

BC Hydro Provides Support to Rural Electrification Project in Lesotho, Africa

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A new project conducted in partnership with the [Energy Poverty Action \(EPA\)](#) initiative is sending BC Hydro employees where they have never gone before to electrify remote communities – Africa.

In February, **Shamus Cromarty**, Survey Technologist and **Klaus Kreye**, Engineering Team Lead, headed to the country of [Lesotho](#) to conduct survey work for a 33 kV power line. The project will bring 1 MW of power to the region of Mphaki, providing electricity to approximately 1,500 rural households and institutions.

“Our job was to pick the best route for the line,” says Shamus of the work they conducted for the 100km line that will run through Lesotho’s mountainous landscape. The duo completed basic mapping, assessed line routes and identified and mapped villages which will either get connected to the grid or, for those too far from the line, will receive electricity via photovoltaics.

In Lesotho, 11 per cent of the population is connected to the current grid system. Only one per cent of rural dwellers are connected.

“Africa is still what it’s always been: beautiful and scenic,” says Klaus. “But the people often rely on foreign programs such as this for development assistance.”



Above: Community in the Lesotho area. The population of Lesotho is approximately 2 million and is considered one of the world's least developed countries. Life expectancy at birth is less than 40 years. It is estimated that approximately 30 per cent of the population is infected with HIV/AIDS.

Recognizing that two billion people in the world are without electricity, the EPA initiative addresses energy poverty in developing countries. As part of that initiative, BC Hydro partnered with the electric utilities of Sweden and South Africa to provide expertise to the Lesotho government free-of-charge for this rural electrification project.

"With this project there is an obligation to ensure that it is sustainable and the maintenance and operational aspects are covered to keep the system in service," says Klaus.

The project is designed to ensure financial, operational, social and environmental sustainability through the development of local infrastructure. Capital is provided by the African Development Bank and end-users pay for the electricity they use. The recently-created Mphaki Electricity Distribution Association (MEDA) will operate and maintain the local electricity system.



Above: The newly-formed Mphaki Electricity Distribution Association (MEDA).

It's expected the project will:

- Increase economic opportunities for end-users and, therefore, reduce poverty.
- Improve economic conditions for local people employed as part of the project, both in the short-term (construction) and long-term (administrative duties, operations and maintenance).
- Empower the local community through the establishment, development and operation of MEDA.
- Improve the local environment when the electricity replaces the use of forest resources for fuel.
- Improve the quality of life for the local population.

Now back in Canada, Klaus is working on the tender documents that will be used when the Government of Lesotho puts out the bid for the design and construction work.

Once the project proves successful, the EPA partner companies will consider replicating the model in other developing countries in Africa.

It is expected that BC Hydro will be able to incorporate technical and process lessons from the project into the implementation of its Remote Community Electrification Program. BC Hydro employees interested in being involved in this or possible future projects in Africa can contact Meaghan Duthie.

"It was a beautiful contryside to work in," says Shamus. "I would definitely do it again."



Above: Village in the Mphaki area.