

Welcome to As It Is from VOA Learning English.

Hi. I'm Caty Weaver. Today on the program we have two reports on electrical power. Scientists and engineers say they have a power plan for New York City that could end its dependability on fossil fuel.

But first we head to Sierra Leone. The National Power Authority there has already taken steps to get and keep the country out of the dark.

How to meet power needs, on As It Is today...

Lighting Up Sierra Leone

The people of Sierra Leone face electric power outages almost every day. In fact, some areas have been without electricity for years.

Recently, the National Power Authority deployed a new device which can identify problems in underground power lines. The hope is to provide electricity everywhere all the time. Steve Ember has our report.

People in Sierra Leone have been without dependable electric power since the 1980s. That was when demand for power began to increase. Then in 1991, a civil war began. The fighting lasted 11 years. It left the country in ruins. Many power stations were destroyed.

People moved to Freetown, the capital, in search of better living conditions. As the population increased, the demand for electricity grew. The higher demand was too much for the National Power Authority. Today, power outages, or blackouts, can happen in Freetown every day. And parts of Sierra Leone still have no power at all.

December is a time for celebration in Sierra Leone. Music can be heard in many areas as carnival parties get started. But things can come to a complete halt at night if there is no national power and you do not have a generator to produce electricity.

That is when the NPA's new device comes to the rescue. The equipment can identify breaks in large underground cables.

Edward Parkinson is a technician who works with the device. He says that in the past, technicians had to dig up streets in an effort to find broken wiring.

"With this new equipment it will reduce the down time and also it will help us locate faults at a faster rate."

He says the equipment can find a faulty cable within a few hours. In the past, discovery could take weeks.

Scott Gavin is the deputy general manager for NPA. He says the hope is the new equipment will also help Sierra Leone have power 24 hours a day within about two years.

"And because of the ease with which we can do it, improved technology, within an hour or two, depending on the length of cable, we are able to pinpoint the fault and then we can request for permission if it's along a road, so that excavations can take place."

Scott Gavin says the device has been on the market only for about one year but it is used worldwide. It cost the NPA about \$230,000.

He says a German company, SebaKMT, built the equipment. Similar models have been used for many years. But he says this new one, called the "System Classic," had everything the NPA needed.

"This one we requested for a complete set, that would help us identify cables in the ground, do location (find) in the event of faults, and do the necessary tests all in one vehicle. So you drive the vehicle, it has a generator in case there's no power at that location, so you just operate the generator and you can power the equipment. "

This is all good news to people like Momoh Kamara, a 33-year old man who works in the western part of Freetown. He describes what it is like without electricity.

"For example, when you have food, you are not able to store it more than one day, it affects that area greatly. And overnight, when you have problem, get a funny sound, like thieves, for you to detect [them], it's difficult because the place is dark and whenever thief comes around, if the place is dark, he will have the chance to do whatever he wants to do, so it's terrible to live in a place where there is no electricity."

He also says that no light means snakes can move around a house at night without being seen. He says the animals sometimes attack.

Scott Gavin of the National Power Authority knows the new equipment alone cannot bring back full power to the country. But, he notes, it surely can help.

I'm Steve Ember.

Plans for Widespread Renewable Energy Sources

Many people continue to express concern about damage to Earth's climate. Scientists have linked the damage to carbon-based fuels like gas, oil and coal. The financial costs of these fuels also are rising. As a result, some environmental engineers are offering plans for reaching energy independence through renewable power sources. One of these planners is Mark Jacobsen.

Mark Jacobson may be the only civil engineering professor invited to appear on the television talk show "Late Night with David Letterman." Mr. Jacobson went on the program in October to explain his findings on wind, water and solar energy. He said these renewable power sources could quickly meet almost all the world's needs now served by fossil fuels.

Mark Jacobson teaches at Stanford University in California. In a report in the journal *Energy Policy*, he and Cornell University researchers tell how New York State could move to wind, water and solar power by 2030. They say that there would be enough energy left over to power every vehicle in the state as well, if those vehicles are electric.

The plan calls for thousands of wind turbines, most to be built in the Atlantic Ocean. It also requires solar and photo-voltaic power centers, rooftop systems on 5.5 million buildings and geothermal factories. The researchers say their proposal calls for devices to capture tidal and ocean wave power as well as additional hydroelectric centers.

Marc Jacobsen says the plan calls for the use of just one percent of New York's land.

“The technologies we’re focusing on are the cleanest and therefore the best and most sustainable for society in the long run.”

He and the other researchers say the only barriers to the plan are political, not technological.

“There are a lot of industries that look unfavorably upon this plan, because they don’t benefit from it.”

And that’s As It Is for today. I’m Caty Weaver. Thanks for joining us.