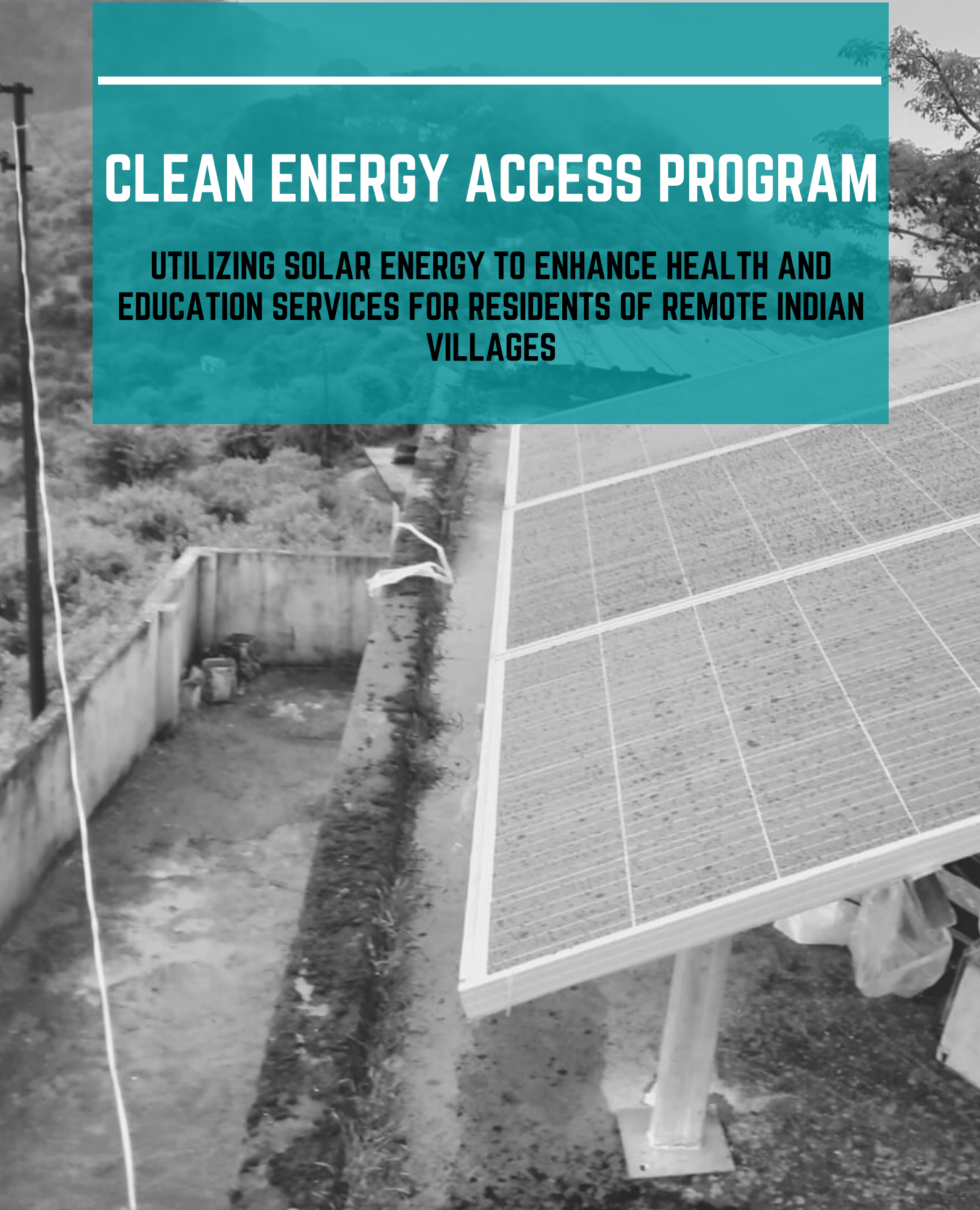


CLEAN ENERGY ACCESS PROGRAM

**UTILIZING SOLAR ENERGY TO ENHANCE HEALTH AND
EDUCATION SERVICES FOR RESIDENTS OF REMOTE INDIAN
VILLAGES**



THE PROBLEM

The Primary Health Care service providers in remote villages need to educate and provide information to the communities on disease prevention and safety and to check the spread of diseases and pandemics such as Covid-19.

In the absence of reliable and affordable electricity supplies, the patients requiring serious treatments are often referred to the hospitals that are far away, resulting in additional expenses on travel and logistics and making healthcare unaffordable. Due to unreliable electricity supplies, the Primary Health Clinics (PHCs) in villages are not able to store life-saving vaccines and maintain high-quality medical equipment to treat serious illnesses, thereby creating major barriers to effective delivery of healthcare services.

Lack of reliable electric power supply also inhibits access to computers and internet, thereby limiting the quality of education to students in rural areas.

IIEC SOLUTION

Over the last four years, IIEC, with implementation support from Shri Shakti Consciousness Foundation (SSCF) and with funding support from the LIMAYE Foundation, has provided the access to clean energy to PHCs and schools to ensure improved delivery of health care and education services in remote villages of Uttarakhand, India. Through installing solar photovoltaic (PV) systems, IIEC is enabling 24x7 functioning of PHCs and educational facilities.

The solar PV installations in schools facilitate access to IT equipment. The simplest benefit from electrification is the provision of lighting which enables longer classroom hours at schools. Shifting to clean energy also contributes to the reduction in GHG emissions and air pollution. Student achievement can be compromised by health effects from poor ventilation, uncomfortable temperatures, inadequate lighting, and noise. Clean energy solutions can simultaneously address these challenges, creating significantly better conditions for student health and learning. These upgrades can also reduce school days missed due to asthma, which is a common disease seen in children in rural areas.

For PHCs the solar systems, combined with LED lights, refrigerators for the storage of vaccines and lifesaving medicines, contribute to the delivery of better health care services to village communities and especially to women and children. The program is also contributing to the functioning of medical cold chains by providing reliable electricity supplies to PHCs, by enabling them store and administer covid-19 vaccines, when they are available.

Building The Local Infrastructure

The IIEC team working in Uttarakhand has trained and mobilized the communities and the health department functionaries. In addition to installing the solar systems the team has established a strong baseline of current socio-economic and health related data, documenting the program activities, conducting impact assessments, and providing training to PHC staff. Also, training has been provided to village women on repairing and maintaining the solar systems.

Contributing to the U.N. Sustainable Development Goals

This initiative is building the capacity of the state government for adoption and implementation of clean energy access model for health care and education services. The intention is to complement the ongoing governmental efforts by strengthening the infrastructure for improved delivery of services.

Thereby, this program is directly contributing to meeting the United Nations sustainable development goals (SDGs) no. 3, 7, 9 and 13.

Figure 1: Increase in Number of Diseases being Treated after Providing Improved Access to Electricity in Different Villages

Disease Treatment Covered

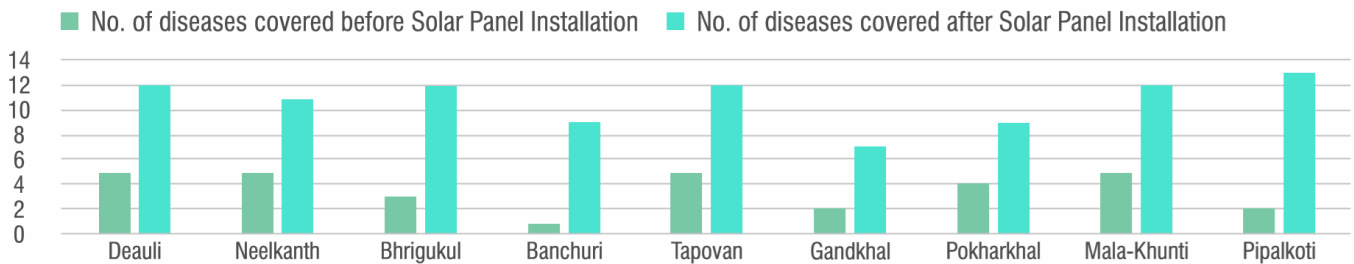
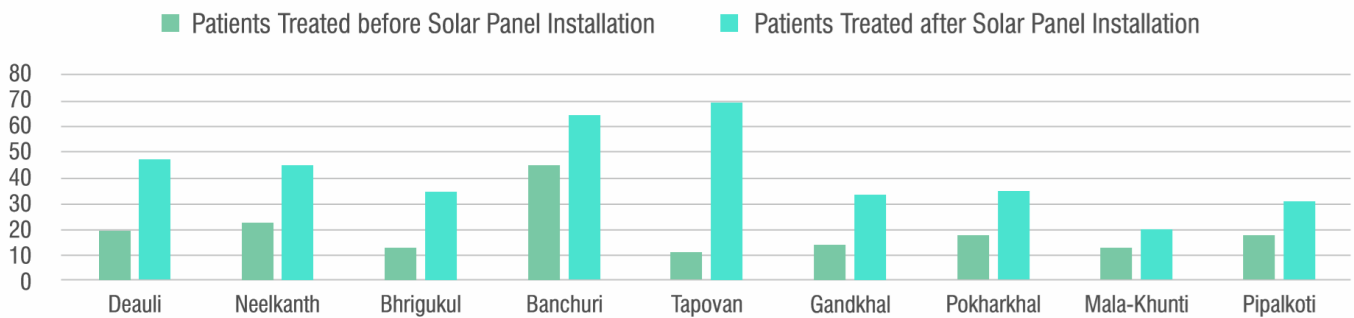


Figure 2: Increase in Number of Patients after Providing Improved Access to Electricity in Different Villages

Patients Treated



PROJECT IMPACTS

- There has been a greater than 200% increase in the number of patients served by Primary Health Clinics (PHCs) every month.
- The hours of operations of PHCs have increased from 2 to 3 hours per day to 7 to 8 hours per day.
- About 60% of the PHCs in these villages can provide emergency services (maternal delivery, etc.) during late hours now, due to the availability of 24x7 electricity
- There has been 120-150% increase in the types of diseases being treated.
- Improved energy access has allowed doctors and other medical staff to stay in their allotted residences within the premises of PHCs.
- The necessary vaccination facilities are available with the PHCs to treat the patients with snake and dog bites and other illnesses. Tetanus injections are being provided to the patients with injuries.
- The Program team is documenting the socio-economic, financial, and environmental impacts of the program.
- Figures 1 and 2 above provide details of increases in capacity to treat a greater number of diseases and in number of patients served by the PHCs.

A group of women in a village, likely in India, are gathered together, holding up solar-powered lanterns. They are smiling and looking at the camera. The lanterns are glowing, and the scene is dimly lit, suggesting it is nighttime. The women are wearing traditional Indian clothing, including saris and bangles. The background is a simple, light-colored wall.

26,000

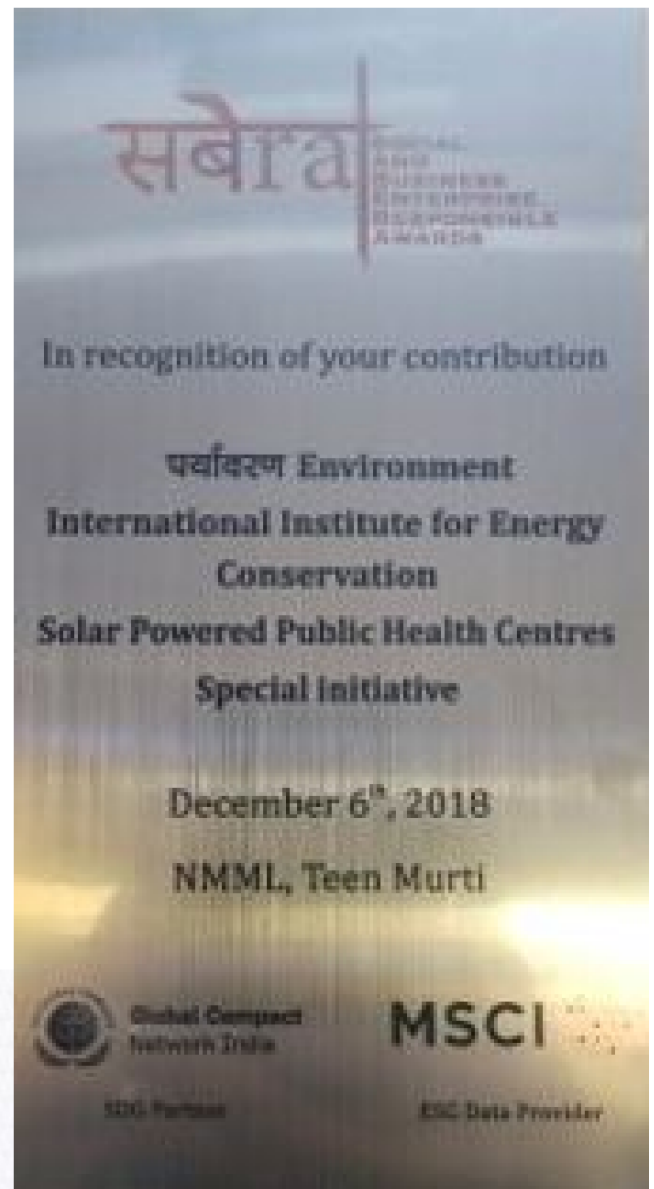
*households across 20 villages
had an everlasting impact
through installed solar PV
system*

104.26

*tons of GHG emission
reduction annually*

Improving Health Care Services through Improvising the Access to Clean Energy Project has been recognized by the SABERA Awards (Social And Business Enterprise Responsible Awards) for Award Category: A-A1: Par yavaran (Environment)
(<http://simplysuparnaa.com/sabera-2018/>)

- To ensure the sustainability, training is being provided to the staff members of PHCs and to the Gram Sabha (village governing body) representatives for the day-to-day maintenance of the solar systems. An instruction leaflet in Hindi with all the information regarding “do's and “don'ts” has been provided to the PHCs and Gram Sabha representatives.
- The ownership of Solar Systems and refrigerators provide by the Program has been transferred to the PHCs and Gram Sabha to ensure proper maintenance, after care, and safety of the systems. This also helped in generating a sense of ownership and therefore greater interest in continued maintenance and efficient operation of the solar systems.



The International Institute for Energy Conservation (IIEC) is a not-for-profit, non-governmental organization founded in 1984 to address global issues concerning the use, management, and production of energy. IIEC focuses on increasing access to energy, energy efficiency and electrification rates, and creating livelihoods in the most vulnerable communities. Over the past 36 years, IIEC has established a niche in the global transition to clean energy and climate change – combining international expertise with local knowledge and integrating policy with direct action. IIEC works with key stakeholders across all sectors to connect international best practices with the unique needs of the communities it serves. IIEC is registered as Section 501(c)(3) organization with headquarters in Breinigsville, PA, USA.

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- Implement Climate Friendly Policies
- Cultivate Public-Private Partnerships
- Promote Clean Energy Technologies
- Encourage Innovation for Efficient use of Clean Energy
- Management of Natural Resources
- Integrated Rural Development
- Air Quality Management



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