Onshore Regasification

We have developed large and technically advanced LNG regasification terminals worldwide: in Italy, the UK and the U.S.

South Hook Terminal

Our venture with QatarEnergy operates Europe's largest terminal at South Hook, Milford Haven in Wales, UK. South Hook received its commissioning cargo in 2009. Since then South Hook has received, re-gasified and delivered LNG equivalent to around 15% of the U.K.'s gas needs every year. At full capacity South Hook could meet around one fifth of Britain's gas needs.

15.6 MTA LNG receiving terminal

Five **155,000 m³** LNG storage tanks

15 Submerged Combustion Vaporizers (SCV)

Marine jetty capable of handling **Q-Flex** and **Q-Max** LNG ships

Largest regasification capacity in Europe of **2.1 GCFD** capable of handling more than **20% of UK gas demand.**

How it works

Regasification involves warming the LNG until it converts back into gas. LNG has been traditionally delivered to a purpose-built, land-based receiving terminal with jetties and berths equipped to accommodate conventional or larger LNG carriers. This is a long-term, major investment solution, often used where large volumes of gas need to be available on a regular or continuous basis.

Once unloaded at a terminal from the LNG carrier, the LNG is stored at subzero temperatures in insulated tanks that are individually big enough to hold the cargo of a single conventional LNG carrier.

Natural gas grids and pipeline systems around the world tend to be maintained at high pressures such as 30-80 bar. The regasified LNG must be brought to pipeline pressure in order for it to be admitted into the system. This is most efficiently done by pumping the LNG to near the required pipeline pressure instead of compressing the vapourized natural gas to these high pressures. The pressurized LNG enters the regasification heat exchangers where it is warmed until the natural gas reverts to its vapour state. This heat for vaporizing the LNG can be obtained and maintained in many ways.

Traditionally, the submerged combustion vaporizer (SCV) has been very common amongst onshore regasification terminals. Each SCV contains two groups of tubes in a bath of tepid water. One set of tubes is hot from burning natural gas which in turn heats the surrounding water. LNG enters the other set of tubes which is gently warmed by the surrounding water to revert the natural gas back to its gaseous state. The air vaporizer is also quite common. In this method, numerous fans push massive volumes of ambient air across heat exchangers to convert the LNG into a vapor.

Another method involves heating the LNG with seawater. There are many variations of this concept whereby the seawater may provide direct heating (i.e. LNG and seawater in the same heat exchanger) or indirect heating (i.e. seawater heats an intermediary heating medium such as glycol or propane which then directly heats the LNG) in order to vaporize the LNG. Each of these systems has its advantages and disadvantages whether it be related to cost (capital or operating) or environmental sensitivities. The best choice for a given customer can only be made by learning about the specific application.

Our Experience

- ExxonMobil has decades of experience in designing the right regasification solution for your needs.
- We can provide regasification solutions of any size and scale worldwide, whether large or small, short or long-term, onshore or offshore.
- We have developed large and technically advanced LNG regasification terminals worldwide: in Italy, the UK and the U.S.
- ExxonMobil is adept at working with project and government interests to ensure LNG regasification projects are developed with local communities and their environment in mind and in full compliance with environmental regulations.

Why ExxonMobil?

Our long-standing, global experience in every aspect of the world of LNG, means we can help our customers get maximum benefit from using LNG and natural gas.

We work with the world's best LNG technology and engineering providers to identify and help develop everything they need to get the most out of using LNG.

Building long-term relationships with our customers helps us to better understand your needs, working with you to deliver a clean, reliable source of energy for communities, businesses and industry.

We help build tailored, technical solutions to meet the complexity of diverse situations, based on our strong track record of excellent project execution.

We use innovation to develop and implement new technology that meets the energy needs of the future

Drawing from decades of LNG experience, we help with solutions to national and business needs at any point in the LNG value chain

We have the agility and flexibility to move quickly and meet the demands of our partners, on all projects, small or large scale, to meet the needs of growing markets.

ExxonMobil

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