O n 21 December 2012, the General Assembly of the United Nations declared 2014–2024 the decade of sustainable energy for all. In passing the resolution, the General Assembly noted that 1.3bn people live without access to electricity and that 2.6bn people in developing countries rely on traditional biomass sources for cooking and heating needs. Half a billion of those living without access to electricity live in Africa.

Hydropower is undoubtedly the most common form of sustainable and renewable energy. In 2008, it accounted for around 16% of global electricity production. In Europe and North America, 25% and 29% of potential hydropower projects have been developed. In Africa, one of the continents with the greatest need for additional generation capacity, only 5% of potential hydropower is in use today.

Hydropower has the potential to provide a significant percentage of the energy that is necessary to realise the objectives of the General Assembly’s resolution. The CEPEL Organisation for Energy in the Great Lakes Region (Energies des Grands Lacs, or EGL), a forward-looking international organisation operating under the auspices of the Economic Community of the Great Lakes Countries, has long been working to achieve these objectives. It is now positioned to make the Ruzizi III hydroelectric dam – the third in a series of four projects on the Ruzizi River – a reality.

**Ruzizi dams**

The Ruzizi River forms the border between the Democratic Republic of Congo (the DRC) and Rwanda. The south-flowing river connects Lake Kivu with Lake Tanganyika. Two projects located on the river are currently in operation. The 30 MW Ruzizi I, which is owned and operated by SNEL, the parastatal electricity utility of the DRC, is located 3 km downstream of the outlet from Lake Kivu and was commissioned in 1959. The 44 MW Ruzizi II is owned and operated by SNEC, a multi-national organisation established by a treaty among Burundi, the DRC, and Rwanda respectively. Each offtaker will purchase one third of the capacity of the project under a common power purchase terms agreement (CPPTA) and separate power purchase agreements.

The tariff will be structured so that the offtakers will pay for the capacity made available by the project company, which is measured during each hour of each day. The capacity the project company makes available will be adjusted from actual hydraulic conditions (the actual net head height) to nominal hydraulic conditions (the net head height with the head pond at the full supply level) during each hour to determine an hourly availability pay-

The planned Ruzizi III site

ment. At the end of each month, the hourly availability payments will be summed to determine the monthly availability payment.

This structure achieves two objectives – it incentivises the project company to ensure that the plant is available; and it allocates day-to-day hydrological risk to the offtakers. The risk of a significant and adverse shift in hydrology will, to some extent, be shared by the offtakers and the project company as the offtakers will have the right to terminate the CPPTA following a significant and long-term reduction in water flows.

Large and medium-scale hydroelectric projects generally involve high upfront costs for feasibility studies, social and environmental impact assessments, detailed engineering and design, and, for hydroelectric projects undertaken as independent power projects, commercial and legal structuring. In order to bring the project to market more quickly, EGL elected to conduct the tenders for the project in two phases.

During the first phase, which is now drawing to a conclusion, the investors/developers (the sponsors) have been chosen. The terms of the tender for the first phase did not require bidders to bid a price for the capacity the project company will make available. This enabled the bidders to bid for the project without having a firm engineering, procurement and construction (EPC) solution and price in place and without knowing the financing costs the project company will incur to pay interest on, or to repay, the project debt. Instead, bids were evaluated on the basis of:

**Finance and development**

The project’s capacity will be purchased by Régie de Production et Distribution d’Eau et d’Electricité, SNEL, and the Energy and Water Sanitation Authority – the parastatal utilities of Burundi, the DRC, and Rwanda respectively. Each offtaker will purchase one third of the capacity of the project under a common power purchase terms agreement (CPPTA) and separate power purchase agreements.

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