



Liquefied Natural Gas (LNG)

A Bright Present and a Bright Future

Background

The United States has an abundance of natural gas. It is clean burning and produces fewer greenhouse gas emissions than other fossil fuels.

Natural gas is a vital energy source and is commonly used to heat homes and run highly-efficient electric power plants; manufacture chemicals and fertilizers; and fuel trucks, locomotives, cruise ships, and cargo vessels.

In the United States, most natural gas is delivered in its gaseous form by pipeline. Natural gas can also be delivered overseas and to places not reachable by pipeline in a liquefied form, called liquefied natural gas (LNG). Thanks to the shale revolution, the United States is now the top producer of natural gas and one of the largest exporters of LNG. To date, the United States has exported LNG to more than 35 countries across five continents.

The U.S. Department of Energy's (DOE) Office of Fossil Energy plays a special role in the natural gas sector as the Nation's regulatory authority



Image Source: Dominion Energy's Cove Point Liquefaction Plant in Lusby, MD.

for natural gas imports and exports, including LNG.

LNG Basics

LNG is natural gas that has been cooled to a liquid by chilling it to about -260 degrees Fahrenheit (-162 degrees Celsius), reducing its volume about 600 times. Liquefying natural gas is a way to move it long distances when pipeline transport isn't feasible. That flexibility helps to create new markets.

Transportation

LNG is most often transported in large, specially designed, double-hulled ships, which keep the cargo safe and insulated from damage. LNG can also reach remote or smaller markets through "virtual pipelines" that transport LNG by rail, truck, barges, or small ships. This broad reach is ideal for locations that don't have a natural

gas pipeline infrastructure, are not near a port that can receive large LNG tankers, or are in small markets such as islands and remote locations.

When it reaches its destination, LNG is converted back into a gas at a receiving terminal. It can then be transported by pipeline to end users.

Customers for LNG Shipments

- Power plants
- Homes and businesses
- Manufacturing facilities
- Vehicle fleet operators
- Refueling stations for LNG and compressed natural gas vehicles
- LNG-powered marine vessels.

Benefits of LNG Exports

Because natural gas is cleaner-burning and the least carbon-intensive fossil fuel, many countries are looking to utilize natural gas and LNG to support global emissions objectives. Some of

