New Bong Escape: The future of Pakistani hydro

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The $175 million (inclusive of PKR3.25 billion) 12-15 year debt package for the 84MW New Bong Escape run-of-the-river hydro-electric project is Pakistan's first hydro IPP financing. The project had a protracted genesis, overcoming multiple challenges to set an important landmark for future hydro IPPs in Pakistan.

The main hurdles to financing included limited capacity for long tenors in the local debt market; the lack of bankable concession documents specifically designed for hydropower IPPs; and perhaps most challenging of all – the reluctance of the offtaker to pay a reasonable tariff for hydro capacity.

The project consists of the construction, operation and maintenance of an 84MW run-of-the-river hydro power plant on a build-own-operate-transfer (BOOT) basis. It is located at the New Bong Escape, tail end of the Bong Canal on the Jhelum River, 7.5 km downstream from the existing Mangla Hydroelectric Power Station. In January 2009, the project was registered as Pakistan's first Hydel Clean Development Mechanism project, under the United Nations Framework Convention on Climate Change.

The $175 million financing is split between $135 million of 15-year dollar debt and a $40 million local bank rupee facility. The dollar component is provided by Asian Development Bank ($37.3 million), Islamic Development Bank ($37.3 million), IFC ($35 million) and Proparco ($20 million), with $40 million local debt from Habib Bank and National Bank of Pakistan. The deal includes an ijara (lease) structure from the Islamic Development Bank, in the form of a sale and repurchase from Habib Bank and National Bank of Pakistan.

The current average cost of borrowing to the project company is 7.5%, made up of dollar debt at 475bp over Libor and local debt of 325bp over Kibor. The ADSCR is above 1.5x.

Despite the obvious potential for hydropower in Pakistan, for most of the 1990's hydro IPPs were not viable because of the low cost of fuel. The power purchaser did not want to offer more than 2-3 cents per kWh as this was greater than the cost of the fuel component in the thermal tariff (which in 1995 when the Hydel Policy was enacted was under 2 cents per kWh) against the policy tariff of 4.7 cents per kWh.

There was also a wrongly held perception that hydropower tariffs should be very low because flowing water was free and there was a reluctance to pay a fixed tariff despite being standard for thermal plants. Compounding the issue, hydropower did not compare favourably with state legacy projects set up over 30 years where the upfront costs had been amortised and were only incurring operating and maintenance cost of just 1-2 cents per kWh.

A commercially reasonable hydropower tariff was only possible when the fuel component in the thermal tariff moved above the hydropower tariff for the first time around 2000. For New Bong the final breakthrough came in 2008, when the project company reached agreement with the Private Power and Infrastructure Board (PPIB) and NTDC that it should be able to use the tariff methodology, rules and concessions allowed to projects under the Power Policy 2002.

However, the delay in obtaining the tariff and concluding the concession documents were thought to be the principal reason why Ranhill Power of Malaysia withdrew from the project in 2008; Ranhill grew impatient at proceedings and sold its 51% stake.

Importantly, the project has a "take or pay" minimum payment with the offtaker National Transmission and Despatch Company (NTDC), Pakistan's state-owned transmission company. NTDC bears hydrological risk which was critical to achieving financial close. There is a 25-year power purchase agreement with NTDC backstopped by a government of Pakistan guarantee.

The tariff comprises a fixed capacity payment which is sufficent to service debt, equity, fixed O&M and insurance plus a variable cost paid for actual generation deliverd to the interconnection point. The levelized tariff per kWh is 8.5 US cents across the 25-year PPA; and the average tariff (US cents/kWh) is modelled at: Year 1-10, 9.5; Year 11-20, 6.0; Year 21-25 7.4. This compares well with just the fuel component in the thermal tariff of about US12 cents.

Revenue for generation above the minimum energy level under the take-or-pay agreement meets the variable cost plus return. There is no penalty for not achieving minimum energy level and the take or pay component is paid regardless of hydrology.

The PPA provides for a phased construction period by allowing for the sale of electricity on completion of individual turbines before commisioning of the complex. The EPC contract is structured to accommodate sectional completion and allocate responsibility and a sharing of benefits with the contractor during early operation.

Aside from the take or pay minimum guaranteed payment, there are other hydro-specific friendly features of the concession documentation. The hydel sector is encouraged through a 17% IRR compared with thermal projects 15% The longer development time for hydro projects is recognised in the calculation for IRR, whereas for thermal projects the development period is ignored for computing the IRR and tariff.

Despite the inherent challenges of financing a pathfinder deal and the political sensitivities surrounding the Azad Jammu & Kashmir region, the deal is testimony to both the doggedness of the sponsors, the structuring and advances made by the Government of Pakistan.

Of the 41 letters of interest posted in response to the 1995 Hydel Policy totaling 1,900MW, Laraib is the first to achieve financial close. Though there are still some barriers to hydro development, the success of New Bong should help accelerate the development of some 2,000-3,000MW of private hydropower projects currently in the pipeline in Pakistan.

New Bong Escape Hydro-Electric Power Complex
Status: Financial close December 2009
Description: $175 million finance for an 84MW BOOT hydro plant in Pakistan
Sponsors: Hub Power Company (75%); Coate & Co/Asghar Ali & Sons (25%)
Financiers: Asian Development Bank; Islamic Development Bank; IFC; Proparco; Habib Bank; National Bank of Pakistan
Sponsor legal counsel: Rizvi, Isa, Afridi & Angell; Afridi & Angell
Lender legal counsel: Shearman & Sterling; Kabraji & Talibuddin
Lenders technical consultant: Mott MacDonald
Sponsor technical consultant: P.J.Rae; Montgomery, Watson, Harza
EPC: Sambu Construction Co (water to wire E&M subcontract Andritz Hydro)