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Revolutioning LNG Storage: Going Greener and Enhancing Versatility

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The LNG market has experienced significant supply and demand expansion in recent years. International commitments also drive greener energy and stimulate LNG market. This market response will be benefited greatly if the investment cost and project schedule for cryogenic storage tanks are reduced through greater competitiveness in the design and construction.

For many years, membrane technology has been widely used in various liquid gas storage including LNG, ethane, ethylene, LPG, etc., small to large scale available. In recent years, GTT onshore membrane technology (GST®) pioneered its implementation in a magnificent LNG terminal project owned by Beijing Gas Group (BGG Project), equipped with 8 units of 220,000 m3 LNG membrane tanks, all in successful commercial operation in Phases 2023-2024.

In this paper, the authors present a comparison of the two technologies with reference to their own performance in the same Project (BGG Project). The paper demonstrates that the membrane full containment tank is not only comparable with the 9% nickel full containment, in many respects it offers significant advantages. As such, the membrane technology is key driver in achieving reduction in cost and schedule for cryogenic storage tanks, as well as improving carbon footprint by significantly reducing steel weight, saving boil-off gas etc.

Finally, the paper will give an overview of latest membrane technology (GST®) feature with compatibility with liquid ammonia storage, to be implemented in a larger LNG tank project reaching 250,000 m3 in China.

To view the full technical programme, visit https://lng2026.com/technical-programme

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