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COMMENTARY ON AK LNG JUNE 2016 UPDATE

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Point of departure

In the past few weeks, the State of Alaska has articulated a new vision for developing North Slope gas. Many details remain unclear, but the broad outlines have been put forward by the new president of the Alaska Gasline Development Corporation (AGDC) in interviews and in testimony during a joint session of the House and Senate Resources Committees on June 29. These suggest a fundamental change in the state's approach—one that deviates from the principles and assumptions that led to SB 138 and which have guided the state's work since then.

The purpose of this report is to assess whether these changes: (a) are a reasonable response to the project's challenges; (b) will facilitate the profitable development of North Slope gas; and (c) entail a reasonable risk-and-reward balance for the state.

Reasonable response to project's challenges?

The Alaska LNG project reached a roadblock as a co-venturer stated that they are not prepared to proceed to the next phase of development (the Front End Engineering and Design, or FEED, phase). This is not surprising or unprecedented: many companies are re-evaluating their investment plans given the drop in oil and gas prices. Nor is it uncommon for large projects to see changes in ownership and structure as they progress. In response, the state has outlined two possible options: either it can "take the lead and find ways to reduce cost of delivered supply" or "delay FEED, potentially delay [sic] the project."

Yet it is not obvious why those are the only two options, or why the state should "take the lead" rather than let the current lead continue or, even, delay the project. In part, the right course depends on why the project has stumbled. And while it is hard to know why a co-venturer might not want to move ahead, it is still useful to consider the possibilities and their likely motivations.

One possibility is that the project is not commercially viable—that the cost of supply is too high relative to what the market expects or what others can deliver. In that case, it is not clear that the state stepping in will do much good—why take a bigger share in an unviable project? Why not delay until conditions are more favorable? The delay after all need not be long (although, by making a constitutional amendment a prerequisite for any form of fiscal stabilization, a built-in delay has been created since such a vote cannot take place until late 2018).

A second possibility is that the project is not a good fit for a specific company—that it carries too much risk or the company has more attractive investment opportunities elsewhere. In such a case, a change in the ownership of AK LNG might help.

A third possibility is that a sponsor sees a pathway that is preferable to investing in the project—for example, by selling gas at the wellhead. This was a risk enalytica raised in the conversations about negotiating firm withdrawal terms with the producers. If the state were to buy gas at the wellhead, this transaction could be worth tens of billions of dollars over the lifetime of the project—and as such, expose the state to major risks. And, the suppliers would only enter into such a deal if they got superior returns versus investing in the project, meaning the transaction might not make sense from the state's perspective. Finally, LNG projects make money by selling gas, but this plan would focus the state's returns to a regulated-type level—the midstream—rather then where the value truly is: in the gas. In 2015, we summarized these risks thus:

> By signing firm withdrawal provisions, the state offers the producers an easy way out from developing AK LNG—and in doing so, it loses the expertise that the producers bring while being left to monetize gas that the producers think cannot generate sufficient returns in the market.
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> enalytica, "Negotiating firm withdrawal terms: Key issues," November 2015

Of course, we do not know what drives each party, but the optimal response for the state depends, in part, on these motivations. If the project is not commercially viable, it is not clear that a changed ownership helps. If it is a question of portfolio fit, it could make sense for the remaining partners take on a bigger share and find new partners. And if this is a question of parties looking for a different way to participate in the project, by selling gas at the wellhead for instance, this too needs much analysis to be shown as a prudent course of action for the state.

So far, the (implicit) assumption guiding the state is that AK LNG is commercially viable but just below the hurdle rate that the producers have—and that, because the state (and other investors) would be happy with lower returns, a state-led project can succeed. This, however, is merely an assertion at this point that requires analysis to be substantiated—if it is to provide the basis for moving to a different project structure.

Facilitate the profitable development of North Slope gas?

AK LNG is a complex project—among the most expensive infrastructure projects ever developed. In an industry regularly hit by delays and cost overruns, execution risk is one of the project's biggest challenges. It is no wonder that AK LNG's credibility in the marketplace is tied to the reputation of the state's partners. Moreover, the fact that the state is co-investing with some of the world's most sophisticated companies provides an additional layer of due diligence and can be a source of reassurance—as the project will be subjected to the scrutiny of major players and will only proceed if it satisfies their investment criteria. The state, in this case, can take comfort from the fact that it is investing in a project that top tier companies also think is worth investing in.

By contrast, a state-led project as currently envisioned would have to demonstrate two things to succeed.

First, that the state can execute. This means that the state will have to set up (and pay for) an organization that replaces the current project team—a team that has, at times, employed 135-odd people with hundreds of years of experience and a team in which, so far, the state has seconded zero people. Of course, the state can rely on contractors for support during project development and to build the project. And there are several examples of private firms with no or little liquefaction experience that have developed LNG projects. Yet, the organizational challenges should not be under-estimated. By

way of example, Cheniere Energy had ~200 employees in January 2010, soon before it proposed an LNG export project at Sabine Pass; in January 2016, with two LNG projects under construction and development, it had 888 full-time employees.

Second, the state needs to demonstrate the viability of its proposed project structure. Most LNG projects are driven and majority-owned by the resource owners, with buyers and other investors holding smaller stakes. There are exceptions, of course: there are projects where the resource owners are not involved in the midstream, usually because investing in liquefaction exceeds their risk appetite or falls short of their materiality threshold (i.e. their position is too small). And there are also projects where the midstream owners either buy gas from the resource owners for onward sale or provide transportation (and other) services to enable buyers and sellers to conduct arms-length transactions—similar, for example, to how a pipeline might operate.

But these are usually about connecting buyers to a liquid market, such as the Lower 48, where gas can be purchased easily in the open market. Or, they are projects that have long ago paid back their investment. There is only one project with a structure similar to the one proposed by the state: in Cameroon, a third party is building a 1.2 million ton per annum floating LNG to liquefy gas that has been sold by the resource owner to a buyer (the size is ~7% of AK LNG). Elsewhere in the word, midstream-driven projects have generally failed.

An infrastructure-driven project makes sense when commercial viability exists, when buyers and sellers favor such a structure as a way to avoid committing their own capital, and therefore a third party steps in to facilitate the transaction. It is not clear that this is the case in Alaska—especially, if the gas is made available under a "duty to produce" structure which could involve litigation or protracted negotiations. In fact, given the project's technical challenges and the commercial complexity involved, it is easy to see how buyers and investors might decide that, in the current market, AK LNG is too much hassle when there are so many alternatives from which to buy gas.

Reasonable risk-and-reward balance for the state?

It is not clear, therefore, that the state's approach enhances the chances of success—if anything, it diminishes them. At the same time, the state is proposing to take on more risk. If the state takes full ownership of the project, state spending over the next few years will triple as the state moves from paying 25% of the cost for FEED to 100%. (Those costs have been estimated at $1-$2 billion over the next 2-3 years.) And, of course, in a state-led project, the costs of failure rest with the state rather than with all the co-venturers: the state could conceivably spend $1-$2 billion to pursue a project that, in the end, fails to advance.

The blueprint offered in response—that the state will take on more ownership but that most of the risks will be borne by third parties who will invest while accepting lower returns than the producers—requires considerable evidence in order to be convincing. To begin with, it is important to distinguish between equity investors or third-party finance (loans or bonds).

It is certainly possible for the state to find equity investors—buyers, other producers, and so on. In general, however, buyers buy small shares in LNG projects—often only a few percentage points—and given the size of AK LNG, the state would need several buyers in order to offload a meaningful share of the total equity. In doing so, however, it is not clear that the state would have accomplished much—these are sophisticated

investors who require adequate returns to compensate for the risk they are taking. Would these companies be willing to invest for sub-par returns in a project that the world's largest companies deemed too risky and/or uneconomic?

Nor is it fair to assume that there is a big pool of investors looking for "lower returns." As the state learned in negotiating with TransCanada, even infrastructure providers expect high returns on equity (the baseline for TransCanada was 12%). And those returns were in line with those expected by FERC-regulated pipelines in the United States (see enalytica, "AK LNG Seminar," September 2015, p. 42).

Other investors such as infrastructure or pension funds generally avoid construction risk. In the report by the Organization of Economic Cooperation and Development (OECD) referenced by AGDC, the authors state that "For the majority of funds the infrastructure strategy is to invest, on a global basis, primarily in unlisted equities and mature infrastructure projects (i.e. Brownfield projects, already in operation with no construction risk…)." It is rare for these investors to step in earlier without guarantees or an expectation of superior returns—there are maybe one or two examples where such investors have taken material shares in LNG projects and even then, only alongside major oil companies.

Third-party finance, on the other end of the equation, is only available at later stages of development and will still require equity from the state. It is typical for leveraged LNG projects to have a 70:30 debt-equity ratio, which means that, in a $45 billion project, the state might borrow around $31.5 billion but would still need to make an equity contribution of $13.5 billion. Of course, this equity contribution could itself be borrowed—but with full recourse to the state or for a high price (if the state sold a stake in the vehicle that was developing the project, for example). Moreover, most third-party finance still requires completion guarantees that will expose the state to cost overrun and delay risks.

Finally, none of these options—third-party financing, new investors—require a state-led project or any modification to the current structure. These are all options available to the project as it is structured now. In fact, if there is such a pool of capital ready to invest for lower returns and offer the sponsors a way to monetize their gas without spending much capital, they could take this path themselves. It is unlikely, of course, based on what we know from how LNG projects are developed—and, either way, such a possibility would hardly justify a move to a state-led, state-owned project right now.

Conclusion

AK LNG has hit a roadblock, and the state and its partners have several options: they can keep working to resolve the issues that hold back any of the sponsors; they can alter the ownership of the project so that risk and reward are more properly balanced; or they can wait until market conditions improve. The state seems to have opted for taking the lead and reshaping the project's structure—without much evidence that this is necessary to resolve the underlying problems facing AK LNG. In doing so, the state has made project success less likely, and it has taken on considerably more risk, on the assumption that it will be able to offload that risk to new players who have yet to be either identified or shown to be interested in taking on high risk for low return. Combined, these proposed changes raise many questions—but mostly, they point to less likelihood of success and considerably more risk for the state.