



KANFER SEEKS BACKERS FOR TWO-BARGE OFFSHORE LNG PROJECT

The Tønsberg-based start-up seeks US\$1.5 million to go live with its groundbreaking floating LNG concept based on two barges and a tug. Karen Thomas reports

Norway-based Kanfer Shipping has built on the US concept of articulated tug barges (ATBs), in which one tug and one barge work like a conventional small-scale LNG vessel. However, it has taken the idea one step further, proposing one barge as a storage unit and a second for loading or delivering LNG.

The first barge connects landside to discharge natural gas or LNG; the second replaces it when empty. A tug connected to the LNG source moves the barges to maintain buffer capacity.

Kanfer has developed a patented design for ATBs to operate in rough weather while loaded with LNG. It has now invited shipyards to quote on the designs and conducted trials that, it says, prove the concept to be robust, seaworthy and competitive in terms of capital and operating expenditure.

The concept features dual-fuel tugs and LNG storage and supply barges of 2,000m³-20,000m³. A two-barge offshore LNG solution offers transport, floating storage and, potentially, regasification.

It can serve smaller power stations, power-intensive industries and pipeline systems, and offer bunkering to marine industry clients. This is significantly cheaper than the conventional solution of shipping to an onshore small scale terminal, says managing partner Stig Anders Hagen.

Mr Hagen estimates that the cost of a solution based on two 7,000m³-8,000m³ barges and a tug will come in at US\$50-60 million. "We have reason to believe that this is similar in price to the Bomin Linde bunker ship that is about to be constructed," he says.

Kanfer believes its barge-based solution also delivers a fresh

approach to offshore LNG. "The ability to move such barges around a country – or even a continent – offers considerably more flexibility and less financial risk, as it allows you to move around to find and meet demand," Mr Hagen says.

Speaking on the fringes of SMM in Hamburg this autumn, Mr Hagen told *LNG World Shipping* that Kanfer has signed letters of intent in Europe, the Caribbean and South America.

Its first project will reach a final investment decision in the first quarter of next year. If all goes to plan, the company hopes to charter out its solution for up to 10 to 15 years.

In Europe, Kanfer is working with Swedegas, which wants to develop gas supply, an import terminal and storage infrastructure at Gävle, north of Stockholm. Kanfer is working on a front-end engineering design (FEED) study for the project.

Kanfer is also working with GasEner in the Dominican Republic to produce a case study to provide turnkey logistics solutions for Caribbean power plants and power intensive industries. It concluded that to serve a client with an annual demand of 200,000 mt LNG some 500 miles from the LNG source will require a 5,000m³ barge and that transport and storage will cost about US\$1/mmBtu.

Scaled-down versions of existing LNG-carrier and storage solutions will not work in small markets with tight budgets, Mr Hagen argues. ATBs are ideal for island nations like Indonesia and the Caribbean, which rely for power generation on polluting diesel or fuel oil – and whose ability to switch to cleaner fuels is hampered by shortages of infrastructure and under-investment.

He highlights research by Clarksons that suggests that small-scale LNG demand will support six to eight new small-scale LNG carriers a year from 2018.

"That might look speculative now," he concludes. "We believe these vessels are already a serious consideration. In a market like the Caribbean, our solution could deliver gas to several island markets. You could serve a market like the Caribbean with LNG from Trinidad & Tobago, Dominican Republic, Jamaica or even from the US.

"Our focus is less on bunker-supply barges than on delivering LNG to power stations however we are involved in bunker projects where we have a highly attractive solution. The world's shipyards are also pretty desperate for new orders now. We think this is good timing when it comes to ordering an LNG ATB solution." **LNG**