

Sunlabob Renewable Energy

Company Profile



**Sunlabob
Renewable Energy**
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Table of Contents

A. Executive Summary	pg. 2
B. Products and Services	pg. 4
I. Rural Energy Focus	
II. Urban Energy Focus	
III. Consulting and Advisory	
C. Project Case Studies	pg. 6
I. MMG Sepon clean water access private-private partnership	
II. World Bank 12,000 Solar Home Systems (SHS) in Cambodia	
III. Nam Kha II: Lao P.D.R.'s first grid-tied renewable energy	
IV. Kiribati Islands: solar power supply, installation and capacity-building	
D. Partner and Customer Testimonials	pg. 8
I. United Nations Industrial Development Organization (UNIDO)	
II. Community & Social Responsibility Expert	
III. Fondation Energies pour le Monde (FONDEM)	
E. International Project List	pg. 9
F. Customer List	pg. 11
I. International Development Agencies	
II. Governmental Organizations	
III. Non-profit/Non-government Organizations	
IV. Corporate and Private Sector	

A. Executive Summary

Sunlabob Renewable Energy is a Laos-based company specializing in renewable energy and clean water solutions throughout the developing world. As experts in rural, remote areas, Sunlabob offers a wide range of products and services that achieve one common goal: to enable long-term access to clean energy and water.

Sunlabob offers a range of products and solutions that catalyze sustainable growth – economically, socially and environmentally – by focusing on innovative operational and business models that can be applied to:

1. Off-grid solar power and lighting
2. Hybrid renewable energy mini-grids using solar, hydro and wind
3. Clean water supply and purification
4. Energy efficiency audits and consulting

Established in 2000, the company has expanded far beyond its initial focus in Laos, now providing its integrated expertise of rural electrification to governments, multilateral development agencies, multinational companies, NGOs and private individuals throughout Southeast Asia, India, Africa and the Pacific.

The Sunlabob Factor

Sunlabob is unique as it combines high-quality technology with sustainable operational models and local capacity building activities to ensure longevity of rural energy systems. Tapping into its on-the-ground experience, Sunlabob has developed several self-sustaining operational models that can be tailored and implemented in local conditions and left to villagers to run independently.

Key differentiators that make Sunlabob the premier partner for on- and off-grid, rural renewable energy development are that we:

- **Understand the unique needs of the developing world.** Sunlabob's initial experience in very remote areas of Laos lacking access to electricity or water proves invaluable throughout the developing world, whether it is efficiently transporting solar panels to the islands of Micronesia or understanding how to provide effective training to locals in Sierra Leone.
- **Offer an 'A through Z' expertise across the entire project development spectrum,** ranging from pre-feasibility studies all the way to end-user training. Need an expert renewable energy installer? Looking for procurement, engineering or project management advisement? As an integrated solutions provider that thoroughly understands the intricacies of rural electrification, we are well-equipped to help.
- **Recognize the relationship between long-term, reliable energy access and rural community development.** Sunlabob's widely-recognized operational models enable micro-entrepreneurship and self-sustaining energy and water access by providing technical, bookkeeping and governance skills to local individuals.
- **Provide a flexible, customizable approach toward design** to enable the most effective, long-lasting solutions for each unique rural environment. Thanks to our roots in the developing world, we know that each rural community has its own distinct needs.

- **Focus specifically and entirely on clean energy and water in the developing world.** Unlike many of our international competitors with broad objectives, Sunlabob operates with the primary aim to provide solutions to remote, rural areas in developing countries.
- **Know how to achieve the visions of donor and development organizations.** Sunlabob's practical on-the-ground experience allows us to bridge the gap between conceptual models and successful implementation.
- **Maintain an exceptional supplier base of high-quality equipment** that ensures long-life of systems.
- **Uphold socially-driven values** that complement the company's commercially-minded approach to renewable energy development.

Business Focus Areas

Since its founding in 2001, Sunlabob has leveraged its extensive experience throughout Laos – one of the world's most challenging environments to develop off-grid renewable energy – to robustly expand its lines of business, both domestically and internationally. An overview of Sunlabob's main business focuses include:

- *Direct Sales*

Sunlabob offers turnkey renewable energy and clean water solutions through the sale of equipment, installation and training to companies, public agencies, NGOs and private individuals. There is no standard sale – almost all projects are custom designed to the needs of the community or customer – a key differentiator of Sunlabob's offerings.

- *International Competitive Bids*

International Competitive Bids ("ICBs") are tenders for the equipment supply and sometimes installation and training that accompany renewable energy-related projects issued by multilateral development agencies and country governments. By definition, these are mainly developing countries concentrated in Africa, South America, Central and Southeast Asia and the Pacific islands.

A representative example of Sunlabob's ICB work includes a contract financed by the World Bank to supply and install 12,000 Solar Home Systems in Cambodia.

The company's strong competitive advantage in the ICB arena can be attributed to the technical, logistical, cultural and practical capabilities, as well as strong supplier relationships, that Sunlabob gained through its previous experience in other business lines of rural renewable energy.

B. Products and Services

Rural Energy Focus	Urban Energy Focus	Other
<ul style="list-style-type: none"> • <i>Mini Grids</i> • <i>Solar Home Systems</i> • <i>Solar Lantern Systems</i> • <i>Solar-Powered Water Purification</i> • <i>Solar-Powered Water Pumping & Distribution</i> 	<ul style="list-style-type: none"> • <i>Energy Efficiency</i> <ul style="list-style-type: none"> ○ Consulting ○ Audits ○ Material Supply & Install ○ Mobility & Transport 	<ul style="list-style-type: none"> • <i>Consulting</i> <ul style="list-style-type: none"> ○ Infrastructure Development ○ Energy Policy ○ Capacity Building
Sunlabob serves customers and beneficiaries throughout Asia, Africa, India and the Pacific Islands.		

In-depth summaries of Sunlabob's main products and services include:

➤ **Rural Energy Focus:**

- *Village Mini-Grids*: Sunlabob's mini-grids are installed in villages with no access to the centralized national grid. Various sources of energy – solar PV, mini-hydro and diesel, primarily – are fed into the village grid, which provides individual homes with AC power and greater energy supply than solar home systems. Sunlabob has experience executing mini-grids through Power Purchase Agreements (PPA) with utilities, as well as through donor-funded electrification programs.
- *Solar Home Systems (SHS)*: Sunlabob's SHSs are typically installed for households scattered through wide areas, as opposed to a cluster of households where a village mini-grid may be more viable. SHSs cost much less than VHGs because they are used for individual houses, but they can be adapted for local village clinics and schools.
- *Telecom Solar and Solar/Genset Hybrid Power Supplies*: Sunlabob designs, installs and commissions telecom power supply systems for telecom providers. Building on our company's experience in rural electrification and international trained staff, Sunlabob has supplied and implemented PV and PV/Genset hybrid systems in countries such as Laos, Kiribati, Timor-Leste and Cambodia.
- *Solar Lantern System (SLS)*: Solar lanterns are portable battery-powered LED lanterns that can be recharged using a solar photovoltaic array. Sunlabob usually install lanterns with a centralized charging station that allows 30-50 lanterns to be charged at one time. Sunlabob has deployed solar lantern charging stations throughout dozens of villages in Lao PDR as well as overseas in Africa, the Pacific region and other Southeast Asia countries.
- *Solar-Powered Water Purification Units*: Sunlabob installs and services water purification units, as well as provides maintenance to enterprises that maintain the units.

- *Solar Pumps:* Sunlabob installs and maintains solar-powered water pumps, primarily used for agricultural purposes in off-grid, rural areas.
- *Fresh and Drinking Water Supply:* Sunlabob provides water distribution systems consisting of solar powered water pumps, storage and distribution systems, providing fresh and clean water to communities and private end-users.

➤ ***Urban Energy Focus***

- *Energy Efficiency:* Sunlabob works actively in energy efficiency – particularly in urban areas of developing countries – conducting energy audits, energy efficiency consultancies for buildings and factories, and supplying and installing energy-efficient materials.

Previous projects have included an energy audit of the 200+ room Champasak Grand Hotel in Pakse, Laos that identified annual energy cost savings of more than 30% a year, as well as consulting on the Cambodia government's national energy efficiency strategy and action plan.

➤ ***Consulting and Advisory***

- Sunlabob acts as a reliable consultancy partner for assessment and feasibility studies for large scale infrastructure, combining experience working in remote areas with applicable standards, common practices and high quality technology. Examples include:
 - Technical training and operational model advisement in Afghanistan for solar-powered lantern charging stations on behalf of the U.S. Agency for International Development (USAID).
 - In-depth report exploring the profitability of solar PV hybrid power supply for utilities in Lao PDR in partnership with the Fraunhofer Institute for Solar Energy Systems.
 - Industrial energy efficiency and green power feasibility studies at the largest tobacco factory in Lao PDR.

C. Project Case Studies:

The following case studies provide a snapshot of Sunlabob's experience and expertise across different products, services, geographies and client types:

➤ **MMG Sepon: Rural, Clean Water Access Through Private-Private Partnership**

- Client:** MMG, Limited, a multinational mining corporation developing the MMG LXML Sepon copper and gold mine in Savannakhet province of Laos.
- Type:** Private-Private Partnership
- Scope:** MMG contracted Sunlabob for the installation and implementation of clean water solutions and community development for 12 villages in Savannakhet in an area where more than 3,400 villagers had been displaced by mining activities and lacked access to a fresh water supply.
- Result:** Sunlabob installed a comprehensive solar-powered water supply system to provide access to water sources to the villagers. Sunlabob installed a combination of water tanks, solar water pumps, solar generators and water distribution systems, as well as a new borehole in each village to enable the extraction of best quality water. The project grants upwards of 3,400 villagers access to clean water with 4-6 water access point per village.



➤ **Cambodia: A Public-Private Partnership Enabling the Country's Largest-ever Solar Power Program**

- Client:** The World Bank, Rural Electrification Program
- Type:** International Competitive Bid (ICB)
- Scope:** Install 12,000 Solar Home Systems (SHS) across more than 400 off-grid villages in Cambodia – the biggest solar power initiative in the country to date.
- Result:** Sunlabob supplied the materials and oversaw installation of the 12,000 SHS throughout the country. Sunlabob also provided community training, capacity building and user manuals to ensure the long-term sustainability of the installations, from both a technical and user perspective.



➤ **Nam Kha II: Lao PDR's First Grid-Tied Renewable Energy Project**

Client: AusAID, Helvetas, Electricite du Laos (EDL),



Type: Public-Private Partnership

Scope: Sunlabob installed hybrid AC electricity grids combining solar and hydro power with a genset back-up in remote villages in Xieng Khaung province, providing reliable electricity to 650 households. Village energy committee members were trained by Sunlabob to operate grids.

Result: The Nam Kha project resulted in Laos' first Power Purchase Agreement (PPA) for renewable energy (excluding large hydropower). Between Nam Kha II and its predecessor Nam Kha I (a hydropower mini-grid), 4,500 rural residents gained improved energy access. The village technicians (at least one per village grid) have a full-time job taking care of the Sunlabob generating equipment.

➤ **Kiribati Islands: Solar Power Supply, Installation and Capacity-Building**

Client: European Development Fund, Government of Kiribati, Kiribati Solar Energy Company

Type: Public-Private Partnership



Scope: As a part of Kiribati's efforts to increase the use of solar energy on a widespread, sustainable basis, Sunlabob was contracted in two phases:

- 1) To supply solar PV materials and related equipment for a variety of decentralized solar energy installations, including more than 2,000 solar home systems, hundreds of small businesses, community centers and schools, as well as village mini-grids.
- 2) Provide the Kiribati Solar Energy Company (KSEC) and other local energy stakeholders with hands-on technical training and classroom instruction for on- and off-grid solar PV installation, operation and maintenance techniques.

Result: After the supply of the solar equipment, Sunlabob focused on familiarizing local engineers with grid-connected solar PV systems, resulting in the installation and commissioning of a 10 kWp grid-connected system at the KSEC headquarters.

The second phase of training focused on off-grid solar-diesel hybrid systems to facilitate the implementation of hybrid solar systems at schools, small businesses and community centers throughout the islands. Both stages of training were comprised of workshops that included classroom instruction and also hands-on practical technical instruction.



D. Customer & Partner Testimonials

"I am fully confident in Sunlabob's rural electrification expertise, ranging from the company's technical capabilities to their adept project management skills. Sunlabob believes in taking a holistic approach that helps to enable meaningful, long-term rural energy access. When I work with Sunlabob I can always trust they will execute on-time and to a high degree of quality."



- **Mr. Rana Pratap Singh, Industrial Development Officer
Energy and Cleaner Production Branch, United Nations Industrial Development Organization (UNIDO)**
-

"Sunlabob is an innovative and dynamic company that assisted us in provision of access to solar power and portable water for remote, rural communities. They have provided professional services which are based on strong technical know-how. Sunlabob understands and considers the social and cultural dimensions of infrastructure projects in rural areas of emerging economy countries."



The way Sunlabob has delivered its services has directly contributed to the objectives of sustainable, locally appropriate solutions for access to power and water for remote, ethnically diverse communities."

- **Mr. Frank Reimann, Principal Adviser, Rio Tinto Global Practice Team for Communities & Social Performance, Asia-Pacific Region**
(Former Country Director for CARE International, Laos and also former Senior Manager, Social License & Sustainability for Sepon Operations of Lane Xang Minerals, part of the Minerals & Metals Group (MMG))
-

"I've not only been impressed by the quality of components selected by Sunlabob but also by its experience in designing the solar systems connected with a local distribution grid and its skill for implementation of the whole units."



Since the early days of our partnership, specific improvements have been achieved in the components of the local grids and indoor installations. It really is professional. Such quality is most required to get reliable service of electricity and finally to reach an affordable price of electricity as maintenance and replacement of equipment are costly, in such remote areas."

- **Mr. Yves Maigne, Director, Fondation Energies pour le Monde**

E. International Project List

(not exhaustive)

Country of Implementation	Donor Organization	Scope of Contract
Afghanistan	USAID	Supply and installation of solar lantern rental systems, including provision of training for villagers
Cambodia	The World Bank	Supply, delivery and installation of 12,000 solar home systems
Cambodia	UNESCAP	Supply and installation of solar lantern rental systems, including provision of training for villagers
Congo	UN-MONUSCO	Provision of solar power equipment
Eritrea	UNDP	Supply of solar water pumps accessories
Guinea Bissau	UNICEF	Supply of solar water pump systems
Kiribati	European Union	Supply of solar PV materials for use in solar home systems, PV plants for small businesses and community centers and village grids.
Kiribati	European Union	Provision of theoretical training and hands-on instruction focus on on- and off-grid solar PV
Liberia	UNIDO	Supply and installation of mini-grids
Micronesia	European Union – Secretariat of the Pacific Community	Supply of solar powered lantern charging stations
Mozambique	UNIDO	Supply and installation PV plants to operate telecommunication systems
Mozambique	UNIDO	Supply of solar power systems, communication equipment and related services
Republic of the Marshall Islands	European Union – Secretariat of the Pacific Community	Supply, delivery and local training for 1500 solar systems
Sierra Leone	UNIDO	Supply and installation of mini grids (Phase 1)
Sierra Leone	UNIDO	Supply and installation of mini grids (Phase 2)
Tanzania	Swiss Development Corporation	Supply and installation of solar lantern rental systems, including provision of training for villagers

Thailand	UNESCAP	Supply of grid-connected solar PV system material
Thailand	Private landowner	Supply and installation of hybrid solar system for luxury villa
Timor-Leste	AusAid	Supply and installation of solar energy systems for health posts
Timor-Leste	UN Integrated Mission in Timor-Leste (UNMIT)	Supply of hybrid solar/wind systems to power communication units
Uganda	The World Bank	Procurement and installation of energy packages (solar panels, lighting fixtures and accessories) at post-primary education institutions
Uganda	TSSD	Supply and installation of solar lantern rental systems, including provision of training for villagers

F. Customer List

(not exhaustive)

International Development Agencies

- International Finance Corporation
- Asian Development Bank
- The World Bank
- United Nations
- World Health Organization
- African Development Bank
- Swiss Agency for Development and Cooperation (SDC)
- Gesellschaft für Internationale Zusammenarbeit (GIZ)
- United States Agency for International Development (USAID)
- Swedish International Development Cooperation Agency (SIDA)
- Japanese International Cooperation Agency (JICA)
- Korea International Cooperation Agency (KOICA)
- Lux Development
- KfW
- International Fund for Agricultural Development
- Belgium Technical Cooperation
- EU Energy Initiative

Government Organizations

- Lao PDR Ministry of Health
- Lao PDR Ministry of Education
- Lao PDR Ministry of Energy & Mines
- Cambodia Ministry of Energy and Mines
- Cambodia Ministry of Education
- Uganda Ministry of Energy
- Guyana Ministry of Energy
- Sri Lanka Ministry of Energy
- Secretariat of the Pacific Community
- Zambia Ministry of Rural Development
- Mekong River Commission
- Czech Embassy – Laos
- Japanese Embassy – Laos
- German Embassy – Laos
- German Embassy – Cambodia
- American Embassy – Laos

NGOs

- CARE International
- Save the Children
- HelpAge International
- Helvetas
- Adventist Development and Relief Agency (ADRA)
- International Union for Conservation of Nature (IUCN)
- WWF
- Plan International
- Red Cross International
- Oxfam
- Electricite San Fontiere
- Fondation Energies Pour le Monde
- Green Korea Foundation
- German Agro Action (GAA)

Corporate

- Phubia Mining
- Mining & Minerals Group (MMG)
- Rio Tinto
- Theun Hinboun Power Plant
- Nam Theun 2 Power Plant
- Green Hills Coffee
- Lao Tobacco
- Beer Lao
- Birla Lao
- Electricite du Laos (EDL)
- Exotissimo Travel
- Unitel Telecom
- Beeline Telecom
- Alcatel Telecom
- Mitsui
- Rio Tinto
- GITEC