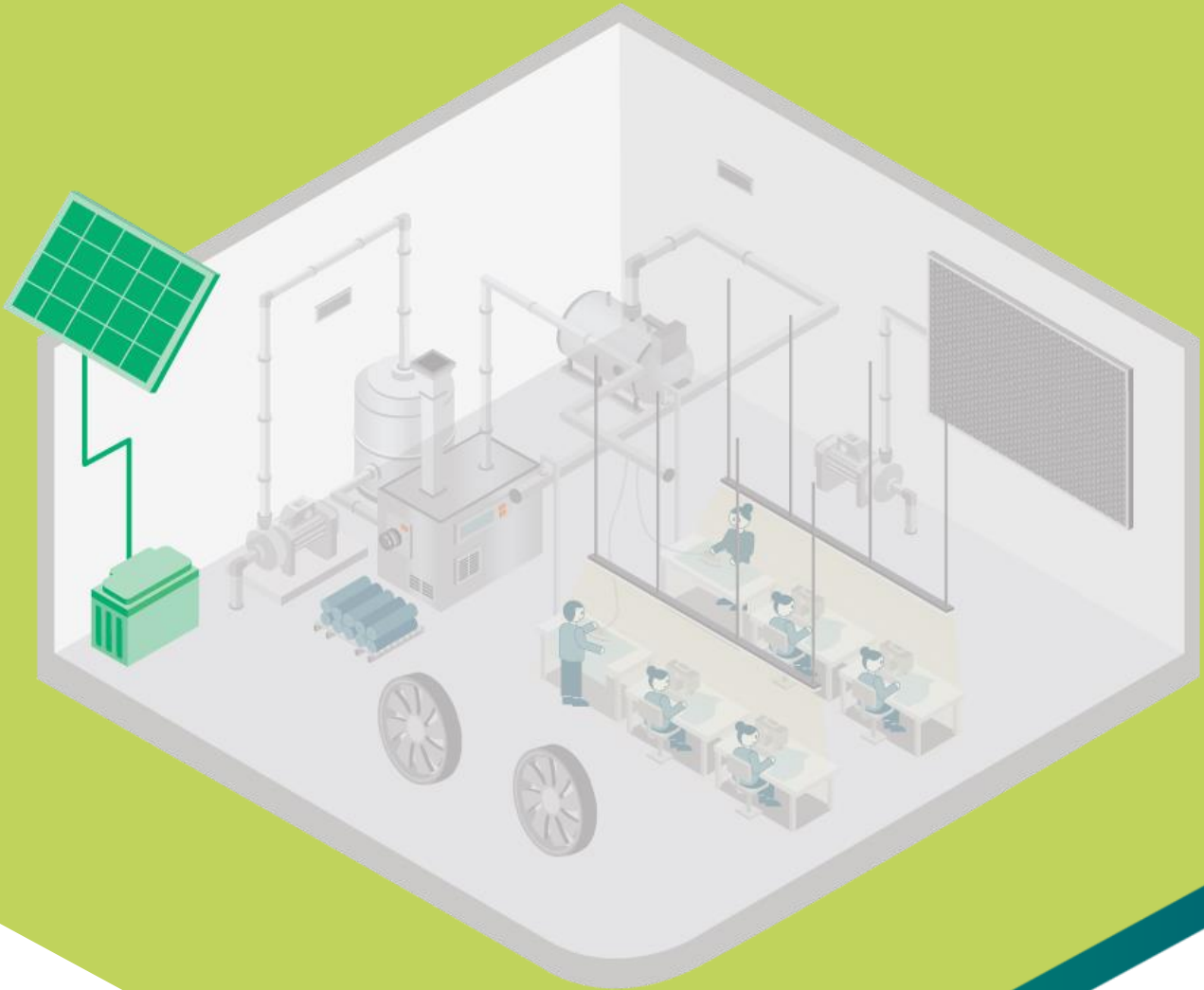


Case study on sustainable energy Solar Photovoltaic Systems

Solar Photovoltaic installation

P P S E C Company Limited



**SWITCH
GARMENT**
PROMOTION OF SUSTAINABLE ENERGY
PRACTICES IN THE GARMENT SECTOR
IN CAMBODIA



switchasia



Funded by
the European Union



1. Factory Information

P P S E C Company Limited, a manufacturer specializing in heat treatment fabric products such as logos and badges, is pursuing energy-saving opportunities within its operations. Here is an overview of the factory profile:

Industry name	P P S E C Company Limited
Address	Phnom Penh, Cambodia
Year of establishment	2019
Annual Production	47 million pieces
No. Employees	280 in 2021



The decision to invest in a rooftop solar system isn't just about economics; it's a strategic move toward greener, more sustainable factories. By integrating clean energy solutions into our business, we're not only cutting costs but also demonstrating our commitment to environmental stewardship.

Miss. Doeuk Chanthooun
Quality Assurance & Compliance officer



P P S E C Co., Ltd. joined the project on November 2nd, 2021, which aims to increase competitiveness and decrease the environmental impact of the Cambodian garment industry through sustainable production.

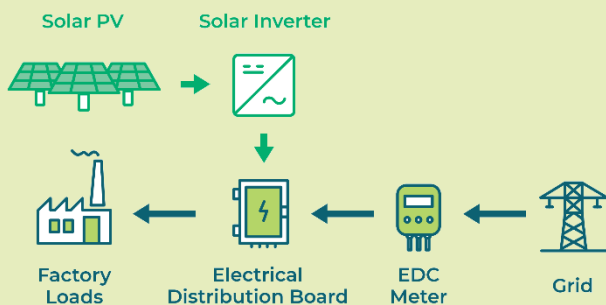
Joining the project involved energy audit assessment in the factory. Following recommendations from the audit, the factory expressed its interest in reducing their environmental impact. Among other initiatives, the factory decided to make significant investment in renewable energy by initiating the installation of a rooftop solar photovoltaic system.

2. About Solar Photovoltaic System

P P S E C Company Limited includes 2 process buildings, designated as Factory I and Factory II. An assessment of the feasibility of rooftop solar implementation was conducted for both facilities.

	Units	Factory I	Factory II
Available rooftop area	m ²	6,348	3,648
Annual Electricity Consumption	kWh/y	2 M	0.2 M
Power from solar	kWp	771	12
Total Investment	USD	540,000	11,000

For Factory I, the roof structure was found to be suitable for the planned installation, and a grid-connected solar rooftop system was installed. Construction has been completed and the solar rooftop system operational since the beginning of June 2022.

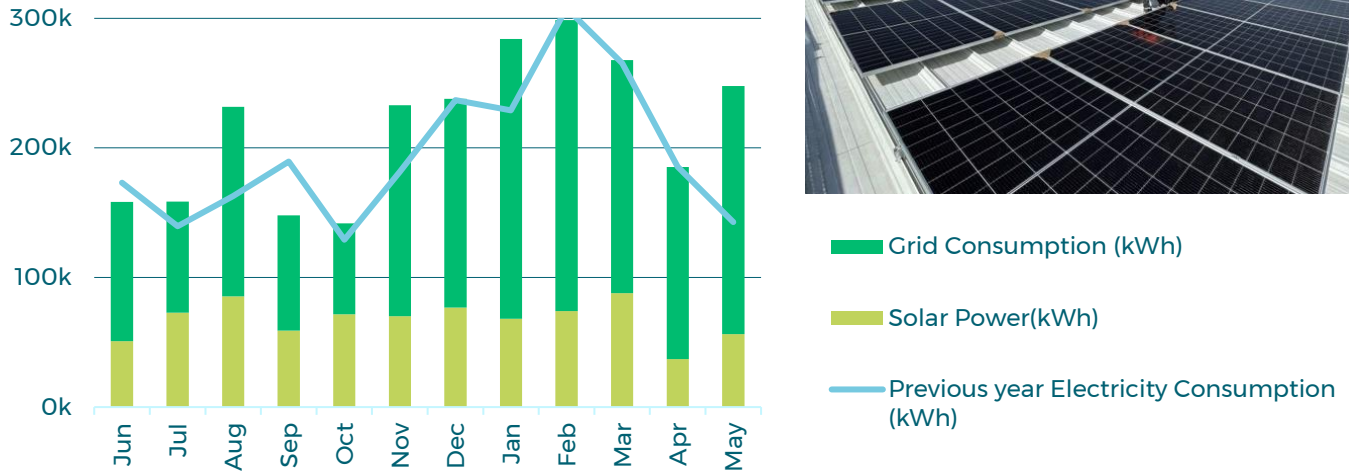


Due to the weaker structure of Factory II's roof, a redesign was necessary, and although the installation was already in progress at the time of writing this document, the data analysis of this case study focuses on Factory I system.

*Note: This document does not consider the additional fees associated with the country solar regulation.

3. Outcomes of Solar Photovoltaic System

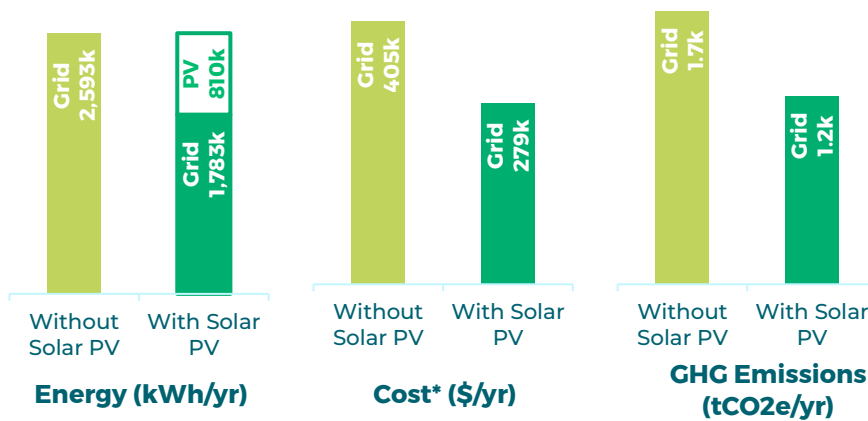
Following the installation of the solar rooftop system, the factory monitored its monthly electricity production. The installation was proven to be performant with a consistent production along the year, allowing to make 31% savings and reduce environmental impact.



4. Savings Opportunity

Following the installation of rooftop solar photovoltaic system, the factory achieved a notable reduction in energy costs and CO₂ emissions. The comparative results showcasing this improvement before and after the replacement are outlined below.

ANNUAL ELECTRIC CONSUMPTION [June 2022 – May 2023]



“
 With solar PV now operational, our factory is reaping the benefits, cost savings and a genuine commitment to sustainability, all achieved with uncompromised operational efficiency and environmental responsibility.
 ”

Mr. Robert Hwang
 Managing Director

Upon analyzing the post-installation results, savings up to **31%** were identified. The evident result highlights the practical benefit obtained through the integration of renewable energy within the factory :



Investment Cost
 540,000 USD



Payback Period
 4 Years



Annual Saving Cost
 126,352 USD/Year



Annual Saving GHG
 526 tCO₂e/year

*Note: This document does not consider the additional fees associated with the country solar regulation.



Edition:

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Developed by:

Geres

This Case Study has been made possible thanks to the Switch Garment and VETHIC projects. They aim at providing hand-holding support to garment manufacturing units in the country to identify and adopt sustainable energy practices.

Switch Garment, a project funded by the European Union SWITCH-Asia Grants Programme and jointly implemented by Global Green Growth Institute (GGGI) Cambodia, Textile, Apparel, Footwear & Travel Goods Association in Cambodia (TAFTAC) and Geres aims at 'Promotion of sustainable energy practices in the garment sector in Cambodia' ("Switch Garment"). The objective of this project is to increase the competitiveness and decrease the environmental impact of the Cambodian garment industry through sustainable production.

The VETHIC project (2022-2024), funded by Agence française de développement (AFD), aims to improve the environmental performance of the Cambodian textile sector by activating the levers of energy transition. The project is jointly implemented by Geres, TAFTAC, Cambodia Women for Peace and Development (CWPD), and Live and Learn Cambodia (LLC).

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