



Solar Lamps of Sunlabob

Affordable for rural households and profitable for investors.



Overview of how it works

Sunlabob solar lamps are distributed to households throughout the village and recharged by a large state-of-the-art solar array at a central place in the village. The array is rented from Sunlabob by a small village entrepreneur and Sunlabob does all the servicing to ensure continuous operations. The lamps rotate among the households who each first pay a deposit and from then on only pay a recharging fee when they exchange a spent lamp with a recharged one. The recharging fee is comparable to or cheaper than the household expenses for kerosene for lighting.

Households

Households take charged solar lamps home and often take them along to gatherings in the evenings or to their outposts in their fields. Each lamp is set to burn for 15 hours, after which it automatically switches off. Then the household brings the spent lamp to the recharging station and exchanges it for a fully recharged lamp. The household pays the recharging fee. For the first time the households also pay a deposit for the lamp. The deposit is paid back to the households when they return a spent lamp without exchanging it for a recharged one.

Small Village Entrepreneurs

Small Village Entrepreneurs are trained by Sunlabob to operate the charging stations as a small village enterprise. From Sunlabob Small Village Entrepreneurs rent the fully installed charging stations which remain in the ownership of Sunlabob. Therefore Sunlabob ensures all the required servicing to keep the stations operational at all times. The rental fees coming from the households of a village cover all the costs of keeping a station operational in the village. The entrepreneurs are trained by Sunlabob to maintain the stations and the rotating solar lamps. They are backed up technically by the fast-response service network of Sunlabob. The small enterprises work on the margin between income from the recharging fees and the expenses of the rent to Sunlabob.



Sunlabob

Sunlabob selects suitable small entrepreneurs in the villages that have demanded solar lamps. Sunlabob then trains the small entrepreneurs in required business skills, the technical maintenance and in operations. If the trainee is successful Sunlabob enters into a franchise agreement with the small entrepreneur which includes the issues of financial transactions and communication, continued training to the entrepreneur, technical servicing by Sunlabob, and quality control. When all is ready Sunlabob buys the equipment, brings it to the village and installs it.

Financing

The deposits for the lamps cover the costs of procurement of the lamps.

Recharging fees pay for the rent of the charging station, the amortization of the lamps and the margin for the small entrepreneur. This recharging fee must be competitive with the expenses in the village for kerosene when households operate kerosene lamps. The aim is to achieve this without any direct subsidies on hardware and services. The whole system must be both affordable to households as well as profitable to investors.

The rents for the charging stations cover all the costs of keeping them operational, i.e. capital costs and amortizations, replacements, technical servicing, regular follow-up trainings for the entrepreneur, operations, and a margin for Sunlabob.

Carbon markets: The solar lamps directly replace kerosene-burning lamps. Furthermore the replaced kerosene can directly be calculated from the number of recharges which provide light for 15 hours each. Because each lamp's interface with the charging station is individually tracked duplications in the carbon calculations are avoided. This is

an attractive proposition for the carbon traders and therefore a source of income for Sunlabob, which may allow it to reduce the rents for the charging stations, and therefore the recharging fees.

Required investments

Sunlabob requires funds on the one hand to buy and install the equipment to be rented out (hardware), and on the other hand for initiating the efforts in a village and the first trainings of the small entrepreneurs (capacity building). Investors are sought for both these efforts.

Investors

Private investors are sought, individually or through investment funds, who will invest in the hardware to be rented out, either through soft loans or equity.

Public investors (i.e. donor agencies, NGOs, government departments, etc) are sought who will provide grants for capacity building of small entrepreneurs in the villages. In case there is a public interest in also providing funding for the hardware, this can be arranged through grants into a public Trust Fund which will provide soft loans for equipment and reinvest the returns into more equipment to be rented out.



Very poor households may not have enough cash ready to pay for the deposits of the lamps. It is up to the village community to decide which are these households and pay the deposit for these households, either as a grant or as a refundable credit. Funds can be channelled to the community through the Trust Fund for paying for the lamps of these poorest households.

Contact

Please contact Sunlabob if you are interested in this opportunity to provide affordable lighting to Lao village households in a sustainable way.

Technical details:

- Lamps consists of light bulb, battery, electronic unit for timing the battery and tracking of charges, casing, charging socket.
- Each charging station is a state-of-the-art solar array with 3-step charging mode
- The bulbs are break-proof and come with a lifetime guarantee of 25.000 hours.
- The batteries of the lamps are gel-based batteries specifically designed for solar systems and totally sealed for security.
- The lamp does not have its own solar panel. This allows to substantially reduce costs of recharging per lamp and increases the security because of state-of-the-art charge controllers safeguarding the battery. Reliable charge controllers are too expensive for each single lamp.
- The timer in the lamp safeguards the battery from excessive use and thereby prolongs its lifetime. It also allows to precisely charge for hours of light.
- The electronic unit which operates the timer also tracks the interface with the charging station. This allows to precisely track how often the lamp has been recharged, an indispensable requirement for correct calculations of replacement of kerosene (carbon trading).

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