

Solar power solution for needy schools in Yen Thuy Area Programme (AP)

Completion Report for Silicon Connection

Programme Profile

Project location	Yen Thuy AP, Yen Thuy district, Hoa Binh province, Vietnam								
Programme Goal	To improve school environment to support children’s learning and health care in adaptation with climate change and risk management								
Beneficiary school supported by Silicon Connection	Lac Hung Kindergarten, Bao Hieu commune								
	School Name	Location	Direct Beneficiaries					Indirect	
			Enrolled children age 1-2 years old		Enrolled children age 3-5 years old		Total enrolled children	Teachers	Parents
	Boys	Girls	Boys	Girls	Total				
Lac Hung Kindergarten	Bao Hieu commune	37	27	57	43	164	22	164	
Project duration	July 2022 – December 2022								
Reporting period	July 2022 – December 2022								

Project Background

Yen Thuy, a semi-mountainous district, is located in the west of Hoa Binh province, in northwest Vietnam, about 130 km (3-hours drive) from Hanoi. Poverty rate in the district is about 14.5%, with rates in Bao Hieu commune even higher at 28.2% (poverty line: less than 20 USD/person/month) (District statistics in Jan 2021).

In the district, rural schools have been identified to suffer from weak and unstable electricity supply. One of the schools is **Lac Hung Kindergarten (right)**. Electricity was cut off in the school on average 2-3 times a week, with power outage lasting for several hours to a whole day. The students suffered from unsafe and poor learning environments when the fans, lighting systems, water systems, etc. are unable to work.



To improve school environment to support children’s learning and health care in adaptation with climate change and risk management, this project focused on the following interventions in Lac Hung Kindergarten, along with 3 other kindergartens:

Output 1.1 – Increased knowledge and skill of school children, parents and teachers on green energy, environment protection, climate change adaptation

- Conduct ToT on green energy, environment protection and climate change adaptation for key teachers at school
- Conduct Behavior Change Communication (BCC) events on green energy, environment protection and climate change adaptation for parents

Output 1.2 – Improved necessary conditions to support children’s learning and health care in schools in adaptation with climate change and risk management

- Organize workshop in school, Community Project Management Boards (CPMBs) and District of Education and Training (DoET) to build commitment in operating and maintaining solar power system
- Install solar power system to meet energy needs of the school

Project Progress

August 2022

- Official approval obtained from the People's Committee of Hoa Binh Province
- Project kickoff workshop was organised with representatives from all project implementation partners (District of Education and Training Department, District Infrastructure and Economics Department, Commune Management Boards and target kindergartens)



Kickoff workshop

September 2022

- 32 staff and teachers from the 4 kindergartens, **including 8 from Lac Hung Kindergarten**, completed Training of Trainer (TOT) course on environment protection, climate change adaptation and building a safe school
- All 4 schools now have plans to educate other teachers and parents of students on these knowledge and skills



Training of teachers

September – October 2022

- Solar power system installed at Lac Hung Kindergarten, under close monitoring by consultant company
- The 8KW system (18 solar sheets) is calculated to have enough capacity to power up all the necessary equipment for the school
- This will benefit around **164 children under 5, 22 teachers and 164 parents of children** in school year 2022-2023 and coming years

- This will also help the school save fuel cost every month, and parents of children can save contributions meant for the fuel cost for other important household needs instead



Solar panels installed on the rooftop of Lạc Hung Kindergarten



Acknowledgement of Silicon Connection's kind support of the solar power system at Lac Hung Kindergarten

November – December 2022

- A workshop (right) to evaluate the solar power systems' installation, official handover to schools and signing of commitment to operate and maintain the systems was held, with **17 representatives** from the Board of Directors of all 4 kindergartens, Program Management Board of the 4 target communes, the head of the Program Management Board of Yen Thuy district, and representatives of the Economic Infrastructure Department, the Education and Training Department.
- **Total of 1,247 people (1,103 parents and 144 teachers and staff)** from schools in Yen Thuy district, including 166 parents of children in Lac Luong kindergarten, were educated on the need to protect the environment, usage and benefits of clean and renewable energy, and adaptation to climate change, via Behavior Change Communication (BCC) events and contests.



BCC events and contests held at the 4 kindergartens in the district



BCC events and contests held at the 4 kindergartens in the district

Mrs Quach Thi Trang, mother of 3-year-old Bui Minh Thu at Lac Hung Kindergarten, shared:

"After the communication, I am aware of the importance in protecting environment, I practiced saving electricity right after that such as unplugging the washing machine when not in use, disconnecting the water heater after the water is boiling.... I will also communicate to other members of the families and our neighbours, so we can together protect environment".

Sustainability

Through this project, children in these schools are now able to develop in a safer and conducive space, while also protecting the environment as an estimated 12,127kg of carbon emissions is reduced annually per school with this switch.

In the initial project design, LG solar panels were planned to be installed. As LG later announced it will be exiting the solar panel market, solar panels from TrinaSolar were used instead, as recommended by the hired independent consultant company with experience in solar power, after they evaluated the quality, capacity, effectiveness and durability of different solar panels.

The Trinasolar solar panels have a 12-year physical warranty, and capacity warranty at the 25th year of >84%. The supplier is also contracted to offer technical advice and support for entire life of the system, guarantee for the panels for 12 years, inverter for 5 years, and provide free cleaning services for 1 year.

The school, with support from the commune project management board, also signed commitment to ensure the solar power system is maintained.

As backup in case electricity generation is insufficient for use on select days (e.g. during rainy season but probability of occurrence is very low), the power system is also connected to the national electricity grid to ensure that the school will still be able to access national electricity system if necessary.