



POTEN LNG OPINION

Low Prices May Solve Coming Supply Overhang

It's become conventional wisdom that soft demand in Asia and Europe combined with a surge in new LNG coming on line over the next few years means the LNG market will be glutted for years to come. And at first glance, the numbers raise some concerns.

Poten's most recent forecast in the *Global LNG Outlook* predicts liquefaction capacity will rise from just over 289 MMt in 2014 to just over 502 MMt by the end of 2025, though constrained gas supply and operational limitations make actual production capacity lower. The same forecast foresees demand rising from 242 MMt in 2014 to more than 408 MMt by 2025. Other analysts have somewhat different numbers but all foresee substantial increases in liquefaction capacity from the United States and Australia at a time when demand growth in Asia is slow.

But the history of energy markets has been remarkably consistent in demonstrating that when there is cheap energy available, the market is quick to take advantage. China's industrial boom of the 1990s and early this century was fueled by what we all realize now was cheap energy. Chinese companies proved to be adept at taking advantage of cheap supplies of fuels like petroleum coke, refinery sludge and tires, among others. The switch from coal to natural gas in the United States has taken place at breakneck speed as gas from shale formations drove prices down.

Some might argue that those lessons don't apply to LNG because of its unique logistics and infrastructure constraints. But the historical inefficiency of the LNG market is changing rapidly. For many years spot trading of LNG was constrained by a lack of spare shipping capacity. But undedicated vessels as well dedicated tons coming onto the market on schedule, while liquefaction projects have been delayed means that the LNG freight market will have excess capacity for the first time ever. The impact of these trends already can be seen in lower day rates for LNG tonnage.

At the same time, regas capacity has skyrocketed and will grow further. Already at more than 700 MMt, Poten forecasts regas capacity by 2025 will exceed 800 MMt. And a number of countries – Pakistan and Argentina among them – have installed regas capacity relatively quickly when faced with gas shortages.

The die is cast for much of the future supply. Much of the liquefaction that Poten envisions coming online is already under construction. Some projects are being delayed or canceled pre-FID, but no project has ever been cancelled or delayed once construction has started. And once projects are online, there are strong incentives to keep producing.

Unlike oil, where producers reduce output fairly easily, LNG plants are not designed to ease back on output when prices are low. And the contractual structure of the long-term supply contracts that underpin most LNG projects require output. Producers are obliged to supply LNG to clients and customers must pay for it whether they lift cargoes or not.

Shutting off LNG plants is something most producers would only do as last resort if revenue did not cover cash operating costs. And while pinpointing true cash costs for liquefaction plants is notoriously difficult due to liquid credits, operating costs for plants where capital costs are sunk range from negative numbers – again due to liquid credits – to somewhere around \$4/MMBtu for tolling plants where the capacity holder must pay. Traditional liquefaction plants with integrated upstream assets also tend to have very low cash operating costs that would tend to allow these plants to operate in low price environments.

As prices fall, gas will become increasingly competitive against other fuels – particularly coal, an industry where producers shut down production very quickly when prices won't cover variable costs. Moreover, plans by Japan and Korea to reduce emissions while burning more coal and relying heavily on nuclear

power are open to question. Nuclear has rarely proven as reliable or as cheap as backers hope, and technologies to reduce emissions from coal have proven to be expensive and impractical, so competitively priced LNG will remain attractive as a cost-effective way of controlling carbon emissions.

Driven by higher prices, Korea has announced plans to slow or reverse the growth of LNG imports. But these plans all involve major investments in expensive renewables and greater reliance on nuclear power and coal. Japan plans to restart some of its idled nuclear plants, an unpopular policy that still could be reversed, and to invest in renewables. With lower LNG prices, these investments may not look nearly as attractive. And with few other options, Pakistan, India, Sub Saharan Africa and other energy poor regions may find LNG easy to embrace at the right price.

So while some LNG producers may be in for a rough ride over the next few years, the glut that many analysts fear may not be nearly as severe or as long lasting as some believe.