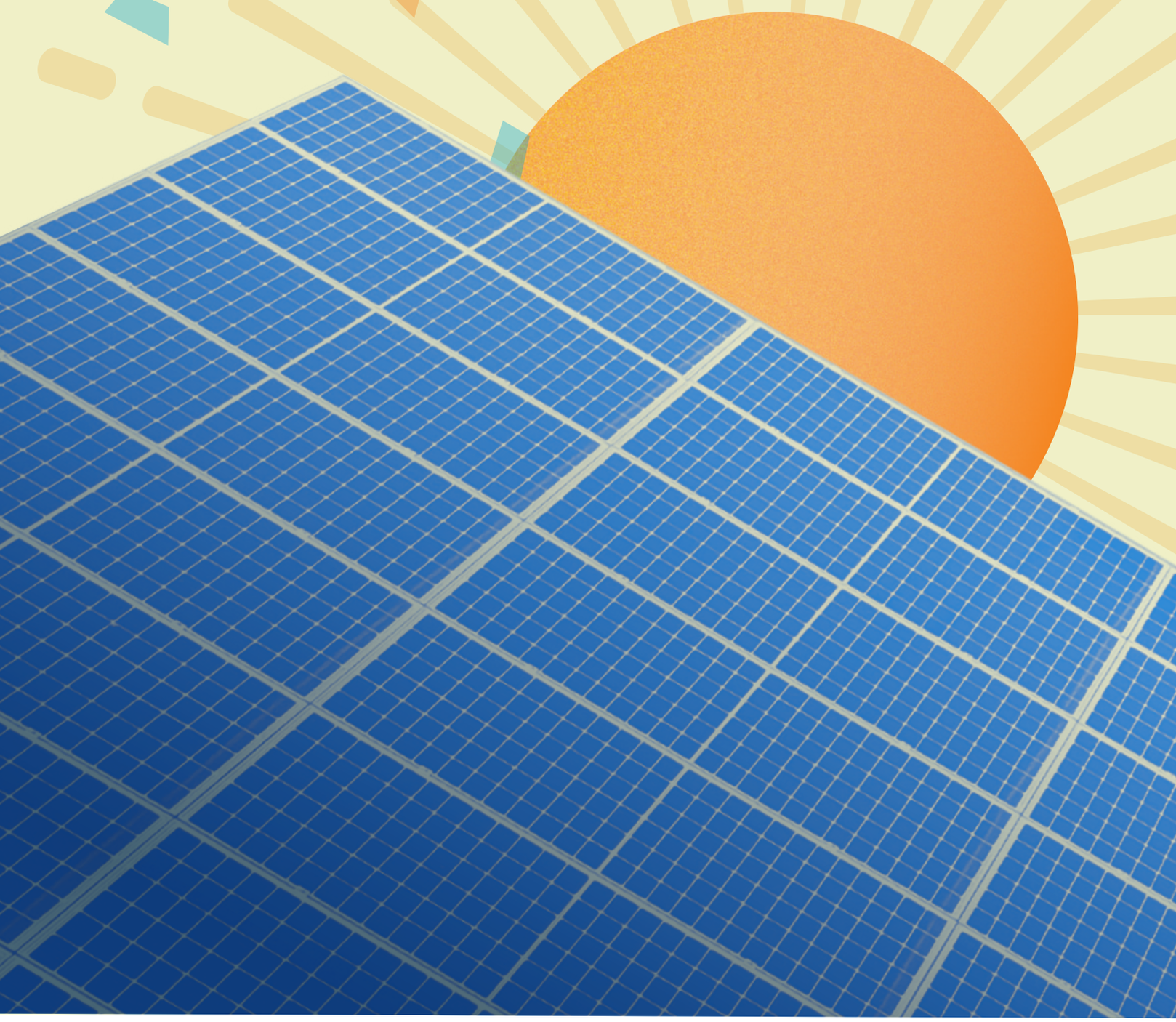
10th ANNIVERSARY

CARBONCARE INNOLAB 低碳想創坊

Jockey Club SolarCare Programme

IMPACT REPORT 2024



Organiser

10th ANNIVERSARY

CARBONCARE INNOLAB 低碳想創坊

賽馬會太陽能關懷計劃 Jockey Club SolarCare Programme

Funded by

香港賽馬會慈善信託基金
The Hong Kong Jockey Club Charities Trust
同心同步同進 *RIDING HIGH TOGETHER*

Message From CEO

The story of The JC SolarCare Programme can be traced back to COP21 in Paris where the historic agreement was endorsed by over 190 countries to limit temperature rise to 1.5ºC by the end of the century. CarbonCare InnoLab (CCIL) was among the global civil society observers. I took a chance to propose to Mr. KS Wong, the then Secretary for Environment, to promote renewable energy in Hong Kong, and in particular solar energy. I mentioned floating solar panels as an example suitable for Hong Kong's many reservoirs. Back in Hong Kong, The Government did build two floating solar panels systems. More significantly, in October 2018, The Government announced the introduction of a Feed-in-Tariff Scheme to encourage private investment in building solar panel systems.

We at CCIL regarded this as an opportunity to step up promotion of the use of renewable energy and eventually the replacement of fossil fuel which is a major source of carbon emission. CCIL's strength is its NGO network. So we conceived the SolarCare Programme and the proposal was received as innovative and impactful by the Jockey Club Charities Trust.

After five years, passing through pandemic, we are proud that the project meets its objectives:

- To accelerate the generation of renewable energy in Hong Kong;
- To demonstrate to policy makers, business and community leaders through successful cases, the potential for renewable energy in Hong Kong;
- To leverage solar energy as part of the resources in providing a stable financial source for the non-profit organisations to improve their community services;
- To build a Renewables Service Hub for accelerating Hong Kong's transition to a low-carbon economy.

It has also received international recognition:

- Case study cited at Global Stakeholder Online Consultation in support of the SDG 7 Review at the 2023 High-Level Political Forum by United Nations Department of Economic and Social Affairs
- Notable Shortlisted Cases at CityNet ESCAP SDG City Awards Program
- Case Sharing at Urban SDG Knowledge Platform
- Presentation at Asia Pacific Climate Week 2023

This Report gives a snapshot of the impact. Apart from the figures and targets, I encourage the reader to pay attention to the inspiring human stories.

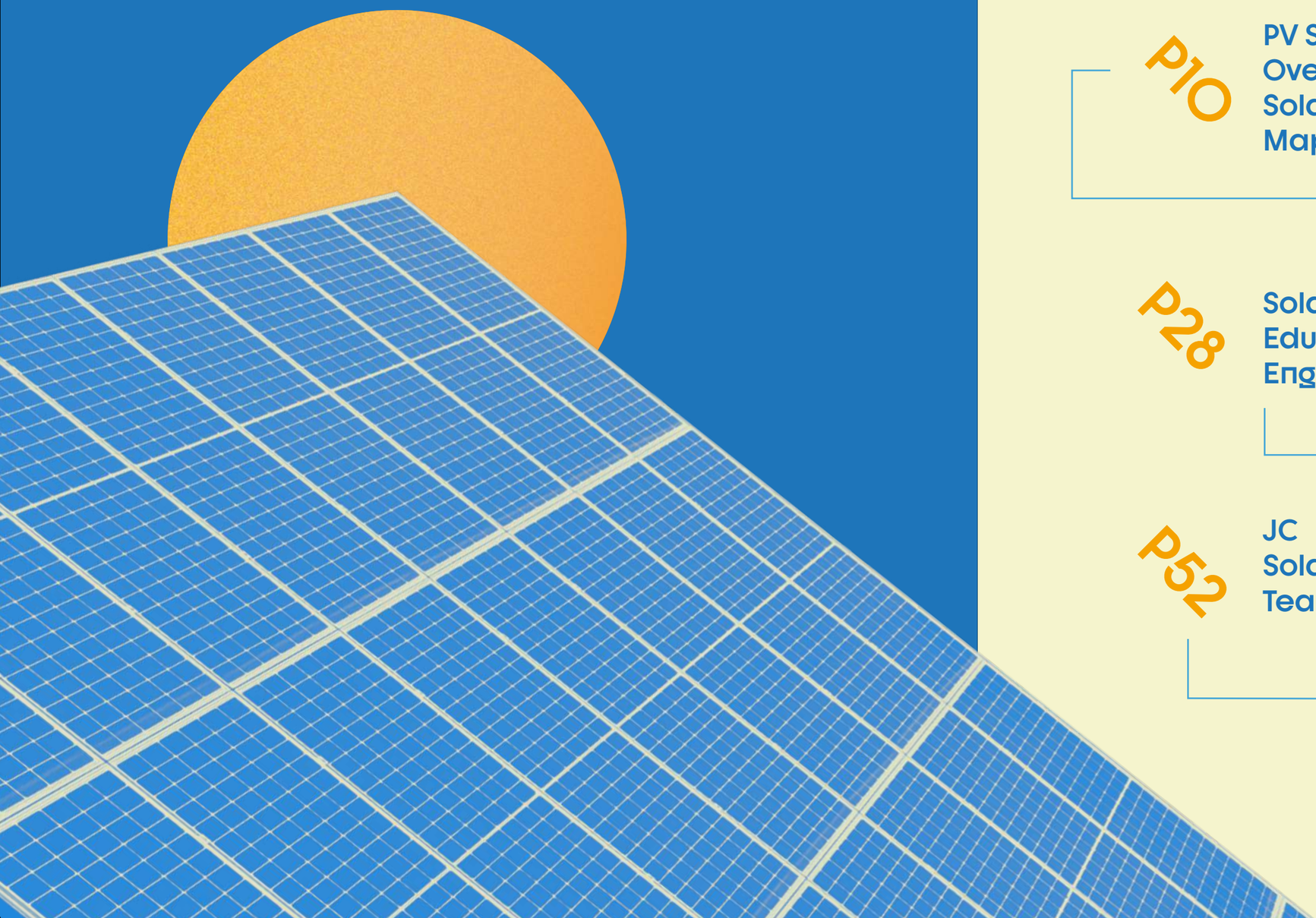
Against the target of renewable energy reaching 7.5% of the power supply in Hong Kong as set out in the Climate Action Plan 2050 published by the Government in 2021, the JC SolarCare Programme can serve a civil society effort to echo the policy target.

According to some estimates, solar panels now cover 10,000 sq. km and generate 6% of annual electricity for global use. The latest issue of the Economist features solar energy predicting that it will be the largest energy source in 10 to 15 years. Asia, in particular China, is the largest producer and consumer of solar energy. Solar energy is already very competitive in comparison to oil and coal. However, the share of renewable energy across Asia and the Pacific was only nearly 20%, which is still below the global average of 30%. Asian investment in renewable energy has grown exponentially since 2004, with an average annual growth rate of 23%, reaching nearly USD 500 billion in 2022. But the region still needs to invest at least USD 3.3 trillion in power generation over the next 10 years, with at least 49% earmarked for wind and solar, to achieve the tripling RE target. At the same time, over 700 million are not accessible to clean energy. Solar energy can be deployed to fulfil the Sustainable Development Goal (SDG) 7, access to clean and affordable energy.

The climate crisis is intensifying. It is a huge challenge but we must succeed in transitioning from fossil fuel. We hope the JC SolarCare Programme can in a humble manner provide an example of hope in Hong Kong and elsewhere.

Chong Chan-yau

Co-founder and CEO
CarbonCare InnoLab



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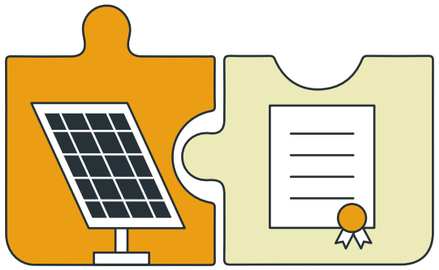
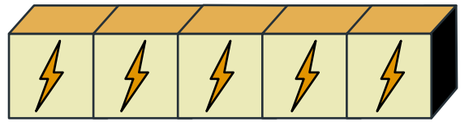
SolarCare Partners Engaged

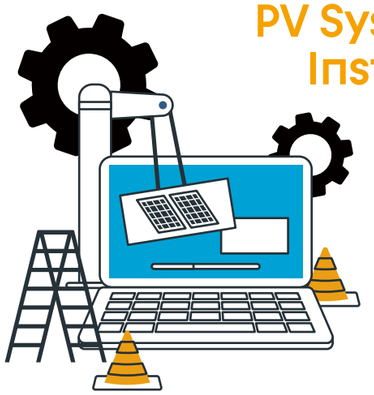
61



System Capacity 2,291 kWp



Direct Beneficiaries Who Attended the Solar Energy Education 8,591



PV Systems Installed

31

Energy Yield[1]

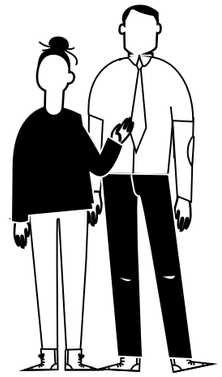
3,961 MWh

Calculated Carbon Emission Avoided[3]

2,178,550 $kgCO_{2-}$

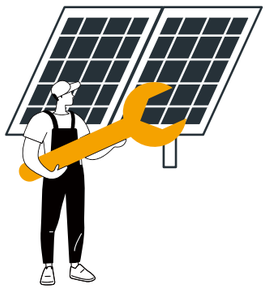
Indirect Beneficiaries[2]

71,240



PV Panels Installed

4,921



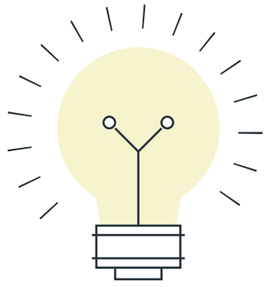
FiT Rebate received by SolarCare Partners[1]

$8,134K HKD

Powering to Households[4]:

14,403

households/month



Solar Energy Education Organised

164

1. As of 30 May 2024
2. No. of Indirect Beneficiaries refers to the service users who benefitted from the initiatives or services initiated by SolarCare Partners due to the PV systems and FiT Rebates. The services cover youth, elderly, poverty, health, drug rehabilitation, people with special needs
3. Carbon emission coefficient is referred to CLP Sustainability Report 2022
4. The energy consumption per household per month is referred to Electrical and Mechanical Services Department (EMSD), www.emsd.gov.hk/energylabel/en/cal/cal.php

Jockey Club SolarCare Programme

Jockey Club SolarCare Programme is funded by the Hong Kong Jockey Club Charities Trust. It aspires to develop a community service platform that accelerates the application of solar energy within the local community. The programme believes by connecting various stakeholders like green groups, NGOs, government departments, power companies, and renewable energy experts to the general public, Hong Kong would be one step closer to the global level of renewable energy development to build a Zero Carbon Hong Kong in the near future.

This programme has three phases. CCIL partners with 61 NGOs to install solar panels and have them connected to the Feed-in Tariff (FiT) Scheme of the two power companies. A series of community education activities focusing on solar energy in Hong Kong will also be implemented.

NGOs

empowers non-profit organisations and institutions in term of stable financial support through solar energy system installation and co-promote climate-focus community activities

RE Service Providers

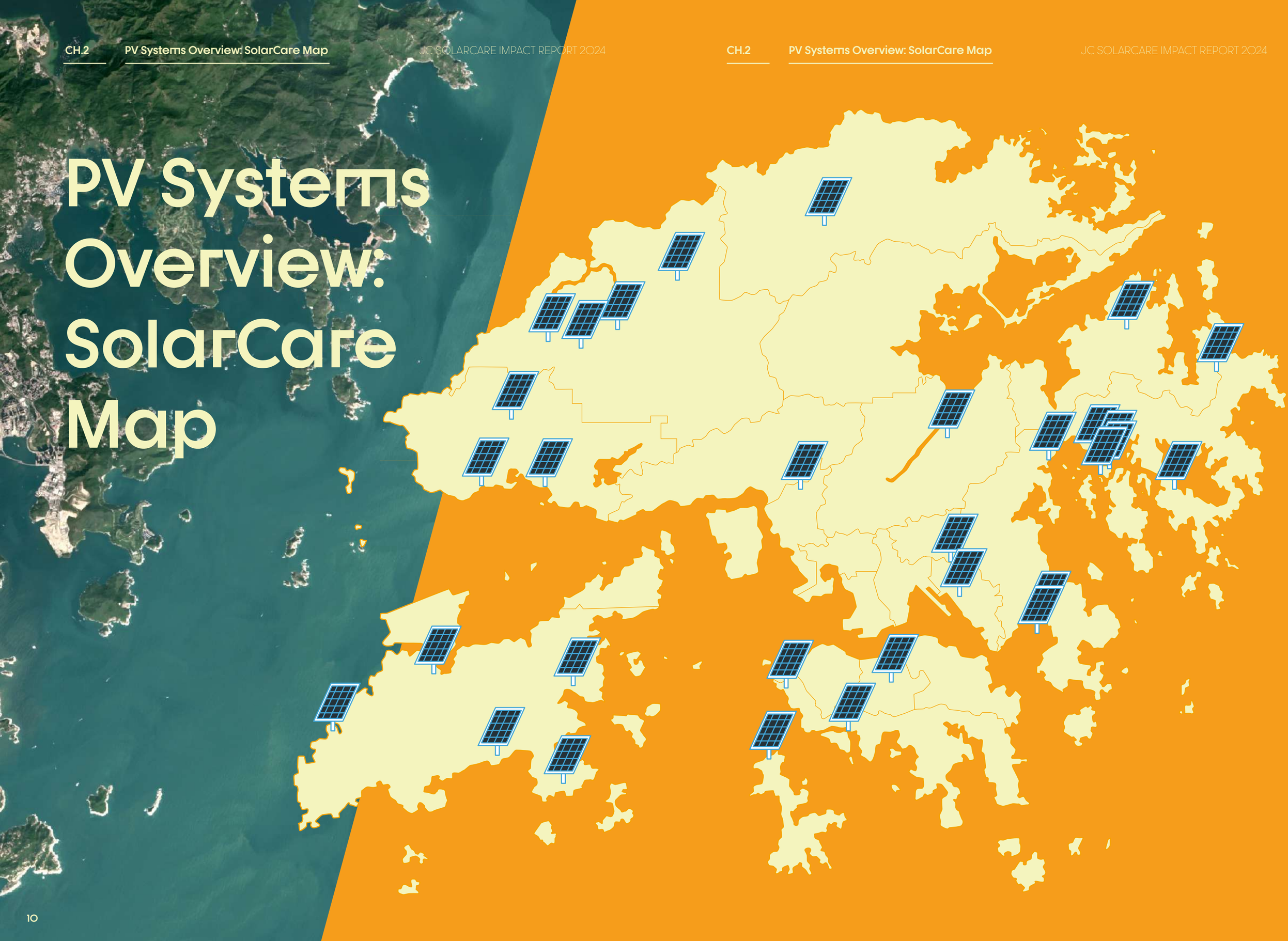
provides collaboration opportunity and leverage Feed-in Tariff scheme to renewable energy industry in Hong Kong

Community

accelerates the migration to renewable energy in Hong Kong and raise public awareness on low-carbon economy through RE-community activities

PV Systems Overview: SolarCare Map

CH.2 PV Systems Overview: SolarCare Map JC SOLARCARE IMPACT REPORT 2024



SolarCare Partners and PV Systems

01

Barnabas Charitable Service Association: Lamma Training Centre

Address
44-45 Pak Kok San Tsuen,
Yung Shue Wan,
Lamma Island

Installation Site:
Rooftop of the two Buildings

Total Area:
~ 60 m^2

Venue Type
Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
13.05 kWp

No. of Solar Panels
30 pcs

Date of Implementation:
2021-12-7

02

Ching Chung Taoist Association of HK - Ching Chung Care & Attention Home for the Aged

Address
57 Sha Chau Lei Chuen, Ping Ha Road,
Yuen Long

Installation Site:
Rooftop of the Building

Total Area:
~ 282 m^2

Venue Type
Sloping Roofs

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
76.1 kWp

No. of Solar Panels
141 pcs

Date of Implementation:
2022-4-1

03

Christian Action

Address
No. 55, Clear Water Bay Road, Choi Wan(2) Estate, Kowloon

Installation Site:
Rooftop

Total Area:
~ 138 m^2

Venue Type
Flat Roof

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
101.66 kWp

No. of Solar Panels
223 pcs

Date of Implementation:
2021-10-19

04

Christian Zheng Sheng Association

Address
Kau San Tei, Tai O

Installation Site:
Roof and Canopies

Total Area:
~ 446 m^2

Venue Type
Sloping Roofs

Photovoltaic Panel Type
Monocrystalline Silicon (Bifacial)

System Capacity
76.1 kWp

No. of Solar Panels
141 pcs

Date of Implementation:
2020-9-11

05

Crossroads Foundation

Address
Crossroads Village,
2 Castle Peak Road,
Gold Coast, Tuen Mun

Installation Site:
Rooftop of Block 28, 29, 30, 31

Total Area:
~ 988 m^2

Venue Type
Flat Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon (Bifacial)

System Capacity
195.13 kWp

No. of Solar Panels
494 pcs

Date of Implementation:
2020-8-21

06

Fu Hong Society

Address
85 Yue Kwong Road, Aberdeen

Installation Site:
Rooftop of East Wing

Total Area:
~ 348 m^2

Venue Type
Flat Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon (Bifacial)

System Capacity
68.73 kWp

No. of Solar Panels
174 pcs

Date of Implementation:
2020-12-23

07

Gideon Ministries - Gideon Youth Military Training School

Address
No 30, Yim Tin Tsai, Sai Kung

Installation Site:
Rooftop of the Building and Canopy infront of the building

Total Area:
~ 170 m^2

Venue Type
Oblique Rooftop and Canopy

Photovoltaic Panel Type
Monocrystalline Silicon (Bifacial)

System Capacity
34.11 kWp

No. of Solar Panels
85 pcs

Date of Implementation:
2020-07-08

08

HKYWCA Sydney Leong Holiday Lodge

Address
10 A San Shek Wan, South District, Lantau Island

Installation Site:
The Rooftop of Function Room, Staff Dorm and Stall Room

Total Area:
~ 128 m^2

Venue Type
Flat Roof

Photovoltaic Panel Type
Monocrystalline Silicon
(Some of them are Bifacial)

System Capacity
35 kWp

No. of Solar Panels
64 pcs

Date of Implementation:
2022-11-09

09

Hong Kong Adventure Corps - High Island Training Camp

Address
Sai Kung Man Yee Rd,
Sai Kung, N. T

Installation Site:
The Rooftop of Block 2, 3, 8, 9, 10

Total Area:
~ 624 m^2

Venue Type
Sloping Roof

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
168.48 kWp

No. of Solar Panels
312 pcs

Date of Implementation:
2022-11-17

10

Hong Kong Playground Association

Jockey Club Silvermine Bay Camp

Address
30 Tung Wan Tau, Mui Wo, Lantau Island

Installation Site:
Block A (A1, A2), B, C, D, E

Total Area:
~ 480 m^2

Venue Type
Flat Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon (Bifacial)

System Capacity
94.8 kWp

No. of Solar Panels
240 pcs

Date of Implementation:
2020-11-19

Tung Chung Camp

Address
38 Ngau Au Village, Tung Chung, Lantau Island

Installation Site:
Rooftop of the Dormitory

Total Area:
~ 54 m^2

Venue Type
Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon (Bifacial)

System Capacity
11.75 kWp

No. of Solar Panels
27 pcs

Date of Implementation:
2021-12-22

11

Hong Kong Sheng Kung Hui Welfare Council - United Court

Address
1 Shan Pui Road, Tung Tau, Yuen Long

Installation Site:
Rooftop of 3 Blocks

Total Area:
~ 280 m^2

Venue Type
Flat Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon (Bifacial)

System Capacity
77.7 kWp

No. of Solar Panels
140 pcs

Date of Implementation:
2023-5-30

12

Hope House Organisation

Address
474 Ngau Tam Mei West District, Yuen Long, New Territories

Installation Site:
Rooftop of the Building

Total Area:
~ 64 m^2

Venue Type
Flat and Sloping Roofs

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
13.28 kWp

No. of Solar Panels
32 pcs

Date of Implementation:
2022-12-15

13

Jockey Club HKFA Football Training Centre

Address
190 Wan Po Road,
Tseung Kwan O, Hong Kong

Installation Site:
Rooftop of 9 Buildings
(Includes Gymnasium,
Changing Rooms, Office, etc.)

Total Area:
~ 784 m^2

Venue Type
Flat roof

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
215.6 kWp

No. of Solar Panels
392 pcs

Date of Implementation:
2022-10-27

14

Mental Health Association of Hong Kong Jockey Club Building

Address
2 Kung Lok Rd, Kwung Tong

Installation Site:
Rooftop

Total Area:
~ 80 m^2

Venue Type
Flat Concrete Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
22 kWp

No. of Solar Panels
40 pcs

Date of Implementation:
2023-11-30

15

Outward Bound Hong Kong

Jockey Club Ah Kung Wan Outward Bound Training Centre

Address
210 Tai Mong Tsai Road, Sai Kung,
New Territories

Installation Site:
Rooftop of the Building

Total Area:
~ 260 m^2

Venue Type
Flat Roof

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
53.95 kWp

No. of Solar Panels
130 pcs

Date of Implementation:
2023-01-03

Tai Mon Tsai Base

Address
21 Tai Mong Tsai Road, Sai Kung

Installation Site:
Rooftops of 5 Individual Premises (Dining Block/ Training Block, Emerald House, Staff Block 1, Staff Block 2 and Staff Block 3)

Total Area:
~ 852 m^2

Venue Type
Oblique Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
173.32 kWp

No. of Solar Panels
426 pcs

Date of Implementation:
2020-07-03

16

Richmond Fellowship of Hong Kong

Address
Likang Court, Block3,
Greenery Villa, 8 Tsing Lun Road,
Tuen Mun, New Territories

Installation Site:
Rooftop of Block 28, 29, 30, 31

Total Area:
~ 148 m^2

Venue Type
Sloping Roof

Photovoltaic Panel Type
Monocrystalline Silicon Flexible Panel

System Capacity
31.82 kWp

No. of Solar Panels
74 pcs

Date of Implementation:
2023-1-30

17

Sai Kung District Community Centre

Address
8 Mei Yuen Street, Sai Kung, N.T.

Installation Site:
Rooftop of the Main Building

Total Area:
~ 210 m^2

Venue Type
Flat Roof

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
57.75 kWp

No. of Solar Panels
105 pcs

Date of Implementation:
2023-01-16

18

SideBySide - Chan Chun Ha Yee Tsui House

Address
Butterfly Beach Park,
Lung Mun Road, Tuen Mun,
New Territories

Installation Site:
Rooftop

Total Area:
~ 64 m^2

Venue Type
Flat Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
17.4 kWp

No. of Solar Panels
32 pcs

Date of Implementation:
2023-7-13

19

Sisters of the Precious Blood - Precious Blood Children's Village

Address
No. 1 bridge, Lung Yeuk Tau, Fanling,
New Territories

Installation Site:
Rooftop of the Office Building and Roofs of 8 Dormitories

Total Area:
~ 604 m^2

Venue Type
Flat Rooftop and Sloping Roofs

Photovoltaic Panel Type
Monocrystalline Silicon (Bifacial)

System Capacity
112.23 kWp

No. of Solar Panels
258 pcs

Date of Implementation:
2021-5-18

20

South China Athletic Association

Address
88 Caroline Hill Road, Causeway Bay, Hong Kong

Installation Site:
The Rooftop of the Bowling Centre, the Rooftop of the Sports Complex (High Block) and on the Metal Roof Beside the Running Track at the Jockey Club Stadium R/F

Total Area:
~ 1,162 m^2

Venue Type
Flat Concrete Rooftop, Metal Roof

Photovoltaic Panel Type
Monocrystalline Silicon-Traditional and Flexible Solar Panels

System Capacity
268.3 kWp

No. of Solar Panels
581 pcs

Date of Implementation:
2023-12-19

21

The Hong Kong Girl Guides Association

Address
Ping Shan Lane, Ping Shan, Yuen Long

Installation Site:
Rooftop

Total Area:
~ 184 m^2

Venue Type
Flat Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
51.1 kWp

No. of Solar Panels
92 pcs

Date of Implementation:
2023-3-21

22

The Hong Kong Award For Young People

AYP Jockey Club Duke of Edinburgh Training Camp

Address
No.90, Hang Ha Po, Lam Tsuen, Tai Po

Installation Site:
Rooftop of the Main Building

Total Area:
~ 142 m^2

Venue Type
Flat Roof

Photovoltaic Panel Type
Flexible Solar Panels

System Capacity
24.2 kWp

No. of Solar Panels
71 pcs

Date of Implementation:
2022-8-25

AYP Jockey Club Expeditions Centre

Address
D.D. 256, Tsam Chuk Wan, Tai Mong Tsai Road, Sai Kung, N.T.

Installation Site:
Roof of the Office Building

Total Area:
~ 60 m^2

Venue Type
Flat Rooftop

Photovoltaic Panel Type
Flexible Solar Panels

System Capacity
11.25 kWp

No. of Solar Panels
30 pcs

Date of Implementation:
2020-9-15

23

The Salt and Light Preservation Centre

Address
Yim Tin Tsai, Sai Kung

Installation Site:
Rooftop of the Pier's Stone House and Rooftop of Ching Po Primary School

Total Area:
~ 112 m^2

Venue Type
Oblique Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
29.68 kWp

No. of Solar Panels
56 pcs

Date of Implementation:
2021-12-1

24

The Society For Community Organization Limited - Blossom Residence

Address
Junction of Yau Ma Hom Road and Cheung Wing Road, Kwai Chung

Installation Site:
Rooftop

Total Area:
~ 526 m^2

Venue Type
Flat Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
144.65 kWp

No. of Solar Panels
263 pcs

Date of Implementation:
2023-11-17

25

The Society For the Relief of Disabled Children

Address
Block H, 12 Sandy Bay Road, Pok Fu Lam

Installation Site:
Rooftop of the Second and Third (Top) Floor

Total Area:
~ 89.6 m^2

Venue Type
Flat rooftop

Photovoltaic Panel Type
Monocrystalline Silicon (Bifacial)

System Capacity
19.32 kWp

No. of Solar Panels
56 pcs

Date of Implementation:
2020-12-22

26

YHA Bradbury Hall Chek Keng Youth Hostel

Address
Sai Kung Man Yee Rd, Sai Kung, New Territories

Installation Site:
Rooftop of 3 Dormitories

Total Area:
~ 108 m^2

Venue Type
Oblique Rooftop

Photovoltaic Panel Type
Monocrystalline Silicon

System Capacity
29.16 kWp

No. of Solar Panels
54 pcs

Date of Implementation:
2023-8-2

Solar Energy Education Engagement

Connecting to the world

01 Renewable Energy (RE) Webinars

In order to raise public awareness on renewable energy, especially on solar energy which is suitable for large-scale application in Hong Kong, CarbonCare InnoLab organises “Understanding Renewable Energy” Webinar Series, sharing knowledge of renewable energy, climate change and solar photovoltaic (PV) system.

Bringing solar energy to the daily life of citizens

02 Solar InnoWorkshop

The Solar InnoWorkshop aims to turn concept into action and bring clean solar energy into the daily life of Hong Kong citizens. Combining solar power technology with STEM, Solar InnoWorkshop is a creative and accessible way to allow integration of solar power into people’s daily life, stimulating their creativity in climate mitigation. In a fun setting, the Workshop educates participants about the benefits of sustainable energy. Through DIY workshops, participants make their own solar-powered appliances like solar-powered torch, light jar, wood watch and music box.

03

Inspiring people go solar

SolarVisit

SolarVisit inspires people to Go Solar! The guided tour provides the opportunity to learn about different solar energy systems and/or solar farms in Hong Kong. Participants will be able to enhance their knowledge on renewable energy and see for themselves the power- generating mechanism of the installed solar energy system.

04

Asia Solar Energy For Climate Change Conference (ASECCC)

The Asia Solar Energy for Climate Change Conference (ASECCC), hosted by CarbonCare InnoLab (CCIL), serves as a potent reminder of the inadequate current efforts to tackle the climate crisis. Urgent action is required to prioritise and accelerate the adoption of renewable energy solutions in Asia, bridging the energy gap and making substantial contributions to climate mitigation and sustainable development in the region. This conference acts as a rallying cry for national governments, international organisations, and all stakeholders to come together and give precedence to the expansion of renewable energy. Through fostering collective ambition and taking decisive action, we can ensure a sustainable planet for future generations. ASECCC aims to convene influential leaders from government, institutions, private sectors, and civil sectors in the Asia Pacific region to discuss the role of solar energy in addressing climate mitigation and adaptation. The conference focuses on emerging technology trends, policy implementation, and best practices for achieving a fair energy transition. Moreover, it provides a platform for young researchers and professionals in the solar energy field to share their findings and connect with innovative minds in the region.

05

Others Special Activates

06 Your Solar Innovation is the Solution

Solar Future Challenge

The Solar Future Challenge serves as a beacon of hope and inspiration, representing a collective effort to accelerate the transition to a sustainable energy future. Solar power plays a vital role in mitigating greenhouse gas emissions and driving socio-economic development. This Challenge incentivises young people to envision the incorporation of solar-powered appliances into their daily living environments. Participants are required to identify climate-induced issues and vulnerable groups to serve, designing innovative solar-driven devices that address these challenges. Prototypes must demonstrate the feasibility of the presented solutions. The challenge culminates in an award presentation ceremony and a virtual exhibition to showcase the awarded solar products. Together, through the Solar Future Challenge, we can reimagine the application of solar technology for climate justice, creating a brighter, cleaner, and more sustainable future for generations to come.

Solar Supreme Group

2024

Solar Supreme Group

Blacktain

Name of Participants:
Lai Fung Yee, Law Pui Sze Roca, Cheng Hau Yu

Representing Organisation:
Ng Yuk Secondary School

Product Description:
The team designed a solar-powered blackout curtain called "Blacktain," which consists of multiple solar panels and can open and close like a traditional blind. The curtain can both block sunlight and generate electricity, providing cooling and power supply for households.

1st Runner Up & Best Creativity Award

Solar-AquaSphere

Name of Participants:
Wong Lok Him Marcus, Cheng Kin Tat, Kinder, Li Chun, Ng Wang Yau, Anson, Wong Boonyapat, Wu Ka Shing

Representing Organisation:
Youth College (International)

Product Description:
The team invented a solar-powered floating device covering the water surface to prevent water evaporation. It also condenses air into water, purifies water, and provides shelter and habitat for marine organisms. The device also has a sensor to collect environmental data.

Solar Legend Group 2024

Champion

EcoCool

Name of Participants:
Chan Kin Ho, Wan Vicky, Chan Kin Fung, Leung Hin Sen, Ho Yat Hei, Chan Yan Ki

Representing Organisation:
Y.W.C.A. Hioe Tjo Yoeng College

Product Description:
EcoCool, a solar-powered device, aims to help outdoor cleaners stay cool in hot weather and work in a safer and more comfortable environment. It consists of a neck fan and a work uniform with a solar panel attached.

1st Runner Up

Smart Lamppost

Name of Participants:
Mok Yik Wai, Choi Yuen Ying, Poon Chi Wing, Fong Ka Wai, Leung Pak Yuen

Representing Organisation:
Y.W.C.A. Hioe Tjo Yoeng College

Product Description:
Smart Lamppost works with ultra-sensitive sensor modules, it automatically calibrates filtration speed and intensity and the sensor readings are analysed by micro bit processors.

Solar Elite Group 2024

Champion

Solar Water Purifier – Air Quench

Name of Participant:
Sin Lok Tin

Representing Organisation:
S.K.H. Kei Yan Primary School

Product Description:
When air is drawn into the device, the cooling device condenses the humidity in the air into water droplets and stored in the water tank. The water in the tank undergoes filtration and provides outdoor workers in need with access to water in Hong Kong.

1st Runner Up

Solar Heater - 智熄「碳」

Name of Participants:
梁宇瑩 , 潘卓琪 , 黃竣逸 , 田仲文 , 鄺蔓蓁 , 許榛

Representing Organisation:
C.C.C. Heep Woh Primary School

Product Description:
The team uses solar energy to make substandard housing more comfortable throughout the year and help residents save on electricity. "Solar Heater" can automatically detect temperatures and provide cool or warm air to regulate the temperature inside the substandard housing.

Popularity Award & Best Potential Award

2024

Popularity Award & Best Potential Award

地盤流動小助手 -「油天仔仔」 (Portable Solar Resting Station)

Name of Participants:
Cheung yik Hei, Ma Ching Hin Tristan, Lam Pui Yau, Loo Mark, Chan Yee Kiu

Representing Organisation:
Yaumati Catholic Primary School (Hoi Wang Road)

Product Description:
The team designed a solar-powered mobile resting station called the "Construction Mobile Assistant" for construction workers. The solar panels on the mobile vehicle provide power to a cooling fan and an air humidifier to lower the workers' temperature, an infrared thermometer to detect their body temperature and prevent heatstroke.

Solar Legend Group

2023

Champion

SolarGo

Name of Participants:
Anson Au, Jayne Chan, Hilda Au

Product Description:
SolarGo device is designed in an open-source and modular way. The open-source design enables more people to participate in solar energy storage and accelerate the development and popularization of solar energy.

1st Runner Up

SolrMore

Name of Participants:
Lau Chi Hang Anthony, Chung Wai Zee Donna

Representing Company:
TECHPOWER

Product Description:
SolrMore is a grid-connected isolated drive system that can directly use solar energy to drive any electrical appliance.

Solar Legend Group

2023

2nd Runner Up

Sol-Comfort

Name of Participants:
Cheng Hoi Yan, Chiang Yan Ying Sophiya

Representing Organisation:
Sustain HK

Product Description:
Sol-Comfort is designed for Hong Kong's subdivided flats or tiny homes. A detachable solar panel that can be quickly put on a windowsill or balcony. Daytime solar energy is captured by solar panels and stored in batteries.

Solar Elite Group

2023

Champion

職安小幫手

Name of Participants:
Yeung Yuen Ting，Cheng Choi Ling，Hu HuanXin
Representing School:
Man Kwan Pak Kau College

Product Description:
This project comprises of a safety helmet and a reflective vest that may identify some safety issues in the construction site using various sensors, notifying employees and safety officers to prevent accidents.

1st Runner Up

Emergency Marking Post

Name of Participants:
Chan Chun Yiu, Fung Ka Hei

Representing School:
Man Kwan Pak Kau College

Product Description:
If a person's mobile phone runs out of battery on a mountain, they can go to the emergency marking post to use the electricity the solar plate has absorbed for emergency charging.

Solar Elite Group

2023

2nd Runner Up

Solar-powered Windbreaker

Name of Participants:
Wat Tsz Fung, Chan Tsz Ki, Jian Kai Hin, Chan Wing Hei, Choy Fu Ying, Lee Shing Hei, Zhang Yu Hin

Representing School:
TWGHs Li Ka Shing College

Product Description:
"The Solar Windbreaker" can utilize the power bank via receiving sunlight and using renewable energy as the power source for the two built-in fans, so that outdoor workers can feel as cool as autumn in hot weather and reduce the risk of heat stroke.

2023

Popularity Award & Best Presentation Award

SOLAPSAP· 甦垃圾

Name of Participants:
Lee Crystal, Chow Tsz Yau, Wong Hin Lam, Au Cheuk Yi, But Wing Hei, Wu Bailing, Li Sze Wing Jennifer, Ng Hey, Ng Si Ting

Representing School:
Diocesan Girl's School

Product Description:
SOLAPSAP is an outdoor smart trash powered by solar electricity. Via wireless network, the trash can alert the user when it is full. The trash also fits with an ultraviolet light disinfection system.

SolarCare Award

太陽能板智識「收」

Name of Participants:
Hung Hiu Nam, Huang Maoshen, Wen Pak Hei, Lee Lik Hei

Representing School:
C.C.C. Heep Woh Primary School

Product Description:
Solar-powered smart shirt rack uses Micro:bit programming design, App Inventor, and the cloud to run while using light and humidity sensors to work with solar panels. The entire product has a slim design and it consumes less electricity.

Testimonials

Ms Tsang
From C.C.C. Heep Woh Primary School

I believe this competition is extremely meaningful and has a significant impact on students. The entire process helps students understand how solar energy relates to daily life and allows them to apply their knowledge to practical projects, considering their societal influence as well. Among all the STEM competitions, this one stands out for its profound significance. From the start of the competition, through student reports, to the final presentation in Kowloon Bay, I, as a teacher, was deeply impressed by the whole process. Imagining myself at their age, standing on stage presenting to experts, would have been impossible because it would have terrified me. Seeing students enjoy this process, I am immensely grateful to the organisers for making the impossible possible for the students, gradually realising their ideas, and ultimately completing their projects. Therefore, I believe this competition is incredibly meaningful and has far-reaching significance. For future students, even if there are no more solar energy competitions, they will still consider incorporating renewable energy elements into their lives. This activity has planted a significant seed; whether or not the competition is related to solar or renewable energy, students will integrate these elements into their work. This competition is outstanding.

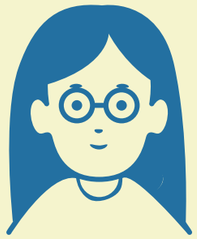
In the past, we have participated in some solar energy competitions, but most of them only involved theoretical discussions, with few opportunities to present a complete prototype and showcase a physical product. The entire process was very rigorous, with industry talents and experts providing guidance. As a result, our students were deeply touched. They still mention your Solar Future Challenge, which clearly shows its impact on them. They have also passed this information to their juniors, who are now incorporating solar elements into their projects. No longer is it simply, "We need to power a motor, so we need to find a micro:bit or some batteries." Now, they consider whether they can add solar panels to increase renewable energy generation. I am very happy and extremely grateful for such a wonderful activity that has deeply rooted itself in their hearts. Compared to other activities, even those discussing renewable energy on some topics, none can match the impact of your competition. So, I sincerely thank you for your continuous contributions to the academic community and the students. Thank you.

This physical field trip is very impressive and informative. I would like to take this chance to thank the staffs again in CarbonCare InnoLab. We are so glad to see a group of people who really cares about climate change and would like to take actions in promotion and education field. Thank you!

Participant
From SolarVisit

"I was happy that CityNet could support ASECCC and CCIL had a very successful and well-attended event indeed. From our end, we are always happy to provide opportunities for our member cities to showcase the work they are doing in sustainable urbanisation so I do want to repeat my thanks to all of CCIL team for providing that platform for them. Overall, I was very impressed by how professionally CCIL ran this event. From my perspective, the team at CCIL works at high levels of proficiency and professionalism. Thank you very much for sharing the link to the video recordings so I can now catch up on the sessions. I also plan to include screenshots of our members' participation in ASECCC during the reporting in our upcoming Executive Committee Meeting. "

Chris Di Gennaro
Program Officer,
CityNet Secretariat



Alissa Tung
Programme Director

Working in an NGO, I often reflect on what "meaningful" truly means. Reflecting on the incredible journey of JC SolarCare, my heart fills with gratitude and pride. Developed with the invaluable input of CCIL's board members and advisors, we leveraged the Hong Kong Government's 2018 Feed-in Tariff policy to launch the PV installation programme in 2019. In just five short years, this initiative has blossomed beyond our wildest dreams.

JC SolarCare is a shining example of what can happen when the right policy, innovative ideas, and dedicated resources converge. Today, our programme operates the largest community-based solar systems in Hong Kong, which not only mitigates CO^2 emissions but also increases the share of renewable energy in Hong Kong's energy mix, benefits NGO communities with the FiT rebate, and spreads climate education to a wide network. Through SolarCare, we are leaving a lasting, positive footprint on our environment.

Our impact goes beyond installations. We have connected global and local professionals to discuss renewable energy development and organised the Asian Solar Energy for Climate Change Conference and numerous renewable energy seminars. We have inspired creativity and innovation, encouraging people to harness solar energy for Hong Kong's climate-vulnerable communities. Back in 2019, solar energy STEM education was virtually nonexistent. With our efforts, we brought together partners to develop solar DIY workshops, sparking a wave of inspiration that has led to a proliferation of solar energy training, STEM workshops, and seminars.

I extend my heartfelt thanks to the CCIL team and our management for their unwavering dedication and passion over the years. It is their tireless work that has propelled us to this milestone. I am equally grateful to our partners, supporters, and stakeholders, whose contributions have been instrumental in the success of JC SolarCare.

I am deeply moved and grateful to have played a role in making this vision a reality.

Gigi Lam
Programme Manager

I have a background in the arts, and I never imagined the opportunity to participate in a programme related to solar energy engineering. To prepare for the educational activities and webpage, I have been learning about solar power generation and related engineering knowledge, which has opened up a new field for me. During visits to SolarCare partners in different regions, I made many new discoveries. For example, I learned that there is an NGO near Hong Kong Gold Coast that has been established for over 20 years, and their staff are all volunteers! I also discovered two NGOs are located on the remote island, Yim Tin Tsai, which are devoted in conservation and youth training, respectively. There's a children's village in Tai Po that belongs to an NGO with 100 years' history that provides services for children and young people who have been deprived of proper care due to family problems. This project is not just about installing solar panels and mitigating climate change, it also involves connecting with communities.

Through climate education activities, I have had the opportunity to engage with diverse age groups and communities, allowing me to learn how to communicate climate messages to different people. I have gained a lot from these experiences. Coming from a family with many teachers, I never became one as my mother had expected. However, I unexpectedly found myself working in education, and I discovered a genuine passion for it. Although I still have much to learn, I am thoroughly enjoying the journey.

Writing has always been a love of mine, and this programme has granted me the opportunity to utilise my skills in writing and editing solar innovation stories and climate education booklets. It's satisfying to integrate interests and work together and to be able to learn.

Kylie Lai
Senior Programme Officer

The Jockey Club SolarCare Programme was the first programme that I joined since I started my journey at CarbonCare InnoLab, and it has changed how I view the world.

During the three years working under this Programme, I had the chance to connect various stakeholders, including green groups, NGOs, government departments, power companies, and renewable energy experts, to the general public, creating a powerful community service platform.

In terms of my sense of achievement, one of the aspects that sets the Programme apart is its commitment to education and awareness. Through a range of activities and initiatives, the Programme strives to inform and engage the public about the benefits of solar energy and its potential to combat climate change. From the Asia Solar Energy on Climate Change Conference to the Solar Future Challenge, these events empower individuals to take action and be part of the renewable energy revolution.

The most memorable thing is that not only did I deliver climate and RE education to the local communities, but I also had a valuable chance to deliver education to the SEN students. Upon reflection, I have realised that there have been very few collaborations with special schools among various organisations. I have a strong desire to extend our educational initiatives to different special schools, providing them with opportunities to understand climate change. Especially considering that students in special schools are a vulnerable group under the influence of climate change, they require education to adapt and respond to the challenges it presents, even more so than ordinary young people.

The Jockey Club SolarCare Programme has been a transformative experience for me. It has allowed me to contribute to a meaningful cause and make a positive impact on the environment. Through its dedication to solar energy adoption, education, and community engagement, the Programme has not only changed my perspective but also inspired me to continue advocating for a sustainable future, which resonates with my initial personal pursuit of exerting influence on the world through climate action. I am grateful for the opportunities and experiences I have gained through this Programme, and I look forward to furthering its mission of building a greener and more resilient Hong Kong.

First of all, I am grateful to be part of this amazing team for the past five years. To have the opportunity in using my experience in building numerous photovoltaic systems, to have the opportunity in sharing my knowledge to the youth, and to have the opportunity in broadening my horizon, I would like to thank all my colleagues and the SolarCare Partners for creating the memories that I will treasure for years to come.

For the past five years, more than three Megawatt-peak of PV systems were built under the Jockey Club SolarCare Programme, which will generate more than four million units of electricity annually.

This number, is insignificant comparing to the Hong Kong consumption.

Does that mean our work is meaningless?

I believe, all these insignificant steps we take, will be the building blocks for the future.

Since 2019, the renewable energy capacity installed in Hong Kong grew tenfold in comparison to the last decade; flexible PV panels become a standard equipment on the bus; solar system is no longer just an academic demonstration for schools, but an up and coming power generating source. Even though the Renewable Energy in Hong Kong energy mix is still falling behind comparing to other countries, still I believe we are on the right path.

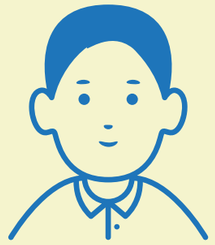
Great things are not done by impulse, but a series of small things brought together.

We all share the same sky, living on the same huge rock that is called The Earth.

Although Earth is insignificant too in the scale of the Universe, just a tiny pale blue dot, yet it is still the only place all the mankind can call it home.

Preserve it, cherish it, make it better, with our thousands of insignificant steps.
Shall we?

Ken Tai
Project Manager



Angus Fung
Senior Programme Officer

As a technical officer who helped build the PV (photovoltaic) systems from an engineering standpoint, I had the opportunities of participating in the The SolarCare Programme. This allowed me to share my knowledge on renewable energy and PV systems with people of diverse ages and backgrounds.

Over the past five years, The SolarCare Programme has achieved remarkable achievement. Thanks to the funding support from the Hong Kong Jockey Club (HKJC), we had access to more resources to initiate innovative designs like solar loungers and solar tables. Moreover, we were able to help small-scale NGOs build PV systems, which was often challenging for them due to limited roof space and excessive shading. These NGOs typically lacked the capital and struggled to find commercial partners interested in investigating PV systems with them. The SolarCare Programme stepped in to fill this gap and support these underserved organizations.

In addition to my technical work, I had considerable opportunities to provide docent services and educational outreach activities. I served as a speaker on PV systems and renewable energy, delivering more than tens of time docent tours and presentations to a variety of organizations and age groups. I also participated in other educational initiatives, including serving as a trainer for docent training programs, a speaker in webinars, and a guest contributor for “human library” events.

Through these activities, I was able to share my knowledge and experiences in the construction industry, PV systems, and renewable energy with students and event attendees, which was a highly meaningful way to teach people about sustainability and renewable energy.

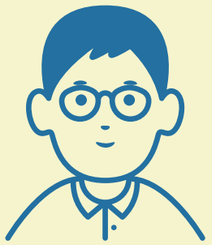
The SolarCare Programme provided me with a precious opportunity to be part of the educational activities, which is something that traditional engineering firms cannot offer.

Peter Huen

Accounting and Administrative Officer

Three years ago, I had been assigned for financial reporting involved with the Jockey Club SolarCare Programme, I feel a deep sense of pride and excitement to handle this job because I can use my financial management skill to provide useful financial data for management to make best use of financial resources to produce value for money and good quality of SolarCare Programmes. In the past, I do not pay attention on issue of climate change. After I work in Jockey Club SolarCare Programme, it can enrich my knowledge on the climate change issues. This helps me to bring this climate issue in my friends' gathering. After I talk about this issue with my friends, they begin to alert the issues of climate change and serious adverse consequences from existing abnormal weather condition in the world. I and my friends change our daily life to use more environmentally friendly products. The programme reinforces the idea that I have a role to play in protecting the environment. I feel a sense of responsibility to keep this pushing forward. While we've achieved a lot, there's still so much more to do. This programme has shown me the potential of community-driven sustainability initiatives, and it motivates me to make more effort to reduce carbon footprints and promote green energy in my daily life. I think my effort finally help to create a healthier planet for future generation.

What impresses me most is the programme's commitment to not just installing solar panels, but also educating the community. I saw my colleagues to run workshops and outreach events on schools and various organisations that have received enthusiastic feedback from people of different ages. This strength my belief that when organisations and communities come together, we can create positive change. I strongly believe that Jockey Club SolarCare Programme can be beneficial to community and my work with Jockey Club is very meaningful.



Roy Chow

IT Officer

I am thrilled to be a part of the SolarCare programme, where I have benefited greatly. Not only have I had the opportunity to meet wonderful colleagues, but I have also witnessed my own transformation. I went from being someone who had little knowledge about climate change to someone who now understands and cares about it deeply.

I feel fortunate to have been involved in the development and maintenance of the Solarmap platform. Over the past few years, its growth has left a profound impact on me. Solarmap is a platform that collects and showcases the power generation data of solar stations funded by JC SolarCare for NGOs. Through this platform, we can track and display the distribution and performance of solar stations. It has made me realise that every money spent is making a significant difference, not only in promoting solar energy but also in helping NGOs overcome operational funding challenges.

One of the most unforgettable moments for me was when I heard the sharing from an NGO during Covid-19. Their operations came to a near standstill, but they were fortunate to have solar stations funded by JC SolarCare. These solar stations provided them with a significant income, allowing them to overcome the most difficult days. This sharing deeply touched me and made me realize the meaningful nature of the work I am involved in. It goes beyond improving the environment; it also helps NGOs in need. As these NGOs receive assistance, they can then serve even more people who require help. It gives me a profound sense of impacting lives with my work.

In the days to come, I look forward to continuing my involvement and support in the development of the Solarmap platform. I am committed to contributing my modest efforts towards the widespread adoption of solar energy and sustainable power. I firmly believe that through the collective efforts of our team, we will be able to improve the public and young people's understanding of climate change and create a greener and more livable city.

Management

Prof Andrew Mak
Board Chairman

Ms Mayling Chan
Director

Mrs Rosita Swain
Director

Ir Lee Chi Ming
Director

Mr Ringo Mak
Programme Advisor

Team

Chong Chan-yau
Co-founder and CEO

Alissa Tung
Programme Director

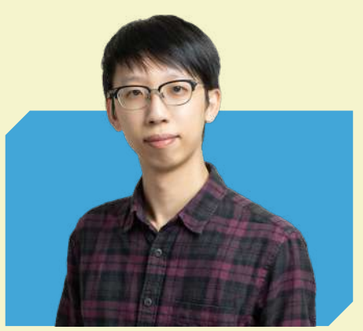
Gigi Lam
Programme Manager

Kylie Lai
Senior Programme Officer

Ken Tai
Project Manager

Angus Fung
Technical Officer

Peter Huen
Accounting and Administrative Officer



Roy Chow
IT Officer

About CarbonCare InnoLab

Found in 2014, CarbonCare InnoLab (CCIL) aims at nurturing and expanding an active community for climate justice. CCIL actively engage with NGOs, businesses, policy makers and youths to achieve a just transition to a low-carbon economy where vulnerable communities will be respected and protected. This includes climate justice, carbon reduction, resource conservation and action that will assist adaptation and resilience building.

In 2015, the UN Climate Summit (COP21) adopted The Paris Agreement to limit temperature rise. CCIL as an observer in COP21 was motivated to stimulate the HK community into climate action, linking global, regional and local climate agenda.

There is a need to motivate communities to view the transition to a zero-carbon economy as an exciting opportunity rather than a disturbing threat. CCIL turns pessimism about climate change into an optimistic vision of a more engaged and participatory society, and more resilient and sustainable economy in Hong Kong. CCIL carries the news that people can be part of the solution to climate change, not part of the problem. Some highlight programmes of CCIL includes Jockey Club SolarCare Programme, Climate Community Dialogue, Climate Advocacy Training for Youth, Kwai Chung Community Action, Local Conference of Youth Hong Kong.

CCIL is a charitable body registered in Hong Kong, enjoying tax exemption status under Section 88 of the Inland Revenue Ordinance.

For details: www.ccinnolab.org