KIMBERLEY WATER SUPPLY OPTIONS

Western Australian Treasury Corporation Comments

Introduction

The choices available to the State to fund infrastructure projects are essentially to acquire the infrastructure through traditional means and have the asset on its balance sheet or have the private sector involved in the provision of the infrastructure through some form of project finance. Private financing can either be in the form of the private sector undertaking the full financing of a project and accepting all the risks and returns or some form of private public partnership where some of the risks are retained by the State.

Project finance (financing an asset separately) relies entirely on the cash flows of the project to service debt repayments and other financing provided to the project. The non-recourse to the balance sheet of the sponsor, in contrast to the case of corporate finance (financing assets jointly), can make project financing an attractive, albeit more costly, alternative in certain circumstances.

In this case the size of the project would make project financing an attractive option as the debt overhang from increasing debt on the balance sheet to this extent would have major impact on the ability to pursue other attractive investment opportunities or other State infrastructure priorities. At the same time the size of the project also presents some significant hurdles that project financing will have to overcome.

It is noted that the reports are a pre-feasibility study and a very large amount of work would be required to demonstrate the feasibility of the various options and to firm up the potential costs. This would be the case regardless of whether the project was to be publicly or privately funded. However, as a general comment, in regard to the bankability of the project, a financier would need to have much more concrete cash flows before being able to commit funds.

The Western Australian Treasury Corporation was provided with three financial models. These were, GHD 200 gigalitres canal, GHD 200 gigalitres pipeline and CEIS 50 gigalitres ocean tanker options. The Corporation undertook a broad review of the models and was not able to identify any major shortcomings in the methodology applied in the models.

The comments below will provide an overview of the issue surrounding each of these options to finance the project.

Public Financing of the Infrastructure

The State could choose to fund the infrastructure as part of the State's normal capital works program. To the extent that the internal funds of the Water Corporation could not cover the capital expenditure or that the State was not willing to divert funds from other projects, this would entail a very large additional borrowing program for the State's balance sheet. Notwithstanding that the funding for the project may be spread over a number of years the size of the funds required would have a major impact on other infrastructure priorities. The Department of Treasury and Finance is the agency to provide a more quantitative perspective of the impact on the State's infrastructure priorities.

The canal project for the supply of a constant 200 gigalitres of water per year has an estimated unit cost of $6.89 per kilolitres. In comparison, [we were informed that] the Perth seawater desalination plant, under construction at the moment, is expected to produce water at a cost in the order of $1.16 per kilolitre, which in turn is more expensive than traditional water supplies. The cost of suppling water to Perth from the Kimberley region, regardless of which option is considered, is many times the cost of desalination or traditional methods of water supply.

Unless the State was willing to pass the much higher marginal cost of supply to consumers, on an annual volume of 200 gigalitres, then the revenues of the Water Corporation would be significantly below the cost of supplying the water.

Public financing of infrastructure means that all the financial risks remain with the State. All the proposals, in particular the canal option, face a large degree of uncertainty in many aspects over a very large period of time (50 years). The State faces a large risk exposure in publicly financing any of the options.

Private Financing of the Infrastructure

An alternate to the State funding an infrastructure project on its balance sheet is to use project financing. In project financing, financiers provide funds to the project based on the cash flow availability from the project rather than to recourse to the balance sheet of the sponsor (that is, the general revenues of the State).

For project financing to be an option for any project, it needs to be able to demonstrate a sufficiently high, risk adjusted net cash flow from the project in order to attract private funding. The suitability of project funding to an industry sector or project is a direct function of the predictability of future cash flows, either from the economics of the industry or from the commercial relationships customary to that sector. It is therefore the certainty of revenues and costs (i.e., net cash flow) that is the most important feature of projects best suited for project financing.

In assessing how risk could affect the cash flow profile of this project, an investor would look at the revenue and cost risks in turn.

The nature of the projects requires large sunk investments with no possibility of reallocation to other geographical locations or other uses. The nature of the water sector is such that there is a monopoly buyer of the water supply. Within this structure, there is limited scope for the supplier to market the good to increase the demand or to find other sources of income. The canal and pipeline projects have limited scalability – that is, they require successful completion of the entire project in order to be able to produce any viable income.

Clearly a project of this nature and size, that is dependant on an assured revenue stream over a period of 50 years, would not be bankable without a high degree of certainty over its income stream.

It is not feasible for the project to bear volume or demand risk and therefore the State could expect to be asked to commit to take a specified volume of water – 200 gigalitres per annum in the canal project. Similarly, a pricing formula would need to be determined to complete the required certainty in regard to project revenues.

On the cost side a very significant consideration for bankers to finance a project is that its expected cost structure ranks towards the lower end of the industry cost (supply) curve (in general a project that is in the lower 25% of the cost curve may be regarded as bankable). Clearly these projects sit not only at the top end of the cost of supply curve but are in fact considerable multiples of the cost of other methods of supplying water.

To put this further into perspective we see that the estimated operating costs alone, for the canal project to supply a constant 200 gigalitres of water per year, are around the cost of traditional forms of water supply. This is in a project where capital costs are very much dominant, accounting for approximately 86% of the cost of supplying water.

The reports show that the water cost is very sensitive to the discount rate. The sensitivity of the cost to this factor is also much larger than to other factors. The canal project for the supply of a constant 200 gigalitres of water per year has an estimated unit cost of $6.89 per kilolitres at a 6% real rate of return. A discount factor of 8% (real) sees the cost of water rise to $8.90 per kilolitre. As a proxy for a long-term, real risk-free discount rate we can look to the yield on the longest maturity Commonwealth issued inflation indexed bond. The yield on these bonds is currently 2.42%. At a discount rate of 2.42% the cost of water is still prohibitively expensive at $4.18 per kilolitre.

We have seen that on the revenue side the projects require off-take contracts to guarantee certainty of income. On the cost side the projects have cost structures many times higher than other forms of supply and cannot supply water at a competitive price. In fact the projects have negative internal rate of return and therefore the projects cannot attract funding solely on the strength of the cash flows from the projects themselves. Project funding, in its pure form, would not be viable. It therefore remains to see if some form of public private partnership arrangement could be viable.

Public Private Partnership

As a pure project financing model is clearly not viable, we now turn our consideration to examine the viability of some form of public partnership that may overcome the hurdles to pure project financing. This, of course, does not overcome the commercial difficulties inherent in the projects and therefore the comments in the previous section are still relevant.

As discussed in the previous section, the revenues of the projects would need to be underwritten by the State, that is, the demand and price risk would remain with the State.

This leaves the design, construction and operation risks that may be taken up by the private sector. If we look at some of these potential risks it is clear that the element of uncertainty is very large.

Risks such as native title, approvals and other political risks, rights of way, access rights and environmental risks would continue to fall within the province of government.

In regard to engineering and technological risk, there are many aspects that are far from certain. There are many unique characteristics of projects of the scale considered here. At this stage it is recognized that the reports are a pre-feasibility study and a very large amount of work would be required before a project would be considered. However, there would be little scope for prototyping the project or deriving any other value once a commitment had been made to the project. The projects would be large sunk investments facing considerable uncertainty.

Bid cost could be managed by doing a large amount of common work prior to taking the project to market thereby presenting potential bidders with well-scoped projects and therefore keeping to a minimum the cost overheads for each proponent. However, the size and nature of the project will inevitably entail very large bid costs.

Project financing involves packaging of the risks and clearly allocating responsibilities and obligations to all the parties in the partnership and would require considerable time and resources. In short, it can reasonably be expected that both the transaction and bid cost overheads on a project of this scale would be very high.

The size of the projects also limits the amount of competitive bidding that may be achievable both in regard to financing and construction aspects. Providing financing to projects of this size would require syndication. There would also be a limited number of construction firms that would have the size to bid for a project of this magnitude.

While project finance has benefits such as overcoming the opportunity costs of under investment, reducing risk cross contamination and solving agency conflict problems, it is recognized as being a more costly form of finance because of the transaction costs and the higher cost of finance. Project financing with the degree of State sponsorship

necessary for this project does nothing to solve the problems of public financing as it does not resolve the debt overhang problem or resolve any agency conflicts.

With the State retaining the financial risks and significant other risks the projects essentially become finance lease arrangements for the State. The present value of the committed outlays by the State impacts net debt and the State's balance sheet and the same hurdles arise as in the case of the public financing option.

Comparison of Options

The comments above broadly apply to all the three options in the reports, namely, canal, pipeline and ocean tanker.

While all options are significantly out-of-the-money in comparison to other methods of water supply, of the three, the ocean tanker has a number of preferable features.

On the figures presented this is the lowest cost option.

Furthermore, this is without accounting for the benefits of flexibility afforded by this option. The ocean transport option provides a least some degree of scalability in regard to the transportation of water. It would seem that with this option at least some part of the project, the tankers, could be diverted to other uses. The option also exists to contract supply for shorter time periods thus enabling the flexibility to more closely align costs with evolving water supply requirements.

It would also offer more choice to break the project into parts thus leading to a more competitive situation. For example, the provision of infrastructure at each end of the transportation route would be separable from the tankers.

The value of optionality is well recognized in finance and some attempt to quantify this value should be undertaken if it was considered warranted to further evaluate the comparability of these projects.