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Founder
EOS LNG

EOS LNG (www.eoslng.com) has initiated a project to develop an LNG export terminal at the Port of Brownsville, Texas. The Brownsville LNG terminal is being designed and permitted for up to six modular floating liquefaction carriers with aggregate peak capacity of up to 12mtpa or 1.6 Bcf/d. It would include up to six 35,000 m³ full containment storage tanks and up to six LNG carrier docks. Commencement of construction for the Brownsville LNG terminal is subject, but not limited to, obtaining regulatory approvals, entering into long-term customer contracts sufficient to underpin financing of the project, entering into an engineering, procurement and construction contract, and EOS LNG making a final investment decision.

On August 23rd, 2013, EOS LNG filed a request to export 1.6 Bcd/d of liquefied natural gas to FTA and non-FTA countries.

Without significant experience in energy or LNG (Liquefied Natural Gas), what motivated you to start an LNG project?

Aside from the considerable merits of the project itself, Mr. Charif Souki is the main reason I started an LNG project. As the founder of Cheniere, he showed me that such projects could be successful without previous energy or LNG experience. Charif was a former investment banker cum restaurateur. I was a hedge fund proprietary trader who followed Cheniere's progress since the firm's first approval in 2004 to build a regasification terminal.

At the time I started in 2011, the JKM/Henry Hub spread was \$17MMBTU. I was intrigued in how to arbitrage that spread. I also saw a need by institutional investors to have access to the LNG market. There are only two publicly traded vehicles (Cheniere and LNG Ltd. in Australia) that give institutional investors access the "LNG Club". Outside of shipping, most LNG assets are subsidiaries of international and national oil companies (IOCs and NOCs).

Why do you believe Charif and yourself have seen opportunity where others have not?

Many parties, potentially interested in LNG export, have been intimidated by the Department of Energy (DOE) export regulations and the Federal Energy Regulatory Commission (FERC) permitting process. A tremendous amount of research is required to understand how a project reaches the Final Investment Decision (FID) stage. In essence, after conducting that research, Charif and I

both saw the rewards outweighing the risk. Consider that you only need to get one LNG train to first gas and you can retire for the rest of your life.

LNG is dominated by midstream players, in the US, and majors internationally. How can small projects like EOS LNG succeed?

LNG projects outside of North America are vertically integrated where the IOCs partner together and control the upstream, midstream, and downstream. Whereas projects in the USA, which is one of a few nations where citizens own the mineral rights beneath their land, the upstream industry is fragmented and entrepreneurial. Each part of the value chain has competitors and an LNG exporter can choose between gas supply and pipeline companies.

In LNG export, project developers with no balance sheet can apply the commercial real estate model by finding anchor tenants and then sourcing equity/debt financing. The offtake agreement is, at its essence, a lease. While the offtaker, in this example, is simply leasing a refrigerator. Albeit a very advanced refrigerator, that cools natural gas into liquid form at $-162\text{ }^{\circ}\text{C}$ ($-260\text{ }^{\circ}\text{F}$).

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If one strips away the politics of the DOE’s export permits and strips away the environmental hysteria surrounding the building permit from the FERC, then the business of LNG export is simply renting refrigerators to oil companies and foreign power utilities. Institutional investors understand this is following a commercial real estate model, which explains why Cheniere have been able to smoothly raise in excess of \$10B.

Considerable education must be required when selling the merits of an LNG terminal project to your buyers. What challenges has this created?

In any commercial enterprise, one has to educate the buyer in order to build a relationship and trust. However the only groups I educate for this project are the foreign LNG buyers; the investor doesn’t need to be educated as I work with all the bulge bracket banks for project finance.

What types of foreign LNG buyers do you specialize in?

I specialize in the "subprime" LNG buyer. The prime LNG buyers are North Asian utilities and international oil companies. By the time I started my company, these buyers had already signed offtake agreements with projects at the front of the line for the non FTA DOE permits. This has led me to focus on the subprime buyers in Brazil, Indonesia, China, and India.

By “subprime” do you mean that they have low credit ratings? Do you expect a challenge to find financing for the terminal’s development, be it through buyers or bank financing?

Subprime does not necessarily mean low credit rating, just lower credit rating than the IOCs and NOCs and the Japanese/Korean utilities. We are not looking at banks as a financing

option, however private equity firms and high yield are starting to play a larger role in such projects. The reality is that project financing for this size is difficult regardless of the credit.

Are there parties that will deal with and accept the credit rating of your buyers? Also, do the governmental links to some of your buyers increase their creditworthiness?

The credit rating of our buyers shouldn't create too much of a problem as there are groups that specialize in financing these type of offtakers. Some of our buyers do have state-owned partners, however this can be a red flag if the governance is suspect.

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When will you apply for a FERC permit and how much does it cost?

I anticipate submitting the FERC National Environmental Policy Act (NEPA) profile in 2015. The timing is estimated alongside receiving the predevelopment funding from my offtakers. A FERC environmental impact statement (EIS) costs \$100M to prepare. Generally, a complete FEED is required as part of the EIS and that costs \$50M.

What is a FERC Permit “worth” once you have one?

The market has valued the Cheniere FERC "Notice to Proceed" (NTP) at \$6.1B. More recently the Freeport project, which will receive its FERC "NTP" in Sept 2014, was valued at \$3.5B. After applying a 40% market discount, the Freeport project is worth \$5.67B

LNG Ltd's project in Lake Charles Louisiana, Magnolia LNG, meanwhile, is a very speculative project. They submitted their FERC application in May of 2014 and the market cap is \$AU1.45B. They don't anticipate their first gas until 2019. They are using unproven technology and estimating a cost per ton of \$550 whereas greenfield is typically \$1,000-\$1,200.

What this indicates is that institutional investors have little to no access to LNG liquefaction assets. All LNG projects are subsidiaries of IOCs or NOCs. The institutional investor only has access to the least expensive part of the LNG value chain, the \$200M LNG carriers.

What makes EOS different from these other projects on the market?

The major difference between EOS and other projects currently on the market is our willingness to share at an early stage. We see the value of listing publically and then using

that capital to take the project forwards. Considering that a FERC will cost \$100M but will be worth \$5-6bn, the project represents huge value for investors willing to assist at the FERC filing stage. Not many other projects on the market provide such an offering.

In terms of investment return, is real estate the closest analog? If so, would it not be easier and safer to develop an AAA class commercial real estate complex instead?

For a greenfield LNG project real estate should be the closest analog, considering the IRR should be in the region of 20%. However, there is a greater upside in an area that is misunderstood with high barriers to entry such as LNG export.

About Andrew Kunian, Founder of EOS LNG

Andrew Kunian graduated from Tulane University with BA in Political Science and from the NYU Stern School of Business with a concentration in Finance and Marketing. He has been a global macro portfolio manager trading equities, bonds, commodities, futures and options for 20 years. Andrew was an analyst with Quantech Research Group and was trained by its founder, bestselling author, Mark Minervini.

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