG refuelling capabilities for road vehicles as part of the European Union's ‘Blue Corridor’ project.

The Blue Corridor initiative features four key LNG distribution routes across central Europe, designed to support heavy transport and cargo vehicles fuelled by LNG. The routes are currently via the WE corridor, SoNoR Corridor, Med-Blue Corridor and ATL-BLUE corridor.



Representatives from Liqvis and Meyer Logistik at the opening

The station will be operated by Uniper subsidiary Liqvis.

Savings of 50 tonnes CO₂ over five years

Based on preliminary calculations, the new station is estimated to save approximately 50,000 kilograms of CO₂ emissions per truck over five years, based on trucks with a reach of around 1,500 kilometers.

“I have spoken repeatedly with our drivers that praise the reduced noise and lower fuel consumption of their trucks, as well as the simple fuelling process. This makes us confident about the use of LNG in regular operations,” Matthias Strehl, managing

director of Meyer Logistik, said.

Meyer Logistik will initially use the station to refuel its fleet of twenty LNG-powered food delivery trucks, operating throughout the greater Berlin area. The trucks will be 400 HP Stralis 440S40 T/P LNG vehicles, supplied by manufacturer Iveco.

“Our goal is to apply the driving technology of the future now and to profit from the experience over the long term. We are conducting practical tests of driving concepts related to this and working together with our partners to find a viable alternative to diesel trucks.

The German Federal Ministry of Transportation has further supported the development of alternative propulsion technologies for heavy-duty commercial traffic through the investment of €365,000 to purchase twenty LNG trucks.

“We as Ministry of Transportation aim at more transportation with fewer emissions... Especially at highway transport, but also for inland water and ocean transport, the already now available LNG offers various fields of application,” a ministry spokesperson commented. ■



The new station was opened by Liqvis

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Singapore demonstrates first LNG bunkering operations

The first port-to-ship bunkering of LNG in Southeast Asia has been demonstrated by authorities in Singapore at the port of Jurong Port on the south of the island.

The bunkering process involved refuelling from a truck to a vessel berthed at the port and was carried out by Pavilion Energy, one of two licensed bunker operators in Singapore.

"Changes in the global gas market have created exciting opportunities in LNG trading and bunkering, and Singapore offers several advantages for companies seeking to grow their presence in these areas," Koh Poh Koon, Senior Minister of State for Trade and Industry, said.

Cross sector support

The new TR 56 standard was introduced jointly by the MPA and the Standards, Productivity and Innovation Board statutory board, SPRING Singapore, as well as the

Standards Development Organisation of the Singapore Chemical Industry Council (SDO@SCIC).

Choy Sauw Kook, Assistant Chief Executive of SPRING Singapore said: "SPRING will work with industry stakeholders to develop the necessary accreditation and conformity assessment schemes, and provide a range of assistance to SMEs in areas such as training, consultancy, certification and funding to support the LNG bunkering industry in adopting this Technical Reference."

Regulatory framework to enhance efficiency

The Singapore Government has been working closely with industry players to advance the development of Singapore as a regional



Pavilion Energy carried out the bunkering operation at Jurong Port

LNG bunkering and gas trading hub since the beginning of the decade and has already introduced a raft of supporting standards and accreditation schemes.

"TR 56 will support the adoption of LNG as a bunker fuel in the Port of Singapore to meet international requirements for environ-

mental sustainability. It will also help the local LNG bunkering sector follow a uniformed set of good practices thereby enhancing efficiency, safety and transparency," Goh Tiak Boon, Chairman of the Technical Committee on LNG Bunkering under the Singapore Standard Council, said.

MPA launches bunker operation standard

Singapore's Maritime and Port Authority (MPA) has introduced a new standard governing the bunkering of LNG.

The MPA's Technical Reference (TR) 56 is designed to provide a "safe, efficient, sustainable and transparent" framework for operations and offer greater assurance to local and international LNG bunker buyers and suppliers.

"Singapore is taking steps to

prepare herself to be an LNG bunker-ready port as early as 2020...With this Technical Reference, both licensed LNG bunker suppliers and all personnel involved in LNG bunkering operations will have a reliable standard to use when carrying out LNG

bunkering operations," Captain M Segar, MPA's assistant chief executive for Operations, said.

The TR 56 will consist of three parts: Requirements for Custody Transfer, Procedures and Safety Distances, and Competency Requirements for Personnel.

"While it may take time for LNG to take off as a marine fuel globally, we have taken steps to kick-start LNG bunkering in Singapore through our LNG Bunkering Pilot Programme, one of them being the development of TR 56," Segar added.

Standards are 'key component' in bunkering development

The TR 56 standard builds on the MPA's LNG bunkering pilot programme which started earlier this

year and is expected to ensure that the MPA's two appointed LNG bunker supplier licensees, Pavilion Gas and FuelNG, can conduct higher quality LNG bunkering operations going forward.

Darius Lim, Head of Corporate Affairs of Pavilion Energy, called TR 56 "a key component" in the development of Singapore's LNG bunkering industry outlining plans by Pavilion to further refine bunkering protocols on the island.

"The Technical Reference provides strong guidance to LNG bunker licence holders on the operating parameters of LNG Bunkering. Of particular importance for this nascent industry are the guidelines on safety and reliability," Michael Chia, Chairman of FuelNG, commented.



The new LNG bunker standard is designed to improve operational safety

LNG Fuelling

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Titan LNG signs LNG bunker contract with AMS

Technology developer Titan LNG has signed a two year bunkering contract with Amulet Management & Services (AMS) to supply LNG fuel for two vessels.

The contract marks the first bunkering supply contract for the firm's new LNG bunkering pontoon, the FlexFueller. The bunker ship will be used to refuel AMS' barges *Green Rhine* and *Greenstream*.

"We are very pleased with the FlexFueller project and think it is the best way to kick start the LNG bunkering market. By running on LNG, we are not only operating economic and future proof vessels, but we are also ensuring that we play our part in reducing greenhouse gas emissions and more importantly reducing local emissions," Igor Jansen, director at AMS, said.

The first bunkering operations are scheduled for the second-half of next year, following delivery and launch of the FlexFueller in mid-2018, and the contract term is for two years. AMS currently has

seven vessels under management.

"Although the LNG bunkering market is already maturing and is moving towards a spot market, some vessel operators choose to contract their supply with experienced parties such as Titan LNG. Due to our indexed pricing structure, customers have a guaranteed, competitive cost base," Niels den Nijs, commercial director at Titan LNG, said.

FlexFueller to provide flexible Rhine bunker options

The *Green Rhine* and *Greenstream* are chartered by Shell to transport liquid fuels along the Rhine River. The FlexFueller will act as a normal floating bunkering station for inland waterway vessels such as these but can also be towed to larger seagoing vessels to allow them to con-



The Titan LNG Flex-Fueller

tinue loading or unloading cargo operations while being refueled.

"We have worked with Titan now for over a year and have selected them as long term supplier based on their strong track record in safety and solid delivery operations," Ton van der Molen, Director at AMS, said.

Titan LNG expands fuelling technology portfolio

Earlier this year, Titan LNG launched its containerized Flexbox solution to offer a plug and play

solution to supply the fuel at the port of Amsterdam. The mobile containerized LNG Flexbox can supply 1.25 gigawatt-hours of natural gas per year and produce steam for industrial processes.

"We developed the Flexbox to serve customers with a relatively small gas use and for the mobile gas market. It's a valuable addition to our product portfolio, providing a plug and play solution that enables easy access to clean and affordable natural gas," Ronald van Selms, Operations Director, Titan LNG, said. ■



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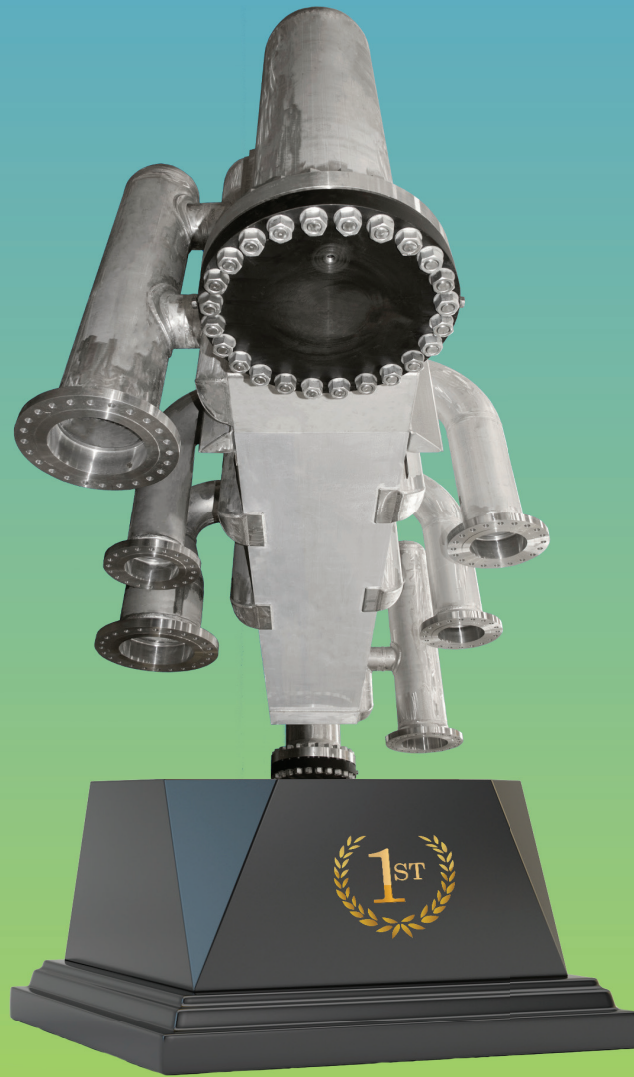
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BNG opens Norway's largest LNG bunkering facility

Bunker specialist Barents NaturGass has opened Norway's largest LNG bunkering facility, at Polarbase in Hammerfest.

The facility has storage capacity of 1,250 cubic meters and a maximum transfer rate of 90 tonnes per hour.

LNG offers best long distance solution

"This bunkering facility allows easy and efficient access to LNG - a fuel with very good environmental characteristics - for vessels in traffic along the Norwegian coast, in the Barents Sea or through the Northern Sea route," a spokesperson for Barents NaturGass said.

Barents NaturGass is a supplier of fuel and small-scale LNG solutions throughout the north of Scandinavia and delivers LNG for bunkering of ships, vessels, vehicles and buses as well as for industrial and mining projects.

"We believe LNG will be increasingly important as the low-

emission fuel for ships in the future. Battery operation may be useful for very short and defined ferry routes, but for vessels that sail over slightly longer distances, LNG is still the best solution, probably in combination with bio-LNG," Gudrun B. Rollesfsen, managing director of Barents NaturGass, said.

Coastal fuelling network driven by shipping demand

BNG currently operates two other LNG bunkering facilities in Nordland, as well as other facilities in the south of Norway, forming an LNG distribution network along the Norwegian coast.

"The shipping sector has called for bunkering infrastructure to make the transition to LNG fuelled vessels. With our new facility in



The new Barents NaturGass facility

Hammerfest, Barents NaturGass meets such a need," Rollesfsen added.

The Polarbase facility was opened by the Norwegian minister for Petroleum and Energy, Terje Søviknes and facility's expansion will enable BNG to bunker 1,000

cubic meters of LNG in a single operation.

"We have a great potential to make use of this gas... both at sea, in industry and for land-based heavy industry. It is also positive from an environmental perspective," Søviknes said. ■

Hansel awards Skangas two LNG fuel contracts

Nordic LNG supplier Skangas has been awarded a contract by the Finnish government to deliver LNG fuel for two vessels until 2019.

The framework agreement will see Skangas supply LNG to the government's central purchasing body, Hansel, to power the offshore patrol vessel *Turva* and icebreaker *Polaris*. Both supply contracts will run for two years from 2017 to 2019.

"It's great that we won the

award for LNG supply to state-owned vessels...We also supplied LNG to the offshore patrol vessel *Turva* and the icebreaker *Polaris* during the previous agreement period, and our cooperation with the clients covered by the framework is good," Jouni Bedda, Sales Manager at Skangas, commented.



The offshore patrol vessel *Turva*

Skangas completed around 600 LNG bunkering operations in the Nordic countries last year and expects maritime transport will play "a leading role" in changing emission levels and shaping the future of the Baltic Sea region's maritime and heavy-duty road transport.

LNG framework granted Hansel 'ecolabel'

The LNG framework agreement is one of approximately 70 agreements signed by Hansel in areas such as electricity, occupational health services and information technology. The organization participates in state procurement worth more than a billion euros and awarded this agreement its own 'ecolabel', signalling its attainment of set environmental criteria.

"The framework arrangement enables government organizations to source LNG with a high level of

supply security and with consideration for responsibility aspects. LNG is an environmentally friendly shipping fuel," Jesse Ruotsalainen, Category Manager, Hansel, said.

Close co-operation to continue

Skangas provides fuel for shipping, industrial and heavy-duty road transport and is one of the largest LNG suppliers in the Nordic region. The firm is joint-owned by Finnish natural energy gas expert Gasum (51%) and Norwegian electricity group Lyse Energi (49%).

"Our well-functioning cooperation with Skangas will continue into the coming agreement period. Our competitive tendering process has helped achieve a framework arrangement that works well in this developing market, with suppliers as well as client needs taken into consideration," Ruotsalainen added. ■

Høglund to develop LNG bunker vessel automation systems

Fuel solutions provider Høglund has been awarded a contract to supply automation systems for an LNG bunker vessel operated by Bernhard Schulte along with two chemical tankers for Sirius Shipping.

The Bernhard Schulte contract will involve Høglund developing the vessel's power management system as well as additional systems to manage interactions between the ship machinery systems and the onshore plants.

"While LNG carriers have been in service for many years, and use boil-off gas to burn in their engines, bunkering barges must extract vapour from receiving ships to use as fuel. This requires additional interfaces between the gas plant and the rest of the ship, drastically increasing the complexity of the automation," a spokesperson for Høglund said.

Automation system passes 1,200 operations

The new bunker vessel will be built at Hyundai Mipo Dockyard in South Korea and the automated system will build on technology that Høglund has already deployed on

vessels for Shell and Seagas. The firm reports that the Seagas vessel, owned by AGA and operated by Sirius, has now completed 1,200 successful bunkering operations.

"When creating automation solutions for an entirely new vessel sub-segment within LNG, it's hard to predict and foresee what challenges might emerge, which means you can't just use an off the shelf solution," Børge Nogva, CEO of Høglund Marine Automation explained.

The firm will play a consultative role with Bernhard Schulte throughout the design and build stages, and will also support the vessels 24/7 once they begin operation.

"It comes down to the lifecycle support that suppliers offer to owners - the commitment from a maker that they will support you when it gets difficult. It's clear that Høglund believes in LNG,"



Artist's rendition of Bernhard Schulte LNG bunker vessel

Jeroen Deelen, Gas Tanker Director, at Bernhard Schulte said.

Automation becoming 'business-critical factor'

Alongside the contract to supply automation systems for Bernhard Schulte, Høglund will also develop similar automation technology to be deployed by Sirius Shipping on two newbuild

chemical tankers.

The chemical tankers will be built at the AVIC Ding Heng yards in China, and Høglund systems will link the power management systems to the cargo system. While the two systems are usually separate, integrating the two means that offloading operations will be more efficient, and require fewer generators to operate.

"Automation is becoming an increasingly business-critical factor. Høglund is leading the way in raising the profile of this often-overlooked factor at the design stage," Anders Bejre, Project Manager for AVIC Newbuildings at Sirius Shipping, said.

“It comes down to the lifecycle support that suppliers offer to owners – the commitment from a maker that they will support you when it gets difficult.”

- Jeroen Deelen, Gas Tanker Director, Bernhard Schulte

NEWS NUDGES

Klaipėdos Nafta signs €20m LNG station agreement

LNG developer Klaipėdos Nafta has concluded a Credit Agreement with the Nordic Investment Bank granting capital of up to €20.4 million to finance an LNG reloading station's and the first stage of Klaipėda oil terminal expansion projects.

According to the Loan contract, the loan amount should be repaid in the latter half of the year 2031.

Chinese firms reconsider LNG future

Key players in China's LNG bunkering sector are reportedly scaling back investment plans following the low usage of several prototype schemes.

National supply companies China Gas Holdings, Kunlun Energy and China National Offshore Oil Corp. (CNOOC) are reportedly reassessing the construction of new ships and the retrofit of existing vessels due to the low usage of four LNG-fuelled tug-

boats deployed as part of a test initiatives in the cities of Zhuhai and Yangjiang.

20|20 Marine Energy, Petrosport partner on bunker report series

Maritime consultancy, 20|20 Marine Energy, is to partner with publishing firm Petrosport to develop a series of intelligence reports on bunker markets in key and emerging ports worldwide.

The reports will provide analysis on future supply, demand

and infrastructure challenges as well as focusing on the commercial, logistical and environmental issues driving the changes and developments in each local market.

"In partnering with 20|20 Marine Energy on this project, our aim is to combine market knowledge and data, as well as strategic and commercial commentary to help companies make the best possible decisions," Llewellyn Bankes-Hughes, managing director at Petrosport, said.

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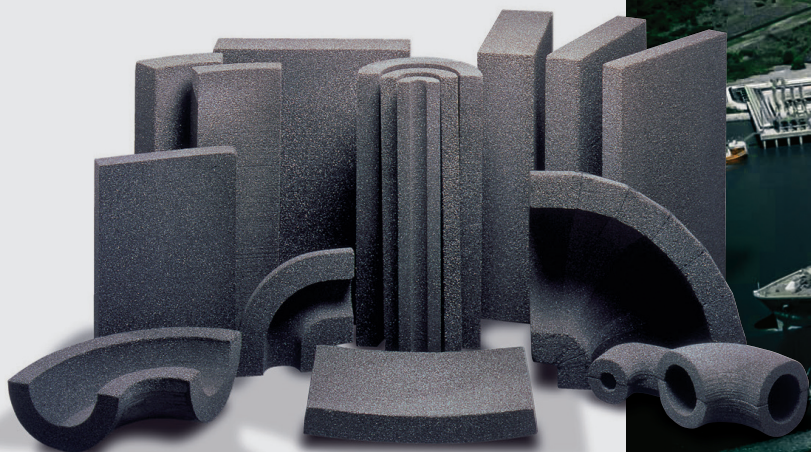
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WORLD SMALL SCALE LNG FLEET*

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
1974	Seagas	187	LNG	Sweden	Yes	AGA
1988	Kayoh Maru	1,517	LNG	Japan	Yes	Daiichi
1993	Aman Bintulu/Lucia Ambition	18,928	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
1996	Surya Aki	19,475	LNG	Indonesia - Japan	Yes	MCGC
1997	Aman Sendai	18,928	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
1998	Aman Hakata	18,800	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
2000	Tripura (ex Surya Satsuma)	23,096	LNG	Indonesia - Japan	Yes	MCGC
2003	Pioneer Knutsen	1,100	LNG	Norway	Yes	Knutsen
2003	Shinju Maru No.1	2,540	LNG	Japan	Yes	Shinwa
2005	North Pioneer	2,500	LNG	Japan	Yes	Japan Liquid Gas
2007	Sun Arrows	19,531	LNG	Malaysia - Russia - Japan	Yes	Mitsui
2008	Kakurei Maru	2,536	LNG	Japan	Yes	Hogaki Zosen
2008	Shinju Maru No.2	2,540	LNG	Japan	Yes	Shinwa
2009	Coral Methane	7,551	LNG/LPG/Ethylene	Northwest Europe/Baltics	Yes, sometimes	Anthony Veder
2010	Norgas Creation	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2010	Norgas Innovation	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Akebono Maru	3,556	LNG	Japan	Yes	Chuo Kaiun
2011	Norgas Bahrain Vision	12,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Conception	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Invention	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Unikum	12,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2012	Coral Energy	15,600	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2013	Coral Anthelia	6,500	LNG/Ethylene			Anthony Veder
2013	JX Energy TBN	2,500	LNG	Japan	Yes	JX Energy
2013	Kakuyu Maru	2,500	LNG	Japan	Yes	Tsurumi Sunmarine
2014	LNG-Oil combi**	2,000	LNG	Germany	Yes	Veka
2014	Short Sea LNG Tanker **	4,000	LNG	Germany	Yes	Veka
2015	10 small carriers TBN**	5,000	LNG			Bimantara Group
2015	Jahre TBN**	6,200	LNG	Norway	Yes	Donsotank/Jahre Marine
2015	JS Ineos Ingenuity	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	JS Ineos Insight	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	JS Ineos Intrepid	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	LNG Barge TBN	3,000	LNG	US Coast	Yes	LNG America
2015	LNG bunker barge 1†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG bunker barge 2†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG bunker barge 3†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG Inland bunker**	800	LNG	Germany	Yes	Veka
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
2015	PetroChina TBN	30,000	LNG	China		PetroChina
2015	TBN	14,000	LNG	China	Yes	Zhejiang Huaxiang
2015	TBN 1	27,500	LNG	China?		Danyang?
2015	TBN 2	27,500	LNG	China?		Danyang?
2015	TBN 3	27,500	LNG	China?		Danyang?
2016	Clean Jacksonville	2,200	LNG	US Coast	Yes	CME
2016	Dalian TBN	28,000	LNG	China	Yes	Dalian Inteh Group
2016	Hai Yang Shi You 301	30,000	LNG	Bali FSU	Yes	CETS (CNOOC)
2016	JS Ineos Indepence	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Innvation	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Inspiration	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	LNG Prime	2,250	LNG	Northwest Europe	Yes	Veka Deen LNG

For more information please visit <http://small-lng.com>

*Includes multi-gas, ethylene and LNG bunker ships with 40,000 cubic metres LNG cargo capacity or less

TBN = To Be Nominated indicates ships are still at construction/planning stage

** = project shelved † =Data to be verified Data last updated = 26 April 2017

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
2016	Navigator Aurora	35,000	Ethane/Ethylene	Markus Hood - Stenungsund	Ethane, for Borealis	Navigator
2016	Ocean Yield TBN	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2016	Ocean Yield TBN	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2016	Ocean Yield TBN	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2016	Shell Bunker Barge TBN 1	6,500	LNG	Northwest Europe	Yes	Shell
2016	Shell Bunker Barge TBN 2	6,500	LNG	Northwest Europe	Yes	Shell
2016	Shell Bunker Barge TBN 3	6,500	LNG	Northwest Europe	Yes	Shell
2016	Shell Bunker Barge TBN 4	3,000	LNG	Northwest Europe	Yes	Shell
2017	Yuan He 1	30,000	LNG	China	Yes	CSR
2017	ENGIE Zeebrugge	5,000	LNG	Northwest Europe	Yes	NYK
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	Coral EnergiCE	18,000	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2017	Coralius	5,800	LNG	Northwest Europe/Baltics	Yes, for Skangas	Anthony Veder
2017	JS Ineos Invention	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	JS Ineos Intuition	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	Navigator Eclipse	35,000	Ethane/Ethylene	US	Ethane	Navigator
2017	Navigator Nova	35,000	Ethane/Ethylene	US	Ethane	Navigator
2017	Navigator Prominence	35,000	Ethane/Ethylene	US	Ethane	Navigator
2018	Bernhard Schulte TBN	7,500	LNG	Baltic	Yes	Bernhard Schulte
2018	CME TBN†	2,200	LNG	US Coast	Yes	CME
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2019	KLine TBN	7,500	LNG	Korea	Yes	Korea Line
2019	KLine TBN	7,500	LNG	Korea	Yes	Korea Line

For more information please visit <http://small-lng.com>

*Includes multi-gas, ethylene and LNG bunker ships with 40,000 cubic metres LNG cargo capacity or less

TBN = To Be Nominated indicates ships are still at construction/planning stage

** = project shelved † = Data to be verified Data last updated = 26 April 2017

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LNG-FUELLED SHIPS IN OPERATION WORLDWIDE

Year	Type of Vessel	Owner	Class
2000	Car/passenger ferry	Fjord1	DNV GL
2003	PSV	Simon Møkster	DNV GL
2003	PSV	Eidesvik	DNV GL
2006	Car/passenger ferry	Fjord1	DNV GL
2007	Car/passenger ferry	Fjord1	DNV GL
2007	Car/passenger ferry	Fjord1	DNV GL
2007	Car/passenger ferry	Fjord1	DNV GL
2007	Car/passenger ferry	Fjord1	DNV GL
2008	PSV	Eidesvik Shipping	DNV GL
2009	PSV	Eidesvik Shipping	DNV GL
2009	Car/passenger ferry	Tide Sjø	DNV GL
2009	Car/passenger ferry	Tide Sjø	DNV GL
2009	Car/passenger ferry	Tide Sjø	DNV GL
2009	Patrol vessel	Remøy Management	DNV GL
2009	Car/passenger ferry	Fjord1	DNV GL
2010	Patrol vessel	Remøy Management	DNV GL
2010	Car/passenger ferry	Fjord1	DNV GL
2010	Patrol vessel	Remøy Management	DNV GL
2010	Car/passenger ferry	Fjord1	DNV GL
2010	Car/passenger ferry	Fjord1	DNV GL
2010	Car/passenger ferry	Fosen Namsos Sjø	DNV GL
2011	PSV	DOF	DNV GL
2011*	Oil/chemical tanker	Tarbit Shipping	DNV GL
2011	Car/passenger ferry	Fjord1	DNV GL
2011	PSV	Solstad Rederi	DNV GL
2012*	Car/passenger ferry	Fjord1	DNV GL
2012	PSV	Eidesvik	DNV GL
2012	PSV	Olympic Shipping	DNV GL
2012	PSV	Island Offshore	DNV GL
2012	General Cargo	Nordnorsk Shipping	DNV GL
2012	PSV	Eidesvik Shipping	DNV GL
2012	PSV	Island Offshore	DNV GL
2012	Car/passenger ferry	Torghatten Nord	DNV GL
2012	Car/passenger ferry	Torghatten Nord	DNV GL
2012	Car/passenger ferry	Torghatten Nord	DNV GL
2013	PSV	REM	DNV GL
2013	RoPax	Viking Line	LR
2013	Car/passenger ferry	Torghatten Nord	DNV GL
2013	Tug	Incheon Port Authority	KR
2013	General Cargo	Eidsvaag	DNV GL
2013	RoPax	Fjordline	DNV GL
2013	High speed RoPax	Buquebus	DNV GL
2013	Tug	CNOOC	CCS
2013	Tug	CNOOC	CCS
2013	Car/passenger ferry	Norled	DNV GL
2014	Car/passenger ferry	Norled	DNV GL
2014	Tug	Buksér & Berging	DNV GL
2014	RoPax	Fjordline	DNV GL
2014	Patrol vessel	Finish Border Guard	DNV GL
2014	Tug	Buksér & Berging	DNV GL
2014	Gas carrier	Anthony Veder	BV
2014	Gas carrier	Anthony Veder	BV
2014	PSV	Remøy Shipping	DNV GL
2014	General Cargo	Egil Ulvan Rederi	DNV GL
2014	General Cargo	Egil Ulvan Rederi	DNV GL
2014	PSV	Siem Offshore	DNV GL
2015	PSV	Harvey Gulf Int.	ABS
2015	Ro-Ro	Norlines	DNV GL
2015	Car/passenger ferry	Samsøe municipality	DNV GL
2015	PSV	Simon Møkster Shipping	DNV GL
2015	PSV	Siem Offshore	DNV GL
2015	Ro-Ro	Norlines	DNV GL
2015*	Oil/chemical tanker	Bergen Tankers	LR
2015	Car/passenger ferry	Society of Quebec ferries	LR

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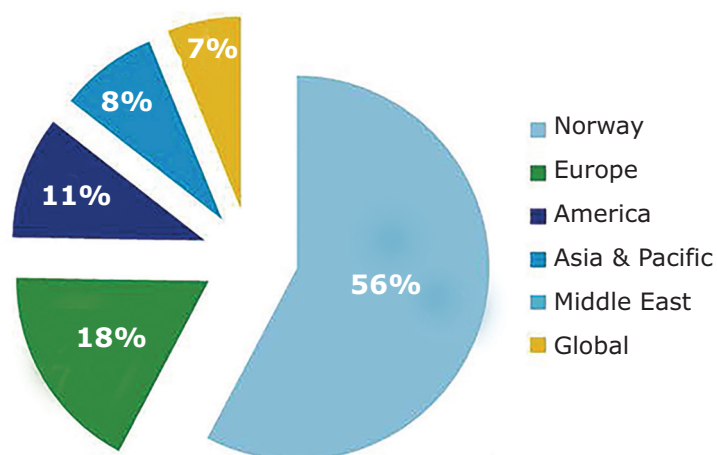
Data last updated: 15 February 2017

* = conversion projects

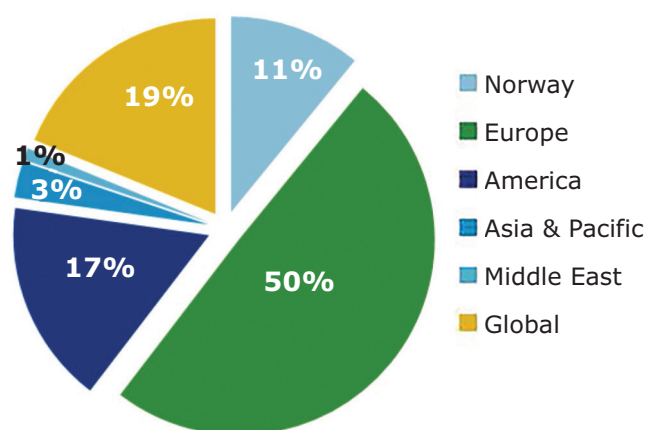
Year	Type of Vessel	Owner	Class
2015	Gas carrier	Evergas	BV
2015	Gas carrier	Evergas	BV
2015	Tug	CNOOC	CCS
2015*	Car/passenger ferry	AG Ems	DNV GL
2015	Tug	NYK	NK
2015	Gas carrier	Chemgas Shipping	BV
2015	Gas carrier	Evergas	BV
2015	PSV	Harvey Gulf Int.	ABS
2015	Container ship	TOTE Shipholdings	ABS
2015	Car/passenger ferry	AG EMS	DNV GL
2015	Bulk ship	Erik Thun	LR
2016	Container ship	TOTE Shipholdings	ABS
2016	Gas carrier	Evergas	BV
2016	PSV	Harvey Gulf Int.	ABS
2016	Bulk ship	Erik Thun	LR
2016	Oil/chemical tanker	Terntank	BV
2016	Gas carrier	Navigator Gas	ABS
2016*	Oil/chemical tanker	Furetank Rederi	BV
2016	Icebreaker	Arctica Shipping	LR
2016	Car/passenger ferry	Boreal Transport Nord	DNV GL
2016	Car/passenger ferry	Boreal Transport Nord	DNV GL
2016	Tug	CNOOC	CCS
2016	Gas carrier	Chemgas Shipping	BV
2016	Car carrier	UECC	LR
2016	Oil/chemical tanker	Terntank	BV
2016	Oil/chemical tanker	Terntank	BV
2016	Car/passenger ferry	BC Ferries	LR
2016	Gas carrier	Evergas	BV
2016	PSV	Siem Offshore	DNV GL
2016	Car/passenger ferry	Seaspan Ferries Corp.	BV
2016	Gas carrier	Navigator Gas	ABS
2016	Ro-Ro	Searoad Holdings	DNV GL
2016	Car carrier	UECC	LR
2017	Gas carrier	Navigator Gas	ABS
2017	Car/passenger ferry	Seaspan Ferries Corp.	BV
2017*	RoPax	Baleària	BV

AREA OF OPERATION OF LNG-FUELLED SHIPS

Operating area
ships in operation



Operating area
confirmed orderbook



Updated 15 February 2017
Excluding LNG carriers and inland waterway vessels

WORLD LNG-FUELLED CONFIRMED NEWBUILDS

Year	Type of Vessel	Owner	Class
2017	Car/passenger ferry	Society of Quebec ferries	LR
2017	Car/passenger ferry	Society of Quebec ferries	LR
2017	Tug	Drydocks World	
2017	PSV	Siem Offshore	DNV GL
2017	Gas carrier	Evergas	BV
2017	PSV	Siem Offshore	DNV GL
2017*	Ro-Ro	TOTE Shipholdings	ABS
2017	Car/passenger ferry	BC Ferries	LR
2017	Gas carrier	Ocean Yield	DNV GL
2017	Gas carrier	Ocean Yield	DNV GL
2017	Gas carrier	Ocean Yield	DNV GL
2017	Gas carrier	Navigator Gas	ABS
2017	Dredger	DEME	BV
2017	Dredger	DEME	BV
2017*	Container ship	Wessels Reederei	BV
2017	Hopper Barge	Bremenports	DNV GL
2017	HSLC	Fred. Olsen	DNV GL
2017	PSV	Harvey Gulf Int.	ABS
2017	PSV	Harvey Gulf Int.	ABS
2017	Cable layer	DEME Tideway	DNV GL
2017	Gas carrier	Evergas	BV
2017	Gas carrier	Evergas	BV
2017	Tug	Østensjø Rederi	
2017	Tug	Østensjø Rederi	
2017	Tug	Østensjø Rederi	
2017*	Car/passenger ferry	BC ferries	ABS
2017	RoPax	Rederi AB Gotland	DNV GL
2017	Car/passenger ferry	Caronte & Tourist	RINA
2017	Oil/chemical tanker	Groupe Desgagnés	BV
2017	Oil/chemical tanker	Groupe Desgagnés	BV
2017	Oil/chemical tanker	Groupe Desgagnés	BV
2017	Oil/chemical tanker	Groupe Desgagnés	BV
2017	Car/passenger ferry	BC Ferries	LR
2017	Oil/chemical tanker	Terntank	BV
2017	Container ship	Crowley Maritime Corp.	DNV GL
2017	Container ship	Crowley Maritime Corp.	DNV GL
2017	RoPax	Tallink	BV
2017	Container ship	Brodosplit	DNV GL
2018	Container ship	Brodosplit	DNV GL
2018	Bulk ship	ESL Shipping	DNV GL
2018	Bulk ship	ESL Shipping	DNV GL
2018	Tug	Keppel Smit Towage	ABS
2018	Tug	Maju Maritime	ABS
2018*	Car/passenger ferry	BC ferries	ABS
2018	PSV	Harvey Gulf Int.	ABS
2018	Container ship	Brodosplit	DNV GL
2018	Container ship	Brodosplit	DNV GL
2018	Car/passenger ferry	Royal Doeksen	LR
2018	Car/passenger ferry	Royal Doeksen	LR
2018	Car/passenger ferry	CHFS	LR
2018	Car/passenger ferry	CHFS	LR
2018*	Ro-Ro	TOTE Shipholdings	ABS
2018	RoPax	Rederi AB Gotland	DNV GL
2018	General cargo ship	Nordnorsk Shipping	DNV GL
2018	Container ship	Containerships	ABS

Year	Type of Vessel	Owner	Class
2018	Container ship	Containerships	ABS
2018	Container ship	GNS Shipping	ABS
2018	Container ship	GNS Shipping	ABS
2018	Container ship	GNS Shipping	ABS
2018	Container ship	GNS Shipping	ABS
2018	Heavy lift vessel	Heerema Offshore	LR
2018	Oil/chemical tanker	Furetank Rederi	BV
2018	Oil/chemical tanker	Furetank Rederi	BV
2018	Oil/chemical tanker	Furetank Rederi	BV
2018	Dredger	DEME	BV
2018	Bulk ship	POSCO	KR
2018	Dredger	van der Kamp	DNV GL
2018	Car/passenger ferry	Torghatten	
2018	Car/passenger ferry	Torghatten	
2018	Car/passenger ferry	Torghatten	
2018	Car/passenger ferry	Torghatten	
2019	Car/passenger ferry	Torghatten	
2019	Cruise ship	Carnival Corporation	RINA
2019	Cruise ship	Carnival Corporation	RINA
2019	Oil/chemical tanker	Älvtank	BV
2019	Oil/chemical tanker	Älvtank	BV
2019	Oil/chemical tanker	Thun Tankers	BV
2019	RoPax	Baleària	BV
2019	Car carrier	Siem Car Carriers	
2019	Car carrier	Siem Car Carriers	
2019	Emergency response ship	German Transport Ministry	
2019	Emergency response ship	German Transport Ministry	
2019	RoPax	Brittany Ferries	
2019	RoPax	Baleària	
2019	RoPax	Baleària	
2019	Oil/chemical tanker	Rosneft	
2020	Oil/chemical tanker	Rosneft	
2020	Oil/chemical tanker	Rosneft	
2020	Oil/chemical tanker	Rosneft	
2020	Research ship	German Transport Ministry	
2020	RoPax	Viking Line	
2020	Cruise ship	Carnival Corporation	RINA
2020	Cruise ship	Carnival Corporation	
2021	Cruise ship	Carnival Corporation	
2021	Cruise ship	Carnival Corporation	
2022	Cruise ship	Carnival Corporation	RINA
2022	Cruise ship	MSC Cruises	
2022	Cruise ship	RCCL	
2024	Cruise ship	MSC Cruises	
2024	Cruise ship	RCCL	

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* = conversion projects