2011

The LNG Industry

The LNG Industry in 2011

Edito

The most significant event to mark the LNG trade in 2011 has been the catastrophe that hit Japan in March, in view of both its short-term effect on shifting flows and its long-term demand prospects of LNG as a source for gas-fired power generation.

The role of LNG as a flexible and secure energy source as well as the prompt response to provide back-up through additional supplies and cargo diversions to compensate for the sudden loss of nuclear capacity in Japan – with sellers exercising due price restraint in view of the human tragedy – has been a credit to the industry. The increase in production capacity in 2009 and 2010, in particular from Qatar, had permitted the necessary buffer to cope much better with the demand surge than during past disruptions (such as the aftermath of the Chuetsu earthquake in late 2007). Undoubtedly, the marked shift over the last decade in the industry's prevailing business model towards global trade, destination flexibility and portfolio play has also facilitated the rapid response.

As the total volume of LNG trade is very much determined by the availability of supply, 2011 has seen a growth of 9.4% over 2010, mainly as a result of the full availability of the six Qatar mega-trains over the past year.

On the demand side the two traditional basins have shown a very contrasting trend: 15% higher LNG off-take in Asia (the five major markets all increasing between 37.4% and 8.9%), versus a 1.7% decrease in the Atlantic Basin.

Cargo diversions and an increasing number of reloads have boosted the exports from the Atlantic Basin to Asia in 2011 to more than 14 million tons (equivalent to more than 200 large size cargoes).

Remarkable is also the fast growth in new markets in Latin America and in the Middle East - albeit from a small base - with counter-seasonal but varying demand, offering attractive arbitrage opportunities to portfolio play.

Not surprising then that 2011 has seen another hike in spot and short-term trade , not just in absolute terms but also as a percentage of total trade (50% over 2010). The outlook for LNG is strong and its global demand prospects further enhanced in the wake of the nuclear issues, the emergence of new buyers and the decline of indigenous reserves of gas exporters. This has underpinned a growing investment confidence which in turn resulted in 5 FIDs (Final Investment Decisions) in 2011 for a total liquefaction capacity of 27 million tons p.a. An event of great commercial significance in this regard would undoubtedly be one, or more FID's in North America in the near future.

GIIGNL has completed in 2011 its 40th full year of activity after its foundation in December 1971 in Paris. Its membership has grown to 68 companies worldwide, comprising nearly all companies active in the import of LNG or the operation/ownership of LNG import terminals. In 2011 the commercial and technical study groups have continued their study programme on some 15 topics in total, including:

- Development of Master Sales and Purchase Agreement and Master Voyage Charter Party (posted on the website)
- Market assessment of small-scale LNG
- Third update of the Custody Transfer Handbook (available from the website)
- Emissions from import terminals
- Third update of the incident study

The last topic is part of the specific focus within the Group on safety, as the adherence to the highest standards and adequate information exchange in this domain is paramount to maintaining the excellent safety record within the industry, itself an absolute condition for its continued success.

Jean Vermeire
President

Key figures 2011

240.8 million tons imported or an increase of **+9.4%** vs.2010

61.2 million tons imported under spot or short-term contracts or an increase of **+50%** vs.2010

31% of global LNG imports supplied from Qatar

63% of global LNG demand in Asia

14.7 million tons exported from the Atlantic to the Pacific Basin

At year-end:

89 LNG regasification terminals

25 countries

640 million tons p.a. total capacity

At year-end:

24 liquefaction facilities

18 countries

278 million tons p.a. total capacity

LNG Contracts and Trade

In 2011, LNG trade grew by 49.4 10^6 m^3 (20.7 Mt), a growth of 9.4% compared with 2010. As during the previous year, the main contribution to the increase of LNG flows came from Qatar, as the country was responsible for 67% of additional LNG produced in 2011. For the largest part, the remaining additional volumes produced in 2011 resulted from the build-up of the newly commissioned liquefaction facilities in Peru and in Yemen.

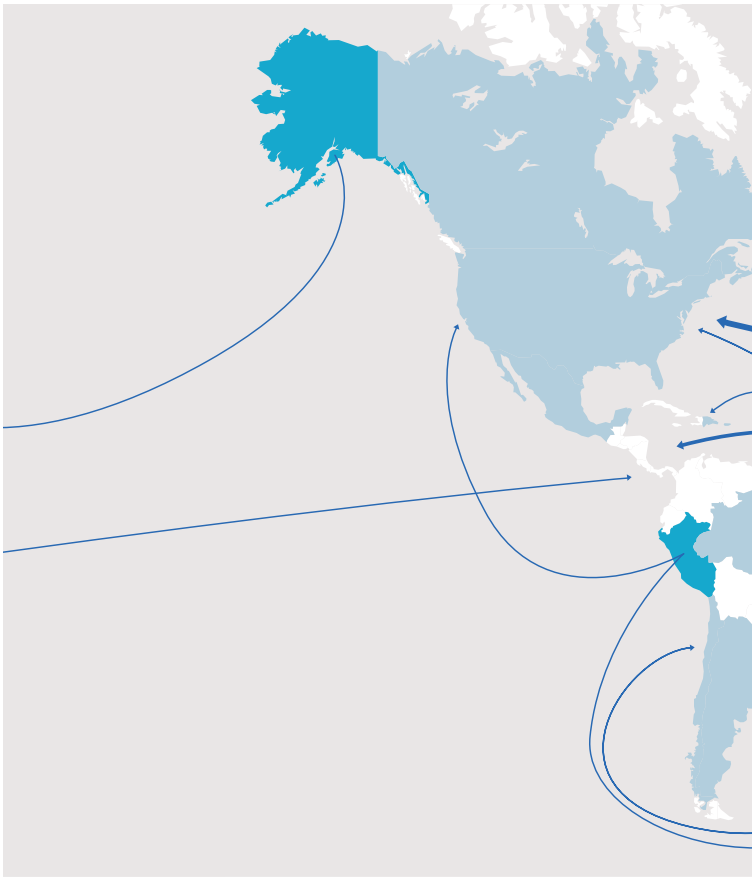
On the import side, LNG consumption in Asia continued to grow strongly (+14.8%), reaching a total of 153.0 Mt in 2011, i.e 63.6% of the world's LNG trade. However, the Asian growth rate was reached in specific circumstances, considering the sharp increase in Japanese LNG demand which resulted from the loss of nuclear power generation capacity.
Not surprisingly, at the end of 2011, Japan stands out as the world's n°1 LNG importer with 79.1 Mt, compared to 70.9 in 2010 (+11.6%). Japan accounted for 41.6% of Asia's additional LNG's imports in 2011 and the country's share of global LNG imports increased from 31.6% in 2010 to 32.8%. With LNG imports growing by 8.9% and total imports representing 35.6 Mt, Korea ranked second. Its share of the global LNG market remained nevertheless unchanged at 14.8%.
Due among other factors to the lower than expected domestic production, India experienced Asia's fastest growth rate in LNG demand (+37.4% over 2010), closely followed by China (+36.1%). As a result of economic recovery. Taiwan also recorded a strong increase in LNG imports (+9.1%).
In Asia, Thailand became an LNG importer during the year, with 0.8 Mt imported through the newly commissioned Map-Ta-Phut terminal during the year.

After a sharp rebound in 2010 (+24.8%), European imports barely increased by a mere 0.4%, with Qatari LNG volumes into the UK representing the greatest part of additional LNG imported into Europe. Spanish LNG imports experienced the most remarkable decline (-16.3%), followed by Turkey (-14.6%). The Netherlands joined the ranks of LNG importing countries with 0.6 Mt (8 cargoes) delivered at Gate Terminal during the year. For the first time, the UK overtook Spain as the world's third largest LNG importer, with 18.4 Mt imported during the year, 87.5% of the volumes coming from Qatar.

In North America, LNG imports into the U.S.A (net of re-exports) continued to decline (-25.1%), mainly due to the sustained high level of non-conventional domestic gas production. As a result of the low price environment in North America, LNG imports into Mexico also dropped, by 33.7%. Re-exports of cargoes from the U.S.A jumped by 75.2%, reaching a total of 1.0 Mt (19 cargoes).

In the short-term markets of South America, LNG demand continued to grow on average (+13.8%). With strong annual GDP growth rates, Argentina and Chile confirmed their current strong thirst for LNG, importing a combined 5.7 Mt during the year, i.e a 66% increase over 2010. However, due to a larger output from hydroelectric facilities in 2011, Brazilian LNG consumption dropped by 70.9%, contributing to maintain the global LNG market share of South America around a stagnant 2.6%.

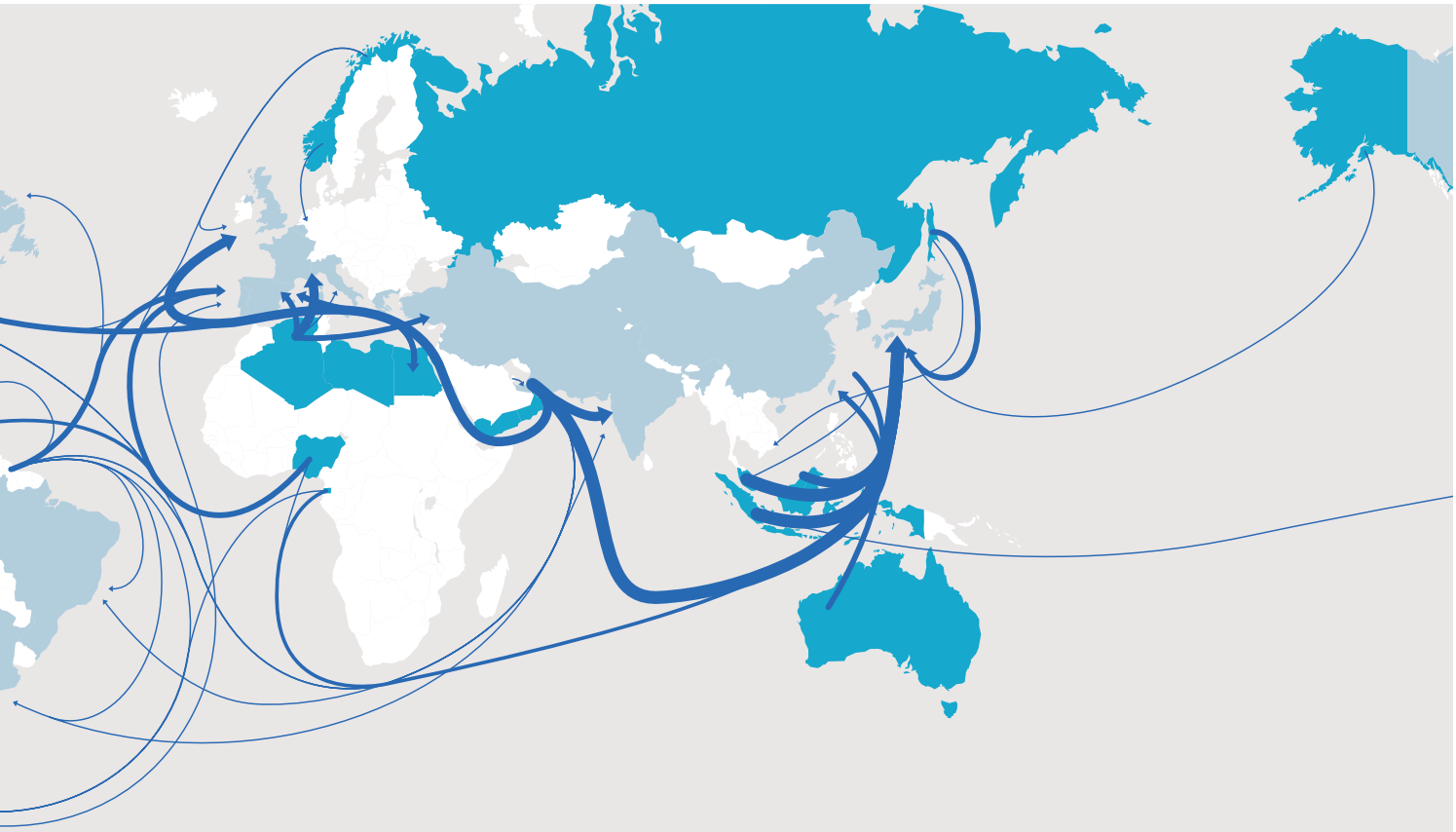
In newcomers Kuwait and Dubai, LNG deliveries almost doubled in 2011, reaching a combined 3.7 Mt.



Overall, the total market share of Asian LNG buyers grew to 63.6%, while Europe and the Americas respectively recorded a 2.6% and 1.6% loss in market share to respectively 27% and 7.9%.

On the export side, Qatar reinforced its leading position, supplying 31.3% of global LNG (75.4 Mt). With 10.3% of global LNG supplies, Malaysia re-gained its second rank over Indonesia (9.1%) following the reduced output from Arun and the ramp-up of production from MLNG Dua. With 18.7 Mt of additional LNG sold throughout the world, Qatar accounted for 67% of the global trade growth during the year, followed by Peru (9%) and Yemen (9%). To a lesser extent, Malaysia, Nigeria and Russia also contributed to the growth by increasing their production rates.
For the first time and before the start-up of new Australian liquefaction projects, the Middle East (39.7% of global exports) overtook the Pacific Basin (36.5%) as the largest source for LNG.
On the contrary and for the second year in a row, the Atlantic Basin recorded a decline in exported volumes (-4.8%), with negative production growth rates in all countries except Nigeria and Equatorial Guinea. The decrease was particularly strong in Algeria (-1.7 Mt) due to transmission issues and to the decommissioning of GL4Z.

After a 40% increase in 2010, spot and short-term LNG trade (defined as LNG traded under contracts with a duration of 4 years or less) recorded again a jump in 2011, this time by 50%, reaching 61.2 Mt (994 cargoes), i.e more than a quarter of the total LNG trade (25.4%).



As to the sourcing, one third of LNG volumes traded on a spot or short-term basis came from Qatar, followed by Nigeria 12% and Trinidad and Tobago (11%). In 2011, Qatar exported 26.7% of its total production on a spot or short-term basis.
In terms of inter-regional flows, it must be highlighted that spot and short-term volumes exported from the Atlantic Basin to Asia recorded a twofold increase in 2011, reaching 12.7 million tons.

Asia attracted 60.9% of global spot and short-term volumes (37.3 Mt), compared with 43.6% (17.8 Mt) in 2010. This can primarily be explained by the increased LNG needs following the March 2011 events in Japan, where spot and short-term imports skyrocketed to 16.0 Mt (+123.5%) during the year, vs 7.2 Mt in 2010. In Korea, the annual volume of spot and short term LNG imports almost doubled, reaching 10.7 Mt (+96%). Spot and short-term imports more than doubled in China and almost tripled in India, with both countries importing a combined 6.5 Mt of LNG under this type of contracts.

On the contrary, Europe's spot and short-term LNG imports decreased by 7.8% (12.3 Mt). In the Americas, spot and short-term LNG trade recorded very strong growth rates in all countries except in the US and in Brazil, where it decreased by 32% and 71% respectively.

A total of 44 cargoes were re-loaded during the year, compared with 19 cargoes in 2010. Re-exported volumes were delivered to 13 countries, 14 cargoes being re-exported from the Atlantic Basin to Asia and 11 cargoes to South America (Argentina, Brazil, Chile).

At the end of the year, at least two cargoes re-exported from the U.S.A and one cargo re-exported from Spain were still out at sea. They were delivered in January 2012 respectively in Brazil, in South Korea and in Italy. One cargo delivered in Kuwait was a re-export from Brazil and was counted as LNG from Qatar in the present study. One cargo of Indonesian LNG delivered in Mexico (Costa Azul) was re-exported to Chile (Quintero) under a swap agreement.

The world trade involved 164 "flows" (i.e. country-to-country trades, excluding flows of re-exports) over 403 sea transportation routes (port-to-port routes). 117 routes were new and 100 ceased in 2011. In 2011, there were 37 new country-to-country flows: ABU-DHABI/India - ALGERIA/Netherlands and Portugal - AUSTRALIA/India, Kuwait and Taiwan - EGYPT/Argentina, China, Netherlands and Portugal - INDONESIA/Chile and Thailand - NIGERIA/Argentina, USA, Thailand and Netherlands - MALAYSIA/India and Dubai - NORWAY/India, Japan, Korea, Dominican Republic, Netherlands and Portugal - USA/China - OMAN/India - PERU/China, Japan, Thailand and Taiwan - QATAR/Greece, Netherlands and Thailand - RUSSIA/Thailand - TRINIDAD & TOBAGO/China and Netherlands - YEMEN/Japan.

16 flows disappeared: ABU-DHABI/Brazil, China - ALGERIA/Chile - EGYPT/Mexico, Belgium - NORWAY/Belgium and Turkey - OMAN/Kuwait - PERU/Brazil, Canada and Belgium - RUSSIA/Kuwait - TRINIDAD & TOBAGO/Portugal and YEMEN/Chile, Kuwait and Spain.

Contracts concluded in 2011

Origin	Export country/exporter	Purchaser	Import country	Amount (mmtpa)	Duration (yrs)	Extra years	Start	Delivery format
Long & medium term Sales	Australia & BG Portfolio	CHUBU ELECTRIC	Japan	0.41(*)	21		2014	D.E.S
	Australia (QCLNG/BG)	TOKYO GAS	Japan	1.2	20		2015	D.E.S
	Australia (Gorgon)	KYUSHU ELECTRIC	Japan	0.3	15		2015	D.E.S
	Australia (APLNG)	KANSAI ELECTRIC	Japan	1	20		2016	D.E.S
	Australia (Wheatstone)	The Tokyo Electric Power Co.	Japan	3.1	20		2017	
	Australia (Wheatstone)	KYUSHU ELECTRIC	Japan	0.7	20		2017	F.O.B
	Australia (Ichtys)	The Tokyo Electric Power Co.	Japan	1.05	15		2017	F.O.B
	Australia (Ichtys)	TOKYO GAS	Japan	1.05	15		2017	F.O.B
	Australia (Ichtys)	KANSAI ELECTRIC	Japan	0.8	15		2017	F.O.B
	Australia (Ichtys)	KYUSHU ELECTRIC	Japan	0.3	15		2017	F.O.B
	Australia (Ichtys)	OSAKA GAS	Japan	0.8	15		2017	F.O.B
	Australia (Ichtys)	TOTAL		0.9	15		2017	F.O.B
	Qatar (QATARGAS)	CHUBU ELECTRIC/SHIZUOKA	Japan	0.2	6		2014	D.E.S
	Indonesia	KOGAS	South Korea	0.7	13		2015	F.O.B
	TOTAL Portfolio	KOGAS	South Korea	2	18		2014	D.E.S
	IBERDROLA Portfolio	BP	Spain	0.38	10		January 2012	D.E.S
	USA (CHENIERE)	BG Group		3.5	20		2015	F.O.B
	USA (CHENIERE)	GASNATURAL FENOSA		3.5	20	12	2015	F.O.B
	USA (CHENIERE)	GAIL		3.5	20		2017	F.O.B
	USA (CHENIERE)	KOGAS (signed in Jan. 2012)		3.5	20	up to 10	2017	F.O.B
Short term contracts (< 4 yrs)	Indonesia	KOGAS	South Korea	0.96	1,5		Q3 2011	D.E.S
	Peru	PTT	Thailand	0.3	1		July 2011	D.E.S
	Peru	MITSUBISHI	Japan	0.3	0,5		December 2011	D.E.S
	Qatar	Centrica	UK	2.4	3		June 2011	D.E.S
	GDF SUEZ Portfolio	PETRONAS	Malaysia	2.5	3,5		2012	D.E.S
	GDF SUEZ Portfolio	PETRONET	India	0.6	1		2012	D.E.S
Heads of Agreement (H.O.A)	BG portfolio	GSPC	India	2.5	20		2014	D.E.S
	Tokyo Gas	Saibu Gas	Japan	0.3	16		2014	D.E.S
	SHELL Portfolio	KOGAS	South Korea	3.6	23		2013	D.E.S
	SHELL Portfolio	CPC	Taiwan	2	20		2016	D.E.S
Memorandum of understanding (M.O.U.)	QATAR/QATARGAS	ENARSA	Argentina	5.0	20		2014	
	RUSSIA/GAZPROM	PETRONET	India	2.5	25		2016	
	RUSSIA/GAZPROM	GSPC	India	2.5	25		2016	
Agreements on re-gasification rights		ENARSA	Argentina	1.8	0,4		November 2011	
		GN Europe	France	0.7	10		2011	

(*) Up to 122 cargoes over 21 years (i.e up to 8.4 million tonnes if a 70,000 tons capacity vessel is used).

Origin	Export country/exporter	Purchaser	Import country	Number of cargoes	Duration (yrs)	Extra years	Start	Delivery format
	Belgium/Zeebrugge		Japan	3	spot		2011	
	Belgium/Zeebrugge		Netherlands	1	spot		2011	
	Belgium/Zeebrugge		South Korea	1	spot		2011	
	Belgium/Zeebrugge		Spain	4	spot		2011	
	Spain/Cartagena		Argentina	1	spot		2011	
	Spain/Cartagena		Italy	5	spot		2011	
	Spain/Huelva		Argentina	1	spot		2011	
	Spain/Huelva		Italy	3	spot		2011	
	Spain/Mugardos		Argentina	3	spot		2011	
	Spain/Mugardos		Italy	1	spot		2011	
	Spain/Mugardos		Kuwait	1	spot		2011	
	Spain/Mugardos		Taiwan	1	spot		2011	
Re-export of cargoes	Mexico/ECA		Chile	1	spot		2011	
	USA/Sabine Pass		Brasil	3	spot		2011	
	USA/Freeport		Brasil	1	spot		2011	
	USA/Cheniere		Chile	1	spot		2011	
	USA/Sabine Pass		China	2	spot		2011	
	USA/Freeport		India	2	spot		2011	
	USA/Sabine Pass		India	2	spot		2011	
	USA/Cameron		Japan	1	spot		2011	
	USA/Freeport		South Korea	1	spot		2011	
	USA/Sabine Pass		South Korea	1	spot		2011	
	USA/Cameron		Spain	1	spot		2011	
	USA/Sabine Pass		Spain	1	spot		2011	
	USA/Sabine Pass		United Kingdom	1	spot		2011	

LNG Trade

In 2011, the world LNG trade accounted for 532.35 10^6 m^3 in liquid form [1] or 240.8 10^6 t, as shown in the following table:

LNG IMPORTS

	10^6 m^3 liquid	10^6 t	10^9 m^3 (n) gaseous	share (%)	Var. 2010 / 2011 (%)
Belgium	9,03	4,08	5,16	1.7	-7.2
France	23,37	10,53	13,39	4.4	1.2
Greece	2,03	0,91	1,16	0.4	25.8
Italy	13,89	6,27	7,95	2.6	-5.8
Netherlands	1,29	0,58	0,74	0.2	N/A
Portugal	4,74	2,14	2,71	0.9	-0.7
Spain	38,51	17,25	22,11	7.2	-16.3
Turkey	10,63	4,80	6,09	2.0	-14.6
U.K.	40,77	18,42	23,30	7.7	29.8
Europe	**144,26**	**64,99**	**82,62**	**27.0**	**0.4**
Argentina	6,71	2,93	3,89	1.2	130.0
Brazil	1,38	0,61	0,80	0.3	-71.2
Chile	6,32	2,78	3,66	1.2	27.9
Dominican Rep	1,60	0,69	0,93	0.3	11.1
Mexico	6,29	2,84	3,60	1.2	-33.7
Puerto Rico	1,52	0,65	0,88	0.3	21.4
Canada	5,50	2,45	3,16	1.0	166.4
USA	13,82	6,14	7,96	2.5	-25.1
Americas	**43,14**	**19,08**	**24,87**	**7.9**	**-5.0**
China	28,77	13,06	16,41	5.4	36.1
India	27,34	12,33	15,64	5.1	37.4
Japan	173,16	79,09	98,48	32.8	11.6
Korea	78,82	35,55	45,05	14.8	8.9
Taïwan	26,93	12,20	15,38	5.1	9.1
Thailand	1,78	0,80	1,02	0.3	N/A
Asia	**336,81**	**153,03**	**191,98**	**63.6**	**14.8**
Kuwait	5,73	2,60	3,27	1.1	30.6
Dubai	2,41	1,08	1,38	0.5	952.2
Middle East	**8,14**	**3,69**	**4,65**	**1.5**	**75.9**
Total	***532,35***	***240,80***	***304,11***	***100.0***	***9.4***

SOURCE OF IMPORTS

	10^6 m^3 liquid	10^6 t	10^9 m^3 (n) gaseous	share (%)	Var. 2010 / 2011 (%)
Algeria	27,55	12,48	15,78	5.2	-12.2
Egypt	14,62	6,33	8,53	2.6	-5.8
Equatorial Guinea	8,97	3,95	5,19	1.6	8.6
Lybia	0,13	0,06	00,7	0.0	-76.9
Nigeria	41,84	18,91	23,89	7.9	5.1
Norway	5,61	2,51	3,22	1.0	-28.2
Trinidad & Tobago	30,11	12,98	17,52	5.4	-5.7
Atlantic Basin	**128,82**	**57,22**	**74,21**	**23.8**	**-4.8**
Abu Dhabi	12,46	5,82	7,05	2.4	-3.9
Oman	17,70	8,09	10,05	3.4	-9.2
Qatar	166,37	75,36	95,00	31.3	32.9
Yemen	14,39	6,36	8,30	2.6	59.6
Middle East	**210,91**	**95,63**	**120,40**	**39.7**	**26.4**
Australia	42,07	19,52	23,77	8.1	1.2
Brunei	15,34	7,09	8,65	2.9	6.6
USA	0,76	0,32	0,44	0.1	-44.0
Indonesia	48,87	21,88	27,97	9.1	-6.9
Malaysia	54,02	24,90	30,63	10.3	6.0
Peru	8,11	3,70	4,70	1.5	205.5
Russia	23,43	10,57	13,38	4.4	8.7
Pacific Basin	**192,61**	**87,98**	**109,54**	**36.5**	**4.2**
Total	***532,35***	***240,80***	***304,11***	***100.0***	

QUANTITIES (IN 10^6 T) RECEIVED IN 2011 BY THE IMPORTING COUNTRIES FROM THE EXPORTING COUNTRIES

	Algeria	Belgium	Egypt	Equ. Guin.	Libya	Nigeria	Norway	Peru	Spain	Trinidad & Tobago	Abu Dhabi	Oman	Qatar	Yemen	Australia	Brunei	USA	Indonesia	Malaysia	Russia	***Total Imports***
Belgium	-	(0,5)(*)	-	-	-	0,1	-	-	-	0,1	-	-	4,2	0,3	-	-	-	-	-	-	4,1
France	4,2	-	0,6	-	-	2,6	0,3	-	-	0,3	-	-	2,4	0,1	-	-	-	-	-	-	10,5
Greece	0,6	-	0,1	-	-	0,1	-	-	-	0,0	-	-	0,1	-	-	-	-	-	-	-	0,9
Italy	1,2	-	0,3	-	-	-	0,1	-	0,2	0,1	-	-	4,4	-	-	-	-	-	-	-	6,3
Netherlands	0,1	0,1	0,1	-	-	0,1	0,1	-	-	0,1	-	-	0,2	-	-	-	-	-	-	-	0,6
Portugal	0,1	-	0,1	-	-	1,9	0,1	-	-	-	-	-	0,1	-	-	-	-	-	-	-	2,1
Spain	2,9	0,2	1,7	-	0,1	4,9	0,9	1,4	(0,4)(*)	1,7	-	0,1	3,6	-	-	-	0,1	-	-	-	17,2
Turkey	3,0	-	0,3	-	-	1,0	-	-	-	-	-	-	0,4	-	-	-	-	-	-	-	4,8
U.K.	0,2	-	0,1	-	-	0,9	0,3	-	-	0,4	-	-	16,1	0,5	-	-	0,1	-	-	-	18,4
Europe	**12,2**	**(0,2)**	**3,2**	**-**	**0,1**	**11,4**	**1,7**	**1,4**	**(0,3)**	**2,7**	**-**	**0,1**	**31,7**	**0,8**	**-**	**-**	**0,2**	**-**	**-**	**-**	**65,0**
Argentina	-	-	0,1	-	-	0,3	-	-	0,1	2,1	-	-	0,3	-	-	-	-	-	-	-	2,9
Brazil	-	-	-	-	-	0,1	-	-	-	0,2	-	-	0,2	-	-	-	0,2	-	-	-	0,6
Chile	-	-	0,1	1,0	-	-	-	-	-	0,8	-	-	0,4	0,3	-	-	0,1	0,1	-	-	2,8
Domin Rep	-	-	-	-	-	-	0,1	-	-	0,6	-	-	-	-	-	-	-	-	-	-	0,7
Mexico	-	-	-	-	-	0,8	-	0,5	-	-	-	-	1,3	0,1	-	-	-	0,1	-	-	2,8
Puerto Rico	-	-	-	-	-	-	-	-	-	0,7	-	-	-	-	-	-	-	-	-	-	0,7
Canada	-	-	-	-	-	-	-	-	-	0,8	-	-	1,6	-	-	-	-	-	-	-	2,4
U.S.A.	-	-	0,7	-	-	0,0	0,3	0,3	-	2,6	-	-	1,9	1,2	-	-	(1,0)(*)	-	-	-	6,1
Americas	**-**	**-**	**0,8**	**1,0**	**-**	**1,3**	**0,4**	**0,8**	**0,1**	**7,7**	**-**	**-**	**5,8**	**1,7**	**-**	**-**	**(0,8)**	**0,2**	**-**	**-**	**19,1**
China	-	-	0,2	0,1	-	0,7	-	0,1	-	0,3	-	-	2,4	0,7	3,7	-	0,1	2,6	1,8	0,3	13,1
India	0,2	-	0,5	-	-	1,1	0,1	-	-	0,4	0,1	0,1	9,4	0,1	0,1	-	0,2	-	0,1	-	12,3
Japan	0,1	0,2	0,7	1,5	-	2,0	0,2	0,3	-	0,3	5,6	3,8	11,9	0,1	14,1	6,4	0,4	9,2	15,2	7,1	79,1
Korea	-	0,1	0,4	0,7	-	1,1	-	0,7	-	1,4	-	3,9	7,8	2,7	1,1	0,7	0,1	7,9	4,0	2,9	35,6
Taiwan	-	-	0,5	0,6	-	0,7	0,1	0,1	0,1	0,1	0,1	0,1	4,1	0,1	0,3	-	-	1,9	3,4	0,2	12,2
Thailand	-	-	-	-	-	0,1	-	0,2	-	-	-	-	0,3	-	-	-	-	0,1	-	0,1	0,8
Asia	**0,2**	**0,2**	**2,3**	**2,9**	**-**	**5,6**	**0,4**	**1,5**	**0,1**	**2,4**	**5,8**	**8,0**	**35,9**	**3,8**	**19,3**	**7,1**	**0,8**	**21,7**	**24,5**	**10,6**	**153,0**
Kuwait	-	-	0,1	-	-	0,6	-	-	0,1	-	0,1	-	1,3	-	0,2	-	-	-	0,3	-	2,6
Dubai	-	-	-	-	-	0,1	-	-	-	0,2	-	-	0,7	-	0,1	-	-	-	0,1	-	1,1
Middle East	**-**	**-**	**0,1**	**-**	**-**	**0,7**	**-**	**-**	**0,1**	**0,2**	**0,1**	**-**	**2,0**	**-**	**0,3**	**-**	**-**	**-**	**0,4**	**-**	**3,7**
Total exports	***12,5***	***-***	***6,3***	***3,9***	***0,1***	***18,9***	***2,5***	***3,7***	***-***	***13,0***	***5,8***	***8,1***	***75,4***	***6,4***	***19,5***	***7,1***	***0,3***	***21,9***	***24,9***	***10,6***	***240,8***

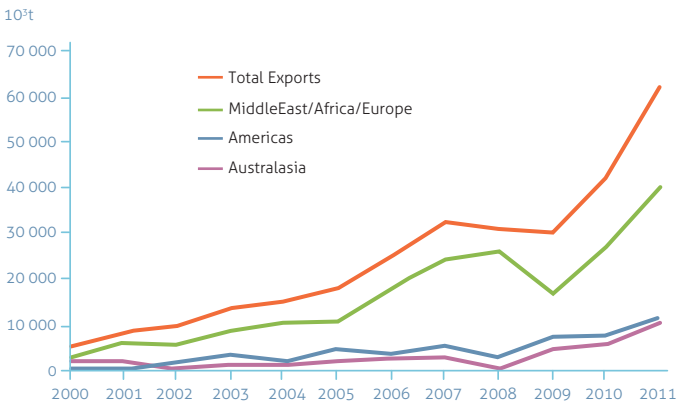
(*) Re-exports.

SPOT AND SHORT-TERM QUANTITIES (10^3 TONS) RECEIVED IN 2011 BY THE IMPORTING COUNTRIES FROM THE EXPORTING COUNTRIES

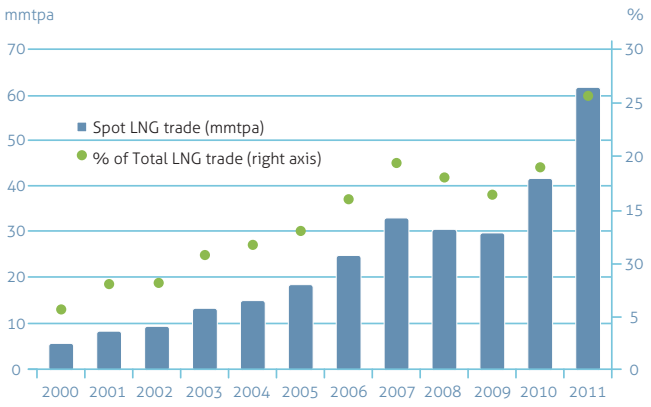
	Algeria	Belgium	Egypt	Equ. Guin.	Libya	Nigeria	Norway	Peru	Spain	Trinidad & Tobago	Abu Dhabi	Oman	Qatar	Yemen	Australia	Brunei	USA	Indonesia	Malaysia	Russia	*Total Imports*
Belgium	-	(504)(*)	-	-	-	-	-	-	-	55	-	-	568	269	-	-	-	-	-	-	389
France	94	-	57	-	-	-	126	-	-	178	-	-	651	120	-	-	-	-	-	-	1 226
Greece	149	-	59	-	-	86	-	-	-	19	-	-	143	-	-	-	-	-	-	-	456
Italy	30	-	-	-	-	-	58	-	162	-	-	-	-	-	-	-	-	-	-	-	250
Netherlands	55	63	53	-	-	58	-	-	-	53	-	-	235	-	-	-	-	-	-	-	517
Portugal	28	-	57	-	-	-	59	-	-	-	-	-	-	-	-	-	-	-	-	-	144
Spain	548	202	355	-	-	909	423	1 394	(417)(*)	342	-	-	271	-	-	-	116	-	-	-	4 142
Turkey	-	-	317	-	-	-	-	-	-	-	-	-	434	-	-	-	-	-	-	-	752
U.K.	176	-	57	-	-	231	202	-	-	59	-	-	3 372	253	-	-	112	-	-	-	4 462
Europe	**1 079**	**(238)**	**955**	**-**	**-**	**1 285**	**868**	**1 394**	**(255)**	**706**	**-**	**-**	**5 674**	**643**	**-**	**-**	**228**	**-**	**-**	**-**	**12 337**
Argentina	-	-	56	-	-	325	-	-	145	2 090	-	-	314	-	-	-	-	-	-	-	2 930
Brazil	-	-	-	-	-	56	-	-	-	161	-	-	216	-	-	-	172	-	-	-	605
Chile	-	-	56	185	-	-	-	-	-	279	-	-	64	-	-	-	52	-	-	-	635
Domin Rep	-	-	-	-	-	-	55	-	-	-	-	-	-	-	-	-	-	-	-	-	55
Mexico	-	-	-	-	-	-	-	466	-	-	-	-	181	-	-	-	-	-	-	-	647
Puerto Rico	-	-	-	-	-	-	-	-	-	111	-	-	-	-	-	-	-	-	-	-	111
Canada	-	-	-	-	-	-	-	-	-	-	-	-	1 642	-	-	-	-	-	-	-	1 642
U.S.A.	-	-	178	-	-	49	-	348	-	1 034	-	-	1 229	122	-	-	(978)(*)	-	-	-	1 982
Americas	**-**	**-**	**290**	**185**	**-**	**430**	**55**	**813**	**145**	**3 675**	**-**	**-**	**3 646**	**122**	**-**	**-**	**(753)**	**-**	**-**	**-**	**8 609**
China	-	-	117	127	-	700	-	144	-	324	-	-	187	196	-	-	143	-	180	127	2 244
India	183	-	476	-	-	818	62	-	-	373	91	126	1 484	109	63	-	244	-	121	-	4 151
Japan	58	184	716	925	-	1 608	117	335	-	104	752	887	5 657	128	937	-	352	1 607	498	1 091	15 955
Korea	-	55	117	726	-	1 057	-	692	-	1 361	-	67	946	944	396	-	106	3 057	-	1 140	10 663
Taiwan	-	-	481	500	-	598	122	60	53	54	60	125	868	128	213	-	-	-	61	186	3 509
Thailand	-	-	-	-	-	122	-	229	-	-	-	-	321	-	-	-	-	69	-	-	742
Asia	**241**	**238**	**1 907**	**2 277**	**-**	**4 904**	**301**	**1 460**	**53**	**2 216**	**903**	**1 205**	**9 462**	**1 506**	**1 609**	**-**	**845**	**4 734**	**860**	**2 543**	**37 265**
Kuwait	-	-	63	-	-	639	-	-	57	-	60	-	1 252	-	199	-	-	-	335	-	2 605
Dubai	-	-	-	-	-	61	-	-	-	114	-	-	95	-	61	-	-	-	60	-	391
Middle East	**-**	**-**	**63**	**-**	**-**	**700**	**-**	**-**	**57**	**114**	**60**	**-**	**1 347**	**-**	**260**	**-**	**-**	**-**	**395**	**-**	**2 996**
Total exports	***1 320***	**-**	***3 215***	***2 462***	**-**	***7 319***	***1 224***	***3 667***	**-**	***6 712***	***962***	***1 205***	***20 129***	***2 271***	***1 869***	**-**	***320***	***4 734***	***1 255***	***2 543***	***61 206***

(*) Re-exports.

Spot and short-term LNG trade development since 2000



Spot and Short-Term LNG Trade & Share of Total LNG Trade since 2000



Note: Short-term trade denotes trades under contracts of a duration of 4 years or less.

LNG tankers

The world LNG tanker fleet consisted of 359 vessels at the end of 2011.

In 2011, high demand in Asian markets combined with the absence of significant additional capacity led to a tighter LNG shipping market and to an escalation of spot charter rates.
16 ships were added to the world LNG tanker fleet during the year (compared with 25 in 2010), leading to an additional capacity of 1.8 10^6 m^3, i.e an average capacity of 114 000 m^3 per tanker. The order book was up from 20 at the end of 2010 to 59 at the end of 2011, but 53 of the ships ordered will not come into service before 2013.

- Four ships were sold to be scrapped in 2011:
  - Bekulan (Mark I, 75 000 m^3, delivered in 1973)
  - Belais (Mark I, 75 000 m^3, delivered in 1974)
  - Bekalang (Mark I, 75 000 m^3, delivered in 1973)
  - Tellier (Mark I, 40 100 m^3, delivered in 1974)

- One methane tanker is being converted into a FSRU:
  - FSRU Toscana (start-up planned for Q4 2012)

- Two ships are being converted into FSUs:
  - Tenaga Empat (130 000 m^3, delivered in 1981)
  - Tenaga Satu (130 000 m^3, delivered in 1982)

59 orders were placed for new ships: 54 using the membrane technique, 3 using the MOSS technique and 2 using the cylinders technique.

4110 voyages completed in 2011

1 438 » to Japan (1 356 in 2010)
563 » to Korea (519 in 2010)
1 109 » to Europe (1 194 in 2010)
346 » to the United States, Puerto Rico, the Dominican Republic, Mexico, Argentina, Brazil, Chile and Canada (379 in 2010)
198 » to Taiwan (180 in 2010)
195 » to India (142 in 2010)
194 » to China (145 in 2010)
11 » to Thailand
39 » to Kuwait (33 in 2010)
17 » to Dubai (3 in 2010)

LAID-UP SHIPS IN 2011

Name	Capacity	Delivery date	Containment
Echigo Maru	125 800	1983	Moss
Galeomma	126 450	1978	Mark I
Gandria	125 800	1977	Moss
Hilli	126 200	1975	Moss
Koto	125 200	1984	Moss
LNG Bonny	132 600	1984	NO 88
LNG Palmaria	41 000	1969	Esso
Sunrise	129 400	1977	NO 85
Tenaga Dua	130 000	1981	NO 88
Tenaga Lima	130 000	1981	NO 88
Tenaga Tiga	130 000	1981	NO 88
Wakaba Maru	125 900	1985	Moss
Wilgas	125 900	1984	Moss
TOTAL	***1 574 250***		

Total shipping capacity in operation throughout the year 2011 was 51.9 10^6 m^3 (with an average capacity per carrier of about 145 000 m^3), while total shipping capacity available on the market at the year-end reached 53.5 10^6 m^3, including some 1.8 10^6 m^3 of additional capacity from new ships delivered during the year.

In all, **4110** loaded voyages were completed in 2011, compared to 3 951 in 2010.

Due to a higher utilization rate of large size carriers and of Q-Series, the average delivery volume reached 130 000 m^3 in 2011, compared with 122 000 m^3 in 2010.

16 ships delivered in 2011

MEMBRANE TECHNOLOGY (10)

Official Delivery Date	Ship name	Capacity (m³)	Shipowner	Shipbuilder	Cargo System	Hull number
02/18/2011	Arkat	147 000	Brunei Government 80% Mitsubishi 10% Shell 10%	DSME	NO 96	DSME 2273
05/27/2011	Stena Crystal Sky	173 400	Stena 100%	DSME	NO 96	DSME 2268
05/31/2011	Stena Clear Sky	173 400	Stena 100%	DSME	NO 96	DSME 2278
08/01/2011	Amali	147 000	Brunei Government 80% Mitsubishi 10% Shell 10%	DSME	NO 96	DSME 2277
08/30/2011	Soyo	160 400	Mitsui (MBK) 34 % NYK 34% Teekay 32%	SHI	Mark III	SHI 1810
09/30/2011	Malanje	160 400	Mitsui (MBK) 34 % NYK 34% Teekay 32%	SHI	Mark III	SHI 1811
10/04/2011	Sonangol Sambizanga	160 500	Sonangol 100%	DSME	NO 96	DSME 2280
10/31/2011	Lobito	160 400	Mitsui (MBK) 34% NYK 34% Teekay 32%	SHI	Mark III	SHI 1812
11/01/2011	Sonangol Etosha	160 500	Sonangol 100%	DSME	NO 96	DSME 2281
12/01/2011	Sonangol Benguela	160 500	Sonangol 100%	DSME	NO 96	DSME 2282

MOSS TECHNOLOGY (1)

Official Delivery Date	Ship name	Capacity (m³)	Shipowner	Shipbuilder	Cargo System	Hull number
08/31/2011	Energy Horizon	177 000	NYK Line 90% Tokyo LNG Tanker 10%	KSC	Moss	KSC 1664

CYLINDERS TECHNOLOGY (5)

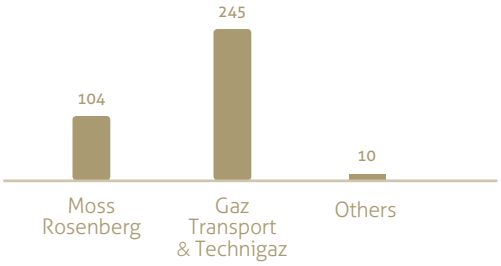
Delivery Date	Ship name	Capacity (m³)	Shipowner	Shipbuilder	Cargo System	Hull number
01/10/2011	Norgas Invention	10 000	IM Skaugen 50% GATX 50%	Taizhou Skaugen Wuzhou	Cylinders	WZL0603
06/30/2011	Norgas Unikum	12 000	Teekay 100%	Dingheng Jiangsu	Cylinders	DJ 2007-001
10/28/2011	Bahrain Vision	12 000	Bahrain Oil & Gas Holding Company 35% IMS Marine Services 35% Suffun Bahrain 30%	Dingheng Jiangsu	Cylinders	DJ 2007-002
10/31/2011	Akebono Maru	3 500	Shinwa Chemical Tanker 100%	KHI	Cylinders	KHI 1682
10/31/2011	Norgas Conception	10 000	IM Skaugen 50% GATX 50%	Taizhou Skaugen Wuzhou	Cylinders	WZL0604

Source: GTT.

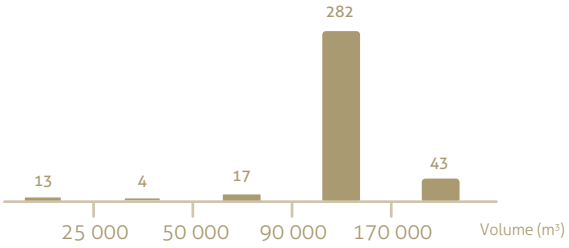
Tanker distribution

The vessels can be classified as follows (at the end of 2011):

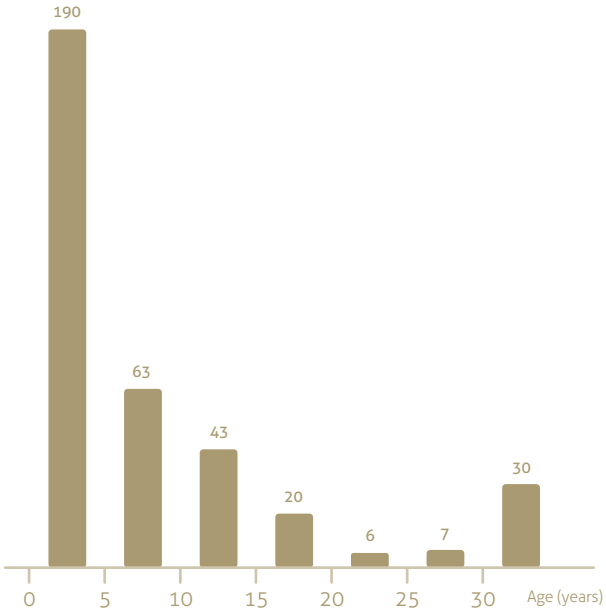
According to containment system



According to cargo capacity



According to the delivery date or the age of the ships



LNG Characteristics (2011 update)

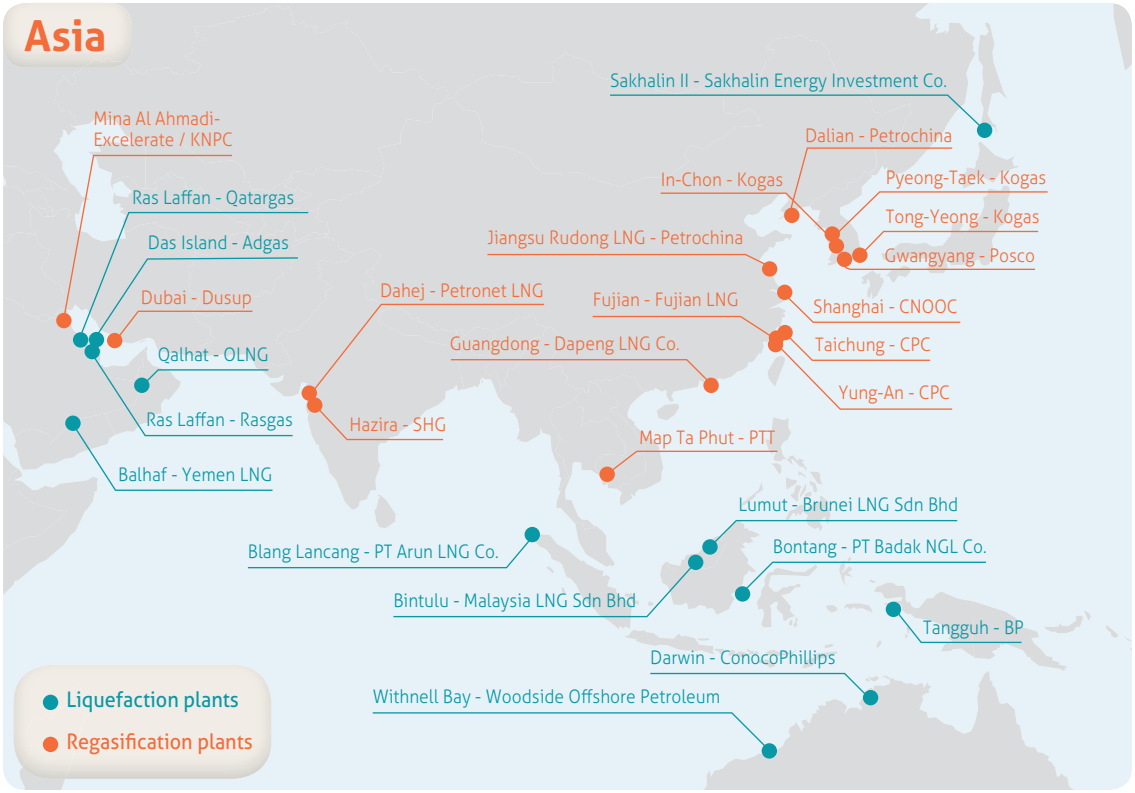
The average composition is chosen as being representative among compositions reported by the different receiving terminals.

Origin	Nitrogen - N2	Methane - C1	Ethane - C2	Propane - C3	C4+	Total	LNG Density (1) kg/m³	Gas Density (2) kg/m³(n)	Expansion ratio m³(n)/ m³ liq	Gas GCV (2) MJ/m³(n)	Wobbe Index (2) MJ/m³(n)
Australia -NWS	0,0	87,3	8,3	3,3	1,0	100	467	0,831	562	45,3	56,5
Australia - Darwin	0,1	87,6	10,0	2,0	0,3	100	461	0,812	568	44,4	56,0
Algéria - Skikda	0,6	90,4	7,4	0,6	0,1	100	447	0,776	576	42,3	54,6
Algeria - Bethioua	0,6	89,5	8,2	1,3	0,3	100	455	0,795	572	43,2	55,1
Algeria - Arzew	0,7	88,9	8,4	1,6	0,4	100	457	0,801	570	43,5	55,2
Brunei	0,0	90,1	5,3	3,0	1,5	100	462	0,818	564	44,7	56,2
Egypt - Idku	0,0	95,3	3,6	0,7	0,3	100	437	0,756	578	41,8	54,6
Egypt - Damietta	0,0	97,3	2,5	0,1	0,1	100	429	0,737	582	40,9	54,1
Equatorial Guinea	0,0	93,4	6,5	0,1	0,0	100	440	0,760	579	42,0	54,7
Indonesia -Arun	0,1	91,9	5,7	1,6	0,8	100	451	0,789	571	43,3	55,4
Indonesia - Badak	0,0	90,1	5,5	3,0	1,4	100	461	0,816	565	44,6	56,2
Indonesia - Tangguh	0,1	96,9	2,4	0,4	0,2	100	431	0,742	581	41,0	54,1
Libya	0,6	82,6	12,6	3,6	0,7	100	479	0,858	558	46,2	56,8
Malaysia	0,1	91,7	4,6	2,6	0,9	100	454	0,798	569	43,7	55,6
Nigeria	0,0	91,7	5,5	2,2	0,6	100	452	0,791	571	43,4	55,5
Norway	0,5	92,0	5,7	1,3	0,4	100	448	0,782	574	42,7	54,9
Oman	0,2	90,7	5,8	2,1	1,2	100	457	0,805	568	44,0	55,7
Peru	0,6	89,1	10,3	0,1	0,0	100	452	0,787	547	42,9	55,0
Qatar	0,3	90,9	6,4	1,7	0,7	100	453	0,795	571	43,4	55,4
Russia - Sakhalin	0,1	92,5	4,5	2,0	1,0	100	451	0,789	571	43,3	55,4
USA - Alaska	0,2	99,7	0,1	0,0	0,0	100	421	0,719	586	39,9	53,5
Trinidad	0,0	96,8	2,8	0,4	0,1	100	431	0,741	582	41,1	54,2
Yemen	0,0	93,2	5,9	0,8	0,1	100	442	0,767	577	42,3	54,9

(1) Calculated according to ISO 6578 [T = -160°C]. (2) Calculated according to ISO 6976 [0°C / 0°C, 1.01325 bar].

Liquefaction plants

There were 24 LNG liquefaction facilities in operation in eighteen countries at the end of 2011. One single train was commissioned in 2011: Train 4 at Qatargas IV. The aggregate nominal capacity of all liquefaction plants amounted to 609.6 10^6 m^3 of LNG per year (278 mmtpa) for 92 liquefaction trains. Total storage capacity remained stable, with 9.2 10^6 m^3 of LNG for 88 storage tanks, representing the equivalent of about six days of consumption.
In 2011, several FIDs were taken on Australian projects: Gladstone in January, Prelude LNG in May, Australia-Pacific LNG in June, Wheatstone LNG in October. The only non-Australian project to reach FID in 2011 was Donggi-Senoro in Indonesia. All these projects will provide an additional LNG production capacity of 26.8 mmtpa.



New projects/extensions of existing plants

Algeria

• In Algeria, Sonatrach decommissioned Arzew GL4Z (Camel) at the end of 2010, which reduced Algerian LNG production capacity by 0.9 mmtpa. At the end of 2011, Arzew facilities included two existing plants (6 x 1.3 mmtpa trains on one plant and 6 x 1.4 mmtpa trains on the other) for a total capacity of 16.2 mmtpa. Decommissioned capacities will be replaced by a new train in Gassi Touil (Arzew GL3Z). With a capacity of 4.7 mmtpa, GL3Z could be operational by the end of 2013.

Angola

• In Angola, the first 5.2 mmtpa train of Angola LNG was still under construction at year-end 2011. It is expected to start-up production in the second half of 2012. When operational, Angola will become the 19th LNG exporting country. Initially expected to supply the US market, Angola LNG has set up a joint-venture in order to market volumes in other markets given the low price conditions in North America.

Australia

• **Pluto LNG:** at the end of 2011, the first train (4.3 mmtpa) had been completed and first production is expected first half of 2012; Woodside is securing gas for additional trains to reach FID.

• **Queensland Curtis LNG:** the first coal bed methane-to-LNG project is now under construction. The project will be composed of two trains (2 x 4.25 mmtpa) and should come on line in 2015. BG (90%) - with partner CNOOC (10%) - is considering extension up to 12 mmtpa. LNG sales will be delivered to the Asian-Pacific zone and to Chile.

• In addition, several projects made significant progress in 2011: four FIDs were taken and many developments are still under consideration, which could progressively increase Australia's output from about 19.5 mmtpa in 2011 to a target of 100 mmtpa by the end of the decade.

• **Gladstone LNG:** partners Santos (30%), Petronas (27.5%), Total (27.5%) and Kogas (15%) took FID in January for the 2 x 3.9 mmtpa project. Gas supply will come from Queensland's coal bed methane fields and from Cooper Basin's conventional gas fields. Start-up is expected in 2015.

• **Prelude LNG:** FID for this first floating LNG project (3.6 mmtpa) was taken by Shell as 100% owner in May 2011. Inpex joined Shell in March 2012 by acquiring 17.5% of the shares in the project. Total cost is around $ 12 bn. The project is planned to be operational around 2017-2018 and most of the sales will be made through Shell's portfolio.

Liquefaction plants (cont'd.)

• **Australia Pacific LNG:** Project partners Origin, Conoco-Philips (42.5% each) and Chinese company Sinopec (15 %) took FID for the first train (4.5 mmtpa) in July 2011. The project is expected to come on line in 2016. After **Queensland Curtis (QCLNG)** and **Gladstone, APLNG** is the third Coalbed Methane-based LNG plant in Australia.

• **Wheatstone LNG:** FID was reached in September for this two train facility (2 x 4.45 mmtpa). Chevron (72.14%) is joined by several partners including Apache (13%), Kuwait Petroleum (7%), Shell (6.4%) and Kyushu Electric (1.46%). Most of the LNG will be sold under LT agreements with Japanese customers (SPAs were finalised with TEPCO and Kyushu Electric).

• **Ichtys LNG:** after finalising SPAs in late 2011, Inpex and Total took FID on the 8.4 mmtpa Ichtys LNG project located in the North West of Australia in January 2012. Construction will probably start in Q2 2012, and first production is expected by the end of 2016. Around 70% of the volumes will be sent to Japan (TEPCO, Tokyo Gas, Osaka Gas, Toho Gas, Chubu Electric, Kyushu Electric & Kansai Electric).

• **Gorgon LNG:** initially expected to come on line in 2014, the 3x5 mmtpa project will probably be delayed until 2015. Owned by Chevron (47.3%), Shell (25%), Exxon Mobil (25%), Osaka Gas (1.3%), Tokyo Gas (1%) and Chubu (0.4%), Gorgon will mostly supply Asian markets under LT contracts but also spot markets.

Canada

• In British Columbia, the 5 mmtpa **Kitimat** export project will be fed from shale gas plays. Led by Apache (40%), EOG Resources (30%) and Encana (30%), the partnership is facing high costs of transmission of gas feed to the plant. In addition, sales agreements may take some time to be reached, since sellers are seeking oil-linked prices whereas potential buyers may favour hub-based prices (AECO or Henry Hub). Partners plan to reach FID by 2012 and to start LNG production in late 2015.

Indonesia

• **Donggi-Senoro LNG** reached FID in January. The single train 2 mmtpa project is announced to come on line in the second half of 2014. The plant will be fed by Donggi and Senoro fields. Liquefaction investment could be in the range of $ 2.8 bn. Project partners include Pertamina (29%), Medco (11%), Mitsubishi (45%) and KOGAS (15%), and LNG volumes will be sold to Japanese power companies (Chubu and Kyushu) and to KOGAS.

• Concerning the **Tangguh** plant, following drilling activities in the Bintuni Bay, BP reported in August 2011 that sufficient reserves had been certified to support the third train. BP is now planning to submit a Plan of Development (POD) to the Indonesian government for the expansion.

Libya

• In Libya, due to the Civil War, output from Libyan liquefaction plant Marsa El Brega stopped in March 2011, causing very limited impact on global LNG supplies.

Nigeria

• At Bonny Island, trains 7 and 8 are still uncertain given other projects in Nigeria including Brass LNG and Olokola LNG.

• With regard to the **Brass LNG** project, front end engineering is now completed and FID is awaited by Q3 2012. Cost estimates are in the range of $ 15 bn.

Papua New Guinea

• The Papua New Guinea 2 x 6.6 mmtpa project is under construction, and train 1 is expected to come on line in the second half of 2014 (train 2 in 2015). LNG volumes will be sold to Sinopec, CPC and Japanese companies TEPCO and Osaka Gas.

Qatar

• The last 7.8 mtpa **Qatargas** train came on line in February 2011, bringing Qatar's LNG liquefaction capacity to the well publicized number of 77 mmtpa, establishing the country as the leading LNG producing country in the world. In 2011, Qatar produced around 75 mmtpa, i.e more than 30% of the global LNG production, with an average utilisation rate of facilities close to 95%.

United States

• In Alaska, the **Kenai** liquefaction plant was expected to be decommissioned in 2011 because of declining reserves, but production was finally extended until at least 2012. In September 2011, ConocoPhillips acquired Marathon's 30% shares in the liquefaction plant, with Marathon remaining involved in the upstream portion of the project. The plant has a license to export LNG until March 2013.

• The 18 mmtpa **Sabine Pass** liquefaction project made significant progress during the year with FEED in early 2011 and 16 mmtpa of long-term SPAs signed with several buyers including BG, Gas Natural, GAIL from India (KOGAS joined them in early 2012). Approval from the US Federal Energy Regulatory Commission (FERC) was given in April 2012. Cheniere plans to begin construction in 2012 and to start production in 2015.

• **Freeport LNG** is also proposing to add liquefaction infrastructure at its existing regasification terminal to provide export capacity of 13.2 mmtpa of LNG. In February 2011 Freeport LNG received approval from DOE to export LNG to Free Trade Agreement countries. Completion and start-up of the first liquefaction train is expected in early 2017.

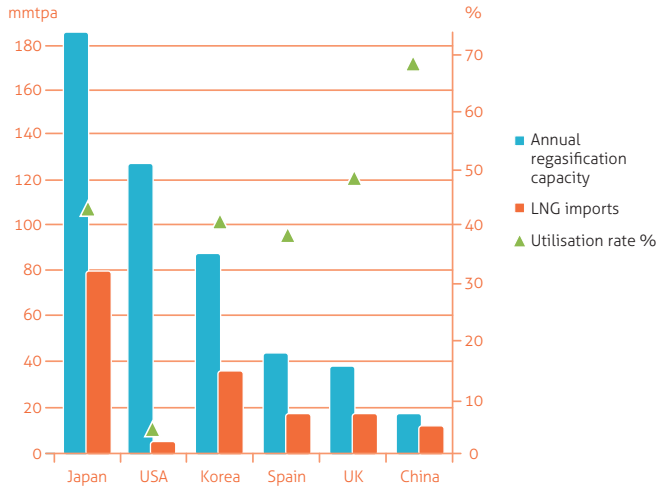
Three other projects based on existing regasification terminals have also applied for export licenses: Cameron (Sempra), Lake Charles (BG/Southern Union) and Cove Point (Dominion).
In addition, two greenfield export projects are being proposed: Gulf Coast LNG (in Texas) and Jordan Cove (in Oregon).
The total combined capacity of US export projects could amount to more than 100 mmtpa.

Regasification plants

89 LNG regasification terminals - including 10 floating facilities - where in operation at the end of 2011, compared with 40 terminals in 2001. Over the last ten years, the number of importing countries grew from 11 in 2001 to 25.
The combined nominal send-out capacity of the facilities reached about 640 mmtpa (868 bcm/y) and total storage capacity amounted to 44.1 10^6 m^3 of LNG (liquid) with 394 tanks. Together, Japan and Korea accounted for 43% of the world's regasification capacity.
Compared to an annual LNG consumption of 240.8 mmtpa, the global average utilization rate of installations remained stable, around 37%.
While Asian and European regasification terminals recorded average utilization rates of respectively 45% and 46%, the average utilization rate of US terminals dropped below 5%.

New projects/extensions of regasification units

Regasification capacity vs LNG imports in 2011



Seven new terminals were commissioned in 2011. Combined with the expansion of Fujian, new facilities added 39.2 mmtpa to the existing global regasification capacity.

Argentina

• After **Bahia Blanca** in 2009, Enarsa and YPF started operating a second offshore terminal in the country in Puerto Escobar, 30 miles outside Buenos Aires. With a capacity of 2.7 mmtpa, GNLE (GNL Escobar) was commissioned in June 2011. Like **Bahia Blanca, GNL Escobar** uses a Floating, Storage and Regasification Unit permanently moored at the new port facilities. In the meantime, YPF increased **Bahia Blanca**'s regasification capacity from 10 MMm^3/day to a maximum capacity of 14 MMm^3/day. Final upgrade to 17 MMm^3/day will be performed in 2012.

Belgium

• In **Zeebrugge,** Fluxys decided to construct a second jetty at the LNG terminal for unloading as well as loading LNG ships (including small sizes). The Port of Zeebrugge has just started the construction of the underwater structure and operator Fluxys LNG plans to commission the jetty by early 2015.

China

• At the **Fujian** LNG receiving terminal (60% owned by CNOOC), two new storage tanks were built in 2011, allowing to bring the terminal's receiving capacity to more than 8 mmtpa.

Two new terminals came online in 2011:

- In May, Petrochina started receiving cargoes at its 3.5 mmtpa terminal located in **Rudong**, Jiangsu province. The Rudong terminal is owned by Kunlun Energy of Hong Kong (55%) in which Petrochina is a majority shareholder, Pacific Oil and Gas (35%) and local government investment company Jiangsu Guozin (10%).
- Also in 2011, Petrochina commissioned its other terminal, located in **Dalian**, Liaoning province. The 3 mmtpa facility is owned by Kunlun Energy of Hong Kong (75%), the port of Dalian (20%) and local government investment company Dalian Construction Investment (5%).

In addition, three land-based terminals are under construction:
Zhejiang, Zhuhai and **Hainan.**

- Zhejiang LNG receiving terminal is expected to come on stream in August 2012 with an initial receiving capacity of 3 mmtpa. CNOOC is the leading shareholder with 51% of the shares.
- Zhuhai LNG terminal is expected to come on stream in 2013 with an initial capacity of 3.5 mmtpa. CNOOC owns 30% of shares in the terminal.

Regasification plants

- Hainan LNG receiving terminal started construction in August 2011, and is expected to come on stream in 2014 with an initial receiving capacity of 3 mmtpa. The terminal is owned by CNOCC (65%) and Hainan Development Holdings (35%).
In October 2011, CNOOC also started building facilities for a floating LNG receiving terminal in **Tianjin**. The FSRU (145 000 m^3 GDF SUEZ Cape Ann) has been reserved with GDF SUEZ in 2011. The terminal is expected to come on stream in 2013 with an initial receiving capacity of 2.2 mmtpa. In a second phase planned for 2015, the terminal's capacity could be brought to 6 mmtpa with the addition of land-based facilities. CNOOC is the only shareholder in the terminal at the moment but is expected to bring on board two other shareholders.

India

• In India, Petronet continued the construction of its 2.5 mmtpa regasification facility at **Kochi** in the State of Kerala. The facility is scheduled to be commissioned by the end of October 2012. The total EPC cost of the additional regasification facility reaches 68 USD Million. In addition, a 2.5 mmtpa second phase could be operational by the end of 2013.
At the **Dabhol** terminal (30% owned by GAIL), commissioning expected in April was delayed in order to dredge the channel and to accommodate 160 000 m^3 vessels.

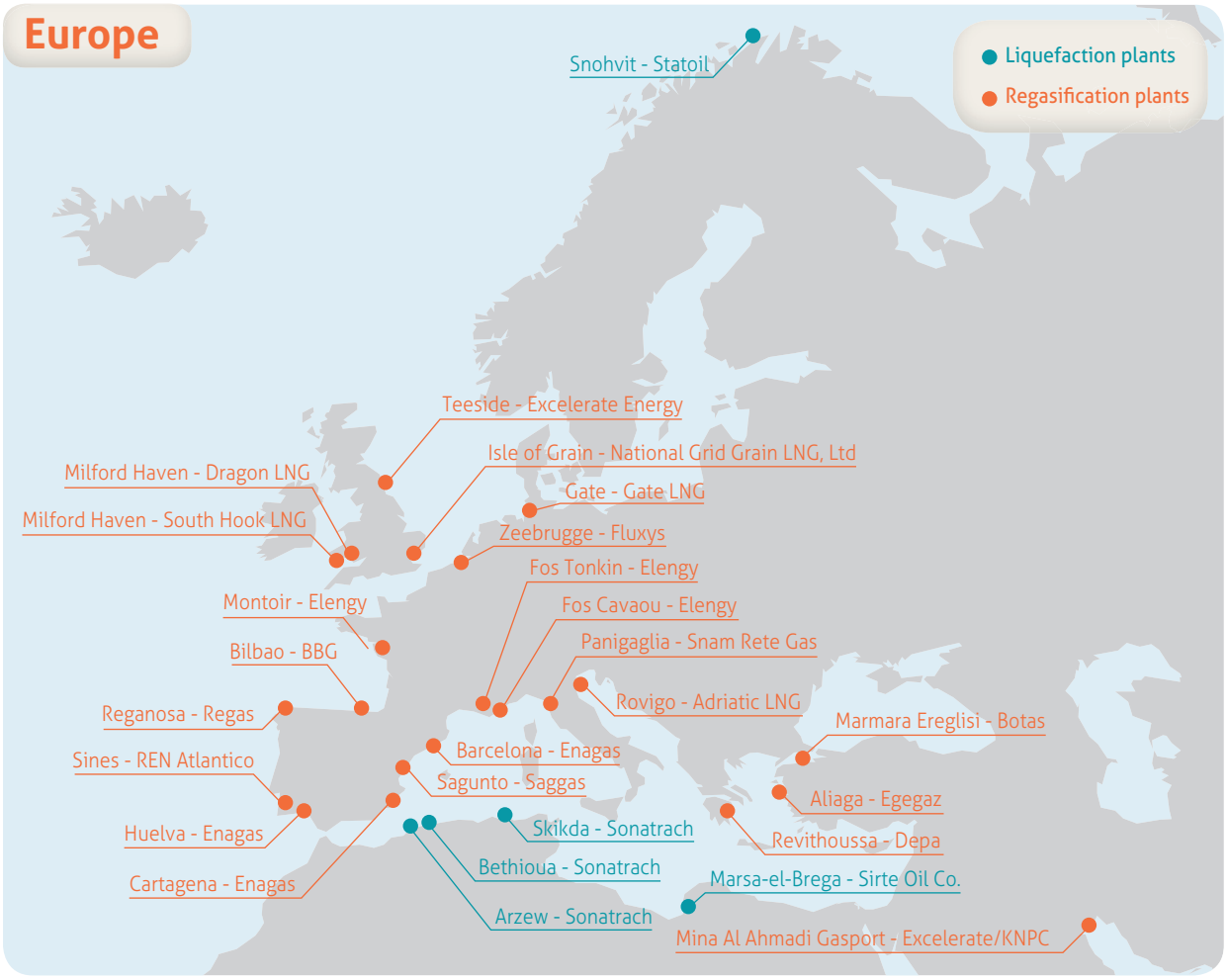
France

• In France, decision was taken to extend **Montoir-de-Bretagne** LNG terminal's life until 2035, while maintaining its capacity. Since Autumn 2011, Montoir-de-Bretagne is ready to receive Q-Max vessels after notably some works in order to reinforce a jetty.

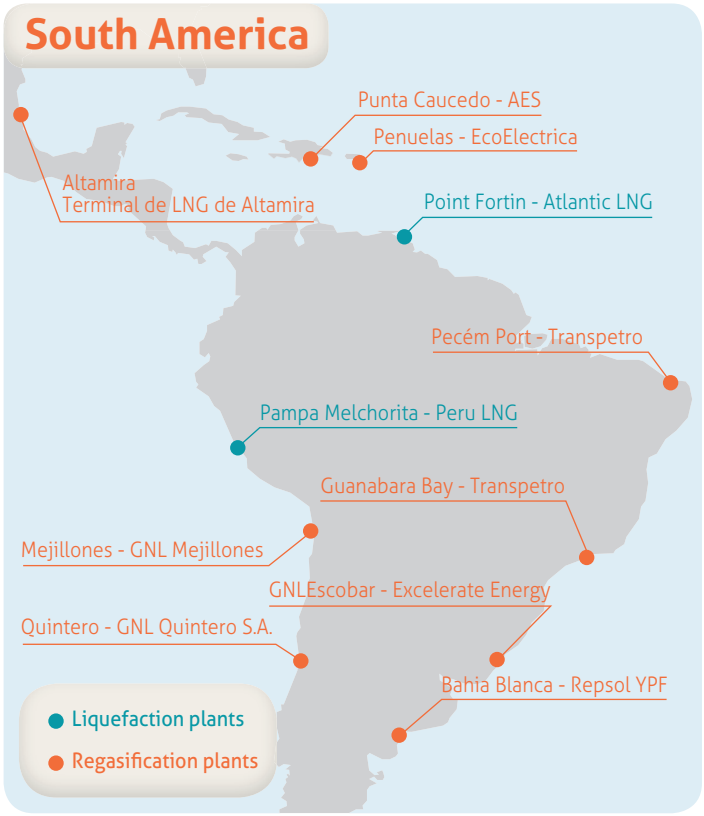
Also in 2011, FID was taken on the new **Dunkerque LNG terminal,** which is expected to come online in 2015. With a capacity of about 10 mmtpa, the terminal will be owned by EDF (65.01%), Fluxys (25%) and Total (9.99%).

Italy

• In Italy, the **Panigaglia** LNG terminal was shutdown in October 2011 in order to install new tube-bundles inside the 4 SCV vaporizers.
As a consequence, the total capacity of the plant was formally restored after it had been reduced by one third in 2009 (from 17 500 liquid m^3/day to 12 000 liquid m^3/day).



Regasification plants (cont'd.)



Japan

• In Japan, Chugoku Electric and JX Nippon Oil completed the construction of a second 160,000 m³ tank at their **Mizushima** LNG terminal in April 2011.

In Joetsu City, Chubu Electric started importing LNG to supply its **Joetsu** combined-cycle plant. The facility is expected to have storage capacity of 540 000 m³.

Three new terminals are currently under construction:

- Ishikari LNG, developed by Hokkaido Gas and expected to come on stream by the end of 2012 with an initial capacity of 1.4 mmtpa.

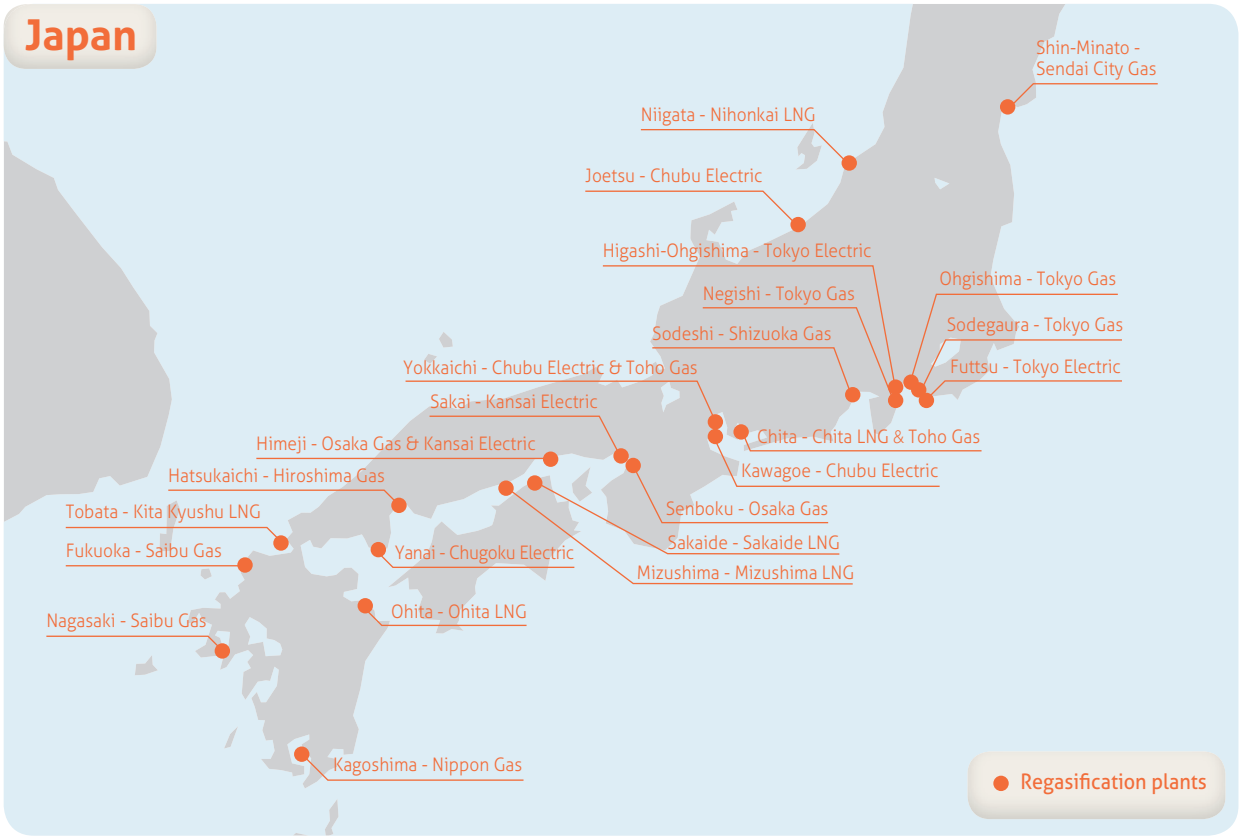
- Naoetsu, developed by Inpex, expected in 2014 with an initial capacity of 1.5 mtpa and a 360 000 m³ storage capacity.

- Hachinohe, developed by JX Nippon Oil, with expected start-up in 2015 and an initial capacity of 1.5 mmtpa.

Noteworthy, in November 2011, Chita LNG Terminal (co-owned by Chubu Electric and Toho Gas) received its 3000th LNG tanker since it was launched in 1977.

Mexico

• In June 2011, a joint-venture of Vopak (60%) and Enagas (40%) announced the acquisition of the LNG storage and regasification terminal in **Altamira**. The jointly controlled entity has acquired 100% of the shares in the terminal from Shell (50%), Total (25%) and Mitsui & Co LTD. (25%) for 408 USD million. Total has no more equity in the facility but preserves its 1.25 Bcm/y subscription of capacities.



Regasification plants (cont'd.)

Netherlands

• In Rotterdam, **Gate LNG** terminal started importing LNG in June 2011, receiving a total of 8 cargoes during the year. With an initial capacity of 8.9 mmtpa, **Gate** comprises three 180 000 m3 storage tanks. The terminal is owned by Vopak (42.5%), Gasunie (42.5%), Essent (5%), Dong (5%) and OMV (5%).

Portugal

• In 2011, the **Sines** LNG Terminal concluded the second phase of its expansion project, which started in 2009 and will finalize in 2012. Completion of the second phase will increase the capacity of the terminal from 3.4 mmtpa to 4.6 mmtpa.

Spain

• In December 2011, the **Sagunto** regasification plant SAGGAS (42.5% owned by GAS NATURAL FENOSA) puts its fourth LNG storage tank into commercial operation. The entry into commercial operation of this new tank allows Saggas to double its initial storage capacity, to 600 000 m^3.

- In **Barcelona**, one new 150 000 m^3 tank was commissioned in 2011, bringing the terminal's storage capacity to 840 000 m^3.

- In **Bilbao**, BBG (Bahia de Bizkaia Gas) approved the construction of a new tank of 150 000 m^3, which implies a 50% increase in the actual storage capacity of the plant. The construction started in 2011 and the new installation is expected to be operational by July 2014.

- In **Gijon (El Musel)**, a new terminal including two 150 000 m^3 tanks is currently under construction. With an initial capacity of 5.8 mmtpa, the terminal was expected to be completed by the end of 2012. It will finally be mothballed due to insufficient gas demand.

Thailand

• In Thailand, PTT started up operating its **Map Ta Phut** terminal in the second quarter of 2011, receiving 11 cargoes during the year. The terminal has a capacity of 5 mmtpa.

United States

• In the United States, due to the shift in gas supply and demand balance, Excelerate Energy decided to cease operating its existing 3 mtpa **Gulf Gateway** terminal. Located off the coast of Louisiana, the terminal will be decommissioned in 2012.

- One new terminal (**Gulf LNG**) was commissioned at Pascagoula, in Mississippi. With a capacity of 8.8 mmtpa, the terminal is operated by Gulf LNG Energy, a subsidiary of El Paso (50%) and General Electric (50%).

- In Texas, Golden Pass LNG started commercial operations and received 8 cargoes during the year.

Photos: Gate Terminal B.V., Petrobras, ConocoPhillips, Royal Dutch Shell, Dubai Supply Authority, Fluxys.

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