Solar For Health - Strategy Overview and Case Studies

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Solar for Health is currently installing solar panels in health facilities in Zimbabwe, Zambia, Libya, Namibia, Sudan and South Sudan, soon will expand to Angola, Chad, Malawi and Viet Nam.

- Installed capacity is 7.7 Mega Watts,
- Access to health services more than 43 million beneficiaries
- S4H focuses on installing solar PV systems in health clinics located in the poorest and most remote regions of world, ensuring “leave no one behind”.
- UNDP has developed standardized S4H equipment list and established first health sector specific solar energy pre-qualified suppliers (LTA) =19

At A Glance
Key Features of the Solar for Health

- Provide 100% power from solar PV system Health Posts, health centers level I-III (plug and play) = 2-20kWp
- Meet 30% of the overall power needs of District, provincial and national hospitals and focus on most critical parts of the hospitals (maternity, surgery, A&E, Lab and Pharmacy) = 20-150kWp
- Supply chain and cold chain is top priority – National and regional Medical stores = 100-600kWp
- Hot and cold water for health posts and health centers,
- Security lights for health posts and health centers.
- Remote monitoring system

Coming soon!

- Solar powered medical equipment – solar powered autoclaves,
- Water purification system of health posts and centers
Remote monitoring system Data

Health Centre: Fridge Temperature Vs Time

Fridge Temperature (Degree C)

Time (Days)
Remote monitoring system Data

Health Centre: Battery % State of Charge Vs Time

Staff Accommodation: Battery % State of Charge Vs Time
<table>
<thead>
<tr>
<th>Countries</th>
<th>Health facilities</th>
<th>Installed Capacity kWp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zimbabwe</td>
<td>405</td>
<td>4813</td>
</tr>
<tr>
<td>Nepal</td>
<td>145</td>
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<td>South Sudan</td>
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<td>30</td>
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<td>30</td>
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<td>Angola</td>
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<td>Total</td>
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Solar for Health and SDGs

“Leave No One Behind”

- SDG 3 – Good Health and Well-Being
- SDG 5 – Gender Equity
- SDG 7 – Affordable and clean Energy
- SDG 13 – Climate action
- SDG 17 - Partnerships
Challenges

- Health facilities often face significant power shortages.
- More than 70% of health facilities in sub-Saharan Africa lack reliable access to electricity, ¼ facilities doesn’t have access to electricity at all (WHO).
- Medicines and Vaccines are stored in poor condition (cold chain).
- Utility bills are high and hospitals are in debt.
- Health sector contributes to CO2 emission.
Cold chain of medicines (before and After)
New in old issues

- Fragmentation of the solar for health
- Inadequate coordination at all levels (multiple systems, increased elect. demand etc)
- Low capacity for maintenance
- Substandard Solar equipment
Opportunities

• Solar energy is clean and reliable. Health facilities powered on solar energy can deliver the quality care needed to save lives.

• Solar energy saves money compared to traditional sources of electricity.

• Transitioning from fossil-based energy to solar energy helps reduce carbon emissions, save the environment.
Case Study: Zimbabwe Solar For Health

- **Problem:** more than two-third of the health clinics in Zimbabwe have limited access to electricity, with only four hours of power supply a day.

- **Approach:** UNDP’s Solar for Health initiative is providing solar energy to 405 HIV clinics in Zimbabwe.

- **Impact:**
  - Clinics can provide 24/7 health services to the population (pregnant women and children)
  - Reduced electricity bills up to 60%
  - Safely store medicines and vaccines,
  - Available clean water – solar powered water pump
Case Study: Zambia Medical Store Limited

- **Problem:** Medical Stores Limited (MSL) – an autonomous government agency that stores and distributes health products in Zambia – has faced regular power interruptions in the past, preventing them from refrigerating medicines and vaccines.

- **Approach:** UNDP has supported MSL to install 300 kwh solar energy systems and heat shield pain in the central medical warehouses of Zambia.

- **Impact:** The warehouses can guarantee the quality of vaccines and medicines and deliver these products to the populations of the country.
**Investment Case**

**Health**
- Increase access to health services, especially in remote areas
- Reduce energy costs for health facilities, freeing up resources for other priorities

**Environment**
- Reduce greenhouse gas emissions
- Help protect the local environment

**Development**
- Create Green jobs, for Women and Youth
- Increase local and national Technical capacities and market transformation
- Increase demand and uptake of solar technologies

**Return on Investment**
- Return on investment is estimated 2 to 4 years
Next Steps

• Feasibility Study of the S4H business case (Namibia, Malawi, Zambia and Zimbabwe)

• Increase S4H visibility at Global and local levels

• Increase resource mobilization efforts from domestic resources, private sector international donors and philanthropic foundations

• Continuously promote local ownership
PARTNERS

• Government agencies – MoH, Mo Energy, Rural Electrification Authorities,

• Global Fund to Fight AIDS, TB and Malaria

• Innovation Norway

• Norwegian Solar For Health Consortium

• World Health Organization

• UNICEF

• UN Foundation
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