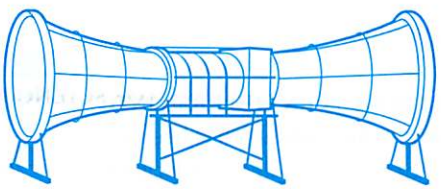
SCIENCE

Palmyra Goes Greener

A Pacific island nature refuge trades biodiesel for wind and solar energy

LOCATED 1,000 MILES SOUTH OF HAWAII, PALMYRA Atoll National Wildlife Refuge—co-managed by the U.S. Fish and Wildlife Service and The Nature Conservancy—is a haven for sharks and birds precisely because of its remoteness. But that isolation made powering the atoll's scientific research facilities expensive. Thanks to a bit of ingenuity, this year the atoll is now running almost entirely on renewable energy.



New Technology Protecting the atoll's nesting seabirds meant rethinking the typical wind turbine. Common turbine designs have been known to harm birds.

Engineering Ideas David Sellers, Palmyra's former Conservancy director, helped design a turbine with encased blades and a net over the air intake.

FAST FACTS

385
Number of solar panels installed on the atoll. The panels charge batteries and generate up to 100 kilowatts of energy each day.

1
A prototype wind turbine providing energy at night and during stretches of bad weather or heavy cloud cover.

21,000
Gallons of biodiesel fuel previously shipped annually to Palmyra.

95%
The expected reduction in use of biodiesel fuel, made of vegetable oil.

1 MILLION
Number of birds, such as the red-footed booby, that nest on the atoll.

Ecological Refuge Researchers study corals and other life at Palmyra. Turning to cheaper energy will free up more money for protecting the atoll.

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