

The LNG Industry

World energy situation



The average annual growth of the world primary energy consumption has been 2.2% over the last ten years, with the highest growth rate observed for 2004 (+4.7%). In 2007, world primary energy consumption registered a 2.4% increase, still exceeding the 10-year average but less than for the four previous years.

As for the previous years, the Asia Pacific region shows the most important increase in volume for 2007, rising by 5% and accounting for two-third of the global growth (China alone accounts in 2007 for more than half of this global growth, as was already the case in 2005 and 2006). Over the last ten years, the world energy consumption rose from $8\,920\,10^6$ toe in 1998 to $11\,099\,10^6$ toe in 2007, a 24.4% overall increase.

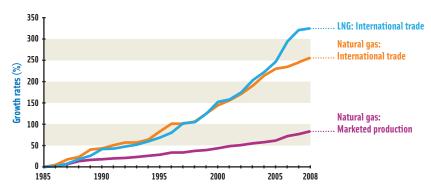
The breakdown for the major types of energy in 2007, as compared to 2006, was as follows:

	Consumption by	J fuel (in 10 ⁶ toe)	
Year	2007	2006	variation
Oil	3 953	3 911	+ 1.1%
Coal	3 178	3 042	+ 4.5%
Natural gas	2 638	2 558	+ 3.1%
Nuclear	622	635	- 2.0%
Hydroelectric	709	697	+ 1.7%

For the seventh year running, coal has increased its share of the overall energy market, up to 28.6%. It should be noted that nuclear power decreased by 2%, Germany and Japan accounting for more than 90% of this decline.

The growth of natural gas consumption in 2007 (+3.1%) was higher than in 2006 (+2.4%). The US accounted for nearly half of the global increase. Strong growth was also observed in China (+19.9%), representing the second largest increment to world gas consumption. Inversely, the EU consumption decreased (-1.6%) for the second year in a row. The market share for natural gas remained stable in 2007 (23.8%) compared to 2006 (23.6%)($^{(1)}$). Estimates for the marketed production of natural gas in 2008($^{(2)}$) show a rise of about 3.4% over 2007. The share of LNG in the gas trade accounts for 27% 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:



 ${\bf Data\ excludes\ trade\ within\ the\ Former\ Soviet\ Union\ and\ United\ Arab\ Emirates}$

(1) Source BP Statistical Review of World Energy June 2008

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	Contracts concluded in 2008 LNG imports - Sources of imports - Quantities received in 2008 LNG tankers Ships delivered Tanker distribution Liquefaction plants Regasification plants Contracts in force in 2008 Spot & short term quantities received in 2008 Sea transportation routes Liquefaction plants (table) Regasification plants (table)

⁽²⁾ Source Cédigaz







 $109\,long$ –term and medium–term contracts were in force in 2008, or 4 more than in 2007. The international trade in liquid form $^{(1)}$ accounted for 377.4 $10^6\,m^3$ or $172\,10^6\,t$. It rose by $3.1\,10^6\,m^3$, or a growth of 0.8% only, as a result of steep cost rises, technical problems and delays in scheduled start–ups. This was the lowest growth rate recorded since the beginning of the decade.

On the import side, Japan retained its position as the world's leading LNG importer with $150.36\ 10^6\ m^3$, or 39.9% of all imports, followed by Korea with $63.38\ 10^6\ m^3$ (16.8%) and Spain with $48.9\ 10^6\ m^3$ (12.9%).

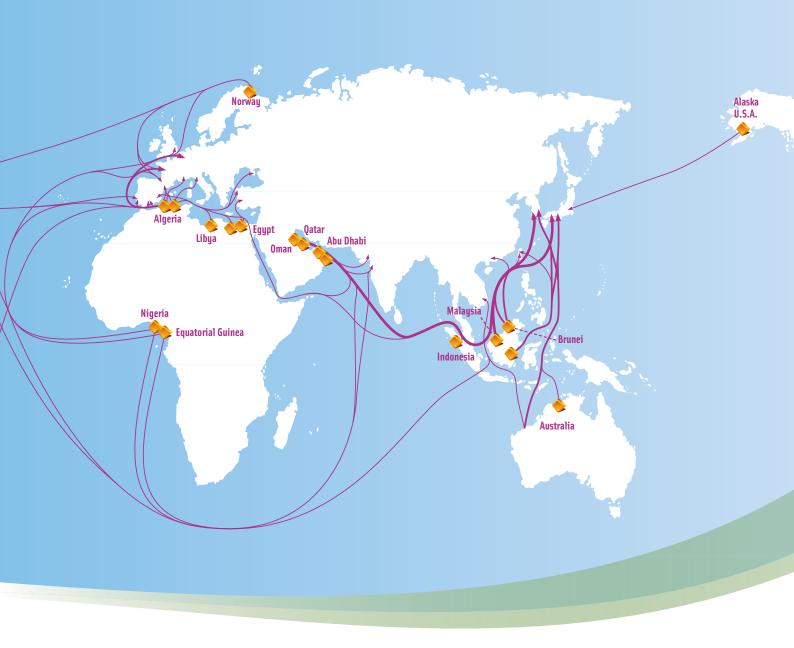
The market share for Europe edged up slightly from 23.4% to 24.7%. This was mostly attributable to the building up of newly commissioned Spanish receiving terminals. Italy and the United Kingdom were the two European countries to show a major year-on-year decline in LNG consumption, with Italy's imports down by 36.6% from 3.8 to $2.4\,10^6$ m³ and the U.K's by 21.1%, from 2.3 to $1.8\,10^6$ m³. France decreased slightly from 21 to $20.5\,10^6$ m³. Nevertheless, France was still the second largest market in Europe behind Spain, which improved its position as the leading player with a growth of 18.6%, well above the European average of 6.1%. Turkey shrunk by 4.7% while Belgium resumed its growth with a 11.6% rate.

In the Americas, LNG imports into the U.S.A. recorded a striking drop from 35.7 to $16.05\ 10^6\ m^3$, or a 55% slide from 2007. Although the country increased its import capacity with 2 new onshore terminals at **Sabine Pass**, Louisiana, and **Freeport LNG**, Texas, and has a new facility offshore Massachusetts run by Excelerate Energy, there was very little activity in all the U.S. terminals during the year as many LNG

cargoes were diverted to the higher-priced markets of Asia-Pacific and Europe. The Dominican Republic declined as well by 16.6% all be it with smaller volumes. With its newly commissioned Energia Costa Azul LNG terminal and the building up of the receiving terminal at Altamira, Mexico recorded a very strong growth (42.4%), from 4.2 to $6.03\ 10^6\ m^3$. As a whole, imports for the Americas were down by 40.8% and their total market share receded to 6.6%.

It should be noted that Argentina has become the first Latin American country to import LNG in June of 2008 with the commissioning of the **Bahía Blanca GasPort**. Brazil should have joined the players in the international LNG market in 2008. However, the delay in completing work on the receiving jetty and onshore-tie-ins for the floating storage and regas unit (FSRU), the Golar Spirit, meant that the cargo on board had only been discharged at the **Pecem** terminal in January 2009 and the three other cargoes, sold by BG to Petrobras in 2008, were re-sold to other buyers in Europe.

Globally, the Asian market continued to grow steadily by 6.1% with imports rising from 244.2 to 259.1 10^6 m³. India and China are starting to make up a substantial part of the Asian imports with 18.1 and 7.3 10^6 m³ respectively. Korea continued to show a significant growth of 11.2%, significant also in absolute terms, as mentioned earlier, while Taiwan's imports grew by 9.8% to 20.03 10^6 m³, with the implementation of new long term contracts, from Malaysia and Qatar respectively.



As to the sources of imports, Qatar led the market with 65.8 10^6 m³, or a 3.3% rise over 2007. Malaysia ranked second with 48.6 10^6 m³, and Indonesia (third) posted a decline of 1.8%. Algeria (fifth) declined to 34.9 10^6 m³. Egypt's LNG exports were steady at 23.3 10^6 m³, partly due to growing domestic gas demand. Nigeria (fourth) increased to 36.7 10^6 m³ in spite of the declared force majeure on gas supply to the Bonny LNG plant following the repeated tapping into condensate pipelines by thieves. Australia grew at 1.5%.

The Pacific Basin was still the largest market in absolute terms with $142.7\ 10^6\ m^3$ but the gap with the Atlantic Basin is narrowing from $10.1\ 10^6\ m^3$ in 2007 to $5.7\ 10^6\ m^3$ this year.

Middle-East exports were steady from $96.4\ 10^6\ m^3$ to $97.1\ 10^6\ m^3$, driven essentially by Qatar (3.3 %) while Oman and Abu Dhabi were receding respectively by $6.3\ \%$ and 1.2%.

It is worth mentioning that the LNG terminal at Zeebrugge launched a new loading service in 2008, allowing LNG to be re-exported. 5 cargoes of LNG were thus loaded at Zeebrugge and were delivered to Korea, India and Spain. 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.

The spot and short-term imports (based on contracts with a duration of 4 years or less) amounted to $67.3\,10^6\,\text{m}^3$ in liquid form (506 cargoes) as against 72.06 $10^6\,\text{m}^3$ (568 cargoes) in 2007, accounting for 17.8% of the world LNG trade. (See table page 17)

This reduction put an end to the constant upward trend recorded 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 and Spain remained the destination of choice in global LNG spot markets until August 2008 when LNG spot prices dropped dramatically and trading activity slowed down, partly because many buyers in both of these key markets had high inventories and a decline in demand.

As to the sourcing of spot and short-term transactions, it is noted that Egypt was still having the lead with a 21% share, followed by Qatar steadily rising to 19.3%.

The world trade involved 93 "flows" (i.e. country-to-country trades) over 309 sea transportation routes (port-to-port routes). Compared to 2007, 82 routes were new and 37 ceased in 2008. In 2008, there were 17 new country-to-country flows compared to 2007: EGYPT/Argentina, China, Belgium - EQUATORIAL GUINEA/China, India, Korea and Spain - NORWAY/Mexico, the United-States, Japan, India and Belgium - TRINIDAD & TOBAGO/Argentina, Greece, Portugal - QATAR/Mexico - AUSTRALIA/India.

8 flows disappeared: ALGERIA/the United-States, Belgium - ABU DHABI/Taiwan - TRINIDAD & TOBAGO/Turkey, France - MALAYSIA/India - OMAN/China - AUSTRALIA/Taiwan.

Contracts concluded in 2008

	Export country	Purchaser	Import country	Amount (mtpa)	Duration (Years)	Extra Years	Start	Delivery Format
Long & medium term	Australia	Osaka Gas	Japan	0.5	6	-	2009	D.E.S.
Sales & Purchase	Australia	Chubu Electric	Japan	0.5	7	-	2009	D.E.S.
Agreements (> 4 yrs)	Australia	Tokyo Gas	Japan	0.53	8	-	2009	D.E.S.
	Shell portfolio	GDF SUEZ	France, Spain	0.4	20		2011-2014	D.E.S.
	Eni portfolio	GDF SUEZ	United States	0.7	20		2015-2017	D.E.S.
	Norway*	GDF SUEZ	Europe	0.5	depletion		2008	F.O.B.
	Egypt	Kogas	Korea	1.3	8		June 2008	D.E.S.
	Qatar	Shell	China	3.0	25			
	Qatar	Petrochina	China	3.0	25			
	Qatar	Shell	United Arab Emirates					
	Qatar	DUSUP	United Arab Emirates					
	Australia	Petrochina	China	up to 2.0	20			
Short term contracts	Libya	Gas Natural Aprovisionamientos	EU	0.55	4		2009	F.O.B.
(< or =4 yrs)	GDF SUEZ portfolio*	GNL Mejillones	Chile	0.6	3		2010	D.E.S.
Key Term Agreement (K.T.A.)	Australia	C.P.C.	R.O.C.	2 to 3	15 to 20		2012-2015	D.E.S.
Heads of Agreement (H.O.A.)	Total Gas & Power Ltd (portfolio)	CNOOC	China	1	15		2010	D.E.S.
	Indonesia	Tohoku Electric	Japan	0.12	15	-	after 2010	NA
	Unknown	Energy Market Authority of Singapore	Singapore	3.0	20		2012	NA
	Algeria	StatoilHydro ASA	U.S.A.	0.7	5		01/04/09	D.E.S.
	Algeria	SNG (Statoil Natural Gas)	U.S.A.	1.4	15		01/04/09	D.E.S./Throughput
	Indonesia	Kogas	Korea	1	2 years		Jan. 2010	D.E.S.
					3 months			
	Yemen	Kogas	Korea	0.4	3		Jan. 2010	D.E.S.
Memorandum of understanding (M.O.U.)								
Agreements on re-gasification rights								
Re-export of cargoes	Belgium	Asean LNG	Korea	0.06	spot			
		ENI	Portugal and Spain	0.06	spot			
		lberdrola	Spain	0.06	spot			
		lberdrola	Spain	0.06	spot			

^{*}concluded in 2007

Hammerfest bird view



lced truck after winter storm





LNG IMPORTS

	10 ⁶ m³ liquid	10 ⁶ t	10 ⁹ m³ (n) gaseous	share %	Var. 2007-08 %
Belgium	5.050	2.314	2.879	1.34	11.6
France	20.493	9.345	11.772	5.43	-2.8
Greece	1.629	0.738	0.942	0.43	8.8
Italy	2.386	1.096	1.377	0.63	-36.6
Portugal	4.483	2.052	2.538	1.19	-2.8
Spain	48.909	21.993	28.090	12.96	18.6
Turkey	8.533	3.913	4.907	2.26	-4.7
U.K.	1.788	0.794	1.036	0.47	-21.1
Europe	93.271	42.243	53.540	24.72	6.1
Argentina	0.717	0.309	0.418	0.19	
Dominican Rep.	0.816	0.353	0.476	0.22	-16.6
Mexico	6.029	2.648	3.485	1.60	42.4
Puerto Rico	1.315	0.568	0.767	0.35	13.2
USA	16.058	6.962	9.348	4.26	-55.0
Americas	24.935	10.840	14.494	6.61	-40.8
China	7.274	3.367	4.109	1.93	13.5
India	18.106	8.298	10.326	4.80	5.3
Japan	150.36	69.147	85.315	39.85	3.4
Korea	63.378	29.046	36.073	16.80	11.2
Taiwan	20.026	9.145	11.399	5.31	9.8
Asia	259.144	119.002	147.222	68.67	6.1
Total	377.350	172.086	215.256	100.00	0.8

The conversion factors are calculated from the table page 8.

The figures are based on unloaded volumes.

SOURCES OF IMPORTS

	10 ⁶ m³ liquid	10 ⁶ t	10º m³ (n) gaseous	share %	Var. 2007-08 %
Algeria	34.876	16.017	20.123	9.24	-10.3
Egypt	23.296	9.982	13.605	6.17	-0.2
Equatorial Guinea	7.601	3.337	4.447	2.01	202.8
Libya	0.847	0.411	0.473	0.22	-30.7
Nigeria	36.681	16.800	20.761	9.72	0.8
Norway	3.611	1.629	2.084	0.96	1180.5
Trinidad &Tobago	30.103	13.004	17.550	7.98	-3.7
Atlantic Basin	137.015	61.180	79.043	36.31	2.3
Abu Dhabi	12.356	5.770	6.993	3.27	-1.2
Oman	18.951	8.907	10.669	5.02	-6.3
Qatar	65.794	30.265	37.437	17.44	3.3
Middle East	97.101	44.942	55.100	25.73	0.7
Australia	33.003	15.412	18.548	8.75	1.5
Brunei	15.232	7.022	8.591	4.04	-0.6
USA	1.734	0.733	1.021	0.46	-18.2
Indonesia	44.121	20.141	25.083	11.69	-1.8
Malaysia	48.561	22.387	27.534	12.87	-1.1
Pacific Basin Other	142.651 0.583	65.696 0.268	80.777 0.336	37.80 0.15	-0.9
Total	377.350	172.086	215.256	100.00	0.8

QUANTITIES (106 liquid m3) RECEIVED IN 2008 BY THE IMPORTING COUNTRIES FROM THE EXPORTING COUNTRIES

	Algeria	Egypt	Equat. Guin.	Libya	Nigeria	Norway	Trinidad & Tobago	Abu Dhabi	Oman	Qatar	Australia	Brunei	U.S.A.	Indonesia	Malaysia	Other	Total Import
Belgium		0.140				0.143	0.131			4.617						0.019	5.050
France	12.300	1.816			5.948	0.429											20.493
Greece	1.292	0.222					0.115										1.629
Italy	2.386																2.386
Portugal					4.428		0.055										4.483
Spain	7.544	7.801	0.141	0.847	13.698	1.677	8.303		0.277	8.329						0.292	48.909
Turkey	6.809	0.137			1.587												8.533
The U.K.	0.616	0.140					0.839			0.193							1.788
Europe	30.947	10.256	0.141	0.847	25.661	2.249	9.443		0.277	13.139						0.311	93.271
Argentina		0.129					0.588										0.717
Domin. Rep.							0.816										0.816
Mexico		1.950			1.688	0.138	2.109			0.144							6.029
Puerto Rico							1.315										1.315
The U.S.A.		2.483			0.559	0.815	12.061			0.14							16.058
Americas		4.562			2.247	0.953	16.889			0.284							24.935
China	0.280	0.419	0.270		0.406						5.899						7.274
India	0.918	0.422	0.675		0.650	0.138	0.395	0.223	0.717	13.556	0.272					0.140	18.106
Japan	1.841	3.828	2.804		3.969	0.271	1.158	12.081	7.001	17.351	25.730	13.487	1.734	30.718	28.387		150.360
Korea	0.761	3.670	2.323		0.282		1.827	0.052	10.817	19.634	1.102	1.745		6.800	14.233	0.132	63.378
Taiwan	0.129	0.139	1.388		3.466		0.391		0.139	1.830				6.603	5.941		20.026
Asia	3.929	8.478	7.460		8.773	0.409	3.771	12.356	18.674	52.371	33.003	15.232	1.734	44.121	48.561		259.144
Total export	34.876	23.296	7.601	0.847	36.681	3.611	30.103	12.356	18.951	65.794	33.003	15.232	1.734	44.121	48.561	0.583	377.350

LNG tankers

The world LNG tanker fleet consisted of 298 vessels at the end of 2008.

The Cinderella (ex Jules Verne, 25 500 m³), the Havfru (29 300 m³), the Prince Charming (ex Descartes, 50 000 m³) and the Century (29 500 m³) were sold for scrapping.

The Hassi R'Mel (40 850 m³) did not unload any cargo and is up for sale. During its service life, the ship was used by Sonatrach to deliver Algerian cargoes to European ports in the Mediterranean, principally to Spain. The posting of the ship for sale coincides with Sonatrach's receipt from the shipyard of the 75 500 m³ newbuilding "Cheikhel Bouamama" in July 2008.

The Hoegh Galleon (87 600 m³) was sold for conversion in February 2007 and renamed "Margaret Hill" in January 2008. Since then, she was laid up in Southampton (UK). The sixteen following LNG tankers did not deliver any cargo either: Al Ghuwairiya, Bu Samra, Grand Mereya, Hundai Ecopia, K. Mugungwha, LNG Barka, Maersk Marib, Mozah, Seri Balhaf, STX Colt, Tangguh/Batur, Foja, Hiri, Jaya, Towuti and Umm Slal. Most of these ships are devoted to Qatarian projects or to the Tangguh project not in operation in 2008.

The Laieta (40 500 m³) unloaded only one cargo in Fos-sur-Mer (France) and was sold for scrapping in May 2008.

Furthermore, it should be noted that the Golar Spirit (128 600 m³), the world's first methane vessel to be converted to perform LNG regasification on board, is being used by Petrobras to import LNG in Brazil.

It is also worth mentioning that Qatargas and Nakilat have taken delivery of their 1st Q-Max LNG carrier, the world's largest LNG vessel in September 2008. The "Mozah", which with 266 000 m³ has 80% more capacity than conventional LNG ships, will be used to deliver gas from Qatargas II to markets in the UK and other Atlantic Basin destinations. A further three Q-Max ships have been delivered: "Umm Slal", "Bu Samra" and "Al Ghuwairiya". The LNG cargoes for the Q-Max carriers will come from two new LNG Trains, known as Trains 4 and 5, and also the world's largest with 7.8 mtpa each of output. The new UK South Hook LNG import terminal at the port of Milford Haven in Wales, that will receive its first commissioning cargo in March 2009, will be one of the key destinations for the new Q-Max ships as well as the smaller Q-Flex carriers, which have a 210 000 m³ capacity.

Total shipping capacity in operation was almost 38 million m^3 in 2008; the average capacity per carrier was about $136\ 000\ m^3$.

Total shipping capacity available on the market in 2008 was 41 million m³, including some 8.5 million m³ of additional capacity with all the new ships delivered during the year, while the shipping capacity lost with the four scrapped ships was only 134 300 m³.

At the end of December 2008, the number of LNG carriers under construction or on firm order was 79, of which 10 using the Moss technique, 4 using the SPB technique and 65 the GTT membrane technique. 43 should be delivered in 2009 (3 Moss and 40 membrane).

The total number of nautical miles covered in 2008 was $23.19\,10^6$, up from $21.64\,10^6$ in 2007. In 2008, the activity in the LNG tanker fleet was about $1\,451\,10^9\,m^3\,x$ nautical miles, as opposed to $1\,334\,10^9\,m^3\,x$ nautical miles in 2007, or a 8.8% rise. This equates to about $5.2\,10^6\,m^3\,x$ nautical miles per operational ship having delivered at least one cargo in 2008, as against $5.6\,10^6\,m^3\,x$ nautical miles in 2007.





- → In all, 3 308 loaded voyages were completed in 2008, compared to 3 325 in 2007:
- 🔷 1 351 to Japan (1 305 in 2007)
- 203 to the United States, Puerto Rico, the Dominican Republic, Mexico and Argentina (346 in 2007)
- 942 to Europe (928 in 2007)
- 476 to Korea (433 in 2007)
- 150 to Taiwan (137 in 2007)
- 133 to India (127 in 2007)
- 53 to China (49 in 2007)

A record number of 48 ships delivered in 2008

MEMBRANE TECHNIQUE (42)

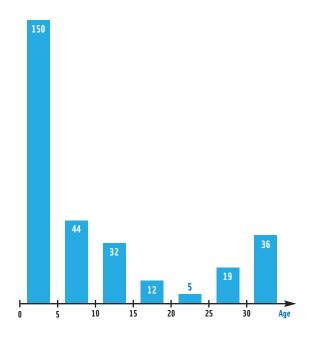
Deliv. Date	Ship Name	Capacity (cu.m.)	Shipowner	Shipbuilder	Cargo System	Hull #
jan-08	Al Hamla	216 000	OSG	Samsung H.I.	Mark III	1606
march-08	Grace Cosmos	150 000	TRIO	Hyundai H.I.	Mark III	1730
march-08	Maersk Methane	165 000	AP-Moller	Samsung H.I.	Mark III	1607
march-08	Trinity Arrow	154 200	Imabari	lmabari	Mark III	2258
march-08	Clean Force	150 000	Dynacom	Hyundai H.I.	Mark III	1734
march-08	Explorer	150 900	Exmar	Daewoo S.M.E.	NO 96	2254
april-08	Dapeng Sun	147 210	GLPTO	Hudong-Zhonghua	NO 96	308A
april-08	Al Thumama	216 000	J5 Consortium	Hyundai H.I.	Mark III	1862
april-08	K Jasmine	145 700	Korea Line Corporation	Daewoo S.M.E.	NO 96	2260
april-08	Seri Bijaksana	152 000	M.I.S.C.	Mitsubishi H.I.	NO 96	2222
may-08	Al Aamniya	210 100	J5 Consortium	Daewoo S.M.E.	NO 96	2249
may-08	Al Huwaila	217 000	Teekay	Samsung H.I.	Mark III	1643
may-08	Maersk Marib	165 000	AP-Moller	Samsung H.I.	Mark III	1608
june-08	Al Oraiq	210 100	J5 Consortium	Daewoo S.M.E.	NO 96	2250
june-08	Al Kharsaah	217 000	Teekay	Samsung H.I.	Mark III	1644
june-08	Al Sahla	216 000	J5 Consortium	Hyundai H.I.	Mark III	1863
june-08	LNG Imo	148 300	BW Group (Ex Bergesen)	Daewoo S.M.E.	NO 96	2232
june-08	Al Shamal	217 000	Teekay	Samsung H.I.	Mark III	1645
june-08	Murwab	210 100	J5 Consortium	Daewoo S.M.E.	NO 96	2251
july-08	British Ruby	155 000	BP Shipping	Hyundai H.I.	Mark III	1778
july-08	Dapeng Moon	147 210	GLPTO GLPTO	Hudong-Zhonghua	NO 96	1309A
july-08	British Sapphire	155 000	BP Shipping	Hyundai H.I.	Mark III	1779
july-08	Cheikh Bouamara	75 500	Sonatrach	USC	Mark III	88
july-08	Al Khuwair	217 000	Teekay	Samsung H.I.	Mark III	1646
aug-08	Fraiha	210 100	J5 Consortium	Daewoo S.M.E.	NO 96	2252
sep-08	British Diamond	155 000	BP Shipping	Hyundai Samho	Mark III	S 297
sep-08	Maersk Arwa	165 000	AP-Moller	Samsung H.I.	Mark III	1625
sep-08	Mozah	266 000	QGTC	Samsung H.I.	Mark III	1675
sep-08	Al Utouriya	216 000	J5 Consortium	Hyundai H.I.	Mark III	1875
oct-08	Umm Slal	266 000	QGTC	Samsung H.I.	Mark III	1676
oct-08	Tangguh Towuti	147 500	NYK / PT Samudera / Sovcomflot	Daewoo S.M.E.	NO 96	2241
oct-08	Umm Al Amad	210 100	J5 Consortium	Daewoo S.M.E.	NO 96	2253
oct-08	Tangguh Foja	155 000	K Line / PT Meratus	Samsung H.I.	Mark III	1619
nov-08	K Mugungwha	151 700	Korea Line Corporation	Daewoo S.M.E.	NO 96	2261
nov-08	Tangguh Hiri	155 000	BP Shipping / Teekay	Hyundai H.I.	Mark III	1780
nov-08	Hyundai Ecopia	150 000	Hyundai Merchant Marine	Hyundai H.I.	Mark III	1903
dec-08	Tangguh Jaya	155 000	K Line / PT Meratus	Samsung H.I.	Mark III	1620
dec-08	Tangguh Batur	147 500	NYK / Sovcomflot	Daewoo S.M.E.	NO 96	2242
dec-08	Bu Samra	266 000	QGTC	Samsung H.I.	Mark III	1677
dec-08	STX Colt	153 500	STX Pan Ocean	Hanjin H.I.	Mark III	N192
dec-08	Seri Balhaf	157 000	M.I.S.C.	Mitsubishi H.I.	NO 96	2223
dec-08	Al Ghuwairiya	263 000	QGTC	Daewoo S.M.E.	NO 96	2255

MOSS TECHNIQUE (6)

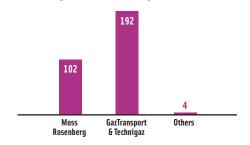
Deliv. Date	Ship Name	Capacity (cu.m.)	Shipowner	Shipbuilder	Cargo System	Hull #
jan-08	Grand Aniva	147 200	Sovcomflot/NYK	Mitsubishi H.I.	Moss	2230
march-08	Alto Acrux	147 200	Tokyo Electric/NYK/Mitsubishi	Mitsubishi H.I.	Moss	2219
june-08	Energy Navigator	147 000	Tokyo Gas/MOL	Kawasaki H.I.	Moss	1600
sep-08	Ebisu	147 000	Kansai Electric/MOL/IINO	Kawasaki H.I.	Moss	1588
oct-08	Grand Mereya	147 200	MOL/K-Line/Primorsk	Mitsui E&S	Moss	1681
dec-08	LNG Barka	155 000	NYK/Osaka Gas/K-line	Kawasaki H.I.	Moss	1591

Tanker distribution (at the end of 2008)

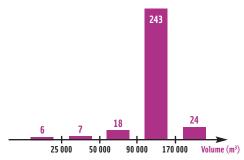
According to the delivery date or the age of the ships:



According to containment system:



According to cargo capacity:



LNG CHARACTERISTICS

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

Origin	Azote 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	88.0	9.0	2.0	0.5	464	0.813	570	44.1
Algeria-Bethioua 1	1.2	87.6	8.4	2.1	0.7	469	0.818	574	44.0
Algeria-Bethioua 2	0.9	91.4	7.2	0.5	0.0	451	0.775	582	42.1
Algeria-Skikda	1.0	91.2	7.0	0.7	0.1	453	0.778	582	42.2
Egypt-Damietta	0.08	97.7	1.8	0.2	0.2	427	0.730	585	40.8
Egypt-Idku	0.0	97.2	2.3	0.3	0.2	430	0.738	583	41.0
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	0.8	91.8	5.7	1.3	0.4	451	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	0.4	90.1	6.2	2.3	1.0	460	0.808	569	44.0
U.S.AAlaska	0.2	99.7	0.1	0.0	0.0	423	0.719	589	39.9
Australia	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

Liquefaction plants

There were 20 LNG liquefaction facilities in operation in fifteen countries at the end of 2008.

Two new trains were commissioned in 2008: Train 6 at Bonny Island in Nigeria and Train 5 at Withnell Bay in Australia. The Nigerian train was already mentioned in last year's study while it was only in a pre-commissioning phase at year end of 2007. The aggregate capacity of all liquefaction plants amounted to 443.6 $10^6\,m^3$ of LNG per year, or 201.8 $10^6\,t$, for 82 liquefaction trains. Considering a total production of 377.4 $10^6\,m^3$ of LNG, the average utilization reached 85%. The total storage capacity amounts to 6.96 $10^6\,m^3$ of LNG for 71 storage tanks, representing the equivalent of more than six days and a half of production.

NEW PROJECTS / EXTENSIONS OF EXISTING PLANTS:

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.

A consortium of Saipem and Chiyoda won the EPC contract in July for the construction contract for the 4.7 Mt/y Gassi Touil LNG plant in **Arzew**. The project is scheduled to be completed by the end of 2012.

Angola:

In November, the Angola LNG project reached a new stage of implementation. The authorities responsible for the project officially received the certificate on the conclusion of the drainage of 100 Ha over the Zaire river, as part of the site for the construction of the plant. The project requires additional investment as more

preparation was needed than originally anticipated including dredging and other ground work. The project received FID in December 2007 to build the 5.2mtpa liquefaction plant at Soyo, 300 km north of Luanda. First LNG is expected in early 2012. It will be sold to the US gas marketing affiliates of the partners – Sonagas 36.4%; Chevron 36.4%; BP and Total 13.6% each.

Australia

- The 5th LNG train at North West Shelf was successfully started-up, bringing the facility's total production capacity to 16.3 mtpa.
- Chevron's Greater Gorgon LNG project's first production is planned after 2010. The project size was recently increased to 15 mtpa.
- The **Pluto** project's first production with an initial capacity of 4.3 mtpa is expected by the end of 2010.
- In 2008, BG Group acquired control of Queensland Gas Company Limited (QGC) and is in the final stages of securing 100% ownership. Based on success in proving up reserves and ongoing progress with reserves, the Group expects to sanction in 2010 a 7.4 mtpa, two-train LNG project beginning in 2014 based on coal-bed methane. Recently, BG also acquired control of Pure Energy, another coal-bed methane producer.

Brunei:

Extensive rejuvenation programme underway. Possible addition of a 4 mtpa train (6th) under consideration.

Equpt:

Ongoing discussion for a second LNG train at the Damietta plant. The proposed train would have a capacity of 5 mtpa.



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 study ("FEED") were completed on a potential 4.4 mtpa LNG train. Further FEED work will be completed when gas supplies have been secured.

Indonesia:

The **Tangguh** 7.6 mtpa plant will begin production in the first quarter of 2009, while the first tanker export will follow in the second quarter because of technical problems in the commissioning process. All the LNG is contracted to Fujian in China, Posco and K-Power in Korea, and Sempra's new Costa Azul project on the West coast of Baja California, Mexico.

Libua:

Marsa El-Brega LNG plant will soon undergo modernization to boost output and extend its lifespan by 25 years. Plans are also advancing for one new Libyan LNG project centred on the coastal town of Ras Lanuf, and others could follow.

Malaysia:

MLNG Dua has embarked on a debottlenecking project expected to be completed in 2009. The project will deliver an additional capacity of 1.2 mtpa. All of the additional output has already been sold. MLNG Dua supplies 2 mtpa of LNG to South Korea, 2.25 mtpa to Taiwan and over 3 mtpa to customers in Japan.

Nigeria:

- Train 6 became operational during the year, NLNG overall plant capacity is now over 21 mtpa, making it one of the largest LNG plants in the world.
- The Final Investment Decision for the Brass LNG project was further delayed as not all the required gas feedstock has been guaranteed.

Norway:

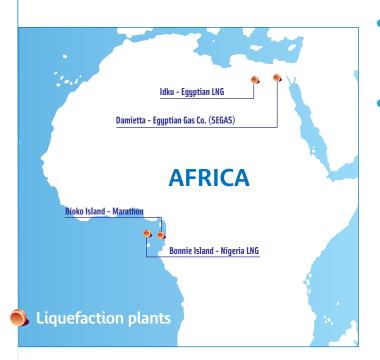
The LNG train's reliability of the **Snohvit** project continues to improve. The plant could be running at its full capacity by the end of 2009.

Peru:

Construction is running as scheduled (no major construction delays despite the major earthquake that struck the country) at South America's first liquefaction plant at **Pampa Melchorita**, located 169 km south of Lima. The plant is due to be operational by mid-2010.

Qatar:

- Qatargas 2, the two-train facility is designed to process 15.6 mtpa of LNG and is expected to be inaugurated in April 2009. All the output will be exported to the South Hook terminal in the UK. Major partners are Qatar Petroleum (67.5%) and ExxonMobil (24.15%).
- Qatargas 3, consisting of a 7.8 mtpa LNG train, is under construction. The first LNG cargoes from 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%).





- Qatargas 4 construction is well advanced and progress is in line with expectations
 at the time of the project launch in December 2005. It is expected to begin supplying
 LNG to the U.S., Europe, China and Dubai at the end of the decade.
- Train 6 of **RasGas III** should come online in the third quarter 2009 and train 7 in the fourth quarter 2009. Each train has a 7.8 mtpa capacity.

Russia:

- **Sakhalin II's** LNG plant at Prigorosnoye will go on stream in mid-March 2009 and is aiming to produce 9.6 mtpa from two trains. Planned LNG production has been sold under contract to customers across the Asia-Pacific region.
- Shtokman: Front-End-Engineering-Design (FEED) on the project has commenced, and will be finished in the second half of 2009. Russian and international subcontractors for FEED studies have already been identified and a site has been chosen for the onshore treatement and liquefaction facilities near Teriberka in Murmansk Region.

Trinidad & Tobago:

A new feasibility study is pending to evaluate whether a fifth train should be launched pursuant to the gas discoveries in the Columbus Basin revealed by BP and Repsol YPF (around 2 Tcf). With a fifth train in service, the overall capacity of the liquefaction plant would then reach 22 mtpa.

Yemen:

Yemen LNG remains on schedule for the 3.45 mtpa Train 1 of its project in Balhaf to start up in late March or early April with 1st delivery in Q2, 2009.

Regasification plants

At the end of 2008, there were 63 regasification plants in the world. Four terminals went on stream in 2008: the **Sabine Pass and Freeport LNG** terminals in the U.S.A., the **Energia Costa Azul** terminal in Mexico and the **Fujian** terminal in China. The **Taichung** terminal in Taiwan underwent cooling down operations. The total send-out capacity of the facilities in operation amounted to 641 Bcm (gaseous)/year and their storage capacity⁽²⁾ to 31.7 10⁶ m³ of LNG (liquid) with 312 storage tanks. It should be noted that the send-out capacity of the Teesside (UK), the Bahia Blanca (Argentina) and Northeast Gateway (US) terminals amounting to 12.20 Bcm (gaseous)/year, is not associated to any storage capacity since these non conventional terminals are either floating or offshore facilities.

Argentina:

In June, commissioning of the **Bahia Blanca** GasPort LNG facility, South America's first ever LNG receiving facility and the world's second dockside regasification facility, with the initial capacity to import up to three LNG cargoes per month, each of which will contain approximately 3 Bcf of gas.

Belgium

In April 2008, a fourth 140.000 m³ storage tank and additional regasification facilities became operational at the **Zeebrugge** LNG terminal, increasing throughput capacity from 4.5 to 9 billion cubic metres per year.

The fourth tank boosts the terminal's cycling storage capacity to 380 000 cubic metres of LNG. The additional regasification facilities increase the send-out capacity to 1.7 million cubic metres of natural gas per hour.

In July 2008, Fluxys launched new LNG loading services. LNG carriers can now be loaded with LNG being kept in cycling storage at the terminal. 5 LNG ships were successfully loaded.

Fluxys LNG has launched a market consultation to assess the interest for additional terminalling capacity at the terminal. In the course of 2008, 10 parties have signed a non-binding capacity nomination form.

Brazil:

BG will supply for up to 3 years the floating LNG regas and storage terminal built by Golar for Petrobras at **Pecem** in the northern Brazilian state of Ceara and a 2nd terminal being installed at **Guanabara Bay** in Rio de Janeiro state further south.

Canada:

- Ongoing construction for the Canaport LNG project (Irving Oil/Repsol), Canada's first LNG receiving terminal. Initial send-out capacity of 1 Bcf/d (approximately 7 mtpa equivalent). Initial storage capacity of approximately 10 Bcf. Mechanical completion is on schedule for mid Q3, 2009. Tank 3 will come online in Q4 or Q1, 2010. The commissioning shipment is expected by the end of Q2 and the first commercial shipment is expected at the beginning of Q3, 2009. LNG supplied to Canaport LNG will come from Trinidad & Tobago initially and additional supply will come from Repsol's LNG supply portfolio around the world.
- Rabaska LNG terminal (Canada): the project promoted by Gaz Métro, Enbridge and GDF SUEZ obtained full permitting in March 2008 (final Federal and Provincial authorisations respectively in March 2008 and October 2007). The LNG project will include a regasification terminal, and two storage tanks, and will be connected to the Canadian gas transport network to reach Quebec and Eastern Ontario customers. In 2008, Rabaska proponents signed a Memorandum or Understanding with Gazprom for the delivery of LNG beginning in 2014. Gazprom will source the LNG from their Yamal LNG plant, expected to be operational in 2014.

Chile:

- The 2.5 mtpa terminal in **Quintero** Bay approximately 110 kilometres northwest of Santiago will have the capacity to meet up to 40% of the country's demand for natural gas. BG is a 40% shareholder in Chile's first LNG import terminal that will be supplied with 1.7 mtpa of LNG from the company's global LNG portfolio over 21 years. The terminal is expected to be in partial operation by mid-2009 and in full operation by third quarter 2010.
- Floating storage and onshore regasification: LNG Mejillones (Chile): construction works started in April 2008 and RFCD (ready for cool-down) is expected in December 2009.

China:

- Work on adding two additional open-rack vaporizers and one additional submerged combustion vaporizer is ongoing at the Dapeng, Shenzhen LNG import terminal.
 4 new power station customers were connected to GDLNG's trunkline system via newly constructed off-take stations.
- ■The Fujian terminal, China's second LNG import facility received its maiden commissioning cargo in April 2008. The initial capacity of the terminal should be increased from 2.6 mtpa to 5 mtpa by 2012. CBGI has received a contract for the expansion of the terminal. Under the contract, CBGI will provide EPC services for 2 additional 160 000 m³ full containment LNG storage tanks. The project is expected to be complete in 2011.
- Construction of an LNG terminal in Shanghai, that will import LNG from Malaysia is underway. An explosion has, however, delayed the start-up by one year, originally planned for 2009. Divided into two phases, the design capacity of the first phase is approximately 1.1 mtpa and will reach 3.3 mtpa from 2012.
- PetroChina has started building the LNG receiving terminal project in the northeastern port city of **Dalian**. The 1st phase of the project will have an annual capacity of 3 mtpa of LNG and is due to be operational in 2011. LNG will be sourced from the international spot market in its first year of operation until delivery of contracted long-term supplies from Australia commence in 2012.

Croatia:

The Croatian Government confirmed the location decision of the terminal on the Croatian island of **Krk** in Northern Adriatic. The facility will have an initial capacity of some 10 bcm per annum which could be increased to 15 bcm per annum. It will be designed for vessels carrying up to 265 000 $\rm m^3$ of LNG. The construction is planned to start at the end of 2009 and the start–up is scheduled for 2014. The partners in the Adria LNG project are Total (25.58%), E.ON Ruhrgas (31.15%), OMV (25.58%), RWE (16.69%) and Geoplin (1%).

France:

- Fos Cavaou LNG terminal (France): STMFC, a subsidiary of GDF SUEZ (69.3%) and TOTAL (30.7%) is building a new LNG terminal in Fos-sur-Mer (Cavaou peninsula) near Marseille. It will have an initial capacity of 8.25 bcm/year. The commissioning operation will take place during first half of 2009.
- Following an open season process, Elengy, a new 100% subsidiary of GDF SUEZ, responsible for terminaling activities in France, decided on a revamping programme in order to extend Montoir life span until 2035, with present performance level (send out capacity of 10 bcm/year). Another open season process, aiming at expanding the current capacity as far and as soon as possible, is being planned.
- In 2008 the port of **Dunkirk** in northern France gave EDF the green light to build an LNG terminal planned to handle 6 bcm/year of gas. Studies will be carried out before a final investment decision is made at the end of 2009, with a view to commissioning the terminal in 2013.

Greece:

The technical feasibility study for the construction of an LNG receiving and regasification terminal for the island of Crete was completed in July 2008 by DESFA, which is a wholly owned subsidiary of DEPA S.A.

India

- The expansion of the Dahej terminal is in progress from 5 mtpa to 10 mtpa (nameplate capacity). The construction of two additional 160 000 m³ LNG storage tanks has been completed, including the vaporization facilities and both the additional LNG storage tanks will be commissioned by end of March 2009.
- In addition to Dahej, PLL is in the process of setting up a 2.5 mtpa, expandable to 5 mtpa, LNG terminal at **Kochi** in the State of Kerala. PLL has completed all pre-project activities, besides obtaining all relevant approvals. The contract for the construction of the two storage tanks has since been awarded to M/s IHI of Japan, which has commenced construction at the site. The boundary wall has since been completed and the work related to site grading is in progress. The contracts relating to the regasification and marine facilities are expected to be awarded by Q2, 2009. The project is scheduled for completion in 2011.

- Hazira operates on a merchant basis to provide an internationally competitive alternative source of gas for North West India from diverse sources and seeks to use a combination of short-term and long-term LNG supplies. In 2008, Hazira operated on many occasions beyond its nameplate capacity of 2.4 mtpa to service peak demand loads. Cargoes have been sourced from more than ten different LNG supply countries.
- Ratnagiri Gas & Power Private Ltd is planning to commission its Dabhol LNG import facility in western India in March 2009 without breakwater facility. The selecting of an EPC contractor to complete the unfinished works is underway. Full capacity of the terminal following completion of the breakwater in 2011 will be 5 mtpa. It will have three 160 000 m³ storage tanks.

Italu:

■ In June 2007, GNL Italia S.p.A. started 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 m³ 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.

Expected schedule is 3 years for engineering and authorisation process and 3 years for the construction. Start-up is planned for the end of 2013.

- The Adriatic LNG terminal on the outskirts of Porto Levante is in final hook-up and commissioning. Since the arrival of the terminal in Italy towed from Spain in mid September 2008, key installation activities have been completed and remaining hook-up is well under way. Final commissioning will start in the following months and the terminal will achieve full operational capacity around the middle of 2009.
- ■In July 2007, Enel has taken a 90% share in Nuove Energie, the company developing the LNG terminal project to be built in the port industrial area of **Porto Empedocle** (Sicily). This project consists of a 8 Bcm/year regasification plant and is in an advanced permitting stage. Enel is supposed to receive all the necessary authorizations soon in order to start the construction in the 2nd half of 2009. The regasification terminal is expected to be in operation at the beginning of 2013.
- GDF SUEZ is developing an offshore LNG terminal, the Triton LNG project, in the North Adriatic, near Ancona. A development agreement was signed with Höegh LNG. The project is in the permitting stage.
- Shell Energy Italia Srl and ERG Power & Gas S.p.A. signed a JVA for the development of a regasification terminal in Italy. The **lonio** terminal has been included in the proposed Sicilian Regional Energy Plan. The project has received the Safety Permit (NOF) and recently, in October 2008, the Environmental Permit. The project has yet to get the "Autorizzazzione Unica".

Japan:

- •Construction of the **Sakaide** terminal (Shikoku Electric, Cosmo Oil and Shikoku Gas) scheduled for completion in 2010 within the Cosmo Oil's refinery boundaries. Heads of Agreement was signed in 2006 to buy 0.42 mtpa of LNG from Malaysia from 2010 onwards
- Mizushima LNG terminal started construction of a second 160 000 m³ tank in November 2007. It will be operational from 2011.
- ■Toho Gas Co., Ltd. is to build a second and third in-ground LNG storage tanks (200 000 m³ capacity each) in **Chita-Midorihama** Works. The second tank is under construction. Start up scheduled in August 2009 and 2013, respectively. Expansion of the n°2 receiving dock to accommodate large tankers is scheduled for completion in FY2009.
- Shizuoka Gas and its subsidiary, Shimizu LNG Company, which owns and operates the Shimizu LNG receiving terminal, began the construction of the third-phase expansion of facilities in April 2006 including a third in-ground LNG storage tank (160 000 m³ capacity) and 3 additional vaporisers (110 t/h each). The expanded facilities will be ready for commercial operation at the beginning of 2010.
- Hokkaido Gas will start commercial operations at its LNG receiving terminal located at a port on Ishikari Bay in December 2012, one year earlier than originally planned. It will have a 180 000 m³ tank, a re-gasification facility and a berth to accommodate large LNG carriers.
- Tokyo Gas unveiled a plan to build its fourth LNG-receiving terminal in Hitachi City, near Tokyo.
- Construction of the Shin-Sendai LNG terminal (Kansai Electric) is scheduled to begin
 in January 2012, with completion and start of operation in July 2016.

Korea

South Korea plans to build additional LNG tanks by 2013 to meet increasing domestic gas demand.



- KOGAS continues to expand its LNG storage capacity, by building 9 tanks in **Pyeongtaek**, 1 tank in **Incheon**, 6 tanks in **Tongyoung**, 14 tanks in the proposed 4th receiving terminal which is **Samcheok**, located in eastern area of Korean peninsula, and 13 tanks in the proposed 5th receiving terminal.
- Ongoing expansion of the 1.7 mtpa LNG receiving terminal in Gwangyang (Posco), adding a third above-ground storage tank (165 000 m³) by September 2010 to increase operational flexibility. This also involves construction of LNG pumps, BOG compressors, and control systems. Posco executed the engineering contract with KOGAS and selected POSCO E&C as the procurement & construction contractor. As of the end of December 2008, the construction is about 56% complete.

Netherlands:

The construction of the **Gate** LNG receiving terminal in the Rotterdam harbour recently started. The facility will consist of 3 tanks of $180\,000\,\text{m}^3$ each. Start-up is planned for the second half of 2011. The financing needed to expand the terminal from $9\,\text{bcm/y}$ throughput capacity to $12\,\text{bcm/y}$ has now been secured.

The four capacity holders of the terminal (or their shareholders) will further take a 5% equity each, the remainder 80% shared equally by Gasunie and Vopak.

North America - Mexico:

Energia Costa Azul - Ensenada Baja California Norte, Mexico (Sempra LNG), the first West Coast LNG reception facility, capable of supplying gas markets in the southwestern US and Mexico

- 7 mtpa receiving capacity, with room for expansion
- Two full-containment storage tanks (2 x 160 000 m³); 1 ship berth
- Capacity fully contracted

Construction was completed in May 2008. The terminal started commercial operations.

North America - the U.S.A.:

- Upgrade to accommodate larger-sized LNG vessels. Pending the FERC approval and the outcome of an environmental impact study, Cove Point would expect to begin construction in the third quarter of 2009 and work would last about 18 months.
- In March 2006, BG signed an agreement with the owner, Trunkline LNG, for upgrades to the Lake Charles terminal, including a natural gas liquids extraction plant to remove higher Btu products such as ethane and propane from the LNG and an ambient air vaporization system, all presently under construction. Start up of the upgrades is planned for Q2, 2009. As part of the agreement, Trunkline LNG has also extended BG's rights as the sole capacity holder by six years until 2029.
- Elba III expansion send-out capacity to be increased by 933MM scf/day.

 Phase I adds 1 storage tank with capacity of 1.25MM bbls (4.2 Bcf) In progress (estimated completion 2010). Phase II adds 2nd storage tank of same size (estimated completion 2012).
- In April (2008), Cheniere Energy inaugurated the 2.6 Bcf/d (approximately 19.5 mtpa equivalent) capacity **Sabine Pass** regas terminal. The facility has three 160 000 m³ tanks and two berths. The Phase II expansion, which will add 1.4 Bcf/d (approximately 10.5 mtpa equivalent) and three additional 160 000 m³ tanks, is anticipated to be in service in Q3, 2009. Total and Chevron have both concluded long-term terminal capacity use agreements of 1 Bcf/d each, to become effective during April and July 2009, respectively.
- Construction has commenced for the Golden Pass terminal with a 2.0 Bcf/d capacity in the US Gulf Coast. The opening of the terminal will likely be delayed by hurricane

damage which might push the start-up into 2010 rather than during 2009, as earlier expected. Located on the Sabine-Neches Waterway near Sabine Pass, Texas, the LNG terminal is a joint-venture of ExxonMobil, Qatar Petroleum and ConocoPhillips.

- Commencement of commercial operations at the **Freeport LNG** terminal on Quintana Island (Texas) in June 2008.
- The Cameron LNG terminal (Sempra) is likely to be operational by August 2009 after getting its first cargo around the end of May.
- Located on Calcasieu Channel, 18 miles from the Gulf of Mexico in Hackberry, Louisiana,
- Upon project completion, 1.5 Bcf/d (10.7 mtpa) initial send-out capacity, with room for expansion,
- Three full containment storage tanks (3 x 160 000 m^3), 2 ship berths,
- Capacity 40% contracted to ENI,

■ Port Arthur LNG (Sempra)

- Located 85 miles east of Houston, Texas
- Upon project completion, 1.5 to 3.0 Bcf/d (10.7 to 21.4 mtpa) send out capacity
- Three to six full containment storage tanks (3 to 6 x 160 000 m³); 2 ship berths
- FERC approval received during the second quarter of 2006
- Construction to begin once commercial arrangements are finalized.

■ Corpus Christi (Cheniere)

Corpus Christi LNG is located on 612 acres of land on the northern coast of the Corpus Christi Bay, along the La Quinta Ship Channel, a deepwater ship channel dredged to 45 feet. The terminal will be located 14.3 nautical miles from open water and 16 nautical miles from the outer buoy. The terminal design is almost identical to the first phase of Sabine Pass LNG, with two berths large enough to accommodate the QMax class vessel. (2.6 Bcf/d -19.5 mtpa equivalent- with three 160 000 m³ tanks and two docks). In service date is scheduled for 2010.

- Creole Trail (Cheniere) FERC permitted the 3.3 Bcf/d (24.7 mtpa equivalent) terminal, with four 160 000 m³ tanks and two docks, in June 2006. In service date is scheduled for 2011.
- ■The construction of the 1.5 Bcf/d **Gulf LNG** terminal (El Paso) in **Pascagoula**, Mississippi, has started and the terminal is expected to be operating in late 2011. 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 m³ LNG storage tanks, a 5 mile 36-inch-diameter natural gas send-out pipeline and associated support facilities.
- Northeast Gateway (Excelerate Energy) offshore Massachusetts with initial send-out capacity of 400 million cubic feet per day was commissioned in 2008.
- Neptune LNG Terminal (Massachusetts, U.S.A.): floating terminal 13 miles offshore Boston. The offshore pipeline was installed in 2008. The buoy system delivery and installation and the pipeline hot tap to Hubline will take place during summer 2009.

Portugal:

REN Atlantico launched a public tender for the expansion of the regasification capacity in **Sines** in order to meet the higher natural gas demand forecasted following the operation of already authorised combined cycle plants. The objective is to increase the send-out capacity from 2.6 bcm/year to 5.2 bcm/year, and also to expand its storage capacity by building a third 150 000 m³ LNG tank by the end of 1H 2012.



Spain:

Expansion of existing terminals

Barcelona:

Under construction

- 1 new 150 000 m³ LNG tank to be commissioned by 2010.
- 2 new vaporisation units of 150 000 (n)m³/h to be commissioned by 2009.
- 1 new 150 000 m³ LNG tank to be commissioned by 2011.

Huelva:

Under construction

- 1 new 150 000 m³ LNG tank to be commissioned by 2010.

In planning stage:

- 1 new 150 000 m³ LNG tank to be commissioned by 2015.
- 1 new vaporisation unit of 150 000 (n)m³/h to be commissioned by 2011.*
- 2 new vaporisation units of 150 000 (n)m³/h to be commissioned by 2015.*

■ Cartagena:

Commissioned in 2008:

- 1 new 150 000 m³ LNG tank
- 1 new vaporisation unit of 150 000 (n)m³/h

Under construction

- 1 new 150 000 m³ LNG tank to be commissioned by 2010.

In planning stage:

- 2 new vaporisation units of 150 000 (n)m³/h to be commissioned by 2014.*

Gijón (Musel):

Under construction

- 2 new 150 000 m³ LNG tanks to be commissioned by 2011.
- 2 new vaporisation units of 150 000 (n)m³/h to be commissioned by 2011.
 In planning stage:
- 1 new 150 000 m³ LNG tank to be commissioned by 2013.
- 1 new 150 000 m³ LNG tank to be commissioned by 2015.
- 1 new vaporisation unit of 150 000 (n)m³/h to be commissioned by 2013.
- 1 new vaporisation unit of 150 000 (n)m³/h to be commissioned by 2015.*
- Note: This investment is conditional upon other gas infrastructure developments or the construction of a specified number of CCGTs in some regions.
- ■There are plans to double the capacity of the 2.6 mtpa **Reganosa** regasification plant bu 2013.
- Second expansion phase of the Sagunto LNG Plant would increase the LNG import capacity through the addition of a third 150 000 m³ LNG storage tank and one open-rack seawater vaporiser. The new storage tank is due in operation in 2009.
- ■The feasibility study to accept Q-max vessels (with a capacity of 270 000 m³ of LNG) at **Bilbao** port terminal was finished in 2007. At the end of 2008, the first Q-max vessel in commercial operation, the Mozah, was approved to be discharged at BBG's terminal.

United Kingdom:

- Commercial operations began at the first expansion of the **Isle of Grain** LNG import facility on December 30, 2008. It is only the first of two major expansions of the facility, with the second already under construction and currently due to be operational in winter 2010/11. The expansion has added 3 new LNG storage tanks to the terminal, increasing total import capacity to just under 10Mmt/y. The capacity holders for this 2nd phase are Centrica, GDF SUEZ and Sonatrach.
- **Dragon** LNG regasification terminal in Milford Haven, Wales, is close to completion and scheduled to be operational in second quarter 2009.
- Phase 1 of the **South Hook** LNG terminal (7.5 mtpa-15 mtpa) at Herbranston near Milford Haven will be inaugurated in May 2009. On average, one LNG cargo every three days will be dispatched to the UK from Qatargas 2.

Singapore

In April 2008, the Energy Market Authority of Singapore appointed BG Group as the aggregator of LNG demand for the Singaporean market. Under the agreement, BG Group will be responsible for sourcing and supplying up to 3 mtpa of LNG for up to 20 years. Initial deliveries are expected to begin in 2012 upon completion of the LNG import terminal, which will be located on **Jurong** Island in Singapore. In June 2008, GDF SUEZ was selected by PowerGas, a wholly owned subsidiary of Singapore Power Ltd., as a strategic partner and shareholder (30%) of the terminal, to jointly develop, own and operate this facility.

Taiwan:

The opening of the **Taichung** LNG import terminal has been delayed due to pipeline problems and bad weather. Cooling down operations started in 2008. CPC plans the 3 mtpa terminal to be operational in May 2009 at the earliest because of a rupture in an undersea pipeline leading to the terminal.

Thailand

GS Engineering and Construction of South Korea was chosen by PTT Energy to build Thailand's 1st LNG import terminal. The terminal will be located at **Ta Phut**, 220 km southeast of Bangkok and will consist of two 160 000 m³ LNG storage tanks as well as vaporizer and jetty facilities. It is expected to be completed by June 2011.

DESCRIPTION OF STREET AND MEDIUM-TERM CONTRACTS IN FORCE IN 2008*

Ref.	Trade	Export	Seller	Import	Buyer	Nominal quantity ACQ 10° 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.	
DZ-F 2	ш	Skikda	п	Fos	н	2.5	1972/2013	и	Extension to 2019
DZ-F3	п	Bethioua	п	Fos - Montoir	п	3.7	1976/2013	п	
DZ-GR	Algeria-Greece	Arzew-Skikda	Sonatrach	Revithoussa	DEPA S.A.	0.5	2000/2021	F.O.B.	
DZ-I 1	Algeria-Italy	Skikda-Bethioua	Sonatrach	Panigaglia	ENI Gas&Power	1.40	1997/2014	F.O.B.	
DZ-I 2	п	п	п	п	Enel	0.86	1999/2022	D.E.S.	Swap GDF Suez/Enel linked with the Nig-F 2 contract
DZ-SP 2	Algeria-Spain	Skikda-Bethioua	Sonatrach	Ba., H.,Cart., Bil.	Endesa	0.75	2002/2017	D.E.S.	
DZ-SP 3	п	н	п	и	Cepsa	0.45	2002/ -		
DZ-SP 4	п	Arzew-Bethioua	п	и	Iberdrola SA	1.15	2002/2021	н	
DZ-SP 5	"	п	ENI	Spain	Iberdrola SA	0.92	2002-	"	
DZ-TR	Algeria-Turkey	Arzew-Bethioua	Sonatrach	Marmara Ereglisi	Botas	3	1994/2014	D.E.S.	
DZ-US	Algeria-U.S.A.	Arzew-Bethioua	Sonatrach	Lake Charles	Duke Energy	3.2	1989/2009		
EG-EU	Egypt-Europe	ldku	ELNG	Montoir, Fos	GDF SUEZ	3.6	2005/2025	F.O.B.	
EG-SP	Egypt-Spain	Damietta	EGAS	Spain, other	BPGM	1	2005/2025	F.O.B.	
EG-SP	и	н	EGAS	Barcelona, Huelva Cartagena, Sagunto	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.	ldku	Egypt LNG T2	Lake Charles, LA	BGGM	3.6	2006/2023	F.O.B.	
EG-US	н	Damietta	Egyptian General Petroleum Corporation Egypt Natural Gas Holding Co. (EGAS) PETRONAS	u	п	0.7	2005/2010	п	
EqG-US	Equatorial Guinea- U.S.A.	Equatorial Guinea	Equatorial Guinea Train 1, S.A.	Lake Charles, LA	BGGM	3.4	2007/2023	F.O.B.	
LY-SP	Libya-Spain	Marsa-el-Brega	NOC	Barcelona, Huelva Cartagena, Sagunto	Gas Natural sdg	0.55	1981/2004	F.O.B.	Extension 2012
NIG-F1	Nigeria-France	Bonny Island	Nigeria LNG	Montoir	GDF SUEZ	0.33	1999/2022	D.E.S.	
NIG-F2	и	и	п	и	Enel	2.5	"	п	Swap GDF Suez/Enel
NIG I-SP	Nigeria-Spain or U.S.A.	Bonny Island	Nigeria LNG	Ba., H., Cart., Bil.	Gas Natural Aprovisionamientos	1.17	1999/2021	D.E.S.	
NIG II-SP	п	п	п	Ba., H., Cart.	Gas Natural sdg	1.99	2002/2024	п	
NIG III-SP	Nigeria-Spain	Bonny Island	Nigeria LNG	Ba., H., Cart., Bil., Sag.	Endesa	0.75	2005/2025	D.E.S.	
NIG IV-SP	п	п	"	п	Iberdrola	0.38	2005/2025	ш	
NIG V-SP	п	п	"	Huelva	ENI Gas&Power	1.15	2006/2028	ш	
NIG VI-SP	и	н	п	Ba., H., Cart., Sag.	Shell Western LNG		2006/2026	п	
NIG VII-SP	"	"	Gas Natural Aprovisionamientos	Ba., H., Cart., Bil., Sag.	Iberdrola	1	2003-	"	
NIG-TR	Nigeria-Turkey	Bonny Island	Nigeria LNG	Marmara Ereglisi	Botas	0.9	1999/2021	D.E.S.	
NIG-P	Nigeria-Portugal	п	11	Sines	Transgas S.A.	1.42	2002/2023	ш	
NIG-US	Nigeria-U.S.A.	Bonny Island	Nigeria LNG	Lake Charles, LA	BGLS	2.3	2004/2023	D.E.S.	
NIG-US	и	н	п		Shell West	1.54	2005/2025		
NIG-US/EU	Nigeria/U.S.A. or EU	Bonny Island	Nigeria LNG	US Gulf Coast/Europe	Total	1.1	2005/2026	D.E.S.	
NIG-MEX	Nigeria-Mexico	Bonny Island	Nigeria LNG	Altamira	Shell Western LNG		2006/2026	D.E.S.	
NO-GoM/EU	Norway-GoM/EU	Hammerfest	Total E&P Norge	Gulf of Mexico/Europe	Total	0.7	2007/2027	D.E.S.	
NO-EU	Norway-Europe	Hammerfest	GDF SUEZ	Hammerfest	European terminals	0.5	2007/depletion	F.O.B.	
NO-US	Norway-U.S.A.	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-Ohgishima Futtsu	Tokyo Electric	4.30	1994/2019	D.E.S.	
US-JP	U.S.AJapan	Kenai	Phillips Marathon	Negishi, Futtsu Sodegaura	Tokyo Gas Tokyo Electric	1.22	1989/2009	D.E.S.	
TT I-SP	T&T-Spain or U.S.A.	Point Fortin	Atlantic LNG	Cart., Ba., H., Bil.	Gas Natural Aprovisionamientos	1.06	1999/2018	F.O.B.	
TT II-SP	п	п	Atlantic 2/3	п	Gas Natural sdg	0.65	2002/2023	п	
TT-SP	T&T-Spain	Point Fortin	Repsol	Cartagena	Gas Natural sdg	1.13	2006/2023	D.E.S.	

Ref.	Trade	Export	Seller	Import	Buyer	Nominal quantity ACQ 10° t/year	Duration	Type of contract	Comments
TT-US 1	T&T-U.S.A.	Point Fortin	Atlantic LNG of T&T	Everett/Penuelas	GDF SUEZ	1.63	1999/2018		
TT-US 2	и	"	Atlantic LNG 2/3	и	п	0.34	2000/2020		
TT-US 3	п	п	"	USA, Other	BP Gas Marketing	0.8	2002/2021	F.O.B.	
TT-US 4	п	п	PFLE, Trinling	Elba Island, GA Lake Charles, LA	BGLS	2.2	2004/2020	u u	
TT-US 5	п	п	ВР	Elba Island, GA	Marathon LNG Marketing	1.2	2005/2010	D.E.S.	option to supply
TT-US	п	п		USA, Other	ВР	2.5	2006/2025	u u	
TT-US	и	"	Atlantic LNG 4		BG	1.50	2005/2026	u u	
TT-US	и	"			NGC	0.58	2006/2026	п	
BR-JP	Brunei-Japan	Lumut	Brunei LNG	Sodegaura, Negishi Senboku, Futtsu Higashi-Ohgishima	Tokyo Gas Osaka Gas Tokyo Electric	6.01	1993/2013	D.E.S.	
BR-KR	Brunei-Korea	Lumut	Brunei LNG	Pyeong-Taek, In-Chon or Tong-Yeong	Kogas	0.7	1997/2013	D.E.S.	
MY-JP 1	Malaysia-Japan	Bintulu	Malaysia LNG	Sodegaura Higashi-Ohgishima Futtsu, Negishi	Tokyo Gas Tokyo Electric	7.4	1983/2003	F.O.B./D.E.S.	Extension 2018
MY-JP 2	п	п	n n	Niigata	Tohoku Electric	0.50	1996/2016	D.E.S.	
MY-JP 3	и	п	п	Sodeshi	Shizuoka Gas	0.45	1996/2016	и	
MY-JP 6	п	u u	ıı	Fukuoka, Nagasaki	Saibu Gas	0.39	1993/2013	и	
MY-JP 8	и	"	и	Sodegaura Negishi Senboku, Himeji Sakai Chita, Ohgishima	Tokyo Gas Osaka Gas Kansai Electric Toho Gas	2.1	1995/2015	и	
MY-JP 9	п	п	п	Shin-Minato	Gas Bureau, City of Sendai	0.15	1997/2016	u.	
MY-JP 10	и	и	Malaysia LNG TIGA	Niigata	Japan Petroleum Explorat° Co Ltd	0.48	2002/2021	п	
MY-JP 11	п	n	n	Sodegaura Negishi Ohgishima Chita, Senboku Himeji	Tokyo Gas Toho Gas Osaka Gas	0.68	2004/2024	F.O.B./D.E.S.	
MY-JP 12	п	п	п	Hatsukaichi	Hiroshima Gas	0.008 - 0.016 0.032	2005/2012	F.O.B./D.E.S.	
MY-JP 13	п	п	п	Niigata	Tohoku Electric	0.5	2005/2025	п	
MY-JP 14				Chita	Toho Gas	0.52	2007/2027	D.E.S.	
MY-KR 1	Malaysia-Korea	Bintulu	Malaysia LNG Dua	Pyeong-Taek In-Chon Tong-Yeong	Kogas	2	1995/2015	F.O.B.	
MY-KR 2	и	"	Malaysia LNG TIGA	и	п	1.5	2003/2010	D.E.S.	
MY-KR 3	п	п	"	п	п	1.5	2008/2028	п	
MY-TW	Malaysia-Taiwan	Bintulu	Malaysia LNG Dua	Yung-An	C.P.C.	2.25	1995/2015	D.E.S.	
ID-JP 1	Indonesia-Japan	Bontang	Pertamina	Senboku Himeji, Chita Tobata, Ohita Sakai Kawagoe 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	и	Blang Lancang	п	Higashi-Ohgishima Futtsu, Niigata	Tokyo Electric Tohoku Electric	0.96	2005/2009	F.O.B.	
ID-JP3	и	Bontang	u.	Chita-Senboku Himeji Sakai Yokkaichi Kawagoe	Chubu Electric Kansai Electric Osaka Gas Toho Gas	3.52	1983/2003	и	Extension 2011
ID-JP 8	и	п	и	Senboku Himeji Sodegaura Chita, Ohgishima	Osaka Gas Tokyo Gas Toho Gas	2.31	1994/2013	и	
ID-JP 9	и	п	п	Hatsukaichi Kagoshima Senboku, Himeji	Hiroshima Gas Nippon Gas Osaka Gas	0.39	1996/2015	D.E.S.	
ID-KR 2	Indonesia-Korea	B L-Bontang	Pertamina	Pyeong-Taek In Chon, Tong-Yeong	Kogas	2	1994/2014	F.O.B.	
ID-KR 3	и	Bontang	и	"	п	1	1998/2017	u	
ID-KR 4	и	Tanah Merah	Tangguh PSC Contractor Parties	GwangYang	Posco	0.55	2005/2024	D.E.S.	

DESCRIPTION OF STREET AND MEDIUM-TERM CONTRACTS IN FORCE IN 2008* (CONT'D)

Ref.	Trade	Export	Seller	Import	Buyer	Nominal quantity ACQ 10⁵ t∕year	Duration	Type of contract	Comments
ID-KR 5	Indonesia-Korea	Tanah Merah	Tangguh PSC Contractor Parties	GwangYang	K-Power	0,6	2006/2026	D.E.S.	
ID-MX1	Indonesia-Mexico	Tanah Merah	Tangguh PSC Contractor Parties	Energia Costa Azul	Sempra LNG	3.9	2008/2029	D.E.S.	
ID-TW 1	Indonesia-Taiwan	Bontang	Pertamina	Yung-An	C.P.C.	1.57	1990/2009	D.E.S.	
ID-TW 2	п	п	ш	п	п	1.84	1998/2017	п	
Q-B	Qatar-Belgium	Ras Laffan	RasGas	Zeebrugge	Distrigas	2.05	2007/2027	D.E.S.	
Q-IN	Qatar-India	Ras Laffan	RasGas	Dahej	Petronet LNG	7.5	2004/2028		
Q-JP 1	Qatar-Japan	Ras Laffan	Qatargas	Chita/Kawagoe Yokkaichi	Chubu Electric	4	1997/2021	D.E.S.	
Q-JP 2	и	п	п	Niigata Ohgishima Senboku, Himeji Sakai Sodegaura Futtsu-Chita Yanai, Mizushima Higashi-Ohgishima	Tohoku Electric Tokyo Gas Osaka Gas Kansai Electric Tokyo Electric Toho Gas Chugoku Electric	2	1998/2021	и	
Q-KR1	Qatar-Korea	Ras Laffan	RasGas	Pyeong-Taek In-Chon, Tong-Yeong	Kogas	4.92	1999/2024	F.O.B.	
Q-KR2	п	n	RasGas III	п	п	2.1	2007/2026	D.E.S.	
Q-SP	Qatar-Spain	Ras Laffan	Qatargas	Ba., H., Cart.	Gas Natural sdg	0.66	2001/2009	D.E.S.	Extension 2012
Q-SP	п	"	и	п	п	0.66	2002/2007	D.E.S.	Extension 2012
Q-SP	п	"	и	Ba., H., Cart., Sag.	"	0.75	2005/2025	п	
Q-SP	п	"	и	Cartagena, Bilbao	Iberdrola	0.88	2003/2022	п	
Q-SP	п	"	RasGas	Barcelona	ENI	0.75	2004/2023	п	
Q-SP	п	"	RasGas II		Endesa	0.74	2005/2025	п	
Q-UE	Qatar-EU	Ras Laffan	Qatargas	EU	Gas Natural sdg	0.75	2006/2025	F.O.B.	
Q-TW	Qatar-Taiwan	Ras Laffan	RasGas II	Yung-An	C.P.C.	3.08	2008/2032	F.O.B.	
OM-JP1	Oman-Japan	Qalhat	Oman LNG	Senboku, Himeji	Osaka Gas	0.66	2000/2024	F.O.B.	
OM-JP2	и	и	и	Yanai, Mizushima	ltochu Corp./ Chugoku Electric	0.7	2006/2020	D.E.S	
OM-JP3	Oman-Japan/USA	Qalhat	Oman LNG	USA/Futtsu	Mitsubishi Corp/ Tokyo Electric	0.8	2006/2020	F.O.B./D.E.S.	
OM-KR 1	Oman-Korea	Qalhat	Oman LNG	Pyeong-Taek In-Chon, Tong-Yeong	Kogas	4.06	2000/2024	F.O.B.	
OM-SP	Oman-Spain	Qalhat	Oman LNG	Spain, Other	BPGM	0.77	2004/2009	D.E.S.	
OM-SP	Oman-Spain		Qalhat LNG	Spanish terminals	Union Fenosa Gas	1.65	2006/2025		
AU-Ch	Australia-China	Withnell Bay	Woodside Japan Australia LNG Shell Development Australia BHP Billiton Petroleum BP International Chevron Oil Trading CNOOC	Dapeng, Shenzhen	DPLNG**	3.7	2006/2031	F.O.B.	Started in May 06
AU-JP1	Australia-Japan	Withnell Bay	Woodside Japan Australia LNG Shell Development	Sodegaura, Futtsu Higashi-Ohgishima Chita, Senboku	Tokyo Electric Chubu Electric Kansai Electric	7.33	1989/2009	D.E.S.	
			Australia BHP Billiton	Yanai, Ohita	Chugoku Electric				
			Petroleum BP International Chevron Oil Trading	Negishi, Ohgishima Tobata, Yokkaichi Kawagoe Himeji, Sakai Mizushima	Kyushu Electric Tokyo Gas Osaka Gas Toho Gas				
AU-JP2	и	и	и	Sodegaura Negishi Ohgishima, Chita	Tokyo Gas Toho Gas	1.37	2004/2029	F.O.B.	
AU-JP3	н	и	u	Himeji Senboku	Osaka Gas	1.00	2004/2033	и	
AU-JP4	и	ıı	ıı .	Sodeshi	Shizuoka Gas	0.13	2004/2029	п	
AU-JP5	и	ıı	ıı .	Niigata	Tohoku Electric	0.4	2005/2020	п	
AU-KR	Australia-Korea	Withnell Bay	п	In-Chon, Tong-Yeong	Kogas	0.5	2003/2010	D.E.S.	
AU-JP	Australia-Japan	Darwin	Conocophillips, ENI Santos, Inpex,TTSR	Futtsu, Sodegaura Negishi, Ohgishima Higashi-Ohgishima	Tokyo Electric Tokyo Gas	2 1	2006/2022	F.O.B.	

^{*}Duration above four years

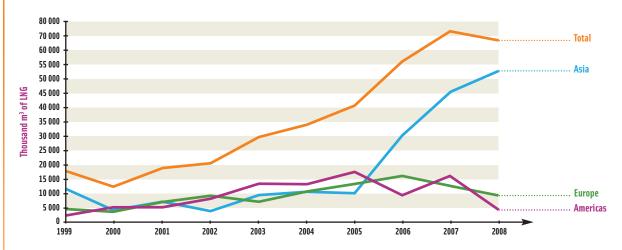
^{**}Guangdong Dapeng LNG Company Ltd.

SPOT & SHORT TERM QUANTITIES (103 m³ liq) RECEIVED IN 2008 BY THE IMPORTING COUNTRIES FROM THE EXPORTING COUNTRIES

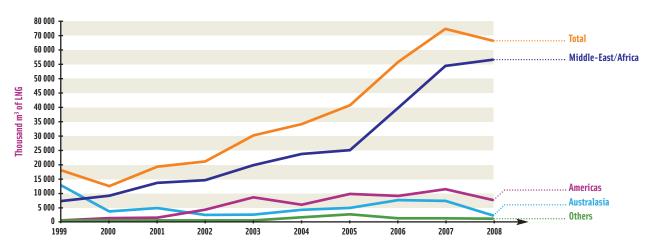
	Algeria	Egypt	Equatori. Guinea	Nigeria	Norway	Abu Dhabi	Oman	Qatar	Australia	Brunei	Malaysia	Trinidad & Tobago	Other	Total Import
Belgium												131		131
France		142												142
Greece	199	222										115		536
Italy														-
Portugal												55		55
Spain *		3 038	142	2 491				700				1 496	294	8 161
Turkey	376	139												515
UK												60		60
Europe	575	3 541	142	2 491	-	-	-	700	-	-	-	1 857	294	9 600
Argentina		129										588		717
Domin. Rep.														-
Mexico		1 921		115				144				1 328		3 508
Puerto Rico														-
USA				290				140				267		697
Americas	-	2 050	-	405	-	-	-	284	-	-	-	2 183	-	4 922
China	280	420	270	406										1 376
India	918	428	701	657			727	2 679	271			402	141	6 924
Japan	1 835	3 820	2 804	3 961	271	1 222	2 927	3 667	856		139	1 167		22 669
Korea	762	3 672	1 241	268		52	1 881	4 579	135	140	499	1 741	144	15 114
Taiwan	129	139	1 403	3 542			139	969				391		6 712
Asia	3 924	8 479	6 419	8 834	271	1 274	5 674	11 894	1 262	140	638	3 701	285	52 795
Total export	4 499	14 070	6 561	11 730	271	1 274	5 674	12 878	1 262	140	638	7 741	579	67 317

^{*} In part based on GIIGNL estimates

SPOT & SHORT TERM LNG IMPORTS OVER THE LAST TEN YEARS (103 m3 liq)



SPOT & SHORT TERM LNG EXPORTS OVER THE LAST TEN YEARS (103 m3 liq)



SEA TRANSPORTATION ROUTES

2-8	Ref.	Contracts	Export	Import	Miles	Ref.	Contracts	Export	Import	Miles
Act 12 - 15										
Act Q Q S Arce In Cross 9 S Fig E G IV Bole bland First 1098 S C C C C C C C C C										
Description										
Ac-26										
Access										
Section 19-10 Section										
Ba-Bu D2-59 1/2/3 Sertimons Barcelons 343 StHi Fojo-9-6 Billion behand Neglood 1955 Ba-Bu D2-59 1 Sertimons Billion 11138 Bill. Hi Section Billion 11138 Billio										
Berlin										
Ba-Cla D2-591-1/23 Behtstoa Dargo, Peter Peter Dargo, Peter Pe										
Ba-Fig D2-CH Berthous Dapeng, Disearchem St. 52 Ba-Fig Eq. 107 Berthous Faster Per St. 50 Ba-Fig Eq. 107 Berthous Faster St. 50 Ba-Fig Eq. 107 Berthous Berthous Faster St. 50 Ba-Fig Eq. 107 Berthous Berthous Faster St. 50 Ba-Fig Eq. 107 Berthous Berthous	Ba-Ca			Cartagena	113			Bioko Island		10 897
Be F	Ba-Dj		Bethioua	Dahej	4 775	Bk-PT	EqG-KR	Bioko Island	Pyeong-Taek	10 648
bs-fig D3-PA Behtman Granging 9 644 bs-fig Frain-TW Behtman Armograph 9 697 Be-fig D2-18 Behtman Granging 24 Be-ht MiG-MEX Bennig Island Marman 3824 Be-fig D2-18 Behtman March Model Ma	Ba-Dg		Bethioua	Dapeng, Shenzhen				Bioko Island	Sakai	10 758
Be-Fig DZ-RR Bethloon Barriary Series Series										
Ba-Ho										
Ba-H0										
Sea-He DZ-SP 17/73										
Ba 16										
Se-Me										
Ba-Nt D2-F3								3		
Ba-Pt										
Ba-PF								3		
Be-PT										
Ba-Fy	Ba-PT	DZ-KR	Bethioua	0 0	9 268		NIG-JP		Higashi-Ohgishima	10 972
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Ik-So EG-SP Idku Sagunto 1 571 PF-EI TT-US Point Fortin Elba Island 1 690 Ik-Sa EG-JP Idku Sakai 7 907 PF-EC TT-MEX Point Fortin Energia Costa Azul 11 176 Ik-Sb EG-JP Idku Senboku 7 766 PF-E TT-US Point Fortin Everett 2 032 Ik-Yg EG-TW Idku Yung-An 6 824 PF-Gy TT-KR Point Fortin Gwangyang 9 452										
Ik-SaEG-JPIdkuSakai7 907PF-ECTT-MEXPoint FortinEnergia Costa Azul11 176Ik-SbEG-JPIdkuSenboku7 766PF-ETT-USPoint FortinEverett2 032Ik-YgEG-TWIdkuYung-An6 824PF-GyTT-KRPoint FortinGwangyang9 452										
Ik-SbEG-JPIdkuSenboku7 766PF-ETT-USPoint FortinEverett2 032Ik-YgEG-TWIdkuYung-An6 824PF-GyTT-KRPoint FortinGwangyang9 452										
lk-Yg EG-TW ldku Yung-An 6824 PF-Gy TT-KR Point Fortin Gwangyang 9452										
	lk- Z	EG-B	ldku	Zeebrugge	3 184	PF-Ha	TT-IN	Point Fortin	Hazira	8 428

Ref.	Contracts	Export	Import	Miles
PF-H	TT-SP	Point Fortin	Huelva	3 417
PF-IC	TT-KR	Point Fortin	In-Chon	9 685
PF-IG	TT-UK	Point Fortin	Isle of Grain	4 064
PF-Ni	Π-JP	Point Fortin	Negishi	13 918
PF-NG	TT-US	Point Fortin	Northeast Gateway	2 043
PF-Og PF-Pn	TT6-JP TT-PR	Point Fortin Point Fortin	Ohgishima Penuelas	13 928 560
PF-Fp	TT-US	Point Fortin	Port Freeport	2 280
PF-PC	TT- DR	Point Fortin	Punta Caucedo	679
PF-PT	TT- KR	Point Fortin	Pyeong-Taek	9 685
PF-Rg	TT-SP	Point Fortin	Reganosa	3 452
PF-RV	TT-GR	Point Fortin	Revithoussa	4 965
PF-So	TT-SP	Point Fortin	Sagunto	3 858
PF-Sa	TT-JP	Point Fortin	Sakai	13 721
PF-Sb	Π-JP	Point Fortin	Senboku	13 721
PF-Si PF-TY	TT-P	Point Fortin Point Fortin	Sines	3 315 9 303
PF-11 PF-Yq	TT-KR TT-TW	Point Fortin	Tong-Yeong Yung-An	10 174
PF-TY PF-Z	TT-B	Point Fortin	Zeebrugge	3 985
Lu-Fu	BR-JP	Lumut	Futtsu	2 390
Lu-HO	BR-JP	Lumut	Higashi-Ohgishima	2 423
Lu-Hj	BR-JP	Lumut	Himeji	2 999
Lu-IC	Br-KR	Lumut	In-Chon	2850
Lu-Ni	BR-JP	Lumut	Negishi	2 416
Lu-PT	BR-KR	Lumut	Pyeong-Taek	2 850
Lu-Sb	BR-JP	Lumut	Senboku	2 405
Lu-Sd	BR-JP	Lumut	Sodegaura	2 430
Lu-TY Bu-Ch	BR-KR MY-JP 8	Lumut	Tong-Yeong Chita	2 014
Bu-Cri Bu-Fk	MY-JP 6	Bintulu Bintulu	Fukuoka	2 395 2 160
Bu-Fk Bu-Fu	MY-JP 1	Bintulu	Futtsu	2 505
Bu-Hk	MY-JP 1	Bintulu	Hatsukaichi	2 208
Bu-HO	MY-JP 1	Bintulu	Higashi-Ohgishima	2 530
Bu-Hj	MY-JP	Bintulu	Himeji	2 400
Bu-IC	MY-KR	Bintulu	In-Chon	2 124
Bu-Nk	MY-JP 6	Bintulu	Nagasaki	2 151
Bu-Ni	MY-JP 1/8	Bintulu	Negishi	2 513
Bu-Nt	MY-JP 2	Bintulu	Niigata	2 511
Bu-Og	MY-JP 1/8	Bintulu	Ohgishima	2 530
Bu-PT	MY-KR	Bintulu	Pyeong-Taek	2 124
Bu-Sa Bu-Sb	MY-JP 8 MY-JP 8	Bintulu Bintulu	Sakai Senboku	2 376 2 376
Bu-Sd	MY-JP 1/8	Bintulu	Sodegaura	2515
Bu-Sh	MY-JP 3	Bintulu	Sodeshi	2 378
Bu-SM	MY-JP 9	Bintulu	Shin-Minato	2 603
Bu-TY	MY-KR	Bintulu	Tong-Yeong	1 674
Bu-Yg	MY-TW	Bintulu	Yung-An	1 350
Bt-Ch	ID-JP1/3/8/12	Bontang (Badak)	Chita	2 500
Bt-Hk	ID-JP 9	Bontang (Badak)	Hatsukaichi	2 412
Bt-Hj	ID-JP 1/3/8	Bontang (Badak)	Himeji	2 400
Bt-IC	ID-KR 1/2/7	Bontang (Badak)	In-Chon	2 493
Bt-Kg Bt-Kw	ID-JP 9 ID-JP 1/3/11	Bontang (Badak) Bontang (Badak)	Kagoshima Kawagoe	2 211 2 510
Bt-Ni	ID-JP 1/3/8	Bontang (Badak)	Negishi Negishi	2 573
Bt-Ni Bt-Oq	ID-JP 8	Bontang (Badak)	Ohgishima	2 560
Bt-Ot	ID-JP 1	Bontang (Badak)	Oita	2 413
Bt-PT	ID-KR 1/2/7	Bontang (Badak)	Pyeong-Taek	2 493
Bt-Sa	ID-JP	Bontang (Badak)	Sakai	2 385
Bt-Sb	ID-JP 1/3/8	Bontang (Badak)	Senboku 2	2 385
Bt-Sd	ID-JP 8	Bontang (Badak)	Sodegaura	2 566
Bt-Sh	ID-JP	Bontang (Badak)	Sodeshi	6 465
Bt-Tb	ID-JP 1	Bontang (Badak)	Tobata	2 370
Bt-TY Bt-Yk	ID-KR 1/2/7 ID-JP 1/3	Bontang (Badak) Bontang (Badak)	Tong-Yeong Yokkaichi	2 043 2 510
Bt-YK Bt-Yg	ID-JP 1/3	Bontang (Badak)	Yung-An	1 455
BL-Fu	ID-JP 2	Blang Lancang (Arun)	Futtsu	3 400
BL-HO	ID-JP 2	Blang Lancang (Arun)	Higashi-Ohgishima	3 456
BL-Nt	ID-JP 2	Blang Lancang (Arun)	Niigata	3 496
BL-IC	ID-KR 1/2/7	Blang Lancang (Arun)	In-Chon	3 149
BL-PT	ID-KR 1/2/7	Blang Lancang (Arun)	Pyeong-Taek	3 149
BL-TY	ID-KR 1/2/7	Blang Lancang (Arun)	Tong-Yeong	2 699
RL-At	Q-MEX	Ras Laffan	Altamira	9 922
RL-Bn		Ras Laffan	Barcelona	4710
	Q-SP	Doo Loffe		
RL-Ca	Q-SP	Ras Laffan	Cartagena	4 817
RL-Ch	Q-SP Q-JP 1	Ras Laffan	Chita	6 446
RL-Ch RL-Dj	Q-SP Q-JP 1 Q-IN	Ras Laffan Ras Laffan	Chita Dahej	6 446 1 290
RL-Ch RL-Dj RL-EC	Q-SP Q-JP 1 Q-IN Q-MEX	Ras Laffan Ras Laffan Ras Laffan	Chita Dahej Energia Costa Azul	6 446 1 290 11 376
RL-Ch RL-Dj	Q-SP Q-JP 1 Q-IN	Ras Laffan Ras Laffan	Chita Dahej	6 446 1 290

Ref.	Contracts	Export	Import	Miles
RL-H	Q-SP	Ras Laffan	Huelva	5 134
RL-IC	Q-KR	Ras Laffan	In-Chon	6 156
RL-IG	Q-UK	Ras Laffan	Isle of Grain	6 428
RL-Kw	Q-JP 1	Ras Laffan	Kawagoe	6 448
RL-Mz	Q-JP1	Ras Laffan	Mizushima	6 428
RL-Ni RL-Nt	Q-JP 2 0-JP 2	Ras Laffan Ras Laffan	Negishi Niigata	6 550 6 640
RL-Nt RL-Oq	Q-JP 2	Ras Laffan	Ohgishima	6 513
RL-PT	Q-KR	Ras Laffan	Pyeong-Taek	6 156
RL-So	Q-SP	Ras Laffan	Sagunto	4719
RL-Sa	Q-JP	Ras Laffan	Sakai	6 347
RL-Sb	Q-JP 2	Ras Laffan	Senboku	6 347
RL-Sd	Q-JP 2	Ras Laffan	Sodegaura	6 576
RL-Sh RL-SP	Q-JP 1 Q-US	Ras Laffan Ras Laffan	Sodeshi Sabine Pass	6 508 9 796
RL-Ta	0-TW	Ras Laffan	Taichung	5 229
RL-Tb	0- JP	Ras Laffan	Tobata	6 173
RL-TY	Q-KR	Ras Laffan	Tong-Yeong	5 706
RL-Ya	Q-JP 2	Ras Laffan	Yanai	6 170
RL-Yg	Q-TW	Ras Laffan	Yung-An	5 230
RL-Yk	Q-JP 1	Ras Laffan	Yokkaichi	6 448
RL-Z	Q-B	Ras Laffan	Zeebrugge	6 277
Qt-Ca Qt-Ch	Om-SP Om-JP	Qalhat Qalhat	Cartagena Chita	4 260 5 882
Qt-Cii Qt-Dj	Om- IN	Qalhat	Dahej	777
Qt-Fu	Om-JP3	Qalhat	Futtsu	5 985
Qt-Gy	Om-KR	Qalhat	Gwangyang	5 595
Qt-Ha	Om- IN	Qalhat	Hazira	760
Qt-H0	Om-JP	Qalhat	Higashi-Ohgishima	5 981
Qt-Hj	Om-JP 1	Qalhat	Himeji	5 838
Qt-IC Qt-Kw	Om-KR Om-JP	Qalhat Qalhat	In-Chon Kawagoe	5 750 5 882
Qt-Nw Qt-Mz	Om-JP2	Qalhat	Mizushima	5 873
Qt-Ni	Om-JP	Qalhat	Negishi	6 000
Qt-Nt	Om-JP	Qalhat	Niigata	6 071
Qt-PT	Om-KR	Qalhat	Pyeong-Taek	5 750
Qt-So	Om-SP	Qalhat	Sagunto	4 259
Qt-Sa	Om-JP	Qalhat	Sakai	5 812
Qt-Sb Qt-TY	Om-JP 1 Om-KR	Qalhat Qalhat	Senboku Tong-Yeong	5 812 5 300
Qt-Ya	Om-JP	Qalhat	Yanai	5 700
Ot-Ya	Om-TW	Qalhat	Yung-An	4 719
WB-Ch	AU-JP	Withnell Bay	Chita	3 612
WB-Dj	AU-IN	Withnell Bay	Dahej	3 857
WB-Dg	AU-CH	Withnell Bay	Dapeng, Shenzhen	2 770
WB-Fu	AU-JP	Withnell Bay	Futtsu	3 683
WB-Ha WB-H0	AU-IN AU-JP	Withnell Bay	Hazira Higashi-Ohgishima	3 845 3 703
WB-Hj	AU-JP	Withnell Bay Withnell Bay	Himeji	3 596
WB-IC	AU-KR	Withnell Bay	In-Chon	3613
WB-Kg	AU-JP	Withnell Bay	Kagoshima	3 334
WB-Kw	AU-JP	Withnell Bay	Kawagoe	3 622
WB-Mz	AU-JP	Withnell Bay	Mizushima	3 638
WB-Ni	AU-JP	Withnell Bay	Negishi	3 664
WB-Nt WB-Oq	AU-JP AU-JP	Withnell Bay Withnell Bay	Niigata Ohqishima	3 995 3 683
WB-0g WB-0t	AU-JP	Withnell Bay	Oita	3 460
WB- PT	AU-KR	Withnell Bay	Pyeong-Taek	3 613
WB-Sa	AU-JP	Withnell Bay	Sakai	3 570
WB-Sb	AU-JP	Withnell Bay	Senboku	3 570
WB-Sd	AU-JP	Withnell Bay	Sodegaura	3 692
WB-Sh	AU-JP	Withnell Bay	Sodeshi	3 632
WB-TY	Au-KR	Withnell Bay	Tong-Yeong	3 526
WB-Ya Dw-Ho	AU-JP AU-JP	Withnell Bay Darwin	Yanai Higashi-Ohgishima	3 491 3 056
Dw-Ni	AU-JP	Darwin	Negishi	3 030
Dw-Sd	AU-JP	Darwin	Sodegaura	3 045
Dw-Fu	AU-JP	Darwin	Futtsu	3 036

	Inter-Trade	
Zeebrugge	Tong-Yeong	10922
Zeebrugge	Hazira	6327
Zeebrugge	Bilbao	806
Zeebrugge	Barcelona	1890
Zeebrugge	Sagunto	1701
Zeebrugge Terminal (ZT)	Zeebrugge	0

LIQUEFACTION PLANTS

		Lique	faction	Sto	orage				
Country	Site	Number of trains	Nominal capacity 10°t per year	Number of tanks	Total capacity m³	Owner	Operator	Buyer	Start-up date
					Atlantic Basin				
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	u	и	GDF SUEZ Botas Eni Gas & Power Edison Gas Shell Statoil Endesa DEPA CEPSA NA	1978
	GL 2Z	6	7.98	3	300 000	п	п		1981
	Skikda GL 1K	3	3.13	5	308 000	п	п	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
	ldku	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 Atlantico	1999 2000
		2	8.10			и	и	BGLT-BGGM Shell Iberdrola Endesa Ren Atlantico Total Eni Gas & Power	2006
Name	lla usus aufant	1	4.00	1	84 200	(Chahaillianina Dahana Taha)	II Chanailliudus	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 EcoElectrica BP Energy AES Shell North America LNG Statoil Gas Natural Distrigas Excelerate Energy	1999
					Middle-East				
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 (Omani 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 1	9.90	4	340 000	Qatargas (QP, ExxonMobil, Total, Marubeni, Mitsui)	Qatargas	Chubu Electric Osaka Gas Tokyo Gas Toho Gas Tohoku Electric Tokyo Electric Kansai Electric Chugoku Electric Gas Natural	1997-1998 1999
		2	6.60	2	280 000	RasGas (QP, ExxonMobil, Koras, Itochu, Nissho Iwai)	RasGas	Kogas Others (non-members) Distrigas	1999-2000
		1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	4.70 "				RasGas II	Petronet LNG	2004 2005 March 2007

		Liqu	efaction	Sto	rage				
Country	Site	Number of trains	Nominal capacity 10°t per year	Number of tanks	Total capacity m³	Owner	Operator	Buyer	Start-up date
					Pacific Basin				
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	Blang 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
	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
M-12-	Badak H	2	0.10			Mala di INCCI DI I	Material Discourse	C.P.C.	1998
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
	Total	82	201.78	71	6 495 600				

REGASIFICATION PLANTS

		Si	torage	Send out						
Country	Site	Number of tanks	Total capacity m ³	Number of vaporizers (*)	Nominal capacity billion Nm³ NG/year	Owner	Operator	T.P.A.	Source of import	Start-up date
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	п	II	"	Algeria, Nigeria Egypt, Norway	1980
Spain	Barcelona	6	540 000	11	14.5	Enagas S.A.	Enagas S.A.	п	Algeria, Libya, Qatar Nigeria, T&T, Egypt, Norway	1969
	Huelva	4	460 000	9	11.8	Enagas S.A.	Enagas S. A.	п	Algeria, Libya, Norway, Oman Nigeria, T&T, Egypt, Qatar, Equatorial Guinea	1988
	Cartagena	4	437 000	9	11.8	Enagas S.A.	Enagas S.A.	н	Libya, Qatar, Oman Nigeria, T&T, Egypt, Norway	1989
	Bilbao	2	300 000	4	7.00	BP, Repsol, Iberdrola, EVE	Bahia de Bizkaia Gas, SL (BBG)	н	Algeria, Egypt, Nigeria Norway, T&T, Belgium	2003
	Reganosa	2	300 000	3	3.60	Union Fenosa Gas, Union Fenosa Endesa, Xunta Galicia, Sonatrach, Tojeiro Group Galician Government Caixa Galicia, Banco Pastor Caixanova	Reganosa	Regulated T.P.A.	Algeria, Nigeria, Egypt Oman, Qatar	2007
	Sagunto	2	300 000	5	8.76	Union Fenosa gas Iberdrola Endesa Oman oil holding Spain	Saggas	Regulated T.P.A.	Algeria, Libya, Qatar Nigeria, Oman, Egypt	2006
Italy	Panigaglia	2	100 000	4	3.32	GNL Italia S.p.A.**	GNL Italia S.p.A.**	Yes	Algeria	1969
Belgium	Zeebrugge	4	380 000	11	9.00	Fluxys LNG	Fluxys LNG	Yes	Qatar, Egypt, Norway, T&T	1987
Turkey	Marmara Ereglisi	3	255 000	7	6.20	Botas	Botas	No	Algeria, Nigeria	1994
	Aliaga/Izmir	2	280 000	5	6.00	Egegaz	Egegaz	No	Algeria	2006
Greece	Revithoussa	2	130 000	4	1.30	Depa S.A.	Depa S.A.	No	Algeria, Egypt, T&T	2000
Portugal	Sines	2	240 000	5	5.20	Ren Atlantico	Ren Atlantico	Yes	Nigeria	2004
United-Kingdom	Isle of Grain	7	800 000	10	13.50	National Grid	Grain LNG	Yes (but not RTPA)	Algeria, Egypt, Qatar Trinidad & Tobago	2005
	Teesside				4.60	Excelerate Energy			Trinidad & Tobago	2007
Argentina	Bahia Blanca (floating terminal)				3.00	Repsol YPF			Trinidad & Tobago, Egypt	June 2008
U.S.A.	Everett	2	155 000	4	6.90	Distrigas of Mass. Co.	GDF SUEZ LNG North America	Yes	Trinidad & Tobago	1971
	Lake Charles	4	425 000	14	18.60	Trunkline LNG	Trunkline LNG	Yes	Nigeria, Egypt	1982
	Elba Island	4	335 000	8	9.64	Southern LNG	El Paso	Yes	T&T, Egypt	1978 restarted 2001 expanded 2006
	Cove Point	5	380 000	10	10.74	Dominion Cove Point LNG	Dominion Cove Point LNG	Shell, BP, Statoil, Peakers 1/4 each	Trinidad & Tobago, Egypt	1978 restarted 2003
	Cove Point Expansion	2	320 000	15	8.00	Dominion Cove Point LNG	Dominion Cove Point LNG	StatoilHydro	Norway	2008
	Gulf Gateway				4.60	Excelerate Energy			Trinidad & Tobago	2005
	Northeast Gateway				4.60	Excelerate Energy			Trinidad & Tobago	2008
	Sabine Pass	3	480 000	16	27.00	Cheniere Energy	Cheniere Energy	Total, Chevron, CMI	Qatar, Nigeria	2008
	Freeport LNG	2	330 694	7	18.00	Freeport LNG Development, L.P.	Freeport LNG Development, L.P.	Yes	Trinidad & Tobago	2008
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
	Energia Costa Azul	2	320 000	6	10.33	Energia Costa Azul (100% Sempra LNG)	Energia Costa Azul	Yes	Qatar, Trinidad & Tobago	May-08
Puerto Rico	Penuelas	1	160 000	2	3.75	EcoElectrica	EcoElectrica		Trinidad & Tobago	2000
Dominican Rep.	Punta Caucedo	1	160 000	2	2.32	AES Andres	AES Andres	No	Trinidad & Tobago	2003
China	Dapeng, Shenzhen	3	480 000	6	4.90	GDLNG	GDLNG	No	Australia, Algeria, Egypt, Nigeria, Equatorial Guinea	2006
	Fujian	2	320 000		3.70	Fujian LNG (CNOOC 60%, Fujian nv. & Dev. Corp. 40%)	Fujian LNG	No	Egypt, Equatorial Guinea	2008
India	Dahej	2	320 000		7.00	Petronet LNG	Petronet LNG	No	Qatar, Algeria, Egypt, Australia, Oman, T&T	2004
	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, TGT, Abu Dhabi, Norway, Equatorial Guinea	April 2005
Japan	Niigata	8	720 000	14	11.60	Nihonkai LNG	Nihonkai LNG	Yes	Indonesia, Malaysia Qatar, Australia	1984
	Higashi-Ohgishima	9	540 000	12	18.00	Tokyo Electric	Tokyo Electric	"	Indonesia, Malaysia Qatar, Australia, Oman Abu Dhabi, Brunei	1984
	Futtsu	10	1 110 000	13	26.00	"	и	н	Indonesia, Malaysia Qatar, Australia, Oman, Abu Dhabi, Brunei	1985

		S	torage	Sen	d out					
Country	Site	Number of tanks	Total capacity m ³	Number of vaporizers (*)	Nominal capacity billion Nm³ NG/year	Owner	Operator	T.P.A.	Source of import	Start-up date
	Chita Kyodo	4	300 000	14	10.40	Toho Gas Chubu Electric	Toho Gas	Yes	Indonesia, Malaysia Australia, Qatar	1978
	Chita-Midorihama Works	1	200 000	7	9.70	Toho Gas	Toho Gas	н	Indonesia, Malaysia Australia, Qatar	2001
	Chita	7	640 000	11	15.70	Chita LNG	Chita LNG	н	Indonesia, Malaysia Australia, Qatar,Algeria	1983
	Himeji	8	740 000	6	6.40	Osaka Gas	Osaka Gas	11	Indonesia, Malaysia Australia, Qatar Oman, Brunei	1984
	Himeji LNG	7	520 000	8	11.00	Kansai Electric	Kansai Electric	11	Indonesia, Malaysia Qatar, Australia	1979
	Yanai	6	480 000	5	3.10	Chugoku Electric	Chugoku Electric	п	Australia, Qatar, Oman	1990
	Mizushima	1	160 000	3	1.30	Mizushima LNG	Mizushima LNG	No	Qatar, Oman	2006
	Oita	5	460 000	6	6.27	Oita LNG	Oita LNG	11	Indonesia, Australia	1990
	Sakai	3	420 000	6	8.70	Kansai Electric	Kansai Electric	Yes	Indonesia, Malaysia Australia, Qatar	2006
	Senboku I	4	180 000	5	3.20	Osaka Gas	Osaka Gas	п	Brunei	1972
	Senboku II	18	1 585 000	15	16.60	п	п	11	Indonesia, Malaysia Australia, Qatar Oman, Brunei	1977
	Tobata	8	480 000	7	8.80	Kita Kyushu	Kita Kyushu LNG	No	Indonesia	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	0.90	Toho Gas	Toho Gas	п	Indonesia	1991
	Negishi	14	1 180 000	16	15.40	Tokyo Gas Tokyo Electric	Tokyo Gas Tokyo Electric	н	Indonesia, Malaysia Australia, Qatar U.S.A., Brunei	1969
	Sodegaura	35	2 660 000	36	35.90	н	и	н	Indonesia, Malaysia Australia, Qatar U.S.A., Brunei	1973
	Ohgishima	3	600 000	7	9.90	Tokyo Gas	Tokyo Gas	11	Indonesia, Malaysia Australia, Qatar	1998
	Fukuoka	2	70 000	7	1.10	Saibu Gas	Saibu Gas	п	Malaysia	1993
	Sodeshi	2	177 200	5	1.10	Shimizu LNG	Shimizu LNG	No	Malaysia, Australia Qatar, Nigeria	1996
	Hatsukaichi	2	170 000	4	1.15	Hiroshima Gas	Hiroshima Gas	н	Indonesia, Malaysia	1996
	Kagoshima	2	86 000	3	0.30	Nippon Gas	Nippon Gas	п	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, City of Sendai	No	Malaysia	1997
	Nagasaki	1	35 000	3	0.20	Saibu Gas	Saibu Gas	Yes	п	2003
Korea	Pyeong-Taek	14	1 560 000	30	38.81	Kogas	Kogas	No	Indonesia, Malaysia, T&T, Brunei, Qatar, Oman, Egypt, Australia, Algeria, Nigeria, Equatorial Guinea, Abu Dhabi	1986
	Incheon	19	2 680 000	33	42.24	и	п	н	ıı .	1996
	Tong-Yeong	12	1 680 000	11	18.66	п	п	н	п	2002
	Gwangyang	2	200 000	2	2.30	Posco	Posco	11	Egypt, Oman Trinidad & Tobago	2005
Taiwan	Yung-An	6	690 000	16	23.00	C.P.C.	C.P.C.	No	Indonesia, Malaysia	1990
	Taichung	3	480 000	6	9.00	C.P.C.	C.P.C.	п	Qatar	2008***
	TOTAL	312	31 680 894	542	640.92					



^{*} Not including back-up capacity
** GNL Italia is a wholly-owned subsidiary of Snam Rete Gas
*** Cooling down operations

DELIVERY DATEOF THE LNG TANKERS

1969

LNG Palmaria SCF Arctic (ex Methane Arctic) SCF Polar (ex Methane Polar)

1970

Laieta LNG Elba

1971

Hassi R'Mel

1972 Bebatik

1973

Bekalang Bekulan Norman Ladu

1974

Belais Margaret Hill (ex Hoegh Galleon) Tellier

1975

Annabella Belanak Bilis Bubuk Hilli Isabella

1976 Gimi

Mostefa Ben Boulaïd

1977

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

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 Dwiputra Hyundai Utopia LNG Vesta NW Stormpetrel Puteri Intan Shahamah YK Sovereign

1995

Ghasha Hanjin Pyeong-Taek Ish Puteri Delima Puteri Nilam

1996

Al Zubarah Hyundai Greenpia Mraweh Mubaraz Puteri Zamrud Surya Aki

1997

Al Hamra Al Khor Al Rayyan Al Wajbah Aman Sendai LNG Portovenere Puteri Firus Umm Al Ashtan

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 Oceanpia
K Acacia
K Freesia
LNG Jamal
SK Splendor
SK Stellar
SK Supreme
Surya Satsuma





2001

Sohar LNG (ex Lakshimi)

2002

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

2003

British Innovator

British Merchant

BW Suez Boston (ex Berge Boston) **BW Suez Everett** (ex Berge Everett) Castillo de Villalba Catalunya Spirit (ex Inigo Tapias) **Energy Frontier** Excel Granatina LNG Bayelsa **Methane Princess Pacific Notus**

2004

Raahi

SK Sunrise

Puteri Nilam Satu

Berge Arzew Bilbao Knutsen Cadiz Knutsen Disha Dukhan **Fuwairit** Galicia Spirit Gemmata **Golar Frost 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**

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

2006

Seri Alam

Umm Bab

Al Marrouna

Arctic Discoverer

Arctic Lady **Arctic Princess Arctic Voyager** Bluesky **Energy Progress** Excelerate Gaz de France Energy Granosa Iberica Knutsen Ibra Ibri LNG **LNG Benue** LNG Berge Oyo **LNG Dream** LNG Lokoja **LNG River Niger** Maersk Qatar Methane Jane Elizabeth Methane Lydon Volney Methane Rita Andrea **Pacific Eurus** Provalus Seri Amanah Seri Anggun Seri Angkasa

Simaisma

2007

Al Areesh Al Daayen Al Gattara Al Gharrafa Al Ghariya Al Jassasiya Al Ruwais Al Safliya **British Emerald Celestine River** Cheikh El Mokrani Clean Energy Clean Power Duhail Ejnan Gaselus **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 Kharsaah Al Khuwair Al Oraig Al Sahla Al Shamal Al Thumama Al Utouriya Alto Acrux **British Diamond British Ruby British Sapphire** Bu Samra Cheikh Bouamara Clean Force Dapeng Moon Dapeng Sun Ebisu **Energy Navigator** Explorer Fraiha **Grace Cosmos Grand Aniva Grand Mereua** Hyundai Ecopia **K** Jasmine K Mugungwha LNG Barka LNG Imo Maersk Arwa Maersk Marib Maersk Methane Mozah Murwah Seri Balhaf Seri Bijaksana STX Colt Tangguh Batur Tangguh Foja Tangguh Hiri Tangguh Jaya Tangguh Towuti **Trinity Arrow Umm Al Amad** Umm Slal