International Climate Initiative

Climate Partnerships with the Private Sector: e-Mobility Tonga

With an area of 750 km² and about 110,000 inhabitants, the South Pacific island state of Tonga is not only one of the poorest countries in the world, but is also confronted with a serious shortage of natural resources. The dependence on fossil fuels for the generation of electrical energy leads to comparatively high costs. The kilowatt-hour of electrical energy, obtained from fossil fuels would be about € 1 / kWh cost. However, governmental subsidies reduce the electricity price to € 0.34 / kWh. According to the Tonga Energy Road Map, state dependency on fossil fuels has to be reduced by 50 percent by 2020. According to estimates by Tonga Power Ltd., Mobility and Boating (TPL) annually 26 million litres of diesel (60,580t CO_2 per year) were used.

The aim of the project is the pilot operation of electro-powered emission-free vehicles and boats for data collection and development of a sustainable mobility concept for small island states in order to reduce dependency on fossil fuels and to enable sustainable mobility. To this end, the KSG is working with the Solar Island Technology (SIT) Ltd., which has been based in Tonga since 2013.

Through the use of e-TukTuks, approx. 2.33 kg CO_2 can be saved for each litre of gasoline avoided. An additional 500 kg of CO_2 and other pollutants p.a. can be reduced per kilowatt peak of installed PV capacity. In addition, the currently imported gasoline wouldn't be transported more than 9,000 km from Singapore to Tonga anymore. This would not only save transport costs, but also tons of additional CO_2 not emitted into our atmosphere.

The targeted mobility solutions offer the opportunity of:

- Promoting access to environmentally-friendly and low-cost transportation for all population strata,
- the reduction of the negative impact of the transport sector on climate change (gasoline vehicles: approx. 17.5 kg CO_2 / 100 km vs. e-TukTuk: 0.0 kg CO_2 / 100 km)
- Reducing emissions from fishing (2 boats correspond to a saving of 8.8 t CO_2 p.a.)
- Know-how and technology transfer, as the Tongaans are trained to integrate these new technologies and the handling of such solutions into their daily lives.

This project is financed by the International Climate Initiative of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB).

Country:	Tonga
Implementation:	DEG - Deutsche Investitions- und Entwicklungsgesellschaft mbH, Köln
Private sector partner:	Kirchner Solar Group GmbH
Total project costs:	404,636 €
BMUB-funding:	189,848 €
Project duration:	02/2016 – 01/2017

Supported by:
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
based on a decision of the German Bundestag

INTERNATIONAL CLIMATE INITIATIVE (IKI)

KFW DEG