Risky business

Mirel Rusu

Mirel Rusu spoke to Ailbhe Goodbody about the importance of considering logistics and supply-chain risks as part of foreign direct investment (FDI) geo-strategic risk management

Q What is the supply-chain risk for mining projects?

It is the risk related to preliminary assessments for use of the transportation, storage, materials handling and ship loading in terms of infrastructure, legislation and country specifics, in my opinion.

Together with the political, legal, health, economic, foreign exchange, war and terrorism risk assessments, it is an integral part of any serious foreign investor due-diligence process in investing in any mining and energy project in a foreign jurisdiction.

Q What are the areas covered by such supply-chain risk assessments?

A supply-chain risk assessment is a catch-all term that covers areas including:

- Existing transport infrastructure such as roads, rail and ports;
- Legislation applicable to supply-chain activities, such as maximum allowable mass and configuration per vehicle, customs rules and environmental showstoppers;
- The review of service providers already operating in the country, and potential new service providers with significant experience in other parts of the globe that are open to expansion of their operations; they can be rail operators, road operators, shipping companies, etc.;
- The review of engineering companies involved in building and/or improvement of the transport, storage and materials-handling infrastructure; and
- Competitors' assessments.

Q Is the supply-chain risk related to assessment of potential new mining projects only, or can existing mining operations benefit as well?

The way that I see it, one leads to the other. In a perfect world the initial assessments would lead to continuous assessments as the project takes shape.

It should then be followed by supply-chain audits in order to identify and strengthen any weak links and bottlenecks. Internal factors such as overloading, asset-maintenance policy, communication issues and lack of visibility through the supply chain can create quite a few headaches for the operation's management and personnel.

Not too much can be done without significant expenditure on managing the external factors once the wheels are rolling. These should be identified during the planning phase and solutions should be determined. I'm talking here of course about the impact of geographical, weather, political and cultural factors. If the engineers built your railway on a flood plain, well… expect floods, so to speak.

Q Why do a supply-chain risk assessment?

So the investors' funds don't get sunk and put the whole project at risk.

Q What can happen if such assessment is not done or is treated superficially?

Well, ignore this and the result is a ridiculously high chance of killing the project. At best the capital expenditure (capex) and operating expenditure (opex) balloon, negatively affecting the estimated financial outcomes and making the venture less appealing; at worst, the losses could be devastating for the investors.

I'd say that during the boom, billions of dollars were lost due to poor supply-chain and logistics assessments of the new mining projects and this continues to be a major factor in failed projects around the world.

It is public knowledge that Rio Tinto's adventure in Mozambique left a hole in its coffers of approximately US$3 billion when the outbound logistics of its project in Tete proved to be commercially and environmentally unviable.

However, privately, I've heard of tens of investors who have sunk hundreds of millions of dollars into sites in areas with virtually no transport infrastructure and no hope of moving the product out without additional significant expenditure, which when added to the initial investments make the economics of the projects unfeasible.

This phenomenon is happening all around the world, but I have the feeling that somehow the Chinese investors seem to fall more into such traps.

It always saddens me to see investors and miners sinking funds due to lack of awareness of the supply-chain and logistics risks.

Leaving the risk assessment to the large engineering companies as part of the 'one-stop shop' proposal is not something I'd recommend during the scoping, pre-feasibility study (PFS) and definitive feasibility study (DFS) stages.

While on paper such a proposition makes sense as they could draw from their extensive global experience, often the bureaucracy and the competing interests between various groups inside the large multinational are significant barriers in obtaining an unbiased risk assessment. And it's understandable, as they make a living from building infrastructure, not from operating supply chains.

From personal experience, some of the work done by these entities was rather poor, reflecting a lack of understanding of the practical operational parameters and worryingly delivering conclusions and estimates so far off the mark that it created a false sense of project profitability, ultimately jeopardising the whole venture.

The pressure to charge more by the engineering companies is exerted from top-down on the decision chain and, combined with a lock-in strategy, it can be a costly exercise for the investors and mining-project developers.

To test the best strategy on approaching the engineering multinationals on a recent project, I did an interesting experiment. I was developing a direct shipping solution and so I discussed with a number of large engineering companies to quote for the

The quality of transport infrastructure is a key concern of supply-chain risk assessment

work deemed to be necessary for this project.

To some of them, I disclosed a maximum budget that my client would be happy to spend; to others I didn't mention any budget. Consequently, the estimates of the 'free of budget' quotes were three times more expensive than the estimates of the companies constrained by a budget!

It is also important not to make assumptions that successful operations can be duplicated in a different part of the globe with the same results. Mining projects are not Starbucks franchises. Treat every project on its merits. In matters of logistics, what is operationally possible to do in Australia is unlikely to be easily replicated in Mozambique, Canada or Chile and vice versa.

Like any independent audit, independent logistics studies or reviews of work done by the large engineering companies are a small expense when the investment of millions of dollars is being considered, and it has to be taken seriously by both the investors and the project developers.

Q What should be the deliverables of such assessment?

At the end of the day, the customer needs robust estimates of capex and opex related to the inbound and outbound logistics, detailing as much as possible the elements of the operational plan and the potential suppliers.

The assessment should also flag potential showstoppers, from environmental concerns to competitors' activities, with the potential impact on the supply chain and clear further directions.

Q Why is supply-chain risk not a major topic in mining investment forums?

The investors' lack of awareness of the supply chain and logistics risks, which is reflected in the agendas of the mining investment forums and conferences, still baffles me. This would definitely be a good question for the organisers of the mining forums all over the world.

I'm not saying that geological charts bore me to tears, but I have the feeling that a greater emphasis on supply-chain and logistics challenges and risks would be beneficial for both investors and mining-project developers.

Problems can stack up if mine planners fail to assess supply-chain risks

Many challenges might be involved in the journey of material from the mine to its destination market

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