



# THE LNG INDUSTRY

2009

# THE LNG INDUSTRY IN 2009

## World energy situation



The average annual growth of the world primary energy consumption has been 2.4% over the last ten years, with the highest growth rate observed for 2004 (+4.6%). In 2008, world primary energy consumption registered a 1.7% increase, which represents the lowest growth since 2001 and breaks a series of 5 consecutive years above the 10-year average.

It should be noted that for the first time non-OECD primary energy consumption exceeded OECD consumption.

As for the previous years, the Asia Pacific region shows the most important increase for 2008, rising by 4% and accounting for 87% of the global growth. China alone accounts in 2008 for 73% of this global growth (and has been accounting for more than half of the global growth since 2005).

Consumption in the US fell by 2.8%, which represents the most important decline since 1982.

Over the last ten years, the world energy consumption rose from  $9\,022\,10^6$  toe in 1999 to  $11\,295\,10^6$  toe in 2008, a 25.2% overall increase.

The breakdown for the major types of energy in 2008, as compared to 2007, was as follows:

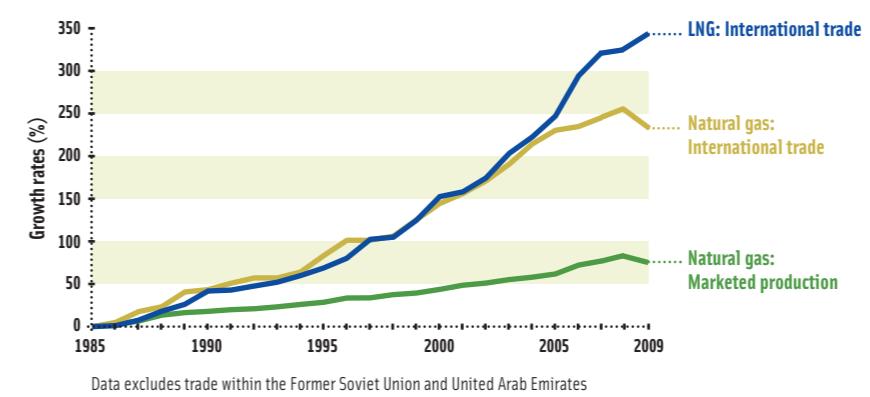
Year	Consumption by fuel (in $10^6$ toe)		variation
	2008	2007	
Oil	3 928	3 939	- 0.3%
Coal	3 304	3 195	+ 3.4%
Natural gas	2 726	2 652	+ 2.8%
Nuclear	620	622	- 0.3%
Hydroelectric	717	696	+ 3.0%

For the eighth year in a row, coal has increased its share of the overall energy market to 29.3%. Oil consumption declined in 2008 (-0.3%) for the first time since 1993. Nuclear power decreased for a second consecutive year (-0.3% in 2008 and -2% in 2007). The growth of natural gas consumption in 2008 (+2.8%) was lower than in 2007 (+3.4%).

The largest growth was observed in China. The EU consumption increased slightly (+0.5%), after 2 consecutive years of decrease. The market share for natural gas remained stable in 2008 (24.1%) compared to 2007 (23.9%)<sup>(1)</sup>.

Estimates for the marketed production of natural gas in 2009<sup>(2)</sup> show a decrease of about 3.9% over 2008. The share of LNG in the gas trade accounts for 30% of the total (excluding trade within the Former Soviet Union and United Arab Emirates).

The graph hereunder gives the respective growth rates since 1985 for the marketed gas production, the total cross-border gas trade and the LNG trade:



<sup>(1)</sup> Source BP Statistical Review of World Energy June 2009

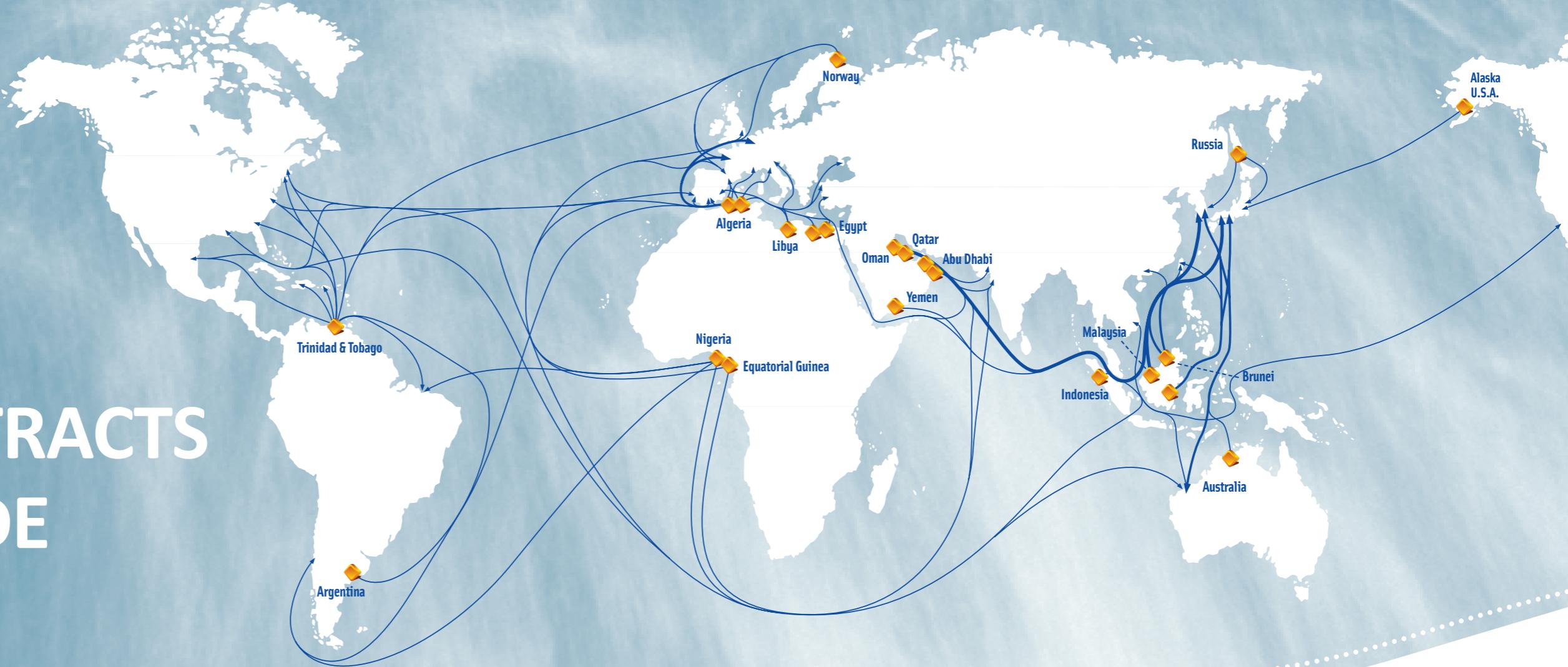
<sup>(2)</sup> Source Cédigaz



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# LNG CONTRACTS AND TRADE



144 long-term and medium-term contracts were in force in 2009, or 24 more than in 2008\*. The international trade<sup>(1)</sup> accounted for  $398.7 \text{ } 10^6 \text{ m}^3$  (in liquid form) or  $181.7 \text{ } 10^6 \text{ t}$ . It rose by  $21.4 \text{ } 10^6 \text{ m}^3$ , or a growth of 5.66%, as a result of the commissioning of several liquefaction and regasification plants. This was quite a significant growth rate compared with the previous year and in spite of the worldwide recession.

On the import side, Japan retained its position as the leading LNG importer worldwide with  $141.6 \text{ } 10^6 \text{ m}^3$ , or 35.31% of all imports, followed by Korea with  $54.9 \text{ } 10^6 \text{ m}^3$  (13.74%) and Spain with  $44.9 \text{ } 10^6 \text{ m}^3$  (11.3%). However, in a market growing at 5.66%, their positions have edged back in relative as well as absolute terms, Japan decreasing from  $150.4 \text{ } 10^6 \text{ m}^3$  to  $141.6 \text{ } 10^6 \text{ m}^3$ , Korea from  $63.4 \text{ } 10^6 \text{ m}^3$  to  $54.9 \text{ } 10^6 \text{ m}^3$  and Spain from  $48.9 \text{ } 10^6 \text{ m}^3$  to  $44.9 \text{ } 10^6 \text{ m}^3$ .

The LNG market share for Europe grew strongly from 24.7% to 28.8%. This situation is mainly due to a significant reduction in 2009 in the flows from the Atlantic to the Pacific Basin compared to 2008, as a result of the much smaller premiums of Asian spot prices over the Atlantic price benchmarks. This change in trade pattern with respect to 2008 has also been induced by increased LNG terminal capacity in the United Kingdom with two terminals coming on line simultaneously in Milford Haven in Wales. The country's recent capability to attract LNG cargoes drastically changed its import situation and hence its security of supply position. Massive imports from Qatar went to South Hook, one of the key destinations for the new Q-Max ships as well as the smaller Q-Flex ships. The United Kingdom's market share jumped from 0.5% to 4.45% at  $17.6 \text{ } 10^6 \text{ m}^3$ . Furthermore, Belgium's market share rose from 1.3% to 2.7% at  $10.9 \text{ } 10^6 \text{ m}^3$  and Italy's from 0.6% to 1.2% at  $4.7 \text{ } 10^6 \text{ m}^3$ , mainly attributable to the commissioning of a new offshore terminal in the north of the Adriatic Sea. France, still the second largest market in Europe behind Spain

at  $21.2 \text{ } 10^6 \text{ m}^3$ , saw its market share remain stable at 5.4% while maintaining a positive growth of 3.6%, well behind the average European growth rate of 22.5%. Turkey and Portugal were in a similar position with a market share respectively of 2.2% at  $8.8 \text{ } 10^6 \text{ m}^3$  and 1.1% at  $4.5 \text{ } 10^6 \text{ m}^3$ . Finally, Greece witnessed a significant decline of -16.1% with a market share of 0.3% at  $1.4 \text{ } 10^6 \text{ m}^3$ .

In the Americas, LNG imports into the U.S.A. have risen from  $16.05 \text{ } 10^6 \text{ m}^3$ , or a 30.5% gain over 2008. However, there was not as much activity as expected in all the U.S. terminals, including the newly commissioned Cameron terminal in Louisiana, as many LNG cargoes were diverted to higher-priced markets in Europe and rising domestic supplies of shale gas lessened the appetite for LNG imports. Mexico recorded a no-growth staying at  $6.03 \text{ } 10^6 \text{ m}^3$ . The Dominican Republic grew 14.2% at  $0.9 \text{ } 10^6 \text{ m}^3$ . Argentina, which started importing LNG last year, almost doubled its volumes to  $1.5 \text{ } 10^6 \text{ m}^3$ . Three newcomers in the international LNG market in 2009, Brazil, Chile and Canada, gained a market share of respectively 0.2%, 0.3% and 0.4%. As a whole, imports for the Americas were up by 36.7% and their total market share moved forward to 8.7%.

Globally, the Asian market was slightly receding by -4% with imports falling from  $259.1 \text{ } 10^6 \text{ m}^3$  to  $249 \text{ } 10^6 \text{ m}^3$ . India and China are consolidating their position with  $20.3 \text{ } 10^6 \text{ m}^3$  and  $12.4 \text{ } 10^6 \text{ m}^3$  respectively. Korea, for the first time since 1998, declined by -13.3%, while Taiwan's imports fell as well by -2.5% to  $19.5 \text{ } 10^6 \text{ m}^3$ .

In the Middle East, Kuwait entered the LNG import market with purchases reaching  $1.6 \text{ } 10^6 \text{ m}^3$ . The country has ambitious plans for power generation and petrochemicals, and a strong environmental drive.

As to the sources of imports, Qatar, with new plants on stream, was still, by far, leading the market with  $81.1 \text{ } 10^6 \text{ m}^3$ , or a 23.2% rise over 2008. Malaysia ranked second with  $49 \text{ } 10^6 \text{ m}^3$ , and Indonesia (third) posted a decline of 4%. Australia was fourth at  $39.4 \text{ } 10^6 \text{ m}^3$  with a 19.4% growth. Algeria (fifth) tumbled to  $34.4 \text{ } 10^6 \text{ m}^3$ . Trinidad & Tobago grew at  $33.5 \text{ } 10^6 \text{ m}^3$  with an increase of 11.2%. It is worth mentioning that cargoes from Trinidad & Tobago were delivered to all the importing countries except Italy. Egypt's LNG exports were slightly receding at  $22.3 \text{ } 10^6 \text{ m}^3$ . Nigeria underwent a severe drop of -30.6% to  $25.5 \text{ } 10^6 \text{ m}^3$  due to interruptions of feed gas supply in the Niger Delta.

The Pacific Basin was still the largest source in absolute terms with  $157.4 \text{ } 10^6 \text{ m}^3$  but the gap with the Atlantic Basin is widening again from  $5.7 \text{ } 10^6 \text{ m}^3$  in 2008 to  $27.8 \text{ } 10^6 \text{ m}^3$  this year, due to the beginning of Russian exports.

Middle-East exports were on the rise from  $97.1 \text{ } 10^6 \text{ m}^3$  to  $111.2 \text{ } 10^6 \text{ m}^3$ , driven essentially by Qatar (23.2%) while Oman and Abu Dhabi were receding respectively by -5.5% and -6.6%.

It is worth mentioning that four cargoes were successfully loaded at the Zeebrugge LNG terminal in 2009 and were re-exported to Kuwait, China and Spain. One of them was still at sea at the end of the year. They were, in fact, sourced from Qatar, the source of all the LNG imported into Belgium over the period when the re-exports took place. One cargo was also re-exported from the Freeport LNG terminal in the United States in December and was to be delivered in 2010.

The spot and short-term imports (based on contracts with a duration of 4 years or less) amounted to  $65.1 \text{ } 10^6 \text{ m}^3$  in liquid form (491 cargoes) as against  $66.2 \text{ } 10^6 \text{ m}^3$  (498 cargoes) in 2008\*, accounting for 16.3% of the world LNG trade. (See table page 19)

Noteworthy in 2009 was the continuation of the downward trend observed since 2007 after a steady growth since the turn of the century.

It should be pointed out that a part of this short-term trade is supplied by re-sales or diversions of lifting under long-term contracts.

Asia was no more the destination of choice in global LNG spot and short-term trade and Korea recorded the largest decline. Spain maintained its position while the UK experienced the strongest growth overall.

As to the sourcing of spot and short-term transactions, it is noted that Egypt was no longer the leader with a decline of its share from 21 to 12.2%. Trinidad & Tobago came first with a 23.3% share, followed by Qatar, although slightly decreasing to 17.8%.

The world trade involved 127 "flows" (i.e. country-to-country trades) over 359 sea transportation routes (port-to-port routes). Compared to 2008, 112 routes were new and 62 ceased in 2009. In 2009, there were 42 new country-to-country flows compared to 2008: ABU-DHABI/Portugal - AUSTRALIA/France, Kuwait, Taiwan and UK - EGYPT/Canada - EQUATORIAL GUINEA/Chile, France and Portugal - INDONESIA/China, India and Mexico - MALAYSIA/China, India and Kuwait - NIGERIA/Brazil - NORWAY/UK - OMAN/China, Kuwait and Turkey - TRINIDAD & TOBAGO/Brazil, Canada, Chile, China, France, Kuwait and Turkey - QATAR/Canada, Chile, China, France, Italy and Turkey - RUSSIA/China, India, Japan, Korea, Kuwait and Taiwan - YEMEN/Korea, Mexico and Spain.

8 flows disappeared: ALGERIA/China, Japan, Korea and Taiwan - EGYPT/Belgium - EQUATORIAL GUINEA/Spain and NORWAY/India and Japan.

<sup>(1)</sup> All figures related to LNG trade are based on unloaded volumes.

\*Figures for 2008 revised from our 2008 report: 120

# CONTRACTS CONCLUDED IN 2009

	Export country	Purchaser	Import country	Amount (mtpa)	Duration (Years)	Extra Years	Start	Delivery Format
<b>Long &amp; medium-term Sales &amp; Purchase Agreements (&gt; 4 yrs)</b>								
Australia	Petronet LNG Limited	India	1.44	20			2014/15	F.O.B.
Australia	Kansai Electric	Japan	0.40	8			2009	D.E.S.
Australia	Tokyo Electric	Japan	0.30	8			2009	D.E.S.
Australia	Tokyo Gas	Japan	1.10	25	5		2014	F.O.B.
Australia	Osaka Gas	Japan	1.38	25			2014	F.O.B.
Australia	Chubu Electric	Japan	1.44	25			2014	F.O.B./D.E.S.
Indonesia	Tohoku Electric	Japan	0.12	15			2010	D.E.S.
Papua New Guinea	Osaka Gas	Japan	1.50	20			2013	
Papua New Guinea	Tokyo Electric	Japan	1.80	20			2013	
Papua New Guinea	Sinopec	China	2.00	20			2013	
Russia	Osaka Gas	Japan	0.20	23			2008	F.O.B.
Trinidad and Tobago	Gas Natural Aprovisionamientos	Spain	0.72	5			2009	F.O.B.
<b>Short-term contracts (4 yrs)</b>								
Algeria	Edison Spa	Italy	0.13	<1 year			2009	D.E.S.
BP*	Petronet LNG Limited	India	0.60	1			2009	
Qatar	Sempra LNG Marketing	USA	0-3.5*	1.5			2009	
Qatar	Edison Spa	Italy	0.13	<1 year			2009	Ex-Ship
Qatar	Statoil	USA	up to 1.5	1.5 year	N/A		June 2009	
U.S.A	Tokyo Electric, Tokyo Gas	Japan	0.34	2			2009	D.E.S.
portfolio incl. Russia	Korea Gas Corporation	Korea	year 1: 0.18 year 2: 0.42 year 3: 0.42	3	1(0.18mt)		2010	D.E.S.
Project Dev. Agreement (P.D.A.)	Australia	CNOOC	China	3.60	20		2014	D.E.S.
<b>Heads of Agreement (H.O.A.)</b>								
Australia	Tokyo Electric	Japan	4.1	20			2016	
Australia	Korea Gas Corporation	Korea	1.50	15	5		2015	F.O.B.: 50% D.E.S.: 50%
Indonesia (Bontang)	Osaka Gas, Toho Gas, Chubu Electric, Kansai Electric, Kyushu Electric, Nippon Steel	Japan	3.00~2.00	10			2011	F.O.B./D.E.S.
Memorandum of understanding (M.O.U.)								
Agreements on re-gasification rights	Russia**	Gazprom GAIL GSPCL Indian Oil Corporation	Mexico India India India	1 2 2			2009 1 May 2009 26 August 2009 30 Dec. 2009	
Re-export of cargoes	Belgium Belgium Belgium	Kuwait Spain China	0.06 0.06 0.06	spot spot spot				
Aggregator Agreement	Singapore	EMA		up to 3.0	20		2012/13	D.E.S.
Storage and regasification or reloading agreements***								
ConocoPhillips	U.S.	Citigroup from COP and Macquarie at Freeport; Citigroup to Kogas	Korea	1 cargo	7.5 months		juil-09	
Macquarie Energy				1 cargo	6 months		juin-09	

\*10 cargoes

\*\*This is a permanent assignment from Shell of a portion of Shell's existing contracted capacity (~ 25%)

\*\*\*Under two separate agreements, ConocoPhillips and Macquarie brought one cargo each to the Freeport terminal. The arrangements gave them the right to store LNG for several months and then either reexport or regasify. ConocoPhillips reexported one full cargo lot in December 2009 through LNG sale to Citigroup. Macquarie ended up selling part of the cargo to Freeport LNG Development and part to Citigroup, and regasifying and sending out the balance of their inventory to the US market in January 2010.

## LNG IMPORTS

	10 <sup>6</sup> m <sup>3</sup> liquid	10 <sup>6</sup> t	10 <sup>9</sup> m <sup>3</sup> (n) gaseous	share %	Var. 2008-09 %
Belgium	10.910	5.004	6.215	2.73	116.04
France	21.235	9.601	12.194	5.36	3.62
Greece	1.366	0.611	0.788	0.35	-16.14
Italy	4.741	2.174	2.709	1.19	98.70
Portugal	4.547	2.063	2.589	1.14	1.43
Spain	44.963	20.230	25.805	11.35	-8.07
Turkey	8.873	4.048	5.085	2.24	3.98
U.K.	17.661	7.992	10.125	4.45	887.75
<b>Europe</b>	<b>114.296</b>	<b>51.722</b>	<b>65.511</b>	<b>28.82</b>	<b>22.54</b>
Argentina	1.448	0.625	0.844	0.37	101.95
Brazil	0.805	0.351	0.467	0.21	
Chile	1.052	0.466	0.611	0.27	
Dominican Rep	0.932	0.403	0.543	0.24	14.22
Mexico	6.034	2.734	3.433	1.51	0.08
Puerto Rico	1.223	0.528	0.713	0.31	-7.00
Canada	1.623	0.707	0.943	0.41	
USA	20.965	9.110	12.184	5.36	30.56
<b>Americas</b>	<b>34.082</b>	<b>14.924</b>	<b>19.738</b>	<b>8.68</b>	<b>36.68</b>
China	12.397	5.742	7.001	3.08	70.43
India	20.262	9.277	11.536	5.08	11.91
Japan	141.599	65.196	80.268	35.31	-5.83
Korea	54.95	25.220	31.234	13.74	-13.30
Taiwan	19.530	8.938	11.107	4.89	-2.48
<b>Asia</b>	<b>248.738</b>	<b>114.372</b>	<b>141.146</b>	<b>62.09</b>	<b>-4.02</b>
Kuwait	1.600	0.720	0.915	0.40	
<b>Middle East</b>	<b>1.600</b>	<b>0.720</b>	<b>0.915</b>		
<b>Total</b>	<b>398.716</b>	<b>181.739</b>	<b>227.309</b>	<b>100.00</b>	<b>5.66</b>

## SOURCES OF IMPORTS

	10 <sup>6</sup> m <sup>3</sup> liquid	10 <sup>6</sup> t	10 <sup>9</sup> m <sup>3</sup> (n) gaseous	share %	Var. 2008-09 %
Algeria	34.350	15.681	19.734	8.68	-1.51
Egypt	22.325	9.633	12.982	5.71	-4.17
Equatorial Guinea	7.65	3.358	4.475	1.97	0.64
Libya	1.185	0.575	0.662	0.29	39.91
Nigeria	25.480	11.670	14.422	6.34	-30.54
Norway	5.198	2.334	2.999	1.32	43.95
Trinidad & Tobago	33.464	14.456	19.510	8.58	11.17
<b>Atlantic Basin</b>	<b>129.652</b>	<b>57.707</b>	<b>74.784</b>	<b>32.90</b>	<b>-5.37</b>
Abu Dhabi	11.544	5.391	6.534	2.87	-6.57
Oman	17.901	8.413	10.078	4.43	-5.54
Qatar	81.058	37.287	46.122	20.29	23.20
Yemen	0.717	0.311	0.407	0.18	
<b>Middle East</b>	<b>111.220</b>	<b>51.402</b>	<b>63.141</b>	<b>27.78</b>	<b>14.54</b>
Australia	39.402	18.401	22.144	9.74	19.39
Brunei	14.316	6.600	8.074	3.55	-6.01
USA	1.317	0.557	0.776	0.34	-24.05
Indonesia	42.331	19.324	24.065	10.59	-4.06
Malaysia	49.019	22.598	27.794	12.23	0.94
Russia	11.054	4.963	6.301	2.77	
<b>Pacific Basin</b>	<b>157.439</b>	<b>72.443</b>	<b>89.154</b>	<b>39.22</b>	<b>10.37</b>
<b>Other</b>	<b>0.405</b>	<b>0.186</b>	<b>0.230</b>	<b>0.10</b>	<b>-30.53</b>
<b>Total</b>	<b>398.716</b>	<b>181.739</b>	<b>227.309</b>	<b>100.00</b>	<b>5.66</b>

The conversion factors are calculated from the table page 8.

The figures are based on unloaded volumes.

## QUANTITIES (10<sup>6</sup> liquid m<sup>3</sup>) RECEIVED IN 2009

### BY THE IMPORTING COUNTRIES FROM THE EXPORTING COUNTRIES

	Algeria	Egypt	Equat. Guin.
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# LNG TANKERS

The world LNG tanker fleet consisted of 336 vessels at the end of 2009.

2009 was a major milestone for the LNG shipping with:

- the celebration of its 50<sup>th</sup> anniversary. The very first voyage of a laden methane tanker took place on January 28, 1959: the Methane Pioneer (an experimental ship built in 1958, 5 123 m<sup>3</sup>) carried LNG from Lake Charles in the United States to Canvey Island in the United Kingdom to demonstrate that LNG cargoes could be transported over long distances by maritime transport. It should be noted that the first commercial voyage took place in 1964.
- the celebration of the 40<sup>th</sup> anniversary of the Moss design.
- the celebration of the 150<sup>th</sup> anniversary of the Suez Canal.

## LAID-UP SHIPS

Name	Capacity	Delivery date	Containment
Abdel Kader	177 000	2009	Mark III
Al Kharana	210 100	2009	NO 96
Al Khattiya	210 100	2009	NO 96
Al Mageda	266 000	2009	Mark III
Al Nuaman	210 100	2009	NO 96
Aseem	154 800	2009	Mark III
Ben Badis	177 000	2009	Mark III
Dapeng Star	147 200	2009	NO 96
Galeomma (ex Arzew)	126 500	1978	TGZ
GDF SUEZ Neptune	145 000	2009	Mark III
Hilli	126 200	1975	Moss
Hoegh Gondria	125 903	1977	Moss
Maersk Arwa	165 000	2008	Mark III
Maersk Methane	165 000	2008	Mark III
Margaret Hill (ex Hoegh Galleon)	87 600	1974	Moss
Mel (ex-Hassi R'Mel)	40 850	1971	GT
Methania	131 200	1978	GT
Min Lu	147 200	2009	NO 96
Shagra	266 000	2009	Mark III
Taitar n° 2	147 000	2009	Moss
Tangguh Hiri	155 000	2008	Mark III
Tangguh Jaya	155 000	2008	Mark III
Tenaga Empat	130 000	1981	GT
Transgas (ex Edouard L.D.)	129 299	1977	GT
<b>TOTAL</b>	<b>3 795 052</b>		

• No ship was sold for scrapping in 2009 but, for the following two ships, this option is strongly being considered:

- Margaret Hill ex Hoegh Galleon (Moss, 137 000 m<sup>3</sup>, delivered in 1974)
- Mel ex Hassi R'Mel (CNIM1388, NO82, 40 000 m<sup>3</sup>, delivered in 1971).

• Two new methane tankers are being converted in FSRU:

- Golar Frost (HHI 1444, Moss, 137 000 m<sup>3</sup>, delivered in 2004)
- Golar Freeze (HDW83, Moss, 129 000 m<sup>3</sup>, delivered in 1977)

• No order was placed for new ships.

Total shipping capacity in operation was almost 45 10<sup>6</sup> m<sup>3</sup> in 2009; the average capacity per carrier was about 145 000 m<sup>3</sup>.

Total shipping capacity available on the market in 2009 was almost 49 10<sup>6</sup> m<sup>3</sup>, including some 7.6 10<sup>6</sup> m<sup>3</sup> of additional capacity with all the new ships delivered during the year.

At the end of December 2009, the number of LNG carriers under construction or on firm order was 37 of which 5 using the Moss technique, 0 using the SPB technique and 32 using the GTT membrane technique. 26 should be delivered in 2010 (23 Membrane and 3 Moss).



In all, 3 414 loaded voyages were completed in 2009, compared to 3 308 in 2008:

- 1 267 to Japan (1 351 in 2008)
- 261 to the United States, Puerto Rico, the Dominican Republic, Mexico, Argentina, Brazil, Chile and Canada (203 in 2008)
- 1 080 to Europe (942 in 2008)
- 405 to Korea (476 in 2008)
- 145 to Taiwan (150 in 2008)
- 149 to India (133 in 2008)
- 95 to China (53 in 2008)
- 12 to Kuwait

In addition, 4 orders were placed for FPSO hulls, using the SPB technique and 6 new orders for small-scale capacity ships (10 000 to 12 000 m<sup>3</sup>), 5 for 2010 and 1 for 2011.

The Coral Methane (7 500 m<sup>3</sup>) was delivered in 2009. The total number of nautical miles covered in 2009 was 22.7 10<sup>6</sup> down from 23.19 10<sup>6</sup> in 2008. Several long distance routes disappeared between Algeria and Norway towards Asia. In 2009, the activity in the LNG tanker fleet was about 1 460 10<sup>9</sup> m<sup>3</sup> x nautical miles, as opposed to 1 451 10<sup>9</sup> m<sup>3</sup> x nautical miles in 2008, or a 0.6% rise. This equates to about 4.7 10<sup>9</sup> m<sup>3</sup> x nautical miles per operational ship having delivered at least one cargo in 2009, as against 5.2 10<sup>9</sup> m<sup>3</sup> x nautical miles in 2008.

# 40 SHIPS DELIVERED IN 2009

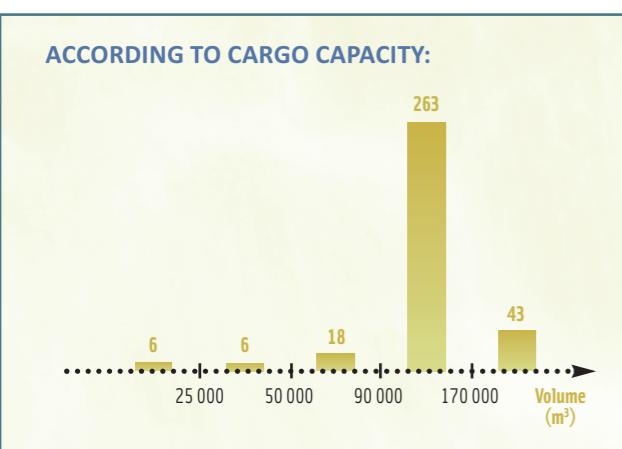
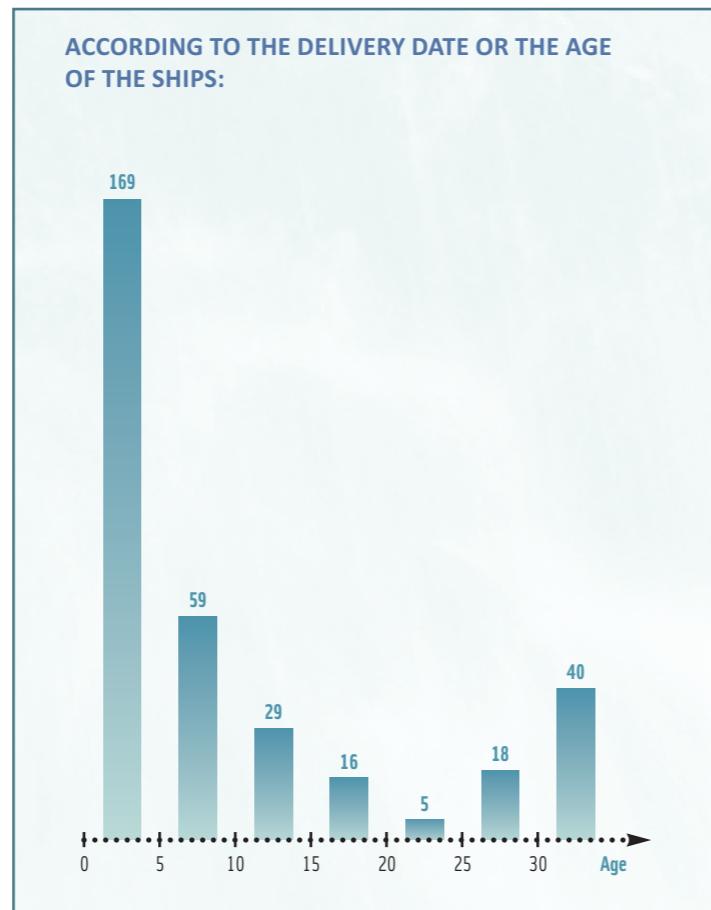
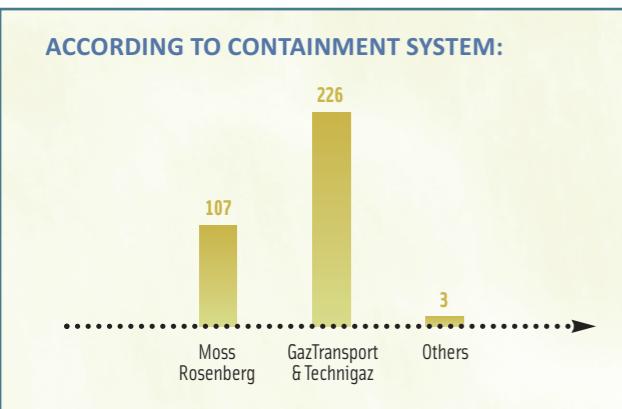
## MEMBRANE TECHNIQUE (34)

Delivery date	Ship Name	Capacity (cu.m.)	Shipowner	Shipbuilder	Cargo System	Hull #
01/01/2009	Lijmiliya	263 000	Nakilat 100%	DSME	NO 96	2256
13/02/2009	Al Mayeda	266 000	Nakilat 100%	SHI	Mark III	1694
25/02/2009	Al Sheehaniya	210 000	Nakilat 100%	DSME	NO 96	2264
27/02/2009	Min Rong	147 200	CLNG 77% - FJC 20% - ETG 3%	Hudong Zhonghua	NO 96	1378A
27/02/2009	Abdel Kader	177 000	MOL 100%	HHI	Mark III	1876
27/02/2009	Mesameer	216 000	Nakilat 100%	HHI	Mark III	1908
01/03/2009	Al Samriya	263 000	Nakilat 100%	DSME	NO 96	2257
01/03/2009	Trinity Glory	154 200	KLine - Mitsui & Co - Imabari	Imabari	Mark III	2260
03/03/2009	Tangguh Palung	155 000	KLine - PT Pelayaran Meratus	SHI	Mark III	1634
15/03/2009	Tangguh Sago	155 000	Teekay 70% - PT Fast Marine - Services 30%	HHI	Mark III	5 298
16/03/2009	Al Sadd	210 100	Nakilat 100%	DSME	NO 96	2265
25/03/2009	Mekaines	266 000	Nakilat 100%	SHI	Mark III	1695
31/03/2009	Seri Balqis	157 000	MISC 100%	MHI	NO 96	2224
10/04/2009	Maersk Magellan	165 000	AP Moller - Maersk A/S 100%	SHI	Mark III	1626
28/04/2009	Al Ghashamiya	217 330	Nakilat 100%	SHI	Mark III	1696
30/04/2009	Onaiza	210 000	Nakilat 100%	DSME	NO 96	2266
29/05/2009	Express	150 900	Excelerate 50% - Exmar 50%	DSME	NO 96	2263
29/05/2009	Al Mafyar	266 000	Nakilat 100%	SHI	Mark III	1697
30/06/2009	Al Kharaitiyat	216 000	Nakilat 100%	HHI	Mark III	1909
30/06/2009	Al Rekayyat	216 000	Nakilat 100%	HHI	Mark III	1910
29/07/2009	BW GDF Suez Paris	162 400	BW Group 100%	DSME	NO 96	2258
29/07/2009	BW GDF Suez Brussels	162 400	BW Group 100%	DSME	NO 96	2259
12/08/2009	Min Lu	147 200	CLNG 77% - FJC 20% - ETG 3%	Hudong Zhonghua	NO 96	1379A
01/10/2009	Al Kharana	210 100	Nakilat 100%	DSME	NO 96	2284
03/10/2009	Al Dafna	266 000	Nakilat 100%	SHI	Mark III	1726
14/10/2009	Ben Badis	177 000	MOL 100%	HHI	Mark III	5 324
15/10/2009	Al Khattiya	210 100	Nakilat 100%	DSME	NO 96	2283
19/10/2009	Woodside Donaldson	165 000	AP Moller - Maersk A/S 100%	SHI	Mark III	1632
30/10/2009	Exquisite	150 900	Excelerate 50% - Exmar 50%	DSME	NO 96	2270
16/11/2009	Aseem	154 800	MOL 26% - SCI 26% - Nakilat 20%	SHI	Mark III	1686
24/11/2009	Shagra	266 000	NYK 16.67% - K Line 8.33% - Petronet 3%	SHI	Mark III	1751
24/11/2009	Al Nuaman	210 100	Nakilat 100%	DSME	NO 96	2285
30/11/2009	GDF Suez Neptune	145 000	Hoegh LNG 50% - MOL 50%	SHI	Mark III	1688
11/12/2009	Dapeng Star	147 200	CLNG 61.5% - UHI 20% - SMC 15.5% - ETG 3%	Hudong Zhonghua	NO 96	1320A

## MOSS TECHNIQUE (6)

Delivery date	Ship Name	Capacity (cu.m.)	Shipowner	Shipbuilder	Cargo System	Hull #
31/01/2009	Cygnus Passage	147 200	Kyushu Electric Power 60% - TEPCO 30% Mitsubishi 3% - NYK 3% Mitsui & Co 2% - MOL 2%	MHI	Moss	2235
01/04/2009	Pacific Enlighten	147 200	Kyushu Electric Power 60% - TEPCO 30% NYK 3% - Mitsubishi 3% MOL 2% - Mitsui & Co 2%	MHI	Moss	2236
01/05/2009	Energy Confidence	155 000	Tokyo LNG Tanker 70% - NYK 30%	KSC	Moss	1611
17/07/2009	LNG Jupiter	155 000	OGIT 85% - NYK 10% - K line 5%	KSC	Moss	1592
31/10/2009	Taitar No. 1	147 000	CPC 45% - NYK 27.5% - Mitsui 27.5%	MHI	Moss	2241
29/12/2009	Taitar No. 2	147 000	CPC 45% - NYK 27.5% - Mitsui 27.5%	KSC	Moss	1625

# TANKER DISTRIBUTION (AT THE END OF 2009)



## LNG CHARACTERISTICS

The average composition is chosen as being representative among compositions provided by the different receiving terminals (2003 figures being revised)

Origin	Nitrogen N2 %	Methane C1 %	Ethane C2 %	Propane C3 %	C4+ %	LNG density kg/m³	Gas density kg/m³(n)	Expansion ratio m³(n)/m³ liq	Gas GCV MJ/m³(n)
Algeria-Arzew	0.6	87.6	9.4	2.0	0.5	462	0.809	571	44.1
Algeria-Bethioua 1	1.0	87.8	8.4	2.1	0.7	466	0.814	573	44.0
Algeria-Bethioua 2	0.8	90.7	7.7	0.7	0.0	450	0.779	578	42.4
Algeria-Skikda	0.7	91.7	6.9	0.6	0.1	448	0.777	576	42.2
Egypt-Damietta	0.1	97.7	1.8	0.2	0.2	427	0.730	585	40.8
Egypt-Idku	0.0	95.8	3.1	0.8	0.4	436	0.753	578	41.5
Equatorial Guinea	0.0	93.4	6.5	0.0	0.0	439	0.755	585	42.0
Lybia	0.7	81.6	13.4	3.7	0.7	485	0.867	559	46.6
Nigeria	0.1	91.3	4.6	2.6	1.4	458	0.809	566	44.2
Norway	0.7	92.2	5.3	1.2	0.4	449	0.782	577	40.1
Trinidad	0.0	96.8	2.7	0.3	0.1	432	0.741	583	41.0
Abu Dhabi	0.3	84.8	13.2	1.6	0.1	467	0.826	566	44.9
Oman	0.4	87.9	7.3	2.9	1.6	470	0.834	563	45.3
Qatar-Qatargas I	0.4	90.1	6.2	2.3	1.0	460	0.808	569	44.0
Yemen	0.0	93.3	5.7	0.9	0.1	434	0.765	567	38.5
USA-Alaska	0.2	99.7	0.1	0.0	0.0	423	0.719	589	39.9
Australia-NWS	0.1	87.4	8.3	3.4	0.8	467	0.831	562	45.3
Brunei	0.1	90.6	5.0	2.9	1.5	461	0.816	564	44.6
Indonesia-Arun	0.2	90.7	6.2	2.0	1.0	457	0.803	569	43.9
Indonesia-Badak	0.0	91.2	5.5	2.4	0.9	456	0.801	568	43.9
Malaysia	0.3	90.3	5.3	3.1	1.1	461	0.813	567	44.3
Russia-Sakhalin	0.1	92.6	4.5	1.9	0.2	449			

# LIQUEFACTION PLANTS

There were 24 LNG liquefaction facilities in operation in seventeen countries at the end of 2009. 8 new trains were commissioned in 2009: 2 trains at Qatargas II and 1 train at RasGas 3 (Qatar), 2 trains at Tangguh (Indonesia), 2 trains at Sakhalin 2 (Russia), and 1 train at Balhaf (Yemen).

The aggregate capacity of all liquefaction plants amounted to  $540.1 \text{ } 10^6 \text{ m}^3$  of LNG per year, or  $245.7 \text{ } 10^6 \text{ t}$ , for 90 liquefaction trains. Considering a total production of  $398.7 \text{ } 10^6 \text{ m}^3$  of LNG, the average utilization reached 74%. The total storage capacity amounts to  $7.90 \text{ } 10^6 \text{ m}^3$  of LNG for 82 storage tanks, representing the equivalent of more than seven days of production.

## NEW PROJECTS / EXTENSIONS OF EXISTING PLANTS:

### Abu Dhabi:

Adgas expects to bring online fresh production from its offshore plant at Das Island in Q2 2010, when the company will send for the 1<sup>st</sup> time offshore gas to onshore facilities. Adgas will operate and maintain the subsea pipeline after commissioning. Currently, the engineering procurement contracts are managed by Gasco. All offshore associated gas and integrated gas development packages are in the final stages of construction with all IGD packages awarded in July last year.

### Algeria:

The new 4.5 mtpa LNG train at Skikda to replace three units destroyed in the explosion of January 2004 is expected to be operational in November 2011. The new 4.7 mtpa complex for the production of liquefied natural gas (GNL3) in Arzew has an estimated rate of progress of about 20%, and is scheduled to be completed by the end of 2012.

### Angola:

The Angola LNG project at Soyo, 300 km north of Luanda, is under construction and should start operating in the first quarter of 2012, with a production of 5.2 mtpa of LNG aimed at the US gas marketing affiliates of the partners - Sonagas 36.4%; Chevron 36.4%; BP and Total 13.6% each.

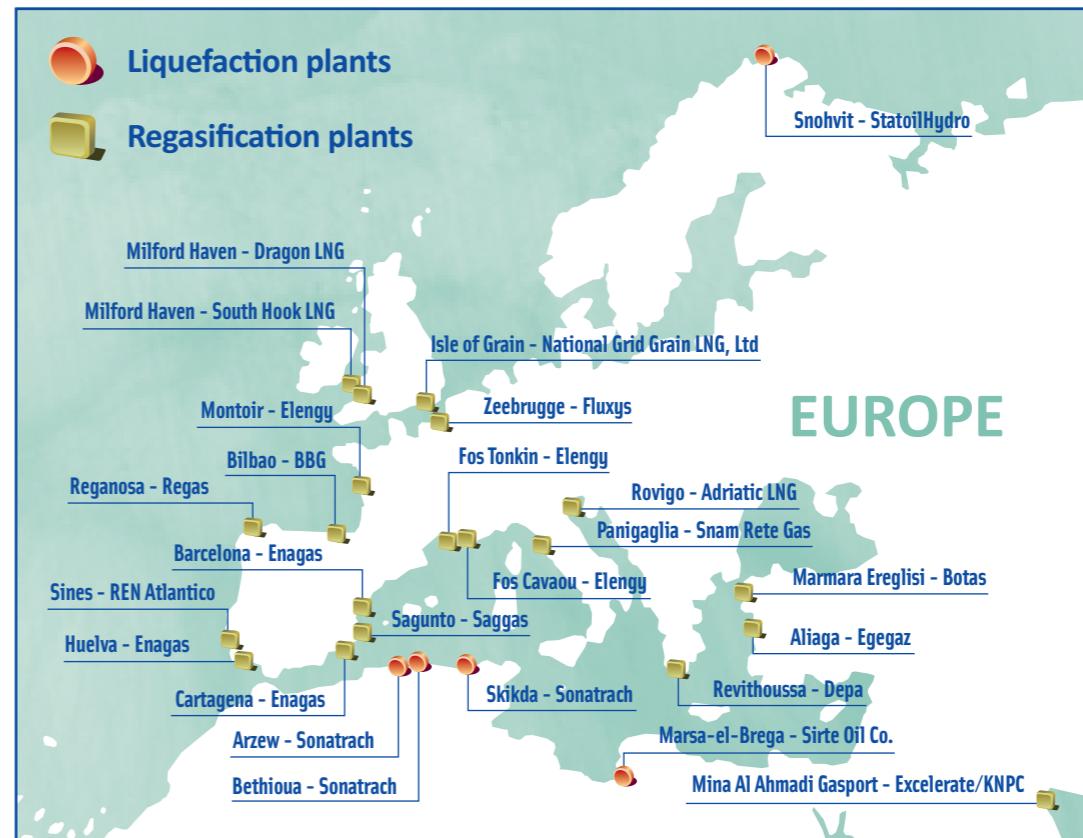
### Australia:

- On September 14, 2009, Shell has taken the Final Investment Decision on the **Gorgon** LNG project, signalling the start of initial construction on one of the world's largest natural gas developments. Chevron will operate the project, with a 50% stake, with participants Shell and ExxonMobil, each holding 25% shares. Construction began in the second half of 2009, with first gas planned for 2014. The initial project includes a 15 mtpa LNG facility and a domestic gas plant in north-western Australia.
- The **Pluto LNG** project: Woodside Petroleum is building its project on the Burrup Peninsula and is trying to secure gas to approve a 2<sup>nd</sup> train there. First production with an initial capacity of 4.3 mtpa is expected by early 2011.

- The **Queensland Curtis LNG** project: during 2009, significant progress was made on the QCLNG project: in February, BG Group entered into an agreement with the Queensland government to acquire a 270 hectare site at North China Bay on Curtis Island, the site of the proposed QCLNG liquefaction plant near Gladstone; an environmental impact statement (EIS) for the project was released for public consultation in August; FEED work with Bechtel for the liquefaction plant was completed and the Group drilled around 200 wells increasing its reserves and resources to some 17.3 tcf. A decision on the EIS from the Queensland and Australian governmental authorities is expected in 2010, following which BG Group will be able to sanction the 8.5 mtpa, two train LNG project with first cargoes of LNG expected in 2014.

- In May, BG Group signed an LNG Project Development Agreement with China National Offshore Oil Corporation and its affiliates (CNOOC), focused on the Queensland Curtis LNG (QCLNG) project. The agreement sets out the basis on which: CNOOC will purchase 3.6 mtpa of LNG for 20 years from the start-up of QCLNG; CNOOC will purchase a 5% interest in the reserves and resources of certain Walloons Fairway tenements in the Surat Basin; CNOOC will become a 10% equity investor in one of the two trains in the first phase of QCLNG; and BG Group and CNOOC will jointly participate in a consortium to construct and own two LNG ships in China. BG Group and CNOOC intend to execute fully-termed agreements prior to BG Group sanctioning the QCLNG project. The transactions will be conditional on applicable government and regulatory approvals.

- Santos and Petronas appointed Bechtel as the FEED contractor for the downstream components of the **Gladstone LNG** project. The FEED contract covers the liquefaction plant and associated infrastructure on Curtis Island. Work formally commenced in early 2009. A Final Investment Decision is expected in 1H 2010. The project remains on schedule for 1<sup>st</sup> shipments of gas in 2014. Over the next year, as part of FEED, GLNG



will be progressing the engineering design to ensure construction can commence as scheduled in 2010.

- **Bonaparte LNG** (Australia): In August 2009, GDF SUEZ and Santos announced a strategic partnership to develop a 2 mtpa floating liquefaction plant in the Bonaparte Basin, off the coasts of Australia. In the framework of this partnership, GDF SUEZ purchases a 60% stake in the gas fields Petrel, Tern and Frigate to feed the project and will become operator.

- In April 2009, Total announced that the joint venture holding the Australian exploration permit WA-285-P (Total 24%, INPEX 76% operator) has decided to launch the Front End Engineering and Design (FEED) for the development of the **Ichthys** field, located in the Browse Basin approximately 200 kilometers offshore North West Australia and approximately 850 kilometers to the west of Darwin. Middle Arm Peninsula in Darwin has been selected as the location for the liquefied natural gas processing facility.

- The **Wheatstone** project entered the Front End Engineering and Design phase in July 2009 and expects to make a Final Investment Decision in 2011. The initial phase of the project plans to have the capacity to process 8.6 mtpa of LNG and a domestic gas plant. An affiliate of Chevron is the operator and holds an approximate 75% interest in the project.

#### Brunei:

BLNG plant has delivered more than 5 600 cargoes safely and without missing a single contractual obligation since start-up in 1972. BLNG is undergoing a second rejuvenation to extend its life by a further 20 years from 2013.

#### Canada:

A Final Investment Decision (FID) on the **Kitimat LNG** export plant in British Columbia is to be taken in 2011 and first shipments could occur in 2014.

#### Egypt:

The global economic downturn has delayed development of a planned 2<sup>nd</sup> train at the **Damietta LNG** terminal. Egas is reassessing a plan to develop a second 5 mtpa train at Damietta.

#### Equatorial Guinea:

Marathon and its partners are consulting with potential gas suppliers in Nigeria, Cameron and Equatorial Guinea relative to a second LNG train on **Bioko Island**. Major elements of a Front-End Engineering and Design study ("FEED") were completed on a potential 4.4 mtpa LNG train. Further FEED work will be completed when gas supplies have been secured. Marathon expects a supply gap for LNG starting from 2016 or 2017 at the latest, that will create a window of opportunity for EG LNG Train 2.

#### Indonesia:

**Tangguh**, Indonesia's third LNG centre after Bontang and Arun, comprises the development of six gas fields in the Wiriagar, Berau and Muturi production sharing contracts in the Bintum area of Papua in eastern Indonesia. Gas produced from two normally unmanned offshore platforms is fed via 22-kilometer pipelines to two onshore liquefaction trains, each with a production capacity of 3.8 mtpa of LNG. Train 1 began LNG production in mid-June, producing the LNG for the first cargo, and Train 2 started producing LNG in September. However, the plant was shut for over 3 months for maintenance following technical glitches.

#### Libya:

The LNG plant at **Marsa El-Brega** was built by Exxon and the upgrade is expected to give the facility 25 more years of production at 3.2 mtpa. It will concentrate on replacement of out-of-date equipment.

#### Malaysia:

With the debottlenecking of **MLNG Dua** scheduled for completion in 2010 - the total production capacity of the complex is expected to increase to 24 mtpa.

#### Nigeria:

- The Final Investment Decision on **Brass LNG** should be taken before the end of 2010.
- **OLNG** (Nigeria): BG Group and its project partners are undertaking a liquefaction plant at Ololoka on the southwestern coast of Nigeria. The initial project will comprise two LNG trains of approximately 6.3 mtpa each, with the ability to expand with additional trains. Good progress has been made in the technical design, and work will continue to secure the regulatory and commercial framework within the wider Government's gas agenda for domestic and export projects.

#### Norway:

**Snohvit** liquefaction plant: it was shut-down from August 15, 2009 until late 2009 for extensive upgrading and maintenance operations.

#### Papua New Guinea:

A Final Investment Decision (FID) was made on the **PNG LNG** project on December 8. ExxonMobil is the project operator with a 33.2% stake. The other major participants in the project are PNG-based Oil Search with 29%, the PNG government-affiliated Independent Public Business Corp. with 16.6%, Santos with 13.5% and Nippon Oil with 4.7%. The first LNG project in PNG is expected to produce 6.6 mtpa from the end of 2013 at a liquefaction plant to be built near the capital Port Moresby.

#### Peru:

South America's first liquefaction plant at **Pampa Melchorita**, located 169 km south of Lima. Peru's LNG plant will start exporting in May 2010.

#### Qatar:

- April 2009: inauguration of **Qatargas 2**, composed of two trains of 7.8 mtpa each.
- Train B of the Qatargas 2 project started producing LNG on September 7, 2009. Train B, in which Total holds a 16.7% interest alongside the state-owned company Qatar Petroleum (65%) and ExxonMobil (18.3%). LNG from Qatargas 2 Train B is primarily intended for deliveries in the United Kingdom, France and the United States. The number of projects being undertaken simultaneously in Qatar, the world's largest exporter of LNG has led to a shortage of materials and labour and caused delays.
- The first LNG cargoes from the 7.8 mtpa LNG train of **Qatargas 3** are expected to be delivered in the first half of 2010. Qatargas 3 is an integrated project, jointly owned by Qatar Petroleum (68.5%), ConocoPhillips (30%) and Mitsui (1.5%).
- Shell has delayed **Qatargas 4** LNG project, now planned for late 2010 and the 1<sup>st</sup> cargo possibly pushed into 2011.

- In October 2009, RasGas inaugurated Train 6, another mega-train, coinciding with the 10<sup>th</sup> anniversary of the company's LNG production commencing. Start up of the 7<sup>th</sup> and final train is scheduled in 2010.

#### Russia:

The first LNG train of the **Sakhalin-II LNG** Project started production in March 2009, and the first cargo of LNG was delivered the following month to Tokyo Gas Co. and Tokyo Electric Power Co. The LNG plant at Prigorosnoye is aiming to produce 9.6 mtpa from two trains. Commissioning of the 2<sup>nd</sup> train began at the beginning of June 2009. Planned LNG production has been sold under contract to customers across the Asia-Pacific region.

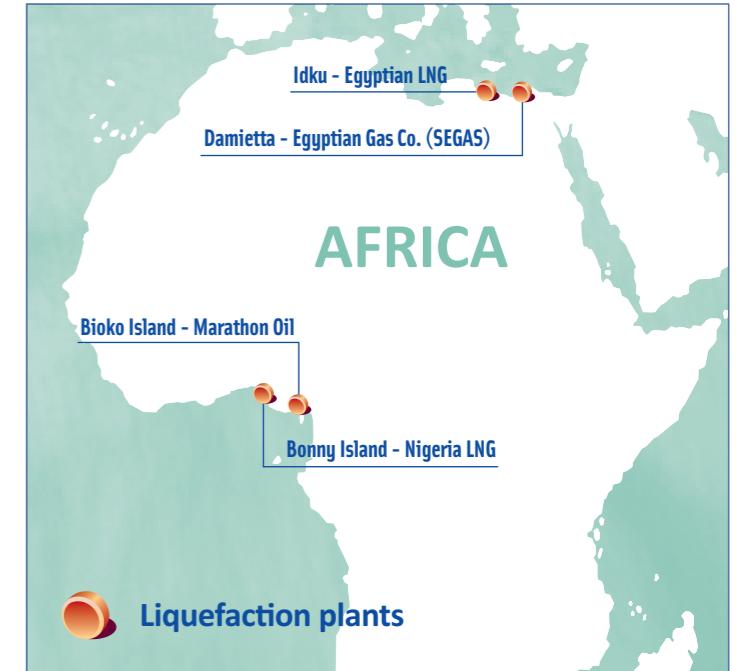
**Shtokman**: The partners in Russia's giant Shtokman gas field in the Barents Sea expect to take a Final Investment Decision on the project's LNG phase in December 2011 but will go ahead with the pipeline phase even if the LNG decision is negative.

#### Trinidad & Tobago:

The possibility of a 5<sup>th</sup> train to add to the first 4 at **Atlantic LNG** has been on the table for some time, but there is no definite go-ahead because of lack of sufficient feed gas.

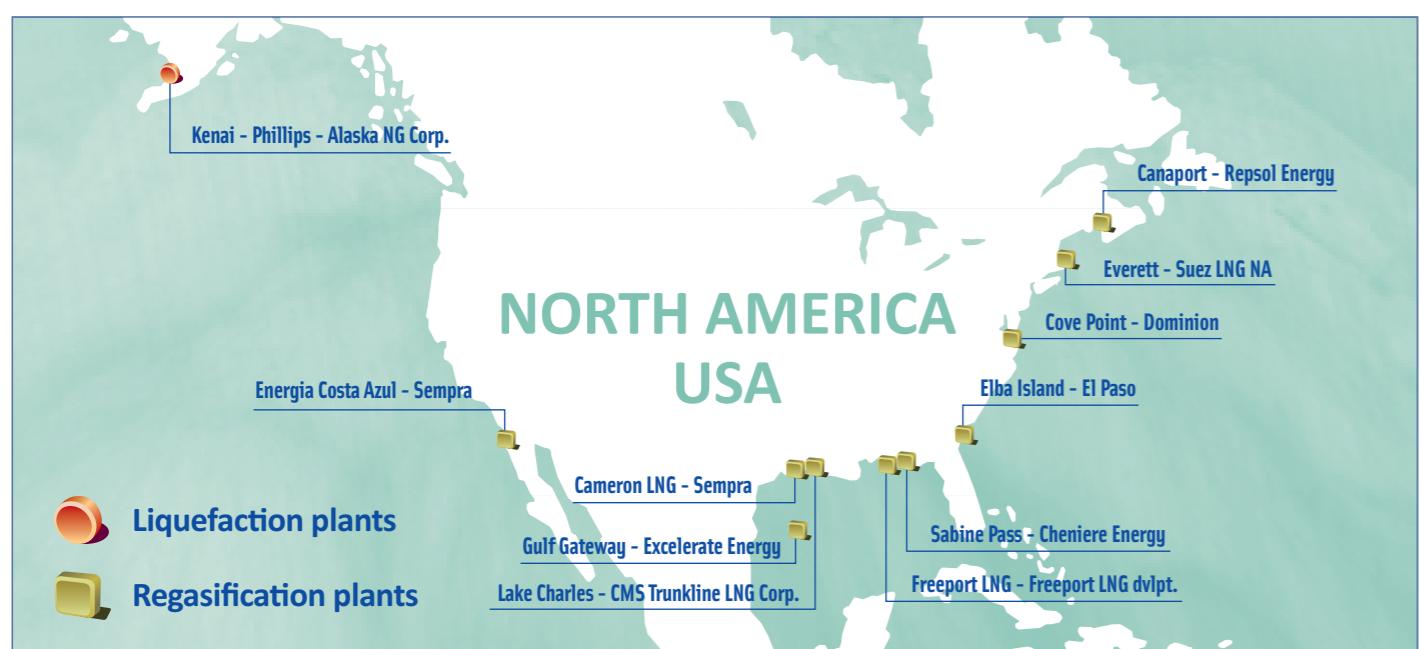
#### Yemen:

The Yemen LNG liquefaction plant started producing LNG from the 3.45 mtpa Train 1 in **Balhaf** on October 15. Total is lead shareholder of Yemen LNG and holds a 39.62% interest, alongside the state-owned company Yemen Gas Company (16.73%), Hunt Oil Company (17.22%), SK Energy (9.55%), Korea Gas Corporation (6%), Hyundai Corporation (5.88%), and GAESPI (5%). Total production capacity will reach 6.7 mtpa of LNG. Following the three gas sales agreements signed in 2005 with Kogas, GDF SUEZ and Total Gas & Power Ltd., LNG from Yemen LNG will be exported to both the Asian and Atlantic markets.



## AFRICA

# REGASIFICATION PLANTS



At the end of 2009, there were 70 regasification plants in the world and 8 offshore structures or floating LNG regasification facilities (Argentina, Brazil, Italy, Kuwait, UK, US). Eight LNG terminals went on stream in 2009: Fos-Cavaou (France), South Hook and Dragon (UK), Cameron (USA), Canaport (Canada), Taichung (Taiwan), Quintero (Chile), and Yangshan in Shanghai (China). Four offshore or floating facilities were commissioned in 2009: Rovigo (Italy), Pecém and Guanabara Bay (Brazil), Mina Al Ahmadi (Kuwait). The total send-out capacity of the facilities in operation amounted to 784 Bcm (gaseous)/year and their storage capacity to 35.7 10<sup>6</sup> m<sup>3</sup> of LNG (liquid) with 344 storage tanks. It should be noted that the send-out capacity of the 8 non conventional terminals amounting to 39.4 Bcm (gaseous)/year, is not associated to any storage capacity since these are either floating or offshore facilities.

#### Brazil:

In November, BG Group announced a joint venture agreement to study a Floating Liquefied Natural Gas (FLNG) vessel as an additional option to commercialize the material associated natural gas reserves in the Santos Basin pre-salt, offshore Brazil. Further to the agreement, Front-End Engineering and Design (FEED) contracts have been awarded to three consortia for a FLNG vessel. The consortium will prepare FEED proposals through 2010 and a Final Investment Decision is anticipated in 2011. The partners in the joint venture are Petrobras (51.1%) and BG Group, Galp Energia and Repsol (all 16.3%). The FLNG vessel will operate close to the planned Santos Basin FPSO vessels. The 3 mtpa LNG produced would be shipped either to Petrobras-operated regasification terminals at Pecém and Guanabara Bay to supply the Brazilian domestic market or exported to international markets.

#### Canada:

- **Rabaska LNG** terminal (Canada): Gaz Métro, Enbridge and GDF SUEZ are promoting an LNG terminal on Saint Lawrence River near Quebec City. The Basic Engineering was performed by Kellog in London and is now completed. Full permitting was achieved in March 2008 (final Federal and Provincial authorisations respectively in March 2008 and October 2007). The partnership is holding discussions with potential shippers to supply the terminal.

#### Chile:

- **GNL Quintero** (Chile): GNL Quintero S.A., in which BG Group holds a 40% interest, received its commissioning cargo in July. It was the first-ever cargo of LNG delivered to Chile and the first onshore LNG import terminal to begin operations in the southern hemisphere. BG Group has a 21-year LNG Sales and Purchase Agreement to supply the terminal with up to 1.7 mtpa of LNG. The terminal is expected to be in full operation by third quarter 2010.
- **GNL Mejillones** (Chile): Phase I - RFCD (ready for cool-down): March 2010. The tanker "BW GDF SUEZ Brussels" (used as floating storage vessel) will arrive at Mejillones around February 15, 2010. Phase II - onshore tank of 160 000 m<sup>3</sup> - FID Q2 2010.

#### China:

- Construction of two additional open-rack vaporizers and one additional submerged combustion vaporizer at the **Dapeng**, **Shenzhen** LNG import terminal. Commissioning of a 40% increase in regas capacity of the terminal, from 8 to 9 mtpa of throughput capacity. Plan to start building a 4<sup>th</sup> storage tank by the beginning of 2010.
- **Fujian** terminal: CB&I will provide EPC services for 2 additional 160 000 m<sup>3</sup> full containment LNG storage tanks. The project is expected to be completed in 2011.
- **Yangshan** terminal in Shanghai: the design capacity of the second phase will reach 3.3 mtpa from 2012.
- CNOOC started building LNG storage tanks in its **Zhejiang** LNG receiving project. Construction of the 3 tanks, with capacity of 160 000 m<sup>3</sup> each, is scheduled to be completed in 2012. The Zhejiang LNG project, which was approved by the National Development and Reform Commission in May, will be CNOOC's 4<sup>th</sup> terminal.
- The construction of the first 160 000 m<sup>3</sup> storage tank of PetroChina's LNG terminal in **Dalian** has been completed. The terminal is to have a 1<sup>st</sup> phase capacity of 3 mtpa, scheduled for completion in early 2011. It will get LNG supplies from Qatar. There are plans to double capacity to 6 mtpa in a 2<sup>nd</sup> phase.
- PetroChina's **Rudong** LNG terminal in Jiangsu will be completed in July 2011 and commissioning cargoes for the facility will be bought from the spot market. It will have 3 storage tanks with a capacity of 3 mtpa. It will get LNG supplies from Australia.

- Other LNG terminals are planned, pending for final approval: PetroChina's Shenzhen (Dachan) and Caofidian terminals, Sinopec's Qingdao terminal and CNOOC's Shenzhen (Diefu) and Zhuhai terminals.

#### Croatia:

The remaining consortium members in the proposed Adria LNG terminal on the Croatian island of Krk in Northern Adriatic have absorbed RWE's 16.69% shareholding after it exited the project in late October 2009. The new shareholding structure now sees E.ON Ruhrgas with a 39.17% stake, OMV with 32.47% of the shares, Total with 27.36% and Geoplins with 1%. The terminal capacity is estimated at between 10 and 15 bcm/y. A location permit is expected in Q1 2010 and a Final Investment Decision in 2011.

#### France:

- **Fos Cavaou** LNG terminal (France): After a cancellation of the permitting by a court sentence of the administrative tribunal for procedural problem, despite the end of the construction, the French authorities finally gave on October 6, 2009 the permit for the start-up of the terminal with a limitation on operational send-out at 20% of nominal capacity (which means only two LNG tankers per month). This situation will go on until the end of a new permitting procedure. The first LNG tanker was received on October 26, 2009, and the cooling down and tests of equipment are under progress. The commercial operation is forecasted on March 2010.
- In July 2009, EDF confirmed that it has obtained a construction permit for its future 6 bcm/year import facility at **Dunkirk**. FID is expected in Q1 2010 and start-up in 2014.

#### Greece:

- A further expansion of the **Revithoussa** LNG terminal is planned. It includes the construction of a 3<sup>rd</sup> storage tank increasing substantially the storage capacity, expansion of send-out rate and truck-loading facilities.
- Construction of a planned LNG terminal in northern Greece could be completed by 2013-14. Depa is awaiting EU authorization.

#### India:

- Petronet implemented two contracts during 2009 for the construction of Regas facilities with consortium of M/s. CTCI, Taiwan & CINDA and for marine work with M/s. Afcons Infrastructure Limited for its **Kochi** terminal, which is slated for commissioning in Q1 2012.
- The **Dabhol** LNG receiving and regasification terminal on the west coast will start operating early 2010 as difficulties in dredging silt at the Ratnagiri port have further pushed its commissioning schedule. Full capacity of the terminal following completion of the breakwater in 2011 will be 5 mtpa. It will have three 160 000 m<sup>3</sup> storage tanks.

#### Italy:

- In June 2007, GNL Italia S.p.A. started up the authorization process for the upgrading of the **Panigaglia** regasification terminal in order to expand the capacity from 3.5 to 8 Bcm/year. Authorisation requests have been addressed to the Ministry for the Environment, the Ministry of Economic Development, the Ministry for the Arts and local authorities.
  - The project includes:**
    - the possibility to unload larger LNG ships (actually 65 000 m<sup>3</sup> LNG);
    - an updating process of the main equipments of the plant involving:
      - the LNG storage tanks;
      - the berthing area;
      - other technical infrastructures;
    - the realisation of a new cogeneration plant (32 MW) for electricity self-production.
- The expected schedule program provides further 2 years for engineering and authorisation process and 3 years for the construction: start-up is planned for the end of 2013. In October 2009, the Commission for the Evaluation of Environmental Impact of the Ministry for the Environment expressed its favourable opinion on the project. The Ministerial decree will be signed by the interested Ministries in a few months.

- **OLT project:** the terminal (20 km offshore Livorno) is under construction by Saipem S.p.A. under a design, engineering, procurement, construction, installation, testing and commissioning ("EPCIC") contract and will consist of the conversion of an existing LNG vessel (the Golar Frost) into a floating storage and regasification unit ("FSRU").

Commercial operations are due to start by the beginning of 2011.

It will be the 2<sup>nd</sup> offshore LNG plant to go into operation in Italy after Adriatic LNG.

OLT's shareholders are: Iride Mercato S.p.A. and ASA Azienda Servizi Ambientali S.p.A., E.ON Ruhrgas AG, OLT Energy Toscana S.p.A., Golar Offshore Toscana Limited.

- **Porto Empedocle** (Sicily). The authorization process is in the final phase. EPC (Engineering, Procurement and Construction) of the LNG terminal will be in charge to a Temporary Association of Company (TAC), through a Lump-Sum Turn Key contract awarded at the end of a European tender actually ongoing. Start of works is expected in January 2010 and commercial operation is expected in Q1 2014. Enel's LNG terminal will have a throughput of 8 Bcm/year; in respect of relevant Law, Nuove Energie will have at least 80% of the capacity for 20 years, the remaining capacity will be allocated to third parties.

- **Triton LNG** (Italy): GDF SUEZ is developing an offshore LNG terminal in the North Adriatic, near Ancona. The project is under permitting, and call for tenders have been issued for the FSRU vessel and tug services, while the FEED studies for the deep water port have been achieved.



#### Kuwait:

A floating LNG regasification facility at **Mina Al-Ahmadi** port enables Kuwait to import LNG since the end of August 2009.

#### Netherlands:

During 2009, **Gate** made good progress in constructing the regasification terminal in the port of Rotterdam which will be ready for operations in 2H 2011.

#### North America - the U.S.A.:

- Insulation upgrades continued at the **Everett** terminal with the use of aerogel insulation in some areas. There were mechanical upgrades to piping bridges and supports. Other work included tank impingement improvements, utility steam boiler replacement, recoating of LNG storage tanks, replacement of the LNG truck-loading scale and security enhancements. A number of upgrades are planned including the Jetty, Hazard Detection and Fiber Optic Control. A new Terminal Visitor Center is also planned.
- Upgrade to accommodate larger-sized LNG vessels. **Cove Point** began construction in 2009 and work would last about 18 months.
- **Lake Charles** (US): In 2006, BG/L signed an agreement with Trunkline LNG, the owner of the Lake Charles terminal, for upgrades to the facility including an ambient air vaporisation system and a natural gas liquids (NGL) extraction plant to remove higher Btu products such as ethane, propane and butane from the LNG. The new system is expected to reduce fuel gas consumption by up to 85%, thus enhancing margins, reducing emissions, and providing an additional revenue stream from NGL sales.
- **Elba Island** (US): The terminal has 1.8 Bcf/day of send-out capacity and 7.3 Bcf of storage capacity, which is expected to increase to 11.5 Bcf following the commissioning of a new storage tank in a couple of months. BG has an option to further expand the terminal to 15.7 Bcf of storage and 2.1 Bcf/day of peak send-out capacity.
- Cheniere Energy has in 2009 completed phase II expansion of the **Sabine Pass** LNG terminal, the largest regasification facility in North America. The 1.4 Bcf/d (10.5 mtpa) expansion, completed in mid 2009, boosted the terminal's sendout capacity to 4 Bcf/d and the total LNG storage capacity to 16.8 Bcf. The terminal has pioneered the Ambient Air LNG Vaporizer technology by installing a pilot train in August 2009.
- The construction of the 1.5 Bcf/d **Gulf LNG** terminal (El Paso) in **Pascagoula**, Mississippi, is underway and the terminal is expected to be operating in 2012. The developers of Gulf LNG – the Crest Group, a group of Houston-based investors – will continue to own 30% of the project, while Angolan state Sonangol will hold 20%. The project includes a ship berth and marine unloading facilities capable of accommodating one LNG tanker, two 160 000 m<sup>3</sup> LNG storage tanks, a 5 mile – 36-inch-diameter natural gas send-out pipeline and associated support facilities.
- **Neptune LNG** Terminal (Massachusetts, USA): Shuttle and regasification vessel (SRV) "GDF SUEZ Neptune" delivered in November 2009. Second SRV "GDF SUEZ Cape Ann" delivery in May 2010. Commissioning with first SRV: February–March 2010.

During 2009, Cheniere has also received authorization from both the Federal Energy Regulatory Commission and the Department of Energy allowing its subsidiary Cheniere Marketing to re-export LNG that had previously been imported to the US. Two of Sabine Pass LNG's terminal use customers have started tolling services at the terminal. Total Gas and Power North America, Inc. and Chevron U.S.A., Inc. each have contracted 1 Bcf/d of regasification capacity and contractually commenced Terminal services in April and July 2009, respectively. Cheniere's wholly-owned subsidiary, Cheniere Marketing, Inc., which acquired the remaining 2 Bcf/d of capacity rights at the facility started services in October 2008.

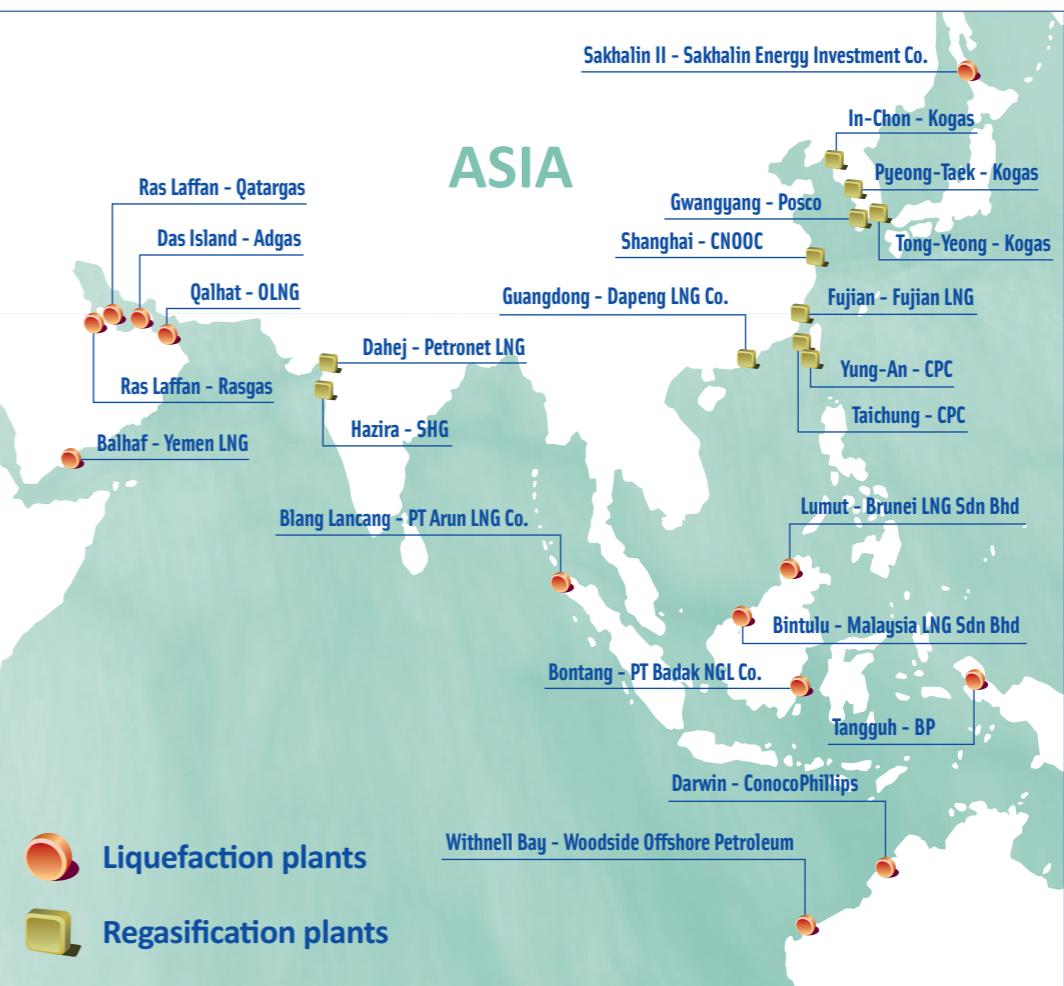
- The opening of the **Golden Pass** terminal with a 2 Bcf/d capacity in the US Gulf Coast will be delayed by hurricane damage which pushed the start-up into 2010 rather than in 2009, as earlier expected. Located on the Sabine-Neches Waterway near Sabine Pass, Texas, the LNG terminal is a joint-venture of ExxonMobil (17.6%), Qatar Petroleum (70%) and ConocoPhillips (12.4%).

- **Freeport LNG** terminal on Quintana Island (Texas): Service under the Mitsubishi Global Gas Corporation terminal use agreement commenced on January 1, 2009. Freeport LNG received permit from the U.S. Army Corps of Engineers to expand Port Freeport channel (April). Freeport LNG received permit from the Department of Energy to reexport LNG (May). Between May and August, Freeport LNG constructed and commissioned a boil-off gas liquefaction unit. The terminal received two LNG "storage" cargoes during summer; one of them was reexported in December. Freeport LNG filed an application with FERC to construct an NGL extraction facility at the terminal (August).

- **Cameron LNG** terminal (Sempra): Commercial operations began in Q2 2009.

- The construction of the 1.5 Bcf/d **Gulf LNG** terminal (El Paso) in **Pascagoula**, Mississippi, is underway and the terminal is expected to be operating in 2012. The developers of Gulf LNG – the Crest Group, a group of Houston-based investors – will continue to own 30% of the project, while Angolan state Sonangol will hold 20%. The project includes a ship berth and marine unloading facilities capable of accommodating one LNG tanker, two 160 000 m<sup>3</sup> LNG storage tanks, a 5 mile – 36-inch-diameter natural gas send-out pipeline and associated support facilities.

- **Neptune LNG** Terminal (Massachusetts, USA): Shuttle and regasification vessel (SRV) "GDF SUEZ Neptune" delivered in November 2009. Second SRV "GDF SUEZ Cape Ann" delivery in May 2010. Commissioning with first SRV: February–March 2010.



- KOGAS continues to expand its LNG storage capacity, by building additional storage tanks of 9.2 10<sup>6</sup> m<sup>3</sup> in **Pyeong-Taek**, **Tong-Yeong** and **Sam-Cheok** which is located on the east coast of Korean peninsula where the proposed 4<sup>th</sup> receiving terminal is to be built.
- Ongoing expansion of the 1.7 mtpa LNG receiving terminal in **Gwangyang** (Posco), adding a 3<sup>rd</sup> above-ground storage tank (165 000 m<sup>3</sup>) by September 2010 to increase operational flexibility.



#### Philippines:

- Energy World Corporation is aiming to start construction on the **Quezon** terminal in March 2010. The facility could be supplied with LNG from several sources such as Papua New Guinea, Australia or the open market. The terminal could be completed by mid-2011.

#### Portugal:

The foreseeable increase in NG consumption in the country for the next 5 years, mainly due to the number of CCGT's licensed or under construction, demands for increased capacity in the terminal.

An expansion project was launched on the 2<sup>nd</sup> quarter of 2009 and construction began in June 2009. The terminal is now able to receive the new Q-flex ships (up to 215 000 m<sup>3</sup> of LNG).

By mid-2012 the **Sines** LNG terminal will have a storage capacity of 390 000 m<sup>3</sup> of LNG and a send-out capacity of 1 350 000 m<sup>3</sup> of NG.

#### Spain:

##### Expansion of existing terminals

###### Barcelona:

Commissioned in 2009:

- 2 new vaporisation units of 150 000 (n) m<sup>3</sup>/h

###### Under construction

- 1 new 150 000 m<sup>3</sup> LNG tank to be commissioned by 2010.
- 1 new 150 000 m<sup>3</sup> LNG tank to be commissioned by 2011.

###### Huelva:

###### Under construction

- 1 new 150 000 m<sup>3</sup> LNG tank to be commissioned by 2010.

###### In planning stage: up to

- 1 new 150 000 m<sup>3</sup> LNG tank to be commissioned.\*
- 1 new vaporisation unit of 150 000 (n) m<sup>3</sup>/h to be commissioned by 2011.\*
- 2 new vaporisation units of 150 000 (n) m<sup>3</sup>/h to be commissioned by 2015.\*

###### Cartagena:

###### Under construction

- 1 new 150 000 m<sup>3</sup> LNG tank to be commissioned by 2010.

###### In planning stage:

- 2 new vaporisation units of 150 000 (n) m<sup>3</sup>/h to be commissioned by 2014.\*

###### Gijón (Muse):

###### Under construction

- 2 new 150 000 m<sup>3</sup> LNG tanks to be commissioned by 2011.
- 2 new vaporisation units of 150 000 (n) m<sup>3</sup>/h to be commissioned by 2011.

#### In planning stage:

- 1 new 150 000 m<sup>3</sup> LNG tank to be commissioned by 2013.
- 1 new 150 000 m<sup>3</sup> LNG tank to be commissioned by 2015.
- 1 new vaporisation unit of 150 000 (n) m<sup>3</sup>/h to be commissioned by 2013.
- 1 new vaporisation unit of 150 000 (n) m<sup>3</sup>/h to be commissioned by 2015.\*

\* Note: This investment is conditional upon the development of certain infrastructures and/or market.

• There are plans to double the capacity of the 2.6 mtpa **Reganosa** regasification plant by 2013.

• The feasibility study to accept Q-max vessels (with a capacity of 270 000 m<sup>3</sup> of LNG) at **Bilbao** port terminal was finished in 2007. In January 2009, the 1<sup>st</sup> Q-max vessel in commercial operation, the Mozah, was discharged at the BBG terminal. During 2009, the Q-flex, Al Sahla, was also discharged at the terminal.

#### United Kingdom:

• **Isle of Grain** LNG terminal: second expansion due to be operational in winter 2010/11.

• **Dragon** LNG regasification terminal in Milford Haven, Wales: in July, construction was completed and the terminal received its 1<sup>st</sup> cargo of LNG that month.

The plant commenced commercial operations in August. BG Group has rights to 2.2 mtpa of capacity for 20 years.

• Phase 1 of the **South Hook** LNG terminal (7.5 mtpa to 15 mtpa) at Herbranston near Milford Haven was inaugurated in May 2009. October 2009, complete of commissioning of Phase 1. Commence Phase 1 commercial operations.

#### Singapore:

In June, an Aggregator Agreement was executed between BG Group and Singapore's Energy Market Authority (EMA). The Agreement is for a term of up to 20 years and it provides for BG Group to supply up to 3 mtpa of LNG. It will replace the Memorandum of Agreement that was executed in April 2008 between BG Group and the EMA. The construction of the LNG import terminal, which will be located on **Jurong Island**, should start at the beginning of 2010 and is expected to be completed by 2013.

#### Taiwan:

**Taichung** LNG receiving terminal and storage facility were officially run in July 2009.

#### Thailand:

The LNG facility in **Map Ta Phut** port in Rayong province, with a capacity to handle 5 mtpa, will consist of two 160 000 m<sup>3</sup> LNG storage tanks as well as vaporizer and jetty facilities. It will be completed in Q3 2011, with commissioning and test runs slated to start at the same time. PTT has sourced 1 mtpa of LNG from Qatargas in a 10-year agreement with delivery starting in 2012.

## LONG-TERM AND MEDIUM-TERM CONTRACTS IN FORCE IN 2009\*

Reference	Trade	Export	Seller	Import	Buyer	Nominal quantity ACQ 10 <sup>6</sup> t/year	Duration	Type of contract	Comments
DZ-F 1	Algeria-France	Arzew-Bethioua	Sonatrach	Fos - Montoir	GDF SUEZ	1.3	1992/2013	F.O.B.	Extension 2019
DZ-F 2	"	Skikda	"	Fos	"	2.5	1972/2013	"	
DZ-F 3	"	Bethioua	"	Fos - Montoir	"	3.7	1976/2013	"	
DZ-GR	Algeria-Greece	Arzew-Skikda	"	Revithoussa	DEPA S.A.	0.5	2000/2021	"	
DZ-I 1	Algeria-Italy	Skikda-Bethioua	"	Panigaglia	Eni	1.40	1997/2014	"	
DZ-I 2	"	"	"	"	Enel	0.9	1999/2022	D.E.S.	Swap GDFsuez/Enel linked with the Nig-F 2 contract
DZ-SP 2	Algeria-Spain	"	"	Ba, H. Cart., Bil.	Endesa	0.75	2002/2017	"	
DZ-SP 3	"	"	"	"	Cepsa	0.45	2002/-	"	
DZ-SP 4	"	Arzew-Bethioua	"	"	Iberdrola SA	1.15	2002/2021	"	
DZ-SP 5	Italy-Spain	Panigaglia	Eni	Spain	Iberdrola S.A.	0.92	2002-2018	"	LNG Source: Eni Portfolio
	"	"	"	"	Hidrocanabrico + EDP	0.36	2005-2016	"	
	"	"	"	"	E.On Espana	0.65	2007/2022	"	
DZ-TR	Algeria-Turkey	Arzew-Bethioua	"	Marmara Ereğlisi	Botas	3	1994/2014	D.E.S.	
DZ-US	Algeria-USA	"	"	Lake Charles	Duke Energy	3.2	1989/2009	"	
EG-EU	Egypt-Europe	Idku	ELNG	Montoir, Fos	GDF SUEZ	3.6	2005/2025	F.O.B.	
EG-SP	Egypt-Spain	Damietta	EGAS	Spain, other	BPGM	1	2005/2025	"	
EG-SP	"	"	EGAS	Barcelona, Huelva	Union Fenosa gas	3.3	2005/2029	"	
EG-USA/UK	Egypt-U.S.A./UK	"	"	"	Petronas	0.72	2005/2010	"	
EG-US	Egypt-U.S.A.	Idku	Egypt LNG T2	Lake Charles, LA	BGGM	3.6	2006/2023	F.O.B.	
EG-US	"	Damietta	Petroleum Corporation Egypt Natural Gas Holding Co. (EGAS)	Lake Charles, LA	BGGM	0.45	2005/2010	"	Extension 2012
EqG-US	Equatorial Guinea - U.S.A.	Equatorial Guinea Train 1,S.A.	Equatorial Guinea	Lake Charles, LA	BGGM	3.4	2007/2023	F.O.B.	
LY-SP	Libya - Spain	Marsa-el-Brega	NOC	Barcelona, Huelva	Gas Natural sdg	0.55	1981/2004	F.O.B.	Extension 2012
NIG-F 1	Nigeria-France	Bonny Island	Nigeria LNG	Montoir	GDF SUEZ	0.33	1999/2022	D.E.S.	
NIG-F 2	"	"	"	"	Enel	2.5	"	"	Swap GDFsuez/Enel
NIG I-SP	Nigeria - Spain or USA	"	"	Ba. H. Cart. Bil.	Gas Natural Aprovisionamientos	1.17	1999/2021	"	
NIG II-SP	"	"	"	Ba. H. Cart.	Gas Natural sdg	1.99	2002/2024	"	
NIG III-SP	Nigeria - Spain	"	"	Ba. H. Cart. Bil.Sag.	Endesa	0.75	2005/2025	"	
NIG IV-SP	"	"	"	Ba. H. Cart. Bil.Sag.	Iberdrola	0.38	2005/2025	"	
NIG V-SP	"	"	"	Huelva	Eni	1.15	2006/2028	"	
NIG VII-SP	"	Bonny Island	Transgas	Gas Natural Aprovisionamientos	Iberdrola	0.18	2005-2016	"	
NIG VII-SP	"	"	Ba. H. Cart. Bil.Sag.	1	2003	"			
NIG-TR	Nigeria-Turkey	"	"	Marmara Ereğlisi	Botas	0.9	1999/2021	"	
NIG-P	Nigeria-Portugal	"	"	Sines	Transgas S.A.	1.42	2002/2023	"	
NIG-US	Nigeria-USA	"	"	Lake Charles, LA	BGLS	2.3	2004/2023	"	
NIG-US/EU	Nigeria/USA or EU	"	"	US Gulf Coast/ Europe	Total	1.1	2005/2026	"	
NIG-US/MEX	Nigeria-US/Mexico	"	Nigeria LNG	US/GoM	Shell Western LNG	1.13	2007/2026	D.E.S.	
	Nigeria-US/Mexico/Spain	"	Nigeria LNG	Spain/US/GoM	Shell Western LNG	1.51	2009/2028	D.E.S.	
	Nigeria-US/Mexico	"	Nigeria LNG	US/GoM	Shell Western LNG	1.74	2009/2028	D.E.S.	
NO-GoM/EU	Norway - GoM/EU	Hammerfest	Total EGP Norge	Gulf of Mexico / Europe	Total	0.7	2007/2027	"	
NO-EU	Norway-Europe	Hammerfest	GDF SUEZ	Hammerfest	European terminals	0.5	2007/depletion	F.O.B.	
NO-US	Norway - USA	Hammerfest	StatoilHydro,RWE, Hess,Petoro	Cove Point	Statoil Natural Gas	~1.75	2006/2026	D.E.S.	
NO-SP	Norway - Spain	Hammerfest	StatoilHydro,RWE, Hess,Petoro	Spain	Iberdrola	1.13	2006/2023	D.E.S.	
AE-JP	Abu Dhabi-Japan	Das Island	Adgas	Higashi-Ogishima	Tokyo Electric	4.30	1994/2019	"	
US-JP	U.S.A.-Japan	Kenai	Phillips Marathon Sodegaura	Negishi, Futtsu Tokyo Electric	Tokyo Gas	1.22	1989/2009	"	Extension 2011

\*Duration above four years \*\*Guangdong Dapeng LNG Company Ltd.

## LONG-TERM AND MEDIUM-TERM CONTRACTS IN FORCE IN 2009\* (CONT'D)

Reference	Trade	Export	Seller	Import	Buyer	Nominal quantity ACQ 10 <sup>6</sup> t/year	Duration	Type of contract	Comments
TTI-SP	T&T - Spain or USA	Point Fortin	Atlantic LNG	Cart.Ba. H. Bil.	Gas Natural Aprovisionamientos	1.06	1999/2018	F.O.B.	
TTII-SP	"	Point Fortin	Atlantic 2/3	Cart.Ba. H. Bil.	Gas Natural sdg	0.65	2002/2023	"	
TT-SP	T&T - Spain	Point Fortin	Repsol	Cartagena	Gas Natural sdg	1.13	2006/2023	D.E.S.	
TT-US 1	T&T - U.S.A.	"	Atlantic LNG of T&T	Everett/Penuelas	GDF SUEZ NA	1.63	1999/2018	"	
TT-US 2	"	"	Atlantic LNG 2/3	Everett/Penuelas	"	0.34	2000/2020	"	
TT-US 3	"	"	"	USA, Other	BP Gas Marketing	0.8	2002/2021	F.O.B.	
TT-US 4	"	"	PFLE, Triniling	Elba Island, GA Lake Charles, LA	BGLS	2.2	2004/2024	"	
TT-US 5	"	"	BP	Elba Island, GA Marketing	Marathon LNG	1.2	2005/2010	D.E.S.	Option to supply
TT-US	"	"	"	USA, Other	BP	2.5	2006/2025	"	
TT-US	"	"	Atlantic LNG 4	"	BG	1.50	2005/2026	"	
TT-US	"	"	"	"	NGC	0.58	2006/2026	"	
BR-JP	Brunei-Japan	Lumut	Brunei LNG	Sodegaura, Negishi Senboku, Futtu Higashi-Ohgishima	Tokyu Gas Osaka Gas Tokyu Electric	6.01	1993/2013	"	
BR-KR	Brunei-Korea	"	"	Pyeong-Taek, In-Chon or Tong-Yeong	Kogas	0.7	1997/2013	"	
MY-JP 1	Malaysia-Japan	Bintulu	Malaysia LNG	Sodegaura Higashi-Ohgishima Futtu, Negishi	Tokyo Gas Tokyo Electric	7.4	1983/2003	F.O.B./D.E.S.	Extension 2018
MY-JP 2	"	"	"	Niigata	Tohoku Electric	0.50	1996/2016	D.E.S.	
MY-JP 3	"	"	"	Sodeshi	Shizuoka Gas	0.45	1996/2016	"	
MY-JP 6	"	"	"	Fukuoka, Nagasaki	Saibu Gas	0.39	1993/2013	"	
MY-JP 8	"	"	"	Sodegaura Negishi Senboku, Himeji	Tokyo Gas Osaka Gas Kansai Electric Toho Gas	2.1	1995/2015	"	Extension 2028
MY-JP 9	"	"	"	Sakai Chita, Ohgishima	"				
MY-JP 10	"	"	Malaysia LNG TIGA	Shin-Minato	Gas Bureau, City of Sendai	0.15	1997/2016	"	
MY-JP 11	"	"	"	Niigata Explora <sup>®</sup> Co Ltd	Japan Petroleum	0.48	2002/2021	"	
MY-JP 12	"	"	"	Sodegaura Negishi Ohgishima Chita, Senboku Himeji	Tokyo Gas Toho Gas Osaka Gas	0.68	2004/2024	D.E.S. F.O.B.	
MY-JP 13	"	"	"	Hatsukaichi	Hiroshima Gas 0.032	0.008~0.016	2005/2012 F.O.B.	D.E.S.	
MY-JP 14	"	"	"	Niigata Chita	Tohoku Electric Toho Gas	0.5	2005/2025	"	
MY-JP 14	"	"	"	0.52	2007/2027	D.E.S.			
MY-KR 1	Malaysia-Korea	"	Malaysia LNG Dua	Pyeong-Taek In-Chon Tong-Yeong	Kogas	2	1995/2015	F.O.B.	
MY-KR 2	"	"	Malaysia LNG TIGA	"	"	1.5	2003/2010	D.E.S.	
MY-KR 3	"	"	"	"	"	1.5	2008/2028	"	
MY-Ch	Malaysia-China	"	"	Shanghai LNG	Shanghai LNG Co.	3.0	2009/2029	"	
MY-TW	Malaysia-Taiwan	Bintulu	Malaysia LNG Dua	Yung-An	C.P.C.	2.25	1995/2015	"	
ID-JP 1	Indonesia-Japan	Bontang	Pertamina	Senboku Himeji, Chita Tobata, Ohita Sakai Kawago Yokkaichi	Kansai Electric Chubu Electric Kyushu Electric Osaka Gas Toho Gas Nippon Steel	8.45	1977/2000	D.E.S.	Extension 2010
ID-JP 2	"	Blang Lancang	"	Higashi-Ohgishima Futtu, Niigata	Tokyo Electric Tohoku Electric	0.96	2005/2009	F.O.B.	
ID-JP 3	"	Bontang	"	Chita-Senboku Himeji Sakai Yokkaichi Kawago	Chubu Electric Kansai Electric Osaka Gas Toho Gas	3.52	1983/2003	"	Extension 2011
ID-JP 8	"	"	"	Senboku Himeji Sodegaura Chita, Ohgishima	Osaka Gas Tokyo Gas Toho Gas	2.31	1994/2013	"	
ID-JP 9	"	"	"	Hatsukaichi Kagoshima Senboku, Himeji	Hiroshima Gas Nippon Gas Osaka Gas	0.39	1996/2015	D.E.S.	
ID-KR 2	"	B L - Bontang	"	"	"	2	1994/2014	F.O.B.	
ID-KR 3	"	Bontang	"	"	"	1	1998/2017	"	
ID-KR 4	"	Tanah Merah	Tangguh PSC Contractor Parties	GwangYang	Posco	0.55	2005/2024	D.E.S.	

\*Duration above four years \*\*Guangdong Dapeng LNG Company Ltd.

Reference	Trade	Export	Seller	Import	Buyer	Nominal quantity ACQ 10 <sup>6</sup> t/year	Duration	Type of contract	Comments
ID-KR 5	Indonesia-Japan		Tanah Merah	Tangguh PSC Contractor Parties	GwangYang	0.6	2006/2026	D.E.S.	
ID-MX1	Indonesia-Mexico		Tanah Merah	Tangguh PSC Contractor Parties	Energia Costa Azul	3.7	2008/2029	D.E.S.	
ID-Ch	Indonesia-China			Tangguh PSC Contractor Parties	Fujian	2.6	2009/2033	F.O.B.	
ID-TW 1	Indonesia-Taiwan		Bontang	Pertamina	Yung-An	1.57	1990/2009	"	
ID-TW 2	"		"	RasLaffan	Yung-An	1.84	1998/2017	"	
Q-B	Qatar - Belgium		RasLaffan	RasGas	Zeebrugge	2.05	2007/2027	"	
"	"		"	RasGas II	EDF Trading	3.4	2007/2012	D.E.S.	
Q-I	Qatar-Italy		RasLaffan	RasGas	Rovigo	4.6	2009/2034	D.E.S.	
Q-IN	Qatar-India		"	"	Dahej	7.5	2004/2028	F.O.B.	
Q-JP 1	Qatar-Japan		"	Qatargas	Chita/Kawagoe Yokkaichi	4	1997/2021	"	
Q-JP 2	"		"	"	Niigata Ohgishima Senboku, Himeji Sakai Sodegaura Futtu, Chita Yanai, Mizushima Higashi-Ohgishima	2	1998/2021	"	
Q-KR1	Qatar-Korea		"	RasGas	Pyeong-Taek In-Chon, Tong-Yeong	Kogas	4.92	1999/2024	F.O.B.
Q-KR2	"		"	RasGas III	"	"	2.1	2007/2026	D.E.S.
Q-SP	Qatar - Spain		"	Qatargas	Ba.H. Cart.	0.66	2001/2009	"	Extension 2012
Q-SP	"		"	"	Ba.H. Cart.	0.66	2002/2007	D.E.S.	
Q-SP	"		"	"	Ba.H. Cart. Sag.	0.75	2005/2025	"	
Q-SP	"		"	"	Cartagena, Bilbao	0.88	2003/2022	"	
Q-SP	"		"	RasGas	Iberdrola	0.75	2004/2023	"	
Q-SP	"		"	RasGas II	Barcelona	0.74	2005/2025	"	
Q-UE	Qatar - EU		"	Qatargas	EU	0.75	2006/2025	F.O.B.	
Q-TW	Qatar-Taiwan		RasLaffan	RasGas II	Taichung	3.08	2008/2032	F.O.B.	
Q-UK	Qatar - UK		RasLaffan	Qatargas II TB	South Hook	1.50	2009/2034	D.E.S.	
Q-US	Qatar - US		RasLaffan	Qatargas II TB	Sabine Pass	1.15	2009/2034	C.I.F.	
Q-Mex	Qatar - Mexique		RasLaffan	Qatargas II TB	Altamira	0.70	2009/2021	D.E.S.	
Q-France	Qatar - France		RasLaffan	Qatargas II TB	Fos Cavaou	1.85	2009/2034	D.E.S.	
OM-JP 1	Oman-Japan		Qalhat	Oman LNG	Senboku, Himeji	0.66	2000/2024	"	
OM-JP 2	"		"	"	Yanai, Mizushima	0.7	2006/2020	D.E.S.	
OM-JP3	Oman-Japan/USA		"	"	Mitsubishi Corp Tokyo Electric	0.8	2006/2020	F.O.B./D.E.S.	
OM-JP4	Oman-Japan		"	Qalhat LNG	Osaka Gas	0.8	2009/2026	F.O.B.	
OM-KR 1	Oman-Korea		"	"	Pyeong-Taek In-Chon, Tong-Yeong	Kogas	4.06	2000/2024	F.O.B.
OM-SP	Oman-Spain		"	"	Spain, Other	0.77	2004/2009	D.E.S.	
OM-SP	Oman-Spain		Qalhat LNG	Spanish terminals	BP GM	1.65	2006/2025	"	
AU-Ch	Australia - China	Withnell Bay	Woodside	Dapeng, Shenzhen	Woodside	3.7	2006/2031	F.O.B.	Started in May 06
			Japan Australia LNG Shell Development Australia		Japan Australia LNG Shell Development Australia				
			BHP Billiton Petroleum		BHP Billiton Petroleum				
			BP International		BP International				
			Chevron Oil Trading		Chevron Oil Trading				
			CNOOC		CNOOC				
AU-JP1	Australia-Japan	"	Woodside	Sodegaura, Futtu Higashi-Ohgishima Chita, Senboku Yanai, Ohita Negishi, Ohgishima	Tokyo Electric Chubu Electric Kansai Electric Kyushu Electric	7.33	1989/2009	D.E.S.	
AU-JP2	"	"	Woodside	Tobata, Yokkaichi Kawago Himeji, Sakai Mizushima	Chugoku Electric Chugoku Electric Kyushu Electric Tokyo Gas Osaka Gas Toho Gas	1.43	2009/2021	D.E.S.	

## LONG-TERM AND MEDIUM-TERM CONTRACTS IN FORCE IN 2009\* (CONT'D)

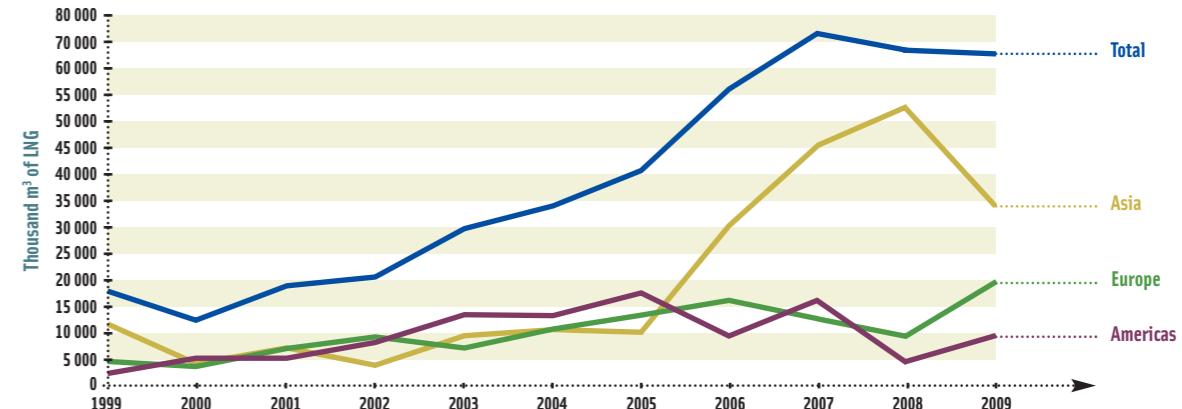
Reference	Trade	Export	Seller	Import	Buyer	Nominal quantity ACQ 10 <sup>6</sup> t/year	Duration	Type of contract	Comments
AU-JP3	Australia-Japan	Withnell Bay	Shell Development Australia BHP Billiton Petroleum	Oita, Tobata	Kyushu Electric	0.7	2009/2017	F.O.B.	
AU-JP4	"	"	BP Development Australia Chevron Oil Trading	Chita, Kawagoe Yokkaichi	Chubu Electric	0.5	2009/2016	D.E.S.	
AU-JP5	"	"	"	Himeji, Sakai	Kansai Electric	0.4	2009/2017	D.E.S.	
AU-JP6	"	"	"	Sodegaura, Futtu Higashi-Ohogishima	Tokyo Electric	0.3	2009/2017	D.E.S.	
AU-JP7	"	"	"	Chita	Toho Gas	0.76	2009/2019	D.E.S.	
AU-JP8	"	"	"	Sodegaura, Negishi Ohogishima	Tokyo Gas	0.5	2009/2017	D.E.S.	
AU-JP9	"	"	"	Senboku, Himeji	Osaka Gas	0.5	2009/2015	D.E.S.	
AU-JP10	"	"	"	Sodegaura Negishi, Ohogishima	Tokyo Gas	1.37	2004/2029	F.O.B.	
AU-JP11	"	"	"	Himeji Senboku	Osaka Gas	1.00	2004/2033	"	
AU-JP12	"	"	"	Sodeshi	Shizuoka Gas	0.13	2004/2029	"	
AU-JP13	"	"	"	Niigata	Tohoku Electric	0.4	2005/2020	"	
AU-JP14	"	"	"	Oita, Tobata	Kyushu Electric	0.5	2006/2021	D.E.S.	
AU-JP15	"	Darwin	Conocophillips, ENI Santos, Inpex, ITSR	Himeji, Sakai Futtu, Sodegaura Negishi, Ohogishima Higashi-Ohogishima	Chubu Electric Kansai Electric Tokyo Electric Tokyo Gas	0.6 0.5 2 1	2009/2020 2009/2015 2006/2022	D.E.S. D.E.S. F.O.B. F.O.B.	
AU-KR	Australia-Korea	Withnell Bay	Woodside Japan Australia LNG Shell Development Australia BHP Billiton Petroleum BP International Chevron Oil Trading	In-Chon, Tong-Yeong	Kogas	0.5	2003/2010	D.E.S.	
Ru-JP1	Russia-Japan	Prigorodnoye	Sakhalin Energy Investment	Futtsu, Sodegaura Higashi-Ohogishima	Tokyo Electric	1.5	2007/2029	F.O.B.	
Ru-JP2	"	"	"	Sodegaura, Negishi Ohogishima	Tokyo Gas	1.1	2007/2031	F.O.B.	
Ru-JP3	"	"	"	Hatsukaichi	Hiroshima Gas	0.21	2008/2028	F.O.B.	
Ru-JP4	"	"	"	Senboku, Himeji	Osaka Gas	0.2	2008/2031	F.O.B.	
Ru-JP5	"	"	"	Oita, Tobata	Kyushu Electric	0.5	2009/2031	D.E.S.	
Ru-KR	Russia-Korea	Sakhalin	Sakhalin Energy	Pyeong-Taek In-Chon, Tong-Yeong	Kogas	1.5	2008/2028	F.O.B.	
Ru-Mex	Russia-Mexico	Sakhalin	SEIC	Energia Costa Azul	Gazprom Global LNG Shell Eastern LNG	1	2009/2028	D.E.S.	
Y-US	Yemen - US	Balhaf	Yemen LNG	Sabine Pass	TGPL	2	2009/2029	D.E.S.	
Y-KR	Yemen-Korea	Balhaf	Yemen LNG	Pyeong-Taek In-Chon, Tong-Yeong	Kogas	2	2008/2028	F.O.B.	
Pf-KR	Portfolio-Korea	Portfolio including Equatorial Guinea	BG	"	"	1.3	2008/2016	D.E.S.	

\*Duration above four years \*\*Guangdong Dapeng LNG Company Ltd.

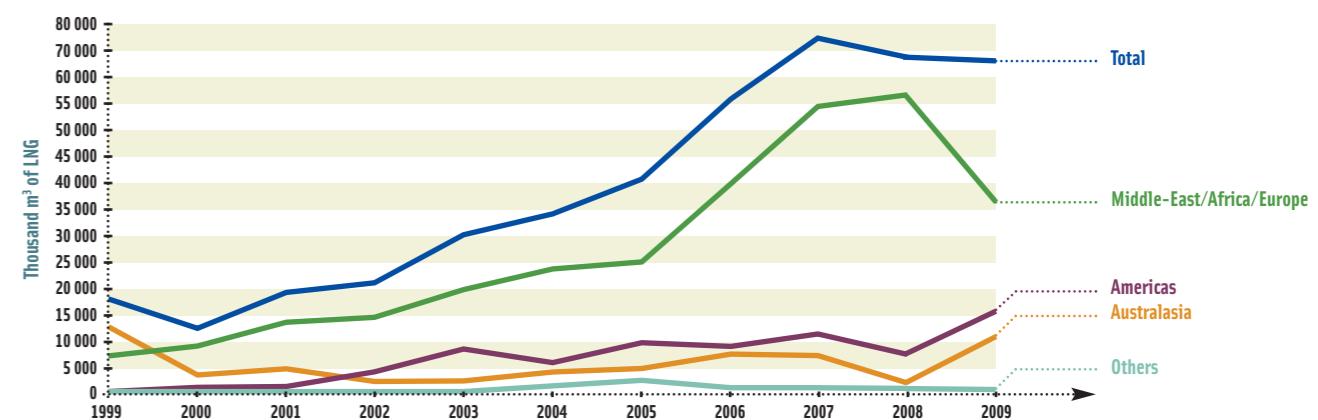
## SPOT & SHORT-TERM QUANTITIES (10<sup>3</sup> m<sup>3</sup> liq) RECEIVED IN 2009 BY THE IMPORTING COUNTRIES FROM THE EXPORTING COUNTRIES

	Algeria	Egypt	Equat. Guin.	Nigeria	Norway	Trinidad & Tobago	Abu Dhabi	Oman	Qatar	Yemen	Australia	U.S.A.	Indonesia	Malaysia	Russia	Other	Total Import
Belgium				143	284	130			287								844
France	101	148	133	140	217	1 209			142								2 226
Greece		418				75											493
Italy	232								207								439
Portugal	190		138	143		682	138										1 291
Spain *	681	3 782		1 651	683	901			281								8 104
Turkey		140				139		132	150								561
UK		250				143	2 201		3 152		131						5 877
Europe	1 204	4 738	271	2 077	1 327	5 337	138	132	4 219		267						125
Argentina		275							1 195								1 470
Brazil				126		629											755
Canada		132				137				209							478
Chile			524			255				273							1 052
Domin Rep																	-
Mexico		275				263											538
Puerto Rico						303											303
USA	1 062			119		3 381			385								4 947
Americas	1 744	524	245			6 163			867								9 543
China		135	136	137		134		143			269		534	426	144		2 058
India	257	552	139	514		1 190	266	562	3 008	1 801		138	413	1 098			9 938
Japan	409	2 624	2 624	1 324		244	693	419	3 523	271		784	1 276				12 545
Korea	136	270		537		1 551		554		146	870		277	1 130			5 471
Taiwan	-	114	1 120	1 509		137		131			689		149	265			4 114
Asia	393	1 480	4 019	4 021		3 256	959	1 809	6 531	146	3 900	978	138	2 157	4 195	144	34 126
Kuwait								391		126			134		138	685	143
Middle East						391		126			134		138	685	143		1 617
Total export	1 597	7 962	4 814	6 343	1 327	15 147	1 097	2 067	11 617	146	4 301	978	138	2 295	4 880	412	65 121

## SPOT & SHORT-TERM LNG IMPORTS OVER THE LAST TEN YEARS (10<sup>3</sup> m<sup>3</sup> liq)



## SPOT & SHORT-TERM LNG EXPORTS OVER THE LAST TEN YEARS (10<sup>3</sup> m<sup>3</sup> liq)



## SEA TRANSPORTATION ROUTES

Reference	Contracts	Export	Import	Miles	Reference	Contracts	Export	Import	Miles	Reference	Contracts	Export	Import	Miles	Reference	Contracts	Export	Import	Miles
Az-Bn	DZ-SP	Arzew	Barcelona	343	Bl-H	NIG-SP	Bonny Island	Huelva	3 359	Bu-HO	MY-JP 1	Bintulu	Higashi-Ohgishima	2 530	Ot-Dj	Om-IN	Qalhat	Dahej	777
Az-F	DZ-F1	Arzew	Fos Tonkin	530	Bl-IC	NIG-KR	Bonny Island	In-Chon	10 390	Bu-Hj	MY-JP	Bintulu	Himeji	2 400	Ot-Dg	Om-CH	Qalhat	Dapeng, Shenzhen	4 558
Az-H	DZ-SP	Arzew	Huelva	691	Bl-LC	NIG-US	Bonny Island	Lake Charles	6 111	Bu-IC	MY-KR	Bintulu	In-Chon	2 124	Ot-Fu	Om-JP3	Qalhat	Futtsu	5 985
Ba-Al	DZ-TR2	Bethioua	Aliaga	1 404	Bl-ME	NIG-TR	Bonny Island	Marmara Eregrisi	5 059	Bu-MA	MY-KW	Bintulu	Mina Al Ahmadi	4 479	Ot-Gu	Om-KR	Qalhat	Gwangyang	5 595
Ba-Bn	DZ-SP 1/2/3	Bethioua	Barcelona	343	Bl-M	NIG-F	Bonny Island	Montoir	3 980	Bu-Mz	MY-JP	Bintulu	Mizushima	2 335	Ot-Ha	Om-IN	Qalhat	Hazira	760
Ba-Bo	DZ-SP 1	Bethioua	Bilbao	1118	Bl-Ni	NIG-JP	Bonny Island	Niigata	11 014	Bu-Nk	MY-JP 6	Bintulu	Nagasaki	2 151	Ot-HO	Om-JP	Qalhat	Higashi-Ohgishima	5 981
Ba-Ca	DZ-SP 1/2/3	Bethioua	Cartagena	113	Bl-Pc	NIG-BR	Bonny Island	Pecem	2 811	Bu-Ni	MY-JP 1/8	Bintulu	Negishi	2 513	Ot-Hj	Om-JP1	Qalhat	Himeji	5 838
Ba-Dj	DZ-IN	Bethioua	Dahej	4 775	Bl-Rg	NIG-SP	Bonny Island	Reganosa	3 746	Bu-Nt	MY-JP 2	Bintulu	Niigata	2 511	Ot-H	Om-SP	Qalhat	Huelva	4 608
Ba-FC	DZ-F	Bethioua	Fos Cavau	520	Bl-SO	NIG-SP	Bonny Island	Sagunto	3 686	Bu-Og	MY-JP 1/8	Bintulu	Ohgishima	2 530	Ot-IC	Om-KR	Qalhat	In-Chon	5 750
Ba-F	DZ-F3	Bethioua	Fos Tonkin	530	Bl-SP	NIG-US	Bonny Island	Sabine Pass	6 227	Bu-PT	MY-KR	Bintulu	Pyeong-Taek	2 124	Ot-ME	Om-TR 1	Qalhat	Marmara Eregrisi	3 333
Ba-Ha	DZ-IN	Bethioua	Hazira	4 791	Bl-Sa	NIG-JP	Bonny Island	Sakai	10 767	Bu-Sa	MY-JP 8	Bintulu	Sakai	2 376	Ot-MA	Om-KW	Qalhat	Mina Al Ahmadi	794
Ba-H	DZ-SP 1/2/3	Bethioua	Huelva	373	Bl-Sb	NIG-JP	Bonny Island	Senboku	10 767	Bu-Sb	MY-JP 8	Bintulu	Senboku	2 376	Ot-Mz	Om-JP2	Qalhat	Mizushima	5 873
Ba-IG	DZ-UK	Bethioua	Isle of Grain	1 675	Bl-Si	NIG-P	Bonny Island	Sines	3 417	Bu-St	MY-CN	Bintulu	Shanghai Mengtougu	1 942	Ot-Nt	Om-JP	Qalhat	Niigata	6 071
Ba-ME	DZ-TR 1	Bethioua	Marmara Eregrisi	1 500	Bl-TY	NIG-KR	Bonny Island	Tong-Yeong	10 354	Bu-SG	MY-CN	Bintulu	Shanghai	1 942	Ot-Og	Om-JP	Qalhat	Ohgishima	6 013
Ba-M	DZ-F3	Bethioua	Montoir	1 260	Bl-Yg	NIG-TW	Bonny Island	Yung-An	9 440	Bu-Sd	MY-JP 1/8	Bintulu	Sodegaura	2 515	Ot-PT	Om-KR	Qalhat	Pyeong-Taek	5 750
Ba-P	DZ-1/2/3	Bethioua	Panigaglia	690	Bl-At	NO-MEX	Hammerfest	Altamira	5 571	Bu-Sh	MY-JP 3	Bintulu	Sodeshi	2 378	Ot-Rg	Om-SP	Qalhat	Reganosa	5 195
Ba-Rg	DZ-SP	Bethioua	Reganosa	945	Bl-Ba	NO-SP	Hammerfest	Barcelona	3 155	Bu-SM	MY-JP 9	Bintulu	Shin-Minato	2 603	Ot-So	Om-SP	Qalhat	Sagunto	4 259
Ba-Rv	DZ-GR	Bethioua	Revithousa	1 270	Bl-Ca	NO-SP	Hammerfest	Cartagena	2 885	Bu-TY	MY-KR	Bintulu	Tong-Yeong	1 674	Ot-Sb	Om-JP 1	Qalhat	Senboku	5 812
Ba-So	DZ-SP	Bethioua	Sagunto	243	Bl-Bo	NO-SP	Hammerfest	Bilbao	2 045	Bu-Yg	MY-TW	Bintulu	Yung-An	1 350	Ot-Tb	OM-JP	Qalhat	Tobata	5 636
Ba-Si	DZ-P	Bethioua	Sines	568	Bl-Cp	NO-US	Hammerfest	Cove Point	3 975	Bt-Ch	ID-JP1/3/8/12	Bontang (Badak)	Chita	2 500	Ot-TY	Om-KR	Qalhat	Tong-Yeong	5 300
Sk-Ca	DZ-SP	Skikda	Cartagena	388	Bl-Dn	NO-UK	Hammerfest	Dragon	1 599	Bt-Fj	ID-CN	Bontang (Badak)	Fujian	1 856	Ot-Ya	Om-JP	Qalhat	Yanai	5 700
Sk-F	DZ-F2	Skikda	Fos Tonkin	400	Bl-H	NO-SP	Hammerfest	Huelva	2 594	Bt-Gy	ID-KR	Bontang (Badak)	Gwangyang	2 331	Ot-Yg	Om-TW	Qalhat	Yung-An	4 719
Sk-H	DZ-SP	Skikda	Huelva	716	Bl-IG	NO-IG	Hammerfest	Isle of Grain	1 423	Bt-Hk	ID-JP 9	Bontang (Badak)	Hatsukaichi	2 412	SI-Ch	Ru-JP	Sakhalin II	Chita	1 085
Sk-P	DZ-1/2/3	Skikda	Panigaglia	456	Bl-M	NO-F	Hammerfest	Montoir	1 889	Bt-Ha	ID-IN	Bontang (Badak)	Hazira	4 003	SI-Dj	Ru-IN	Sakhalin II	Dahei	6 131
Sk-RV	DZ-GR	Skikda	Revithousa	920	Bl-Bn	LY-SP	Marsa-el-Brega	Barcelona	1 068	Bt-Hj	ID-JP 1/3/8	Bontang (Badak)	Himeji	2 400	SI-Dg	Ru-CH	Sakhalin II	Dapeng, Shenzhen	2 244
Da-At	EG-MEX	Damietta	Altamira	6 733	Bl-Ca	LY-SP	Marsa-el-Brega	Cartagena	1 175	Bt-IC	ID-KR 1/2/7	Bontang (Badak)	In-Chon	2 493	SI-Fu	Ru-JP	Sakhalin II	Futtsu	1 065
Da-Bn	EG-SP	Damietta	Barcelona	1 554	Bl-H	LY-SP	Marsa-el-Brega	Huelva	1 496	Bt-Kg	ID-JP 9	Bontang (Badak)	Kagoshima	2 211	SI-Hk	Ru-JP	Sakhalin II	Hatsukaichi	1 105
Da-Bo	EG-SP	Damietta	Bilbao	2 732	Bl-M	LY-SP	Marsa-el-Brega	Sagunto	1 139	Bt-Kw	ID-JP 1/3/11	Bontang (Badak)	Kawagoe	2 510	SI-Ha	Ru-IN	Sakhalin II	Hazira	6 118
Da-Ct	EG-Ca	Damietta	Canaport	4 864	Bl-Dj	AE-IN	Das Island	Dahej	1 227	Bt-Ni	ID-JP 1/3/8	Bontang (Badak)	Negishi	2 573	SI-Ho	Ru-JP	Sakhalin II	Higashi-Ohgishima	1 067
Da-Ca	EG-SP	Damietta	Cartagena	1 662	Bl-Fu	AE-JP	Das Island	Futtsu	6 290	Bt-Og	ID-JP 8	Bontang (Badak)	Ohgishima	2 560	SI-IC	Ru-KR	Sakhalin II	In-Chon	1 763
Da-Ch	EG-JP	Damietta	Chita	7 879	Bl-Ha	AE-IN	Das Island	Hazira	1 188	Bt-Ot	ID-JP 1	Bontang (Badak)	Oita	2 413	SI-Kw	Ru-JP	Sakhalin II	Kawagoe	1 029
Da-CP	EG-US	Damietta	Cove Point	5 291	Bl-H	AE-IP	Das Island	Higashi-Ohgishima	6 310	Bt-PT	ID-KR 1/2/7	Bontang (Badak)	Pyeong-Taek	2 493	SI-MA	RU-KW	Sakhalin II	Mina Al Ahmadi	7 315
Da-Dj	EG-IN	Damietta	Dahej	3 142	Bl-Si	AE-P	Das Island	Sines	5 237	Bt-Sa	ID-JP	Bontang (Badak)	Sakai	2 385	SI-Ni	Ru-JP	Sakhalin II	Negishi	1 010
Da-El	EG-US	Damietta	Elba Island	5 559	Bl-S	US-JP	Kenai	Negishi	3 290	Bt-Sb	ID-JP 1/3/8	Bontang (Badak)	Senboku 2	2 385	SI-Ot	Ru-JP	Sakhalin II	Oita	1 061
Da-H	EG-SP	Damietta	Huelva	1 984	Bl-Sd	Sodegaura	Kenai	Sodegaura	3 300	Bt-Sd	ID-JP 8	Bontang (Badak)	Sodegaura	2 566	SI-PT	Ru-KR	Sakhalin II	Pyeong-Taek	1 763
Da-Kw	EG-JP	Damietta	Kawagoe	7 882	Bl-Sf	TT-MEX	Point Fortin	Alatmira	2 220	Bt-Sh	ID-JP	Bontang (Badak)	Sodeshi	6 465	SI-Sb	Ru-JP	Sakhalin II	Senboku	1 233
Da-LC	EG-US	Damietta	Lake Charles	6 690	Bl-Bb	TT-ARG	Point Fortin	Bahia Blanca	4 628	Bt-Tb	ID-JP 1	Bontang (Badak)	Tobata	2 370	SD-Sd	Ru-JP	Sakhalin II	Sodegaura	1 020
Da-IG	EG-UK	Damietta	Isle of Grain	3 232	Bl-Bn	TT-SP	Point Fortin	Barcelona	3 976	Bt-Ty	ID-KR 1/2/7	Bontang (Badak)	Tong-Yeong	2 043	SI-Tb	Ru-JP	Sakhalin II	Tobata	981
Da-Fp	EG-US	Damietta	Port Freeport	4 940	Bl-B	TT-SP	Point Fortin	Bilbao	3 669	Bt-Yk	ID-JP 1/3	Bontang (Badak)	Yokkaichi	2 510	SI-Ty	Ru-KR	Sakhalin II	Tong-Yeong	1 363
Da-Rg	EG-SP	Damietta	Reganosa	2 581	Bl-Cr	TT-US	Point Fortin	Cameron	2 201	Bt-Yg	ID-TW	Bontang (Badak)	Yung-An	1 455	SI-Yg	Ru-TW	Sakhalin II	Yung-An	1 967
Da-SP	EG-US	Damietta	Sabine Pass	6 608	Bl-Ct	TT-US	Point Fortin	Canaport	2 150	BL-Fj	ID-CN	Blang Lancang (Arun)	Fujian	2 489	BF-At	Ym-MEX	Balhaf	Altamira	8313
Da-So	EG-SP	Damietta	Sagunto	1 645	Bl-Ca	TT-SP	Point Fortin	Cartagena	3 701	BL-Gu	ID-KR	Blang Lancang (Arun)	Gwangyang	2 548	BF-Gu	Ym-KR	Balhaf	Gwangyang	6 125
Da-Ta	EG-TW	Damietta	Taichung																

# LIQUEFACTION PLANTS

Idku by night

Country	Site	Liquefaction		Storage		Owner	Operator	Buyer	Start-up date
		Number of trains	Nominal capacity 10 <sup>6</sup> t per year	Number of tanks	Total capacity m <sup>3</sup>				
<b>ATLANTIC BASIN</b>									
Algeria	Arzew GL 4Z	3	0.93	3	33 000	Sonatrach	Sonatrach	DEPA GDF SUEZ	1964
	Arzew (Bethioua) GL 1Z	6	8.19	3	300 000	"	"	GDF SUEZ Botas Eri Gas & Power Edison Gas Shell Statoil Endesa DEPA Cepsa NA...	1978
	GL 2Z	6	7.98	3	300 000	"	"		1981
	Skikda GL 1K	3	3.13	5	308 000	"	"	GDF SUEZ DEPA Eni Gas & Power	1972
Egypt	Damietta	1	5.00	2	300 000	SEGAS	SEGAS SERVICES	Union Fenosa Gas EGAS(BP,BG Petronas)	2005
	Idku	2	7.20	2	280 000	Egyptian LNG EGPC, EGAS, BG GDF SUEZ, Petronas	Egyptian LNG EGPC, EGAS, BG GDF SUEZ, Petronas	GDF SUEZ BGGM-BGLT	2005
Equatorial Guinea	Bioko Island	1	3.70	2	272 000	Marathon, Sonagas, Mitsui, Marubeni	Marathon	BG Gas Marketing	2007
Libya	Marsa-el-Brega	3	0.60	2	96 000	Sirte Oil Co.	Sirte Oil Co.	Gas Natural	1970
Nigeria	Bonny Island	3	9.60	3	252 600	Nigeria LNG (NNPC, Shell, Total, ENI)	Nigeria LNG Ltd	Enel Gas Natural Botas GDF SUEZ Ren Atlantic BGLT -BGGM Shell Iberdrola Endesa Ren Atlantic Total Eni Gas & Power	1999
		2	8.10			"	"		2000
		1	4.00	1	84 200	"	"	Total, Shell	2008
Norway	Hammerfest	1	4.30	2	250 000	StatoilHydro, Petoro, Total, GDF SUEZ, RWE-DEA, Hess	StatoilHydro	Total, StatoilHydro, GDF SUEZ, Iberdrola	2007
Trinidad & Tobago	Point Fortin	4	15.10	4	520 000	BP, BG, Repsol, GDF SUEZ	Atlantic LNG	DOMAC Marathon LNG Marketing Ecolectrica BP Energy AES Shell North America LNG Statoil Gas Natural Distrigas Excelerate Energy	1999

Country	Site	Liquefaction		Storage		Owner	Operator	Buyer	Start-up date
		Number of trains	Nominal capacity 10 <sup>6</sup> t per year	Number of tanks	Total capacity m <sup>3</sup>				
<b>MIDDLE-EAST</b>									
Abu Dhabi	Das Island	3	5.60	3	240 000	Adgas (ADNOC, BP Total, Mitsui)	Adgas	Tokyo Electric Power	1977
Oman	Qalhat	2	7.10	2	240 000	Oman LNG (Oman Govt, Shell, Total, Korea LNG, Mitsubishi Mitsui, Partex, Itochu)	Oman LNG	Kogas Itochu Osaka Gas BP	2000
		1	3.60			Qalhat LNG (Omari Government, Oman LNG, Itochu, Mitsubishi, Union Fenosa Gas, Osaka Gas)	Oman LNG	Mitsubishi Osaka Gas Union Fenosa Gas	2006
Qatar	Ras Laffan Train 1-2 Train 3	2	9.90	4	340 000	Qatargas (QP, ExxonMobil, Total, Marubeni, Mitsui)	Qatargas I	Chubu Electric Osaka Gas Tokyo Gas Toho Gas Tohoku Electric Tokyu Electric Kansai Electric Chugoku Electric Gas Natural	1997-1998 1999
	Train 4 (Qatargas II TA) Train 5 (Qatargas II TB)	1	7.80	5	725 000	(Qatar Petroleum, Exxon Mobil) (Qatar Petroleum, Total, Exxon Mobil)	Qatargas II	South Hook Gas TGPL South Hook Gas	2009
		1	7.80	2	280 000	RasGas (QP, ExxonMobil, Kogas, Itochu, Nissho Iwai) LNG Japan)	RasGas I	Kogas Others (non-members) Distrigas	1999-2000
		1	4.70			RasGas II	Petronet LNG	2004 March 2007 August 2009	
		1	4.70			RasGas III			
Yemen	Balhaf	1	3.35	2	140 000	Yemen LNG (Total, Kogas, Yemen Gas Co., Hunt Oil Co., SK Corporation, Hyundai, GASIP1)	Yemen LNG	Kogas GDF Suez TGPL	November 2009
<b>PACIFIC BASIN</b>									
Australia	Withnell Bay	4	11.50	4	260 000	NWS LNG JV (Woodside, Shell, BHP BP Australia, Chevron Mitsubishi/Mitsui)	Woodside	Tokyo Electric Chubu Electric Kansai Electric Chugoku Electric Kyushu Electric Tokyo Gas Osaka Gas Shizuoka Gas Tohoku Electric Nippon Gas Kogas Shell Hazira Gas DPLNG	1989
		1	4.30	1	65 000	Woodside, Shell, BHP, BP, Chevron, Australia Japan LNG (MiMi) 16.67% each			2008
	Darwin	1	3.00	1	188 000	Darwin LNG (ConocoPhillips, Eni, Santos, Inpex TEPCO, TG)	ConocoPhillips	Tokyo Electric Tokyo Gas	2006
Brunei	Lumut	5	7.20	3	195 000	Brunei LNG (Brunei Govt, Shell, Mitsubishi)	Brunei LNG Sdn Bhd	Tokyo Gas Tokyo Electric Osaka Gas Kogas	1973 1997
U.S.A.	Kenai	2	1.40	3	108 000	ConocoPhillips Marathon	ConocoPhillips Marathon	Tokyo Gas Tokyo Electric	1969
Indonesia	Biang Lancang Arun	3	4.75	4	508 800	Pertamina	PT Arun NGL Co. (Pertamina, ExxonMobil JILCO)	Tokyo Electric Kogas	1978-1979 1984 1986
	Bontang Badak Badak A B	8	22.20	6	630 000	Pertamina	PT Badak NGL Co. (Pertamina, VICO, Total, JILCO)	Kansai Electric Chubu Electric Kyushu Electric Osaka Gas Toho Gas Nippon Steel Co.	1977

## LIQUEFACTION PLANTS (CONT'D)

Country	Site	Liquefaction		Storage		Owner	Operator	Buyer	Start-up date
		Number of trains	Nominal capacity 10 <sup>6</sup> t per year	Number of tanks	Total capacity m <sup>3</sup>				
<b>PACIFIC BASIN (CONT'D)</b>									
Indonesia	Badak C.D.					Kansai Electric Chubu Electric Osaka Gas Toho Gas			1983
	Badak E					C.P.C.			1990
	Badak F					Tokyo Gas Osaka Gas Toho Gas Hiroshima Gas Nippon Gas			1994
	Badak G					Kogas			1998
	Badak H					C.P.C.			1998
	Tangguh	2	7.60	2	340 000	Government of Indonesia	BP	Posco K-Power Sempra LNG CNOOC Fujian LNG Tohoku Electric	2009
Malaysia	Bintulu MLNG 1	3	8.10			Malaysia LNG Sdn Bhd: (Petronas, Shell, Mitsubishi)	Malaysia LNG Sdn Bhd	Tokyo Gas Tokyo Electric Saibu Gas	1983
	Bintulu MLNG 2	3	7.80	Satu + Dua + Tiga 6	Satu + Dua + Tiga 445 000	Malaysia LNG Dua (Petronas, Shell, Mitsubishi, Sarawak State Gov.)	Malaysia LNG Dua	Tokyo Gas Osaka Gas Kansai Electric Toho Gas Shizuoka Gas Tohoku Electric Gas Bureau, City of Sendai Saibu Gas Kogas C.P.C.	1995
	Bintulu MLNG 3	2	6.80			Malaysia LNG Tiga (Petronas, Shell, Nippon oil, Diamond Gas, Sarawak State Gov.)	Malaysia LNG Tiga	Tokyo Gas Osaka Gas Toho Gas Tohoku Electric Japex Hiroshima Gas Kogas C.P.C.	2003
Russia	Sakhalin II	2	9.55	2	200 000	Sakhalin Energy Investment Company (Gazprom, Shell, Mitsui, Mitsubishi)	Sakhalin Energy Investment Company	Gazprom Global LNG Shell Eastern Trading Kogas Chubu Electric Hiroshima Gas Kyushu Electric Osaka Gas Saibu Gas Toho Gas Tohoku Electric Tokyo Electric Tokyo Gas	2009
	<b>Total</b>	<b>90</b>	<b>245.68</b>	<b>82</b>	<b>7 900 600</b>				



▲ Sakhalin by night

## REGASIFICATION PLANTS



▲ In-Chon Receiving Terminal

Country	Site	Storage		Send out		Owner	Operator	T.P.A.	Source of import	Start-up date
		Number of tanks	Total capacity m <sup>3</sup>	Number of vaporizers (*)	Nominal capacity billion Nm <sup>3</sup> NG/year					
France	Fos-sur-Mer	3	150 000	15	7.00	Elengy	Elengy	Yes	Algeria, Egypt	1972
	Montoir-de-Bretagne	3	360 000	11	10.00	Elengy	Elengy	Yes	Algeria, Nigeria, Egypt, T&T, Norway, Qatar, Australia, Equatorial Guinea	1980
	Fos-Cavaou	3	330 000	4	8.25	Société du Terminal Méthanier de Fos-Cavaou	"	"	Algeria, Egypt, Qatar	2009
										Commercial operation in 2010
Spain	Barcelona	6	540 000	13	17.08	Enagas S.A.	Enagas S.A.	"	Algeria, Libya, Qatar, Nigeria, T&T, Egypt, Norway, Oman	1969
	Huelva	4	460 000	9	11.8	Enagas S.A.	Enagas S.A.	"	Algeria, Libya, Norway, Oman, Yemen, T&T, Nigeria, Qatar, Egypt	1988
	Cartagena	4	437 000	9	11.8	Enagas S.A.	Enagas S.A.	"	Algeria, Libya, Qatar, Oman, Nigeria, T&T, Egypt	1989
	Bilbao	2	300 000	4	7.00	Enagas, Repsol, Deutsche Bank, EVE	Bahia de Bizkaia Gas, SL (BBG)	Reganosa	Algeria, Egypt, Nigeria, Norway, T&T, Qatar, Oman	2003
	Reganosa	2	300 000	3	3.60	Union Fenosa Gas, Gas Natural-Union Fenosa Endesa, Xunta Galicia, Sonatrach, Tojeiro Group Galician Government Caixa Galicia, Banco Pastor Caixanova	Reganosa	Regulated T.P.A.	Algeria, Nigeria, T&T, Oman, Qatar,	2007
	Sagunto	3	450 000	5	8.76	Union Fenosa gas RREEF Alternative Investments Endesa Oman oil holding Spain	Saggas	Regulated T.P.A.	Algeria, Libya, Qatar, T&T, Nigeria, Oman, Egypt	2006
Italy	Panigaglia Rovigo (Atlantic LNG)	2	100 000	4	3.32	GNL Italia S.p.A.**	GNL Italia S.p.A.**	Yes	Algeria, Qatar	1969
				5	8.0	Adriatic LNG	Adriatic LNG	Yes - 20%	Qatar, Egypt, Norway, T&T, Nigeria	2009
Belgium	Zeebrugge	4	380 000	11	9.00	Fluxys LNG	Fluxys LNG	Yes	Qatar, Egypt, Norway, T&T, Nigeria	1987
Turkey	Marmara Ereğlisi Altıağası/Izmir	3	255 000	7	6.20	Botas	Botas	No	Algeria, Nigeria	1994
		2	280 000	5	6.00	Egegaz	Egegaz	No	Algeria	2006
Greece	Revithoussa	2	130 000	6	5.00	Depa S.A.	Depa S.A.	No	Algeria	2000
Portugal	Sines	2	240 000	5	5.20	Ren Atlântico	Ren Atlântico	Yes	Nigeria, T&T, Equatorial Guinea	2004

\*Not including back-up capacity    \*\*Floating Storage Regasification Vessel    \*\*\*GNL Italia is a wholly-owned subsidiary of Snam Rete Gas

## REGASIFICATION PLANTS (CONT'D)

Country	Site	Storage		Send out		Owner	Operator	T.P.A.	Source of import	Start-up date	Country	Site	Storage		Send out		Owner	Operator	T.P.A.	Source of import	Start-up date
		Number of tanks	Total capacity m³	Number of vaporizers (*)	Nominal capacity billion Nm³ NG/year								Number of tanks	Total capacity m³	Number of vaporizers (*)	Nominal capacity billion Nm³ NG/year					
United Kingdom	Isle of Grain	7	800 000	10	13.50	National Grid	Grain LNG	Yes (but not RTPA)	Algeria, Egypt, Qatar, Trinidad & Tobago, Norway, Australia, Trinidad & Tobago	2005	India	Dahej	4	592 000	19	12.50	Petronet LNG	Petronet LNG	Yes (on cargo by cargo basis)	Qatar, Algeria, Egypt, Australia, Oman, T&T	2004
	Teesside Dragon South Hook	2	320 000	6	4.60	Excelsior Energy	Dragon LNG	Yes	Dragon LNG	2007		Hazira	2	320 000	5	3.40	Hazira LNG Private Ltd (74% Shell, 26% Total)	Hazira LNG Private Ltd	No	Nigeria, Egypt, Algeria, Oman, Qatar, Qatar/Belgium, Australia, T&T, Abu Dhabi, Norway, Equatorial Guinea	Expansion in July 2009 April 2005
		5	775 000	15	6.00	Dragon LNG	South Hook LNG Terminal Company Ltd	yes	Various	2009											
					21.00	ExxonMobil Qatargas (II) Terminal Company Ltd. (ExxonMobil) ELF Petroleum UK Limited (Total)		Qatar	2009												
Canada	Canaport LNG	3	160 000	8	10.00	Repsol Energy Canada Ltd (74.25%) Irving Canaport LP Company Limited (24.75%) Repsol Canada Ltd (0.75%) Irving Canaport GP Company Limited (0.25%)	Repsol Canada Ltd	Yes non-regulated		2009	Japan	Niigata	8	720 000	14	11.60	Nihonkai LNG	Nihonkai LNG	Yes	Indonesia, Malaysia, Qatar, Australia	1984
											Higashi-Ogishima	9	540 000	9	18.00	Tokyo Electric	Tokyo Electric	"	Indonesia, Malaysia, Qatar, Australia, Oman, Abu Dhabi, Brunei Darwin, Russia	1984	
											Futtsu	10	1 110 000	13	26.00	"	"	"	Indonesia, Malaysia, Qatar, Australia, Oman, Abu Dhabi, Brunei Darwin, Russia	1985	
											Chita Kyodo	4	300 000	14	9.89	Toho Gas Chubu Elec	Toho Gas	"	Indonesia, Malaysia, Australia, Qatar	1978	
											Chita-Midorihama Works	2	400 000	7	9.20	Toho Gas	Toho Gas	"	Indonesia, Malaysia, Australia, Qatar	2001	
											Chita	7	640 000	11	15.70	Chita LNG	Chita LNG	"	Indonesia, Malaysia, Australia, Qatar, Algeria	1983	
											Himeji	8	740 000	6	6.40	Osaka Gas	Osaka Gas	"	Indonesia, Malaysia, Australia, Qatar, Oman, Brunei	1984	
											Himeji LNG	7	520 000	8	11.00	Kansai Electric	Kansai Electric	"	Indonesia, Malaysia, Qatar, Australia	1979	
											Yanai	6	480 000	5	3.10	Chugoku Elec	Chugoku Electric	"	Australia, Qatar, Oman	1990	
											Mizushima	1	160 000	3	1.30	Mizushima LNG	Mizushima LNG	Yes	Australia, Qatar, Oman	2006	
											Oita	5	460 000	6	6.27	Oita LNG	Oita LNG	"	Indonesia, Australia, Russia, Algeria	1990	
											Sakai	3	420 000	6	8.70	Kansai Electric	Kansai Electric	Yes	Indonesia, Malaysia, Australia, Qatar, Oman, Brunei	2006	
											Senboku I	4	180 000	5	2.94	Osaka Gas	Osaka Gas	Yes	Indonesia, Malaysia, Australia, Qatar	2006	
											Senboku II	18	1 585 000	15	15.70	"	"	"	Brunei	1972	
											Tobata	8	480 000	9	10.28	Kita Kyushu	Kita Kyushu LNG	No	Indonesia, Australia, Sakhalin, Equatorial Guinea, Qatar	1977	
											Yokkaichi LNG Centre	4	320 000	8	9.20	Chubu Electric	Chubu Electric	Yes	Indonesia, Qatar, Australia	1988	
											Yokkaichi Works	2	160 000	3	0.88	Toho Gas	Toho Gas	"	Indonesia	1991	
											Negishi	14	1 180 000	16	15.40	Tokyo Gas	Tokyo Gas	Negotiated TPA	Indonesia, Malaysia, Australia, Qatar, USA, Brunei, Russia	1969	
											Sodegaura	35	2 660 000	36	41.60	Tokyo Electric	Tokyo Electric	Negotiated TPA	Indonesia, Malaysia, Australia, Qatar, USA, Brunei, Russia	1973	
											Ohgishima	3	600 000	10	12.40	Tokyo Gas	Tokyo Gas	Negotiated TPA	Indonesia, Malaysia, Australia, Qatar	1998	
											Fukuoka	2	70 000	7	1.10	Saibu Gas	Saibu Gas	"	Malaysia	1993	
											Sodeshi	3	337 200	8	3.90	Shimizu LNG	Shimizu LNG	No	Malaysia, Australia, Qatar, USA, Indonesia	1996	
											Hatsukaichi	2	170 000	4	1.15	Hiroshima Gas	Hiroshima Gas	"	Indonesia, Malaysia, Russia	1996	
											Kagoshima	2	86 000	3	0.30	Nippon Gas	Nippon Gas	"	Indonesia, Australia	1996	
											Kawagoe	4	480 000	4	7.10	Chubu Electric	Chubu Electric	Yes	Indonesia, Australia, Qatar	1997	
											Shin-Minato	1	80 000	3	0.38	Gas Bureau	Gas Bureau	No	Indonesia, Australia, City of Sendai	1997	
											Nagasaki	1	35 000	3	0.20	Saibu Gas	Saibu Gas	Yes	"	2003	
Dominican Rep.	Punta Caucedo	1	160 000	2	2.32	AES Andres	AES Andres	No	Trinidad & Tobago	2003	Korea	Pyeong-Taek	14	1 560 000	31	40.28	Kogas	Kogas	No	Indonesia, Malaysia, T&T, Brunei, Qatar, Oman, Egypt, Australia, Algeria, Nigeria, Equatorial Guinea	1986
Mexico	Altamira	2	300 000	5	7.80	Terminal de LNG de Altamira (50% Shell, 25% Total, 25% Mitsui)	Terminal de LNG de Altamira	No	Nigeria, Egypt, Qatar, T&T	August 2006		Incheon	20	2 680 000	33	40.99	"	"	"	"	1996
	Energia Costa Azul	2	320 000	6	10.33	Energia Costa Azul (100% Sempra LNG)	Energia Costa Azul	Yes	Qatar, Trinidad & Tobago	May 2008		Tong-Yeong	12	1 680 000	12	20.72	"	"	"	"	2002
Puerto Rico	Penuelas	1	160 000	2	3.75	EcoElectrica	EcoElectrica		Trinidad & Tobago	2000		Gwangyang	2	200 000	2	2.30	Posco	Posco	"	Nigeria, Oman, Malaysia, Australia, Indonesia	2005
Argentina	Bahia Blanca (floating terminal)			6	3.00	Repsol YPF	YPF		Trinidad & Tobago, Egypt	June 2008											
Brazil	Pecem**			2	2.50	Petrobras	Transpetro	No	Trinidad & Tobago, Nigeria	2009											
	Guanabara Bay**			2	5.00	Petrobras	Transpetro	No	Trinidad & Tobago, Nigeria	2009											
Chile	Quintero	3	344 000	3	3.65	GNL Quintero S.A.	GNL Quintero S.A.	No	Trinidad & Tobago, Qatar, Equatorial Guinea	2009											
Kuwait	Mina Al Ahmadi **				7.07	KNPC	Excelsior Energy, KNPC		Australia, Malaysia, Russia, Trinidad & Tobago, Oman	2009											
China	Dapeng, Shenzhen	3	480 000	7	4.90	GD LNG	GD LNG	No	Australia, Qatar, Egypt, Nigeria, Equatorial Guinea, Malaysia, Sakhalin, Oman	2006											
	Fujian	2	320 000		3.70	Fujian LNG (CNOOC 60%, Fujian nv. & Dev. Corp; 40%)	Fujian LNG	No	Egypt, Equatorial Guinea	2008											
	Shanghai, Yangshan (Ximentang Isle)	3	495 000		1.50	Shanghai LNG (CNOOC 45%, Shenergy Group Ltd 55%)	Shanghai LNG		Malaysia	2009											
	Shanghai, Mengtougou	3	120 000			Shanghai Gas Group	Shanghai Gas Group		Malaysia	2008											

\*Not including back-up capacity    \*\*Floating Storage Regasification Vessel    \*\*\*GNL Italia is a wholly-owned subsidiary of Snam Rete Gas

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**TOTAL**    **344**    **35 701 894**    **637**    **784.05**

# DELIVERY DATE

# OF THE LNG TANKERS

**1969**  
 •LNG Palmaria  
 •SCF Arctic (ex Methane Arctic)  
 •SCF Polar (ex Methane Polar)

**1970**  
 •LNG Elba

**1971**  
 •Mel (ex Hassi R'Mel)

**1972**  
 •Bebatik

**1973**  
 •Bekalang  
 •Bekulan  
 •Norman Lady

**1974**  
 •Belais  
 •Margaret Hill  
 (ex Hoegh Galleon)  
 •Tellier

**1975**  
 •Annabella  
 •Belanak  
 •Bilis  
 •Bubuk  
 •Hilli  
 •Isabella

**1976**  
 •Gimi  
 •Mostefa Ben Boulaïd

**1977**  
 •Gandria (ex Hoegh Gandria)  
 •Golar Freeze  
 •Larbi Ben M'Hidi  
 •LNG Aquarius  
 •LNG Aries  
 •LNG Lagos (ex Gastor)  
 •LNG Port Harcourt  
 •Transgas (ex Edouard L.D.)

**1978**  
 •Galeomma (ex Arzew)  
 •LNG Capricorn  
 •LNG Delta (ex Southern)  
 •LNG Gemini  
 •LNG Leo  
 •Methania

**1979**  
 •Bachir Chihani  
 •LNG Libra  
 •LNG Taurus  
 •LNG Virgo  
 •Matthew (ex Gamma)

**1980**  
 •LNG Abuja (ex Louisiana)  
 •LNG Edo (ex Lake Charles)  
 •Mourad Didouche

**1981**  
 •Golar Spirit  
 •LNG Bonny  
 •Ramdane Abane  
 •Tenaga Dua  
 •Tenaga Empat  
 •Tenaga Lima

**1982**  
 •Tenaga Satu  
 •Tenaga Tiga

**1983**  
 •Banshu Maru  
 •Bishu Maru  
 •Echigo Maru

**1984**  
 •Dewa Maru  
 •Kotowaka Maru  
 •LNG Finima  
 •Senshu Maru

**1985**  
 •Wakaba Maru

**1989**  
 •Ekaputra  
 •NW Sanderling  
 •NW Swallow  
 •NW Swift

**1990**  
 •NW Snipe

**1991**  
 •NW Shearwater

**1992**  
 •NW Seaeagle

**1993**  
 •Aman Bintulu  
 •Arctic Spirit (ex Arctic Sun)  
 •LNG Flora  
 •NW Sandpiper  
 •Polar Spirit (ex Polar Eagle)

**1994**  
 •Al Khaznah  
 •Dwiiputra  
 •Hyundai Utopia  
 •LNG Vesta  
 •NW Stormpetrel

**1995**  
 •Ghasha  
 •Hanjin Pyeong-Taek  
 •Ish  
 •Puteri Delima  
 •Puteri Nilam

**1996**  
 •Al Zubarah  
 •Hyundai Greenpia  
 •Mraweh  
 •Mubaraz  
 •Puteri Zamrud

**1997**  
 •Al Hamra  
 •Al Khor  
 •Al Rayyan  
 •Al Wajbah  
 •Aman Sendai

**1998**  
 •Al Wakrah  
 •Aman Hakata  
 •Broog  
 •LNG Lerici  
 •Zekreet

**1999**  
 •Al Bidda  
 •Doha  
 •Hanjin Muscat  
 •Hyundai Technopia  
 •SK Summit

**2000**  
 •Al Jasra  
 •Golar Mazo  
 •Hanjin Ras Laffan  
 •Hanjin Sur  
 •Hyundai Aquapia  
 •Hyundai Cosmopia  
 •Hyundai Oceanpia  
 •K Acacia  
 •K Freesia  
 •LNG Jamal  
 •SK Splendor  
 •SK Stellar  
 •SK Supreme  
 •Surya Satsuma

**2001**  
 •Sohar LNG (ex Lakshmi)

**2002**  
 •Abadi  
 •British Trader  
 •Excalibur  
 •Galea  
 •Gallina  
 •Hispania Spirit  
 (ex Fernando Tapias)  
 •LNG Rivers  
 •LNG Sokoto  
 •Puteri Zamrud Satu  
 •Puteri Intan Satu

**2003**  
 •Al Hamra  
 •Al Khor  
 •Al Rayyan  
 •Al Wajbah  
 •Aman Sendai

**2004**  
 •Al Jasra  
 •Berge Arzew  
 •Bilbao Knutsen  
 •Cadir Knutsen  
 •Disha  
 •Dukhan  
 •Fuwairit  
 •Galicia Spirit  
 •Gemmata  
 •Golar Winter  
 •Lala Fatma N'Soumer  
 •LNG Akwa Ibom  
 •LNG River Orashi  
 •Madrid Spirit  
 •Maersk Ras Laffan  
 •Methane Kari Elin  
 •Muscat LNG  
 •NW Swan  
 •Puteri Firus Satu  
 •Puteri Zamrud Satu  
 •Raahi

**2005**  
 •Al Deebel  
 •Al Thakhira  
 •Energy Advance  
 •Excellence  
 •Excelsior  
 •Gracilis (ex Golar Viking)  
 •Grandis (ex Golar Mist)  
 •LNG Adamawa  
 •LNG Cross River  
 •LNG Enugu  
 •LNG Pioneer  
 •Lusail  
 •Maran Gas Asclepius  
 •Nizwa LNG  
 •Puteri Mutiara Satu  
 •Salalah LNG  
 •Seri Alam  
 •Umm Bab

**2006**  
 •Al Marrouna  
 •Arctic Discoverer  
 •Arctic Lady  
 •Arctic Princess  
 •Pacific Notus  
 •Puteri Nilam Satu  
 •SK Sunrise

**2007**  
 •Al Areesh  
 •Al Daayen  
 •Al Gattara  
 •Al Gharrafa  
 •Al Ghariya  
 •Al Jassasiya  
 •Al Ruwais  
 •Al Safliga  
 •British Emerald  
 •Celestine River  
 •Cheikh El Mokrani  
 •Clean Energy  
 •Clean Power  
 •Duhail  
 •Ejnan  
 •Gaselys  
 •Grace Acacia  
 •Grace Barleria  
 •Grand Elena  
 •LNG Borno  
 •LNG Kano  
 •LNG Ogun  
 •LNG Ondo  
 •Maran Gas Coronis  
 •Methane Alison Victoria  
 •Methane Heather Sally  
 •Methane Nile Eagle  
 •Methane Shirley Elisabeth  
 •Neo Energy  
 •Seri Ayu  
 •Seri Bakti  
 •Seri Begawan  
 •Sestao Knutsen  
 •Sun Arrows  
 •Tembek

**2008**  
 •Al Aamniya  
 •Al Ghuwairiya  
 •Al Hamla  
 •Al Huwaila  
 •Al Kharsah  
 •Al Khuwair  
 •Al Oraiq  
 •Al Sahla  
 •Al Shamal  
 •Al Thumama  
 •Al Utouriya  
 •Alto Acrux  
 •Seri Amanah  
 •Seri Anggun  
 •Seri Angkasa  
 •Simaisma

**2009**  
 •Abdel Kader  
 •Al Dafna  
 •Al Ghashamiya  
 •Al Kharana  
 •Al Kharaitiyat  
 •Al Khattiya  
 •Al Mafyar  
 •Al Mayeda  
 •Al Nuaman  
 •Al Rekayyat  
 •Al Sadd  
 •Al Samriya  
 •Al Sheehaniya  
 •Aseem  
 •Ben Badis  
 •BW GDF SUEZ Brussels  
 •BW GDF SUEZ Paris  
 •Cygnus Passage  
 •Dapeng Star  
 •Energy Confidence  
 •Express  
 •Exquisite  
 •GDF SUEZ Neptune  
 •Lijmiliya  
 •LNG Jupiter  
 •Maersk Magellan  
 •Mekaines  
 •Mesaimer  
 •Min Lu  
 •Min Rong  
 •Onaiza  
 •Pacific Enlighten  
 •Seri Balqis  
 •Shagra  
 •Taitar n° 1  
 •Taitar n° 2  
 •Tangguh Palung  
 •Tangguh Sago  
 •Trinity Glory  
 •Woodside Donaldson



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