

## TAJIKISTAN



### PamirEnergy

*Following the collapse of the Soviet Union in 1991 and a five-year civil war, Tajikistan's electrical infrastructure was in need of significant investment. Among the most affected areas was the Gorno Badakhshan Autonomous Oblast (GBAO), where economic and human development was stifled during the cold winter months as a result of a lack of electricity for heating and the consequent closure of schools, health centres and businesses.*

*Many of the region's 200,000 residents resorted to wood fuel for their heating and cooking needs during the winter, resulting in the decimation of 70 percent of the region's forests within a decade and a sharp increase in respiratory disorders due to smoke inhalation.*

*The Aga Khan Fund for Economic Development (AKFED), in partnership with the International Finance Corporation, formed the PamirEnergy*

*Company in 2002 to address the situation. Some US \$26.8 million dollars has since been invested by the company to repair the electrical infrastructure of GBAO and expand hydroelectric capacity.*

*In the wake of these efforts, over 86 percent of the region's inhabitants now have access to electricity while tariff subsidies have ensured that even the poorest households are able to access power.*

#### **AKFED's Approach**

Despite the dire need for electrical infrastructure in GBAO prior to PamirEnergy's founding, attracting private investment to the region was difficult, especially following the civil war. The legacy of Soviet subsidies meant that those fortunate to have electricity paid at less than one tenth of the production cost, while measuring consumption for billing purposes was

nearly impossible in view of the dated electrical metering system.

In this fragile context, AKFED took bold but calculated steps to bring partners and resources to address the issue. Under a public-private partnership agreement signed with Government of Tajikistan in 2002, the company is managing the operation of all power generation, transmission and distribution facilities of GBAO for a 25-year concession period.

To address cost issues, AKFED has developed a pioneering subsidy scheme to make the electricity both affordable to residents and financially viable for PamirEnergy.

One subsidy ensures that a minimum "lifeline" monthly supply of power is provided to households served by the company at a rate of US 0.25 cents per kilowatt-hour, one of the lowest in the world amongst privately-owned utilities.

Expansions undertaken at the Pamir I hydropower plant have enabled most of PamirEnergy's Khorog customers to have electricity for 24 hours per day for the first time since the end of the Soviet era.



Subsidies are generously funded by two grants, one provided by the Government of the Swiss Confederation (SECO) and the other by the Tajikistan government through financing by the International Development Association, a member of The World Bank Group.

### Rehabilitation Efforts

Since taking over electrical utility operations in GBAO, PamirEnergy has installed an additional two turbines and generators at Pamir I, the company's main generating plant and retrofitted them with new equipment and systems, increasing the plant's installed capacity from 14 to 28 Megawatts (MW). Renovations have also occurred at the company's nine mini hydropower plants, which provide power to villages and small settlements in more remote areas.

At Lake Yashilkul, the water source for Pamir I, the company has created a retention structure increasing water flow of the Gunt River by as much as 40 percent during the winter months, when electricity is crucial but power generation is restricted due to low river flows.

To ensure that power billing is fair and accurate, the company has procured a meter standard, re-calibrated 9,200 old electricity meters and installed 7,609 new individual meters. In total, 81 percent of all power sold is now individually metered.

### Impact

As a result of PamirEnergy's efforts, most residents of the city of Khorog, GBAO are now enjoying 24 hours of power a day for the first time since the end of the Soviet era. The renewable energy produced by the company's plants has displaced the need to burn trees or to use high-polluting diesel generators. Due to its limited greenhouse emissions, PamirEnergy has been able to generate revenue by selling carbon credits abroad, in line with the terms of the Kyoto Protocol.

The company continues to be a source of livelihood and skill development for populations in the region, providing employment opportunities to over 600 local residents.

### Looking Forward

PamirEnergy plans to continue to expand its power generation capacity and to install 6,000 additional electric meters in 2008 in its endeavour to provide each customer with individual meters. Steps are also being taken to address the challenge of increasing cost recovery in a manner consistent with household's ability to pay.

PamirEnergy is also planning to establish a customer service centre in Khorog that will be connected to the company's grid and database, enabling representatives to more efficiently and effectively respond to customer inquiries and difficulties.

A cross-border transmission line between Tajikistan and Afghanistan was completed in June 2008, enabling PamirEnergy to share its surplus power in the summer months with the Shugnan district of Afghanistan. If successful, the company expects to replicate this pilot project in other villages along the border.

The Aga Khan Development Network (AKDN) is a group of private development agencies working to empower communities and individuals, often in disadvantaged circumstances, to improve living conditions and opportunities, especially in Africa and Asia. Its agencies work in over 30 countries for the common good of all citizens, regardless of their gender, origin or religion. Its underlying impulse is the ethic of compassion for the vulnerable in society.

