LNG in Europe
An Overview of European Import Terminals
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This report focuses on a specific aspect of the LNG supply chain: the import facility. It provides an overview of the LNG import terminals that exist in Europe today whether currently operating or under construction. This report also identifies other planned import terminal developments and highlights potential future regasification projects, both onshore and offshore.

THE DEMAND FOR LNG IN EUROPE

Declining North Sea gas reserves, increased production costs and the deregulation of European gas and electricity markets have all combined to create new opportunities for LNG in Europe.

Further, many European countries rely on a limited number of energy supply sources. Such reliance may create serious issues of security of supply in the future, as evidenced by the recent confrontation between the Ukrainian Government and Gazprom. LNG is more flexible than pipeline gas and is therefore seen as an essential aspect of diversification of energy supply sources.

Yet the ability to move LNG to European markets has been constrained by a lack of access to regasification capacity due in part to the limited number of terminals currently in operation as well as to the existence of long-term capacity rights held by a small number of industry participants.

Many new LNG import terminals have been proposed in recent years in response to the increase in LNG demand. There are currently fourteen LNG import terminals operational in Europe (including Turkey). Other terminals in Belgium, France, Italy, Spain and the United Kingdom are under construction or being expanded and are due to become operational in the next three years. Many other terminals have been proposed in potentially new LNG importing countries such as Cyprus, Ireland, Germany, the Netherlands and Poland. Some of these proposed terminals are sponsored by companies developing upstream liquefaction in order to secure downstream market access for their LNG and/or by power utilities seeking new gas supplies.

REGULATION OF EUROPEAN IMPORT TERMINALS

The European Commission has become more active in the European gas sector, introducing a number of directives designed to facilitate competition and create a single Europe-wide gas market. In Directive 2003/55/EC of the European Parliament and of the Council (the “Second Gas Directive”), the European Commission introduced measures requiring member states to provide open access to gas infrastructure (including LNG terminals) on fair, transparent and non-discriminatory terms. The conditions and tariffs of third-party access to LNG terminals must be published by terminal operators, as well as approved by the national regulator.

The Second Gas Directive anticipates a system of regulated third-party access to LNG receiving terminals. Developers of new import facilities and existing import facilities for which new capacity is being developed may obtain an exemption to such third-party access requirements from the national regulator if the project satisfies certain criteria. So far, exemptions to the third-party access regime have been granted to five new LNG terminals: three in the United Kingdom (Grain LNG, Dragon LNG and South Hook LNG) and two in Italy (Isola di Porto Levante and Brindisi).

Each EU member state had the obligation to implement legislation adopting the terms of the Second Gas Directive by 1 July 2004. However, the extent to which this has happened varies considerably across the EU.

Different approaches have been taken by each of the current and prospective LNG importing European countries in implementing the Second Gas Directive. As a result, rules governing access to LNG terminal capacity may differ and impact the speed at which a single European gas market can be accessed. The European Commission may examine whether the legislation adopted by a country is consistent with the regulated access framework set out in the directive itself.

In the United Kingdom, the Gas (Third-Party Access) Regulations became effective in August 2004, amending the Gas Act 1986 to reflect the regulated access provisions of the Second Gas Directive.

France has implemented the terms of the Second Gas Directive by amending
legislation passed in 2002 and 2003. In relation to the new terminal to be located at Fos Cavaou, the French gas market regulator recommended that only 10% of capacity at the terminal needed to be “open access” in the first instance, thereby permitting Gaz de France and Total to take 90% of the terminal’s capacity on a long-term basis.

Spain enacted legislation to implement the first EU gas directive in 1998. This legislation governs third-party access to Spanish terminals and opens all LNG import capacity to regulated third-party access. At present, up to 75% of a Spanish terminal’s total capacity can be allocated on a long-term basis (more than two years) and 25% on a short-term basis (not more than two years). In Italy, the energy market regulator has indicated that developers may take up to 80% of terminal capacity on a long-term basis.

In the case of other LNG importing countries, the European Commission has confirmed that Greece and Portugal qualify as emerging markets and, as such, are exempt from the third-party access requirements of the Second Gas Directive. Cyprus, which may soon become an LNG importing country, may also be eligible for an exemption from the third-party access regime of the Second Gas Directive. The exemptions granted to each of such countries are temporary and will expire automatically on the tenth anniversary of the first delivery made pursuant to the first long-term natural gas supply contract.

Turkey is not a member of the EU and therefore the Second Gas Directive does not currently apply. However, gas market reforms are likely to occur in anticipation of Turkey’s application to join the EU.

ARBITRAGE OPPORTUNITIES

The increase of LNG demand in both the US and Europe and the current liberalisation process in Europe have contributed to the creation of arbitrage opportunities for LNG sellers and buyers. Such arbitrage opportunities may also be increased as a consequence of many greenfield projects starting commercial operations in the next few years and the anticipated termination of several long-term contracts. These developments will no doubt raise many legal issues.

REGULATING IMPORT TERMINAL USAGE

As European gas markets attract an even greater volume of LNG, import terminals will become increasingly congested. For those terminals with more than one user, the contracts regulating terminal usage arrangements may be placed under considerable strain, especially in times of high LNG demand. In particular, port interface issues and the allocation of liability for a range of potential losses require clear, detailed and enforceable agreements.

In North America, several of the multi-user import terminals have based their terminal usage agreements on a similar form, thereby bringing a helpful degree of standardisation to the market place.

A similar approach has yet to emerge in Europe, leaving importers who bring LNG cargoes to multiple European terminals to grapple with contractual structures that may differ considerably from one import terminal to the next.

CONCLUSION

Many factors are contributing to an increase in European gas demand. The development of new LNG terminals in Europe and the expansion of existing facilities is a very important element of response by the industry to such demand. This will result in a number of legal, contractual and commercial challenges for developers and terminal users alike.
OUR LNG TEAM

King & Spalding is one of the most active law firms in the LNG business. Our experience ranges from the development of upstream gas reserves for export projects and the development of liquefaction projects themselves, to transportation arrangements and import terminals.

In the last five years alone, our LNG team has been involved in LNG-related transactions and projects in Angola, Australia, the Bahamas, Belgium, Canada, Chile, the Dominican Republic, Egypt, Equatorial Guinea, Indonesia, Italy, Korea, Mexico, Nigeria, Norway, Oman, Papua New Guinea, Peru, Qatar, Russia, Trinidad & Tobago, Venezuela, the United Kingdom and the United States.

In addition to our transactional practice, many of our lawyers are regular speakers at key LNG conferences around the world and have had articles published in some of the world’s leading energy publications (such as the LNG Journal, the Petroleum Economist and the International Energy Law and Taxation Review).

Few other firms can match our industry knowledge, transactional experience and geographical reach in the LNG sector. Whatever your LNG needs, we hope you choose to work with the King & Spalding LNG team - a team with a genuine passion for the LNG business and a true understanding of its many complexities.

OUR IMPORT TERMINAL EXPERTISE

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

- commercialisation of terminal capacity;
- port liability and risk allocation;
- regulatory approvals and permits for the facility;
- arrangements for the engineering, procurement and construction of the facility; and
- project financing of the facility.

In addition, King & Spalding lawyers have assisted clients with respect to many other important aspects of LNG import terminal projects such as: real estate, environmental matters, maritime authorities requirements, consulting agreements, public relations, insurance arrangements and contractual disputes.

Set out below is a representative list of the LNG terminal projects on which members of the King & Spalding LNG team have advised (including experience gained during time spent in-house or with other law firms):

- Advising a consortium developing an LNG import terminal project in Northern Europe in connection with its initial development activities.
- Advising Dragon LNG in relation to the development and financing of an LNG import terminal in Milford Haven, Wales.
- Acting as sole LNG counsel to Freeport LNG in relation to an import terminal near Freeport, Texas, including terminal use agreements, construction contracts and all necessary FERC approvals.
- Advising a multinational energy company in connection with access arrangements at an LNG import facility in Spain.
- Acting as sole LNG counsel to Cheniere Energy in relation to the development of an import terminal in Sabine Pass, Louisiana, including terminal use agreements, construction contracts, all necessary FERC filings and tug contracts.
- Advising a multinational corporation in preliminary development of a gravity-based offshore LNG terminal in Europe.
- Advising Cheniere Energy in relation to developing an LNG import terminal in Corpus Christi, Texas, including all necessary FERC filings.
- Advising Woodside Energy in relation to a proposed terminal services agreement with West Coast North American terminals.
- Advising a terminal user in relation to memorandum of understanding for a proposed New York offshore LNG terminal.
- Advising the developer of a European offshore LNG terminal on commercial and corporate matters relating to the development and financing of an LNG import terminal project.
- Advising a developer in relation to FERC filings for a proposed LNG terminal in Mississippi.
- Advising Southern LNG in relation to drafting and negotiating the construction contract for expansion of an import facility in Elba Island, Georgia.
- Advising ChevronTexaco in relation to the development of Port Pelican, a proposed offshore LNG import terminal in the Gulf of Mexico, including terminal use agreements and LNG sales.
- Advising a potential buyer of Enron’s capacity rights to an East Coast LNG terminal.
- Advising an LNG shipper/bidder with respect to the open season for storage and throughput capacity at Elba Island LNG receiving terminal and to the negotiation of related natural gas sales agreements.
- Advising the construction manager of the Energy Bridge regasified LNG offshore receiving terminal, with respect to the drafting and negotiation of the construction agreements.

LNG in Europe
management agreement for a pipeline, riser, platform and receiving buoy construction project.

- Advising a multinational corporation in connection with tolling arrangements for the importation of LNG into Canada.

- Advising a joint venture between SUEZ North America and FPL Resources Group in connection with the development and project financing of an LNG terminal located in the Bahamas and an associated subsea gas export pipeline to Southern Florida, including the negotiation of LNG supply and transportation agreements with a Qatari LNG supplier.

- Advising The Royal Bank of Scotland plc in connection with the restructuring and joint project financing with ConocoPhilips of an LNG receiving and regasification terminal, storage facilities, pipeline and associated facilities to be built on Quintana Island near Freeport, Texas.

- Advising Sempra Energy in connection with certain tax, regulatory and marine matters in connection with its development of an LNG import terminal in Louisiana.

- Advising Gulf Coast LNG, LLC in connection with the development and project financing of an LNG receiving and regasification terminal and associated natural gas send-out and natural gas liquids (NGL) extraction facilities at Point Comfort, Port Lavaca, Texas.

- Advising Rabaska Limited Partnership, a Quebec limited partnership, in connection with terminal use arrangements and procurement and construction issues related to its proposed LNG receiving terminal at Beaumont/Levy in Quebec, Canada.

- Advising the project company in connection with the development of Phase II of the Dabhol Power Project in India, including the negotiation of two long-term purchase and sale contracts with Middle Eastern suppliers, providing for the purchase of 2.1 million tons of LNG per year and related transportation, terminalling and project financing documentation, in connection with the expansion of the power facilities and the development and construction of the LNG facilities.

- Advising Crystal Energy LLC in the development of an offshore LNG receiving and regasification terminal and associated natural gas send-out facilities located offshore California.


- Advising Northern Star Natural Gas LLC in the development of an LNG receiving and regasification terminal located in Oregon and associated natural gas send-out facilities extending into Washington.

- Advising a developer in the negotiation of a FEED contract for the design and construction of an LNG receiving terminal in Texas.

- Advising the largest electric generation company in Chile in connection with the development of a receiving terminal for the importation of LNG into Chile.

- Advising Crystal Energy LLC in connection with the acquisition and subsequent development and project financing of an integrated LNG/IPP project in El Salvador.

- Advising an international developer in relation to the development, construction and financing of a proposed LNG import terminal and associated natural gas export pipeline from Freeport, Grand Bahama to Port Everglades, Florida.

- Advising a multinational corporation in competitive bids for the supply of LNG to proposed terminals in India and Turkey.

- Advising Tractebel LNG North America in relation to the development, construction, financing, risk management, conditions of port use and power purchase agreement management activities in connection with an integrated power plant and LNG import terminal in Peñuelas, Puerto Rico.

- Advising AES Andres, B.V. in connection with the project financing of an LNG receiving terminal, regasification facility and 306 MW natural gas fired combined cycle power plant in the Dominican Republic.

- Advising Gas Natural SDG, SA conceiving LNG procurement and resale, and tolling arrangements relating to the importation and sale of LNG in Puerto Rico.

- Advising an international oil and gas company in relation to its proposed investment in Taiwan’s proposed second LNG terminal.
**LNG Import Terminals in Europe**

A | Zeebrugge, Belgium
B | Montoir, France
C | Fos-sur-Mer, France
D | Revithoussa, Greece
E | Panigaglia, Italy
F | Sines, Portugal
G | Bilbao, Spain
H | Barcelona, Spain
I | Cartagena, Spain
J | Huelva, Spain
K | Sagunto, Spain
L | Marmara Ereglisi, Turkey
M | Aliaga, Turkey
N | Grain, UK

O | Fos Cavaou, France
P | Isola Di Porto Levante, Italy
Q | Brindisi, Italy
R | El Ferrol (Mugardos), Spain
S | Dragon, UK
T | South Hook, UK

1 | Fieri District, Albania
2 | Vassiliko, Cyprus
3 | Omisalj, Croatia
4 | Le Verdon, France
5 | Wilhelmshaven, Germany
6 | Tarbert, Ireland
7 | Livorno, Italy
8 | Livorno Offshore (OLT project), Italy
9 | San Ferdinando, Italy
10 | Gioia Tauro, Italy
11 | Taranto, Italy
12 | Taranto, Italy
13 | Vado Ligure, Italy
14 | Muggia, Italy
15 | Zaule, Italy
16 | Priolo/Augusta/Melilli, Italy
17 | Porto Empedocle, Italy
18 | Offshore Trieste, Italy
19 | Eemshaven, The Netherlands
20 | Maasvlakte or Groningen, The Netherlands
21 | Lion Gas LNG, The Netherlands
22 | Gdansk or Swinoujscie, Poland
23 | The Canary Islands, Spain
24 | Izkenderun, Turkey
25 | Anglesey, UK
26 | Teesside, UK
27 | Teesside Offshore, UK

**LNG in Europe**

**EXISTING TERMINALS**

**TERMINALS UNDER CONSTRUCTION**

**PROPOSED TERMINALS**
Belgium does not produce any natural gas and the country relies entirely on imports to supply its gas needs.

LNG is imported into Belgium through its sole LNG terminal in Zeebrugge. LNG imports are small (2.85 bcm in 2004) compared to imports of natural gas by pipeline (16.40 bcm in 2004); however, this will increase in the next few years as a result of the expansion of the Zeebrugge terminal.

THE ZEEBRUGGE TERMINAL

The Zeebrugge LNG terminal is located along the northern part of the Belgian coastline and is built on a man-made island. It is a reference point for the sale and purchase of LNG in Europe and internationally.

At the end of 2002, Distrigas (a Suez subsidiary) had imported more than 1000 LNG shipments under a sale and purchase agreement with Sonatrach, originally signed in 1975 for 20 years and recently extended until 2007. From 1982 to 2003, the equivalent of more than 75 bcm of natural gas was delivered to Zeebrugge from Algeria.

The regasification terminal is being extended with the addition of a fourth storage tank of 140,000 m³. In July 2004, the operator of the terminal, Fluxys LNG, awarded an engineering, procurement and construction contract to a joint venture of SN Technigaz, Fontec and MBG under the supervision of Tractebel Engineering for the carrying-out of the extension works.

CONTRACTUAL ARRANGEMENTS

In June and July 2004, several agreements were entered into for the use of the terminal from 2007:

1. Fluxys LNG, Qatar Petroleum and Qatar Terminal Limited (a subsidiary of ExxonMobil) entered into a terminating capacity reservation agreement to secure the use of the terminal for capacity equivalent to 4.5 bcm of natural gas a year (50% of the total capacity) for 20 years. The natural gas will be lifted from Qatar’s North Field and will be liquefied at the Ras Laffan (II) liquefaction plant, in which Qatar Petroleum and ExxonMobil hold a 70% and 30% interest respectively.

2. Distrigas reserved the use of the terminal for regasification capacity equivalent to 2.5 bcm a year from early 2007 for 20 years. Distrigas will be sourcing the natural gas from Qatar. Distrigas and RasGas II have signed an LNG supply agreement on an ex-ship basis for 2.75 bcm per year.

3. The third agreement is in relation to the expansion capacity and has been entered into with Tractebel Global LNG (a Suez subsidiary). This agreement provides that Tractebel will be able to unload and regasify 2.1 bcm of natural gas a year for 20 years, starting in late 2007. Tractebel LNG is expected to supply LNG from its global LNG portfolio.
| 1 | **ZEEBRUGGE**¹ |

**OWNER/OPERATOR:** Fluxys LNG  
**SHAREHOLDERS:**  
- Fluxys (92%)  
- Tractebel (7%)  
- Shell (1%)  

**MAXIMUM VESSEL SIZE:** 135,000 m³ (or above, subject to ship approval procedure)  
**STORAGE CAPACITY**  
- **EXISTING:** 3 x 87,000 m³ tanks  
- **EXPANSION:** 1 x 140,000 m³ tank  

**SEND-OUT CAPACITY**  
- **EXISTING:** 4.5 bcm per year  
- **EXPANSION:** 9 bcm per year  

**START-UP DATE:** 1987  
**EXPANSION:** 2007  

**RESERVED TERMINALLING CAPACITY:**  
- Until 2007: 100% Distrigas  
- From 2007:  
  - 50% Qatar Petroleum/ExxonMobil for 20 years  
  - 28% Distrigas for 20 years  
  - 22% Tractebel Global LNG for 20 years  

**EXPANSION PROJECT COST:** € 165 million (approximately)  
**LNG SUPPLY SOURCES:**  
- Until 2007: Algeria  
- From 2007: Qatar and others

¹ Source: Fluxys (www.fluxys.net)
France

France is the largest importer of LNG in Europe, second only to Spain. In 2004, the total import of LNG was about 7.7 bcm, representing 17.1% of the total consumption of natural gas in France. The domestic production is small, representing only 3% of total consumption. The consumption of natural gas in France is lower than in other countries of comparable size due to the extensive use of nuclear energy for power generation.

Gaz de France (in which the French state has a majority shareholding) owns the two LNG import terminals currently in operation in France: Fos-sur-Mer near Marseilles and Montoir de Bretagne near Nantes. Gaz de France has recently made important investments in the LNG sector: it has committed to the new LNG terminal of Fos Cavaou that will enter into operations in 2007; it has ordered three new LNG carriers that will be delivered over the next few years; and it has also taken equity interest upstream in LNG liquefaction plants in Egypt and in Norway. Some of the LNG produced in Egypt is set to be delivered to France.

THE TERMINALS

Fos-sur-Mer started commercial operations in 1972. Most of the LNG unloaded at the terminal comes from Algeria. LNG deliveries at the Fos-sur-Mer terminal have been affected by the explosion at the Skikda facility in January 2004. Gaz de France has entered into several FOB sale and purchase agreements for deliveries through at least 2013.

Montoir de Bretagne is currently the largest LNG regasification terminal in Europe with a regasification capacity of 10.2 bcm per year. It started commercial operations in 1980. In 2004, it received 95 cargoes, coming essentially from Algeria and Nigeria and, to a lesser extent, from Qatar, Abu Dhabi and Oman. In March 2005, the terminal received its first cargo from the Damietta facility in Egypt. According to Gaz de France, a large proportion of the LNG produced at Idku in Egypt will be unloaded at Montoir until the new terminal at Fos Cavaou begins operations in 2007. Gaz de France plans to further expand the terminal to receive up to 120 cargoes a year over the next few years.

FOS CAVAOU (FOS II)

The third French regasification facility, sponsored by Gaz de France and Total, is located next to Fos-sur-Mer. The Fos Cavaou terminal is currently under construction and is expected to start operations in 2007. The terminal will receive 6 Mtpa (8.28 bcm per year) of LNG from Egypt. Gaz de France awarded a turnkey contract for the construction of the terminal to a joint venture between Sofregas, Saipem SA and SN Technigaz.

Gaz de France has entered into several sale and purchase agreements with several suppliers, most notably from Egypt (SPA for 4.7 bcm per year from 2005 to 2025), Nigeria (Bonny Island facility - SPA for 0.5 bcm per year until 2021) and Norway (SPA for 0.5 bcm per year until 2023). Total has regasification capacity rights for about 2.25 bcm of gas a year. It is unclear where Total will source the LNG to be regasified at Fos Cavaou.

OTHER PROJECTS

Total has also planned to develop an LNG regasification terminal at Le Verdon in the Southwest of France for a capacity of 2 - 3 bcm per year.

The first LNG terminal operating in France was located in Le Havre and started receiving LNG cargoes in 1964 until 1989 when it was decommissioned. Gas Matters recently reported that, in the near future, the Port of Le Havre will send invitation for tender by interested parties to develop a new LNG terminal facility.
<table>
<thead>
<tr>
<th>TERMINAL UNDER CONSTRUCTION</th>
<th>1</th>
<th>FOS CAVAOU – FOS 2&lt;sup&gt;5&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWNER/OPERATOR:</td>
<td>Gaz de France</td>
<td></td>
</tr>
<tr>
<td>LNG SUPPLY SOURCES:</td>
<td>Primarily Algeria and Nigeria but other sources include Qatar, Abu Dhabi and Oman</td>
<td></td>
</tr>
<tr>
<td>MAXIMUM VESSEL SIZE:</td>
<td>130,000 m³</td>
<td></td>
</tr>
<tr>
<td>STORAGE CAPACITY:</td>
<td>3 x 120,000 m³ tanks</td>
<td></td>
</tr>
<tr>
<td>SEND-OUT CAPACITY:</td>
<td>10.2 bcm per year</td>
<td></td>
</tr>
<tr>
<td>START-UP DATE:</td>
<td>1982</td>
<td></td>
</tr>
<tr>
<td>LNG SUPPLY SOURCES:</td>
<td>100% Gaz de France</td>
<td></td>
</tr>
<tr>
<td>MAXIMUM VESSEL SIZE:</td>
<td>160,000 m³</td>
<td></td>
</tr>
<tr>
<td>STORAGE CAPACITY:</td>
<td>3 x 110,000 m³ tanks</td>
<td></td>
</tr>
<tr>
<td>SEND-OUT CAPACITY:</td>
<td>8.25 bcm per year</td>
<td></td>
</tr>
<tr>
<td>START-UP DATE:</td>
<td>Mid-2007</td>
<td></td>
</tr>
<tr>
<td>RESERVED TERMINALLING CAPACITY:</td>
<td>6 bcm (4.38 Mtpa) to Gaz de France</td>
<td></td>
</tr>
<tr>
<td>LNG SUPPLY SOURCES:</td>
<td>Egypt (Egyptian LNG Train 1 at Idku) and other sources</td>
<td></td>
</tr>
<tr>
<td>PROJECT COST:</td>
<td>€ 430 m (approximately)</td>
<td></td>
</tr>
</tbody>
</table>

| DEVELOPER:                  | Total                           |
| CAPACITY:                   | 2 - 3 bcm per year              |
| STATUS:                     | Unknown                         |

| SOURCE: Gaz de France |
Greece

Greece only produces a small amount of gas. At present, it relies mainly on imported oil to satisfy its energy needs. However, the Greek natural gas market is growing. Currently, one third of the natural gas consumed in Greece is imported as LNG. The remaining part is imported from Russia by pipeline. The Greek natural gas industry is controlled by the Public Gas Corporation of Greece (DEPA), which is owned by the Greek Government (65%) and Hellenic Petroleum (35%).

THE REVITHOUSSA TERMINAL

In 2000, the Revithoussa LNG terminal started importing 0.5 Mtpa (0.69 bcm) per year of LNG from Skikda in Algeria pursuant to an LNG sale and purchase agreement with Sonatrach. This agreement started in 1998 and has a term of 15 years.

DEPA has ordered a preliminary study for the possible expansion of the terminal. This expansion may include the addition of a third storage tank and the increase of the regasification capacity to 6.5 bcm per year. DEPA is said to have entered into an EPC agreement with Sofregaz and Athena SA. A 400 MW power plant is also expected to be associated with the expanded LNG terminal. The feasibility studies and expansion of the terminal are partly financed by the European Union.

THIRD-PARTY ACCESS

Under the provisions of the Second Gas Directive, Greece qualifies as an emerging country and, as such, is exempt from third-party access obligations. This exemption is temporary and will expire on the tenth anniversary of the first gas delivery made pursuant to the first long-term natural gas contract.

OTHER PROJECTS

It has been reported that the construction of a new LNG import terminal at the Kavala Port is under consideration.

The Greek Regulatory Authority for Energy is reportedly considering a project for a new LNG terminal in Crete to fuel a power plant supplying electricity to the Island. A feasibility study was carried out in 2004.
### EXISTING TERMINAL

| 1 | REVITHOUSSA

#### OWNER/OPERATOR:
DEPA (Public Gas Corporation)

#### SHAREHOLDERS:
- Hellenic Petroleum SA (35%)
- Greek State (65%)

#### MAXIMUM VESSEL SIZE:
130,000 m³

#### STORAGE CAPACITY

**EXISTING:**
- 2 x 65,000 m³ tanks

**EXPANSION:**
- A third tank is planned (capacity undisclosed)

#### SEND-OUT CAPACITY

**EXISTING:**
- 2.26 bcm per year (220,000 (n)m³/h)

**EXPANSION:**
- 6.5 bcm per year (600,000 (n)m³/h)

#### START-UP DATE:
- 2000

**EXPANSION:**
- Originally planned for 2007

#### RESERVED TERMINALLING CAPACITY:
- 100% DEPA

#### LNG SUPPLY SOURCES:
- Essentially Algeria - some LNG from Egypt delivered in 2005

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### PROPOSED TERMINALS

| 1 | CRETE

| 2 | KAVAŁA

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Italy

THE ITALIAN GAS MARKET

Italy is a producer of gas with proven reserves estimated at more than 170 bcm. Italy is also a large consumer of natural gas with 66 bcm in 2004, making it one of the largest gas markets in Europe behind the United Kingdom and Germany. According to industry analysts, the gas market is set to grow at a higher rate than in any other European country. Demand for natural gas is expected to increase by 22 bcm by 2010.

Despite having gas reserves, Italy imports most of the gas it consumes from Algeria (pipeline gas and LNG) and Russia. The balance is supplied by pipeline from the Netherlands and Norway and by LNG shipments from Nigeria.

DEVELOPMENT OF LNG INFRASTRUCTURE

The Italian Government has been encouraging both the development of the gas trade and of LNG terminal facilities. Currently, deliveries of LNG are all made through the sole Italian LNG terminal in Panigaglia (La Spezia). The amount of LNG delivered accounts for less than 10% of the total amount of gas imported into the country. LNG imports will increase with the start of operation of the Isola di Porto Levante LNG terminal and the Brindisi terminal, scheduled for 2008 and 2009 respectively. Endesa’s project to build a floating facility offshore Livorno also appears to be a strong prospect.

There are several other LNG terminal projects planned but they are less advanced. Many of these other projects have encountered local opposition or have had their application delayed or rejected.

PANIGAGLIA

The LNG import terminal of Panigaglia started operations in 1971 and is one of the oldest in Europe. It regasifies LNG coming essentially from Algeria. SNAM (an Eni subsidiary) and ENEL have entered into a long-term arrangement with Sonatrach for the delivery of, respectively, 1.33 Mtpa for 20 years until 2016 and 1.15 Mtpa for 11 years until 2010 on an FOB basis. The terminal is equipped with a small berth which allows the entry of small LNG carriers (less than 70,000 m³) only.

The terminal operator, GNL Italia S.p.A., has to provide third-party access to other shippers in accordance with the provisions of the Second Gas Directive. However, in recent years, the operator denied terminal access to third parties arguing that no capacity was available. In January 2005, the Italian Authority for Electricity and Gas fined GNL Italia for denying Gas Natural the use of the terminal. Since this incident, Gas Natural has been able to receive shipments of LNG originally planned for Huelva in Spain at Panigaglia.

THE ISOLA DI PORTO LEVANTE LNG TERMINAL (ROVIGO – NORTH ADRIATIC)

The Isola di Porto Levante LNG terminal, sponsored by Qatar Petroleum, ExxonMobil and Edison, is expected to be the first offshore LNG regasification terminal in Europe. The terminal, currently under construction in Spain, will be located in the north of the Adriatic Sea and is expected to begin operations at the end of 2008.

A contract was awarded to Aker Kvaerner for the development of the gravity-based structure, LNG storage tanks and LNG off-loading and regasification facilities. Snamprogetti, an ENI affiliate, is the contractor for the pipeline associated with the project. Delivery frequency is anticipated to be an average of two ships per week. The gas for the project will be sourced from Qatar’s North Field and processed through the Rasgas II facility.

The terminal has been granted a 25-year exemption to third-party access rules under the Second Gas Directive in relation to 80% of the terminal capacity. The remaining 20% will be available to third-party access. Edison will be the principal user of the terminal and will have access to about 80% of its total regasification capacity.

BRINDISI

Since June 2005, the planned LNG regasification terminal of Brindisi has been fully owned by BG. BG bought a 50% share interest in Brindisi LNG S.p.A., the owner and operator of the Brindisi terminal, from ENEL for a total amount of € 44 million. BG has also acquired the regasification capacity that was allocated to ENEL. In April 2005, the Italian regulator granted a 20-year exemption to third-party access for 80% of the total capacity of the terminal. The balance of the terminal’s regasification capacity will be available to third-party access.

The contract for the construction of the terminal has been awarded to a consortium led by Tecnimont S.p.A. in 2004. BG reported that the construction work has started and that the terminal is expected to start commercial operations in late 2009. However, the administrative decisions authorising the project have been challenged before local courts, which is likely to delay its completion.

8 BP Statistical Review of World Energy 2005
9 Poten & Partners
| 1 | LA SPEZIA (PANIGAGLIA) 10 |

OWNER/OPERATOR: GNL Italia S.p.A.  
SHAREHOLDER: Snam Rete Gas S.p.A.  
MAXIMUM VESSEL SIZE: 70,000 m³  
STORAGE CAPACITY: 2 x 50,000 m³ tanks  
SEND-OUT CAPACITY: 3.5 bcm per year  
START-UP DATE: 1971  
RESERVED TERMINALLING CAPACITY: Most capacity used by Eni  
LNG SUPPLY SOURCE: Algeria  

| 1 | ISOLA DI PORTO LEVANTE (ROVIGO – NORTH ADRIATIC) 11 |

OWNER/OPERATOR: Terminale GNL Adriatico Srl.  
SHAREHOLDERS: Qatar Petroleum (45%)  
ExxonMobil (45%)  
Edison Gas (10%)  
MAXIMUM VESSEL SIZE: 152,000 m³  
STORAGE CAPACITY: 2 x 125,000 m³ tanks  
SEND-OUT CAPACITY: 8 bcm per year  
START-UP DATE: Q4 2008  
RESERVED TERMINALLING CAPACITY: 80% capacity used by Edison on a long-term basis for 25 years  
20% capacity open to regulated third-party access  
LNG SUPPLY SOURCE: Qatar  
PROJECT COST: € 800 million (approximately)  
STATUS: Under construction  

10 Source: Snam Rete Gas website (www.snamretegas.it)  
11 Source: ExxonMobil
**PROPOSED TERMINALS**

<table>
<thead>
<tr>
<th>BRINDISI</th>
<th>LIVORNO (ROSIGNANO – TUSCANY)</th>
<th>OFFSHORE LIVORNO – OLT PROJECT</th>
<th>SAN FERDINANDO (CALABRIA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWNER/OPERATOR:</td>
<td>Brindisi LNG S.p.A.</td>
<td>Offshore LNG Toscana (controlled 51% by Endesa and 41% by Amga)</td>
<td>LNG Med Gas Terminal – Falck Group</td>
</tr>
<tr>
<td>SHAREHOLDERS:</td>
<td>100% owned by BG Italia S.p.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAXIMUM VESSEL SIZE:</td>
<td>140,000 m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STORAGE CAPACITY PHASE 1:</td>
<td>2 x 160,000 m³ tanks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHASE 2:</td>
<td>2 x 160,000 m³ tanks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEND-OUT CAPACITY PHASE 1:</td>
<td>8 bcm per year</td>
<td>4 bcm per year</td>
<td>6 - 12 bcm per year</td>
</tr>
<tr>
<td>PHASE 2:</td>
<td>16 bcm per year</td>
<td>Q4 2008</td>
<td>Not available</td>
</tr>
<tr>
<td>START-UP DATE:</td>
<td>Q4 2009</td>
<td>2010 – 2012</td>
<td>Not available</td>
</tr>
<tr>
<td>RESERVED TERMINALLING CAPACITY:</td>
<td>80% capacity to BG for 20 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNG SUPPLY SOURCE:</td>
<td>Primarily Egypt</td>
<td>Environmental, governmental and regional approvals received</td>
<td></td>
</tr>
<tr>
<td>PROJECT COST:</td>
<td>€ 390 million (approximately)</td>
<td>€ 400 million (approximately)</td>
<td>Not available</td>
</tr>
<tr>
<td>STATUS:</td>
<td>Under construction; however, the project is likely to be delayed due to local opposition</td>
<td>Environmental approval received; modifications to the project have been requested</td>
<td>Modifications to application requested</td>
</tr>
</tbody>
</table>

---

12 Source: BG Italia S.p.A.
13 Source: LNG Express
| **GIOIA TAURO – SAN FERDINANDO (CALABRIA)** | **TARANTO (PUGLIA)** | **TARANTO (PUGLIA)** |
| **DEVELOPERS:** Società Petrolifera Gioia Tauro | Enel | Gas Natural |
| **SEND-OUT CAPACITY:** 4.2 – 8 bcm per year | 5 – 9 bcm per year | 8 bcm per year |
| **PROPOSED START-UP DATE:** Not available | Not available | 2009 |
| **PROJECT COST:** Not available | Not available | €600 million (approximately) |
| **STATUS:** Application filed | Project appears on hold | Application filed |

| **VADO LIGURE (LIGURIA)** | **MUGGIA (FRIULI)** | **ZAULE (TRIESTE)** |
| **DEVELOPER:** Enel | Enel | Gas Natural |
| **SEND-OUT CAPACITY:** 5 – 9 bcm per year | 5 – 9 bcm per year | 8 bcm per year |
| **PROPOSED START-UP DATE:** Not available | Not available | 2009 |
| **PROJECT COST:** Not available | Not available | €600 million (approximately) |
| **STATUS:** Application filed, but project appears on hold | Application filed but project rejected by local authority | Application filed |

| **PRIOLLO/AUGUSTA/MELILLI (SICILY)** | **PORTO EMPEDOCLE (SICILY)** | **OFFSHORE TRIESTE** |
| **DEVELOPERS:** Shell Energy Europe and ERG Power & Gas Spa | Nuove Energie | Endesa – Friulia (company partially owned by local government) |
| **SEND-OUT CAPACITY:** 8 bcm per year | Up to 12 bcm per year | 8 bcm |
| **PROPOSED START-UP DATE:** 2010 – 2011 | Not available | 2010 |
| **PROJECT COST:** $400 million (approx) | Not available | Not available |
| **STATUS:** Proposed project | Proposed project | Application filed |
Portugal does not produce any natural gas. The natural gas used in Portugal is imported through a gas pipeline from Algeria through Spain and through the Sines LNG Terminal.

THE SINES TERMINAL

The Sines LNG terminal started operations on 26 October 2003 and has had an immediate impact on local consumption of natural gas, which has increased from 3.1 bcm in 2002 to 4 bcm in 2004. Galp Atlantico, the special purpose vehicle operating the terminal, is a wholly owned subsidiary of Galp Energia (previously Transgas).

The LNG is supplied from the Bonny Island liquefaction facility in Nigeria pursuant to several sale and purchase agreements for a total quantity of gas approximately equivalent to 3.5 bcm. In 2004 and 2005, LNG cargoes from Oman, Qatar and Algeria were also delivered to the Sines terminal.

THIRD-PARTY ACCESS

Pursuant to Article 28 of the Second Gas Directive, Portugal qualifies as an emerging country and, as such, is exempt from third-party access obligations. This exemption is temporary and will expire on the tenth anniversary of the first delivery made pursuant to the first long-term natural gas supply contract.
**EXISTING TERMINAL**

**OWNER/OPERATOR:** Galp Atlântico

**SHAREHOLDER:** Galp Energia SGPS, S.A. (100%)

The Ultimate Shareholders are:
- Portuguese Government (17.711%)
- Parpublica - Participacoes Publicas (SEPS) S.A. (12.293%)
- REN - Rede Electrica Nacional S.A. (18.3%)
- Eni Portugal Investment S.p.A. (33.34%)
- Amorin Energia B.V. (13.312%)
- Iberdrola (4%)
- Gaxia Geral de Depositos (1%)
- Setgas (0.04%)

**MAXIMUM VESSEL SIZE:** 165,000 m³

**STORAGE CAPACITY**

- **EXISTING:** 2 x 120,000 m³ tanks
- **EXPANSION:** 1 x 140,000 m³ tank

**SEND-OUT CAPACITY**

- **EXISTING:** 5.2 bcm per year
- **EXPANSION:** 8.5 bcm per year

**START-UP DATE:** 2003
- **EXPANSION:** Not confirmed

**RESERVED TERMINALLING CAPACITY:** 100% Galp Energia¹⁵

**LNG SUPPLY SOURCES:** Primarily Nigeria but other sources include Algeria, Oman and Qatar

**PROJECT COST:** US$ 263 million (approximately)

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¹⁴ Sources: Galp Atlantico (www.galpatlantico.pt) and Galp Energia SGPS, SA

¹⁵ Portugal has a temporary exemption under Article 28 of the Second Gas Directive from the regulated third-party access requirements (see introduction).
Spain

Spain has limited reserves of natural gas and imports most of the gas that it consumes. In 2004, it is estimated that 27.3 bcm of natural gas were imported into Spain.\(^\text{16}\)

Natural gas consumption in Spain, one of the highest in Europe, has grown quickly and is expected to continue to grow significantly. This is particularly due to an increasing demand for electricity and the progressive replacement of older generation nuclear plants and coal-fired power plants by gas-fuelled power plants.

The Hydrocarbon Act of 1998 implemented the third-party access regime to gas infrastructure in accordance with Directive 2003/55/EC. The Hydrocarbon Act also requires that no more than 60% of natural gas imports shall come from any one country. The objective of this provision is to reduce the dominant position of Algerian gas imports. Competition is increasing in the gas market and there are now more than 30 companies licensed to market gas in Spain.\(^\text{17}\) Many of these companies are now entering into agreements to import LNG into Spain. Spain imported about 17.5 bcm of LNG in 2004 (about 64% of total natural gas import).\(^\text{18}\)

The balance of natural gas is imported from Algeria and Norway by pipelines. About 87% of the LNG presently imported into Spain comes from Algeria, Nigeria and Qatar.

With five terminals currently in operation, Spain is the largest LNG market in Europe.

**BARCELONA, CARTAGENA AND HUELVA LNG TERMINALS**

Enagas operates three LNG regasification terminals in Barcelona, Cartagena and Huelva. Pursuant to Law 62/2003 of 30 December 2003, no shareholder is permitted to hold more than 5% of the shares of Enagas. All shareholders must comply with this provision before the end of 2006. All three terminals are undergoing expansion works.

**BILBAO BAHIA DE BIZKAIA**

The Bahia de Bizkaia LNG terminal is expected to receive LNG from Algeria, Egypt, Libya and the Middle East (including Qatar, Abu Dhabi and Oman). The first LNG carrier unloaded its cargo at the Sagunto terminal in February 2006. Following completion of the first stage of the project, there are plans for further developments which are dependent on market requirements. Such developments would include, in the first phase, the construction of an additional 150,000 m³ LNG storage tank and an increase in send-out capacity to 8 - 9 bcm per year. The second phase would include the construction of two new 150,000 m³ LNG storage tanks and an increase in send-out capacity to 10.2 bcm per year.

**MUGARDOS**

The LNG terminal, developed by Regasificadora del Noroeste S.A. in Mugardos (Galicia), is currently under construction and it is planned to come onstream at the end of 2006. The LNG to be processed at the terminal is expected to come from Algeria, Trinidad and Tobago, Nigeria, Norway and possibly Angola. The terminal will be available to third-party access. There are plans for extension of the storage capacity with two additional 150,000 m³ LNG storage tanks and an increased regasification capacity to 7 bcm per year.

**GASCAN**

Endesa has proposed to build two new LNG terminals in the Canary Islands. The plants in Gran Canaria and Tenerife would each have one tank of 150,000 m³ and a send-out capacity of 210,000 m³/hour. Construction of both terminals is still speculative.

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\(^{16}\) BP Statistical Review of World Energy June 2005
\(^{17}\) Poten & Partners
\(^{18}\) BP Statistical Review of World Energy June 2005
\(^{19}\) LNG Express - 15 February 2006
EXISTING TERMINALS

| 1 | HUELVA|

**OWNER/OPERATOR:** Enagas S.A.

**SHAREHOLDERS:**
- Gas Natural (9.2%)
- Bancaja (5%)
- Sagane Inversiones (5.02%)
- CIC, S.L (Cajastur) (5%)
- BP Espana, SA (5%)
- Incomed (CAM) (5.03%)
- Others (65.75%)

**MAXIMUM VESSEL SIZE:** 140,000 m³

**STORAGE CAPACITY**

- **EXISTING:**
  - 1 x 60,000 m³ tank
  - 1 x 100,000 m³ tank
  - 1 x 150,000 m³ tank

- **EXPANSION:**
  - 1 x 150,000 m³ tanks

**SEND-OUT CAPACITY**

- **EXISTING:** 7.9 bcm per year (900,000 (n)m³/h)
- **EXPANSION:** 11.8 bcm per year (1,350,000 (n)m³/h)

**START-UP DATE:**

- **EXISTING:** 1988
- **EXPANSION:** Q4 2006

**RESERVED TERMINALLING CAPACITY:** Gas Natural and others

**LNG SUPPLY SOURCES:** Abu Dhabi, Algeria, Egypt, Libya, Malaysia, Nigeria, Oman, Qatar and Trinidad and Tobago

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20 Sources: Enagas (press service) and www.enagas.es.
### CARTAGENA

- **OWNER/OPERATOR:** Enagas S.A.
- **MAXIMUM VESSEL SIZE:** 140,000 m³
- **STORAGE CAPACITY**
  - **EXISTING:** 1 x 55,000 m³ tank
  - 1 x 127,000 m³ tank
  - 1 x 105,000 m³ tank
- **EXPANSION:** 1 x 150,000 m³ tank
- **SEND-OUT CAPACITY**
  - **EXISTING:** 7.9 bcm per year (900,000 (n)m³/h)
  - 9.2 bcm per year (1,200,000 (n)m³/h)
- **START-UP DATE:** 1989
- **RESERVED TERMINALLING CAPACITY:** Gas Natural and others
- **LNG SUPPLY SOURCES:** Abu Dhabi, Algeria, Egypt, Libya, Malaysia, Nigeria, Oman, Qatar and Trinidad and Tobago

### BARCELONA

- **OWNER/OPERATOR:** Enagas S.A.
- **MAXIMUM VESSEL SIZE:** 140,000 m³
- **STORAGE CAPACITY**
  - **EXISTING:** 2 x 80,000 m³ tanks and 2 x 40,000 m³ tanks
  - 1 x 150,000 m³ tank
  - **SECOND EXPANSION:** 1 x 150,000 m³ tank
- **SEND-OUT CAPACITY**
  - **EXISTING:** 10.5 bcm per year (1,200,000 (n)m³/h)
  - 14.5 bcm per year (1,650,000 (n)m³/h)
  - **SECOND EXPANSION:** 15.8 bcm per year (1,800,000 (n)m³/h)
- **START-UP DATE:** 1969
- **RESERVED TERMINALLING CAPACITY:** Not confirmed

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21 Sources: Enagas (press service) and www.enagas.es.
22 Sources: Enagas (press service) and www.enagas.es.
### Bilbao Bahía de Bizkaia

<table>
<thead>
<tr>
<th><strong>OWNER/OPERATOR:</strong></th>
<th>Bahía de Bizkaia Gas S.L.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SHAREHOLDERS:</strong></td>
<td>BP (25%)</td>
</tr>
<tr>
<td></td>
<td>Iberdrola (25%)</td>
</tr>
<tr>
<td></td>
<td>Repsol YPF (25%)</td>
</tr>
<tr>
<td></td>
<td>Ente Vasco de la Energia (EVE) (25%)</td>
</tr>
<tr>
<td><strong>MAXIMUM VESSEL SIZE:</strong></td>
<td>145,000 m³</td>
</tr>
<tr>
<td><strong>STORAGE CAPACITY</strong></td>
<td>2 x 150,000 m³ tanks</td>
</tr>
<tr>
<td><strong>SEND-OUT CAPACITY</strong></td>
<td>7 bcm per year (800,000 m³/h)</td>
</tr>
<tr>
<td><strong>START-UP DATE:</strong></td>
<td>2003</td>
</tr>
<tr>
<td><strong>RESERVED TERMINALLING</strong></td>
<td>48% Bahía de Bizkaia Electricidad</td>
</tr>
<tr>
<td><strong>LNG SUPPLY SOURCES:</strong></td>
<td>Abu Dhabi, Australia, Algeria, Nigeria, Qatar, Trinidad &amp; Tobago</td>
</tr>
<tr>
<td><strong>PROJECT COST:</strong></td>
<td>€ 320 million (approximately)</td>
</tr>
<tr>
<td><strong>EXPANSION COST:</strong></td>
<td>€ 120 million (approximately)</td>
</tr>
</tbody>
</table>

23 Sources: BP and Bahía de Bizkaia Gas S.L (www.bahiasdebizkaia.com)
| SAGUNTO (VALENCIA) ²⁴ |

**OPERATOR:** Planta de Regasificación de Sagunto S.A.

**DEVELOPERS:**
- Union Fenosa Gas (42.5%)
- Iberdrola (30%)
- Endesa (20%)
- Oman Oil Company (7.5%)

**MAXIMUM VESSEL SIZE:** 145,000 m³

**STORAGE CAPACITY**
- **EXISTING:** 2 x 150,000 m³
- **EXPANSION:** 2 x 150,000 m³

**SEND-OUT CAPACITY**
- **EXISTING:** 6.6 bcm per year (750,000 (n)m³/h)
- **EXPANSION:** 11.4 bcm per year (1,300,000 (n)m³/h)

**START-UP DATE:**
- **EXISTING:** 2006
- **EXPANSION:** Not confirmed

**RESERVED TERMINALLING CAPACITY:** Union Fenosa and others

**LNG SUPPLY SOURCES:** Primarily Qatar
Other expected sources are Algeria, Libya, Egypt, Abu Dhabi, Oman and Yemen

**PROJECT COST:** € 340 million (approximately)
### EL FERROL LNG (MUGARDOS – GALICIA)

<table>
<thead>
<tr>
<th>OPERATOR:</th>
<th>Regasificadora del Noroeste, S.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHAREHOLDERS:</td>
<td>Union Fenosa 21%</td>
</tr>
<tr>
<td></td>
<td>Endesa 21%</td>
</tr>
<tr>
<td></td>
<td>Tojeiro Group 18%</td>
</tr>
<tr>
<td></td>
<td>Sonatrach 10%</td>
</tr>
<tr>
<td></td>
<td>Others 30%</td>
</tr>
<tr>
<td>MAXIMUM VESSEL SIZE:</td>
<td>140,000 m³</td>
</tr>
<tr>
<td>STORAGE CAPACITY:</td>
<td>2 x 150,000 m³ tanks</td>
</tr>
<tr>
<td>SEND-OUT CAPACITY:</td>
<td>3.6 bcm per year (415,000 (n)m³/h)</td>
</tr>
<tr>
<td>START-UP DATE:</td>
<td>Q4 2006</td>
</tr>
<tr>
<td>RESERVED TERMINAL CAPACITY:</td>
<td>Union Fenosa, Endesa and others</td>
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<tr>
<td>LNG SUPPLY SOURCE:</td>
<td>Algeria</td>
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<tr>
<td>PROJECT COST:</td>
<td>€ 343 million (approximately)</td>
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### PROPOSED TERMINALS

<table>
<thead>
<tr>
<th>DEVELOPER:</th>
<th>LAS PALMAS DE GRAN CANARIA</th>
<th>SANTA CRUZ DE TENERIFE</th>
</tr>
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<tbody>
<tr>
<td>STORAGE CAPACITY:</td>
<td>1 x 150,000 m³</td>
<td>1 x 150,000 m³</td>
</tr>
<tr>
<td>SEND-OUT CAPACITY:</td>
<td>210,000 (n)m³/h</td>
<td>210,000 (n)m³/h</td>
</tr>
<tr>
<td>STATUS:</td>
<td>Proposed project</td>
<td>Proposed project</td>
</tr>
</tbody>
</table>

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25 Sources: Union Fenosa (press service) and at www.unionfenosa.es
Turkey

During the last few years, Botas, the state-controlled gas company, has entered into many gas purchase agreements. As a result, Turkey is currently oversupplied with gas. Botas is attempting to offload the excess gas through a release programme of up to 16 bcm per year.

**MARMARA EREGLISI**

Since 1994, LNG has been imported into Turkey through the LNG terminal of Marmara Ereglisi. The LNG deliveries are made pursuant to long-term sale and purchase agreements between, firstly, Botas and Sonatrach (for 4 bcm per year or 3.68 Mtpa) and, secondly, between Botas and Nigerian LNG (1.2 bcm per year or 0.89 Mtpa). Spot cargoes from Qatar and Australia are also delivered at the Marmara Ereglisi terminal.

**THE ALIAGA LNG TERMINAL**

The Egegaz LNG terminal at Aliaga has been completed since 2002 but is not yet in operation because it is not currently connected to the national pipeline grid. Egegaz is also waiting for an operating licence from the Turkish regulator, the Energy Market Regulatory Authority.
### EXISTING TERMINALS

<table>
<thead>
<tr>
<th></th>
<th><strong>MARMARA EREGLISI</strong>&lt;sup&gt;26&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner/Operator:</td>
<td>Botas Petroleum Pipeline Corporation</td>
</tr>
<tr>
<td>Shareholder:</td>
<td>Turkish Petroleum Corporation</td>
</tr>
<tr>
<td>Maximum Vessel Size:</td>
<td>135,000 m³</td>
</tr>
<tr>
<td>Storage Capacity:</td>
<td>3 x 85,000 m³ tanks</td>
</tr>
<tr>
<td>Send-Out Capacity:</td>
<td>5.2 bcm per year</td>
</tr>
<tr>
<td>Start-Up Date:</td>
<td>1994</td>
</tr>
<tr>
<td>Reserved Terminalling Capacity:</td>
<td>100% capacity Botas&lt;sup&gt;27&lt;/sup&gt;</td>
</tr>
<tr>
<td>LNG Supply Sources:</td>
<td>Primarily from Algeria and Nigeria but other sources include Qatar and Yemen</td>
</tr>
<tr>
<td>Project Cost:</td>
<td>US$ 364 million (approximately)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>ALIAGA (IZMIR)</strong>&lt;sup&gt;28&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>Owner/Operator:</td>
<td>Egegaz LNG</td>
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<tr>
<td>Shareholder:</td>
<td>Colagoglu Group</td>
</tr>
<tr>
<td>Maximum Vessel Size:</td>
<td>135,000 m³</td>
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<tr>
<td>Storage Capacity:</td>
<td>2 x 140,000 m³</td>
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<tr>
<td>Send-Out Capacity:</td>
<td>6 bcm per year</td>
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<tr>
<td>Start-Up Date:</td>
<td>Completed but not yet in operation</td>
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<tr>
<td>Reserved Terminalling Capacity:</td>
<td>Own use terminal</td>
</tr>
<tr>
<td>Project Cost:</td>
<td>US$ 600 million (approximately)&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
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</table>

### PROPOSED TERMINAL

<table>
<thead>
<tr>
<th></th>
<th><strong>IZKENDERUN</strong></th>
</tr>
</thead>
</table>

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<sup>26</sup> Sources: Botas (www.botas.gov.tr) and Poten & Partners, LNG in World Market (www.poten.com)

<sup>27</sup> In 2001, the Turkish Parliament passed an act abolishing Botas’ monopoly. Accordingly, Botas must undertake a capacity release programme under which 10% of the terminal capacity must be released to third parties annually until its capacity is no more than 20%.

<sup>28</sup> Sources: LNG express (www.lngexpress.com) and Poten & Partners LNG in World Market (www.poten.com)

<sup>29</sup> Source: Poten & Partners, LNG in World Market (www.poten.com)
The import of LNG into Europe occurred for the first time in the UK. From 1959 until the mid-1990s, LNG was imported from Algeria through the LNG terminal on Canvey Island. As gas production from the North Sea increased, LNG imports decreased and were gradually phased out. However, the decline of the North Sea gas reserves and the rapid increase in gas demand mean that the United Kingdom has become a net importer of gas. The British Government has been encouraging the development of import infrastructure including LNG facilities and pipelines.

Currently, there is one LNG import terminal in operation (Grain LNG) in the UK and two terminals are under construction (Dragon LNG and South Hook LNG). Other projects are also being discussed.

**Grain LNG** has been the quickest project to come onstream. National Grid, the owner of the terminal, converted one of its peakshaving LNG facilities into an LNG import terminal. The facility was commissioned in July 2005 and the first commercial cargo arrived in September 2005. The current terminal capacity was acquired by BP and Sonatrach in October 2003 to import 3.3 Mtpa (4.4 bcm per year) of LNG for 20 years. The terminal is being expanded to accommodate a further capacity of 6.5 Mtpa (9.3 bcm per year) and is expected to be completed by the end of 2008. The second tranche capacity has been allocated to Centrica, Gaz de France and Sonatrach. Grain LNG is planning a further expansion and has proposed an additional capacity of 5 Mtpa (6.9 bcm per year) on an open-season basis. To comply with the requirements of the national regulator (OFGEM), the terminal is required to have a use-it-or-lose-it mechanism, which means that the primary holder of regasification capacity must use their capacity or offer it to the secondary market. The financing of the terminal and its expansion has been partially financed by loans from the European Investment Bank.

**Dragon LNG**

The Dragon LNG terminal, located at Milford Haven in Wales, is sponsored by Petroplus, BG Group and Petronas. Dragon LNG will initially have the capacity to import 4.4 Mtpa of LNG. It may subsequently expand its terminal capacity to 6.6 Mtpa if planning permission is granted. Dragon LNG is expected to come onstream at the end of 2007. The users of Dragon LNG will be BG and Petronas. BG and Petronas have entered into 20-year terminal use agreements with Dragon LNG for 50% each of the terminal capacity. Petronas has entered into an agreement to onsale its entire output to Centrica (2.2 Mtpa or 3 bcm per year).

South Hook LNG, sponsored by ExxonMobil and QatarGas, is also located at Milford Haven. Chicago Bridge & Iron is currently building the terminal, which is expected to be completed by late 2007. The contract for the expansion of the terminal has also been awarded to Chicago Bridge & Iron. LNG will be supplied from the Qatar Liquefied Gas Co. Ltd. (II) LNG plant built at Ras Laffan. ExxonMobil Gas Marketing Europe will buy the gas transiting through the terminal.

**Canvey Island LNG**

Canvey Island was Europe’s first commercial LNG import terminal. Deliveries of LNG to the UK began in 1964 from the United States and Algeria. The site was converted in the 1990s into a Liquefied Petroleum Gas (“LPG”) plant. Canvey Island will be the fourth UK LNG terminal if it secures the necessary planning permission (lodged in early January 2006). The Canvey Island sponsors (Centrica, LNG Japan, Calor Gas and Osaka Gas) plan to convert the existing LPG terminal (owned by Calor Gas) into an LNG terminal with a capacity of 3.9 Mtpa of LNG (5.4 bcm of natural gas). The proposal includes the construction of two 120,000 m³ LNG storage tanks, the reinforcement of the existing jetty and a new connection to the National Transmission System. The terminal is expected to start receiving LNG in 2010. The project costs are estimated between £ 150 million and £ 200 million.

**Anglesey LNG**

Canatxx Energy Ventures, a gas storage operator, has proposed to build an LNG terminal at Amlwch on the Isle of Anglesey off the coast of Wales. The site is situated near the company’s proposed Fleetwood storage facility on the northwest coast of England. The storage tanks and regasification infrastructure would be installed at the Great Lakes Chemical site, which is no longer in use. The project has encountered opposition from local groups and remains at the conceptual stage.
TEESSIDE LNG

At the end of December 2005, ConocoPhillips announced it was pursuing a new LNG terminal project in Teesside, northeast of England. The terminal would receive LNG from the Qatargas 3 project, sponsored by ConocoPhillips and QatarGas. ConocoPhillips plans to build an integrated receiving terminal and combined heat and power plant.

ConocoPhillips plans to build the terminal on the existing Norsea Oil Terminal site and anticipates to receive final planning approval by mid-2007. The terminal could be operational by 2011.

OFFSHORE TEESSIDE

Excelerate Energy announced in May 2006 that it plans to develop an offshore LNG terminal using a regasification facility on board a ship. Deliveries of LNG may start at the end of 2006, if all necessary approvals are obtained by that time.

<table>
<thead>
<tr>
<th>EXISTING TERMINALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATOR:</td>
</tr>
<tr>
<td>SHAREHOLDERS:</td>
</tr>
<tr>
<td>MAXIMUM VESSEL SIZE:</td>
</tr>
<tr>
<td>STORAGE CAPACITY</td>
</tr>
<tr>
<td>PHASE 1:</td>
</tr>
<tr>
<td>PHASE 2:</td>
</tr>
<tr>
<td>PHASE 3:</td>
</tr>
<tr>
<td>SEND-OUT CAPACITY</td>
</tr>
<tr>
<td>PHASE 1:</td>
</tr>
<tr>
<td>PHASE 2:</td>
</tr>
<tr>
<td>PHASE 3:</td>
</tr>
<tr>
<td>START-UP DATE</td>
</tr>
<tr>
<td>PHASE 1:</td>
</tr>
<tr>
<td>PHASE 2:</td>
</tr>
<tr>
<td>PHASE 3:</td>
</tr>
<tr>
<td>RESERVED TERMINALLING CAPACITY</td>
</tr>
<tr>
<td>PHASE 1:</td>
</tr>
<tr>
<td>PHASE 2:</td>
</tr>
<tr>
<td>PHASE 3:</td>
</tr>
<tr>
<td>LNG SUPPLY SOURCES:</td>
</tr>
<tr>
<td>PROJECT COST:</td>
</tr>
<tr>
<td>PHASE 1:</td>
</tr>
<tr>
<td>PHASE 2:</td>
</tr>
<tr>
<td>PHASE 3:</td>
</tr>
</tbody>
</table>

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30 Sources: Grain LNG website (www.grainlng.com) and Ofgem (www.ofgem.gov.uk)
31 In 2005, Grain LNG was granted by Ofgem an exemption from the regulated third-party access requirements introduced by the Gas (Third-Party Access) Regulations 2004 pursuant to the Second Gas Directive. This exemption is in relation to 100% of the initial and expansion capacity for a period of 25 years from the date of the beginning of commercial operations.
1. **DRAGON LNG**

**OWNER/OPERATOR:** Dragon LNG Ltd

**SHAREHOLDERS:**
- Petroplus (20%)
- BG Group (50%)
- Petronas (30%)

**MAXIMUM VESSEL SIZE:** 165,000 m³

**STORAGE CAPACITY**
- **PHASE 1:** 2 x 168,000 m³ tanks
- **PHASE 2:** 1 x 168,000 m³ tank (planning consent given)

**SEND-OUT CAPACITY**
- **PHASE 1:** 6 bcm per year
- **PHASE 2:** 9 bcm per year

**START-UP DATE**
- **PHASE 1:** Q4 2007
- **PHASE 2:** Not yet confirmed

**RESERVED TERMINALING CAPACITY:**
- 50% BG
- 50% Petronas

**LNG SUPPLY SOURCES:** Egypt and Trinidad and Tobago

**PROJECT COST:** US$ 350 million (approximately)

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2. **SOUTH HOOK LNG**

**OPERATOR:** South Hook Terminal Company Ltd.

**SHAREHOLDERS:**
- ExxonMobil (30%)
- Qatar Petroleum (70%)

**MAXIMUM VESSEL SIZE:** 250,000 m³

**STORAGE CAPACITY**
- **PHASE 1:** 3 x 155,000 m³ tanks
- **PHASE 2:** 2 x 155,000 m³ tanks

**SEND-OUT CAPACITY**
- **PHASE 1:** 10.5 bcm per year
- **PHASE 2:** 21 bcm per year

**START-UP DATE**
- **PHASE 1:** Q4 2007/Q1 2008
- **PHASE 2:** Q4 2009/Q1 2010

**RESERVED TERMINALING CAPACITY:**
- 100% of Phase 1 South Hook Gas Company Limited (a 70/30 Qatar Petroleum/ExxonMobil joint venture) for 25 years

Secondary capacity trading arrangements are being developed.

---

32 Source: Dragon LNG website (www.energyforwales.co.uk)

33 In 2005, Ofgem granted Dragon LNG an exemption to the regulated third-party access regime introduced by the Gas (Third-Party Access) Regulations 2004. This exemption relates to 100% of the initial and expansion capacity for a period of 20 years from the date of the beginning of commercial operations.

34 Sources: South Hook LNG website (www.southhooklng.co.uk) and Ofgem (www.ofgem.gov.uk)

35 In 2005, Ofgem granted to South Hook LNG an exemption from the regulated third-party access requirements introduced by the Gas (Third-Party Access) Regulations 2004. This exemption relates to 100% of the initial and expansion capacity for a period of 25 years from the date of the beginning of commercial operation.
<table>
<thead>
<tr>
<th>LNG SUPPLY SOURCES:</th>
<th>Qatar</th>
</tr>
</thead>
</table>

**PROJECT COST**

<table>
<thead>
<tr>
<th>PHASE 1:</th>
<th>US$ 750 million (approximately)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHASE 2:</td>
<td>US$ 325 million (approximately)</td>
</tr>
</tbody>
</table>

### PROPOSED TERMINALS

<table>
<thead>
<tr>
<th><strong>1</strong></th>
<th><strong>CANVEY ISLAND LNG</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATOR:</strong></td>
<td>Canvey Island Project Co.</td>
</tr>
<tr>
<td><strong>SHAREHOLDERS:</strong></td>
<td>Centrica, LNG Japan, Calor Gas and Osaka Gas</td>
</tr>
<tr>
<td><strong>STORAGE CAPACITY:</strong></td>
<td>2 x 120,000 m³</td>
</tr>
<tr>
<td><strong>SEND-OUT CAPACITY:</strong></td>
<td>5.4 bcm per year</td>
</tr>
<tr>
<td><strong>PROPOSED START-UP DATE:</strong></td>
<td>2010</td>
</tr>
<tr>
<td><strong>PROJECT COST:</strong></td>
<td>Between £ 150 million and £ 200 million</td>
</tr>
<tr>
<td><strong>STATUS</strong></td>
<td>Planning permission deposited in January 2006 with the Castlepoint Borough Council</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>2</strong></th>
<th><strong>TEESSIDE LNG</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEVELOPER:</strong></td>
<td>ConocoPhillips</td>
</tr>
<tr>
<td><strong>LOCATION:</strong></td>
<td>Teesside, northeast of England</td>
</tr>
<tr>
<td><strong>PROPOSED START-UP DATE:</strong></td>
<td>2011</td>
</tr>
<tr>
<td><strong>STATUS:</strong></td>
<td>Proposed project</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>3</strong></th>
<th><strong>TEESSIDE LNG – OFFSHORE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEVELOPER:</strong></td>
<td>Excelerate Energy</td>
</tr>
<tr>
<td><strong>LOCATION:</strong></td>
<td>Offshore Teesside</td>
</tr>
<tr>
<td><strong>PROPOSED START-UP DATE:</strong></td>
<td>2006</td>
</tr>
<tr>
<td><strong>STATUS:</strong></td>
<td>Proposed project</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>4</strong></th>
<th><strong>ANGLESEY LNG</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEVELOPER:</strong></td>
<td>Canatxx Energy Ventures</td>
</tr>
<tr>
<td><strong>LOCATION:</strong></td>
<td>Anglesey</td>
</tr>
<tr>
<td><strong>STATUS:</strong></td>
<td>Unknown</td>
</tr>
</tbody>
</table>

36 LNG Express, 15 February 2005.
The following pages briefly describe a number of proposed LNG terminals in potentially new LNG importing countries in Europe.
### Cyprus

**Vassiliko**

- **Developers:** Cypriot Government/Cyprus Energy Authority
- **Send-out Capacity:** 0.7 bcm per year
- **Proposed Start-up Date:** 2009
- **LNG Supply Source:** Egypt is a likely source; other sources are also being considered
- **Status:** Terminal under development

### Ireland

**Tarbert (County Kerry)**

- **Developer:** Shannon LNG (subsidiary of Hess LNG)
- **Proposed Start-up Date:** 2011
- **Cost:** € 400 million
- **Status:** Proposed terminal

### Germany

**Wilhelmshaven**

- **Developer:** E.on
- **Send-out Capacity:** 10 bcm per year
- **Proposed Start-up Date:** 2010
- **Cost:** US$ 600 million
- **Status:** E.on is reported to have started a technical and economic feasibility study
### The Netherlands

#### Eemshaven

<table>
<thead>
<tr>
<th>Developers</th>
<th>ConocoPhillips and Essent Energie B.V.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Start-up Date</td>
<td>2010</td>
</tr>
<tr>
<td>Status</td>
<td>In June 2005, ConocoPhillips and Essent Energie B.V. signed a Memorandum of Understanding for a feasibility study of the terminal. A final decision on the potential investment is due in 2007.</td>
</tr>
</tbody>
</table>

#### Maasvlakte (near Rotterdam) or Groningen

<table>
<thead>
<tr>
<th>Developers</th>
<th>Gasunie and Vopak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send-out Capacity</td>
<td>6 - 8 bcm</td>
</tr>
<tr>
<td>Proposed Start-up Date</td>
<td>2010</td>
</tr>
<tr>
<td>Cost</td>
<td>€ 300 - 400 million</td>
</tr>
<tr>
<td>Status</td>
<td>Gasunie and Vopak have undertaken a feasibility study for an LNG terminal in both locations. The study looks at issues related to safety, environment, connection to the Dutch gas network, client requirements and nautical considerations for LNG vessels. If successful and after completion of the administrative procedure to obtain licences, the construction of the terminal could start in 2007.</td>
</tr>
</tbody>
</table>

#### Lion Gas LNG

<table>
<thead>
<tr>
<th>Developer</th>
<th>4Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Capacity</td>
<td>3 x 165,000 m³ (with potential expansion up to six storage tanks)</td>
</tr>
<tr>
<td>Send-out Capacity</td>
<td>6 bcm</td>
</tr>
<tr>
<td>Proposed Start-up Date</td>
<td>Q4 2009</td>
</tr>
<tr>
<td>Cost</td>
<td>US$ 495 million</td>
</tr>
<tr>
<td>Status</td>
<td>Terminal under development</td>
</tr>
<tr>
<td></td>
<td>An environmental impact statement for the proposed terminal was submitted in August 2005</td>
</tr>
</tbody>
</table>
### Poland

<table>
<thead>
<tr>
<th>Developer</th>
<th>PGNiG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Capacity:</td>
<td>2 x 100,000 m³</td>
</tr>
<tr>
<td>Send-out Capacity:</td>
<td>3 - 5 bcm</td>
</tr>
<tr>
<td>Proposed Start-up Date:</td>
<td>Q4 2010</td>
</tr>
<tr>
<td>Cost:</td>
<td>€ 400 million</td>
</tr>
<tr>
<td>LNG Supply Source:</td>
<td>LNG may be imported from Algeria, Egypt, Libya, Nigeria, Norway and Qatar</td>
</tr>
<tr>
<td>Status:</td>
<td>In early 2006, PGNiG signed letters of intent with the Port of Gdansk Authority and the Szczecin and Swinoujscie Seaports Authority for the development of the LNG terminal. PGNiG recently selected a consortium led by PricewaterhouseCoopers Polska to prepare a feasibility study which is expected to be completed at the end of 2006.</td>
</tr>
</tbody>
</table>

### Other Possible LNG Import Terminal Projects

- Albania (Fieri District)
- Croatia (Omisalj)
- Latvia
- Romania
- Sweden
Acknowledgements

King & Spalding would like to acknowledge and thank the following organisations for their help and assistance in the preparation of this report: Fluxys, Gaz de France, BG Group, ExxonMobil, Galp Energia, DEPA, BP, Enagas, National Grid, Union Fenosa, Botas, LNG Japan Corporation, Commission de Régulation de l’Energie (CRE), Commission de Régulation de l’Electricité et du Gaz (CREG), Entidade Reguladora dos Serviços Energéticos (ERSE), Comisión Nacional de Energía (CNE) and The Office of Gas and Electricity Market (Ofgem).

Disclaimer

This report is written as a general guide only. It is not intended to contain legal advice which should be sought as appropriate in relation to a particular matter. For further information on the issues reported here, please contact Philip Weems or Susan Beck (please see contact details below).

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