



LNG to power: overcoming the challenges of financing the fuel of the future

Often called the fuel of the future the global liquefied natural gas (LNG) market is projected to reach USD 20.6 billion by 2025, growing at a rate of 12.7 per cent per year.

By the end of 2015, 34 nations were importing LNG, up from 15 in 2005. In the Middle East alone, LNG imports have grown by more than 380 per cent over the last three years. This trend is expected to continue as countries throughout the region (and beyond it) seek to capitalise on clean and abundant natural gas supplies across the globe.

With the prospect of deficits in power generation capacity in many parts of the world, the LNG to power concept has emerged as a powerful driver of future sustainability. LNG to power projects offer many benefits including the ability for power plant operators to add electric generating capacity on an expedited basis and a means to alleviate intermittent power issues caused by renewables, such as wind and solar. Bringing these projects to life, however, is a complex undertaking that requires intensive capital investment from a variety of debt and equity sources, along with innovative financing

structures to minimize overall project risk.

LNG to power challenges

Despite the emergence of LNG as a fuel source of tomorrow, making the transition from heavier distillates to natural gas is an expensive process and requires a range of infrastructure, technology, and financing expertise. Supply and distribution infrastructure requires project sponsors and LNG buyers to make substantial, interdependent capital investments. The huge sums as are necessary for these projects make the ability to secure financing critical to their implementation.

One significant challenge that LNG to power projects face is co-development, and potential co-financing of both the LNG plant and underlying power infrastructure. As these projects can potentially suffer from project-on-project risk due to the interdependency of the construction and commissioning of

the gas and power infrastructure, the ability to secure financing from a variety of debt and equity sources throughout the projects' lifecycle is a key driver of success.

Innovative project financing structures from solutions providers, such as Siemens, enable LNG projects to generate large debt capacity while passing project risk to the lenders. Sponsors can assume limited recourse after project start-up and in many cases, enjoy the flexibility of loan repayment, thus contributing to overall project economics. Additionally, co-financing alleviates investment risk and helps raise capital at a relatively low cost, which benefits sponsors and investors alike. Financing can be tailored to meet the needs of a specific project, with risk and returns being borne by the sponsor and different classes of investors (i.e., equity holders, debt providers, quasi-equity investors, etc.).

Delimara Malta LNG terminal

One example that showcases the role that innovative financing can play in LNG to power projects – particularly when partnering with a technology solutions provider, is the Delimara LNG Terminal and Power plant project in Malta.

In 2013, Malta identified natural gas as a candidate to replace heavier fuel oils for power generation, which the island nation had previously relied upon. Recognising the need for collaboration between the government and the private sector, Malta awarded the mandate to a consortium, including Siemens, to develop the LNG terminal and power plant. Attracting sufficient capital to support the project's development was a significant challenge that required a unique combination of in-depth technical knowledge, project finance expertise, and tailored debt and equity solutions.

Siemens won the order to provide equipment for a 200MW combined-cycle gas turbine and floating LNG Terminal, which includes an LNG storage solution. In addition to providing customized technology for the facility, Siemens, through its Financial Services division, helped structure the overall financing



Kirk Edelman, chief executive officer of Siemens Financial Services' (SFS) global Energy Finance team



concept and, ultimately, became one of three investors in the project. The capital support from Siemens underscores its confidence in the project's long-term success and positions the company as a partner. Project financing for the Delimara LNG Terminal was closed in December 2017. The project is the first integrated LNG-to-power project in the world where investors and financiers have taken the risk of sourcing LNG on a non-recourse basis.

Delimara now transports LNG from a floating storage unit to an onshore regasification plant, where the LNG is regasified into natural gas, which fuels the combined cycle power plant. The project plays a critical role in Malta's progressive initiative to capitalise on clean, gas-fired power generation and will be integral in the future security of the island country's energy supply.

Looking ahead

The importance of LNG for the global

energy system has been increasing, particularly in regions, such as the Middle East, Latin America, Africa and Asia. LNG offers many advantages over traditional energy sources for power generation. However, the costs involved in transitioning power projects to make use of LNG are enormous. A broad range of infrastructure, technology, expertise and interdependent capital investment is essential for the successful transition to LNG globally.

Delimara is a perfect example of a customized solution that was successfully developed, constructed and financed and is now delivering cleaner, more efficient energy to Malta. LNG to power projects like Delimara can be utilized throughout the world where natural gas was previously not available. This allows power generators to reduce their carbon footprint while implementing efficient and flexible technology to complement intermittent renewables. ■