

A photograph of a family—a man, a woman, and a young child—standing in front of a solar water pump system. The man is wearing a light-colored shirt and jeans, the woman is in a bright orange sari, and the child is in a yellow shirt. They are standing on a grassy field with a body of water in the background. Large solar panels are visible on the right side of the image.

# Accelerating Clean Energy Solutions

Globally, about 600 million people lack access to electricity and two billion lack access to clean cooking fuels. In recent years, solar lighting has made advances in low-income communities around the world. But lighting alone does not lead to reduced drudgery or increased income.

New business models are needed to scale up access to productive use clean energy technologies, either by creating financing terms that work for low-income communities or individuals to purchase clean energy technologies (such as solar irrigation pumps or electric cookers), or by creating business models for entrepreneurs to make a living providing clean energy services to local customers (such as solar milling or solar chilling).

## SERVICE OFFERINGS

Winrock designs, demonstrates and scales commercial business models in emerging renewable energy sectors, including productive use of renewable energy, electric cooking, fuel switching to eliminate fossil fuels, and distributed renewable energy. We develop project pipelines and mobilize public and private investment into these new sectors through new financing mechanisms and de-risking banks and project developers. We also prioritize renewable energy technologies that meet

*Ram Pratap Sahani and Binita Kumari Sahania purchased this solar water pump through credit financing as a part of the Nepal Renewable Energy Programme (NREP). Learn more about their story [here](#).*

basic needs by reducing drudgery for women and girls, such as solar pumping for community water supply, solar irrigation and micro-solar milling.

WINROCK HAS CATALYZED OVER **\$1 BILLION IN RENEWABLE ENERGY SYSTEM INVESTMENTS** IN OVER **32 COUNTRIES** OVER THE PAST **25 YEARS**.

## Green finance for clean energy

Challenge funds are an effective way to leverage private investment into emerging renewable energy sectors. In 2021, **Winrock established the Sustainable Energy Challenge Fund, a renewable energy financing facility** designed to help the government of Nepal reach its ambitious targets for transitioning the country away from fossil fuels. To date, the SECF has mobilized \$25 million in private sector investment in clean energy projects by providing viability gap funding to project developers.

THIS WORK HAS RESULTED IN **13 MEGAWATTS OF ROOFTOP SOLAR INSTALLED AT COMMERCIAL/INDUSTRIAL FACILITIES, 67 INDUSTRIAL ENTERPRISES SWITCHED TO CLEANER FUELS** AND INSTALLATION OF **100 ELECTRIC VEHICLE CHARGING STATIONS**.

To learn more about Winrock's work on the Nepal Renewable Energy Programme and the SECF, click [here](#).



*A smallholder Kenyan dairy farmer poses in front of her new solar milk chiller that she financed through local savings and credit cooperatives as part of the Photovoltaics for Sustainable Milk for Africa through Refrigeration Technology (PV-SMART) project.*

Winrock collaborates with governments, financial institutions and the private sector to build pipelines of bankable clean energy projects by conducting project-level due diligence, providing technical advisory services to align with financing facility requirements and strengthening the capacity of financial institutions to assess applications and structure loans. For example, under the Nigeria **Sustainable Use of Natural Resources and Energy Finance** project, Winrock provided transaction advisory support to developers to access green credit lines set up by the Agence Française de Développement and the European Union totaling \$70 million through Access Bank and the United Bank of Africa. **Read more about Winrock's work on SUNREF [here](#).**

### **New markets for clean energy technologies that reduce drudgery**

Winrock accelerates markets for renewable energy productive use technologies by conducting initial feasibility studies, piloting business models and facilitating business model scale-up. Key interventions include de-risking private developer investment, mobilizing loan capital, strengthening the capacity of banks to design smallholder loan products, facilitating aggregated orders that support expanded supply and repair networks, testing products as they come on the market, and providing quality control for system designs and installations.

**RESULTS TO DATE FROM WINROCK'S WORK IN NEPAL INCLUDE SALES FACILITATED FOR 300 NEW SOLAR PUMPS, 80 SOLAR CHILLERS, 12,000 BIOGAS DIGESTORS, AND 46,000 ELECTRIC COOKERS.**

Additionally, in Ethiopia, Winrock is demonstrating a commercial model for replacement of diesel community water pumps with solar pumps in Amhara province. Preliminary results include solarization in eight pilot communities serving 65,000 residents, through a three-year lease-to-own contract between each community's water committee and local solar developers. Also in Ethiopia, Winrock is demonstrating a business model for women entrepreneurs in off-grid villages to increase their income by providing micro-solar milling services to their neighbors, reducing the effort of manual milling or traveling to diesel mills in larger towns

