

Solar Power in Tokelau

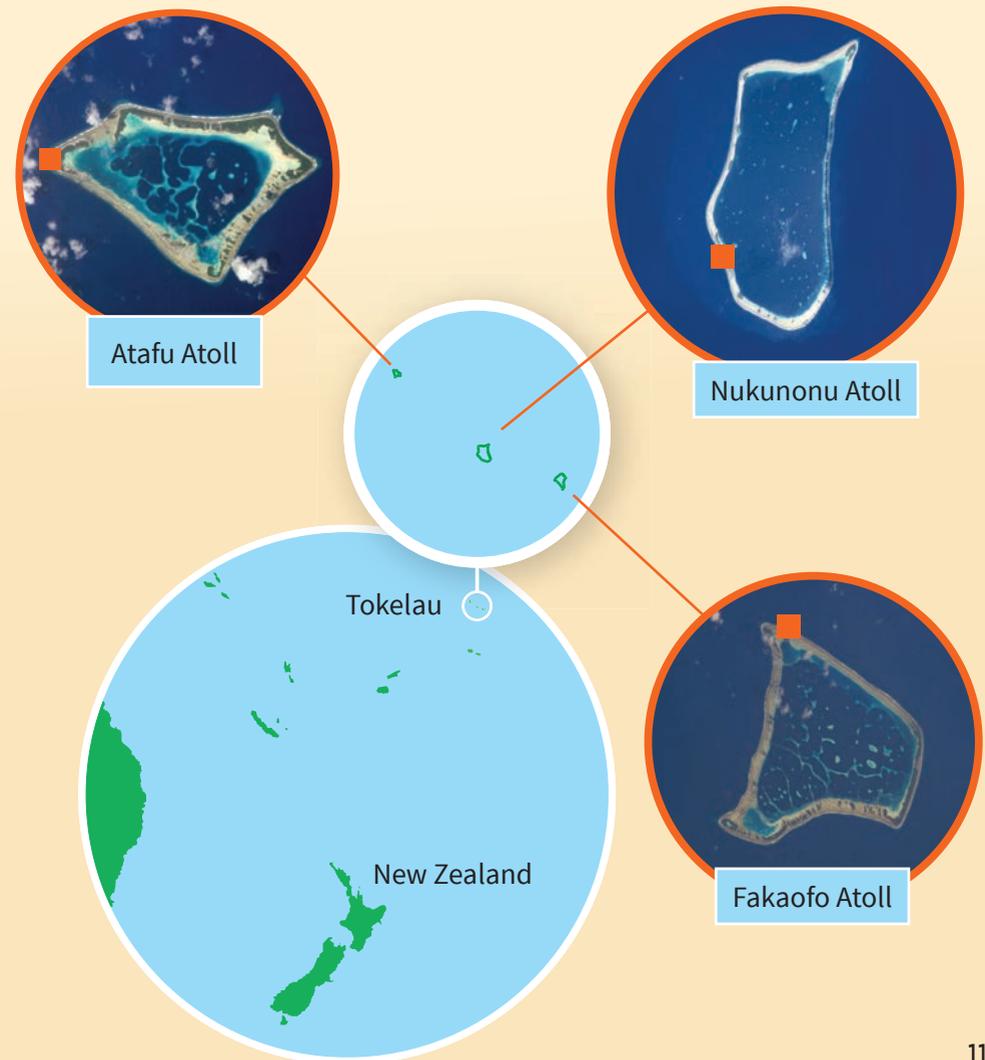
by Iona McNaughton



Tokelau is a very small and very sunny country in the middle of the Pacific Ocean. Tokelau is also a very special country because it uses only renewable energy. It gets nearly all of its electricity from the sun.

Tokelau is made up of three atolls. An atoll is a ring of small islands with seawater in the middle. The photo on page 10 shows one of the small islands.

Each atoll has a **power station**. This square ■ shows where the power station is on each atoll. New Zealand engineers helped build the power stations.



Why did Tokelau start using renewable energy?

Tokelau used to burn **diesel** to make electricity, but in 2012, it decided to stop using diesel.

There were four main reasons.

1. Diesel is made from oil, which is a fossil fuel.
2. Burning diesel to make electricity is bad for the environment because the diesel produces a lot of poisonous gases as it burns.
3. The diesel had to be brought to Tokelau by ship, and that cost a lot of money.
4. The supply of diesel was not reliable. The power would often stop, and sometimes people weren't allowed to use things like electric ovens or air conditioning because they used too much power.

So Tokelau decided to change. Now solar power provides most of Tokelau's electricity, and the rest comes from coconut oil.

Power from coconuts

Tokelau has a lot of coconut trees. The coconuts from the trees produce coconut oil, which can be burnt to produce electricity. Coconut oil is a renewable fuel because the people of Tokelau can grow more coconut trees.



Fossil fuels

Oil, coal, and natural gas are fossil fuels. Scientists believe these fuels have been made underground over millions of years.

Like the sun, fossil fuels can be used to make electricity. But if countries keep using fossil fuels to make electricity, one day these fuels will run out. Once they are used, they can't be replaced – they are not “renewable”.



Natural gas plant



Oil rig



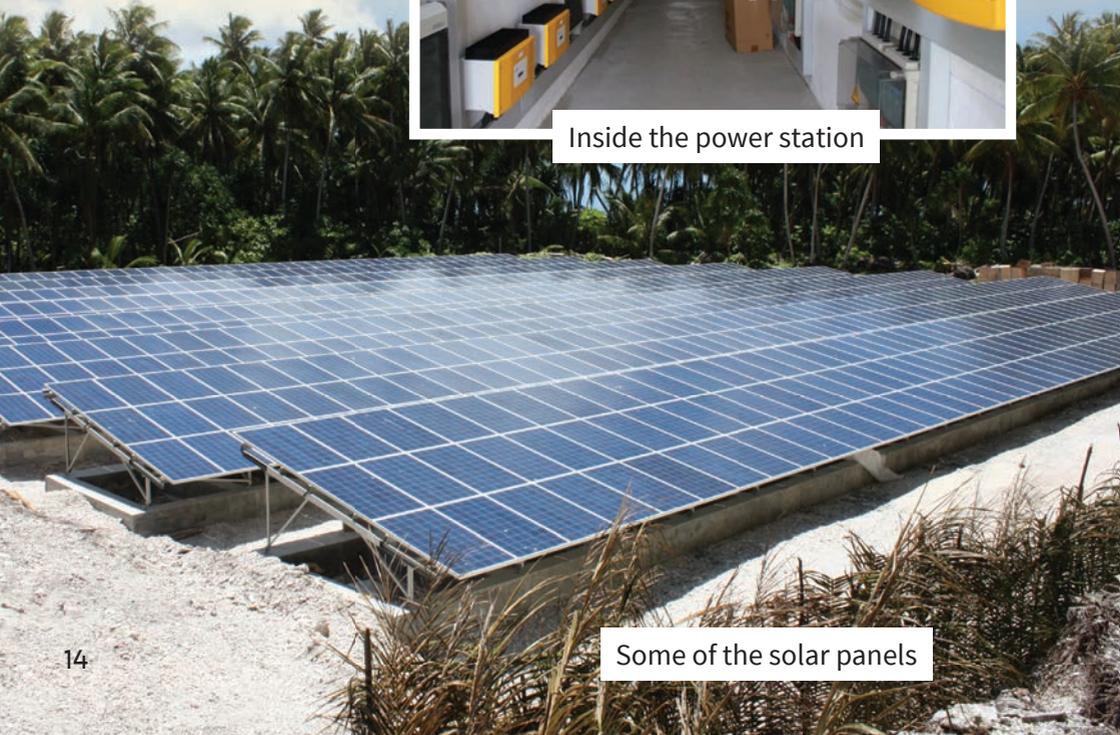
Coal mine

Power stations in Tokelau

In 2012, New Zealand engineers began building three power stations in Tokelau, one station on each atoll. These power stations have solar panels (more than 4,000 altogether) that use sunlight to make electricity. The electricity from the panels can be stored in huge batteries. It can then be used during the night or when it's cloudy or rainy and there isn't much sunlight.



Inside the power station



Some of the solar panels

Living in Tokelau

Hilivelio lives on the atoll of Nukunonu. Two of his grandparents live in New Zealand, and Hilivelio likes to talk to them on the internet every week with his mother and his brothers and sisters. He tells his grandparents about school and about some of the other things he's been doing, such as playing kilikiti, going fishing, swimming, and feeding the pigs.

The power station on Nukunonu is only a five-minute walk from Hilivelio's school. The students visit the power station when they are learning about solar energy.



“At school, we learn about how we can use the sun to make electricity,” Hilivelio says. “The sun shines a lot in Tokelau, and we can use solar panels to make the sunlight into electricity. The sun’s energy is called solar energy, and it’s renewable. Tokelau is the first country in the world to use renewable energy to make all its electricity. Everyone in Tokelau is very proud that such a small country has done such a big thing.”



Reliable, renewable energy

Hilivelio’s mother is very pleased, too. “Now, everyone is very happy because we have power twenty-four hours a day,” she says, “and we have done something good for the environment too.”



Hilivelio’s mother

And now that Tokelau has all the electricity it needs, Hilivelio can talk to his grandparents in New Zealand on the internet any time he wants to.



Glossary

diesel: a fuel made from oil (a fuel is something that is burnt to make heat or power)

power station: a place where electricity is made

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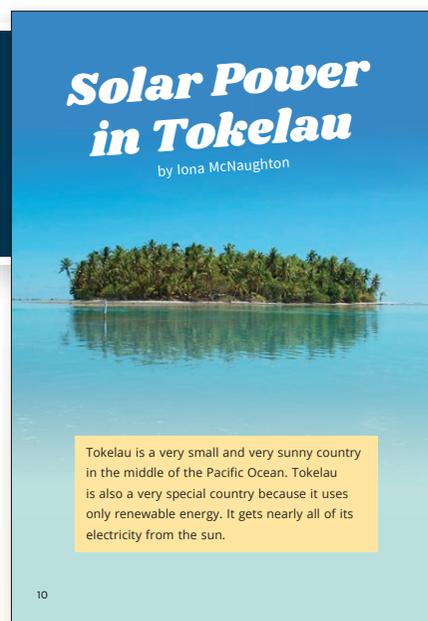
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