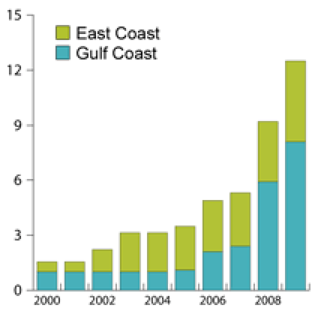
Last Updated: July 28, 2009

What role does liquefied natural gas (LNG) play as an energy source for the United States?

On an annual basis over the past five years, the United States imported between 13% and 16% of its natural gas requirements. Most of these imports were in gaseous form delivered by pipeline from Canada. However, natural gas imports have also come in liquid form from overseas. Between 1% and 3% of U.S. demand for natural gas was met by LNG in the past five years.

U.S. LNG import capacity has increased sharply.

U.S. Capacity to Receive LNG Imports, 2000-2009 (Billion Cubic Feet per Day)

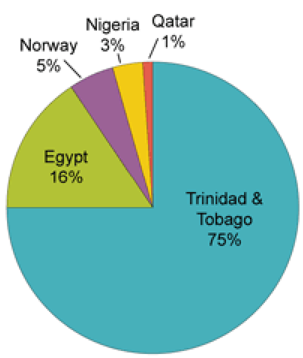


Source: Energy Information Administration, Office of Oil and Gas

See larger graph on last page

Trinidad and Tobago provided 75% of U.S. LNG imports in 2008.

Sources of LNG to the United States, 2008 (Percent)



Source: Energy Information Administration, Office of Oil and Gas, based on data from the Office of Fossil Energy, U.S. Department of Energy.

See larger graph on last page

What Is LNG?

LNG is natural gas that has been cooled to about minus 260 degrees Fahrenheit for shipment and/or storage as a liquid. The volume of the gas in its liquid state is about 600 times less than in its gaseous form. In this compact form, natural gas can be shipped in special tankers to receiving terminals in the United States and other importing countries. At these terminals, the LNG is returned to a gaseous form and transported by pipeline to distribution companies, industrial consumers, and power plants.

Did You Know?

Even though the United States is primarily an importer of LNG, it is also an exporter. The only LNG export facility, and the oldest active LNG marine terminal in the United States, is located in Kenai, Alaska. The terminal has exported small volumes of LNG to Japan almost continuously since beginning operations in 1969.

Historically, liquefying natural gas provided a means of moving it long distances where pipeline transport was not feasible, allowing access to natural gas from regions with vast production potential that were too distant from end-use markets to be connected by pipeline. Currently, the worldwide LNG industry has grown such that distance is only one of many factors that may influence the development of an LNG project.

U.S. LNG Import Capacity Is Expanding

LNG imports to the United States were generally not viewed as competitive with domestic supplies of natural gas and pipeline imports from Canada through the 1980s and 1990s, resulting in low levels of LNG imports during that time period. That perception began to change by the early 2000s when domestic gas production experienced a period of decline and U.S. natural gas prices rose dramatically. Now, not only have two terminals reopened that were idled when gas prices fell in the early 1980s, but two new terminals in North America opened in 2005 (including the first offshore terminal in the world), four new terminals opened in 2008, and two more are set to open in 2009.

LNG import capacity is expected to be more than six times greater in 2009 than it was at the beginning of the decade. This increase in LNG receiving capacity provides the potential for growing U.S. LNG imports in coming years. Annual U.S. LNG imports are projected to exceed 1 trillion cubic feet by 2015.[1] However, LNG imports still currently account for a small portion of natural gas requirements in the United States, at just 1.5% in 2008.

Growth in LNG imports to the United States has been uneven in recent years, with substantial changes in year-over-year imports as a result of suppliers' decisions to either bring spare cargos to the United States or to divert cargos to countries where prices may be higher. In 2007, low natural gas prices in several key LNG-consuming countries outside of North America resulted in a surplus in world supplies of LNG and an influx of cargos to the North American market, which is by far the largest regional natural gas market in the world. When prices outside of North America increased in 2008, U.S. LNG imports declined 54% from the 2007 high of 771 billion cubic feet to 352 billion cubic feet (Bcf).

During periods of high global demand for LNG, U.S. prices are generally not competitive with prices offered by buyers in other countries. This is because countries like Japan and South Korea, the two largest LNG-consuming countries in the world, are almost entirely dependent on LNG to meet their substantial natural gas demand. These countries often link LNG prices directly to the price of crude oil, which on an energy-equivalent basis has recently been significantly more expensive than natural gas in North America. The final destination for LNG supplies directed toward the United States and Europe (often referred to as Atlantic Basin trade) is largely determined by the price of natural gas in those competing national markets. However, other factors such as existing contracts (some with prices linked to oil prices), available regasification capacity, and available storage also play a role.

Where Do U.S. LNG Imports Come From?

Deliveries of LNG from Trinidad and Tobago, in the southern Caribbean Sea, account for the majority of LNG imports to the United States. The Atlantic LNG facility located in Port Fortin, Trinidad and Tobago, now produces nearly 700 Bcf a year. In recent years, several African countries, including Egypt, Equatorial Guinea, and Nigeria, have also supplied LNG to the United States. Algeria, the African country that until 1995 was the sole supplier of LNG to the United States, has also shipped LNG to the United States in recent years, but on an infrequent basis.

Supplies also have started to arrive from the Snohvit LNG project in Norway. The Snohvit project is the first LNG export project in Western Europe. In the Middle East, Qatar, the largest LNG exporter in the world, has infrequently delivered LNG to the United States. As Qatar continues to expand its production capacity in the next couple of years, regular deliveries to the United States are expected to occur. In 2009, Russia and Yemen for the first time will become LNG exporters. However, supplies from these countries are not expected to reach the United States on a regular basis.

Learn More

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- The Global LNG Market
- LNG Projections to 2030
- Natural Gas Monthly

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[1] However, EIA projects a gradual decline in LNG imports after 2015. Additional details are available in the EIA report, *Updated Annual Energy Outlook 2009 (Reference Case Service Report) SR/OIAF/2009-03*, (Washington, DC, April 2009), Table 13.

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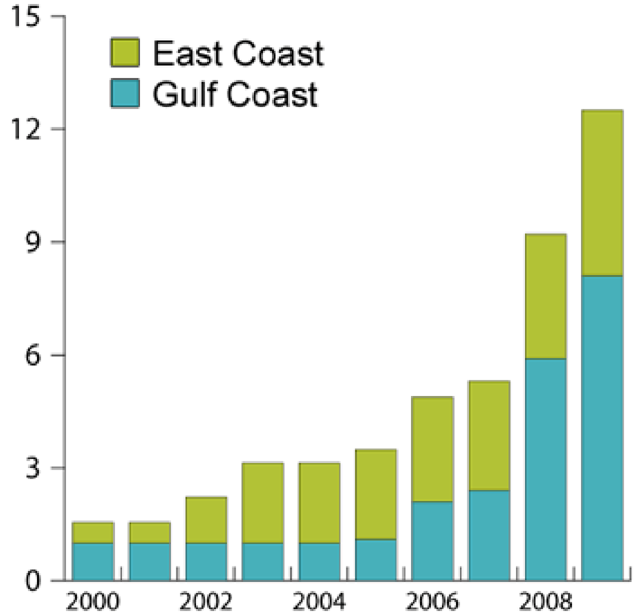

Source: Energy Information Administration, Office of Oil and Gas

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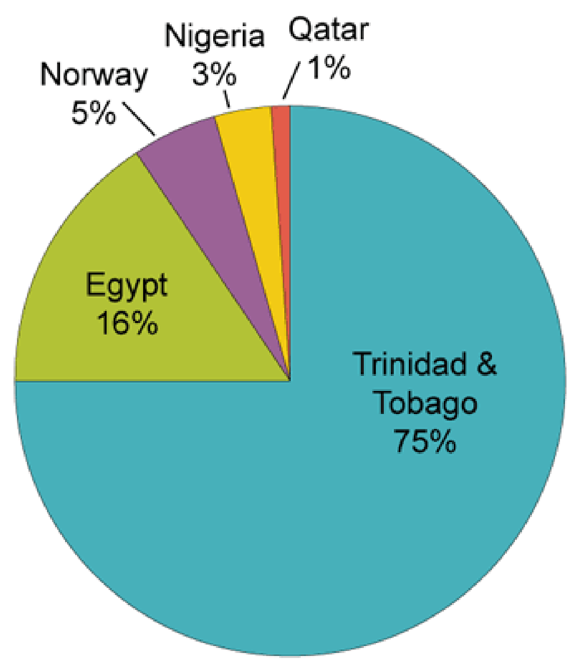

Source: Energy Information Administration, Office of Oil and Gas, based on data from the Office of Fossil Energy, U.S. Department of Energy.