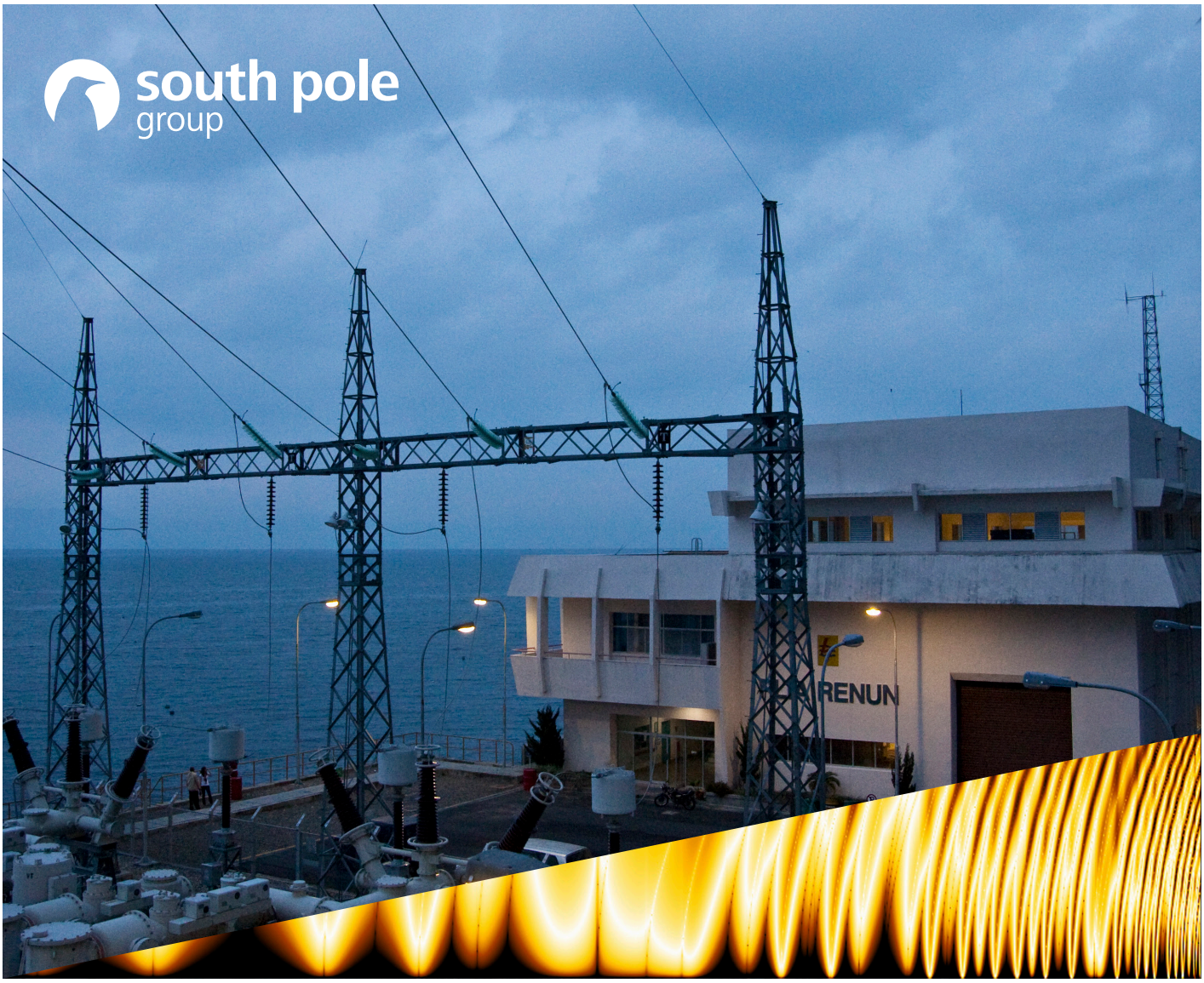

Sustainability action · Project Renewable Energy and Energy Efficiency

Renun run-of-river hydro, Indonesia

This hydro project is a grid-connected, run-of-river hydro plant that generates electricity without the need of a retaining dam. Using a natural height difference, it generates clean energy for the island of Sumatra.

Project

Sumatra is covered by dense tropical forests and forms a rich habitat for numerous species. To save this unique landscape and at the same time generate clean energy from its rich sustainable sources for the country's growing demand, an elaborate run-of-river hydro plant has been built at the banks of Lake Toba. The plant uses a natural height difference of about 500 meters to generate sustainable hydropower – without the need for a retaining dam. To protect the unique landscape in this sparsely populated region, most of the pipelines were built underground. The water is taken from several sources to ensure sufficient downstream flow, and the project owner started a reforestation program in the catchment area. Thus, by the project activity, a large amount of greenhouse gases is kept from entering the atmosphere, and Indonesia's growing economy is fueled with emission free energy. But the project is not only mitigating global warming and taking care of the environment, the local population of this remote region far from the next city is benefitting as well. Not only have qualified jobs been created in- and outside the hydro plant, also local weavers of traditional Ulos (a cloth mostly used in ceremonies such as weddings) are supported to keep regional artisanry alive. Several local schools received donations to promote education for kids and teenagers, local churches and mosques in this multi-religious region are supported, and public facilities such as toilets and clean water supply were built. With its strong approach to sustainable development in a remote region, the project gained Social Carbon certification.

Checklist	Additionality and permanence	3rd party verified	Transparency	Annual CO_2-reduction	Social and environmental benefits	Marketing material
Project 300 354	According to the rules of the VCS and Social Carbon Standard	by RINA	Provided by Markit Environmental Registry	250,000 tCO_2e	As documented in our database	High resolution pictures available

1069EN, 04.2015

Location

The project is located at Lake Toba on Sumatra, Indonesia's largest island, just 200 km North of the equator and about 100 km from the province's capital, Medan. The local economy in this rural region in the mountainous forests is mostly typified by fishing, farming and traditional artisanry.

Project achievements

Socio-economic impact

- In several surrounding villages, the project owner supplies free medical treatment to locals to support health issues in this remote region without any proper medical coverage.
- The project activity generated 27 permanent jobs for locals in the hydro plant, with training and health care included.
- The local elementary school and state junior high school benefit from donation from the project owner. They were given renovation materials for the construction of the school building, drainage piping to avoid flooding in the rainy season, and electricity supply. In addition, education is supported through free laboratory and sport equipment, and sport lessons are sponsored.
- Local religious denominations received donations and contributions in the form of construction material to build churches and mosques. Additional benches for Santa Teresa Church were purchased thanks to donations by the project owner.
- To improve the local living standard, public facilities such as public toilets and installations for clean water supply were built by the project owner.
- The project owner provides a weaving company employing local women with thread to support local Ulos artisanry and strengthen tradition.

Environmental impact

- To keep the project's impact on the environment as little as possible and to protect the unique landscape, most of the water pipelines were built underground.
- The water is taken from several sources (Lau Renun River, Haporas River, Bargot River, Tapian Nauli River) to ensure sufficient downstream flow.
- The project supports catchment area reforestation to further mitigate its environmental impact and guarantee for a lively environment. Free seedlings are given to locals in the area to enforce concrete action.

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