

Technology data sheet : Rental village solar Battery Charging station

Type of project: (tick off the type)	PV	Solar Thermal	Biomass to Energy	
	✓			
Project name:	Operation of rental village solar Battery Charging station			
Location of the plant	Lao PDR Ban Sor Village, Sangthong district. Vientiane capital. Lao PDR			
Year of Implementation:	2007			
Operator (Name and Address)	Sunlabob's franchisees: Mr. Khamsao Khamphavongsa and Mr. Boualay Keomangkone, under supervision of village committee of Ban Sor Village, Sangthong district. Vientiane capital. Lao PDR			
Planner: (Name and address)	Sunlabob Co. Watnak. Lao-Thai friendship road. Vientiane Lao PDR Tel.: +856-21 313874			
Detailed description of the installation: (technology, function, benefit for users, etc. max 150 words)	<p>About 28.7% Lao population is still living under national poverty line¹. This figure is much higher in rural areas. Solar home systems for renting, even subsidized are not affordable for these people, who can pay less than 1.05 US\$ per month for energy usage only. For comparison, rental fee for Sunlabob's smallest 20Wp-SHS is around 3.66US\$.</p> <p>To meet a the demand of these people with affordable costs, Sunlabob has offered new approach of rural energy service: solar battery charging station for poor rural people. The idea is to rent small movable electric torch, which consists of 7.5 Ah rechargeable battery and saving lamp (1 or 4 W), directly mounted on battery container (see picture). The set also includes timer for controlling energy usage time. Currently Sunlabob offers 15 hours unit. This movable unit is convenient for rural people, who often stay for long period (several days) in their work spot. Each User has to purchase an electrical torch of 23\$ (expected lifetime of 2-3 years) and pays charging fee of 0.63 US for one full charge (for 15 hours use). Timer will automatically cut the system off when reserved time finished and thus helps protecting the device from over discharging and longer battery lifetime.</p> <p>These torches are recharged by a PV system, which is installed in the village and operated by Sunlabob franchisees.</p>			
Generated Energy service: (tick off the energy type)	Electricity	Heat	Gas	Light
	✓ (12 V DC)			
Power output of installation: (kWel, m ³ biogas, kW th, etc.)	<ul style="list-style-type: none"> PV: 240 Wp with controller, which can charge from 18 to 36 of 7.5 Ah battery daily depending on sunshine intensity The controller can also manage charging 6-V battery 			
Financing (tick off the financing type)	Private investment	loan	donation	Grant
	✓			
Investment costs in US\$	Total investment: 1600 US\$ for PV system 23 US\$ for electric torch			
Maintenance costs in US\$	Data Not available yet			
Savings:	<ul style="list-style-type: none"> Expenditures on Kerosene (3-4L/monthx1US\$/L) or/and car battery charging (2-3 times/monthx0,8\$/charge), which 			

¹ owning less than 1.5\$ per day. Source: World Bank, *World Development Indicators*. www.worldbank.org/ida

	<p>usually available in nearest electrified village (18 km far away)</p> <ul style="list-style-type: none"> Households get more conveniences: movable and brighter light with affordable and easily manageable costs
Energy sale income in US\$:	<p>Average income 600 US\$ per year from battery charging (source: sunlabob co.). Torch owner pays in cash 6000 LAK/charge~0,63\$</p> <p>40 torch x 2 times/month x 0,63\$/charge x 12 months~ 600 US\$/year</p>
Comments:	<p>From the pilot system, high demand is observed among poor portion of rural population due to affordable prices and conveniences (movable, easily manageable, long lifetime) and flexibility in charging (6-12 V battery)</p>
Pictures and grafics	



240 Wp PV array of battery charging station
(Courtesy by Sunlabob Co.)



Mr Khamsao, village technician and Sunlabob's franchisee at his work
(Courtesy by Sunlabob Co.)