SEWF22 carbon offset international programme

Sustainable energy for institutions supporting people with disabilities

Energy linked challenges for institutions serving people with disabilities: supported by the SEWF22 carbon offset programme

Marginalised communities and institutions have traditionally faced a lack of supportive infrastructure. Primarily due to being under resourced with lack of enabling ecosystem institutions that cater to Persons With Disabilities (PWDs) or differently abled people. And as such, tend to face financial challenges.

Specifically in Karnataka, more than **70%** of youths with disabilities are economically and socially dependent on their families. A large number of these individuals with severe conditions due to spinal cord injuries often work on construction sites. They also work as farmers, tree climbers or have a history of working as wage labourers, indicative of their economic situation before the injury itself. The amount of support and hand-holding needed post injury, often push individuals and their families further into poverty, in turn making their families dependent on external institutions.

There are a number of institutions run by government agencies, NGOs and charity organisations that support these individuals and help them enhance their life and livelihood skills. However, many of them are located in areas with poor access to the power grid. They also have limited resources and may be unable to access more reliable energy sources. This leads to poor living conditions and lack of access to basic amenities like light bulbs, use of basic appliances, water pumping and water heating.

With carbon offset resources provided by the Social Enterprise World Forum in Brisbane, this project is addressing some of these challenges and demonstrating **Decentralised Renewable Energy solutions** to ensure reliable energy for institutions serving differently abled individuals.

Energy linked challenges for institutions catering to PWDs

a **Recurring energy expenses:** These institutions are largely dependent on grants and donations to meet their financial needs. The monthly expenses incurred on electricity bills and alternative sources of energy are a burden on their limited funds.

b **Frequent power cuts:** These institutions are located in remote areas making them more prone to frequent power cuts. It adds to the discomfort of staff and beneficiaries. For example, in cases of patients with spinal cord injury, their nervous system may not properly detect temperature changes. And this puts the patient at risk of increased body temperature without them realising. In such cases, uninterrupted supply of energy is essential to run fans, which help in regulating their temperature.

c **Services getting interrupted:** Many of such institutions offer skills training and health services to their beneficiaries as a part of their rehabilitation programme. They use various types of electronic equipment for the same. In the case of frequent power cuts, such critical livelihood, skill provisions and health services are interrupted.

Decentralized Renewable Energy (DRE) solutions bring accessibility, reliability and opportunities resulting in productivity and ease of work. By powering basic, energy consuming utilities such as fans and light bulbs, DRE solutions improve the wellbeing of staff and patients. By powering additional skills training appliances, it further allows for patients and persons with disabilities to learn, increase their income from existing livelihood as well in diversify in new skills. PWD trainees and entrepreneurs require a certain level of mechanization in order to bring ease into their work, which can be powered through reliable DRE solutions.

Project summary

goals and objectives

5 institutions catering to people with disabilities are being equipped with Decentralised Renewable Energy (solar) solutions, with the support of the **SEWF22 carbon offset programme** (representing 74 tons of carbon offset).

Outcome	Provision of reliable energy for 5 institutions catering to over 250 persons with disabilities. This provides the institutions with the ability to maintain key services and savings.
Features	- Customised renewable energy solutions. - Learnings from the interventions shared via clean energy social enterprises, partners and NGOs. - The next slides showcase 3 of the institutions where the sustainable energy solution is being funded by the **SEWF22 carbon offset programme.**

Summary of institutions (1)

Geographic focus: Karnataka

Number of institutions benefited: 5 institutions
Number of beneficiaries consulted: 1,336 individuals

Type of disabilities catered to through the institutions:

a. Cognitive disability
b. Physical disability
c. Speech and hearing impairment

Focus of sustainable energy solutions: Basic energy access, power supply for health, skills training, education and livelihood.

Institution 1: Sandesh Foundation

Background

Registered as a not for profit organisation in 2008, Sandesh Foundation works to support people with intellectual and developmental disabilities.

Individuals are often rejected from homes and special schools due to their poor financial background or their severe disabilities. The institution has introduced daycare facilities with physio, occupational and various therapies for people with severe and profound disabilities.

Pre-vocational and vocational training for mild and moderate disabilities were also introduced for different hand-crafted products.

Through the years, Sandesh has created an identity for itself with their products in vocational unit. They have also had multiple orders to produce gift items for corporate institutions.

Location: Bangalore urban
Typology: Cognitive disability
Age group of beneficiaries: 2 to 44 years
Features: Non residential; urban
Services provided to beneficiaries: Special education and vocational training (paper mache, notebook binding, photo frame making, candle making tailoring etc.).

Institution 1: Sandesh Foundation

Challenges

The institution faces an hour of power cut every day. The situation turns erratic during monsoon with no fixed timing for power cuts. The unexpected timing of the power cuts also makes it inconvenient for trainees and students.

DRE solution(s) employed

- 12 kW solar inverter system.
- Equipments powered: Light bulbs, fans, paper cutting machine, 3 sewing machines, binding machine, 2 motors and an exhaust fan.

Impact

With the DRE solution, Sandesh Foundation is now able to save INR 5,000 every month on electricity bills. In addition to this, the uninterrupted power supply ensures that the equipments used for vocational training continue to function even in the case of a power outage.

Institution 2: Mathru Foundation

Background

Mathru Foundation began its operations in 2005. Currently, the Foundation serves physically challenged children by providing food, shelter and medical support. They also take care of the children's overall development. All these services are given to them free of cost. The focus of the Foundation's activity is not on the disability of the beneficiaries, but on the development of the person's abilities and their skills to become a self reliant member of the society.

Location: Bangalore urban
Typology: Physical disability
Age group of beneficiaries: 7 to 30 years (Male)
Features: Residential, urban
Services provided to beneficiaries: Formal education (under 18); vocational training (above 18) - computer literacy; apart from basic boarding and lodging.

Institution 2: Mathru Foundation

Challenges

The institution faced 5-6 hours of power cuts every day. The situation turns erratic during monsoon. They were dependent on inverter for power backup but with prolonged hours of power outages, often, the inverter would also stop functioning. This invariably interrupted the vocational training programmes, disrupting the schedule of trainees and students.

DRE solution(s) employed

- 12.5 kW solar inverter system
- Equipments powered: fans, computers, bulbs and geysers.

Impact

In addition to the savings on electricity bills, the uninterrupted power supply at Manthru Foundation now ensures that the computers used for training and livelihood support continue functioning even in the case of power failures. Some of the beneficiaries are involved in data entry jobs (outsourced by other companies) and the uninterrupted power supply helps them in delivering their work on time.

Institution 3: Dayanilaya Residential School

Background

Dayanilaya Residential School was established in 2010 to provide rehabilitation, care and upbringing for special children and adults. The school provides education and vocational training to its beneficiaries irrespective of their caste, gender and age. They work with a single point agenda, which is to prevent those under their care from being marginalised. Instead, the school makes them useful and productive members of society, equipped to support themselves as well.

Location: Kumta, North Karnatak
Typology: Cognitive disability
Age group of beneficiaries: 4 to 40 years (Male)
Features: Residential, urban
Services provided to beneficiaries: Functional education (under 18); vocational training (above 18) - computer literacy, pottery, phenyl making, paper bags, paper pens (with seeds in it), tailoring; sports (national & state level) swimming, cycling, table tennis, power lifting etc. Apart from basic boarding and lodging.

Institution 3: Dayanilaya Residential School

Challenges

The institution faces 1 hour of power cut every day. The situation turns erratic during monsoon. The inconvenience caused by power failure was exacerbated by the monthly electricity bill of INR 5,000, which was a burden on their limited annual budget of INR. 10 lakhs.

DRE solution(s) employed

- 6kW solar inverter system
- Equipment powered: fans, light bulbs, induction cooktop (post 10am); domestic flour mill, washing machine used for phenyl making, Pottery wheel, 6 sewing machines.

Impact

The institution's electricity bill has come down by 95%. Furthermore, the uninterrupted power supply ensures comfort for all staff and beneficiaries. Introducing the flour mill has resulted in monthly savings on flour grinding charges of INR 500; Monthly saving on LPG of INR 2,000 with an induction cooktop flour mill and an additional water pump set have been added with the solar intervention.

Supported by the SEWF22 carbon offset international programme

Sustainable energy solutions for people living with disability

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