

Kanata Hydroelectric Plant

Location: City of Cochabamba
Type: Hydroelectric plant
Size: 7.4 MW; 8,000,000 m³ of potable water
Funding: Total: US\$6,131,000
 Private: US\$6,131,000
Objective: To increase the city's water supply and generate electricity.
Duration: 1995–1999
Scale: Rural

Summary

The 7.4-MW capacity Kanata hydroelectric project is generating 22.3 GWh of electricity and 8,000,000 m³ of potable water per year for the City of Cochabamba. Kanata's power began to feed the Bolivian grid in May 1999, making it the first independent power production project of its kind in the country.

In-Country Principles That Attracted Nondonor Financing

- Capacity building and informed decision making

Sound principles that helped attract private financing included integrated, informed, and science-based decision making about water resources at the basin scale; broad stakeholder participation and empowerment; effective coordination between public and private sectors and across multiple geographic and institutional scales; a commitment to strengthening human and organizational capacity for sustainable water management; and consideration of water as an economic, social, and environmental good (including acknowledgment



of the full costs of water management and water services) and transparent, equitable, and sufficient allocation of those costs throughout society.

Specific capacity-building activities that helped attract financing by bringing the enterprise in line with standard commercial practices included the formation of a management team independent of the government, hiring and developing staff with appropriate skills matched to the job, installing management information systems, and keeping financial records in line with international accounting standards.

Activities that helped increase knowledge of sector professionals in commercial business practices and competitive energy market operations included awareness and educational workshops for decision makers, skills-oriented training for decision makers and staff, stakeholder partnerships and exchanges, dissemination of best practices, and participation in international forums and workshops.

Financing

Total project investment was US\$6,131,000. All of the funding (70% debt and 30% equity) came from private sources. Equity sources included Strycon GmbH (US\$821,000), Continental Vissions Ltd. (US\$525,000), and Austrian and Bolivian individuals (US\$693,000). Debt sources included Giro Credit (Bank) (US\$1,668,500), Cidre (local development credit fund) (US\$500,000), Continental Vissions Ltd. (US\$804,000), and Austrian and Bolivian individuals (US\$1,051,000).

Although the Bolivian developers had assembled a financing mix of debt and equity from European and local investors, a US\$1,000,000-financing gap existed in 1996.

E+Co provided a US\$250,000 loan, which allowed the developers to leverage the balance of debt and equity necessary to complete the project financing.

The Project

The Kanata hydroelectric project is a joint venture of Bolivian and Austrian companies. It was developed to increase the water supply to the City of Cochabamba (which suffers continuous drought conditions), generate electricity, and position the project as the first independent power producer in Bolivia.

The plant's annual generation of 22.3 GWh of electricity and 8,000,000 m³ of potable water benefits approximately 50,000 people in the City of Cochabamba.

Prior to the project, water from this dam passed through an open canal that lost a significant amount of water to spillage.

The project has provided a 4-km grid line, which has enabled the expansion of the electricity distribution network to unelectrified rural communities in the surrounding areas, thus benefiting industrial, commercial, and residential users.

End uses improved by the project include health, education, lighting, drinking water, nutrition, cooking, and recreation.

Technical Data

The plant uses high-efficiency Pelton turbines, which are well suited to partial load conditions and to conditions of severe fluctuations in the water supply.

Performance Data

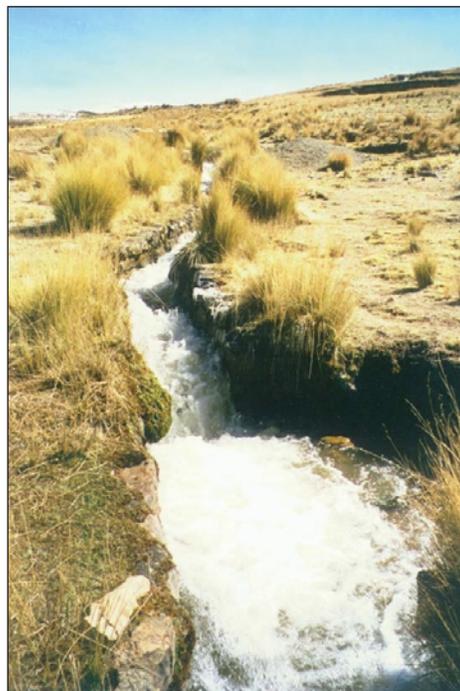
Kanata's power began to feed the Bolivian power grid in May 1999, making it the first independent power production project of its kind in the country. The Kanata facility results in the avoidance of 2,000,000 m³ of water losses per year. Water pollution has also decreased, reducing water treatment costs.

During the construction of the project, new jobs were created. The project provided clean energy to previously unelectrified rural communities, and it increased the availability of potable water by 30%.

Participants and Roles

Bolivian developers, in conjunction with Austrian partners, designed and implemented the project. They also assembled a financing mix of debt and equity from European and local investors.

E+Co provided a \$250,000 loan, allowing the developers to leverage the balance of debt and equity necessary to complete the project financing.



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